

Exchange-traded funds

ETF Flows - 2Q19 | 8 July 2019

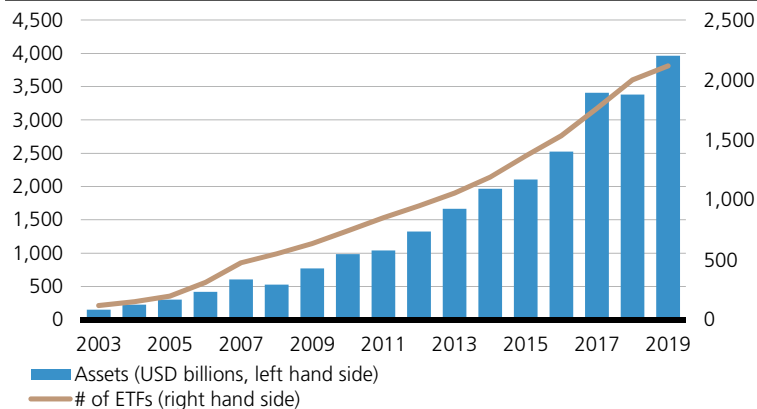
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- This report highlights quarterly ETF flows by issuer and market segment. Flow estimates are obtained through Morningstar Direct and Bloomberg.
- ETFs posted inflows of USD 65bn in the second quarter though it was not a smooth path. With global equities down 6% in May, ETFs posted outflows of USD 14bn. In June, when global equities were up almost 7%, flows rebounded to USD 50bn. For the first half year, ETF inflows were USD 116bn.
- Lower cost ETFs have taken in a disproportionate amount of ETF inflows. Roughly 62% of US listed ETF assets are in ETFs with expense ratios of 0.15% or lower. These ETFs accounted for over 100% of the 2019 inflows and 85% of the 2018 inflows.

Growth of US- listed ETF market

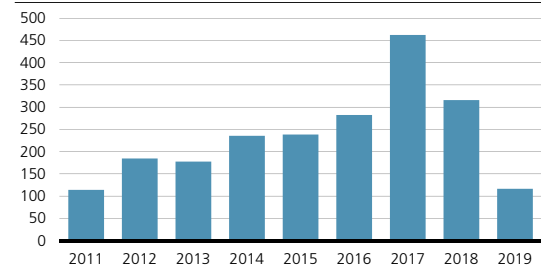
2,117 ETFs that combine for USD 4.0tn in assets



Source: Morningstar Direct, UBS, as of 28 June 2019. Note: Historical data does not include ETFs that have been liquidated.

US- listed ETF market historical flows

In USD billions



Source: Morningstar Direct, Bloomberg, UBS, as of 28 June 2019. Note: Historical data does not include ETFs that have been liquidated.

ETF market overview

There are 2,117 ETFs listed in the US from more than 110 issuers that total USD 4.0tn in assets. Despite the growth, the market remains concentrated with the top three issuers and 20 ETFs accounting for 82% and 39% of assets, respectively. More than half of the ETFs and 46 of the issuers have less than USD 100mn in assets.

Equity ETFs account for 78% of ETF assets (Fig. 1). In particular, US equity ETFs account for 57% of the assets. The adoption of fixed income ETFs has continued and their market share is 18%. The growth in other areas such as commodities, currencies, and alternatives remains more muted.

The increased competition among issuers for assets has led to a steady decline in ETF expense ratios. This has been the case for the ETF industry as a whole, not just ETFs tracking traditional benchmarks. New launches are undercutting the established ETFs in various markets while many established ETFs have decided to lower expense ratios to stem the flow into lower cost alternatives. This is a trend that we expect to continue as lower cost ETFs have taken in a disproportionate amount of the inflows. Roughly 62% ETF assets are in ETFs with expense ratios of 0.15% or lower. These ETFs accounted for over 100% of the 2019 flows and 85% of the 2018 flows (Fig. 2).

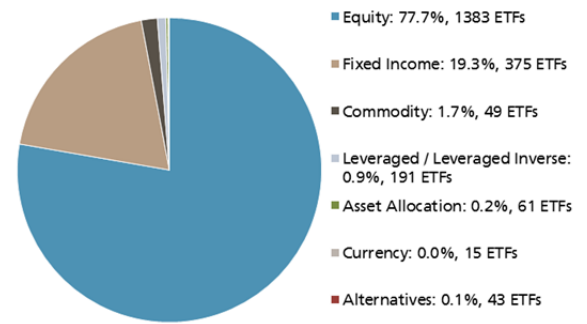
As competing with the largest ETF issuers on cost has become increasingly difficult and less desirable, issuance of actively managed and smart beta ETFs has continued. Smart beta ETFs generally attempt to outperform traditional market cap weighted ETFs, as well as actively managed products, by using criteria other than market capitalization to select and/or weight securities. This has been an area of growth within the ETF market and we estimate that there are now 643 smart beta ETFs with USD 473bn in assets, which represents 12% of ETF assets. The actively managed ETF market is smaller but growing. There are now 285 actively managed ETFs with USD 82bn in assets that account for 2% of ETF assets.

