MORNINGSTAR®

A Global Guide to Strategic-Beta Exchange-Traded Products

Morningstar Manager Research
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Contents

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Executive Summary

- Three years ago, we introduced our naming convention and taxonomy for the fast-growing universe of strategic-beta exchange-traded products, or ETPs. In this year's guide, we provide an update on the state of the global strategic-beta ETP landscape.

- In recent years, the space has grown more rapidly than the broader ETP market as well as the asset-management industry as a whole. That said, the pace of these products' market-share gains has decelerated more recently as exchange-traded funds tracking more-traditional benchmarks have been garnering a greater share of net new flows.

- Strategic-beta ETPs' growth has been driven by new cash flows, new launches, and the entrance of new players—some of which are traditional, dyed-in-the-wool active managers.

- We expect these trends will continue and may ultimately accelerate as newer ETPs tracking new and unproven benchmarks season and more new entrants make their way into the market.

- As of June 30, 2017, there were 1,320 strategic-beta ETPs, with collective assets under management of approximately $707 billion worldwide. Assets in these products grew 28.3% relative to their June 30, 2016, level.

- Dividend-screened/weighted ETPs continue to rank at or near the top of the list of the most popular grouping of strategic-beta ETPs. This should come as little surprise when considered in the context of the prevailing interest-rate environment.

- Multifactor ETPs have surged in number and popularity. As of the end of June 2017, there were 349 such ETPs worldwide, with collective AUM of $57 billion.

- The number of new product launches has come off a bit from the record level set last year. There were 204 new strategic-beta ETPs brought to market in the 12 months through June 2017, down slightly from 211 during the prior period. More strategic-beta ETPs were introduced in Europe than all other regions combined. As a result, the European menu is now looking every bit as saturated as that in the United States.

- A commonality among the markets we examined is the increasing complexity of the benchmarks underlying new ETPs. As more traditional, broad-based market-cap-weighted exposures and single-factor ETFs have proliferated, ETP providers have launched more multifactor ETPs and factor-timing products are now in the works.

- As these strategies become increasingly nuanced, looking to infuse elements of an active manager's thinking into an index, investors' collective due-diligence burden will continue to increase commensurately. To assist investors in this process, Morningstar has assigned Morningstar Analyst Ratings to 119 strategic-beta ETPs worldwide since November 2016. These funds collectively held more than $495 billion in investors' money as of June 30, 2017—representing 70% of the total amount invested in global strategic-beta ETPs.

- An increasingly crowded and competitive landscape will inevitably put pressure on fees. We question how long providers will be able to justify premium pricing for these funds.

- We have already seen instances of aggressive fee reductions for strategic-beta ETPs. We anticipate that cost-competition in this space will become more prominent in the years to come.

Introduction

Three years ago, we introduced our naming convention and taxonomy for the fast-growing universe of strategic-beta exchange-traded products, or ETPs. The goal of our initial guide was to help investors to better define, measure, and analyze this diverse group of passively managed investment products that make active bets against their broad, market-capitalization-weighted predecessors. In this year's guide, we provide an update on the state of the global strategic-beta ETP landscape.

One year on, the space has continued to grow faster than the broader ETP market as well as the asset-management industry as a whole. Growth has been driven by new cash flows, new launches, and the entrance of new players—some of which are traditional, dyed-in-the-wool active managers. We expect these trends will continue and may ultimately accelerate as newer ETPs tracking new and unproven benchmarks season and more new entrants make their way into the market. This process of growth and maturation ultimately will lead to a culling of the herd, which has already begun in some geographies, albeit to a limited extent. An increasingly crowded and competitive landscape will also put pressure on fees. We have already seen instances of aggressive fee reductions for strategic-beta ETPs. We anticipate that cost-competition in this space will become more prominent in the years to come.

Note that all monetary figures in this report are shown in U.S. dollars. Unless stated otherwise, all data is as of June 30, 2017.

The Global Strategic-Beta ETP Landscape

Global Summary

As of June 30, 2017, there were 1,320 strategic-beta ETPs, with collective AUM of approximately $707 billion worldwide. Strategic-beta ETPs are making inroads against their peers that are benchmarked to more-traditional indexes. While in recent years their market share has been increasing in every major region that we have examined, they have made greater inroads in larger, more-mature markets than they have in smaller, less-developed ones. For example, strategic-beta ETPs accounted for 20.9% of U.S. ETP assets but just 4.3% of ETP assets in the Asia-Pacific region.

While regional markets are at varying stages of development, some common themes cut across geographies. First, dividend-screened/weighted ETPs continue to be among the most popular grouping of strategic-beta ETPs in most regions. This should come as little surprise when considered in the context of the prevailing interest-rate environment. Investors around the globe have piled into dividend-paying equities, shunning the low (or negative) real yields offered by issues from developed-markets sovereigns. In addition, multifactor ETPs have recently surged in popularity. As of the end of June 2017, there were 349 such ETPs worldwide, with collective AUM of $57 billion. We interpret the expansion of the number of these funds as a sign that the markets for products tracking more traditional broad-based market-cap-weighted indexes and those tied to single factors have been all but fully saturated. Interestingly, many of the faster-growing multifactor ETPs are backed by newer entrants and have gathered assets despite their limited track records. These include funds from the likes of Franklin Templeton, Goldman Sachs, J.P. Morgan, John Hancock, and Principal.

There is also a clear positive relationship between the adoption of strategic-beta ETPs and the age of each region's ETP market, and its asset-management and financial-services industries more generally. The U.S. is home to a very large and mature asset-management industry and has the second-oldest (next to Canada's) ETP market in the world. Thus, the fact that U.S. strategic-beta ETPs account for 88% of total assets in this grouping is only natural.

As for fees, strategic-beta ETPs tend to charge expense ratios that are more competitive than their comparable actively managed peers (though in some cases only marginally so). That said, in many cases they take a toll many multiples of that levied by their more ordinary passive peers.

Another commonality among the markets we examined is the increasing complexity of the benchmarks that are underlying new ETPs. This is part of the natural evolution of the market and one that has already played out in the slicing and dicing of traditional market-capitalization-weighted

exposures along the lines of region, country, sector, subsector, and so on. As these strategies become increasingly nuanced, looking to infuse elements of an active manager's thinking into an index, investors collective due-diligence burden will continue to increase commensurately. To assist investors in this process, Morningstar has assigned Morningstar Analyst Ratings to 119 strategic-beta ETPs worldwide since November 2016. These funds collectively held more than $495 billion in investors' money as of June 30, 2017—representing 70% of the total amount invested in global strategic-beta ETPs.

Exhibit 1 The Global Strategic-Beta ETP Landscape in 2017

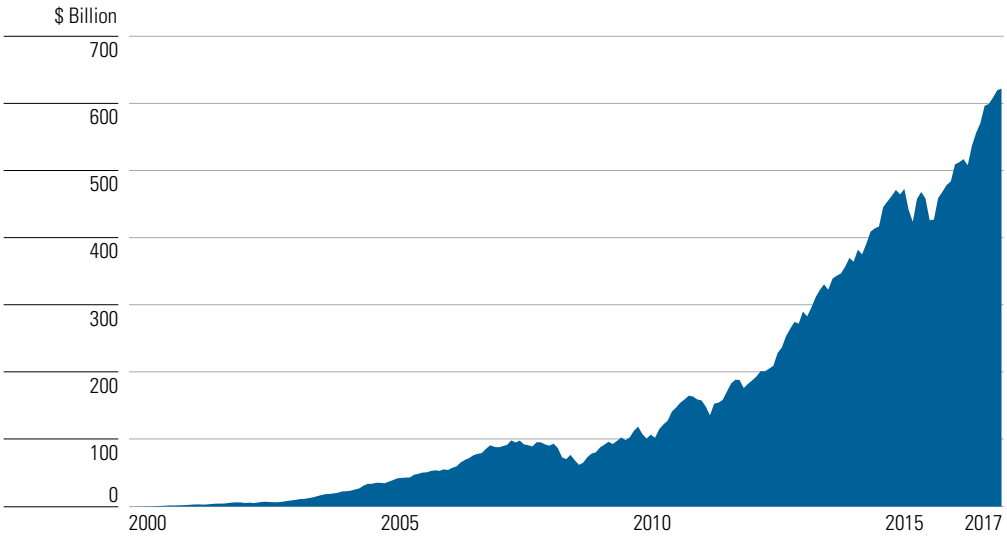
	Assets 2017 ($ Bil)	Global Market Share (%)	Assets 2016 ($ Bil)	One-Year % Change	Flows 6/2016–6/2017 ($ Bil)	As a % of Beginning AUM	# of ETPs 6/2017	# of ETPs 6/2016	One-Year % Change
U.S.	621.9	88.0	489.8	27.0	69.6	14.2	650	608	6.9
Canada	11.6	1.6	9.0	23.8	1.6	17.8	132	95	38.9
Europe	56.2	8.0	40.7	38.0	10.9	26.8	377	268	40.7
Asia-Pacific	16.9	2.4	10.8	61.4	4.0	36.9	147	131	12.2
EM	0.3	0.0	0.5	–30.1	–0.2	–36.5	14	14	0.0
Total	706.9	100	550.8	28.3	85.9	15.6	1,320	1,116	18.3

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

United States

The United States is home to what is far and away the largest and most diverse stable of strategic-beta ETPs. It is host to 49% of the total number of strategic-beta ETPs, which together account for 88% of global ETP assets. This should come as little surprise given the overall size and maturity of the domestic asset-management and financial-services industries. The first generation of strategic-beta ETPs came to the U.S. market in May 2000. The iShares Russell 1000 Growth IWF and iShares Russell 1000 Value IWD ETFs were not only the first but also are presently the two largest strategic-beta ETPs. These funds represented "first-generation" strategic beta—introducing systematic style tilts to a market that was already well versed in a style-based approach to equity investing. Fast forward 17 years to June 30, 2017, and strategic-beta ETPs numbered 650 and had collective AUM of $621.9 billion.

Exhibit 2 United States Strategic-Beta ETP Asset Growth

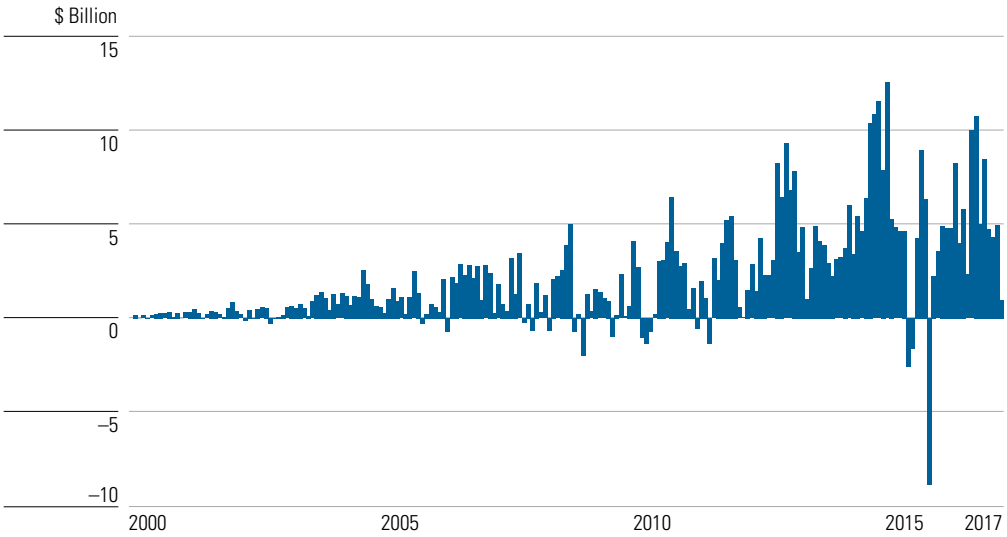


Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Grow With the Flow

Growth in strategic-beta ETPs has been driven primarily by new adopters across the investor spectrum, ranging from individuals to state pension funds. Approximately 69% of the aggregate growth in strategic-beta ETP assets dating back to May 2000 has come from net new inflows, while the remaining 31% reflects asset appreciation. In many ways, the U.S. market was well "primed" for strategic beta. The Morningstar Style Box had popularized the concept of style investing among U.S. investors by the time the first strategic-beta ETPs were launched in 2000. At that time, ETFs had been around for about seven years, though they were still novel to many investors and being used predominantly as trading vehicles. Also, within the advisor space, there were pockets of familiarity with the concept of factors owed in part to a rapidly growing and loyal army of Dimensional Fund Advisors[1] converts who were well versed in size, value, and momentum.

Exhibit 3 United States Strategic-Beta ETP Monthly Asset Flows

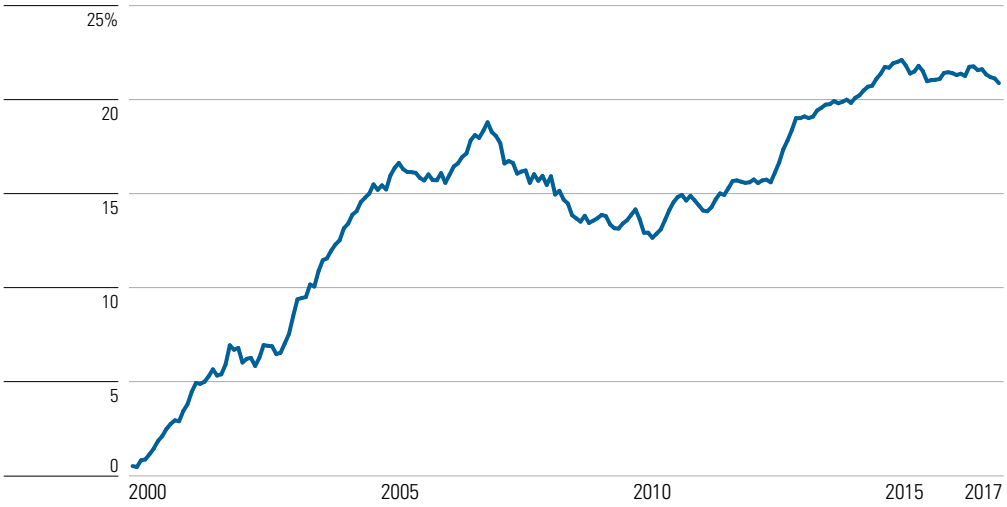


Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

1 As Dimensional Fund Advisors' funds do not track indexes by mandate, we exclude them from our definition of strategic beta. That said, the factors the firm sets out to exploit, the systematic manner in which it sets out to exploit them, and the fact that most of its funds levy low fees relative to peers make them close cousins.

Growth in AUM in strategic-beta ETPs has outpaced that experienced by the broader ETP industry. As such, strategic-beta ETPs' share of the overall ETP marketplace has climbed to approximately 20.9% as of the end of June 2017 from nil in 2000—though these ETPs' share of the overall market slipped slightly on a year-over-year basis as ETPs tracking more traditional benchmarks took in a greater share of net new inflows over this span.

Exhibit 4 Strategic-Beta ETPs' Share of the Overall U.S. ETP Market (%)



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

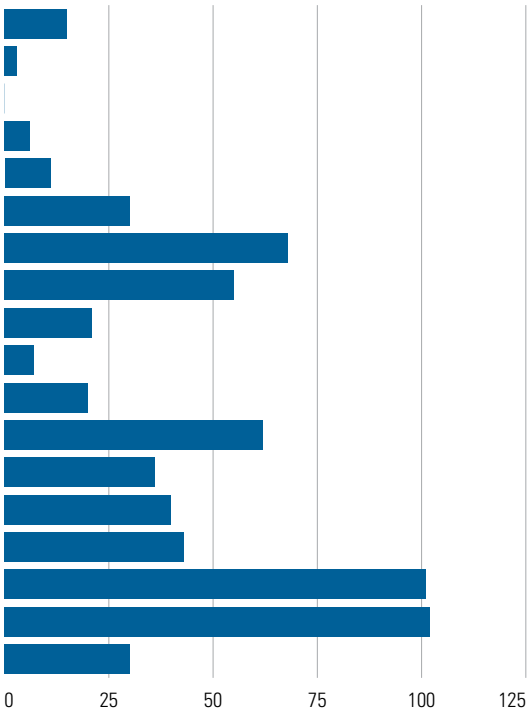
Roll Out the Betas

As mentioned previously, the first generation of strategic-beta ETPs delivered straightforward style tilts. Subsequently, there was a flurry of launch activity from 2005 to 2007, as strategic-beta-focused ETF providers rolled out full families of more-complex strategies. These included PowerShares' roster of Dynamic and RAFI funds, WisdomTree's suite of dividend-screened/weighted funds, and First Trust's AlphaDex lineup. New launch activity hit a lull from 2008 to 2010 thanks to the global financial crisis, but picked up once again in 2011 as providers moved to cover new bases (low/minimum volatility/variance strategies, for example). More recently, new launches have accelerated. At 102, the number of strategic-beta ETPs listed in the U.S. in calendar 2016 edged out the prior record high of 101 set the year before. Through the first six months of 2017, a total of 30 new strategic-beta ETPs were brought to market. The recent slowdown may be a sign of saturation, or it could simply be that providers are allowing investors time to digest the mushrooming of the menu. New launches continue to be driven by relatively new entrants (Fidelity, Franklin Templeton, Goldman Sachs, John Hancock, Legg Mason, and others). In the first six months of 2017, 12 of the 30 new products brought to

market tracked multifactor benchmarks. Multifactor funds have proliferated in recent years. As of June 30, 2017, there were a total of 215 multifactor ETPs, with combined AUM of $46 billion. It is likely that the variety of factor combinations on offer will continue to expand. Furthermore, as of this writing, there was at least one fund sponsor that had a suite of factor-timing funds in the works.

