

## A Global Guide to Strategic-Beta Exchange-Traded Products

#### Morningstar Manager Research

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## **Executive Summary**

In September 2014, Morningstar introduced its naming convention and taxonomy for the fast-growing universe of strategic-beta exchange-traded products, or ETPs. In this year's report, we provide an update on the state of the global strategic-beta ETP landscape, framed using our latest strategic-beta and index attributes, which were launched in Morningstar's global database in the fourth quarter of 2018.

Over most of the past decade, the strategic-beta space grew more rapidly than the broader ETP market. Strategic-beta ETPs' growth has been driven by new cash flows, new launches, and the entrance of new players. However, more recently, these products' market-share gains have stalled.

This market segment has matured. The pace of net new inflows has stabilized. The number of strategic-beta ETPs declined on a year-over-year basis for the first time ever in 2020, as closures outnumbered new launches. In 2021, the global strategic-beta ETP menu added just 12 net new products, representing 0.9% growth versus the end of 2020. Meanwhile, these ETPs' fees have been squeezed. As the strategic-beta ETP landscape has settled, the asset-management industry has moved on to build momentum behind new product ranges. Environmental, social, and governance investing, actively managed exchange-traded funds, and thematic funds now hog the spotlight.

## **Key Takeaways**

- ► As of Dec. 31, 2021, there were 1,365 strategic-beta ETPs worldwide, with collective assets under management of approximately \$1.65 trillion.
- Assets in these products grew 34.1% in 2021. Top-line growth was bolstered by buoyant equity markets, as the Morningstar Global Markets Index rose 17.8%.
- ► Strategic-beta ETPs amassed \$155.1 billion in net new cash flows, translating into organic growth of 12.6% marking a sharp acceleration versus 2020's low-single digit pace.
- ► A sharp slowdown in new launches and unrelenting fee competition are signs that the space has reached maturity.
- ► The number of strategic-beta ETPs listed worldwide grew just 0.9% in 2021 after declining in 2020. In the United States, the number of new product launches (17) was the lowest since 2010 (22). The number

of U.S. strategic-beta ETPs that were shuttered in 2021 (11) was a fraction of its 2020 level (73). This slowdown is clear evidence that the menu has been oversaturated.

- ► A crowded and competitive landscape will continue to put downward pressure on fees.
- ► ETPs belonging to Morningstar's Dividend strategic-beta group continue to rank at or near the top of the list of the most popular strategic-beta ETPs. This should come as little surprise when considered in the context of low interest rates and secular growth in the demand for income.
- ▶ Low-volatility ETFs continued to hemorrhage assets in 2021. In 2020, ETPs belonging to Morningstar's Risk-Oriented strategic-beta group saw \$16.7 billion in outflows—roughly two thirds the amount they raked in during 2019. In 2021, another \$14.0 billion fled these funds. Part of the appeal of low-volatility equity strategies was supposed to be that they might provide a smoother ride and help investors sit tight in choppy markets. Clearly, that has not been the case.
- ► Value ETPs had a good year in 2021. As it looked like the long-awaited comeback for value stocks may have finally arrived, ETPs in Morningstar's Value strategic-beta group collected more than \$62 billion in net inflows worldwide.
- ► The organic growth rate of strategic-beta ETPs in the Asia-Pacific region slowed significantly in 2021 as the Bank of Japan—which had been the driving force behind the region's relatively strong growth—declared that ETFs tracking the JPX-Nikkei Index 400 (which belong to the Quality strategic-beta group) were no longer eligible for its ETF purchase program.
- ► The proliferation of these strategies and their complexity have created a significant due-diligence burden. To help investors in this process, Morningstar has assigned Morningstar Analyst Ratings to 133 strategic-beta ETPs worldwide. These ETPs held \$1.17 trillion of investors' money as of Dec. 31, 2021, representing 71% of the total amount invested in global strategic-beta ETPs.¹

<sup>1</sup> See the Appendix for a full list of attributes and definitions

# The Global Strategic-Beta ETP Landscape

#### **Global Summary**

As of Dec. 31, 2021, there were 1,365 strategic-beta exchange-traded products, with collective assets of approximately \$1.65 trillion worldwide.<sup>2</sup> For most of the past decade-plus, strategic-beta ETPs made inroads against their peers that are benchmarked to more-traditional indexes. More recently, the space has matured. The category's market-share gains have stalled, and it has also lost investor interest as the asset-management industry has moved on to push its next product cycles.

While regional markets are at varying stages of development, some common themes cut across geographies. First, ETPs belonging to Morningstar's Dividend strategic-beta group continue to be one of the most popular groupings of strategic-beta ETPs. 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 bonds from developed-markets sovereigns.

Low-volatility ETFs continued to hemorrhage assets in 2021. In 2020, ETPs belonging to Morningstar's Risk-Oriented strategic-beta group saw \$16.7 billion in outflows—roughly two thirds the amount they raked in during 2019. In 2021, another \$14.0 billion fled these funds. Part of the appeal of low-volatility equity strategies was supposed to be that they might provide a smoother ride and help investors sit tight in choppy markets. Clearly, that has not been the case.

Value ETPs had a good year in 2021. As it looked like the long-awaited comeback for value stocks may have finally arrived, ETPs in the Value strategic-beta group collected more than \$62 billion in net inflows worldwide.

There is a clear positive relationship between the adoption of strategic-beta ETPs and the age of each region's ETP market and these markets' 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' expense ratios are more competitive than their comparable actively managed peers' (though in some cases only marginally so). That said, in many cases the fees take a toll that is a multiple of that levied by their more ordinary passive peers. We expect fees charged by strategic-beta ETPs will remain under significant pressure as providers seek to stand out in a cramped market where many investors have a difficult time differentiating between seemingly similar strategies.

<sup>2</sup> Note that all monetary figures in this report are shown in U.S. dollars, unless stated otherwise. All data is as of Dec. 31, 2021.

Another commonality among the markets we examined is the complexity of the benchmarks that underlie newer ETPs. This has been 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, industry, and so on. As these strategies became more complex, investors' due-diligence burden grew commensurately. This has been further complicated by increasing changes to the methodologies of the indexes underpinning these funds.

To assist investors in their due- diligence, Morningstar has assigned Analyst Ratings to 133 strategic-beta ETPs worldwide that collectively held \$1.17 trillion in investors' money as of Dec. 31, 2021—representing 71% of the total amount invested in global strategic-beta ETPs.

Exhibit 1 The Global Strategic-Beta ETP Landscape in 2021

Total	1,646.0		1,227.6	34.1	155.1	12.6	1,365	1,353	0.9
Other	1.5	0.1	1.3	15.0	0.1	6.8	31	27	14.8
Asia-Pacific	53.8	3.3	46.2	16.5	5.7	12.3	224	227	-1.3
Europe	114.8	7.0	81.5	40.9	15.6	19.2	332	321	3.4
Canada	23.5	1.4	17.8	32.4	2.2	12.3	156	162	-3.7
U.S.	1,452.5	88.2	1,080.9	34.4	131.5	12.2	622	616	1.0
	(USD Bil)	Share (%)	(USD Bil)	Change	(USD Bil)	Growth %	12/2021	12/2020	Change
	Assets 2021	Global Market	Assets 2020	One-Year %	2021 Flows	Organic	No of ETPs	No of ETPs	One-Year %

#### **United States**

The United States is home to far and away the largest and most diverse stable of strategic-beta ETPs. The U.S. market accounts for 46% of the total number of strategic-beta ETPs, which together account for 88% of global assets. This should come as little surprise given the overall size and maturity of the U.S. asset-management and financial-services industries. The first generation of strategic-beta ETPs came to the U.S. market in May 2000. **IShares Russell 1000 Growth ETF** IWF and **iShares Russell 1000 Value ETF** IWD were not only the first but remain two of the five 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 more than 20 years to Dec. 31, 2021, and U.S. strategic-beta ETPs numbered 622 and had collective assets of \$1.45 trillion.

\$1,500

1,250

1,000

750

2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

Exhibit 2 U.S. Strategic-Beta ETP Asset Growth

#### **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 54% of the aggregate growth in strategic-beta ETP assets dating back to May 2000 has come from net new inflows, while the remaining 46% 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 owing in part to a rapidly growing and loyal army of Dimensional Fund Advisors<sup>3</sup> converts who were well versed in size, value, and momentum.