There were 61 ETFs issued in the second quarter of 2019 bringing YTD issuance to 116. Of the 116 ETFs, 22 were smart beta and 32 were actively managed. There have been 62 liquidations this year. We view liquidations as an inevitable, but healthy, consequence of new product innovation.

With respect to the size of the ETF market compared to mutual funds, at the 1Q19, ETF assets as a percent of mutual fund assets was 23% (Fig. 3).

Fig. 1: US ETF market breakdown by segment

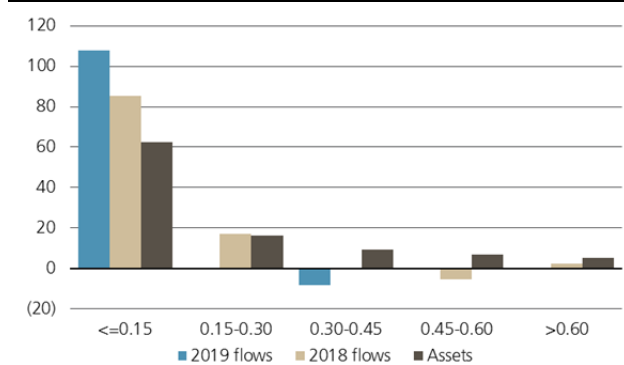
Based on assets



Source: Morningstar Direct, UBS, as of 6/28/19.

Fig. 2: ETFs with expense ratios of 0.15% or less continue to dominate flows

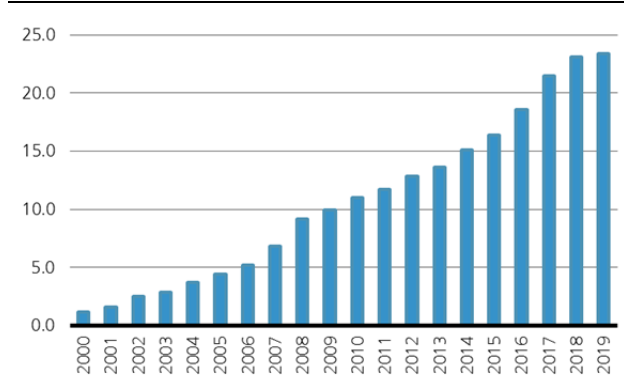
In %



Source: Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 3: US ETF assets as a % of mutual fund assets

In %



Source: Morningstar Direct, Investment Company Institute, UBS, as of 3/31/19. Note: Historical data does not include ETFs that have been liquidated.

Second quarter flows

ETFs posted inflows of USD 65bn in the second quarter though it was a volatile quarter. In May, when global equities were down 6%, ETFs posted outflows of USD 14bn. In June, when global equities were up almost 7%, flows rebounded to USD 50bn. For the first half of the year, ETF inflows were USD 116bn. This is below the pace of 2017 and 2018 when ETFs had inflows of roughly USD 462bn and USD 316 billion, respectively. Fig. 4 breaks down the 2Q flows by market segment while Fig. 5 highlights ETFs with the highest inflows/outflows this past quarter.

US equity ETFs combined for inflows of USD 25bn this past quarter. From a style perspective, flows this past quarter went in favor of growth (inflows of USD 4n vs USD 1bn for value). There was a more defensive tilt in sector flows as ETFs providing exposure to utilities and consumer staples had the highest inflows at USD 2bn and 1bn, respectively (Fig. 9 on p. 7). The higher flows came even though these sectors lagged the S&P 500.

The flows into international equity ETFs reversed this past quarter. EM equity ETFs had outflows of USD 4bn, lowering YTD inflows to USD 12bn. International developed ETFs had inflows of USD 2bn, bringing YTD outflows to USD 4bn. We continue to see higher cost ETFs lose share to lower cost alternatives providing comparable exposure.

On the factor front, low volatility ETFs continued to lead with inflows of USD 4bn this past quarter (Fig. 15 on p. 8). While quality ETFs saw less demand this past quarter, dividend ETFs, which often have quality and value tilts, saw strong demand. US dividend ETFs had inflows of USD 6bn.

US fixed income ETFs posted inflows of USD 39bn this past quarter (Fig. 10 on p. 7). This accounted for 61% of ETF inflows, well above their 18% market share based on assets. Flows were concentrated to higher quality ETFs with US Treasury ETFs taking in USD 14bn this past quarter. Broad US fixed income ETFs, many of which are focused on investment grade rated debt, had inflows of US 10bn. Despite the more conservative tilt evident in flows, high yield ETFs did manage inflows of USD 2bn in the second quarter.

Surprisingly, despite strong performance, emerging market bonds ETFs had outflows of USD 2bn this past quarter and less than USD 1bn in inflows for the year.

Additional assets and flows data is included in figures 6-19 on the following pages.

