



# Strategic beta ETF highlights

Quarter at a glance

Q1 2019

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This quarterly report contains a compilation of news and data about strategic beta ETFs. It's designed to offer at-a-glance convenience and a tight focus on the most important strategic beta ETF trends you need to know.

# Notable this quarter

## AUM Surpasses \$800B Mark

Strategic beta ETF assets climbed to over \$806 billion in Q1, a record high.

## Risk-Oriented Funds Top Q1 Flows

Risk-oriented strategies dominated strategic beta flows in Q1, pulling in nearly \$7.5 billion.

## Invesco Rebrands Strategic Beta ETFs

Invesco is partnering with Research Affiliates on its strategic series of self-indexed Strategic Beta ETFs, adding the RAFI trademark to their names.

## WisdomTree and Invesco Shutter ETFs

Both companies announced changes to their ETF lineups as WisdomTree liquidated 4 strategic beta ETFs, while Invesco closed 9.

## Fidelity Launches 3 Multi-Factor ETFs

The 3 new ETFs track multi-factor indexes targeting value, quality, momentum and low-volatility.

## John Hancock Lowers OER

The firm reduced the OER for its nine multi-factor US sector ETFs. The fees were cut by ten basis points from 0.50% to 0.40%.

## Product summary

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Launches

**14**

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Closures

**17**

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# 12-month assets and flows



Q1 2019

Total strategic beta ETF AUM  
**\$806.6B**

Strategic beta quarterly ETF AUM change  
**\$102.6B**

Q1 strategic beta ETF net flows  
**\$11.3B**

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

Note: Data includes only assets and flows for existing ETFs, as of March 31, 2019.

# Top 20 leaderboard

**iShares** saw strategic beta net outflows in Q1 with nearly -\$2.4 billion leaving, however, they have a strong lead in the rankings with over \$321.0 billion in AUM.

**Schwab ETFs** pulled in over \$2.1 billion in net inflows in Q1, which was third overall by sponsors, while **Invesco** saw almost \$2.2 billion in net inflows.

**State Street** led all issuers with \$2.8 billion in net inflows, jumping up one spot in the rankings while **WisdomTree** saw outflows, dropping two spots in Q1.

Rank	Δ in rank	Sponsor	Q1 2019		Products	Q1 2019 net flows	
			AUM (\$, MM)	% of total	# of strategic beta ETFs	Q1 flows (\$, MM)	Flows (% of total)
1	-	<b>iShares</b>	<b>321,018.8</b>	<b>39.8%</b>	<b>64</b>	<b>-2,356.0</b>	<b>-20.8%</b>
2	-	Vanguard	195,997.9	24.3%	22	894.2	7.9%
3	-	<b>Invesco</b>	<b>75,284.0</b>	<b>9.3%</b>	<b>121</b>	<b>2,195.2</b>	<b>19.4%</b>
4	-	<b>Schwab ETFs</b>	<b>38,699.8</b>	<b>4.8%</b>	<b>9</b>	<b>2,139.3</b>	<b>18.9%</b>
5	+1	<b>State Street</b>	<b>38,401.8</b>	<b>4.8%</b>	<b>25</b>	<b>2,812.4</b>	<b>24.8%</b>
6	+1	First Trust	35,128.4	4.4%	76	1,483.7	13.1%
7	-2	<b>WisdomTree</b>	<b>34,519.4</b>	<b>4.3%</b>	<b>51</b>	<b>-940.7</b>	<b>-8.3%</b>
8	-	Flexshares Trust	8,593.9	1.1%	19	-188.2	-1.7%
9	-	Goldman Sachs	8,417.5	1.0%	11	640.2	5.6%
10	-	ProShares	6,584.7	0.8%	9	532.8	4.7%
11	-	OppenheimerFunds	4,625.5	0.6%	20	976.6	8.6%
12	+2	John Hancock	3,905.3	0.5%	14	747.9	6.6%
13	-	JPMorgan	3,512.5	0.4%	16	380.4	3.4%
14	-2	VictoryShares	3,120.6	0.4%	14	-55.0	-0.5%
15	-	ALPS	2,582.3	0.3%	5	-107.2	-0.9%
16	+4	Hartford Funds	2,304.6	0.3%	7	483.7	4.3%
17	+2	VanEck	2,264.9	0.3%	6	307.2	2.7%
18	-2	USCF Investments	2,070.9	0.3%	4	-372.8	-3.3%
19	-1	Global X Funds	2,048.4	0.3%	16	167.2	1.5%
20	-3	Principal Funds	2,008.9	0.2%	7	4.4	0.0%