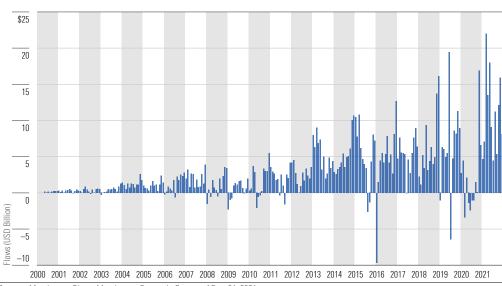


Exhibit 3 U.S. Strategic-Beta ETP Monthly Asset Flows

<sup>3</sup> 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—and other similar strategies from their competition—close cousins.

Until recently, growth in assets in strategic-beta ETPs outpaced that experienced by the broader ETP industry. Strategic-beta ETPs' share of the overall U.S. ETP marketplace climbed as high as 21.6% as of the end of November 2019 from nil in 2000. Their market-share gains reversed in 2020. Strategic-beta ETPs' market share dropped to 19.6% at the end of 2020, as they lost ground to actively managed, thematic, and ESG ETFs. In 2021, U.S. strategic-beta ETPs clawed back some of that lost ground. At year-end, they accounted for 20.0% of overall ETP assets.

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



#### **Roll Out the Betas**

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 Invesco's (then known as 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-volatility strategies, for example).

New launches accelerated in 2015, and from 2015 through 2017 a total of 285 new strategic-beta ETPs were launched, representing 46% of the 622 products that were on the menu as of the end of 2021.

New product launches have since slowed considerably. There were just 17 new strategic-beta ETPs rolled out in the U.S. in 2021, representing a 19% year-over-year decline in new launches and an 84% decline from the 2015 record. While launches have slowed, closures have accelerated. In 2020, 73 strategic-beta ETPs were closed. In 2021, another 11 were liquidated. We view the slowdown in launches and the concurrent uptick in closures as a clear sign that the menu was—and likely still is—oversaturated.

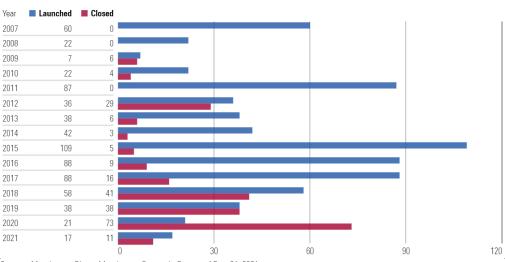


Exhibit 5 Number of U.S. Strategic-Beta ETP Launches and Closures by Year

## **Simple Tastes**

While complexity has been on the rise, investors' preferences remain plain-vanilla. Classifying the current roster of U.S. strategic-beta ETPs according to their strategic-beta groups shows that ETPs offering exposure to straightforward strategies (value, growth, dividend-screened/weighted) account for about 76% of strategic-beta ETP assets. Dividend 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 accumulation stage of their investment lifecycle to the decumulation stage.

Funds belonging to Morningstar's Value strategic-beta group claimed the top spot in the flows league table in 2021, as they brought in \$59.9 billion in new money. This was their second straight year on top—likely evidence that investors are betting on a turn of fortune for value stocks. Continued outflows among ETPs belonging to the Risk-Oriented strategic-beta group are also noteworthy. Low-volatility ETFs, which call the Risk-Oriented group home, had raked in tens of billions in new flows in recent years. In 2020, this group witnessed \$13.2 billion in outflows—equating to an organic growth rate of negative 15%. Another \$13.8 billion fled these funds in 2021, equating to an organic growth of nearly negative 19%. Investors had flocked to these funds as a means of maintaining equity exposure while reducing their portfolios' sensitivity to movements in the stock market. Disappointing performance through the early-2020 market melee and a broader rotation into value strategies were likely contributors to this exodus.

Total	622	1,452.5		131.5	12.2
Commodity	28	7.8	0.5	1.7	38.4
Fixed Income	37	14.6	1.0	3.5	29.8
Momentum	31	26.6	1.8	0.2	0.8
Fundamentals	30	46.7	3.2	5.9	17.6
Quality	20	51.6	3.6	3.8	9.7
Other	41	52.2	3.6	8.3	24.4
Risk-Oriented	44	69.4	4.8	-13.8	-18.8
Multifactor	165	84.7	5.8	7.1	11.0
Dividend	140	327.2	22.5	41.9	18.0
Value	47	373.4	25.7	59.9	23.9
Growth	39	398.3	27.4	13.1	4.2
Strategic Beta Group	No of ETPs	Assets (USD Bil)	% of Assets	2021 Flows (USD Bil)	2021 Organic Growth %

## By Provider

IShares and Vanguard account for just 15% of the total number of strategic-beta ETPs but have amassed 66% 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 spot among the top five is an ETF provider that has made strategic beta its calling card: Invesco. The firm bolstered its roster of strategic-beta ETFs in recent years with its acquisitions of the ETF ranges of Guggenheim and Oppenheimer. In 2020, the firm purged 27 strategic-beta ETFs from its lineup, many of which it had acquired and all of which had failed to gain traction with investors. The fourth spot on the U.S. strategic-beta ETP league table is claimed by Schwab's ascendant ETF lineup, which features fundamentally weighted funds that have a prominent place in the firm's Intelligent Portfolios. State Street Global Advisors and First Trust follow closely behind Schwab.

Exhibit 7 Largest U.S. Strategic-Beta ETP Provide	ers		
Provider	AUM (USD Bil)	No of ETPs	Market Share (%)
iShares	539.2	72	37.1
Vanguard	425.8	22	29.3
Invesco	115.3	119	7.9
Charles Schwab	88.8	10	6.1
State Street	74.7	25	5.1
First Trust	68.6	71	4.7
WisdomTree	37.0	42	2.5
Goldman Sachs	22.4	14	1.5
ProShares	12.8	10	0.9
Flexshares	9.9	20	0.7
Others	57.9	217	4.0
Total	1,452.5	622	

## By Fund

The top 10 strategic-beta ETPs by assets account for about 40% of assets in this corner of the ETP market. Again, cut-and-dried value, growth, and dividend-screened/weighted approaches dominate the ranks. There are, however, some notable exceptions—especially iShares MSCI USA Minimum Volatility Factor ETF USMV.

USMV's ascent and subsequent struggles are 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 \$27.8 billion in net new cash flows from its October 2011 inception through the end of 2019. In 2019, USMV had net inflows of \$12.5 billion. In 2020, the fund saw outflows of \$4.5 billion. In 2021, investors pulled another \$7.9 billion. As more investors have incorporated single-factor-focused funds into their portfolios and attempt to time their exposures to them, they will likely see larger and more volatile flows.

Exhibit 8 Largest U.S. Strategic-Beta ETPs									
Name	Ticker	Inception Date	Strategic-Beta Group	Expense Ratio (%)	Assets (USD Bil)	2021 Flows (USD Bil)			
Vanguard Value ETF	VTV	1/26/2004	Value	0.04	92.7	15.4			
Vanguard Growth ETF	VUG	1/26/2004	Growth	0.04	90.5	3.5			
iShares Russell 1000 Growth ETF	IWF	5/22/2000	Growth	0.19	79.1	-2.0			
Vanguard Dividend Appreciation ETF	VIG	4/21/2006	Dividend	0.06	69.8	4.6			
iShares Russell 1000 Value ETF	IWD	5/22/2000	Value	0.19	60.0	5.7			
Vanguard High Dividend Yield ETF	VYM	11/10/2006	Dividend	0.06	42.7	4.0			
iShares S&P 500 Growth ETF	IVW	5/22/2000	Growth	0.18	40.6	-1.1			
Invesco S&P 500® Equal Weight ETF	RSP	4/24/2003	Other	0.20	32.0	7.8			
Schwab US Dividend Equity ETF™	SCHD	10/20/2011	Dividend	0.06	31.3	9.8			
iShares MSCI USA Min Vol Factor ETF	USMV	10/18/2011	Risk-Oriented	0.15	30.5	-7.9			

## 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 excluding strategic beta. Of course, fees should be considered on a case-by-case basis. For example, **Schwab U.S. 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 U.S. Broad Market ETF** FNDB, which tracks the Russell RAFI US 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 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.