Fig. 4: Second quarter 2019 ETF flows

In USD millions

Segment	Number of ETFs	Current Assets	% of ETF Assets	2019			Total
				Apr	May	Jun	
US Broad Market	55	178,079	4.5	1,342	1,626	1,732	4,701
US Large-Cap	177	857,278	21.6	14,537	-13,185	7,478	8,829
US Mid-Cap	29	145,805	3.7	926	-45	584	1,465
US Small-Cap	48	141,421	3.6	-1,064	-642	1,072	-634
US Style	106	410,644	10.4	550	1,043	3,846	5,439
US Sector & Industry	239	369,858	9.3	2,005	-6,587	4,273	-308
US Dividend	60	156,981	4.0	1,809	1,972	1,806	5,587
International DM & EM	53	85,109	2.1	1,121	463	2,024	3,608
International DM	227	389,636	9.8	3,100	-759	-365	1,977
International EM	179	241,752	6.1	1,740	-4,720	-1,155	-4,135
Global Equity	210	104,378	2.6	-646	816	743	912
US Fixed Income	312	710,644	17.9	7,960	8,142	23,551	39,652
Intl. Fixed Income	41	51,917	1.3	-1,267	-1,171	2,236	-202
Global Fixed Income	22	1,971	0.0	15	-31	13	-3
Asset Allocation	61	9,625	0.2	30	10	111	151
Commodity	49	67,318	1.7	-2,036	-831	3,012	145
Currency	15	1,437	0.0	20	19	-74	-34
Alternatives	43	3,756	0.1	35	-60	-76	-102
Leveraged / Inverse	191	35,521	0.9	-604	138	-1,293	-1,760
Totals	2,117	3,963,130	100.0	29,574	-13,803	49,517	65,288

Source: Bloomberg, UBS, assets and flows as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 5: 20 ETFs with highest inflows/outflows

In USD millions

Inflows:		2Q19	2019
Ticker	Name	flows	flows
SHV	iShares Short Treasury Bond ETF	5,004	3,832
IEFA	iShares Core MSCI EAFE ETF	4,609	7,235
VOO	Vanguard S&P 500 ETF	3,942	9,217
IEF	iShares 7-10 Year Treasury Bond ETF	3,660	5,938
TLT	iShares 20+ Year Treasury Bond ETF	3,533	4,372
AGG	iShares Core U.S. Aggregate Bond ETF	3,434	4,144
GOVT	iShares U.S. Treasury Bond ETF	2,842	4,431
BND	Vanguard Total Bond Market ETF	2,339	3,175
USMV	iShares Edge MSCI Min Vol U.S.A. ETF	2,313	5,806
VTI	Vanguard Total Stock Market ETF	2,271	4,802
LQD	iShares iBoxx USD Investment Grade Corporate Bond ETF	1,947	4,156
ITOT	iShares Core S&P Total U.S. Stock Market ETF	1,842	3,307
IGSB	iShares Short-Term Corporate Bond ETF	1,640	1,807
BNDX	Vanguard Total International Bond ETF	1,503	4,600
SUSL	iShares ESG MSCI USA Leaders ETF	1,367	1,367
QQQ	Invesco QQQ Trust	1,302	487
BBCA	JPMorgan BetaBuilders Canada ETF	1,284	1,371
VTV	Vanguard Value ETF	1,257	1,981
VMBS	Vanguard Mortgage-Backed Securities ETF	1,247	2,054
BIL	SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	1,216	622
Outflows:		2Q19	2019
Ticker	Name	flows	flows
SPY	SPDR S&P 500 ETF Trust	-7,773	-11,919
EFA	iShares MSCI EAFE ETF	-3,429	-8,273
SHY	iShares 1-3 Year Treasury Bond ETF	-3,012	-3,221
EEM	iShares MSCI Emerging Markets ETF	-2,276	199
IWM	iShares Russell 2000 ETF	-2,073	-4,335
EMB	iShares JP Morgan USD Emerging Markets Bond ETF	-1,907	146
TIP	iShares TIPS Bond ETF	-1,725	-1,918
BSV	Vanguard Short-Term Bond ETF	-1,645	-6,115
XLV	Health Care Select Sector SPDR Fund	-1,208	-893
EWJ	iShares MSCI Japan ETF	-1,142	-3,809
GDX	VanEck Vectors Gold Miners ETF	-1,073	-1,996
XLE	Energy Select Sector SPDR Fund	-1,054	-2,624
BKLN	Invesco Senior Loan ETF	-1,023	-1,357
FXH	First Trust Health Care AlphaDEX Fund	-954	-1,001
EWH	iShares MSCI Hong Kong ETF	-857	-410
IWS	iShares Russell Mid-Cap Value ETF	-772	-1,095
EZU	iShares MSCI Eurozone ETF	-757	-1,161
VT	Vanguard Total World Stock ETF	-712	-1,130
TQQQ	ProShares UltraPro QQQ	-572	-1,369
VNQ	Vanguard Real Estate ETF	-517	899

Source: Bloomberg, UBS, as of 6/28/19.