Exhibit 5 United States Number of Surviving Strategic-Beta ETPs by Vintage

Year of Launch	# of ETPs
2000	15
2001	3
2002	0
2003	6
2004	11
2005	30
2006	68
2007	55
2008	21
2009	7
2010	20
2011	62
2012	36
2013	40
2014	43
2015	101
2016	102
2017	30



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Simple Tastes

While complexity has been on the rise, investors' preferences remain fairly plain-vanilla. Classifying the current roster of U.S. strategic-beta ETPs according to their secondary attributes shows that ETPs offering exposure to straightforward strategies (value, growth, dividend-screened/weighted) account for about 71% of strategic-beta ETP assets. Dividend-screened/weighted strategies have proved particularly popular in the context of a yield-starved investment environment and investors who are placing a greater emphasis on investment income as they move from the consolidation stage of their investment lifecycle to the decumulation stage. Meanwhile, value-oriented funds edged out dividend-oriented funds to claim the top spot as of June 30, 2017. This may be attributed to the mini-comeback witnessed in value stocks, which peaked in late 2016. It may also be evidence of investors attempting to capitalize on value stocks' relative cheapness versus their growth counterparts.

Exhibit 6 United States Ranking of Strategic-Beta ETPs by Secondary Attribute

Secondary Attribute	# of ETPs	Assets ($Bil)	% of Assets
Value	43	150.1	24.1
Dividend Screened/Weighted	111	150.0	24.1
Growth	34	140.0	22.5
Multi-Factor	215	46.0	7.4
Low/Minimum Volatility/Variance	28	38.1	6.1
Equal Weighted	55	34.9	5.6
Fundamentals Weighted	12	18.7	3.0
Non-Traditional Fixed Income	23	10.2	1.6
Momentum	28	9.8	1.6
Non-Traditional Commodity	49	7.9	1.3
Quality	13	6.4	1.0
Earnings Weighted	6	3.2	0.5
Multi-Asset	7	1.7	0.3
Revenue Weighted	6	1.6	0.3
Buyback/Shareholder Yield	5	1.5	0.2
Risk-Weighted	11	1.3	0.2
Low/High Beta	3	0.2	0.0
Expected Returns	1	0.2	0.0

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

By Provider

The duo of iShares and Vanguard accounts for just 14.3% of the total number of strategic-beta ETPs but has amassed 61.5% of the assets in this universe. Their suites of strategic-beta ETPs align closely with the rankings of the most popular secondary attributes. Specifically, their dividend-screened/weighted, value, and growth funds are among the largest in this universe. Occupying the third and fourth spots among the top five are two ETF providers that have made strategic beta their calling card: PowerShares and WisdomTree. Meanwhile, State Street Global Advisors unseated First Trust from the number-five position in 2016 and retained this position as of June 2017. Schwab climbed a rung in the ranks relative to last year, leapfrogging Guggenheim. Assets in Schwab's strategic-beta ETFs more than doubled over the 12 months through June 30, 2017, thanks in large part to net new inflows, which amounted to $6.8 billion over this span.

Exhibit 7 United States Largest Strategic-Beta ETP Providers

Provider	AUM ($Bil)	# of ETPs	Market Share (%)
iShares	239.7	71	38.5
Vanguard	142.5	22	22.9
PowerShares	42.1	84	6.8
WisdomTree	42.0	60	6.7
SPDR State Street Global Advisors	36.4	45	5.9
First Trust	30.0	73	4.8
Schwab ETFs	23.5	9	3.8
Guggenheim Investments	21.9	29	3.5
Flexshares Trust	8.6	18	1.4
Goldman Sachs	4.4	8	0.7
Others	30.9	231	5.0

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

By Fund

The top 10 strategic-beta ETPs by assets account for about 36.5% of assets in this corner of the ETP market. Again, cut-and-dried value, growth, and dividend-screened/weighted approaches dominate their ranks. There is, however, a notable exception at the top of the league tables: iShares Edge MSCI Minimum Volatility USA ETF USMV. The fact that USMV has quickly ascended to the top of the pile is indicative of the trendiness that can drive short-term flows in this corner of the market—making it, of course, no different from the market at large. USMV gathered $8.3 billion in net new assets over the 12-month period ended June 30, 2016, as investors bought in (in a big way) to a potentially more-palatable manner of maintaining U.S. equity exposure. During the most recent period, the fund suffered approximately $1.7 billion in outflows, as its relative performance deteriorated and investors began to fret about the potentially negative effects that rising rates may have on defensive stocks.[2]

Exhibit 8 United States Largest Strategic-Beta ETFs

Name	Ticker	Inception Date	Strategic-Beta Secondary Attribute	Expense Ratio (%)	AUM ($ Bil)
iShares Russell 1000 Value ETF	IWD	5/22/00	Value	0.20	36.8
iShares Russell 1000 Growth ETF	IWF	5/22/00	Growth	0.20	35.4
Vanguard Value ETF	VTV	1/26/04	Value	0.06	31.3
Vanguard Growth ETF	VUG	1/26/04	Growth	0.06	27.0
Vanguard Dividend Appreciation ETF	VIG	4/21/06	Dividend Screened/Weighted	0.08	24.5
Vanguard High Dividend Yield ETF	VYM	11/10/06	Dividend Screened/Weighted	0.08	18.2
iShares S&P 500 Growth ETF	IVW	5/22/00	Growth	0.18	17.9
iShares Select Dividend ETF	DVY	11/3/03	Dividend Screened/Weighted	0.39	17.0
SPDR S&P Dividend ETF	SDY	11/8/05	Dividend Screened/Weighted	0.35	15.5
iShares Edge MSCI Min Vol USA ETF	USMV	10/18/11	Low/Minimum Volatility/Variance	0.15	13.6

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

2 Bryan, A. 2017. "The Hidden Risk of Low-Volatility Investing". Morningstar. Mar, 1, 2017. http://www.morningstar.com.

Keeping an Eye on Expenses

The fees levied by strategic-beta ETPs are, on average, competitive with those charged by the ETP field at large as well as the universe of ETPs ex-strategic beta. Of course, fees should be considered on a case-by-case basis. For example, Schwab US Broad Market ETF SCHB, which tracks the market-capitalization-weighted Dow Jones U.S. Broad Stock Market Index, charges an annual fee of just 0.03%. Schwab Fundamental US Broad Market ETF FNDB, which tracks the Russell Fundamental U.S. Index, levies a fee of 0.25%—a much higher hurdle relative to its more ordinary sibling. In aggregate, it is clear that across all three groupings—all else equal—investors prefer less pricey fare, as indicated by the fact that the asset-weighted average expense ratios tend to be lower than the simple averages. With that said, there are clearly some outlying ETPs of all ilk that charge fees comparable to those of active managers. Investors should take extra care to assess whether such tolls are justifiable for an index-tracking product [3],[4].

In sum, of the 419 strategic-beta ETPs that existed as of June 30, 2016, and which have reported annual expense ratios for both fiscal 2016 and 2015, 105, or 25%, saw their fees decrease during their 2016 fiscal year. The median decline in fees among this group was 0.01%. Meanwhile, 27 strategic-beta ETPs saw their fees inch higher, by a median level of 0.01%. The toll taken by the remaining 287 products remained unchanged.

We expect that fees for strategic-beta ETPs will trend lower with time. We've already seen instances of proactive fee cuts among Schwab's suite of funds tracking fundamentally weighted indexes as well as in the iShares Core lineup. Goldman Sachs ActiveBeta U.S. Large Cap Equity ETF GSLC—a multifactor fund that was launched in September 2015—charges a fee of just 0.09%. This remains perhaps the most meaningful data point to date indicating that a trend toward lower fees is forming in the U.S. strategic-beta ETP market.

Exhibit 9 United States Fees Under the Microscope

	Average	Combined (%)	Equity (%)	Fixed Income (%)	Commodities (%)	Alternative (%)	Allocation (%)
All ETPs	Weighted	0.23	0.22	0.21	0.47	0.98	0.72
	Simple	0.57	0.49	0.33	0.71	0.91	0.94
ETPs ex-Strategic Beta	Weighted	0.22	0.20	0.21	0.43	0.98	0.69
	Simple	0.61	0.53	0.33	0.69	0.92	0.89
Strategic Beta	Weighted	0.27	0.26	0.40	0.81	0.49	0.80
	Simple	0.48	0.45	0.31	0.73	0.73	1.14

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

3 Johnson, B. 2017. "A Different Way to Frame Fees". Morningstar. Apr. 21, 2017. http://www.morningstar.com.

4 Bryan, A. 2017. "Strategic-Beta Funds Aren't as Distinctive as Advertised". Morningstar. Aug. 30, 2017. http://www.morningstar.com.

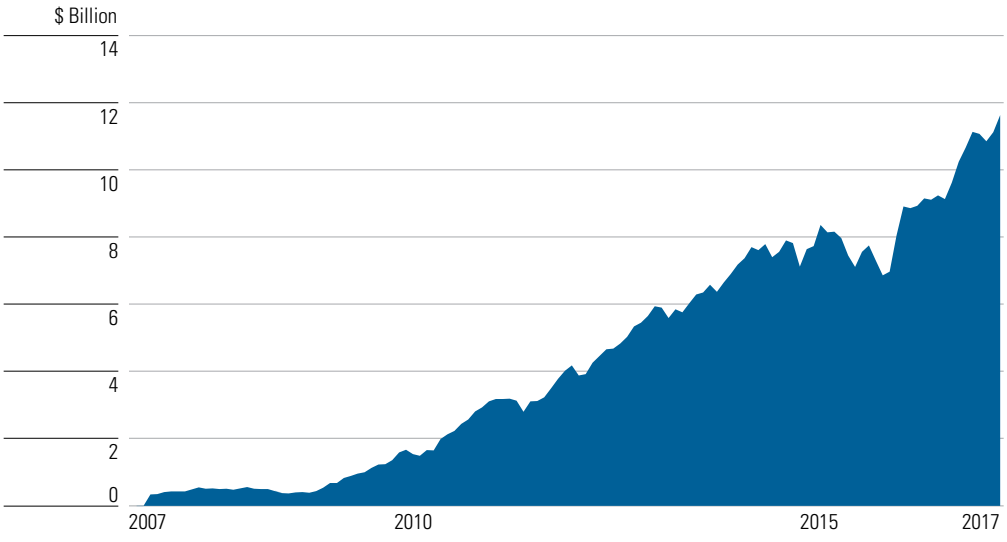
Canada

The pace of new strategic-beta fund launches in Canada picked up over the trailing 12 months through June 2017, with 36 new funds hitting the market (up from 13 the prior year), bringing the total number of strategic-beta funds up to 132[5]. Multifactor strategies were the most common among this new crop, followed by dividend strategies. Assets in strategic-beta funds grew to $11.6 billion from $9.0 billion at the end of June 2016, a 30% increase. This was primarily driven by inflows, which totaled an estimated $1.6 billion over that period, representing about 10.4% of all flows into Canadian ETPs.

This inflow-driven growth was consistent with longer-term trends. Inflows accounted for 97% of the total asset growth in strategic-beta ETPs over the trailing five years through June 2017, as investors have increasingly adopted these strategies. During that time, assets invested in strategic-beta ETPs grew to $11.6 billion from $4.3 billion.

Strategic-beta funds are still a small part of the Canadian ETP market, but their market share is growing. At the end of June 2017, they represented 11.5% of all Canadian ETP assets, up from 2.7% 10 years earlier. They represent a higher portion of the number of ETPs on the market, 24.8%, indicating that the typical strategic-beta fund is smaller than the average ETP. Strategic-beta funds also represented a disproportionate share of new fund launches over the trailing 12 months through June 2017: 36 out of 110 (32.7%).

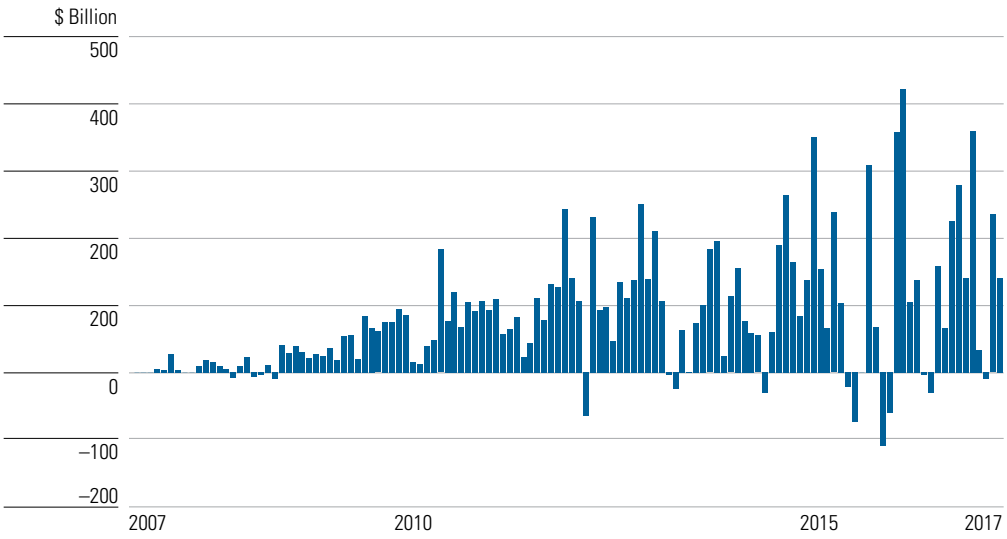
Exhibit 10 Canada Strategic-Beta ETP Asset Growth



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

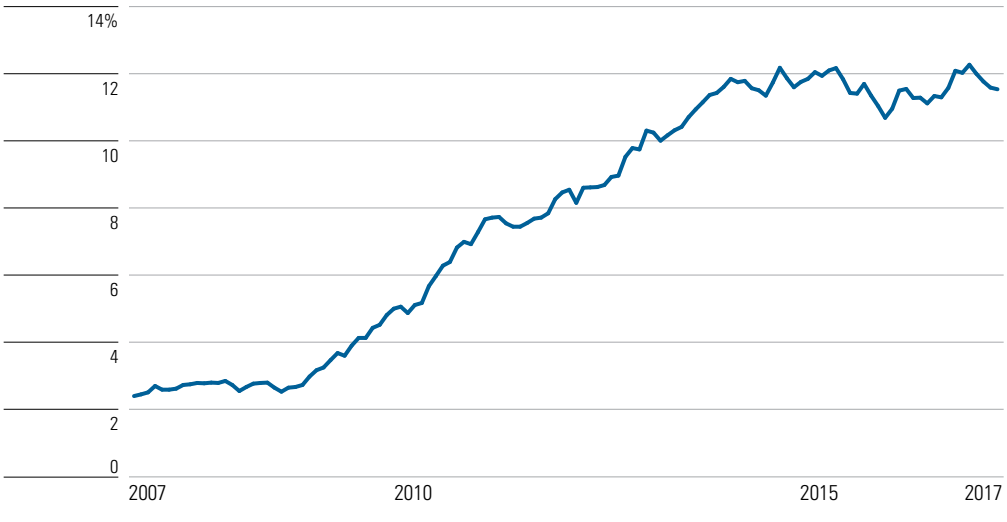
5 This figure counts unique fund IDs, so different share classes of the same strategy are not counted as separate funds.

Exhibit 11 Canada Strategic-Beta ETP Monthly Asset Flows



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 12 Strategic-Beta ETPs' Share of the Overall Canadian ETP Market (%)

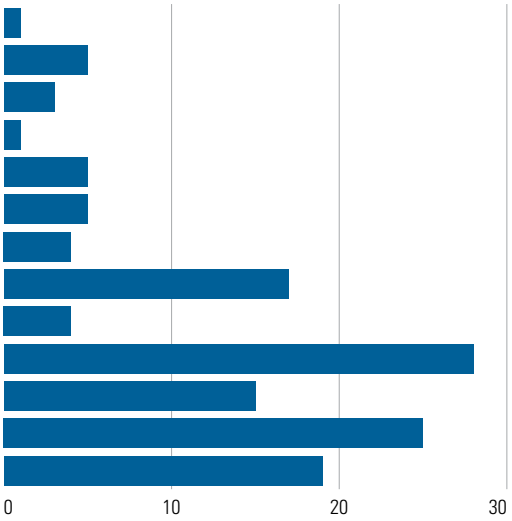


Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Of the 132 Canadian strategic-beta funds on the market at the end of June 2017, 87 were launched after 2013. So, most Canadian ETPs have short live records. In the first half of 2017, 19 new strategic-beta funds were launched, compared with 25 for the full 2016 calendar year.