Among the 549 strategic-beta ETPs that have reported annual report net expense ratios for their 2020 and 2021 fiscal years to Morningstar's database, 105 (19%) saw their fees decrease during their 2021 fiscal year. The median decline in fees among this group was 0.01%. Meanwhile, 35 (6%) strategic-beta ETPs saw their fees inch higher, by a median level of 0.03%. The toll taken by the remaining 409 (74%) products remained unchanged. We expect that fees for strategic-beta ETPs will continue to trend lower with time.

Exhibit 9 U.S. Fees Under the Microscope

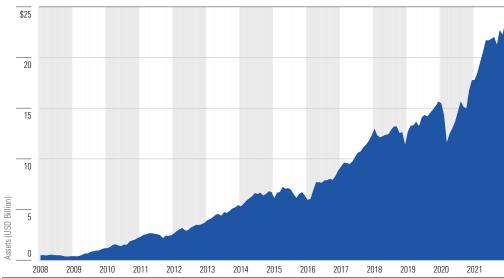
		Combined	Equity	Fixed Income	Commodity	Allocation
	Average	(%)	(%)	(%)	(%)	(%)
All ETFs	Asset-Weighted	0.18	0.15	0.16	0.39	0.40
	Equal-Weighted	0.49	0.45	0.30	0.82	0.53
ETPs ex-Strategic Beta	Asset-Weighted	0.17	0.14	0.15	0.38	0.40
	Equal-Weighted	0.52	0.48	0.30	0.57	0.52
Strategic-Beta	Asset-Weighted	0.19	0.19	0.26	0.52	0.44
	Equal-Weighted	0.41	0.40	0.27	0.98	0.57

## Canada

In absolute terms, Canadian strategic-beta ETPs have grown considerably over the past 14 years. However, these funds still represent a small part of the market, and their market share hasn't grown for the better part of a decade. Broad, market-cap-weighted index, and actively managed ETPs dominate this market.

Assets invested in Canadian strategic-beta ETPs grew from \$518 million to \$23.5 billion between the end of December 2007 and December 2021. During that time, the number of strategic-beta funds on the market ballooned from eight to 156. Most of the growth in assets came from inflows, which totaled \$15.9 billion over this span. Inflow-driven growth has been consistent. Aggregate flows into these funds were positive in 144 out of the 169 months over the 14 years from December 2007 through December 2021.

Exhibit 10 Canadian Strategic-Beta ETP Asset Growth

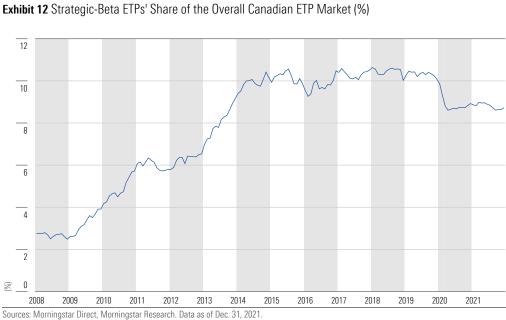


\$600 Flows (USD Million) -100 -300 

Exhibit 11 Canadian Strategic-Beta ETP Monthly Asset Flows

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021

Despite their growth, strategic-beta ETPs still claim a small share of the Canadian market. At the end of 2021, they represented about 8.7% of the total Canadian ETP market by assets, up from 2.8% at the end of 2007. The group's market share has stagnated and slipped since peaking at 10.6% in January 2018.



Many of these funds have not been around long, which may help explain why they tend to be on the smaller side. Of the 156 strategic-beta ETPs listed in Canada at the end of 2021, 123 were launched after 2014. Since these funds express active bets relative to the market, many investors wait until these funds have established a multiyear record of success before investing, much the same way they tend to treat actively managed funds.

In 2021, only five new strategic-beta funds were launched, which was less than half the previous year's figure and the lowest since 2011. Meanwhile, 11 strategic-beta funds were closed—a new record.

■ Launched ■ Closed Year 

Exhibit 13 Number of Canadian Strategic-Beta ETP Launches and Closures by Year

#### **Investors Prefer Income**

It can be hard for investors to wrap their heads around factors. However, funds designed to achieve specific outcomes like dividend income and low volatility have resonated with Canadian investors.

Dividend strategies are far away the most popular type of strategic-beta ETP by assets in Canada. These funds represented about 40% of assets invested in all Canadian-listed strategic-beta ETPs at the end of 2021. That's not surprising. Many investors, particularly retirees, gravitate toward funds that can deliver income. Investors poured an estimated \$1.6 billion into these funds in 2021.

Exhibit 14 Ranking of Canadian Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Dividend	44	9,452.4	40.2	1,560.1	24.6
Multifactor	9	2,123.4	9.0	158.2	10.3
Risk-Oriented	9	1,000.9	4.3	-119.7	-12.7
Other	5	1,495.0	6.4	108.6	9.7
Momentum	10	995.1	4.2	349.5	65.5
Value	28	3,326.3	14.1	-61.3	-2.0
Quality	35	3,938.8	16.7	259.0	8.2
Fundamentals	11	788.2	3.4	-85.1	-12.2
Fixed Income	4	316.1	1.3	2.3	0.7
Growth	1	79.3	0.3	14.3	27.0
Total	156	23,515.6		2,186.0	12.3

## By Provider

While many asset managers offer strategic-beta ETPs in Canada, assets are concentrated among the largest providers. BlackRock's iShares is by far the largest player here, capturing about 28% of the market as of December 2021. CI Investments, the second-largest strategic-beta ETP provider, has only 13% of the market. There are 17 asset managers that offer strategic-beta ETPs in Canada. The smallest 14 have a combined market share of nearly 46%.

It's worth noting that these figures exclude rules-based strategies that don't track an index, like BMO's low-volatility and dividend strategies and RBC's quantitative dividend ETFs. Morningstar considers these to be actively managed strategies.

Several of these asset managers compete in both the U.S. and Canadian markets, including BlackRock, Invesco, Vanguard, and Fidelity, and offer many of the same strategies in both markets. For example, versions of **Fidelity U.S. High Dividend ETF** FCUD and **iShares MSCI Minimum Volatility Global ETF** XMW are available in both the U.S. and Canada.

Exhibit 15 Largest Canadian Strategic-Beta ETP Providers

Provider	AUM (USD Mil)	No of ETPs	Market Share (%)
iShares	6,583.8	36	28.0
CI Investments	3,051.5	29	13.0
BMO	3,035.5	12	12.9
Vanguard	2,353.1	4	10.0
Mackenzie	2,022.9	10	8.6
Invesco	1,974.5	17	8.4
Manulife	1,308.9	7	5.6
Fidelity	1,259.3	22	5.4
CIBC	554.3	2	2.4
DGAM	548.4	9	2.3
Others	823.2	8	3.5
Total	23,515.6	156	

## **Biggest Funds**

The largest 10 strategic-beta ETPs jointly represent 36% of all assets invested in such funds in Canada. The largest fund, **iShares Canadian Select Dividend ETF** XDV, has just shy of \$1.5 billion in assets. Dividend funds are well represented among the top 10.

## **Exhibit 16** Largest Canadian Strategic-Beta ETPs

Name	Ticker	Inception Date	Strategic-Beta Group	Expense Ratio (%)	Assets (USD Mil)
iShares Canadian Select Dividend ETF	XDV	12/19/2005	Dividend	0.55	1,456.6
iShares S&P/TSX Composite High Dividend ETF	XEI	4/12/2011	Dividend	0.22	1,182.3
Vanguard FTSE Canadian High Dividend Yield ETF	VDY	11/2/2012	Dividend	0.22	1,132.0
Vanguard US Dividend Appreciation ETF	VGG	8/2/2013	Dividend	0.30	806.9
iShares S&P/TSX Canadian Dividend Aristocrats ETF	CDZ	9/8/2006	Dividend	0.66	803.8
BMO Equal Weight US Banks ETF	ZBK	2/10/2014	Other	0.38	730.5
Invesco Canadian Dividend ETF	PDC	6/8/2011	Dividend	0.54	676.0
CI Morningstar Canada Momentum ETF*	WXM	2/13/2012	Momentum	0.66	651.9
BMO MSCI USA High Quality ETF	ZUQ	11/5/2014	Quality	0.34	542.3
iShares Core MSCI Canadian Quality Dividend ETF	XDIV	6/7/2017	Dividend	0.11	491.4

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021. \*Morningstar, Inc. licenses indexes to financial institutions as the tracking indexes for investable products, such as exchange-traded funds, sponsored by the financial institution. The license fee for such use is paid by the sponsoring financial institution based mainly on the total assets of the investable product. Please visit https://indexes.morningstar.com/investable-products?sortBy=indexName&sortOrder=1 for a list of investable products that track or have tracked a

Morningstar index. Morningstar, Inc. does not market, sell, or make any representations regarding the advisability of investing in any investable product that tracks a Morningstar index.

