

Competition for Attention in the ETF Space

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March 22, 2021

THE RISE OF PASSIVE INVESTING

EXCHANGE TRADED FUNDS (ETFs)

- ▶ In 2020, ETF assets surpassed \$5.3 trillion in the US and \$7.7 trillion globally
- ▶ 17% of the total assets in U.S. investment companies
- ▶ **The Passive Revolution**

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TRADITIONAL INTERPRETATION

- ▶ Triumph of the Efficient Market Hypothesis (EMH)
- ▶ Prescription of EMH: Buy and hold a well-diversified portfolio

WHY ARE THERE SO MANY ETFs?

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- ▶ Niche segments of the market

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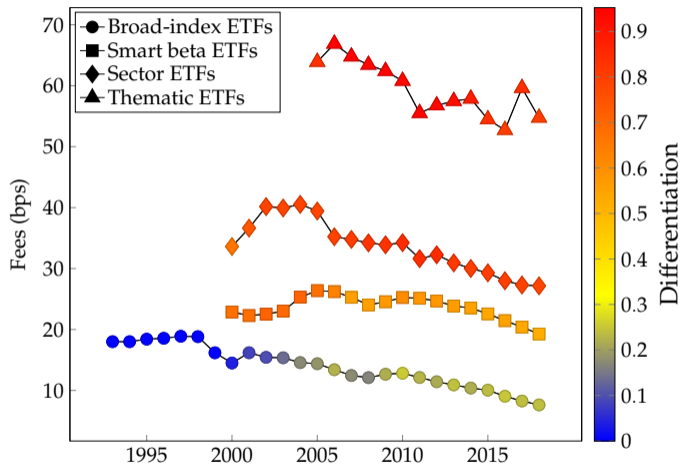


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THE EVOLUTION OF THE ETF SPECIES



OUR TAKE: COMPETITION FOR ATTENTION

- ▶ Build on model of product market competition in which consumers have limited attention (Bordalo, Gennaioli, and Shleifer, 2016)
- ▶ Consumers give disproportionate weight to *salient* features, neglect non-salient features
- ▶ Two features: **Price vs. Quality**
 - ▶ Quality: Any product characteristic that consumers find appealing
- ▶ Two equilibria in product markets:
 - ▶ Price-salient: Fast food, low-cost air travel, **Walmart**
 - ▶ Quality-salient: High fashion, business class, **Starbucks**

COMPETITION FOR ATTENTION IN THE ETF SPACE

BROAD-BASED ETFs: PRICE COMPETITION

- ▶ Low differentiation
- ▶ Low fees, low risk
- ▶ Target: Cost-conscious investors

SPECIALIZED ETFs: QUALITY COMPETITION

- ▶ **Quality:** High “expected” returns; Gambling opportunities; Investor values (e.g., ESG, religion)
- ▶ Differentiated portfolios
- ▶ High fees, high risk
- ▶ Target: Investors with non-standard preferences and expectations

EQUITY ETF CLASSIFICATION

METHODOLOGY

- ▶ **Thematic:** Bloomberg *Fund Industry Focus* = Thematic
 - ▶ **Sector:** Lipper *Objective Code* = EDS
- } **Specialized**

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- ▶ **Smart Beta:** Morningstar *Strategic Beta* = Yes
 - ▶ **Broad Index:** Morningstar *Index Selection* =
Market Capitalization and are not in other categories
- } **Broad-Based**

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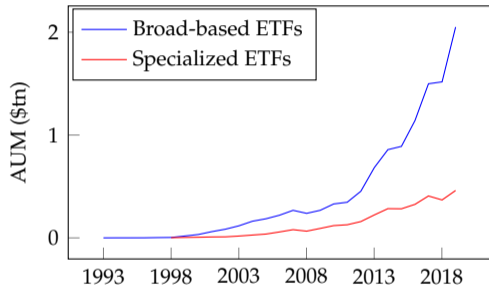
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NUMBER OF ETFs (1993-2019)