Exhibit 13 Canada Number of Surviving Strategic-Beta ETPs by Vintage

Year of Launch	# of ETPs
2005	1
2006	5
2007	3
2008	1
2009	5
2010	5
2011	4
2012	17
2013	4
2014	28
2015	15
2016	25
2017	19



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17. Data based on oldest share class inception date.

Many Canadian strategic-beta ETPs are copies of strategies launched in the U.S., like PowerShares FTSE RAFI US Fundamental ETF PXU.F, WisdomTree U.S. Quality Dividend Growth ETF DGR, and iShares Edge MSCI Minimum Volatility Global ETF XMW. But there are some distinctive local strategies, such as Mackenzie Maximum Diversification Canada Index ETF MKC. This fund attempts to construct the best-diversified portfolio of Canadian stocks under a set of constraints to improve risk-adjusted performance.

Strategic-Beta Subgroups

Investors allocate much larger sums to dividend-screened/weighted and equal-weighted strategies than any other strategic-beta subgroup. Dividend funds were the largest subgroup of Canadian strategic-beta ETPs at the end of June 2017, representing nearly 36% of the group's total assets. Investors poured an additional $413 million into dividend-focused strategic-beta ETPs over the trailing 12 months through June 2017, including $94 million into iShares S&P/TSX Canadian Dividend Aristocrats ETF CDZ.

Equal-weighted funds are the second-largest strategic-beta subgroup. Many of these are individual sector funds, where equal-weighting may be an appealing way to improve diversification across individual stocks.

Multifactor strategies came in a distant third, though this group had more fund launches than any other over the past year. This subgroup encompasses an eclectic mix of funds ranging from complex strategies, like iShares Edge MSCI Multifactor USA ETF XFS, which resemble active quant funds, to simpler strategies that focus on two factors, like PowerShares S&P 500 High Dividend Low Volatility Index ETF UHD.U.

Exhibit 14 Canada Ranking of Strategic-Beta ETPs by Secondary Attribute

Secondary Attribute	# of ETPs	Assets ($Mil)	% of Assets
Dividend-Screened/Weighted	19	4,167.9	35.9
Equal-Weighted	16	2,845.9	24.5
Multi-Factor	44	969.5	8.3
Fundamentals-Weighted	11	965.8	8.3
Low/Minimum Volatility/Varience	11	947.7	8.2
Risk-Weighted	12	733.5	6.3
Quality	4	564.1	4.9
Value	4	151.5	1.3
Nontraditional Fixed Income	1	102.0	0.9
Growth	3	76.9	0.7
Momentum	4	48.8	0.4
Multi-Asset	1	42.8	0.4
Buyback/Shareholder Yield	2	10.3	0.1

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17. Data based on oldest share class inception date.

By Provider

BlackRock and BMO are by far the biggest strategic-beta ETP providers, jointly representing more than 69% of the market. That said, competition has eroded BlackRock's market share, which is down to 40% from about 47% a year earlier. First Asset* also has a respectable market share, but it is well behind BlackRock and BMO. While there are 14 providers of strategic-beta ETPs, the bottom 10 combined only have a 12% market share.

Exhibit 15 Canada Largest Strategic-Beta ETP Providers

Provider	AUM ($ Mil)	# of ETPs	Market Share (%)
BlackRock/iShares	4,665.6	33	40.1
BMO	3,396.9	15	29.2
First Asset	1,175.5	21	10.1
Invesco PowerShares	1,015.3	14	8.7
Vanguard	671.8	3	5.8
Mackenzie Financial	163.3	6	1.4
Manulife Investments	155.7	4	1.3
Horizons	142.9	3	1.2
First Trust	104.4	12	0.9
WisdomTree	83.9	9	0.7
Questrade	23.5	6	0.2
DGAM	11.5	3	0.1
AlphaPro	8.8	1	0.1
Franklin Templeton	7.5	2	0.1

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

It is worth noting this tally doesn't include BMO's low-volatility and dividend strategies, or RBC's quantitative ETFs, most of which focus on dividends. While these are rules-based strategies, they do not track an index, so Morningstar considers them to be actively managed. If included, they would add another $4.4 billion to BMO's asset count and $460 million to RBC's.

By Fund

The largest 10 strategic-beta funds account for 48.8% of all assets invested in Canadian strategic-beta ETPs. Dividend- and equal-weighted strategies are well represented here. However, it is worth noting that iShares Canadian Select Dividend ETF XDV experienced $80 million in outflows over the past year. It is also noteworthy that three of the largest strategic-beta ETPs focus on banks.

First Asset MSCI World Risk Weighted ETF (Unhedged) RWW.B drew more inflows ($363 million) than any other strategic-beta ETP over the past year. This fund offers broad exposure to large- and mid-cap stocks listed in developed markets, but gives larger weightings to stocks with lower volatility. As such, it should appeal to more risk-averse investors.

Exhibit 16 Canada Largest Strategic-Beta ETFs

Name	Ticker	Inception Date	Strategic-Beta Secondary Attribute	Expense Ratio (%)	AUM ($ Mil)
iShares Canadian Select Dividend ETF	XDV	12/19/05	Dividend Screened/Weighted	0.55	1,082.4
iShares S&P/TSX Cdn Div Aristcr ETF Comm	CDZ	9/8/06	Dividend Screened/Weighted	0.66	854.4
BMO S&P/TSX Equal Weight Banks ETF	ZEB	10/20/09	Equal Weighted	0.62	795.3
BMO Equal Weight US Banks ETF	ZBK	2/10/14	Equal Weighted	0.39	620.4
iShares US Dividend Grwrs ETF CADH Comm	CUD	9/13/11	Dividend Screened/Weighted	0.66	443.4
BMO Eq Weight US Banks Hedged to CAD ETF	ZUB	5/19/10	Equal Weighted	0.39	405.6
First Asset MSCI Wld LRWgt ETF Uhgd Comm	RWW.B	2/19/14	Multi-Factor	0.69	392.3
iShares S&P/TSX Composite High Div ETF	XEI	4/12/11	Dividend Screened/Weighted	0.22	373.8
BMO Equal Weight REITs ETF	ZRE	5/19/10	Equal Weighted	0.61	364.9
BMO MSCI Europe Hi Qual Hdgd to CAD ETF	ZEQ	2/10/14	Quality	0.45	346.0

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Expenses

Lower fee funds tend to attract more assets than their more expensive counterparts, which is why the asset-weighted management expense ratios were generally lower than the simple averages. On average, strategic-beta funds were slightly more expensive than the broader ETP universe, but they were within striking distance. That said, some strategic-beta funds' fees have crept up near the bottom end of the range where many active managers sit—a difficult place for an index fund to be.

The simple averages are distorted by higher-cost "advisor" share classes, which tack on to the MER an additional fee as an ongoing sales commission. Excluding these share classes, strategic-beta ETPs' MERs average 0.64% on an equal-weighted basis. This figure matches the equal-weighted MERs of non-strategic-beta offerings.

Notably, all but six of the 132 Canadian strategic-beta ETFs are focused exclusively on equities.

Exhibit 17 Canada Fees Under the Microscope

	Average	Combined (%)	Equity (%)	Fixed Income (%)	Commodities (%)	Alternative (%)	Allocation (%)
All ETPs	Weighted	0.36	0.34	0.34	0.66	1.24	0.83
	Simple	0.69	0.66	0.49	0.88	1.29	1.06
ETPs ex-Strategic Beta	Weighted	0.34	0.30	0.34	0.66	1.26	0.82
	Simple	0.68	0.64	0.49	0.88	1.29	0.98
Strategic-Beta	Weighted	0.53	0.52	0.67	NA	0.72	1.01
	Simple	0.73	0.70	0.67	NA	1.16	1.33

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

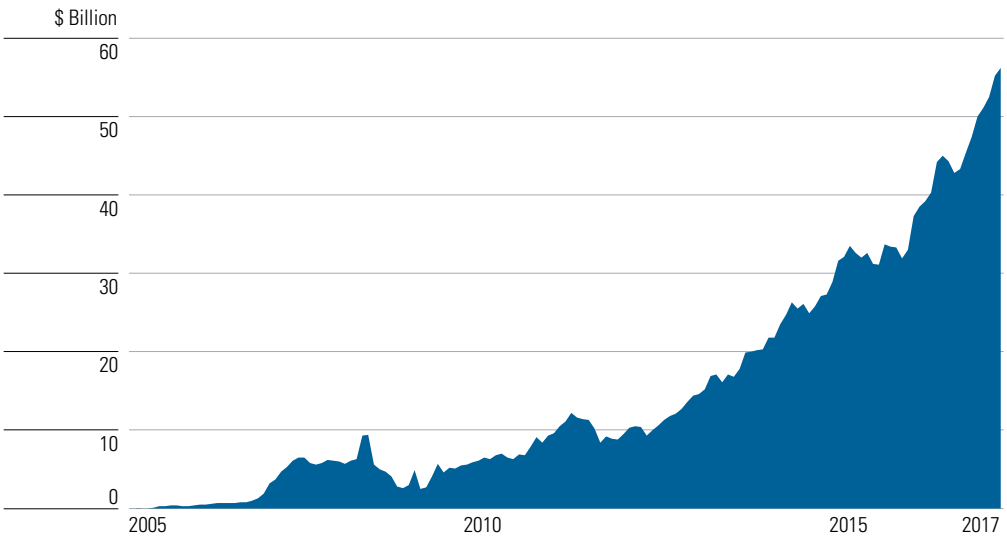
Europe

The European strategic-beta ETP market has continued to experience strong growth, with assets under management up by 38% to a new high of $56.2 billion in the 12 months to June 2017.The bulk of these gains have been driven by a largely uninterrupted stream of positive inflows, amounting to $10.1 billion.

Strategic-beta ETPs have continued to claim market share from their more mainstream peers. In the 12 months to the end of June 2017, strategic-beta ETPs' market share increased to 8.1% from 7.6% as of end-June 2016, further extending the steady positive growth trend observed since 2009.

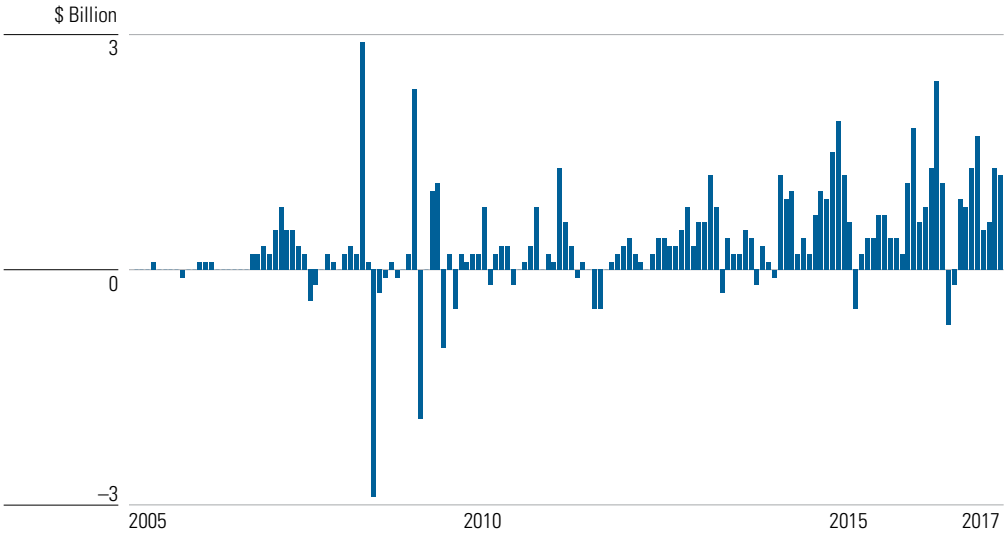
While dividend screened/weighted ETFs retain the lion's share of overall assets invested in strategic-beta ETPs, multi-factor ETFs are fast becoming a key growth segment.

Exhibit 18 Europe Strategic-Beta ETP Asset Growth



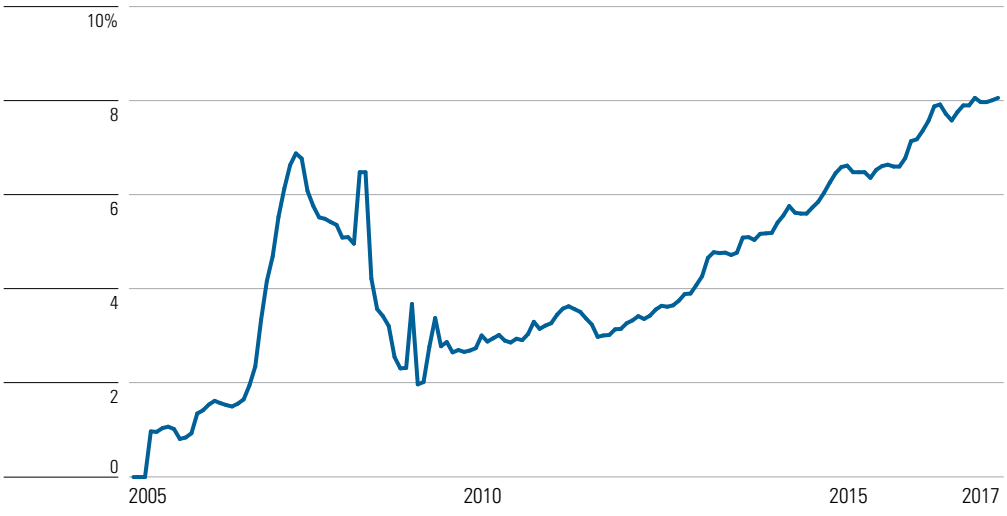
Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 19 Europe Strategic-Beta ETP Monthly Asset Flows



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 20 Strategic-Beta ETPs' Share of the Overall European ETP Market (%)



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

More Multifactor Strategies Emerge as Single-Factor Funds Have Proliferated

In the 12-month period to the end of June 2017, a total of 47 new strategic-beta products hit the shelves. The better part of these entrants was based on multifactor indices.

The rise of multi-factor combinations is facilitated by product crowding in the single-factor equity space. The latter is showing classic signs of saturation, with new entrants now mostly filling in missing geographical coverage. For example, in the first half of 2017, European providers launched only four new single-factor ETFs, targeting geographical exposures such as Japan – BNPP E iSTOXX MUTB Japan Quality 150 ETF and WisdomTree Japan Equity ETF.

Multi-factor strategies are routinely marketed as a way of improving the prospective risk/return profile by addressing the shortcomings inherent to single-factor exposures. We are seeing an evolution in product development on this front. The first batch of multi-factor ETFs tended to follow an equal-weighted approach to combining several factors. Now, their construction is moving to a combination of a "core" factor exposure, which is enhanced by a single or a combination of additional factors.

Quality-dividend indices are the prime example of this practice, where the dividend-paying companies must be more profitable and less indebted to be included in the index portfolio. Another popular range of products use low volatility as their "core" factor exposure and complement it with quality, value, and/or momentum.

It is fair to expect more products of this type to come to market. After all, multifactor ETFs can be churned in many different combinations.

Despite losing prominence in terms of product development, single-factor ETFs continue to retain the greatest market share in the European strategic-beta marketplace. In particular, dividend-screened/weighted strategies remain the most popular segment, accounting for 39% of total strategic-beta ETP assets. Their appeal continues to be underpinned by the confluence of ultra-low interest rate environment and a growing base of yield-hungry investors.

By contrast, low volatility/minimum variance single-factor strategies have seen their market share of the strategic-beta ETP universe drop to 13% from 19% in the previous period. These strategies have recently underperformed cap-weighted benchmarks even in Europe and emerging markets. Two probable reasons to explain this behaviour are the on-going rotation to value and momentum factors and the attempts to reduce interest-rate exposure, as low volatility stocks tend to underperform in rising-rate environments.

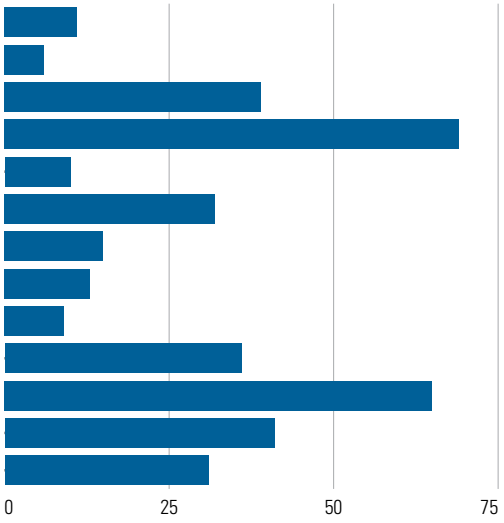
Despite the buzz of expectation surrounding the prospects for strategic-beta fixed-income ETFs in Europe of late, it is an area that remains remarkably under-cultivated. The first wave

of products, proposing a quality approach to the bond market by means of using standard macroeconomic-magnitude-defined filters, has failed to make inroads in a market starved for yield.

Many providers are taking a long look at the fixed income space. However, developments are few and far between, not least as there is no consensus view on whether the factors that we know so well in equity investing can be applied to fixed income.