Fig. 6: ETF issuer asset growth

In USD millions

Issuer	Number of ETFs	Current Assets	% of ETF Assets	Assets			
				2018	2017	2016	2015
BlackRock	361	1,570,510	39.6	1,345,324	1,349,824	982,074	827,282
Vanguard	80	1,016,130	25.6	855,688	855,086	610,989	483,106
SSgA	141	644,918	16.3	572,296	622,229	501,500	413,272
Invesco	252	204,448	5.2	171,994	177,223	139,734	122,372
Charles Schwab	22	143,578	3.6	115,201	99,081	59,750	39,712
First Trust	141	76,168	1.9	61,452	57,404	41,010	42,749
WisdomTree	79	38,980	1.0	35,407	46,480	39,618	51,356
VanEck	56	37,077	0.9	34,445	34,272	29,590	18,741
ProShares	141	31,192	0.8	27,156	29,136	26,214	25,035
J.P. Morgan	32	25,536	0.6	17,462	2,872	1,066	222
PIMCO	15	19,364	0.5	18,331	14,856	12,496	10,770
Northern Trust	26	15,811	0.4	14,225	16,089	11,767	7,588
Fidelity	28	13,911	0.4	10,651	8,829	5,066	3,746
DWS	38	13,552	0.3	10,693	13,116	13,193	19,844
Direxion	93	13,172	0.3	11,064	12,567	10,359	8,640
Goldman Sachs	19	12,582	0.3	10,149	6,417	2,710	856
ALPS	18	12,386	0.3	11,777	14,535	13,012	9,906
Global X	70	10,566	0.3	8,101	8,879	3,891	3,158
Exchange Traded Concepts	28	4,600	0.1	4,043	5,004	2,326	1,962
Pacer Financial	20	4,513	0.1	3,228	1,568	735	519
John Hancock	15	4,135	0.1	2,784	1,080	655	108
ETF Managers Group	12	3,891	0.1	2,771	1,760	881	1,038
IndexIQ	23	3,538	0.1	4,063	3,538	2,203	1,532
Hartford Funds	11	3,528	0.1	2,398	331	104	74
Principal Financial Group	13	3,233	0.1	3,015	2,164	545	30
Victory Capital	14	3,092	0.1	2,954	2,250	906	363
ARK Investment Management	7	2,924	0.1	1,935	838	65	44
Franklin Templeton	39	2,714	0.1	1,615	1,017	528	189
Aberdeen Standard	8	2,608	0.1	2,430	2,654	2,160	1,753
KraneShares	15	2,408	0.1	1,963	1,578	246	230
US Commodity Funds	13	2,380	0.1	2,427	3,492	4,615	4,387
Innovator Capital Management	21	1,555	0.0	710	520	133	61
USAA	6	1,422	0.0	1,111	363	0	0
Janus Henderson	7	1,180	0.0	983	280	63	0
Legg Mason	10	1,089	0.0	755	640	120	2
Virtus ETF Solutions	13	1,078	0.0	655	1,014	510	219
Transamerica	5	799	0.0	731	855	0	0
Cambria	11	712	0.0	621	701	326	308
Davis Advisors	4	689	0.0	537	360	0	0
Nuveen	12	676	0.0	530	412	87	0
O'Shares Investments	4	668	0.0	563	692	384	38
AdvisorShares	15	635	0.0	603	839	730	679
GraniteShares	5	631	0.0	380	30	8	5
Millington Securities	11	627	0.0	534	713	822	1,288
Columbia	8	564	0.0	551	1,189	765	668
Amplify	8	524	0.0	476	185	7	0
PGIM Investments	6	494	0.0	266	0	0	0
Main Management	1	479	0.0	361	239	0	0
Northern Lights	4	416	0.0	228	113	0	0
FormulaFolios	4	410	0.0	331	220	0	0
Other providers (62 total)	132	5,034	0.1	3,842	2,733	1,328	918
Total	2,117	3,963,130	100	3,381,810	3,408,265	2,525,289	2,104,766

Source: Morningstar Direct, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 7: ETF issuer historical flows