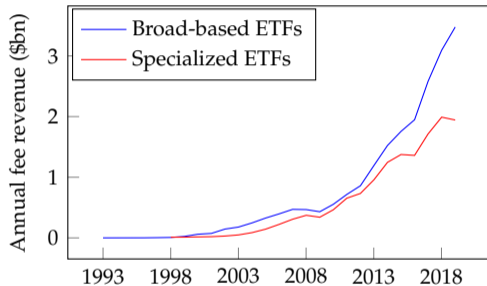
- ▶ 554 Broad-Based ETFs
 - ▶ 90 Broad Index + 464 Smart Beta
- ▶ 526 Specialized ETFs
 - ▶ 115 Thematic + 411 Sector

EVOLUTION OF THE ETF INDUSTRY

(a) Asset under management



(b) Implied fee revenue

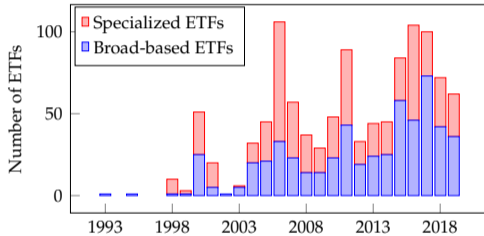


SPECIALIZED ETFs IN 2019:

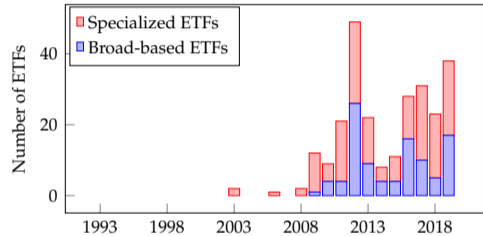
- ▶ 18% of AUM
- ▶ 36% of Revenues

LAUNCHES AND CLOSURES

(a) Number of ETF launches



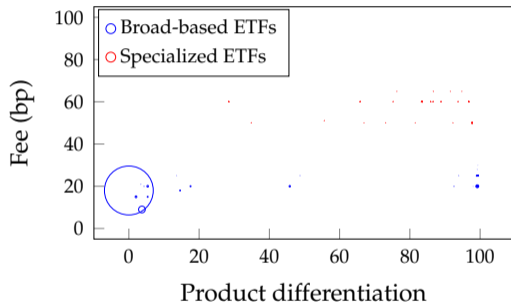
(b) Number of ETF closures



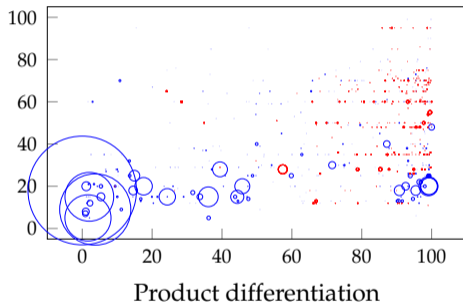
SEGMENTATION IN THE ETF MARKET

PRODUCT DIFFERENTIATION AND FEES

(a) 2002

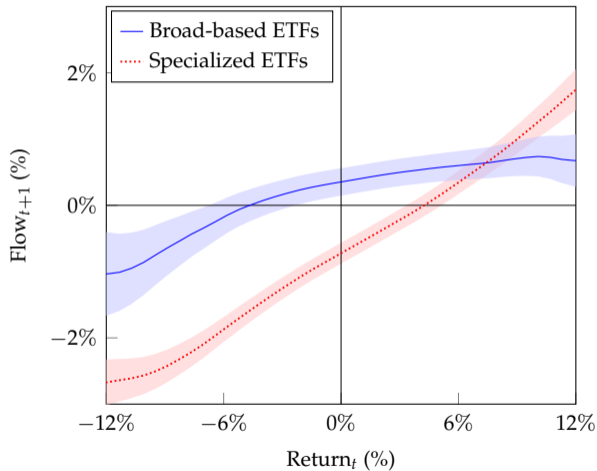


(b) 2019



- Differentiation = $100 - \text{Correlation of Portfolio Weights}$

FLOWS CHASE RETURNS FOR SPECIALIZED



THE NATURE OF QUALITY COMPETITION

EVIDENCE OF COMPETITION FOR ATTENTION

(I) ETFs LAUNCHES

- ▶ Specialized ETFs focus on salient themes: recently well-performing and visible stocks (e.g., vaccines)
- ▶ ETF launches are late in the valuation cycle