Exhibit 21 Europe Number of Surviving Strategic-Beta ETPs by Vintage

Year of Launch	# of ETPs
2005	11
2006	6
2007	39
2008	69
2009	10
2010	32
2011	15
2012	13
2013	9
2014	36
2015	65
2016	41
2017	31



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 22 Europe Ranking of Strategic-Beta ETPs by Secondary Attribute

Secondary Attribute	# of ETPs	Assets ($Mil)	% of Assets
Dividend Screened/Weighted	48	21.5	38.8
Multi-Factor	64	8.3	14.9
Low/Minimum Volatility/Variance	27	7.3	13.2
Value	20	6.2	11.2
Non-Traditional Commodity	144	3.9	7.0
Quality	19	3.5	6.3
Equal Weighted	15	1.7	3.0
Non-Traditional Fixed Income	15	1.2	2.1
Momentum	6	0.7	1.3
Fundamentals Weighted	6	0.4	0.7
Growth	5	0.4	0.7
Buyback/Shareholder Yield	3	0.2	0.3
Risk-Weighted	3	0.1	0.2
Multi-Asset	2	0.1	0.2

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

IShares Retains Leading Position

IShares retains a commanding position in the European strategic-beta ETP space with a market share of 44%, roughly flat relative to the prior period. Its suite of ETFs tracking MSCI single-factor indices has played a key role in cementing its standing in recent years--especially its MSCI World and Europe Minimum Volatility Funds. In June this year, BlackRock expanded its strategic-beta shelf by adding ETFs tracking the MSCI World Quality Dividend and MSCI Europe Quality Dividend indexes.

State Street Global Advisors' SPDR ETF franchise remained in second place in the provider league table. However, this position belies a dependency on the fortunes of a single product, namely the SPDR S&P US Dividend Aristocrats ETF, where two-thirds of SPDR's assets in strategic-beta ETPs in Europe are concentrated.

Lyxor became the third-largest provider due to the phenomenal success of its Global Quality Income and Global Value Beta ETFs, which continued to gain assets over the past 12 months. The former has grown to become the largest global quality dividend ETF in Europe.

The growth prospects for the strategic-beta ETP marketplace continue to lure new entrants. Fidelity has already tapped the market with two ETFs that track proprietary quality dividend indexes. Meanwhile, heavyweights such as Franklin Templeton and J.P. Morgan are still in the process of building platforms and product suites and are expected to make their market debut soon.

We have also witnessed consolidation in the European ETP market following the purchase of Source by Invesco PowerShares. The acquisition makes sense in terms of geographical footprint and their combined product ranges and should push PowerShares higher in the rankings.

Exhibit 23 Europe Largest Strategic-Beta ETP Providers

Provider	AUM ($Bil)	# of ETPs	Market Share (%)
iShares	24.7	44	44.0
State Street	5.3	13	9.4
Lyxor	4.4	26	7.8
UBS	3.7	134	6.6
Amundi	3.3	15	5.9
Xtrackers	2.6	17	4.6
OSSIAM	2.4	11	4.3
Source	2.0	7	3.5
Invesco	1.1	13	1.9
Deka	0.9	6	1.6
Others	5.8	91	10.3

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 24 Europe Largest Strategic-Beta ETFs

Name	Ticker	Inception Date	Strategic-Beta Secondary Attribute	Expense Ratio (%)	AUM ($ Bil)
iShares Dev Mkts Prpty Yld ETF USD Dist	IWDP	10/20/06	Dividend Screened/Weighted	0.59	3.10
SPDR S&P US Dividend Aristocrats ETF	UDVD	10/14/11	Dividend Screened/Weighted	0.35	2.72
iShares Edge MSCI Wld Min Vol ETF $ Acc	MVOL	11/30/12	Low/Minimum Volatility/Variance	0.30	1.82
iShares European Prpty Yld ETF EUR Dist	IPRP	11/4/05	Dividend Screened/Weighted	0.40	1.61
iShares Edge MSCI Eurp Val Fctr ETF € Acc	IEVL	1/16/15	Value	0.25	1.43
iShares STOXX Global Sel Div 100 (DE)	ISPA	9/25/09	Dividend Screened/Weighted	0.46	1.41
iShares Edge MSCI Eurp Mini Vol ETF € Acc	MVEU	11/30/12	Low/Minimum Volatility/Variance	0.25	1.39
SPDR S&P Euro Dividend Aristocrats ETF	SPYW	2/28/12	Dividend Screened/Weighted	0.30	1.39
Lyxor SG Glbl Qual Inc NTR ETF D EUR	SGQI	9/25/12	Value;Multi-Factor;Quality;Equal Weighted	0.45	1.38
iShares Edge S&P 500 Min Vol ETF USD Acc	SPMV	11/30/12	Low/Minimum Volatility/Variance	0.20	1.15

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Fees Are Falling Overall, but Popular Products Don't Feel the Pressure to Cut Them…Yet

Compared to the 12-month period ending June 2016, equal-weighted average fees for equity strategic-beta products, which are by far the most popular, went down from 0.40% to 0.38%. Asset-weighted fees for strategic-beta equity ETFs have also come down from 0.39% to 0.36%, although they are much higher than the equivalent asset-weighted fee for the cohort of market-cap-weighted equity peers. One key reason for this is that popular strategic-beta equity ETFs that have amassed and retain large amounts of assets – such as the Lyxor SG Global Quality Income and the iShares Global Developed Markets Property Yield – have comparatively high ongoing charges of 0.45% and 0.59%, respectively. It remains to be seen whether incumbents' fees will face pressure from competitors, investors, or both.

Exhibit 25 Europe Fees Under the Microscope

	Average	Combined (%)	Equity (%)	Fixed Income (%)	Commodities (%)	Alternative (%)	Allocation (%)
All ETPs	Weighted	0.29	0.28	0.27	0.39	0.42	0.50
	Simple	0.44	0.38	0.22	0.64	0.72	0.77
ETPs ex-Strategic Beta	Weighted	0.28	0.27	0.27	0.39	0.42	0.50
	Simple	0.43	0.38	0.21	0.63	0.72	0.77
Strategic-Beta	Weighted	0.37	0.37	0.42	0.41	N/A	n/a
	Simple	0.48	0.37	0.40	0.66	N/A	n/a

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Asia-Pacific

It was another strong year for strategic-beta ETPs in the Asia-Pacific region. Collective AUM swelled 57% to $16.9 billion from $10.8 billion during the 12-month period ended June 2017. This translates to a fivefold growth in three years since we published the first edition of this guide. Contrary to the pattern observed in the prior two years, growth during the 12-month period ended June 2017 was more broad-based from a geographic perspective. Most countries in the Asia-Pacific region experienced double- or even triple-digit growth in AUM. Strategic-beta ETPs in Singapore grew the most in percentage terms (180%), albeit off a tiny base and owing to the addition of a locally domiciled strategic-beta ETP. Japan-domiciled strategic-beta ETPs once again grew the most in absolute terms, adding $4.9 billion to their aggregate AUM.

The driving force behind the strong growth in strategic-beta ETPs in Japan was the Bank of Japan's announcement in July 2016 that it would double its rate of ETF purchases to an annual pace of JPY 6 trillion ($53 billion) as part of its ongoing monetary stimulus program. Exchange-traded funds tracking the JPX-Nikkei Index 400, a strategic-beta benchmark that homes in on quality stocks, were eligible under the ETF purchase program. Furthermore, the program also included an annual amount of JPY 300 billion to purchase ETFs which own shares of firms that are proactively making investments in physical and human capital.

Exhibit 26 Asia-Pacific: Snapshot of Strategic-Beta ETP Markets

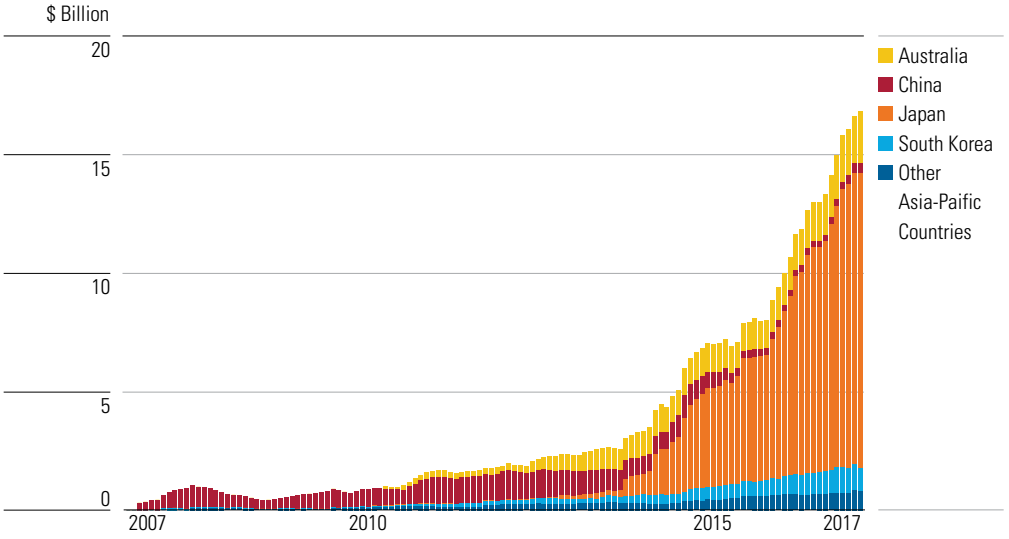
							06/2016-2017 Growth (%)	
	# of ETPs	Total AUM ($Mil)	% of total AUM of Strategic-beta ETPs in Asia-Pacific	Largest ETP ($Mil)	Average AUM ($Mil)	% of total local ETP Market*	Strategic-Beta ETPs	Total ETP Market
Australia	27	2,232	13.2	652	83	10.0	60.1	34.1
China	13	414	2.4	196	32	0.7	62.0	(10.0)
Hong Kong	15	230	1.4	66	15	0.6	5.4	22.3
India	4	6	0.0	2	1	0.1	(0.5)	118.2
Japan	24	12,503	73.8	3,959	521	5.7	65.0	51.5
Malaysia	2	24	0.1	13	12	5.4	150.7	(19.1)
New Zealand	5	161	0.9	49	32	12.0	18.9	20.5
Singapore	2	41	0.2	23	20	2.3	179.7	2.9
South Korea	52	969	5.7	134	19	4.1	10.2	14.3
Taiwan	2	364	2.1	269	182	3.4	25.3	25.9
Thailand	1	2	0.0	2	2	0.4	9.4	7.2
Total / Average	147	16,946	100	3,959	115	4.3	57.1	30.1

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17. *Note: Excludes cross-listed ETPs except for Australia.

In light of the Bank of Japan's ETF purchase program, Japan easily secured its top position in the Asia-Pacific league tables in terms of AUM. Australia remained in second position within the region. Australian strategic-beta ETPs saw AUM grow 60% in the 12 months through June 2017, driven by inflows into new and existing products. South Korea remained in third place, experiencing 10% growth in total assets.

In terms of strategic-beta ETP market maturity, New Zealand's strategic-beta ETP assets account for 12.0% of its local ETP market assets, followed by Australia at 10.0% (up from 8.4% as of June 2016). Malaysia's 5.4% was significantly increased from 1.7% as of end-June 2016, but the country's overall ETF market remains very small.

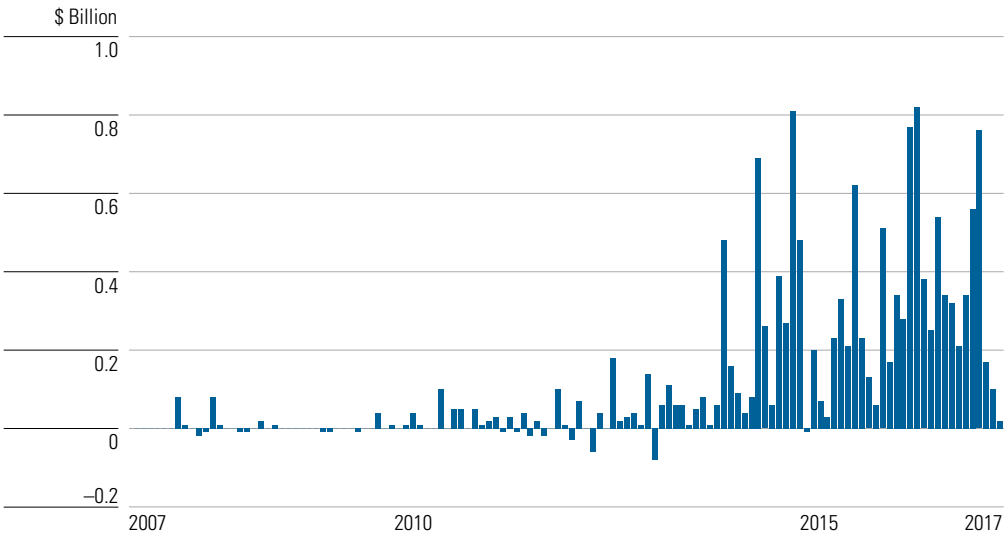
Exhibit 27 Asia Pacific Strategic-Beta ETP Asset Growth



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.
(Asset data for Chinese ETPs is available only on a quarterly basis, inter-quarter data was interpolated)

Inflows into strategic-beta ETPs remain strong in the Asia-Pacific region, thanks in large part to the ongoing inflows into Japan-domiciled ETFs tracking the JPX-Nikkei Index 400. In the 12 months to June 2017, $4.0 billion of net inflows went into strategic-beta ETPs (excluding those domiciled in China), of which 75% went into quality strategies (mainly from ETFs tracking the JPX-Nikkei Index 400). The number of strategic-beta ETPs grew to 134 from 118 during the same period (again, excluding those domiciled in China, or to 147 from 131 including those domiciled in China).

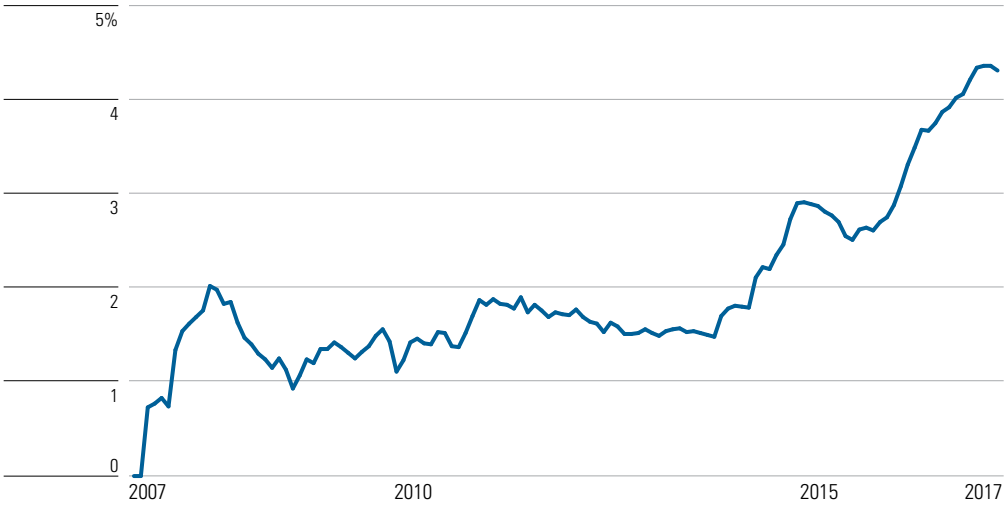
Exhibit 28 Asia Pacific Strategic-Beta ETP Monthly Asset Flows



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17. Excluding flows from China as data not available.

The growth of strategic-beta ETPs has continued to outpace that of the overall ETP market. As a result, strategic-beta ETPs' share of the overall ETP marketplace has further increased to 4.3% as of June 2017 from 3.5% as of June 2016.

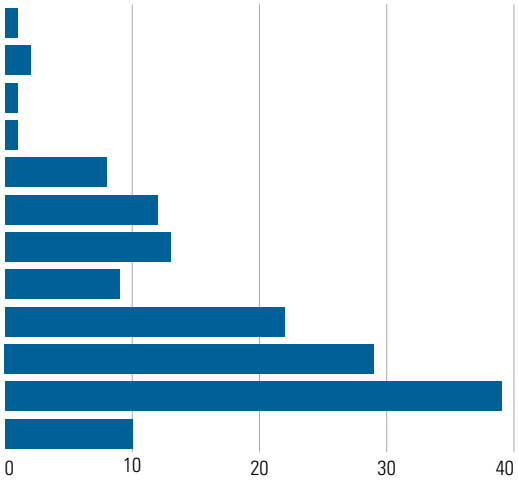
Exhibit 29 Strategic-Beta ETPs' Share of the Overall Asia-Pacific ETP Market (%)



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 30 Asia-Pacific Number of Surviving Strategic-Beta ETPs by Vintage

Year of Launch	# of ETPs
2006	1
2007	2
2008	1
2009	1
2010	8
2011	12
2012	13
2013	9
2014	22
2015	29
2016	39
2017	10



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Quality on Top

Exchange-traded products tracking quality-oriented indexes continue to hold the top position among the subcategories of strategic-beta ETPs in the Asia-Pacific region, with a market share of 62%. The 16 quality-oriented ETPs listed in the region have collective AUM of $10.5 billion, of which 98% came from the nine ETPs domiciled in Japan. Exchange-traded products tracking the JPX-Nikkei Index 400 further dominate the list of top 10 largest ETPs by assets. In fact, the top five positions are occupied by these ETPs. Dividend-screened/weighted strategies are the second-largest sub-category of strategic-beta ETPs, followed by multifactor strategies, which account for 17% and 13%, respectively, of the region's total strategic-beta ETP assets. As of June 30, 2017, there were 39 and 26 ETPs in these two sub-categories, respectively, making them the most popular types of strategic-beta ETPs by number.