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets and flows

**Value** and **Growth** saw outflows in Q1, with Value losing over -\$3.9 billion. Growth now reclaims its lead as the largest strategic beta strategy.

**Multi-Factor** ETFs continued to see large inflows, taking in over \$4.3 billion, while **Quality** pulled in nearly \$3.5 billion in net inflows in Q1.

**Risk Oriented** ETFs had a strong quarter with nearly \$7.5 billion in flows, the largest for any strategy in Q1, making it the fourth largest strategy by AUM.

Group	Q1 2019		Products # of ETFs	Q1 2019 net flows	
	AUM (\$, MM)	% of total		Q1 (\$, MM)	% of total
<b>Growth</b>	<b>194,325.8</b>	<b>24.1%</b>	<b>39</b>	<b>-1,170.6</b>	<b>-15.6%</b>
<b>Value</b>	<b>193,058.2</b>	<b>23.9%</b>	<b>55</b>	<b>-3,954.3</b>	<b>-52.7%</b>
Dividend	188,407.5	23.4%	142	1,622.4	21.6%
<b>Risk-Oriented</b>	<b>68,742.8</b>	<b>8.5%</b>	<b>52</b>	<b>7,458.7</b>	<b>99.3%</b>
<b>Multi-Factor</b>	<b>52,217.4</b>	<b>6.5%</b>	<b>177</b>	<b>4,330.9</b>	<b>6.9%</b>
Fundamentals	32,843.8	4.1%	32	516.3	6.7%
Other	27,972.7	3.5%	67	955.7	12.7%
Momentum	17,025.4	2.1%	39	-541.1	-7.2%
<b>Quality</b>	<b>16,959.8</b>	<b>2.1%</b>	<b>17</b>	<b>3,500.3</b>	<b>46.6%</b>
Fixed Income	9,299.8	1.2%	42	-593.4	-7.9%
Commodity	5,759.8	0.7%	34	-792.3	-10.6%
Total:	806,613.0	100.0%	696	11,332.5	100.0%

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Top 10 net flows – Q1 2019

**USMV**, a low volatility ETF saw its second straight quarter of net inflows of approximately \$3.5 billion while **IWD** and its growth counterpart **IWF**, led all outflows in Q1.

**SPLV** and **SPYG**, a low volatility and growth approach to the S&P 500 Index respectively, saw healthy net inflows as the S&P 500 Index had its strongest start to a year since 1988.

Top 10 net inflows					
Ticker	Name	Sponsor	Attribute	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
<b>USMV</b>	<b>iShares Edge MSCI Min Vol USA ETF</b>	<b>BlackRock</b>	<b>Risk-Oriented</b>	<b>24,929.2</b>	<b>3,548.6</b>
QUAL	iShares Edge MSCI USA Quality Factor ETF	BlackRock	Quality	10,282.1	2,305.8
<b>SPLV</b>	<b>Invesco S&amp;P 500 Low Volatility ETF</b>	<b>Invesco</b>	<b>Risk-Oriented</b>	<b>10,151.4</b>	<b>1,054.6</b>
DGRO	iShares Core Dividend Growth ETF	BlackRock	Dividend	6,584.3	1,008.3
<b>SPYG</b>	<b>SPDR Portfolio S&amp;P 500 Growth ETF</b>	<b>State Street</b>	<b>Growth</b>	<b>4,527.3</b>	<b>909.7</b>
VTV	Vanguard Value ETF	Vanguard	Value	46,560.1	828.0
EFAV	iShares Edge MSCI Min Vol EAFE ETF	BlackRock	Risk-Oriented	11,129.8	761.3
OMFL	Oppenheimer Russell 1000 Dyn Mltfctr ETF	OppenheimerFunds	Multi-Factor	941.4	659.1
XMLV	Invesco S&P MidCap Low Volatility ETF	Invesco	Risk-Oriented	2,583.5	607.6
FVD	First Trust Value Line Dividend ETF	First Trust	Dividend	5,493.8	589.8