(II) ETF PERFORMANCE

- ▶ Specialized ETFs deliver negative returns

(III) INVESTOR CLIENTELES

- ▶ Specialized ETFs: Retail and sentiment-driven investors

(I) ETFs LAUNCHES: CHARACTERISTICS

► Portfolio characteristics before launch

	Broad-based ETFs	Specialized ETFs	Difference
Abnormal return	0.66*** (11.51)	1.04*** (9.23)	0.38*** (4.15)
Media exposure	-4.04 (-1.28)	33.33*** (3.19)	37.37*** (4.29)
Media sentiment	0.22*** (4.81)	0.64*** (4.51)	0.42*** (3.98)
Earnings surprise	0.02*** (9.00)	0.03*** (10.78)	0.01*** (2.50)
Return skewness	0.01 (0.40)	0.17*** (4.80)	0.15*** (4.12)
Market-to-book	2.98 (44.51)	3.14 (32.10)	0.15** (2.07)
Short interest	0.02*** (25.60)	0.03*** (15.92)	0.01*** (3.61)

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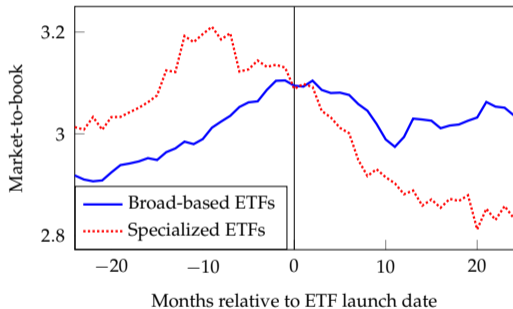
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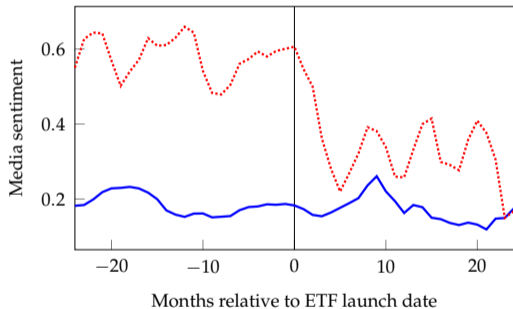
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(I) ETFS LAUNCHES: TIMING

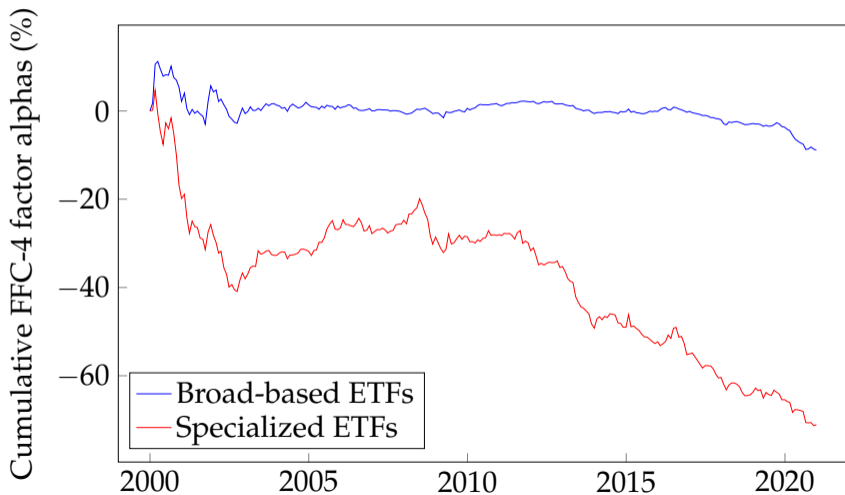
(a) Market-to-book (underlying stocks)