#### Fees

Strategic-beta funds appear to charge lower fees to other types of ETPs, based on simple averages. However, strategic-beta funds appear more expensive than non-strategic-beta ETPs based on the asset-weighted average fees. That's because cheap, broad market-cap-weighted funds soak up a disproportionate share of the assets invested in non-strategic-beta funds. Cheaper funds tend to attract more assets across the board, which is why the asset-weighted average fees are lower than the simple averages for every group that included more than one fund.

The fee comparisons are only meaningful for the equity funds, since the other groups of strategic-beta funds are small—if they exist at all. All but four of the 156 Canadian-listed strategic-beta ETPs are focused exclusively on equities.

**Exhibit 17** Canadian Fees Under the Microscope

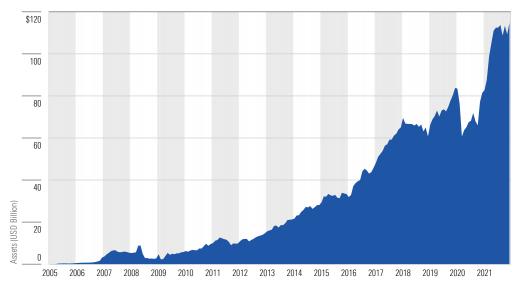
	Average	Combined (%)	Equity (%)	Fixed Income (%)
All ETPs	Asset-Weighted	0.32	0.29	0.32
	Equal-Weighted	0.57	0.56	0.39
ETPs ex-Strategic Beta	Asset-Weighted	0.31	0.27	0.32
	Equal-Weighted	0.58	0.58	0.39
Strategic Beta	Asset-Weighted	0.42	0.43	0.34
	Equal-Weighted	0.49	0.50	0.39

## **Europe**

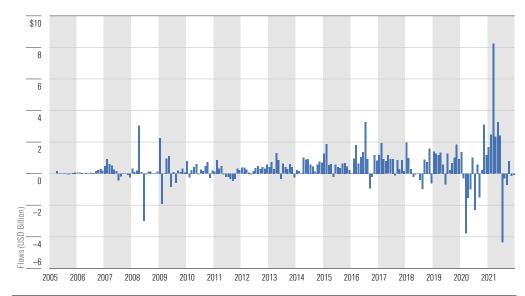
Assets in Europe-domiciled strategic-beta ETPs increased rapidly in the first half of 2021 as investors used these vehicles to build on the factor bets that had driven much of 2020's end-of-year correction. Assets in strategic-beta ETPs increased to \$112.5 billion in June 2021 from \$81.5 billion at the close of 2020 on a combination of more than \$20 billion of net inflows and capital appreciation.

As markets normalized in the second half of 2021, flows into strategic-beta ETPs reversed, partly offsetting their strong first-half showing. At year-end 2021, flows into strategic-beta ETPs amounted to \$15.6 billion, a sharp year-on-year shift versus the \$3.0 billion of outflows from these products in 2020. Assets closed the year at an all-time high of \$114.7 billion, a 41% increase from 2020.

**Exhibit 18** European Strategic-Beta ETP Asset Growth

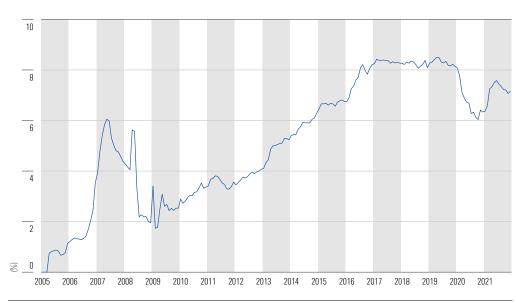


**Exhibit 19** European Strategic-Beta ETP Monthly Asset Flows



Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

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



## More Launches Than Closures, but Focus of ETP Product Development Is Not on Strategic Beta

Twenty-five new strategic-beta ETPs were launched in Europe in 2021, while 14 were closed. This contrasted with the previous two years when the number of closures outpaced launches. Still, the overall trend of dwindling new launches remains. This is a natural consequence of the strategic-beta ETP market in Europe reaching maturity. It also shows how asset managers' product development efforts have shifted in recent years to other areas such as ESG and thematic funds.

■ Launched ■ Closed n n 

Exhibit 21 Number of European Strategic-Beta ETP Launches, Closures by Year

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## **Investors Favor Quality Strategies**

ETPs belonging to the Dividend and Value strategic-beta groups continue to dominate the strategic-beta ETP market, but the fastest-growing segment in 2021 was Quality. Flows into ETPs in the Quality strategic-beta group amounted to \$4.7 billion in 2021 and assets grew to \$10.8 billion. The bulk of this money went to products that offer investors exposure to companies with solid fundamentals, which can help curb downside risk.

ETPs in the Risk-Oriented strategic-beta group saw combined outflows of \$100 million, making 2021 the second year in a row of outflows for this bunch. Risk-oriented ETPs in Europe mostly consist of minimum-variance or low-volatility strategies, which seek to offer investors a balance between gaining equity market exposure while minimizing risk.

**Exhibit 22** Ranking of European Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Dividend	79	31,951.6	27.8	2,220.8	8.4
Value	21	17,744.0	15.5	2,438.6	22.1
Risk-Oriented	33	14,774.3	12.9	-98.4	-0.7
Commodity	98	12,226.6	10.7	3,028.3	43.2
Quality	15	10,748.8	9.4	4,660.9	93.9
Momentum	9	7,258.4	6.3	270.5	5.8
Multifactor	40	7,224.7	6.3	17.1	0.3
Other	12	6,886.5	6.0	796.5	16.9
Fixed Income	14	4,339.7	3.8	2,026.0	83.3
Growth	6	1,207.8	1.1	230.2	28.5
Fundamentals	5	409.6	0.4	54.1	19.1

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## **IShares Remains the Undisputed Market Leader**

ETF behemoth iShares comfortably retained the number-one spot in the European strategic-beta ETP space with a market share of 51.3% at the end of 2021. Its Edge-branded suite of ETFs that track factor indexes focused on global, U.S., and European exposures has played a key role in cementing the firm's standing in recent years. Funds from this stable take up seven of the spaces in the list of the 10 largest strategic-beta ETPs in Europe.

Exhibit 23 Largest European Strategic-Beta ETP Providers

Total	114.8	332	
Others	11.3	134	9.9
WisdomTree	1.8	21	1.6
Deka	2.0	7	1.8
Vanguard	2.2	1	1.9
Natixis	3.3	9	2.9
Invesco	3.7	22	3.2
Amundi	7.2	28	6.3
State Street	7.3	17	6.3
UBS	7.6	25	6.7
Xtrackers	9.5	16	8.3
iShares	58.8	52	51.3
Provider	AUM (USD Bil)	No of ETPs	Market Share (%)

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

Xtrackers sits in a distant second place with a market share of 8.3%, largely built on the popularity of **Xtrackers S&P 500 Equal Weight ETF** XDEW. Assets in this ETF grew 90% in 2021, and it became the largest European strategic-beta ETP at \$4.6 billion in assets by the end of the year. By equally weighting the constituents of the S&P 500, the fund offers exposure to the size factor in U.S. large-cap equities.

The popularity of this strategy can be explained by the fact that smaller companies have historically outperformed their larger counterparts in economic recoveries.

Third in the provider leader table is UBS with a market share of 6.7%, having taken the spot from State Street's SPDR ETF franchise. UBS' growth has largely been led by its commodity index products. Assets in its headline offering, **UBS FS CMCI Composite SF**, grew by almost \$1 billion in 2021, a massive 79% increase. By contrast, the SPDR franchise saw more modest growth within its main strategic-beta ETP product line, the Dividend Aristocrats range. In June 2021, the State Street launched ESG alternatives to its European, U.S., and Global Dividend Aristocrats strategies. However, by the end of the year, asset growth in these ETPs was flat, perhaps signaling the market's lack of demand—at least at this stage—for strategies that combine ESG with factor investing.