Top 10 net outflows					
Ticker	Name	Sponsor	Attribute	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
<b>IWD</b>	<b>iShares Russell 1000 Value ETF</b>	<b>BlackRock</b>	<b>Value</b>	<b>37,859.4</b>	<b>-3,823.7</b>
<b>IWF</b>	<b>iShares Russell 1000 Growth ETF</b>	<b>BlackRock</b>	<b>Growth</b>	<b>42,729.8</b>	<b>-1,782.6</b>
DVY	iShares Select Dividend ETF	BlackRock	Dividend	17,095.4	-1,209.4
IVE	iShares S&P 500 Value ETF	BlackRock	Value	15,234.6	-1,141.2
VYM	Vanguard High Dividend Yield ETF	Vanguard	Dividend	22,909.6	-752.1
DXJ	WisdomTree Japan Hedged Equity ETF	WisdomTree	Dividend	3,255.4	-675.0
HEDJ	WisdomTree Europe Hedged Equity ETF	WisdomTree	Dividend	3,744.5	-583.4
IWO	iShares Russell 2000 Growth ETF	WisdomTree	Growth	9,171.4	-541.3
IWN	iShares Russell 2000 Value ETF	WisdomTree	Value	9,108.0	-534.5
IWW	iShares S&P 500 Growth ETF	BlackRock	Growth	22,559.7	-457.5

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets – ETF rankings

## Growth

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
IWF	iShares Russell 1000 Growth ETF	BlackRock	42,729.8	-1,782.6
VUG	Vanguard Growth ETF	Vanguard	38,269.8	361.0
IWW	iShares S&P 500 Growth ETF	BlackRock	22,559.7	-457.5
IWP	iShares Russell Mid-Cap Growth ETF	BlackRock	10,211.2	68.9
IWO	iShares Russell 2000 Growth ETF	BlackRock	9,171.4	-541.3
VBK	Vanguard Small-Cap Growth ETF	Vanguard	8,665.6	-21.0
IJK	iShares S&P Mid-Cap 400 Growth ETF	BlackRock	7,490.9	-323.9
SCHG	Schwab US Large-Cap Growth ETF	Schwab ETFs	7,144.7	402.0
IUSG	iShares Core S&P US Growth ETF	BlackRock	5,985.8	-237.4
VOT	Vanguard Mid-Cap Growth ETF	Vanguard	5,950.0	25.1

## Value

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
VTV	Vanguard Value ETF	Vanguard	46,560.1	828.0
IWD	iShares Russell 1000 Value ETF	BlackRock	37,859.4	-3,823.7
IVE	iShares S&P 500 Value ETF	BlackRock	15,234.6	-1,141.2
VBR	Vanguard Small-Cap Value ETF	Vanguard	13,088.6	43.2
IWS	iShares Russell Mid-Cap Value ETF	BlackRock	11,226.8	-258.9
IWN	iShares Russell 2000 Value ETF	BlackRock	9,108.0	-534.5
VOE	Vanguard Mid-Cap Value ETF	Vanguard	8,930.3	-17.2
IJJ	iShares S&P Mid-Cap 400 Value ETF	BlackRock	6,355.8	99.3
IJS	iShares S&P Small-Cap 600 Value ETF	BlackRock	6,155.3	131.6
EFV	iShares MSCI EAFE Value ETF	BlackRock	5,914.4	-294.5

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets – ETF rankings (cont'd)