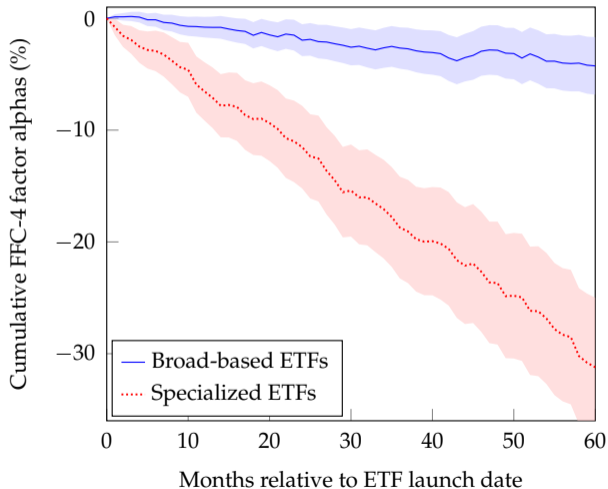
(b) Media sentiment



(II) SPECIALIZED ETFs UNDERPERFORM

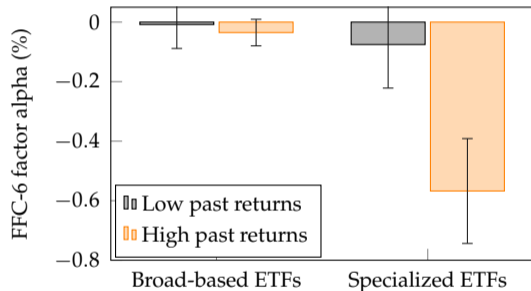


(II) AFTER-LAUNCH PERFORMANCE

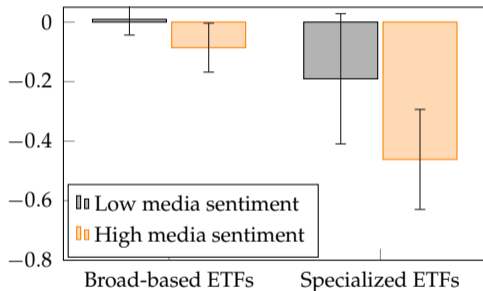


(II) ALPHAS BY PRE-LAUNCH CHARACTERISTICS

(a) FFC-6 alphas, split by past returns

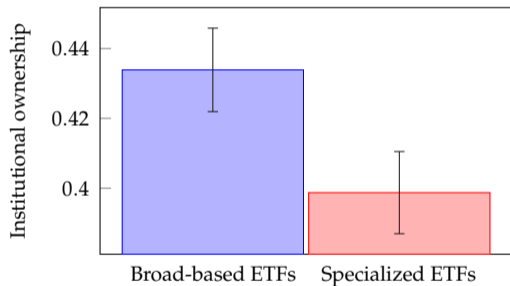


(b) FFC-6 alphas, split by media sentiment

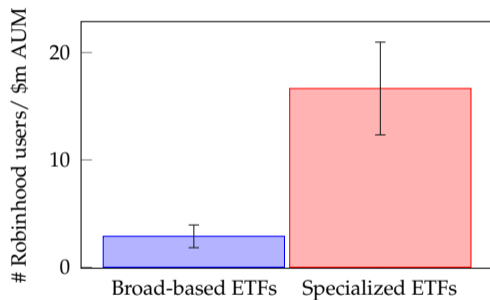


(III) INVESTOR CLIENTELES

(a) Institutional ownership

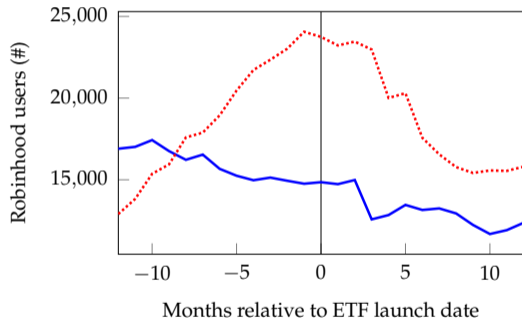


(b) Number of Robinhood users

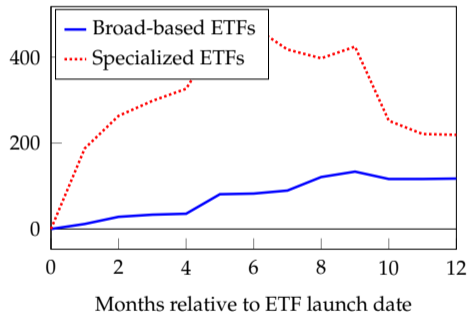


(III) ROBINHOOD USERS

(a) Robinhood users: Underlying stocks



(b) Robinhood users: ETFs



ALTERNATIVE HYPOTHESIS:

DO INVESTORS WILLINGLY SACRIFICE
PERFORMANCE?

NOT LIKELY: INVESTORS ARE DISAPPOINTED