Exhibit 24	Largest	European	Strategic-Beta E1	Ps
------------	---------	----------	-------------------	----

Name	Ticker	Inception Date	Strategic Beta Group	Assets (USD Bil)
Xtrackers S&P 500 Equal Weight ETF	XDEW	10/06/2014	Other	4.6
iShares Edge MSCI WId Val Fctr ETF	IWVL	03/10/2014	Value	4.6
iShares Edge MSCI Wld Min Vol ETF	MVOL	30/11/2012	Risk-Oriented	4.5
SPDR® S&P US Dividend Aristocrats ETF	UDVD	14/10/2011	Dividend	3.5
iShares Edge MSCI USA Val Fac ETF	IUVL	13/10/2016	Value	3.2
iShares Edge MSCI Eurp Val Fctr ETF	IEVL	16/01/2015	Value	3.1
iShares Edge MSCI USA Qual Fac ETF	IUQA	13/10/2016	Quality	3.0
iShares Edge MSCI Wld Mom Fctr ETF	IWM0	03/10/2014	Momentum	2.9
iShares Edge MSCI Wld Qual Fctr ETF	IWQU	03/10/2014	Quality	2.8
Ossiam Shiller BclyCp®US SectVal ETF	UCAP	22/06/2015	Multifactor	2.6

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## Strategic Beta Still Commands a Fee Premium

Strategic-beta ETPs domiciled in Europe still demand a sizable fee premium above their market-capweighted equity peers.

On the equities side, single-factor ETPs generally remain fairly priced, with most of their fees coming in at under 0.35%. Where fees start to tick up is on less popular strategies in the Fundamentals and Growth strategic-beta groups, or more complex Multifactor ETPs.

Strategic-beta ETPs' fee premium extends to most asset classes, but it is particularly wide in the case of alternative strategic-beta products where the simple average fee stands at 0.58% compared with 0.43% for mainstream products. In fact, the fee gap is even more sizable when comparing fees for alternative strategic-beta ETPs in asset-weighted terms—0.59% versus 0.26%.

A glance at the fee trends in the U.S. market suggests that there is still plenty of fat to be trimmed from European strategic-beta ETPs' fees should competition between providers heat up again.

## Exhibit 25 European Fees Under the Microscope

		Combined	Equity	Fixed Income	Commodity	Alternative
	Average	(%)	(%)	(%)	(%)	(%)
All ETFs	Asset-Weighted	0.23	0.23	0.22	0.24	0.29
	Equal-Weighted	0.32	0.33	0.20	0.35	0.48
ETPs ex-Strategic Beta	Asset-Weighted	0.22	0.22	0.22	0.23	0.26
	Equal-Weighted	0.32	0.33	0.20	0.38	0.43
Strategic-Beta	Asset-Weighted	0.31	0.32	0.30	0.27	0.59
	Equal-Weighted	0.35	0.35	0.32	0.30	0.58

#### **Asia-Pacific**

The rate of growth in the Asia-Pacific strategic-beta ETP market was in line with that of the broader Asia-Pacific ETP market in 2021. Assets in Asia-Pacific strategic-beta ETPs increased 17% to \$53.8 billion. Strategic-beta ETPs' organic growth clocked in at 12% in 2021, slower than 2020's 17% organic growth rate. As was the case in 2020, growth was uneven across markets in the region. Also, there were continued signs of market maturation. Strategic-beta ETPs' market-share gains have stalled, inflows have slowed, and the number of new launches was the lowest in eight years.

Japan still sits on the throne as the largest strategic-beta ETP market in the region with \$29.2 billion. But assets in Japan-domiciled strategic-beta ETPs grew by just 3% in 2021. A sharp slowdown in the pace of ETF purchases by the Bank of Japan beginning in April 2021 was the primary factor behind the deceleration in both the broader Japanese ETP market and the local strategic-beta ETP market.

Australia secured second place in the region's league table as strategic-beta ETP assets grew 32% to \$9.0 billion. Taiwan's strategic-beta ETP market experienced significant growth in 2021. Assets almost doubled to \$7.1 billion, surpassing China (\$5.7 billion) to become the third-largest strategic-beta ETP market in the Asia-Pacific region

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

									2020-2021 Grov	vth (%)
	No of	Total Assets	% of Tot Assets of Strategic-	Largest ETP	Avg ETP Assets	% of Tot Local	2021 Flows		Strategic -Beta	
Market	ETPs	(USD Mil)	Beta ETPs in APAC	(USD Mil)	(USD Mil)	ETP market	(USD Mil)	% Organic Growth	ETPs	Total ETP Market
Australia	34	9,021.5	16.8	2,045.3	265.3	9.0	1,378.2	20.2	32.2	35.0
China	49	5,664.3	10.5	2,788.7	115.6	3.3	363.8	7.6	18.2	37.2
Hong Kong	11	682.0	1.3	335.3	62.0	1.4	-71.1	-9.4	-9.4	5.1
India	11	165.2	0.3	105.9	15.0	0.3	92.1	164.3	194.5	45.4
Japan	27	29,169.9	54.2	10,504.7	1,080.4	5.4	1,082.2	3.8	2.9	2.1
Malaysia	4	20.3	0.0	11.3	5.1	4.4	-1.4	-6.0	-10.5	-9.4
New Zealand	4	295.0	0.5	153.7	73.8	7.5	41.6	18.8	33.4	30.3
Singapore	4	257.1	0.5	178.8	64.3	3.1	40.2	18.0	14.9	63.6
South Korea	65	1,371.4	2.5	167.7	21.1	2.2	16.2	1.2	5.1	29.9
Taiwan	14	7,146.5	13.3	4,112.6	510.5	9.3	2,720.8	75.2	97.6	20.6
Thailand	1	4.5	0.0	4.5	4.5	0.8	0.0	0.2	3.3	-8.3
Total/average	224	53,797.7	100.0	10,504.7	240.2	5.0	5,662.6	12.3	16.5	14.3

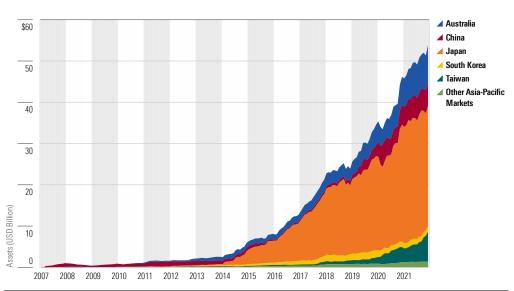


Exhibit 27 Asia-Pacific Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## **Market-Share Gains Have Slowed**

In 2021, assets in Asia-Pacific strategic-beta ETPs grew marginally faster than the overall regional ETP market. Consequently, their market share rose slightly to 5.0% from 4.9% in 2020. Among the Asia-Pacific markets, Taiwan had the highest strategic-beta ETP market share, at 9.3%, followed by Australia at 9.0%.



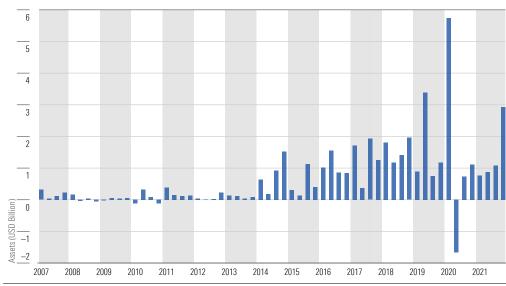
Exhibit 28 Strategic-Beta ETPs' Share of the Overall Asia-Pacific ETF Market (%)

#### While the Region's Growth Engine Stalled, Certain Markets Accelerated

Japan had been a key contributor to the growth of strategic-beta ETPs in the Asia-Pacific region in recent years. The Bank of Japan's ETF purchases, specifically those aimed at Japanese ETFs tracking the JPX-Nikkei Index 400, had given flows a boost. But as of April 2021, ETFs tracking the JPX-Nikkei Index 400 were no longer eligible for the central bank's purchase program, and this inflow engine has officially stalled.

Net inflows into the strategic-beta ETPs in the region decelerated in 2021, falling to \$5.6 billion, from \$6.0 billion in 2020. Japan fell from the top of the inflows league table in 2021. Net inflows into Japan-domiciled strategic-beta ETPs totaled \$1.1 billion. Net inflows into the seven Japanese ETPs tracking the JPX-Nikkei Index dropped 43% year on year to \$1.4 billion. Taiwan and Australia surpassed Japan as flows leaders, contributing \$2.7 billion and \$1.4 billion, respectively. Both figures marked decent growth compared with 2020. These two markets accounted for 72% of the 2021 net inflows into strategic-beta ETPs in the region.