## Dividend

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
VIG	Vanguard Dividend Appreciation ETF	Vanguard	32,925.0	15.8
VYM	Vanguard High Dividend Yield ETF	Vanguard	22,909.6	-752.1
SDY	SPDR S&P Dividend ETF	State Street	18,345.2	154.5
DVY	iShares Select Dividend ETF	BlackRock	17,095.4	-1,209.4
SCHD	Schwab US Dividend Equity ETF	Schwab ETFs	9,028.5	475.4
HDV	iShares Core High Dividend ETF	BlackRock	7,010.2	-200.1
DGRO	iShares Core Dividend Growth ETF	BlackRock	6,584.3	1,008.3
FVD	First Trust Value Line Dividend ETF	First Trust	5,493.8	589.8
NOBL	ProShares S&P 500 Dividend Aristocrats	ProShares	4,492.9	365.0
IDV	iShares International Select Div ETF	BlackRock	4,244.7	99.7

## Risk-Oriented

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
USMV	iShares Edge MSCI Min Vol USA ETF	BlackRock	24,929.2	3,548.6
EFAV	iShares Edge MSCI Min Vol EAFE ETF	BlackRock	11,129.8	761.3
SPLV	Invesco S&P 500 Low Volatility ETF	Invesco	10,151.4	1,054.6
EEMV	iShares Edge MSCI Min Vol Emerg Mkts ETF	BlackRock	5,678.9	403.2
ACWV	iShares Edge MSCI Min Vol Global ETF	BlackRock	4,164.3	256.6
XMLV	Invesco S&P MidCap Low Volatility ETF	Invesco	2,583.5	607.6
USMC	Principal US Mega-Cap Multi-Factor ETF	Principal Funds	1,811.9	394.7
XSLV	Invesco S&P SmallCap Low Volatility ETF	Invesco	1,606.8	9.7
CFO	VictoryShares US 500 Enh Vol Wtd ETF	VictoryShares	886.4	-95.9
CFA	VictoryShares US 500 Volatility Wtd ETF	VictoryShares	690.0	17.6

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.



# Groups by assets – ETF rankings (cont'd)

## Multi-Factor

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
GSLC	Goldman Sachs ActiveBeta US LgCp Eq ETF	Goldman Sachs	4,511.1	340.8
FXL	First Trust Technology AlphaDEX ETF	First Trust	2,166.4	82.3
FXH	First Trust Health Care AlphaDEX ETF	First Trust	2,140.2	-6.8
RODM	Hartford Multifactor Dev Mkts (exUS) ETF	Hartford Funds	1,913.4	423.5
GEM	Goldman Sachs ActiveBeta EMkts Eq ETF	Goldman Sachs	1,771.5	62.3
JPIN	JPMorgan Diversified Return Intl Eq ETF	JPMorgan	1,714.5	250.6
TILT	FlexShares Mstar US Mkt Factors Tilt ETF	Flexshares	1,444.0	25.5
FEX	First Trust Large Cap Core AlphaDEX ETF	First Trust	1,405.1	-16.6
GSIE	Goldman Sachs ActiveBeta Intl Eq ETF	Goldman Sachs	1,398.8	245.4
INTF	iShares Edge MSCI Multifactor Intl ETF	BlackRock	1,160.5	136.0

## Fundamentals

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
PRF	Invesco FTSE RAFI US 1000 ETF	Invesco	5,397.7	-24.9
FNDX	Schwab Fundamental US Large Company ETF	Schwab ETFs	4,720.0	260.3
FNDF	Schwab Fundamental Intl Lg Co ETF	Schwab ETFs	4,127.6	75.9
FNDA	Schwab Fundamental US Small Company ETF	Schwab ETFs	3,373.2	178.6
FNDE	Schwab Fundamental Emerg Mkts Lg Co ETF	Schwab ETFs	2,353.4	131.3
PRFZ	Invesco FTSE RAFI US 1500 Small-Mid ETF	Invesco	2,105.6	-40.7
FNDC	Schwab Fundamental Intl Sm Co ETF	Schwab ETFs	1,865.1	52.7
PXF	Invesco FTSE RAFI Dev Mkts ex-US ETF	Invesco	1,470.7	40.9
EPI	WisdomTree India Earnings ETF	WisdomTree	1,325.2	-199.3
PXH	Invesco FTSE RAFI Emerging Markets ETF	Invesco	1,304.8	50.2