Exhibit 31 Asia-Pacific Ranking of Strategic-Beta ETPs by Secondary Attribute

			% of Attribute AUM												
Secondary Attribute	# of ETPs	AUM ($Mil)	Australia	China	Hong Kong	India	Japan	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Total Asia-Pac	% of Trailing-Twelve Month Flows
Quality	16	10,483	1.2	0.0	0.0	0.0	60.5	0.0	0.0	0.0	0.1	0.0	0.0	61.9	75.4
Dividend Screened/Weighted	39	2,829	8.5	1.5	0.8	0.0	1.9	0.1	0.5	0.2	1.5	1.6	0.0	16.7	8.9
Multi-factor	26	2,213	0.6	0.0	0.0	0.0	10.1	0.0	0.0	0.0	1.8	0.6	0.0	13.1	10.6
Equal Weighted	12	325	1.2	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.0	1.9	3.0
Value	23	313	0.1	0.5	0.3	0.0	0.1	0.0	0.2	0.0	0.6	0.0	0.0	1.8	-1.8
Low/Minimum Volatility/Variance	11	290	0.1	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.5	0.0	0.0	1.7	-0.5
Fundamentals Weighted	3	218	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.7
Growth	5	81	0.0	0.2	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.5	0.0
Non-Traditional Commodity	2	60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.4	0.5
Multi-Asset	2	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0
Non-Traditional Fixed Income	1	28	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7
Momentum	4	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	-0.1
Buyback/Shareholder Yield	2	26	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.4
Low/High Beta	1	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Total	**147**	**16,946**	**13.2**	**2.4**	**1.4**	**0.0**	**73.8**	**0.1**	**0.9**	**0.2**	**5.7**	**2.1**	**0.0**	**100**	**100**

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

As the Bank of Japan continued its purchases of quality-oriented ETPs, assets in those funds we've assigned the quality and multifactor attributes continued to benefit. Two of these funds feature in the list of the 10 largest strategic-beta ETPs by assets.

The Bank of Japan's buying further cemented Japanese ETP providers' standing among the 10 largest ETPs providers within the region's strategic-beta ETP universe. Nomura, Daiwa, Mitsubishi UFJ, and Nikko AM were among the top four. However, the fragmented nature of the Asia-Pacific strategic-beta ETP market has not changed. Beyond the 10 largest ETP providers, there are a total of 95 ETPs managed by 40 different ETP providers. This group has a collective market share of just 15%.

Exhibit 32 Asia-Pacific Largest Strategic-Beta ETP Providers

Provider	AUM ($Mil)	# of ETPs	Market Share (%)
Nomura	4,911	5	29.0
Daiwa	1,886	2	11.1
Mitsubishi UFJ	1,804	5	10.6
Nikko AM	1,435	5	8.5
iShares	1,399	9	8.3
AM One	1,287	3	7.6
Vanguard	685	2	4.0
VanEck	486	6	2.9
Samsung	285	11	1.7
BetaShares	275	4	1.6
Others	2,493	95	14.7

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 33 Top 10 Strategic ETPs in Asia Pacific

Name	Ticker	Exchange Country	Strategic-Beta Attributes	AUM ($ Mil)
NEXT FUNDS JPX-Nikkei Index 400 ETF	1591	Japan	Quality	3,959
MAXIS JPX-Nikkei Index 400 ETF	1593	Japan	Quality	1,752
Daiwa ETF JPX-Nikkei 400	1599	Japan	Quality	1,149
Listed Index Fund JPX-Nikkei Index 400	1592	Japan	Quality	1,100
iShares JPX-Nikkei 400 ETF	1364	Japan	Quality	853
NEXT FUNDS Nomura Japan Eq Hi Div 70 ETF	1577	Japan	Multifactor	770
Daiwa ETF MSCI Jpn Human&Physical Invmt	1479	Japan	Quality	737
Vanguard Australian Shares High Yld ETF	VHY	Australia	Dividend-Screened/Weighted	652
One ETF JPX-Nikkei 400	1474	Japan	Quality	652
AMOne One ETF JPX/S&P CAPEX&Human Cptl	1484	Japan	Multifactor	558

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

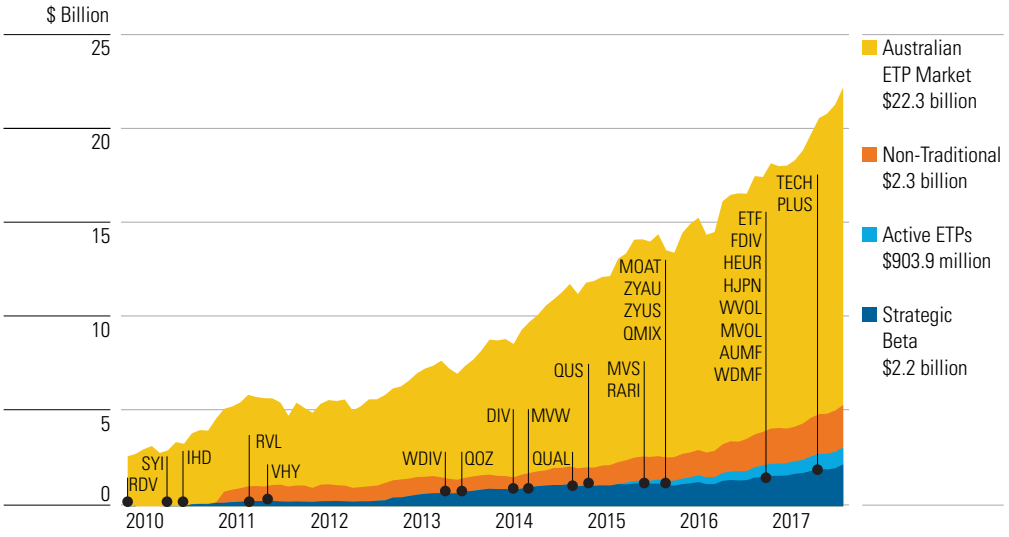
Australia

Strategic-beta ETPs continued to grow at a rapid pace over the 12 months to June 30, 2017, both in assets and the number of products. Total net assets expanded by 60% to $2.2 billion (AUD 2.9 billion) from $1.4 billion (AUD 1.9 billion)—that's almost triple the growth rate of the previous year to June 2016. That growth also significantly outpaced the overall domestic ETP market, which expanded by 34% from $16.7 billion (AUD 22.4 billion) to $22.3 billion (AUD 29.1 billion) as Exhibit 34 illustrates. Net flows accounted for $3.6 billion of the growth in the domestic ETP market. As a result, the strategic-beta ETP market now accounts for 10.0% of Australia's ETP market. That share is up from 8.4% in June 2016, and close to its peak of 10.1% in April 2014. Six new strategic-beta products came to market, bringing the total to 27 out of the 161 products in the Australian ETP market. Exhibit 34 shows the launches of these strategic-beta ETPs from 2010 to mid-2017.

Strategic-beta ETPs rapidly gathered assets, but Exhibit 34 shows that active ETPs and nontraditional ETPs also did well, suggesting investors have a strong thirst for ETPs that go beyond traditional passive index funds. First-mover Magellan dominates the active ETP space in Australia, especially its $649.3 million Magellan Global Equities MGE, which accounts for almost 72% of all assets in active ETPs. However other active products offer real estate, infrastructure, and multiasset strategies from shops such as AMP Capital (operated by BetaShares) and Schroders.

Exhibit 34 also shows the fast-growing nontraditional group of ETPs, which includes commodity, currency, derivative, ethical, geared, inverse, non-index fixed-income, and dividend-stripping strategies. In aggregate, these nontraditional products account for $2.3 billion of Australia's ETP market.

Exhibit 34 Australian ETP Assets, Strategic-Beta ETP Assets, and Strategic-Beta ETP Product Launches



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17. *Non-Traditional ETPs includes commodity, currency, derivative, ethical, geared, inverse, non-index fixed income and dividend stripping strategies.

Types of Strategic-Beta ETPs in Australia

Equity dividend products continue to dominate the Australian strategic-beta landscape in terms of products and assets, but the market continues to expand its scope. Of the six strategic-beta products launched over the past year, two were multifactor products (global and domestic equities), two were minimum-volatility products (global and domestic), one was fundamentally weighted, and one was dividend-screened/weighted.

The multifactor products include the iShares Edge MSCI World Multifactor WDMF and the iShares Edge MSCI Australia Multifactor AUMF, which apply quality, value, size, and momentum factors to global and Australia universes, respectively. Additionally, iShares Edge MSCI Australia Minimum Vol MVOL and iShares Edge MSCI World Minimum Volatil WVOL aim to deliver minimum-variance performance characteristics in domestic and global all-cap universes. Technology product ETFS Morningstar Global Technology ETF TECH tracks a Morningstar index* that provides exposure to technology companies with Morningstar Economic Moat Ratings of wide or narrow, and that are trading at attractive valuations. Finally, the first strategic-beta fixed-income ETP in Australia came to market in May 2017: VanEck Vectors Australian Corp Bd+ ETF PLUS. The strategy aims to provide exposure to higher-yielding Australian-dollar-denominated corporate bonds with a minimum credit rating of investment-grade. PLUS has gained some traction over its brief existence, raising $27.8 million in under two months to the end of June. This launch is part of a broader trend in the local market, which has seen several launches and notable asset-gathering in the fixed-income space over the past year. Assets in fixed-income ETPs totaled $1.5 billion at the end of June, though $955.8 million of this sits in one product: BetaShares Australian High Interest Cash ETF AAA.

Dividends remain the dominant factor in product construction, but with a shrinking piece of the pie. Out of the 27 strategic-beta ETPs in Australia, 12 use dividends as a primary screening/weighting factor, which account for $1.5 billion out of the $2.2 billion in strategic-beta assets. That's 65.4%, down from 77% in June 2016, and 89% the previous year. This is not surprising given the underperformance of high-dividend-paying stocks over the past two years and, more importantly, the launch and successful asset-gathering of strategic-beta ETPs that focus on other factors. For example, BetaShares FTSE RAFI Australia 200 ETF QOZ, which weights stocks based on their cash flow, sales, dividends, and book value, topped the group, bringing in a total of $105.2 million in new assets over the year. VanEck Vectors Australian Equal Weighted ETF MVW and VanEck Vectors MSCI World ex Australia Quality ETF QUAL also ranked highly with net flows of $87.3 million and $75.5 million, respectively. That said, the biggest dividend-focused product in Australia, Vanguard Australian Shares High Yield ETF VHY, had a strong year, attracting $96.7 million in new money.

Exhibit 35 Strategic-Beta ETPs in Australia

Strategic-Beta ETPs	Ticker	Fee %	Strategic-Beta Attributes	AUM ($Million)	12-Month Flows ($Million)	Inception Date
BetaShares FTSE RAFI Australia 200 ETF	QOZ	0.30	Fundamentals Weighted	187.8	105.2	7/10/13
BetaShares FTSE RAFI US 1000 ETF	QUS	0.30	Fundamentals Weighted	23.4	8.9	12/17/14
BetaShares WisdomTree Europe ETF-Ccy Hdg	HEUR	0.51	Dividend-Screened/Weighted	33.4	28.1	5/10/16
BetaShares WisdomTree Japan ETF-Ccy Hdg	HJPN	0.51	Dividend-Screened/Weighted	30.2	25.5	5/10/16
ETFS Morningstar Global Technology ETF	TECH	0.45	Equal Weighted	5.7	5.6	4/7/17
ETFS S&P 500 High Yield Low Volatil ETF	ZYUS	0.35	Multi-Factor	35.5	21.2	6/10/15
ETFS S&P/ASX 300 High Yield Plus ETF	ZYAU	0.35	Buyback/Shareholder Yield	14.9	8.3	6/10/15
iShares Edge MSCI Australia Minimum Vol	MVOL	0.30	Low/Minimum Volatility/Variance	5.0	4.4	10/11/16
iShares Edge MSCI Australia Multifactor	AUMF	0.30	Multifactor	4.9	4.5	10/11/16
iShares Edge MSCI World Minimum Volatil	WVOL	0.30	Low/Minimum Volatility/Variance	9.0	8.3	10/11/16
iShares Edge MSCI World Multifactor	WDMF	0.35	Multi-Factor	9.6	8.3	10/11/16
iShares S&P/ASX Dividend Opps ETF	IHD	0.30	Dividend-Screened/Weighted	189.7	-10.4	12/6/10
Russell Inv Australian Rspnb Inv ETF	RARI	0.45	Dividend-Screened/Weighted	49.5	21.5	4/1/15
Russell Inv Australian Value ETF	RVL	0.34	Value	10.2	-8.5	3/18/11
Russell Inv High Dividend Aus Shrs ETF	RDV	0.34	Dividend-Screened/Weighted	208.2	-24.2	5/14/10
SPDR MSCI Australia Sel Hi Div Yld ETF	SYI	0.35	Dividend-Screened/Weighted	138.8	7.7	9/24/10
SPDR MSCI World Quality Mix	QMIX	0.39	Multi-Factor	4.4	0.6	9/11/15
SPDR S&P Global Dividend ETF	WDIV	0.50	Dividend-Screened/Weighted	90.8	21.2	11/1/13
UBS IQ Morningstar Australia Div Yld ETF	DIV	0.30	Dividend-Screened/Weighted; Multi-Factor	21.1	1.7	1/14/14
UBS IQ Morningstar Australia Quality ETF	ETF	0.30	Multi-Factor; Quality; Equal Weighted	21.1	18.8	10/17/12
VanEck Vectors Australian Corp Bd+ ETF	PLUS	0.32	Non-Traditional Fixed Income	27.8	27.8	5/9/17
VanEck Vectors Australian Equal Wt ETF	MVW	0.35	Equal Weighted	204.5	87.3	3/4/14
VanEck Vectors Morningstar Wide Moat ETF	MOAT	0.49	Quality	33.2	26.9	6/24/15
VanEck Vectors MSCI Wld ex Aus Qlty ETF	QUAL	0.40	Quality	174.4	75.5	10/29/14
VanEck Vectors S&P/ASX Franked Div ETF	FDIV	0.35	Dividend-Screened/Weighted	2.9	1.4	4/29/16
VanEck Vectors Small Coms Masters ETF	MVS	0.49	Dividend-Screened/Weighted	43.7	9.3	5/26/15
Vanguard Australian Shares High Yld ETF	VHY	0.25	Dividend-Screened/Weighted	652.4	96.7	5/23/11

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/16.

*Effective Feb.1 2016, the fund's underlying index changed from the UBS Research Preferred Index to the Morningstar Australia Moat Focus Index.

Fees in Australia

The Australian ETP market continues to feel pressure on fees as more products come to market and as product providers slash fees. Strategic-beta fees generally fare well, though more niche strategies tend to fall in the upper range of the spectrum. For example, BetaShares WisdomTree Europe ETF Currency Hedged HEUR and BetaShares WisdomTree Japan ETF Currency Hedged HJPN cost 0.51% each. Unsurprisingly, other products that use more-complicated benchmarks or combine multiple factors tend to fall in the middle-to-upper range. Size is also a key factor; the cheapest strategic-beta ETPs typically have large asset books, with Vanguard Australian Shares High Yield ETF VHY leading the pack with over $652.4 million in assets and an unrivalled fee of 0.25%.

China

After a sharp 56% decline in China-domiciled strategic-beta ETPs' assets during the 12 months ended June 2016, asset rebounded sharply, growing 62% over the 12 months to June 2017. This rebound left the total assets invested in China-domiciled strategic-beta ETPs at $414 million. The number of these ETPs remained unchanged at 13.

The increase in AUM for strategic-beta ETPs in China was concentrated in dividend-screened/weighted products and value products. In particular, dividend-screened/weighted products continued to gain market share. These funds' share of the Chinese strategic-beta ETP universe increased to 60% from 45% over the 12 months through June 2017.

China-domiciled strategic-beta ETPs levy an asset-weighted expense ratio of 0.90%. This is materially higher than the asset-weighted fee of 0.64% across other ETPs tracking Chinese equities. Both figures are meaningfully lower than the 1.29% asset-weighted expense ratio charged by actively managed funds available in China as of June 30, 2017.