Exhibit 29 Asia-Pacific Strategic-Beta ETP Quarterly Asset Flows



Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

#### **Launches Slowed and Closures Were More Common**

There were 18 new strategic-beta ETPs launched in 2021. This was the smallest number of new launches since 2013. Six of 2021's new launches belonged to the Multifactor strategic-beta group and five to the Quality strategic beta group. China was once again the hotbed for new strategic-beta ETP launches in the region, with eight additions. By contrast, South Korea saw 10 strategic-beta ETPs close, accounting for almost half of the 21 closures in the region. This was the first calendar year that closures exceeded launches in the Asia-Pacific region.

■ Launched ■ Closed Year 

Exhibit 30 Number of Asia-Pacific Strategic-Beta ETP Launches and Closures by Year

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## **Quality Dominates Assets, and Dividend Dominates Flows**

The ranking of assets among the strategic-beta groups was little changed at the end of 2021 versus the end of 2020. The Quality group accounted for 56% of the region's strategic-beta ETP assets, followed by Dividend strategic-beta ETPs at 31%.

There was, however, a notable shift in flows across the strategic-beta groups. In 2021, Dividend strategic-beta ETPs surpassed Quality strategic-beta ETPs as the biggest contributor of net inflows. A key reason was the Bank of Japan backing off buying certain Quality strategic-beta ETPs. Dividend strategic-beta ETPs attracted \$3.8 billion in net inflows in 2021, an increase of 47% from the prior year. They accounted for 66% of the region's strategic-beta ETP total net inflows in 2021. Meanwhile, Quality strategic-beta ETPs gathered \$1.7 billion of net inflows, a fall of 41% from the prior year.

Exhibit 31 Ranking of Asia-Pacific Strategic-Beta ETPs by Strategic-Beta Group

			% Attribute	AUM e												
Strategic-beta Group	No of	AUM (USD	Australia	China	Hong	India	Japan	Malaysia	New	Singapore	South	Taiwan	Thailand	Total	2021 Flows	% Oragnic
	ETPs	Mil)			Kong				Zealand		Korea			Asia-Pac	(USD Mil)	Growth
Quality	36	30,103.3	6.1	0.7	0.0	0.0	48.9	0.0	0.0	0.0	0.2	0.0	0.0	56.0	1,742.0	6.2
Dividend	81	16,537.8	5.1	7.2	0.4	0.0	3.8	0.0	0.2	0.5	1.2	12.3	0.0	30.7	3,752.0	32.4
Other	17	2,466.4	2.9	0.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	4.6	-83.4	-3.5
Multifactor	31	2,090.6	0.7	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.0	3.9	208.8	12.6
Fixed Income	7	726.9	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	1.4	100.7	14.5
Risk-Oriented	17	666.3	0.4	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.3	0.0	1.2	-26.7	-4.3
Fundamentals	6	482.6	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-96.3	-16.8
Value	15	280.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.5	33.9	15.9
Growth	4	262.3	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.5	-15.9	-6.1
Momentum	8	148.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.3	81.9	143.6
Commodity	2	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-34.4	-64.6
Total	224	53,797.7	16.8	10.5	1.3	0.3	54.2	0.0	0.5	0.5	2.5	13.3	0.0	100.0	5,662.6	12.3

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

## Though the Top 10 Dominate, the Market Remains Fragmented

Nomura, the backer of the region's largest strategic-beta ETP, retained the top ranking on the regional league table of strategic-beta ETP sponsors. However, its market share shrank to 21% from 25% at the end of 2020. While the names on the top-10 league table did not changed, there was some reshuffling among the ranks. VanEck in Australia, Yuanta Financial in Taiwan, and Huatai-PineBridge in China each saw assets increase by around \$1 billion. Their respective positions climbed to third, fourth, and eighth, from fourth, seventh and ninth a year ago.

The Asia-Pacific market remains deeply fragmented. At the end of 2021, 20% of the region's strategic-beta ETP assets were managed across 175 products offered by 67 different providers.

Total	53,797.7	224	
Others	11,145.3	175	20.7
Vanguard	1,489.9	1	2.8
AM One	2,375.1	4	4.4
Huatai-PineBridge	2,801.5	2	5.2
Nikko AM	2,886.5	5	5.4
Daiwa	3,251.1	2	6.0
iShares	3,626.2	9	6.7
Yuanta Financial	4,489.2	3	8.3
VanEck	4,564.3	13	8.5
MUFG	5,634.7	5	10.5
Nomura	11,533.9	5	21.4
Provider	AUM (USD Mil)	No of ETPs	Market Share (%)

## Narrowing the Gap

ETPs tracking the JPX-Nikkei Index 400 continued to dominate the league table of the largest strategic-beta ETPs in the Asia-Pacific region. Six of the seven ETPs tracking the JPX-Nikkei Index 400 remained among the top-10 strategic-beta ETPs by assets in the region. However, the gap between these funds and the rest has started to narrow as buying by the Bank of Japan stalled. These up and comers moved up the ranks compared with the prior year. For example, **Yuanta/P-shares Taiwan Dividend Plus ETF** 0056 climbed to the third place from the fifth spot, and **Huatai-PB SSE Dividend Index ETF** 510880 climbed to fifth place from the eighth position.

Exhibit 33 Largest Asia-Pacific Strategic-Beta ETPs

Name	Ticker	Inception Date	Market	Strategic Beta Group	Expense Ratio (%)	Assets (USD Mil)	2021 Flows (USD Mil)
NEXT FUNDS JPX-Nikkei Index 400 ETF	1591	1/24/2014	Japan	Quality	0.22	10,504.7	356.9
MAXIS JPX-Nikkei Index 400 ETF	1593	2/5/2014	Japan	Quality	0.09	5,334.5	332.8
Yuanta/P-shares Taiwan Dividend Plus ETF	0056	12/13/2007	Taiwan	Dividend	0.42	4,112.6	1,140.2
Daiwa ETF JPX-Nikkei 400	1599	3/26/2014	Japan	Quality	0.20	3,039.0	208.2
Huatai-PB SSE Dividend Index ETF	510880	11/17/2006	China	Dividend	0.61	2,788.7	1,189.3
Listed Index Fund JPX-Nikkei Index 400	1592	1/27/2014	Japan	Quality	0.16	2,702.9	93.4
iShares JPX-Nikkei 400 ETF	1364	12/1/2014	Japan	Quality	0.17	2,392.9	238.5
VanEck MSCI Wld ex Aus Olty ETF	QUAL	10/29/2014	Australia	Quality	0.40	2,045.3	510.1
One ETF JPX-Nikkei 400	1474	9/4/2015	Japan	Quality	0.19	1,739.9	112.6
Vanguard Australian Shares High Yld ETF	VHY	5/23/2011	Australia	Dividend	0.25	1,489.9	169.7

#### Australia

The broad Australian ETP market recorded another year of solid growth in 2021. Buoyant domestic and global equity markets helped assets surge 35% to \$99.9 billion at the end of 2021. Investors infused \$15.8 billion into local ETPs, marking a 12% increase in overall inflows relative to 2020.

Australian strategic-beta ETPs registered impressive growth in 2021. Assets expanded 32% year over year to reach \$9.0 billion invested across 34 products. The slightly faster expansion rate of the broader local market meant that strategic-beta ETPs' market share shrank marginally to 9.0% in 2021 from 9.2% as of the end of 2020. Strategic-beta ETPs gathered \$1.4 billion of net inflows during 2021, a 12.7% jump from 2020.

\$10 8 Assets (USD Billion) 0 2020 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2021

Exhibit 34 Australian Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

Flows into ETPs in the Quality strategic-beta group totaled \$891 million in 2021 — dwarfing flows into other groups. Flows into these funds accounted for nearly two thirds (64.6%) of all flows into strategic-beta ETPs in Australia. Flows into ETPs belonging to the Dividend strategic-beta group ranked a distant second at \$183.5 million. Strong inflows placed the Quality strategic-beta group as Australia's most popular. At \$3.3 billion, quality-oriented ETPs represented 36.1% of assets invested into local strategic-beta ETPs at the end of 2021. Dividend-oriented strategic-beta products were a close second at \$2.7 billion, representing 30.1% of strategic-beta ETP assets.