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets – ETF rankings (cont'd)

## Other

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
RSP	Invesco S&P 500 Equal Weight ETF	Invesco	15,560.3	558.4
XT	iShares Exponential Technologies ETF	BlackRock	2,388.5	-31.4
QTEC	First Trust NASDAQ-100-Tech Sector ETF	First Trust	2,386.4	46.2
PKW	Invesco BuyBack Achievers ETF	Invesco	1,132.9	-61.9
RYH	Invesco S&P 500 Equal Wt Hlth Care ETF	Invesco	740.9	21.6
QQEW	First Trust NASDAQ-100 Equal Wtd ETF	First Trust	736.3	195.1
SIZE	iShares Edge MSCI USA Size Factor ETF	BlackRock	497.4	209.1
EQAL	Invesco Russell 1000 Equal Weight ETF	Invesco	477.2	-72.5
RHS	Invesco S&P 500 Eql Wt Cnsm Stapl ETF	Invesco	406.8	-66.8
RYU	Invesco S&P 500 Equal Weight Utilts ETF	Invesco	338.9	45.0

## Momentum

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
MTUM	iShares Edge MSCI USA Momentum Fctr ETF	iShares	8,565.0	-397.4
FV	First Trust Dorsey Wright Focus 5 ETF	First Trust	2,444.0	-70.5
PDP	Invesco DWA Momentum ETF	Invesco	1,689.2	10.5
IFV	First Trust Dorsey Wright Intl Foc 5	First Trust	564.6	48.3
FVC	First Trust Dorsey Wright Dynamic Foc 5	First Trust	531.3	-6.2
ONEO	SPDR Russell 1000 Momentum Focus ETF	State Street	427.3	-40.7
DWAS	Invesco DWA SmallCap Momentum ETF	Invesco	303.4	-38.9
PUI	Invesco DWA Utilities Momentum ETF	Invesco	263.5	76.7
PTH	Invesco DWA Healthcare Momentum ETF	Invesco	239.2	-3.8
PIZ	Invesco DWA Developed Markets Mom ETF	Invesco	211.9	-22.2

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets – ETF rankings (cont'd)

## Quality

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
QUAL	iShares Edge MSCI USA Quality Factor ETF	BlackRock	10,282.1	2,305.8
MOAT	VanEck Vectors Morningstar Wide Moat ETF	VanEck	2,102.6	295.3
FTCS	First Trust Capital Strength ETF	First Trust	1,993.0	380.4
SPHQ	Invesco S&P 500 Quality ETF	Invesco	1,413.2	21.3
IQLT	iShares Edge MSCI Intl Quality Fctr ETF	BlackRock	642.1	488.3
FQAL	Fidelity Quality Factor ETF	Fidelity	137.0	24.2
JPXN	iShares JPX-Nikkei 400 ETF	BlackRock	114.8	0.0
MOTI	VanEck Vectors Morningstar Intl Moat ETF	VanEck	87.2	7.9
JQUA	JPMorgan US Quality Factor ETF	JPMorgan	46.6	6.7
IDHQ	Invesco S&P International Dev Qual ETF	Invesco	35.3	-2.4

## Fixed Income

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
PCY	Invesco Emerging Markets Sov Debt ETF	Invesco	3,420.0	-395.2
TDTT	FlexShares iBoxx 3Yr Target Dur TIPS ETF	Flexshares	1,265.6	-198.4
PHB	Invesco Fundamental Hi Yld Corp Bd ETF	Invesco	751.3	-105.0
TDTF	FlexShares iBoxx 5Yr Target Dur TIPS ETF	Flexshares	553.1	-208.9
AGGY	WisdomTree Yield Enhanced US Aggt Bd ETF	WisdomTree	547.6	159.6
VBND	Vident Core US Bond Strategy ETF™	Vident Financial	483.0	28.7
GIGB	Goldman Sachs Acss Invmt Grd Corp Bd ETF	Goldman Sachs	297.1	-50.8
AGGP	IQ Enhanced Core Plus Bond US ETF	IndexIQ	163.2	-10.1
PFIG	Invesco Fdmtl Invmt Grd Corp Bd ETF	Invesco	159.7	32.5
HYUP	Xtrackers High Beta High Yield Bond ETF	DWS	147.8	-1.3