Exhibit 36 Market Share by Secondary Strategic-Beta Attribute in China

	6/2016		6/2017	
	AUM ($Million)	% of Assets	AUM ($Million)	% of Assets
Dividend-Screened/Weighted	115	45	249	60
Value	58	23	93	22
Equal Weighted	46	18	38	9
Growth	37	14	34	8

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Hong Kong

Assets under management in Hong Kong-domiciled strategic-beta ETPs grew 5% in the 12 months to June 2017. This compares with 22% growth in the broader local ETP market. During the 12 months to June 2017, one Hong Kong-domiciled strategic-beta ETP was de-listed, bringing the total number down to 14. These funds had aggregate AUM of $230 million at the end of the period.

The fees levied by the locally domiciled strategic-beta ETPs were little changed compared with last year. These funds' fees range from 0.25% to 0.99%. These funds' fee levels remain significantly lower than those of their actively managed peers, in general, but they are a multiple of those charged by plain-vanilla passive counterparts. The strategic-beta ETPs within the Hong Kong equity Morningstar Category charge an average expense ratio of 0.56%. This is nearly 4 times the toll taken by non-strategic-beta Hong Kong equity ETPs (0.15%) and is a fraction of the average take of actively managed peers (1.24%, an asset-weighted average across the oldest share classes).

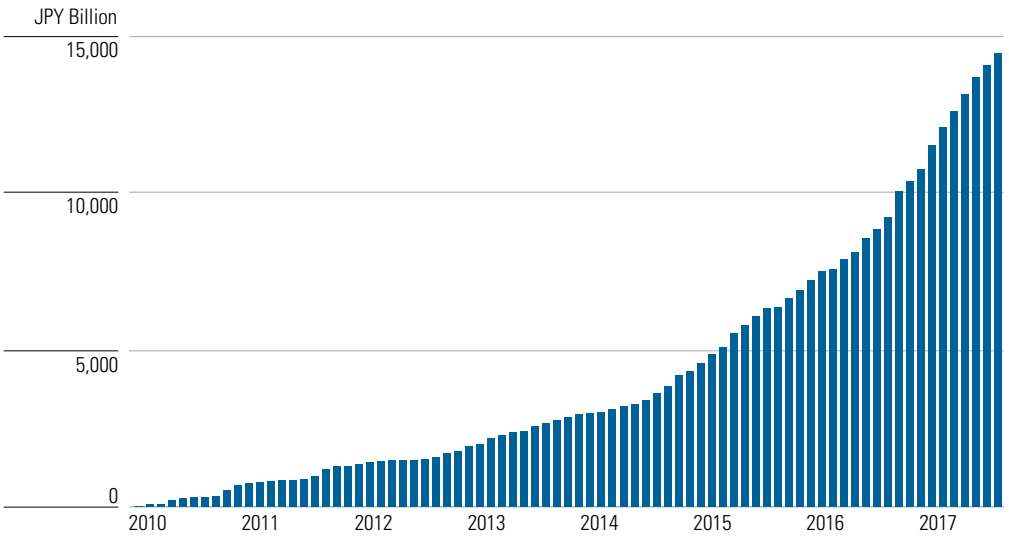
India

The Indian strategic-beta ETP space remained quiet in the 12 months ended June 2017. The total number of these ETPs remained unchanged at four, while aggregate asset size was virtually unchanged at $6 million. This remained a very small subset (0.1%) of the overall ETP market and lagged the strong growth of the overall ETP market, which more than doubled in size during the same period. Growth in the Indian ETP market was driven by continued inflows into an ETF tracking the Nifty 50 Index, namely the SBI-ETF Nifty 50 (SETFNIFTY). This is the largest ETF domiciled in India, with AUM of $3.1 billion, accounting for 37% of the overall Indian ETF market. Reliance Nippon Life Asset Management continues to dominate the strategic-beta ETP market in India with its two strategic-beta ETPs: R*Shares NV20 ETF and R*Shares Dividend Opportunities ETF. These two funds collectively accounted for 83% of the Indian strategic-beta ETP market as of June 2017.

Japan

The Bank of Japan's quantitative-easing program continues to drive the growth of the overall Japanese ETP market as well as the strategic-beta subset. Recall that the Bank of Japan announced in July 2016 that it would double the pace of its ETF purchases to an annual rate of JPY 6 trillion as part of the its effort to expand monetary stimulus. In the 12 months ended June 2017, the Bank of Japan piled another JPY 5.9 trillion ($53 billion) into the ETF market. As of June 30, 2017, the Bank of Japan held JPY 14.4 trillion worth of ETF shares (stated at cost, according to the Bank of Japan; or $128 billion). This amounted to about 58% of the total AUM in the ETP market in Japan. Meanwhile, since April 2016, the Bank of Japan has purchased JPY 367 billion (stated at cost; or $3.3 billion) worth of ETFs designed specially to home in on firms that are proactively making investments in physical and human capital. This represented 26% of total strategic-beta ETPs' AUM in Japan. These ETPs are generally classified under the quality or multifactor secondary strategic-beta attributes.

Exhibit 37 Aggregate ETF Purchases by the Bank of Japan



Source: Bank of Japan, Morningstar Research. Data as of 6/30/17.

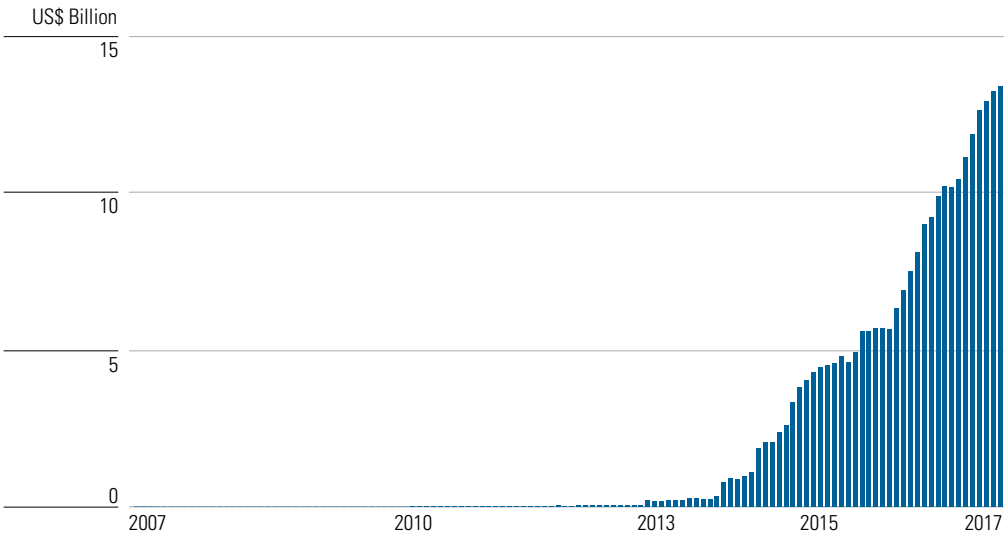
During the 12 months ended June 2017, assets in Japan-domiciled ETPs grew 51% to $221 billion. Meanwhile, assets in strategic-beta ETPs grew 65% to $12.5 billion. Slightly faster growth than the overall market translated into market share gains. Strategic-beta ETPs represented 5.7% of overall ETP assets as of the end of June 2017. Inflows accounted for 69% of the increase in assets. By our count, there were 24 strategic-beta ETPs domiciled in Japan as of June 30, 2017, up from 21 a year ago. As was the case last year, ETPs tracking the JPX-Nikkei Index 400 accounted for the majority of the AUM in strategic-beta ETPs, representing 82% ($10.2 billion) of their aggregate AUM. The largest strategic-beta ETP in Japan, NEXT FUNDS JPX-Nikkei Index 400 ETF, had $4.0 billion in AUM as of the end of June 2017, marking a 64% increase over end-June 2016.

Exhibit 38 Market Share by Secondary Strategic-Beta Attribute in Japan

	6/2016		6/2017	
	AUM ($Million)	% of Assets	AUM ($Million)	% of Assets
Quality	6,107	81	10,248	82
Multi-Factor	1,131	15	1,708	14
Dividend-Screened/Weighted	101	1	330	3
Low/Minimum Volatility/Variance	182	2	193	2
Value	60	1	25	0

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 39 Japan Strategic-Beta ETP Assets



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Malaysia

Malaysia remains home to just two dividend-screened/weighted ETPs. Total AUM in these two ETPs rose by 151% to $24 million as of June 30, 2017. The overall ETP market, on the other hand, shrunk 19%, with net outflows coming mainly from a bond ETF. Assets in strategic-beta ETPs account for 5.4% of the total invested in Malaysia-domiciled ETPs, compared with 1.7% as of June 30, 2016.

New Zealand

Following a year of incredible growth, New Zealand's strategic-beta ETP market grew more modestly during the 12 months to June 30, 2017. The market expanded by 18.9%, pushing up assets to $161 million. Product expansion also came to a halt across both strategic-beta ETPs and the entire ETP market, with no launches taking place over the period. The last ETP launch in New Zealand occurred in 2015. That leaves 23 ETPs in the market, five of which we classify as strategic-beta. These strategic-beta strategies range from dividend-screened/weighted or equal-weighted New Zealand equities to U.S. equity value and growth strategies. The five products make up 12.0% of the total ETP market, which has $1.3 billion in assets. That has shrunk marginally from last year's 12.2% share.

Singapore

In the 12 months ended June 2017, two ETPs were launched in the Singaporean market, one of which was a locally domiciled strategic-beta ETP, the Philip SGX APAC Dividend Leaders REIT ETF (BYI, BYJ). This puts the total count of locally domiciled strategic-beta ETPs in Singapore at two. Both are dividend-screened/weighted ETPs, including the CIMB S&P Ethical Asia Pacific Dividend ETF (QR9, P5P). Total AUM among these two ETPs totaled $41 million. This is more than double the $15 million that was invested in the lone locally domiciled strategic-beta ETP as of June 2016.

In addition, three cross-listed strategic-beta ETPs were available in Singapore at the end of June 2017. During the year, one strategic-beta ETP cross-listing was added while three strategic-beta ETPs were de-listed.

South Korea

South Korea continued to lead the league tables in terms of number of strategic-beta ETPs in the Asia-Pacific region. The 52 locally listed strategic-beta ETPs (up from 47 12 months ago) are spread across 13 different secondary strategic-beta attributes.

Assets under management in strategic-beta ETPs grew 10%, while the overall ETP market expanded by 14%. South Korea-domiciled strategic-beta ETPs recorded net outflows of $7 million in the 12 months to June 2017. The average size of strategic-beta ETPs remained small, at $19 million on average, and 26 of the 52 ETPs had less than $10 million of AUM.

Among the various secondary strategic-beta attributes, multifactor strategies remain the most popular. That said, dividend-screened/weighted strategies gained some market share from multifactor strategies.

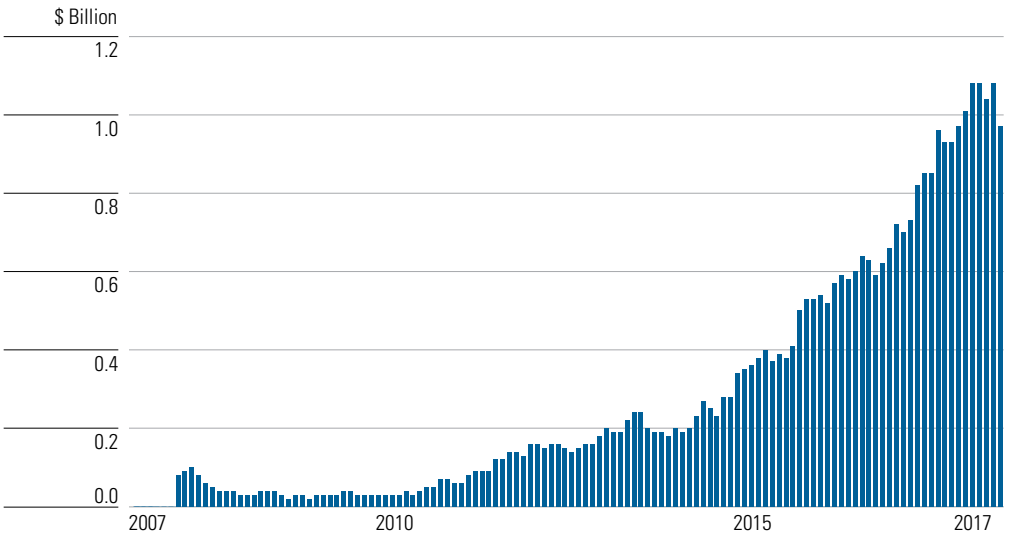
Fees levied by strategic-beta ETPs in South Korea are competitive. For example, strategic-beta ETPs within the Korea large-cap equity category charge an average expense ratio of 0.32%. This is nearly twice the fee taken by other ETPs in Korea within the same category (0.15%), but it is a fraction of the 1.44% (weighted average of the oldest share classes) charged by actively managed funds in the Korea large-cap equity category.

Exhibit 40 Market Share of the Top 5 Secondary Strategic-Beta Attributes in South Korea

	6/2016		6/2017	
	AUM ($Million)	% of Assets	AUM ($Million)	% of Assets
Multi-Factor	303	37	306	32
Dividend-Screened/Weighted	181	22	258	27
Value	80	10	98	10
Low/Minimum Volatility/Variance	95	12	83	9
Non-Traditional Commodity	41	5	53	5

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Exhibit 41 South Korea Strategic-Beta ETP Assets



Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

Taiwan

The landscape for Taiwan-domiciled ETPs has changed significantly over the past two years, with perhaps the most notable development being the addition of leveraged/inverse ETPs to the ETP menu. During the 12-month period to June 2017, AUM in ETPs domiciled in Taiwan grew 26% to $10.8 billion (86 products), from $8.6 billion (49 products) 12 months prior. However, during the period, there was only one new addition in the strategic-beta space, the Fubon TWSE Corporate Governance 100 ETF (00692). This put the total strategic-beta ETP count at two. As of June 2017, the two funds' AUM totaled $364 million, a 25% increase from June 2016. Nearly three fourths of this amount is invested in Taiwan's first strategic-beta ETP, Yuanta/P-Shares Taiwan Dividend Plus ETF (0056).

The Yuanta/P-Shares and Fubon strategic-beta ETPs levy expense ratios of 0.435% and 0.185%, respectively. The funds offer different flavors of Taiwan large-cap exposure. Both funds' fees are lower than the 0.49% asset-weighted fee levied by ETPs listed in Taiwan offering exposure to Taiwan large-cap equities. Furthermore, both are far lower than the 1.61% average fee charged by actively managed funds in the Taiwan large-cap equity category.

Thailand

ThaiDex SET High Dividend ETF 1DIV remained the only strategic-beta ETP in the Thailand ETP market. The fund had AUM of $1.8 million as of June 30, 2017, a 9.4% increase from a year ago owed mainly to market appreciation. This fund's assets remained a very small portion of the overall ETP market at 0.4%.

Emerging (Strategic-Beta) Markets

Though the downdraft in emerging-markets equities that had stifled the growth of the segment of strategic-beta ETP products listed in what we characterize as emerging strategic-beta markets (chiefly South Africa, Mexico, and Brazil) abated in the 12-month period through June 2017, strategic-beta ETPs hemorrhaged assets. Assets under management in strategic-beta ETPs declined 30% versus the prior period, owing entirely to outflows. In aggregate, these funds saw $167 million worth of outflows. As was the case last year, no new strategic-beta ETPs were launched in these markets during the year ended June 2017. South Africa, the most prominent of these markets (as measured by number of listed strategic-beta ETPs), has 11 locally domiciled strategic-beta ETFs. This includes Satrix Divi Plus STXDIV, the most representative product, with $94.5 million in assets as of June 30, 2017.

Mexico is home to a pair of strategic-beta ETFs, the iShares MSCI Mexico Risk TRAC ETF MEXRISK and the iShares MSCI Mexico Momentum TRAC MEXMTUM. Over the past year, AUM in these funds slumped 68%, falling to $78 million from $253 million over the 12 months ended June 30, 2017. Virtually all of this year-over-year decline can be attributed to outflows, which amounted to $168 million over this span.

Given the nature of these markets, information about these products is often lacking, local investors are generally unfamiliar with ETPs, and they are more unfamiliar yet with the concept of strategic beta. As these markets continue to develop, both from a fundamental and asset-management/investment perspective, we expect them to ultimately look to mimic the developments witnessed among more-mature markets. Specifically, we would expect to see a gradual adoption of the ETP vehicle and more-complex strategic-beta-type exposures.