In USD millions

Issuer	Number of ETFs	Current Assets	Flows					
			2Q19	1H19	2018	2017	2016	2015
BlackRock	361	1,570,510	27,031	42,414	136,248	204,889	105,764	107,738
Vanguard	80	1,016,130	22,740	40,348	84,704	138,755	94,292	76,474
SSgA	141	644,918	-1,512	-5,277	1,427	34,278	51,116	-23,881
Invesco	252	204,448	3,428	5,678	7,155	11,556	9,623	2,967
Charles Schwab	22	143,578	5,170	11,947	28,429	27,622	16,138	14,172
First Trust	141	76,168	3,187	5,897	9,983	9,486	-3,005	11,103
WisdomTree	79	38,980	-165	-14	-5,164	191	-12,512	16,854
VanEck	56	37,077	-941	-1,794	4,166	2,438	7,924	1,715
ProShares	141	31,192	-679	878	1,596	1,555	3,631	1,853
J.P. Morgan	32	25,536	4,183	6,226	15,800	1,320	812	179
PIMCO	15	19,364	452	703	3,989	2,159	1,495	-193
Northern Trust	26	15,811	83	8	2	2,681	3,195	116
Fidelity	28	13,911	480	1,345	2,816	2,602	1,059	1,116
DWS	38	13,552	-686	1,471	-910	-1,803	-6,414	16,861
Direxion	93	13,172	-681	-1,704	2,215	379	1,589	2,785
Goldman Sachs	19	12,582	679	1,389	4,323	2,712	1,656	771
ALPS	18	12,386	-482	-934	-259	2,747	2,283	1,784
Global X	70	10,566	882	1,420	1,756	4,417	556	292
Exchange Traded Concepts	28	4,600	34	28	-39	2,056	218	-54
Pacer Financial	20	4,513	421	1,098	1,777	620	174	545
John Hancock	15	4,135	136	884	1,962	275	481	1
ETF Managers Group	12	3,891	275	588	1,343	695	-134	1,081
IndexIQ	23	3,538	-309	-757	886	1,107	617	292
Hartford Funds	11	3,528	374	898	2,221	177	23	5
Principal Financial Group	13	3,233	-226	-207	1,093	1,502	475	14
Victory Capital	14	3,092	-122	-182	1,064	1,085	477	225
ARK Investment Management	7	2,924	44	411	1,388	682	18	17
Franklin Templeton	39	2,714	272	798	788	271	231	163
Aberdeen Standard	8	2,608	-23	11	-79	240	266	-263
KraneShares	15	2,408	-242	92	1,241	1,051	48	-66
US Commodity Funds	13	2,380	-19	-445	-709	-1,107	-534	3,318
Innovator Capital Management	21	1,555	490	675	345	351	61	51
USAA	6	1,422	106	196	923	278	0	0
Janus Henderson	7	1,180	45	162	733	209	49	0
Legg Mason	10	1,089	79	207	155	470	105	0
Virtus ETF Solutions	13	1,078	14	361	-47	577	210	223
Transamerica	5	799	11	-10	-54	758	0	0
Cambria	11	712	41	51	4	293	-14	-12
Davis Advisors	4	689	31	77	284	325	0	0
Nuveen	12	676	-18	55	177	220	24	0
O'Shares Investments	4	668	20	18	-50	241	335	30
AdvisorShares	15	635	44	34	-144	89	60	116
GraniteShares	5	631	48	199	358	-6	3	4
Millington Securities	11	627	-12	71	-103	-179	-464	398
Columbia	8	564	-27	-19	-433	161	65	-370
Amplify	8	524	10	-42	387	151	8	0
PGIM Investments	6	494	158	217	168	0	0	0
Main Management	1	479	28	51	172	219	0	0
Northern Lights	4	416	43	155	140	98	0	0
FormulaFolios	4	410	17	52	141	191	0	0
Other providers (62 total)	132	5,034	375	745	1,449	1,248	398	16
Total	2,117	3,963,130	65,288	116,474	315,818	462,331	282,400	238,439

Source: Morningstar Direct, Bloomberg, UBS, assets and flows as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 8: ETF market segment asset growth and historical flows

In USD millions

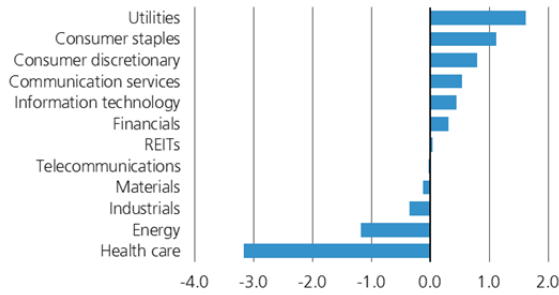
Segment	Number of ETFs	Current Assets	% of ETF Assets	Assets			
				2018	2017	2016	2015
US Broad Market	55	178,079	4.5	142,867	134,840	98,049	79,111
US Large-Cap	177	857,278	21.6	715,378	720,002	529,313	428,279
US Mid-Cap	29	145,805	3.7	118,298	123,444	98,508	78,278
US Small-Cap	48	141,421	3.6	122,954	123,650	96,969	66,613
US Style	106	410,644	10.4	338,160	332,343	257,081	207,939
US Sector & Industry	239	369,858	9.3	321,336	360,137	292,641	259,242
US Dividend	60	156,981	4.0	130,581	127,127	105,321	74,112
International DM & EM	53	85,109	2.1	74,319	73,639	43,820	39,931
International DM	227	389,636	9.8	353,091	408,671	260,057	279,472
International EM	179	241,752	6.1	208,577	225,372	137,015	109,051
Global Equity	210	104,378	2.6	92,016	87,524	61,348	47,665
US Fixed Income	312	710,644	17.9	611,497	538,651	417,793	330,918
Intl. Fixed Income	41	51,917	1.3	42,786	38,895	25,998	18,280
Global Fixed Income	22	1,971	0.0	1,834	1,862	1,258	1,206
Asset Allocation	61	9,625	0.2	9,246	8,724	6,687	5,836
Commodity	49	67,318	1.7	61,552	63,401	57,020	42,669
Currency	15	1,437	0.0	1,793	1,891	2,432	2,791
Alternatives	43	3,756	0.1	4,073	3,070	2,377	2,028
Leveraged / Inverse	191	35,521	0.9	31,451	35,019	31,603	31,345
Totals	2,117	3,963,130	100.0	3,381,810	3,408,265	2,525,289	2,104,766