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

# Groups by assets – ETF rankings (cont'd)

## Commodity

Top 10				
Ticker	Name	Sponsor	Q1 2019 AUM (\$, MM)	Q1 2019 flows (\$, MM)
DBC	Invesco DB Commodity Tracking	Invesco	1,772.5	-376.7
USO	United States Oil	USCF Investments	1,553.7	-333.7
DBA	Invesco DB Agriculture	Invesco	455.0	-19.8
USCI	United States Commodity Index	USCF Investments	438.8	-40.7
DBO	Invesco DB Oil	Invesco	304.9	-30.0
DBB	Invesco DB Base Metals	Invesco	180.8	3.3
GCC	WisdomTree Continuous Commodity ETF	WisdomTree	143.4	-16.6
DGL	Invesco DB Gold	Invesco	142.9	47.9
DBP	Invesco DB Precious Metals	Invesco	116.1	7.5
GSC	GS Connect S&P GSCI Enh Commodity TR ETN	Goldman Sachs	98.3	-13.7

Source: Morningstar. Strategic beta classification based on Morningstar, as of March 31, 2019.

Strategic beta ETF highlights Q1 2019

Charles Schwab Investment Management, Inc. | For Institutional Use Only

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# New launches

A total of 14 new strategic beta ETFs launched in Q1, led by **Multi-Factor** strategies with 4 ETFs launched and followed by **Other** with 3.

LSLT debuted and will waive its 0.29% management fee and contribute 0.05% of the fund's average daily net assets on the first \$100M back to the fund until April 30, 2020.

Ticker	Name	Sponsor	Attribute	OER (%)	Inception
<b>SSPY</b>	<b>Syntax Stratified LargeCap ETF</b>	<b>Syntax</b>	<b>Other</b>	<b>0.30</b>	<b>1/2/2019</b>
RWGV	Direxion Russell 1000 Gr Ovr Val ETF	Direxion	Growth	0.46	1/16/2019
RWVG	Direxion Russell 1000 Val Ovr Gr ETF	Direxion	Value	0.46	1/16/2019
<b>RWLS</b>	<b>Direxion Russell Large Over Sm Cap ETF</b>	<b>Direxion</b>	<b>Other</b>	<b>0.46</b>	<b>1/16/2019</b>
<b>RWSL</b>	<b>Direxion Russell Small Over Lrg Cap ETF</b>	<b>Direxion</b>	<b>Other</b>	<b>0.47</b>	<b>1/16/2019</b>
<b>VPC</b>	<b>Virtus Private Credit ETF</b>	<b>Virtus</b>	<b>Multi-Factor</b>	<b>7.64</b>	<b>2/7/2019</b>
VRAI	Virtus Real Asset Income ETF	Virtus	Dividend	0.55	2/7/2019
<b>FSMD</b>	<b>Fidelity Small-Mid Factor ETF</b>	<b>Fidelity</b>	<b>Multi-Factor</b>	<b>0.29</b>	<b>2/26/2019</b>
<b>FDEM</b>	<b>Fidelity Targeted Emerging Mkts Fac ETF</b>	<b>Fidelity</b>	<b>Multi-Factor</b>	<b>0.45</b>	<b>2/26/2019</b>
<b>FDEV</b>	<b>Fidelity Targeted International Fac ETF</b>	<b>Fidelity</b>	<b>Multi-Factor</b>	<b>0.39</b>	<b>2/26/2019</b>
BBSA	JPMorgan BetaBldrs 1-5 Yr US Aggt Bd ETF	JPMorgan	Fixed Income	0.05	3/12/2019
<b>LSLT</b>	<b>Salt Low truBeta US Market ETF</b>	<b>Salt Financial</b>	<b>Risk-Oriented</b>	<b>0.29</b>	<b>3/12/2019</b>
DMRE	DeltaShares S&P EM 100 & Mgd Rsk ETF	DeltaShares	Risk-Oriented	0.60	3/19/2019
FOVL	iShares Focused Value Factor ETF	BlackRock	Value	0.25	3/19/2019