Dependent variable:	Positive flow dummy	
Sample:	Full Sample	Age \leq 60 months
Thematic	0.08*** (3.73)	0.06*** (2.66)
log(Age)	-0.06*** (-10.71)	-0.05*** (-9.09)
Thematic \times log(Age)	-0.03*** (-5.96)	-0.03*** (-3.85)
Year FE	Yes	Yes
Observations	86,715	46,612
R ²	0.040	0.023

CONCLUSION

WHAT DRIVES FINANCIAL INNOVATION IN THE ETF MARKET?

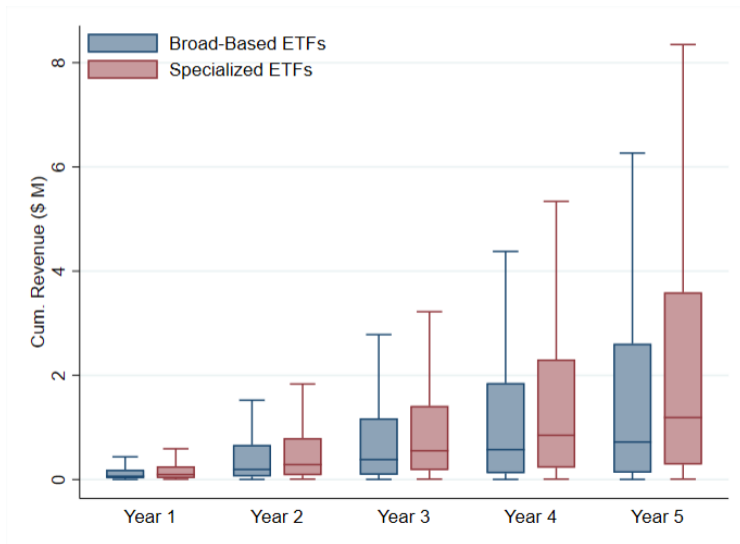
- ▶ Competition for **investor attention**:
 - ▶ Price competition: Price-sensitive investors looking for broad market exposure
 - ▶ Quality competition: Sentiment-driven investors chasing salient themes
- ▶ The same platform is used for diverging purposes

QUALITY COMPETITION: MECHANISM

- ▶ Salient themes → Demand for the theme → Overvaluation
- ▶ Providers cater to demand with a lag → Underperformance of Specialized ETFs