Segment	Number of ETFs	Current Assets	Flows				
			2Q19	2019	2018	2017	2016
US Broad Market	55	178,079	4,701	9,181	19,415	16,130	10,654
US Large-Cap	177	857,278	8,829	20,087	47,365	70,513	61,107
US Mid-Cap	29	145,805	1,465	3,688	10,476	8,758	8,500
US Small-Cap	48	141,421	-634	-301	16,321	13,654	16,105
US Style	106	410,644	5,439	392	36,821	27,189	25,199
US Sector & Industry	239	369,858	-308	-4,634	-3,081	26,171	16,533
US Dividend	60	156,981	5,587	8,062	13,642	6,906	20,225
International DM & EM	53	85,109	3,608	2,316	14,306	18,033	3,849
International DM	227	389,636	1,977	-4,107	14,413	85,899	-14,495
International EM	179	241,752	-4,135	12,296	22,903	42,514	20,236
Global Equity	210	104,378	912	-2,158	17,381	15,804	8,617
US Fixed Income	312	710,644	39,652	68,550	91,869	114,549	84,661
Intl. Fixed Income	41	51,917	-202	5,790	7,156	11,615	7,388
Global Fixed Income	22	1,971	-3	46	19	614	14
Asset Allocation	61	9,625	151	-461	1,489	1,429	567
Commodity	49	67,318	145	268	1,024	1,806	10,436
Currency	15	1,437	-34	-358	-71	-587	-387
Alternatives	43	3,756	-102	-261	970	587	560
Leveraged / Inverse	191	35,521	-1,760	-1,924	3,400	748	2,630
Totals	2,117	3,963,130	65,288	116,474	315,818	462,331	282,400

Source: Morningstar Direct, Bloomberg, UBS, assets and flows as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 9: US sector & industry second quarter flows

In USD billions



Source: Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 10: US fixed income flows

In USD millions

	# of ETFs	2Q19	2019	Assets
U.S. Treasury	36	14,369	19,673	167,776
U.S. Fixed Income Broad Market	71	10,438	15,706	171,950
Investment Grade Corporate	69	7,182	19,485	157,155
Mortgage-Backed Securities	7	2,410	7,099	30,222
Municipal Bond	48	2,308	3,392	40,711
Preferred Stock	13	1,908	2,031	29,317
High Yield Corporate	45	1,846	9,380	47,568
Convertible Bond	3	-176	-388	4,400
U.S. Treasury/Credit	5	-642	-6,772	40,612
Senior Loan	6	-939	-1,535	8,424
Other	9	947	479	12,510
Totals	312	39,652	68,550	710,644

Source: Morningstar Direct, Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 11: 2019 New ETF issuance breakdown

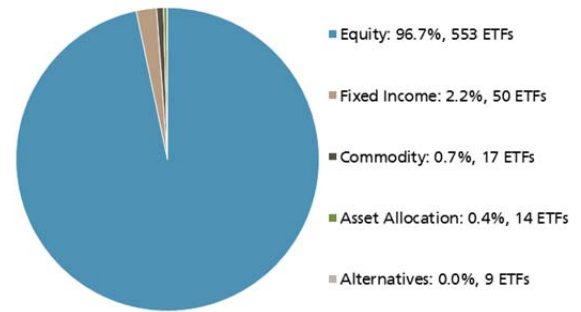
In USD millions

Segment	Number of ETFs	Current Assets	% of Assets
U.S. Broad Market	0	0	0.0
U.S. Large-Cap	20	3,032	57.5
U.S. Mid-Cap	1	3	0.1
U.S. Small-Cap	3	27	0.5
U.S. Style	8	152	2.9
U.S. Sector & Industry	8	280	5.3
U.S. Dividend	5	317	6.0
International DM & EM	3	20	0.4
International DM	5	88	1.7
International EM	6	42	0.8
Global Equity	26	753	14.3
U.S. Fixed Income	20	394	7.5
Intl. Fixed Income	0	0	0.0
Global Fixed Income	0	0	0.0
Asset Allocation	3	94	1.8
Commodity	0	0	0.0
Currency	0	0	0.0
Alternatives	2	60	1.1
Leveraged / Inverse	6	11	0.2
Totals	116	5,275	100.0

Source: Morningstar Direct, UBS, as of 6/28/19.