Sources: NYSE Arca, BATS, NASDAQ, Strategic Insight, FUSE, ETF.com, Ignites, ETF Trends, and company websites. Strategic beta classification based on Morningstar.

# Fund closures

After acquisitions of Guggenheim and OppenheimerFunds, **Invesco** shut down several strategic beta ETFs In February.

Ticker	Name	Sponsor	Attribute	Closure Date
JBPI	James Purpose Based Investment ETF	James ETF	Multi-Factor	2/5/2019
<b>ENY</b>	<b>Invesco Canadian Energy Income ETF</b>	<b>Invesco</b>	<b>Dividend</b>	<b>2/21/2019</b>
<b>DWLV</b>	<b>Invesco DWA Momentum &amp; Low Volatility Rotation ETF</b>	<b>Invesco</b>	<b>Momentum</b>	<b>2/27/2019</b>
<b>PAF</b>	<b>Invesco FTSE RAFI Asia Pacific ex-Japan ETF</b>	<b>Invesco</b>	<b>Fundamentals</b>	<b>2/27/2019</b>
<b>GMFL</b>	<b>Invesco Multi-Factor Large Cap ETF</b>	<b>Invesco</b>	<b>Multi-Factor</b>	<b>2/27/2019</b>
<b>EQWS</b>	<b>Invesco Russell 2000 Equal Weight ETF</b>	<b>Invesco</b>	<b>Other</b>	<b>2/27/2019</b>
<b>OEW</b>	<b>Invesco S&amp;P 100 Equal Weight ETF</b>	<b>Invesco</b>	<b>Other</b>	<b>2/27/2019</b>
<b>SPVM</b>	<b>Invesco S&amp;P 500 Value With Momentum ETF</b>	<b>Invesco</b>	<b>Multi-Factor</b>	<b>2/27/2019</b>
<b>OVLC</b>	<b>Invesco U.S. Large Cap Optimized Volatility ETF</b>	<b>Invesco</b>	<b>Risk-Oriented</b>	<b>2/27/2019</b>
<b>PZI</b>	<b>Invesco Zacks Micro Cap ETF</b>	<b>Invesco</b>	<b>Multi-Factor</b>	<b>2/27/2019</b>
DDBI	Legg Mason Developed ex-US Diversified Core ETF	Legg Mason	Risk-Oriented	3/22/2019
EDBI	Legg Mason Emerging Markets Diversified Core ETF	Legg Mason	Risk-Oriented	3/22/2019
UDBI	Legg Mason US Diversified Core ETF	Legg Mason	Risk-Oriented	3/22/2019
AUSE	WisdomTree Australia Dividend Fund	WisdomTree	Dividend	3/22/2019
HGSD	WisdomTree Global Hedged SmallCap Dividend Fund	WisdomTree	Dividend	3/22/2019
GSD	WisdomTree Global SmallCap Dividend Fund	WisdomTree	Dividend	3/22/2019
JHDG	WisdomTree Japan Hedged Quality Dividend Growth Fund	WisdomTree	Dividend	3/22/2019

Sources: NYSE Arca, BATS, NASDAQ, Strategic Insight, FUSE, ETF.com, Ignites, ETF Trends, and company websites. Strategic beta classification based on Morningstar.