VanEck retained its spot atop the leaderboard of Australian strategic-beta ETP providers. At the end of 2021, the issuer had a 50.6% market share with \$4.6 billion in assets across 13 products. The firm also attracted the most new flows in 2021, amassing \$905.2 million in new money, representing 65.7% of all flows into strategic-beta ETPs in Australia.

**Exhibit 35** Ranking of Australian Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Quality	8	3,259.0	36.1	891.0	47.6
Dividend	10	2,718.0	30.1	183.5	7.8
Other	5	1,572.7	17.4	140.0	10.7
Fixed Income	2	550.9	6.1	50.2	8.9
Multifactor	5	351.9	3.9	-19.9	-5.9
Fundamentals	1	293.1	3.2	34.8	14.3
Risk-Oriented	2	191.1	2.1	17.9	11.6
Value	1	84.8	0.9	80.7	N/A

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

At the end of 2021, **VanEck MSCI World ex Australia Quality ETF** QUAL was the largest strategic-beta ETP in the Australian market, with \$2.0 billion in assets. It was followed by **Vanguard Australian Shares High Yield ETF** VHY (\$1.5 billion) and **VanEck Vectors Australian Equal Weight ETF** MVW (\$1.3 billion). The three largest funds collectively accounted for 53.5% of all strategic-beta ETP assets in Australia.

Based on their equal-weighted average fees, strategic-beta ETPs are priced at a modest premium to their more conventional counterparts in Australia. A few ETPs in the strategic-beta cohort have fees comparable to those charged by active managers. For example, **VanEck Vectors China New Economy ETF** CNEW charges an annual fee of 0.95%. Australian investors have generally preferred less pricey options across all groupings. The fact that the asset-weighted average fees are lower than equal-weighted fees is proof.

**Exhibit 36** Australian Fees Under the Microscope

		Combined	Equity	Fixed Income
	Average	(%)	(%)	(%)
Pure Passive ETPs	Asset-Weighted	0.26	0.27	0.21
	Equal-Weighted	0.39	0.43	0.25
Pure Passive ETPs ex-Strategic Beta	Asset-Weighted	0.25	0.25	0.21
	Equal-Weighted	0.38	0.42	0.25
Strategic-Beta	Asset-Weighted	0.37	0.38	0.27
	Equal-Weighted	0.44	0.45	0.29
Active ETPs	Asset-Weighted	1.19	1.26	0.56
	Equal-Weighted	0.83	0.89	0.59

#### China

The Chinese strategic-beta ETP market showed signs of slowing in 2021 after a few years of strong growth. The local market's attention appears to have shifted to thematic funds, where assets (active and passive funds combined) grew 51% in 2021. Strategic-beta ETPs grew 18.2% in 2021, slower than the overall ETP market, which grew 37.2%. Strategic-beta ETP assets' organic growth was 7.6% in 2021, much slower than 2020's 38.1%. Only eight new strategic-beta ETPs were launched during the year. Strategic-beta ETPs attracted just \$363 million of net inflows in 2021, 58.9% less than 2020. At the end of 2021, total assets in Chinese strategic-beta ETPs stood at \$5.7 billion, representing 3.3% of the overall ETP market.

Exhibit 37 Chinese Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

ETPs in the Dividend strategic-beta group remained the most popular among investors in China, representing a 68.7% market share of the strategic-beta ETP market. The group is dominated by the largest strategic-beta ETP, **Huatai-PB SSE Dividend Index ETF** 510880. Inflows into this ETP contributed the majority of the 42.6% organic growth for this cohort in 2021. Meanwhile, ETPs in most other strategic-beta groups experienced net outflows.

<sup>4</sup> Choy, J., Dutt, M., Johnson, B., Jung, A., Lamont, K., Sanzgiri, Z., Tran, L. & Wu, Y. 2022. Morningstar Global Thematic Funds Landscape 2022.

**Exhibit 38** Ranking of Chinese Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Dividend	13	3,890.0	68.7	1,094.6	42.6
Multifactor	14	839.6	14.8	64.6	10.1
Quality	7	375.7	6.6	-452.5	-62.8
Other	3	174.6	3.1	-190.9	-55.8
Fundamentals	3	165.2	2.9	-97.5	-37.2
Value	4	76.3	1.3	-2.1	-3.2
Risk-Oriented	2	71.0	1.3	-1.9	-2.7
Fixed Income	1	41.8	0.7	-11.8	-20.4
Growth	2	30.1	0.5	-38.6	-58.0

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

The Chinese strategic-beta ETP market remains as fragmented as ever. At the end of 2021, there were 29 different ETP providers offering a total of 49 strategic-beta ETPs. Huatai-PineBridge retained its top spot and expanded its lead over the competition. At the end of 2021, it held 49% of all assets in Chinadomiciled strategic-beta ETPs, up from 30% as of the end of 2020. The firm's Huatai-PB SSE Dividend Index ETF is the largest strategic-beta ETP in the market with \$2.8 billion of assets. Strong net inflows into this fund in 2021 helped push it into position as the fifth largest strategic-beta ETP in the Asia-Pacific region.

#### **Hong Kong**

Hong Kong's menu of strategic-beta ETPs experienced a second straight year of contraction. There were two closures, one from Lippo Investment Management and the other from Vanguard, as they exited the local ETP market. These closures left the total strategic-beta ETP count at 11. The combination of closures and net outflows from existing products, led assets in Hong Kong-domiciled strategic-beta ETPs to shrink 10% in 2021, to \$682 million.

The ongoing charges levied by locally domiciled strategic-beta ETPs ranged from 0.45% to 1.33%. Taking the ETPs in the Hong Kong equity category as an example, strategic-beta ETPs' asset-weighted ongoing charge was 0.72%, materially higher than the 0.11% charged by Hong Kong equity ETPs tracking conventional market-cap-weighted benchmarks.

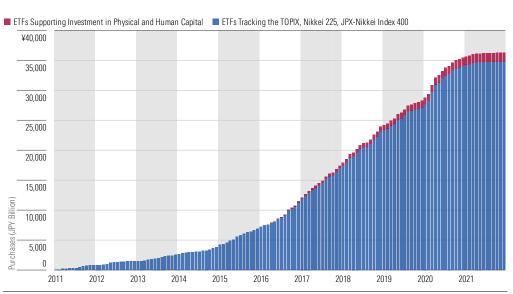
#### India

Indian strategic-beta ETPs had another impressive year. Assets under management almost tripled to \$165.2 million in 2021. The growth came from net inflows into existing products and the launch of four new products. This expanded the total count of strategic-beta ETPs to 11. Despite strong growth, strategic-beta ETPs remained a tiny portion of the overall Indian ETP market, with a market share of just 0.3%.

**ICICI Prudential Alpha Low Vol 30 ETF** ICICILOVOL remained the largest strategic-beta ETP in the local market with a 64% market share. This ETP helped ICICI Prudential Asset Management to retain its top spot in India's strategic-beta ETP market with 79% market share. The remaining five ETP providers with strategic-beta ETP offerings each had 3% to 7% market share.

#### Japan

In March 2021, the Bank of Japan announced it would maintain its annual ETF purchase limit at JPY 12 trillion but would no longer have an explicit JPY 6 trillion annual purchase target. At the end of 2021, the impact of this announcement on the broader ETP market was clear. Overall ETP assets grew 2.1% in 2021, a much slower rate as compared with recent years, when the bank was an active buyer of locally listed ETPs. From April 2021 through March 2022, the Bank of Japan only purchased JPY 561 million worth of ETFs, representing just 11% of the purchases made during the same period in 2020. It is also worth mentioning that during the 12 months up to March 2022, the Bank of Japan did not purchase any ETFs that support firms proactively investing in physical and human capital. These ETFs have an annual limit of JPY 300 million within Bank of Japan's purchase limit. As of December 2021, the bank held \$315 billion worth of ETFs, representing 64% of total assets in Japan-domiciled ETPs. The percentage would be even higher factoring in the unrealized gains of these holdings.



**Exhibit 39** Aggregate ETP Purchases by the Bank of Japan

Sources: Bank of Japan, Morningstar Research. Data as of Dec. 31, 2021.

Given that JPX-Nikkei Index 400 ETFs were no longer eligible for the Bank of Japan's purchases from April 1, 2021, and the bank's purchases of ETFs supporting firms proactively investing in physical and human capital came to a halt since April 2021, net flows into strategic-beta ETPs slowed. Strategic-beta ETPs' organic growth rate was 4% in 2021, compared with 19% and 12% in 2019 and 2020, respectively.