Fig. 12: Smart beta ETF assets by segment

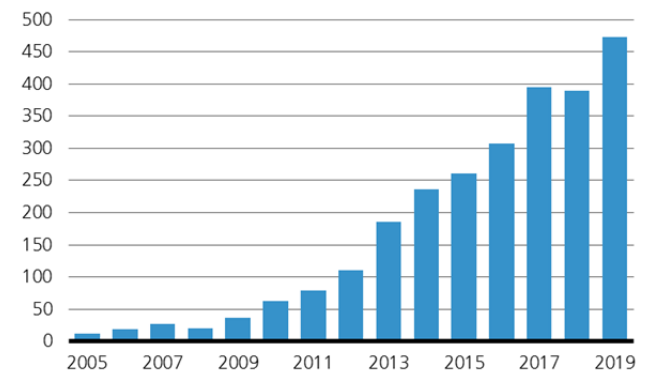
643 ETFs that combine for USD 473bn in assets



Source: Morningstar Direct, UBS, as of 6/28/19. Note: Based upon internal classifications.

Fig. 13: Smart beta ETF asset growth

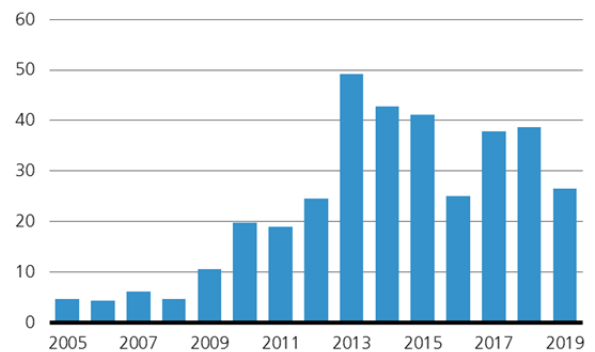
In USD billions



Source: Morningstar Direct, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 14: Smart beta ETF historical flows

In USD billions



Source: Morningstar Direct, Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated.

Fig. 15: Factor ETF flows

In USD millions

	# of ETFs	Assets	Assets		
			(%)	2Q19	2019
Quality	11	13,185	9.8	174	2,979
Low volatility	35	73,112	54.6	4,411	11,667
Momentum	32	14,741	11.0	505	261
Size	29	25,744	19.2	153	1,074
Value	29	7,230	5.4	-268	-573
Total	136	134,013	100.0	4,976	15,408

Source: Morningstar Direct, Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated. Based on UBS classifications and value does not include ETFs tracking traditional value indices such as the Russell 1000 Value Index and the S&P 500 Value Index.

Fig. 15: Multifactor ETF flows

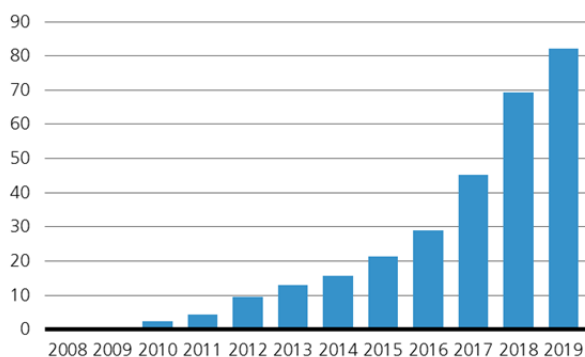
In USD millions

Segment	# of ETFs	Assets	Assets		
			(%)	2Q19	2019
US Broad Market	9	2,499	4.3	-90	-50
US Large-Cap	38	21,706	37.1	1,354	3,813
US Mid-Cap	7	2,516	4.3	138	352
US Small-Cap	16	2,524	4.3	34	128
US Style	9	3,133	5.4	8	23
US Sector & Industry	20	7,458	12.7	-84	-274
International DM & EM	5	747	1.3	19	57
International DM	33	11,243	19.2	235	1,289
International EM	21	6,300	10.8	200	1,177
Global Equity	8	424	0.7	-73	-153
Totals	166	58,550	100.0	1,741	6,362

Source: Morningstar Direct, Bloomberg, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated. Based on UBS classifications.