# Definitions from Morningstar

Group	Definition
Dividend	Dividend-oriented strategies include screening a universe of stocks for dividend-paying firms, weighting stocks on the basis of dividend payments, screening on the basis of dividend growth or yield, isolating firms based on metrics that would indicate dividend stability, and other dividend-related criteria.
Commodity	Commodity strategies aim to improve upon the performance of standard commodity indexes (such as the Bloomberg Commodity Index or S&P GSCI). They may do so by attempting to avoid the chief drawbacks of standard commodity indexes such as roll losses resulting from contango. These indexes may also seek to harness other fundamental factors, such as momentum.
Value	Value strategies will screen a segment of the stock market looking to identify those stocks that display “value” characteristics. These characteristics will differ across index providers. Common value characteristics include low price/prospective earnings, price/book, price/sales, and price/cash flow ratios and above-average dividend yields—among others.
Growth	Growth strategies will screen a segment of the stock market looking to identify those stocks that display “growth” characteristics. These characteristics will differ across index providers. Common growth characteristics include above-average long-term projected earnings growth, historical earnings growth, sales growth, cash flow growth, and book value growth, among others.
Multi-Factor	Multi-factor strategies set out to combine a variety of factors (e.g., value, growth, size, momentum, quality, low volatility, etc.) in an effort to improve risk-adjusted performance relative to a standard benchmark.
Fundamentals	Fundamentals strategies select and weight constituents on a variety of fundamental measures of their value. These inputs may include sales, adjusted sales, cash flow, dividends, share buybacks, book value, and others.

# Definitions from Morningstar (cont'd)

Group	Definition
Momentum	Momentum strategies will select and/or weight their constituent securities on a number of factors that might include price momentum, adjustments to earnings estimates, and earnings surprises.
Quality	Quality strategies will screen a segment of the stock market looking to identify those stocks that display quality characteristics and may also more heavily weight constituents based on quality characteristics. These characteristics will differ across index providers. Common quality characteristics include: high and stable levels of profitability, clean balance sheets, capital efficiency, return on assets, economic moats, and others.
Fixed Income	Fixed Income strategies aim to enhance returns and/or reduce risk relative to traditional fixed-income benchmarks. They may do so by selecting and weighting constituents on the basis of measures of credit quality, momentum, yield, or other gauges of issuers' fundamentals in an effort. Other strategies in this category may have specific risk, yield, or duration targets.
Risk-Oriented	Risk-oriented strategies attempt to either reduce or increase the level of risk relative to a standard benchmark. Low-volatility and high-beta strategies are the most common examples of risk-oriented strategies.
Other	A group for strategic-beta products that do not fit neatly into any of the remaining Strategic Beta Groups. They will tend to be highly specialized strategies and may be few in number—thus, not warranting a dedicated group of their own. As such, this group will represent different types of strategies. Morningstar routinely reviews industry trends and what vehicles are being assigned to Other to determine if a new stand-alone group is warranted.



## Definitions

### ETFs (exchange-traded funds)

Exchange-traded funds consist of several different structures such as open-end funds, unit investment trusts (UITs), grantor trusts and commodity pools (limited partnerships). Exchange-traded notes (ETNs) are not structurally ETFs but another type of exchange-traded product. Exchange-traded funds represent the vast majority of these exchange-traded investment products, and the term ETF is often used as a catchall. Here, for the purposes of this presentation, the label “exchange-traded fund” (ETF) is used as the umbrella term under which ETFs and ETNs fall.

### Strategic beta

Morningstar defines strategic beta indexes as indexes that seek to either improve their return profile or alter their risk profile relative to traditional cap-weighted indexes. According to Morningstar, strategic beta products represent a middle ground on the active-to-passive spectrum, deviating from traditional cap-weighted products but do so in a rules-based, transparent and relatively low-cost manner.

## Disclosures

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Investment returns will fluctuate and are subject to market volatility, so an investor's shares, when redeemed or sold, may be worth more or less than their original cost. Some specialized exchanged-traded funds can be subject to additional market risks. Unlike mutual funds, shares of ETFs are not individually redeemable directly with the ETF. Shares of ETFs are bought and sold at market price, which may be higher or lower than the net asset value (NAV).

ETFs mentioned are for informational purposes and not an offer to buy or sell a particular security.

Data here is obtained from what are considered reliable sources; however, its accuracy, completeness, or reliability cannot be guaranteed.

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