Exhibit 42 ETFs From Emerging (Strategic-Beta) Markets

Name	Domicile	Ticker	Inception Date	AUM ($ Mil)	Secondary Strategic-Beta Attribute
Satrix Divi Plus ETF	South Africa	STXDIV	8/30/07	94.5	Dividend Screened/Weighted
iShares MSCI Mexico Risk TRAC	Mexico	MEXRISK	9/24/14	78.3	Multi-Factor
Satrix RAFI 40 ETF	South Africa	STXRAF	10/16/08	67.1	Fundamentals Weighted
CoreShares Property Top Ten ETF	South Africa	PTXTEN	5/30/11	22.4	Equal Weighted
It Now IDIV Index Fund ETF	Brazil	DIVO11	1/3/12	14.4	Dividend Screened/Weighted
CoreShares S&P SA Dividend Arst ETF	South Africa	DIVTRX	4/14/14	13.8	Dividend Screened/Weighted
NewFunds S&P GIVI SA Top 50 ETF	South Africa	GIVISA	6/23/08	7.0	Multi-Factor
NewFunds Equity Momentum ETF	South Africa	NFEMOM	1/26/12	4.3	Momentum
NewFunds S&P GIVI SA Financial 15 ETF	South Africa	GIVFIN	6/15/09	3.8	Multi-Factor
NewFunds S&P GIVI SA Industrial 25 ETF	South Africa	GIVIND	6/15/09	2.7	Multi-Factor
NewFunds MAPPS Growth ETF	South Africa	MAPPSG	5/25/11	2.7	Growth
iShares MSCI Mexico Momentum TRAC	Mexico	MEXMTUM	9/24/14	2.2	Momentum
CoreShares S&P SA Low Volatility ETF	South Africa	LVLTRX	4/14/14	2.0	Low/Minimum Volatility/Variance
NewFunds S&P GIVI SA Resource 15 ETF	South Africa	GIVRES	6/15/09	1.8	Multi-Factor

Source: Morningstar Direct, Morningstar Research. Data as of 6/30/17.

The Morningstar Analyst Rating For Funds

As the indexes underpinning strategic-beta ETPs become increasingly nuanced, looking to infuse elements of an active manager's thinking into an index, investors' collective due-diligence burden will continue to increase commensurately. To assist investors in this process, Morningstar has assigned Analyst Ratings to 119 strategic-beta ETPs worldwide since November 2016. These funds collectively held more than $495 billion in investors' money as of June 30, 2017—representing 70% of the total amount invested in global strategic-beta ETPs.

The Morningstar Analyst Rating—which follows a Gold, Silver, Bronze, Neutral, and Negative scale—is forward-looking. It expresses our analysts' conviction in a fund's ability to beat its peers after accounting for fees and risk over a market cycle.

We've been assigning Analyst Ratings to mutual funds for more than five years, but in November 2016 we extended the ratings to ETFs as well. (Note: We have conducted qualitative, forward-looking analysis of ETFs for over eight years, but we had not assigned Analyst Ratings to ETFs until more recently.) Using the Analyst Rating, we believe investors can make more-sound decisions about which ETFs to choose or avoid.

Because the Analyst Rating we assign to ETFs follows the same methodology we use to assign ratings to traditional mutual funds, it should also be easier for investors to compare ETFs against relevant mutual funds. That practice has grown more commonplace in recent years as ETFs have become more widely available and the popularity of low-cost, passive investing has taken hold.

The purpose of Morningstar's qualitative, analyst-driven research on funds is to identify those funds that we believe should be able to outperform a relevant peer group, within the context of the level of risk taken, over a market cycle.

The pillars of our analysis are the same whether we are rating a passive ETF or an actively managed fund—People, Process, Performance, Parent, and Price. However, their relative impact on our overall assessment of a fund differs somewhat when it comes to analyzing and rating ETFs.

Obviously, keeping costs—both explicit (the ETF's expense ratio) and implicit (that is, the cost of portfolio turnover)—at a minimum is paramount in the context of running an index-tracking fund. As such, it should come as no surprise that the top-rated ETFs we analyze are not only among the lowest-cost options in their categories when compared against their actively managed peers, but also against other passive funds.

Although costs are critical, they are just one component of our holistic assessment of ETFs. We also closely scrutinize an ETF's performance relative to peers in its category. And, as part of our Process Pillar assessment, we carefully analyze an ETF's underlying benchmark to understand how the portfolio is built and maintained, as well as the techniques that the ETF's managers employ to track the index with precision.

Stewardship also plays a vital role in our analysis. We tend to favor parent firms that put investors' interests ahead of commercial goals and that align fund managers' incentives accordingly. Of course, the skills and experience of the people managing the ETF are an important factor in our analysis. In the management of ETFs, every 0.01% of performance counts, so it is vital to have a seasoned team in place. Thus, we evaluate these matters as part of our People Pillar assessment.

In sum, we reserve our Morningstar Medalist ratings for those low-cost ETFs that we believe will tightly track a sensibly constructed index during a long time frame. We favor ETFs backed by experienced managers and sponsored by firms that are good stewards of investors' capital. And we do so because we believe these attributes are likeliest to translate to outperformance when compared with a relevant peer group over a market cycle.

Exhibit 43 contains our ratings for the 119 strategic-beta ETPs currently covered by our global manager research team. This represents just a fraction of the more than 400 ETPs that our analysts have rated to date.

Exhibit 43 Strategic-Beta ETPs with Morningstar Analyst Ratings

						Pillars (⊕ Positive ⊙ Neutral ⊖ Negative)				
Name	Domicile	Ticker	Secondary Strategic-Beta Attributes	AUM ($Billion)	Morningstar Analyst Rating	Parent	People	Performance	Price	Process
BetaShares FTSE RAFI Australia 200 ETF	Australia	QOZ	Fundamentals Weighted	0.2	Bronze	⊙	⊕	⊙	⊕	⊙
ETFS S&P 500 High Yield Low Volatil ETF	Australia	ZYUS	Multi-Factor	0.0	Neutral	⊙	⊙	⊙	⊕	⊙
ETFS S&P/ASX 300 High Yield Plus ETF	Australia	ZYAU	Buyback/Shareholder Yield	0.0	Neutral	⊙	⊙	⊙	⊕	⊙
iShares S&P/ASX Dividend Opps ETF	Australia	IHD	Dividend Screened/Weighted	0.2	Neutral	⊕	⊕	⊖	⊕	⊖
Russell Inv High Dividend Aus Shrs ETF	Australia	RDV	Dividend Screened/Weighted	0.2	Bronze	⊙	⊙	⊙	⊕	⊙
SPDR MSCI Australia Sel Hi Div Yld ETF	Australia	SYI	Dividend Screened/Weighted	0.1	Bronze	⊙	⊕	⊙	⊕	⊙
SPDR S&P Global Dividend ETF	Australia	WDIV	Dividend Screened/Weighted	0.1	Neutral	⊙	⊕	⊙	⊕	⊙
VanEck Vectors Australian Equal Wt ETF	Australia	MVW	Equal Weighted	0.2	Bronze	⊙	⊙	⊙	⊕	⊙
VanEck Vectors MSCI Wld ex Aus Qlty ETF	Australia	QUAL	Quality	0.2	Bronze	⊙	⊙	⊙	⊕	⊕
Vanguard Australian Shares High Yld ETF	Australia	VHY	Dividend Screened/Weighted	0.7	Bronze	⊕	⊕	⊙	⊕	⊙
BMO Equal Weight REITs ETF	Canada	ZRE	Equal Weighted	0.4	Bronze	⊙	⊙	⊕	⊕	⊕
iShares Canadian Select Dividend ETF	Canada	XDV	Dividend Screened/Weighted	1.1	Neutral	⊕	⊕	⊙	⊕	⊙
iShares Canadianamental ETF Comm	Canada	CRQ	Fundamentals Weighted	0.1	Neutral	⊕	⊕	⊙	⊙	⊕
iShares Edge MSCI Min Vol Canada ETF	Canada	XMV	Low/Min Volatility/Variance	0.1	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI Min Vol EAFE ETF	Canada	XMI	Low/Min Volatility/Variance	0.2	Bronze	⊕	⊕	⊙	⊕	⊕
iShares Edge MSCI Min Vol Emerg Mkts ETF	Canada	XMM	Low/Min Volatility/Variance	0.1	Bronze	⊕	⊕	⊙	⊕	⊕
iShares Edge MSCI Min Vol Global ETF	Canada	XMW	Low/Min Volatility/Variance	0.1	Bronze	⊕	⊙	⊙	⊕	⊙
iShares S&P/TSX Cdn Div Aristcr ETF Comm	Canada	CDZ	Dividend Screened/Weighted	0.9	Neutral	⊕	⊕	⊕	⊕	⊙
PowerShares FTSE RAFI Canadian Fdmt ETF	Canada	PXC	Fundamentals Weighted	0.2	Bronze	⊕	⊙	⊙	⊕	⊕
PowerShares FTSE RAFI US Fdmt ETF II	Canada	PXS	Fundamentals Weighted	0.0	Bronze	⊙	⊙	⊕	⊕	⊕
PowerShares FTSE RAFI US Fundamental ETF	Canada	PXU.F	Fundamentals Weighted	0.1	Bronze	⊙	⊙	⊕	⊕	⊕
Vanguard FTSE Canadian High Div Yld ETF	Canada	VDY	Dividend Screened/Weighted	0.3	Bronze	⊕	⊕	⊙	⊕	⊙
Amundi ETF Jpx-Nikkei 400	France	Multiple	Quality	1.0	Bronze	⊖	⊙	⊙	⊕	⊖
Lyxor JPX-Nikkei 400 DR ETF	France	JPXU	Quality	1.1	Bronze	⊙	⊕	⊖	⊕	⊖
iShares DivDAX (DE)	Germany	EXSB	Dividend Screened/Weighted	0.8	Neutral	⊕	⊕	⊙	⊙	⊙
iShares STOXX Global Sel Div 100 (DE)	Germany	ISPA	Dividend Screened/Weighted	1.4	Neutral	⊕	⊕	⊙	⊕	⊙
iShares Dev Mkts Prpty Yld ETF USD Dist	Ireland	IWDP	Dividend Screened/Weighted	3.1	Bronze	⊕	⊕	⊕	⊙	⊕
iShares Edge MSCI EM Mini Vol ETF $ Acc	Ireland	EMMV	Low/Min Volatility/Variance	0.5	Silver	⊕	⊕	⊙	⊕	⊕
iShares Edge MSCI Eurp Mini Vol ETF € Acc	Ireland	MVEU	Low/Min Volatility/Variance	1.4	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI USA Value Factor ETF	Ireland	IUVF	Value	1.1	Bronze	⊕	⊕	⊙	⊕	⊕
iShares Edge MSCI Wld Min Vol ETF $ Acc	Ireland	MVOL	Low/Min Volatility/Variance	1.8	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge S&P 500 Min Vol ETF USD Acc	Ireland	SPMV	Low/Min Volatility/Variance	1.2	Silver	⊕	⊕	⊕	⊕	⊕
iShares Euro Dividend ETF EUR Dist	Ireland	IDVY	Dividend Screened/Weighted	1.0	Neutral	⊕	⊕	⊙	⊙	⊙
iShares European Prpty Yld ETF EUR Dist	Ireland	IPRP	Dividend Screened/Weighted	1.6	Neutral	⊕	⊕	⊕	⊕	⊙
iShares UK Dividend ETF GBP Dist	Ireland	IUKD	Dividend Screened/Weighted	1.0	Negative	⊕	⊕	⊖	⊙	⊖
iShares US Property Yield ETF USD Dist	Ireland	IDUP	Dividend Screened/Weighted	1.0	Bronze	⊕	⊕	⊕	⊕	⊕
SPDR S&P Euro Dividend Aristocrats ETF	Ireland	SPYW	Dividend Screened/Weighted	1.4	Bronze	⊙	⊕	⊕	⊕	⊙
SPDR S&P US Dividend Aristocrats ETF	Ireland	UDVD	Dividend Screened/Weighted	2.7	Silver	⊙	⊕	⊕	⊕	⊕
Vanguard FTSE All-World High Div Yld ETF	Ireland	VHYD	Dividend Screened/Weighted	0.5	Neutral	⊕	⊕	⊙	⊕	⊙
DBXT Stoxx Global Select Div 100 ETF 1D	Luxembourg	DXSB	Dividend Screened/Weighted	0.7	Neutral	⊙	⊙	⊙	⊙	⊙
Lyxor SG Glbl Qual Inc NTR ETF D EUR	Luxembourg	SGQI	Multi-Factor	0.2	Neutral	⊙	⊕	⊙	⊕	⊙
First Trust Large Cap Core AlphaDEX ETF	U.S.	FEX	Multi-Factor	1.5	Neutral	⊙	⊙	⊙	⊙	⊙
First Trust Large Cap Val AlphaDEX ETF	U.S.	FTA	Multi-Factor	1.0	Neutral	⊙	⊙	⊙	⊙	⊙
First Trust Mid Cap Core AlphaDEX ETF	U.S.	FNX	Multi-Factor	0.7	Neutral	⊙	⊙	⊙	⊙	⊙
First Trust Value Line Dividend ETF	U.S.	FVD	Dividend Screened/Weighted	3.7	Neutral	⊙	⊙	⊕	⊙	⊙

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Exhibit 43 Strategic-Beta ETPs with Morningstar Analyst Ratings (Continued)

Name	Domicile	Ticker	Secondary Strategic-Beta Attributes	AUM ($Billion)	Morningstar Analyst Rating	Pillars (⊕ Positive ● Neutral ⊖ Negative) Parent	People	Performance	Price	Process
FlexShares iBoxx 3Yr Target Dur TIPS ETF	U.S.	TDTT	Non-Traditional Fixed Income	2.1	Bronze	●	●	●	⊕	⊕
FlexShares Quality Dividend ETF	U.S.	QDF	Multi-Factor	1.7	Bronze	●	●	●	⊕	⊕
Goldman Sachs ActiveBeta EMkts Eq ETF	U.S.	GEM	Multi-Factor	1.3	Neutral	●	●	●	⊕	⊕
Goldman Sachs ActiveBeta US LgCp Eq ETF	U.S.	GSLC	Multi-Factor	2.2	Bronze	●	●	●	⊕	⊕
Guggenheim S&P 500 Pure Growth ETF	U.S.	RPG	Growth	2.0	Neutral	●	●	⊕	⊕	●
iShares Edge MSCI Min Vol EAFE ETF	U.S.	EFAV	Low/Min Volatility/Variance	7.0	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI Min Vol Emerg Mkts ETF	U.S.	EEMV	Low/Min Volatility/Variance	3.9	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI Min Vol Global ETF	U.S.	ACWV	Low/Min Volatility/Variance	3.3	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI Min Vol USA ETF	U.S.	USMV	Low/Min Volatility/Variance	13.6	Silver	⊕	⊕	⊕	⊕	⊕
iShares Edge MSCI Multifactor USA ETF	U.S.	LRGF	Multi-Factor	0.5	Bronze	⊕	⊕	●	⊕	⊕
iShares Edge MSCI USA Momentum Fctr ETF	U.S.	MTUM	Momentum	3.1	Silver	⊕	⊕	●	⊕	⊕
iShares Edge MSCI USA Quality Factor ETF	U.S.	QUAL	Quality	3.7	Silver	⊕	⊕	●	⊕	⊕
iShares Edge MSCI USA Value Factor ETF	U.S.	VLUE	Value	2.4	Bronze	⊕	⊕	●	⊕	⊕
iShares International Select Div ETF	U.S.	IDV	Dividend Screened/Weighted	4.4	Neutral	⊕	⊕	●	⊕	⊖
iShares Russell 1000 Growth ETF	U.S.	IWF	Growth	35.4	Bronze	⊕	⊕	⊕	⊕	⊕
iShares Russell 1000 Value ETF	U.S.	IWD	Value	36.8	Bronze	⊕	⊕	●	⊕	⊕
iShares Russell 2000 Growth ETF	U.S.	IWO	Growth	7.9	Neutral	⊕	⊕	⊕	⊕	●
iShares Russell 2000 Value ETF	U.S.	IWN	Value	8.5	Neutral	⊕	⊕	●	⊕	●
iShares Russell Mid-Cap Growth ETF	U.S.	IWP	Growth	7.6	Bronze	⊕	⊕	⊕	⊕	⊕
iShares Russell Mid-Cap Value ETF	U.S.	IWS	Value;	9.6	Bronze	⊕	⊕	⊕	⊕	⊕
iShares S&P 500 Growth ETF	U.S.	IVW	Growth	17.9	Bronze	⊕	⊕	●	⊕	⊕
iShares S&P 500 Value ETF	U.S.	IVE	Value	13.4	Bronze	⊕	⊕	●	⊕	⊕
iShares S&P Mid-Cap 400 Growth ETF	U.S.	IJK	Growth	6.6	Bronze	⊕	⊕	⊕	⊕	⊕
iShares S&P Mid-Cap 400 Value ETF	U.S.	IJJ	Value	5.6	Bronze	⊕	⊕	⊕	⊕	⊕
iShares S&P Small-Cap 600 Growth ETF	U.S.	IJT	Growth	4.4	Bronze	⊕	⊕	⊕	⊕	⊕
iShares S&P Small-Cap 600 Value ETF	U.S.	IJS	Value	4.6	Bronze	⊕	⊕	⊕	⊕	⊕
iShares Select Dividend ETF	U.S.	DVY	Dividend Screened/Weighted	17.0	Neutral	⊕	⊕	●	⊕	⊖
PowerShares Buyback Achievers ETF	U.S.	PKW	Buyback/Shareholder Yield	1.3	Neutral	●	●	⊕	●	●
PowerShares DWA Momentum ETF	U.S.	PDP	Momentum	1.5	Neutral	●	●	●	●	●
PowerShares Dynamic Large Cap Value ETF	U.S.	PWV	Value	1.3	Neutral	●	●	⊕	●	●
PowerShares Emerging Markets Sov Dbt ETF	U.S.	PCY	Non-Traditional Fixed Income	4.6	Neutral	●	●	●	⊕	●
PowerShares FTSE RAFI Dev Mkts ex-US ETF	U.S.	PXF	Fundamentals Weighted	1.1	Bronze	●	●	●	⊕	⊕
PowerShares FTSE RAFI US 1000 ETF	U.S.	PRF	Fundamentals Weighted	4.9	Bronze	●	●	⊕	⊕	⊕
PowerShares FTSE RAFI US 1500 Sm-Mid ETF	U.S.	PRFZ	Fundamentals Weighted	1.6	Bronze	●	●	⊕	⊕	⊕
PowerShares Fundamental HiYld CorpBd ETF	U.S.	PHB	Non-Traditional Fixed Income	1.1	Neutral	●	●	⊕	⊕	●
PowerShares High Yld Eq Div Achiev™ ETF	U.S.	PEY	Dividend Screened/Weighted	0.9	Neutral	●	●	●	●	●
PowerShares S&P 500 Low Volatility ETF	U.S.	SPLV	Low/Min Volatility/Variance	6.9	Bronze	●	●	⊕	⊕	⊕
PowerShares S&P 500 High Div Low VolETF	U.S.	SPHD	Multi-Factor	3.1	Bronze	●	●	⊕	⊕	●
PowerShares S&P 500 Quality ETF	U.S.	SPHQ	Quality	1.3	Bronze	●	●	●	⊕	●
PowerShares S&P SmallCap Low Volatil ETF	U.S.	XSLV	Low/Min Volatility/Variance	0.9	Bronze	●	●	⊕	⊕	⊕
Schwab Fundamental Emerg Mkts Lg Co ETF	U.S.	FNDE	Fundamentals Weighted	1.3	Neutral	⊕	⊕	●	⊕	●
Schwab Fundamental Intl Lg Co ETF	U.S.	FNDF	Fundamentals Weighted	2.6	Bronze	⊕	●	●	⊕	⊕
Schwab Fundamental US Large Company ETF	U.S.	FNDX	Fundamentals Weighted	2.8	Bronze	⊕	●	●	⊕	⊕
Schwab Fundamental US Small Company ETF	U.S.	FNDA	Fundamentals Weighted	1.9	Bronze	⊕	●	⊕	⊕	⊕
Schwab US Dividend Equity ETF™	U.S.	SCHD	Dividend Screened/Weighted	5.6	Silver	⊕	●	⊕	⊕	⊕