THE END

CUMULATIVE REVENUE AROUND LAUNCH



(II) PERFORMANCE POST-LAUNCH: U.S. EQUITY

	Broad-based ETFs	Specialized ETFs	SP minus BB
Excess return	0.31 (0.90)	-0.07 (-0.19)	-0.38** (-2.11)
CAPM alpha	-0.22* (-1.67)	-0.62*** (-3.78)	-0.40** (-2.19)
FF3 alpha	-0.18 (-1.55)	-0.60*** (-3.85)	-0.42** (-2.32)
FFC4 alpha	-0.13 (-1.20)	-0.58*** (-3.72)	-0.45** (-2.47)
FF5 alpha	0.10 (1.00)	-0.42*** (-2.65)	-0.53*** (-2.78)
FFC6 alpha	0.11 (1.10)	-0.42*** (-2.63)	-0.54*** (-2.81)
Q alpha	0.06 (0.53)	-0.42*** (-2.72)	-0.48** (-2.54)

RETURN DISTRIBUTION: SPECIALIZED

Panel A: Pre-2020

N	Mean	SD	Skewness	Min	P1	P25	P50	P75	P99	Max
49,147	-0.24	4.60	0.18	-47.69	-13.75	-2.33	-0.18	1.90	13.01	59.44

Panel B: 2020

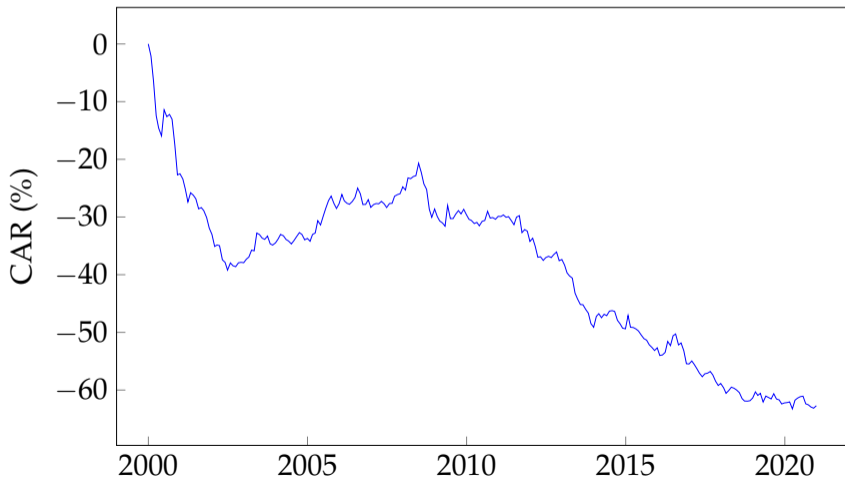
N	Mean	SD	Skewness	Min	P1	P25	P50	P75	P99	Max
4,210	-0.17	6.92	0.69	-50.95	-19.66	-2.94	-0.15	2.55	21.31	71.17

CAR: SPECIALIZED ETFs

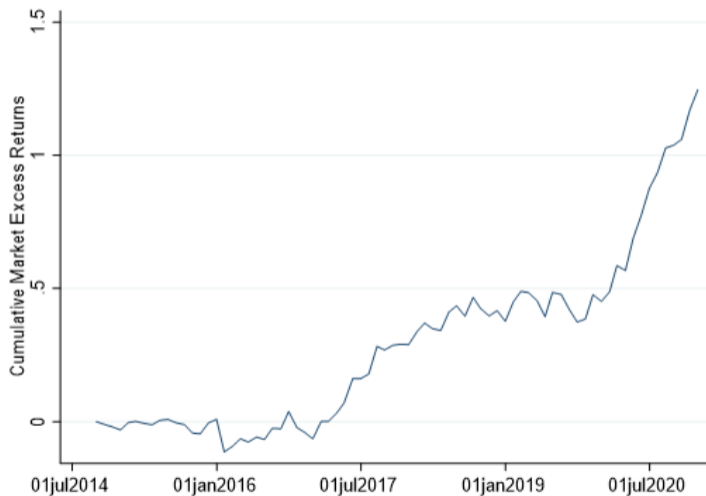


CAR: SPECIALIZED - BROAD-BASED ETFs

CAR: Specialized – Broad-Based ETFs



CAR: ARK ETFs



ESG PRODUCTS

- ▶ 115 ESG products based on Morningstar *Sustainable Investment - Overall* field
- ▶ No separate category for ESG
 - ▶ ESG products cut across multiple categories
- ▶ ESG products are classified as *specialized* if they are sector ETFs
 - ▶ E.g., the ALPS Clean Energy ETF
- ▶ The remaining ESG products are *broad-based*
 - ▶ E.g., the iShares ESG Screened S&P 500 ETF