Fig. 17: Active ETF asset growth

In USD billions



Source: Morningstar Direct, UBS, as of 6/28/19. Note: Historical data does not include ETFs that have been liquidated

Fig. 18: Smart beta ETF issuer breakdown

In USD millions

Issuer	Number of ETFs	Current Assets	% of Assets
BlackRock	45	117,384	24.8
Invesco	147	85,844	18.1
Vanguard	4	62,453	13.2
SSgA	40	42,691	9.0
First Trust	80	40,863	8.6
WisdomTree	54	34,637	7.3
Charles Schwab	7	26,948	5.7
Goldman Sachs	9	9,141	1.9
Northern Trust	19	8,463	1.8
ProShares	8	7,176	1.5
John Hancock	15	4,135	0.9
J.P. Morgan	13	3,432	0.7
Victory Capital	14	3,092	0.7
Hartford Funds	7	2,671	0.6
VanEck	7	2,494	0.5
ALPS	6	2,483	0.5
Exchange Traded Concepts	8	2,237	0.5
Global X	15	2,192	0.5
Principal Financial Group	6	2,020	0.4
Franklin Templeton	7	1,726	0.4
Fidelity	12	1,510	0.3
DWS	10	1,074	0.2
USAA	4	1,070	0.2
IndexIQ	8	1,026	0.2
Legg Mason	4	743	0.2
PIMCO	3	624	0.1
O'Shares Investments	3	620	0.1
Innovator Capital Management	4	577	0.1
Pacer Financial	7	558	0.1
US Commodity Funds	3	408	0.1
Alpha Architect	5	378	0.1
Nationwide	4	365	0.1
Direxion	2	282	0.1
Virtus ETF Solutions	1	222	0.0
Cambria	3	200	0.0
Teucrium	5	200	0.0
Columbia	5	158	0.0
Aptus Capital Advisors	2	148	0.0
Janus Henderson	2	119	0.0
Timothy Plan	2	118	0.0
Millington Securities	1	103	0.0
Nuveen	2	99	0.0
Redwood Investment Management	1	85	0.0
Arrow Investment Advisors	4	84	0.0
AGF Investments	5	76	0.0
American Century	3	68	0.0
SoFI	3	60	0.0
Reality Shares Advisors	4	58	0.0
Syntax ETFs	1	51	0.0
Distillate Capital Partners	1	41	0.0
Advisor Asset Management	3	40	0.0
CBOE Vest	1	33	0.0
Amplify	1	24	0.0
Salt Financial	2	18	0.0
Exponential ETFs	1	9	0.0
GraniteShares	1	8	0.0
Acquirers Funds	1	7	0.0
KraneShares	2	5	0.0
Cushing Asset Management	4	5	0.0
Regents Park Funds	1	4	0.0
Whitford Asset Management	1	1	0.0

Source: Morningstar Direct, UBS, as of 6/28/19.

Fig. 19: Active ETF issuer breakdown

In USD millions

Issuer	Number of ETFs	Current Assets	% of Assets
First Trust	36	20,502	25.0
PIMCO	5	15,187	18.5
BlackRock	19	9,119	11.1
J.P. Morgan	12	8,360	10.2
SSgA	13	6,518	7.9
Invesco	10	5,173	6.3
ARK Investment Management	5	2,863	3.5
Principal Financial Group	5	1,135	1.4
Janus Henderson	2	1,023	1.2
Innovator Capital Management	15	955	1.2
Fidelity	4	947	1.2
Hartford Funds	4	857	1.0
Davis Advisors	4	689	0.8
WisdomTree	13	669	0.8
AdvisorShares	15	635	0.8
ALPS	5	603	0.7
Virtus ETF Solutions	7	569	0.7
Millington Securities	10	524	0.6
PGIM Investments	6	494	0.6
Main Management	1	479	0.6
FormulaFolios	4	410	0.5
Cambria	7	406	0.5
Franklin Templeton	9	383	0.5
USAA	2	352	0.4
Legg Mason	5	325	0.4
Northern Trust	2	266	0.3
Vanguard	6	263	0.3
Exchange Traded Concepts	5	247	0.3
Strategy Shares	2	200	0.2
Aptus Capital Advisors	2	167	0.2
Aberdeen Standard	3	165	0.2
ClearShares	2	141	0.2
TrimTabs Asset Management	2	135	0.2
Amplify	3	133	0.2
Toroso Investments	1	127	0.2
ETF Managers Group	1	125	0.2
IndexIQ	2	90	0.1
American Century	2	90	0.1
Regents Park Funds	2	83	0.1
Motley Fool Asset Management	1	74	0.1
GraniteShares	2	74	0.1
Realty Shares Advisors	1	68	0.1
Arrow Investment Advisors	2	66	0.1
Natixis	2	54	0.1
VanEck	2	46	0.1
OBP Capital	1	45	0.1
Gadsden	2	45	0.1
RYZZ Capital Management	1	45	0.1
Direxion	1	41	0.0
Pacific Global Asset Management	1	32	0.0
Quadratic Capital	1	28	0.0
AlphaMark Advisors	1	22	0.0
ProShares	3	20	0.0
Active Weighting Advisors	1	19	0.0
iM Global Partner	1	15	0.0
Goldman Sachs	1	15	0.0
StrongVest	1	8	0.0
Little Harbor Advisors	1	6	0.0
SoFI	1	6	0.0
AGF Investments	2	5	0.0
EquBot	1	4	0.0
US Commodity Funds	1	4	0.0
Belpointe Asset Management	1	3	0.0

Source: Morningstar Direct, UBS, as of 6/28/19.

Appendix

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