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Exhibit 43 Strategic-Beta ETPs with Morningstar Analyst Ratings (Continued)

						Pillars (⊕ Positive ● Neutral ⊖ Negative)				
Name	Domicile	Ticker	Secondary Strategic-Beta Attributes	AUM ($Billion)	Morningstar Analyst Rating	Parent	People	Performance	Price	Process
Schwab US Large-Cap Growth ETF™	U.S.	SCHG	Growth	4.4	Silver	⊕	●	⊕	⊕	⊕
Schwab US Large-Cap Value ETF™	U.S.	SCHV	Value	3.5	Silver	⊕	●	⊕	⊕	⊕
SPDR S&P Dividend ETF	U.S.	SDY	Dividend Screened/Weighted	15.5	Silver	●	⊕	⊕	⊕	⊕
SPDR S&P International Dividend ETF	U.S.	DWX	Dividend Screened/Weighted	1.2	Negative	●	⊕	⊖	⊕	⊖
Vanguard Dividend Appreciation ETF	U.S.	VIG	Dividend Screened/Weighted	24.5	Gold	⊕	⊕	⊕	⊕	⊕
Vanguard Growth ETF	U.S.	VUG	Growth	27.0	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard High Dividend Yield ETF	U.S.	VYM	Dividend Screened/Weighted	18.2	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard Intl Div Apprec ETF	U.S.	VIGI	Dividend Screened/Weighted	0.4	Bronze	⊕	⊕	●	⊕	⊕
Vanguard Mega Cap Growth ETF	U.S.	MGK	Growth	3.0	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard Mega Cap Value ETF	U.S.	MGV	Value	1.7	Silver	⊕	⊕	●	⊕	⊕
Vanguard Mid-Cap Growth ETF	U.S.	VOT	Growth	4.4	Silver	⊕	⊕	●	⊕	⊕
Vanguard Mid-Cap Value ETF	U.S.	VOE	Value	7.3	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard S&P 500 Growth ETF	U.S.	VOOG	Growth	1.6	Bronze	⊕	⊕	⊕	⊕	⊕
Vanguard Small-Cap Growth ETF	U.S.	VBK	Growth	6.2	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard Small-Cap Value ETF	U.S.	VBR	Value	11.3	Silver	⊕	⊕	⊕	⊕	⊕
Vanguard Value ETF	U.S.	VTV	Value	31.3	Silver	⊕	⊕	⊕	⊕	⊕
WisdomTree Emerging Markets High Div ETF	U.S.	DEM	Dividend Screened/Weighted	1.8	Neutral	●	●	●	⊕	⊖
WisdomTree Emerging Markets SmCp Div ETF	U.S.	DGS	Dividend Screened/Weighted	1.2	Neutral	●	●	⊕	⊕	⊖
WisdomTree Europe Hedged Equity ETF	U.S.	HEDJ	Dividend Screened/Weighted	9.3	Neutral	●	●	⊕	●	●
WisdomTree Europe SmallCap Dividend ETF	U.S.	DFE	Dividend Screened/Weighted	0.9	Neutral	●	●	⊕	⊕	●
WisdomTree India Earnings ETF	U.S.	EPI	Earnings Weighted	1.7	Neutral	●	●	●	●	●
WisdomTree International SmallCp Div ETF	U.S.	DLS	Dividend Screened/Weighted	1.4	Bronze	●	●	⊕	⊕	●
WisdomTree Intl Hdgd Qual Div Gr ETF	U.S.	IHDG	Multi-Factor	0.5	Bronze	●	●	⊕	⊕	⊕
WisdomTree US High Dividend ETF	U.S.	DHS	Dividend Screened/Weighted	1.2	Neutral	●	●	●	⊕	●
WisdomTree US LargeCap Dividend ETF	U.S.	DLN	Dividend Screened/Weighted	1.9	Bronze	●	●	⊕	⊕	⊕
WisdomTree US MidCap Dividend ETF	U.S.	DON	Dividend Screened/Weighted	2.9	Bronze	●	●	⊕	⊕	⊕
WisdomTree US MidCap Earnings ETF	U.S.	EZM	Earnings Weighted	0.8	Bronze	●	●	⊕	⊕	⊕
WisdomTree US Quality Dividend Gr ETF	U.S.	DGRW	Multi-Factor	1.6	Bronze	●	●	●	⊕	⊕
WisdomTree US SmallCap Dividend ETF	U.S.	DES	Dividend Screened/Weighted	1.9	Bronze	●	●	⊕	⊕	⊕

Source: Morningstar Direct. Data as of 6/30/2017.

Appendix: Strategic-Beta Definitions

Strategic Beta

Strategic beta, widely referred to as "smart beta," refers broadly to a growing group of indexes and the exchange-traded products and other funds and investment products that track them.

The majority of these indexes seek to enhance returns or minimize risk relative to a traditional market-capitalization-weighted benchmark.

Others seek to address oft-cited drawbacks of standard benchmarks, such as the negative effect of contango in long-only commodity futures indexes and the overweighting of the most-indebted issuers in market-cap-weighted fixed-income benchmarks.

These benchmarks and the investable products that track them exploit many of the same "factors" (size, value, quality, momentum, and so on) or to mitigate risk in a manner similar to active managers.

This group represents a middle ground on the active/passive spectrum—deviating from a traditional, strictly passive market portfolio but doing so in a rules-based, transparent, and relatively low-cost manner.

Many have defined this space in the negative, only including in their classification those products tracking any benchmark that does not weight its constituents on the basis of their market capitalization.

Per our definition, most of the indexes underlying investment products in this class are not market-cap-weighted, but some are (for example, those that have style "tilts"—which screen their investable universe for certain characteristics and subsequently weight constituents by their market cap).

We do not include market-cap-weighted sector indexes (though we do include non-cap-weighted sector benchmarks), thematic indexes (for example, socially responsible indexes, clean energy indexes, and so on), market-cap-weighted country indexes (again, we will include non-cap-weighted ones), and other types of indexes that screen constituents strictly on the basis of sector membership, investment theme, or geography in this grouping.

We exclude products tracking benchmarks that employ options strategies (for example, covered calls and protective puts).

We exclude quantitative tactical strategies.

We exclude products offering some form of exposure to volatility indexes.

We exclude benchmarks that underlie those products that are included in our "trading" categories, such as leveraged and inverse funds.

The common elements among this diverse set of products are as follows: They are index-tracking investment products;

They track nontraditional benchmarks that have an active element contained within their methodology, which typically aims to either improve returns or alter the index's risk profile relative to a standard benchmark;

Many of their benchmarks have short track records and were designed for the sole purpose of serving as the basis of an investment product;

Their expense ratios tend to be lower relative to actively managed funds';

Their expense ratios are often substantially higher relative to products tracking "bulk beta" benchmarks, like the S&P 500.

Return-Oriented Strategies

Return-oriented strategies look to improve returns relative to a standard benchmark. Value- and growth-based benchmarks are prime examples of return-oriented strategies. Other return-oriented strategies seek to isolate a specific source of return. Dividend-screened/weighted indexes, such as those followed by iShares Select Dividend DVY and SPDR S&P Dividend ETF SDY, are chief examples of this type of return-oriented strategy.

Dividend-Screened/Weighted

Dividend-screened and/or weighted strategies seek to deliver equity income by employing a number of dividend-oriented screening and/or weighting criteria. These 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, isolating firms based on metrics that would indicate dividend stability, and other dividend-related criteria. It is important to note that some of these strategies will weight the results of their screening criteria by market cap.

Size

We do not consider size on a stand-alone basis, but only within the context of a multifactor strategy that introduces size "tilts." So, we do not classify products tracking small-cap benchmarks (Russell 2000, for example) as strategic beta. Also, we do not classify small- or mid-cap benchmarks that screen constituents for growth or value characteristics as being multifactor. Only those products that

track multifactor benchmarks that implement a size tilt will be tagged with this attribute—for example, JP Morgan Diversified Return Global Equity ETF JPGE.

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, above-average dividend yields, and others. It is important to note that some of these strategies will weight the results of their screening criteria by market capitalization.

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, and others. It is important to note that some of these strategies will weight the results of their screening criteria by market capitalization.

Fundamentals-Weighted

Fundamentally weighted in this case refers exclusively to Research Affiliates' RAFI Fundamental index equity strategies, which select and weight their constituents based on fundamental measures such as sales, adjusted sales, cash flow, dividends, dividends plus share buybacks, book value, and retained cash flow.

Multi-Factor

Multifactor strategies set out to combine a variety of factors (value, growth, size, momentum, quality, and low volatility, for example) in an effort to improve risk-adjusted performance relative to a standard benchmark.

Momentum

Momentum strategies will select and/or weight their constituent securities on a number of factors, which might include price momentum, adjustments to earnings estimates, and earnings surprises.

Buyback/Shareholder Yield

Buyback/shareholder yield strategies will select and/or weight their constituents of some measure of cash returned to shareholders (typically any one or some combination of the following: dividends, share repurchases, and debt retirement) over a specified period.

Earnings Weighted

Earnings screened and/or weighted strategies seek to deliver excess returns by employing a number of earnings-oriented screening and/or weighting criteria.

Quality

These strategies look to build a portfolio of stocks composed of quality companies, which are characterized by their durable business models and sustainable competitive advantages. Quality companies tend to have high and stable levels of profitability and clean balance sheets.

Expected Returns

These equity strategies will select their constituents based on one or more measures of expected returns or relative performance (quantitative rankings or broker recommendations, for example) and weight them in a variety of ways.

Risk-Oriented Strategies

Risk-oriented strategies look 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.

Low/Minimum Volatility/Variance

Low/minimum volatility/variance strategies select and weight their constituents on the basis of historical volatility.

Low/High Beta

Low/high beta strategies select and weight their constituents based on their beta relative to a standard market-cap-weighted benchmark.

Risk-Weighted

Risk-weighted strategies weight constituents according to their individual expected contributions to overall portfolio risk.

Other

This classification encompasses a wide variety of strategies ranging from nontraditional commodity benchmarks to multiasset indexes.

Nontraditional Commodity

Nontraditional commodity benchmarks aim to improve upon the performance of standard indexes (for example, DJ UBSCI or S&P GSCI) by avoiding their chief drawbacks (roll losses resulting from contango). These include benchmarks that employ alternative weighting and/or rolling methodologies.

Equal-Weighted

Equal-weighted strategies assign an equal weight to their constituent securities.

Nontraditional Fixed Income

Nontraditional fixed-income benchmarks are not market-cap-weighted. The oft-cited drawback of market-cap weighting in the case of bond benchmarks is that it results in a portfolio that gives an overweighting to the most heavily indebted issuers. At present, most nontraditional bond benchmarks weight constituents on the basis of fundamental metrics indicative of debt service capacity, which results in portfolios that skew toward more-creditworthy issuers.

Multi-Asset

Multiasset strategies tend to be income-oriented and will screen eligible securities (which may include but are not limited to stocks, bonds, preferred securities, and master limited partnerships) on the basis of yield, among other characteristics.

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The Five (5) Pillars

Morningstar has identified five key areas that we believe are crucial to predicting the future success of funds: People, Parent, Process, Performance, and Price. Each pillar is evaluated when assessing a fund as well as the interaction between the pillars, which we believe is crucial to understanding a fund's overall merit.

People

The overall quality of a fund's investment team is a significant key to its ability to deliver superior performance relative to its benchmark and/or peers. Evaluating a fund's investment team requires that analysts assess several relevant items including how key decisions are made.

Parent

We believe the parent organization is of utmost importance in evaluating funds. The fund's management set the tone for key elements of our evaluation, including capacity management, risk management, recruitment and retention of talent, and incentive pay. Beyond these

operational areas, we prefer firms that have a culture of stewardship and put investors first to those that are too heavily weighted to salesmanship.

Process

We look for funds with a performance objective and investment process (for both security selection and portfolio construction) that is sensible, clearly defined, and repeatable. In addition, the portfolio should be constructed in a manner that is consistent with the investment process and performance objective.

Performance

We do not believe past performance is necessarily predictive of future results, and this factor accordingly receives a relatively small weighting in our evaluation process. In particular, we strive not to anchor on short-term performance. However, we do believe that the evaluation of long-term return and risk patterns is vital to determining if a fund is delivering to our expectations.

Price

To reflect actual investor experience, price is evaluated within the context of the relevant market or cross-border region—for example, the United States, Australia, Canada, or Europe. In recognition of differences in scale and distribution costs in various markets, the level at which a fund is penalised for high fees or rewarded for low fees can vary with region. In Europe, for example, funds are penalised if they land in the most expensive quintile of their Morningstar category and are rewarded if they land in the cheapest quintile. The assessment is made using annual expense ratios, but in the case of funds with performance fees, expenses are evaluated excluding any performance fees and then the structure of the performance fee is evaluated separately.

Morningstar Analyst Ratings

Morningstar Analyst Ratings are assigned on a five-tier scale running from Gold to Negative. The top three ratings, Gold, Silver, and Bronze, all indicate that our analysts think highly of a fund; the difference between them corresponds to differences in the level of analyst conviction in a fund's ability to outperform its benchmark and peers through time, within the context of the level of risk taken.

Gold

Represents funds that our analyst has the highest-conviction in for that given investment mandate. By giving a fund a Gold rating, we are expressing an expectation that it will outperform its relevant performance benchmark and/or peer group within the context of the level of risk taken over the long term (defined as a full market cycle or at least five years). To earn a Gold rating, a fund must distinguish itself across the five pillars that are the basis for our analysis.

Silver

Represents funds our analyst has high-conviction in, but not in all of the five pillars. With those fundamental strengths, we expect these funds will outperform their relevant performance benchmark and/or peer group within the context of the level of risk taken over the long term (defined as a full market cycle or at least five years).

Bronze

Represents funds that have advantages that clearly outweigh any disadvantages across the pillars, giving analyst the conviction to award them a positive rating. We expect these funds to beat their relevant performance benchmark and/ or peer group within the context of the level of risk taken over a full market cycle (or at least five years).

Neutral

Represents funds in which our analysts don't have a strong positive or negative conviction. In our judgment, these funds are not likely to deliver standout returns, but they aren't likely to seriously underperform their relevant performance benchmark and/or peer group either.

Negative

Represents funds that possess at least one flaw that our analysts believe is likely to significantly hamper future performance, such as high fees or an unstable management team. Because of these faults, we believe these funds are inferior to most competitors and will likely underperform their relevant performance benchmark and/or peer group, within the context of the level of risk taken, over a full market cycle.

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Under Review

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Not Ratable

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