SUMMARY STATISTICS

Panel A: Broad-based ETFs								
	N	Mean	SD	P5	P25	P50	P75	P95
Number of holdings (at launch)	553	403	495	40	100	247	500	1,450
Fee (bp)	491	42	25	12	22	35	60	85
Turnover (months 1–6; %)	543	2.83	3.25	0.19	0.93	2.01	3.48	7.95
Short interest (months 1–6; %)	426	4.97	11.04	0.03	0.42	1.17	3.98	24.25
Abnormal return (months 1–60; %)	551	-0.16	0.39	-0.88	-0.31	-0.11	0.04	0.33
Delisted	554	0.18	0.38	0	0	0	0	1
<u>2019 statistics</u>								
Assets under management (\$bn)	431	4.76	21.16	0.01	0.05	0.22	1.46	20.02
Implied revenues (\$m)	389	8.94	31.36	0.03	0.22	0.97	5.12	45.36
Panel B: Specialized ETFs								
	N	Mean	SD	P5	P25	P50	P75	P95
Number of holdings (at launch)	515	87	87	21	34	53	100	272
Fee (bp)	455	55	21	18	39	58	70	86
Turnover (months 1–6; %)	530	3.84	6.38	0.37	1.09	2.13	4.16	13.10
Short interest (months 1–6; %)	406	6.80	15.16	0.10	0.50	1.57	6.01	32.34
Abnormal return (months 1–60; %)	526	-0.44	1.42	-1.99	-0.73	-0.21	0.21	0.79
Delisted	526	0.30	0.46	0	0	0	1	1
<u>2019 statistics</u>								
Assets under management (\$bn)	354	1.30	3.72	0.01	0.04	0.18	0.82	6.09
Implied revenues (\$m)	329	5.91	15.78	0.03	0.24	0.93	4.12	25.20

ALPHAS

Panel A: Months \leq 60							
	Excess return	CAPM	FF3	FFC4	FF5	FFC6	Q
Broad-Based ETFs	0.31 (0.90)	-0.22* (-1.68)	-0.18 (-1.58)	-0.13 (-1.23)	0.10 (0.96)	0.11 (1.07)	0.05 (0.50)
Specialized ETFs	-0.01 (-0.02)	-0.55*** (-4.10)	-0.53*** (-4.22)	-0.50*** (-4.04)	-0.34*** (-2.71)	-0.34*** (-2.68)	-0.34*** (-2.78)
Sp minus BB	-0.31** (-2.20)	-0.32** (-2.26)	-0.35** (-2.44)	-0.36** (-2.58)	-0.44*** (-2.96)	-0.45*** (-2.99)	-0.39*** (-2.62)
Panel B: Months $>$ 60							
	Excess return	CAPM	FF3	FFC4	FF5	FFC6	Q
Broad-Based ETFs	0.45 (1.62)	-0.01 (-0.30)	-0.02 (-0.64)	-0.01 (-0.36)	-0.09** (-2.56)	-0.09** (-2.56)	-0.05 (-1.20)
Specialized ETFs	0.66** (2.04)	-0.11 (-1.57)	-0.11 (-1.57)	-0.12 (-1.57)	-0.10 (-1.37)	-0.11 (-1.38)	-0.07 (-0.99)
Sp minus BB	-0.08 (-1.19)	-0.06 (-0.95)	-0.07 (-1.10)	-0.08 (-1.11)	-0.05 (-0.69)	-0.05 (-0.71)	-0.03 (-0.45)

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