There was just one new strategic-beta ETP launched in Japan in 2021, and three closed. At year-end, the total number of strategic-beta ETPs in the local market sat at 27. The seven ETPs tracking the JPX-Nikkei 400 together retained the lion's share of strategic-beta ETP assets, at 90%. As a result, quality was by far the largest strategic-beta group represented in the Japanese market.

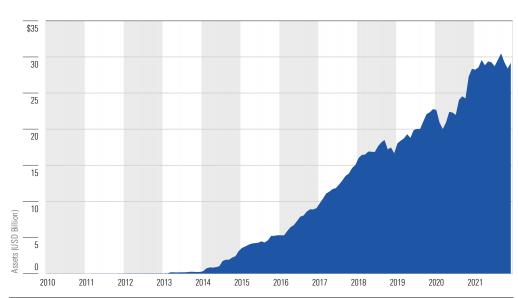


Exhibit 40 Japanese Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

Nomura is the manager of the largest strategic-beta ETP in the market, **NEXT FUNDS JPX-Nikkei Index 400 ETF** 1591, which held \$10.5 billion as of the end of 2021. This ETP alone accounted for 36% of Japan's strategic-beta ETP assets. Together with its four other strategic-beta ETPs, Nomura has a leading market share of 40% in Japanese strategic-beta ETP market.

The ongoing charges levied by locally domiciled strategic-beta ETPs ranged from 0.09% to 0.60%.

Exhibit 41 Ranking of Japanese Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Quality	12	26,332.8	90.3	1,236.8	4.9
Dividend	10	2,070.2	7.1	-80.7	-3.9
Other	4	689.8	2.4	-35.2	-4.9
Risk-Oriented	1	77.1	0.3	-10.3	-11.0

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

# Malaysia

The menu of the Malaysia-listed strategic-beta ETPs remained unchanged in 2021. There remain four offerings, dominated by three ETPs belonging to the Dividend strategic-beta group. Total assets under management landed at \$20.3 million as of the end of 2021, shrinking 10.5% compared with a year ago, and in line with the 9% decline in the broader ETP market.

#### **New Zealand**

Assets in New Zealand-domiciled strategic-beta ETPs increased by 33% in 2021, landing at \$295 million. Growth was in sync with the overall expansion in the New Zealand ETP market. As such, strategic-beta ETPs' market share remained level at 7.5%. Muted returns in the domestic-equity market (the S&P NZX 50 remained flat at 0.48%) weighed on investor sentiment. Strategic-beta ETPs' net inflows contracted 21% in 2021 compared with 2020. The two ETPs belonging to the Dividend strategic-beta group represented 30% of all assets invested in New Zealand strategic-beta ETPs as of the end of 2021.

# Singapore

There were only four strategic-beta ETPs available in Singapore as of the end of 2021 after **One Stoxx Asean Select Dividend USD** (domiciled in Thailand and listed in Singapore) made an exit in January 2021. All four belong to the dividend strategic-beta group. Total assets under management in these four ETPs totaled \$257.1 million at year-end, marking 15% year-over-year growth. However, assets in the broader ETP market expanded 64%. As a result, strategic-beta ETPs' market share slipped to 3.1%, down from 4.6% as of the end of 2020 and 8.6% as of the end of 2019.

#### **South Korea**

South Korea remains the leader in the Asia-Pacific region in terms of the number of strategic-beta ETPs available to local investors. Despite this lead, the local menu continued to shrink in 2021, as only one new strategic-beta ETP launched and 10 were closed. As of the end of 2021, there were 65 strategic-beta ETPs listed in South Korea, spanning all 11 strategic-beta groups. Total assets under management in strategic-beta ETPs rose 5% to \$1.4 billion. This was much slower than the 30% growth rate for the overall local ETP market. As a result, the market share of strategic-beta ETPs slipped to 2.2%.

\$2.0 1.5 1.0 Assets (USD Billion) 0.5 0.0 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

Exhibit 42 South Korean Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

The Dividend strategic-beta group remains the most popular, with \$0.6 billion in assets under management. The lone new strategic-beta ETP launched during the year belongs to this group, which hosts 24 of the 65 strategic-beta ETPs on the local menu.

**Exhibit 43** Ranking of South Korean Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Dividend	24	642.0	46.8	56.7	10.3
Multifactor	7	211.6	15.4	-41.6	-17.4
Quality	5	120.4	8.8	70.8	162.0
Fixed Income	2	93.7	6.8	66.4	209.0
Growth	1	78.5	5.7	-37.2	-29.9
Risk-Oriented	8	63.8	4.7	-31.3	-33.2
Value	6	51.2	3.7	-29.0	-36.4
Momentum	5	36.2	2.6	-15.0	-28.6
Commodity	1	24.9	1.8	-23.7	-58.4
Other	4	24.9	1.8	-1.6	-6.0
Fundamentals	2	24.3	1.8	1.6	7.1

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

The South Korean strategic-beta ETP market remains fragmented. At the end of 2021, the average assets under management among strategic-beta ETPs stood at \$21 million, and 37 of them had less than \$10 million in assets under management. Samsung and Hanwha Group retained their lead on the local market strategic-beta ETPs leaders' board, with 17 and 12 offerings, respectively, and market shares of 31% and 19%.

## **Taiwan**

Taiwan's strategic-beta ETP market had another impressive year in 2021. Assets in strategic-beta ETPs almost doubled to \$7.1 billion. This placed Taiwan as the third-largest strategic-beta ETPs market in the region, surpassing China. Growth was mainly driven by net inflows into existing dividend ETPs as well as three new launches. Growth in the strategic-beta ETP market continued to surpass that of the overall ETP market in Taiwan in 2021, and strategic-beta ETPs' market share rose to 9.3%, up from 5.7% at the end of 2020. This is the highest strategic-beta ETP market share in the Asia-Pacific region.

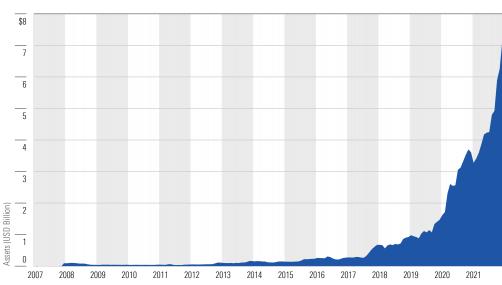


Exhibit 44 Taiwanese Strategic-Beta ETP Asset Growth

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

Dividend-focused strategies dominate the strategic-beta ETP market in Taiwan with combined assets under management of \$6.6 billion spread across nine ETPs. This represented 92% of the entire strategic-beta ETP market. This cohort also received 91% of the total strategic-beta ETP flows (\$2.5 billion) during the year. Yuanta Financial retained its market-leading position with its three strategic-beta products. The firm drew in 49% of total strategic-beta net flows in 2021 and managed 62% of local strategic-beta ETP assets at year end. It is also the manager of the market's largest strategic-beta ETP, the **Yuanta/P-shares Taiwan Dividend Plus ETF** 0056, which is the third-largest strategic-beta ETP in the Asia-Pacific region.

Exhibit 45 Ranking of Taiwanese Strategic-Beta ETPs by Strategic-Beta Group

Strategic Beta Group	No of ETPs	Assets (USD Mil)	% of Assets	2021 Flows (USD Mil)	2021 Organic Growth %
Dividend	9	6,607.1	92.5	2,474.9	72.8
Multifactor	1	263.2	3.7	237.5	24,563.7
Risk-Oriented	1	135.2	1.9	-80.3	-45.6
Momentum	2	112.0	1.6	96.8	2,221.5
Fixed Income	1	28.9	0.4	-8.2	-22.4

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

# **Thailand**

**ThaiDEX SET High Dividend ETF** 1DIV remained the one and only strategic-beta ETP in the Thailand ETP market. At the end of 2021, the fund's assets totaled \$4.5 million—little changed from last year. This lone strategic-beta ETP's assets represented a sliver (0.8%) of total assets in the Thai ETP market.

# **Emerging (Strategic-Beta) Markets**

There are fledgling markets for strategic-beta ETPs in places like Mexico and South Africa. 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 46 ETPs From Emerging (Strategic-Beta) Markets

			Inception	Assets	
Name	Domicile	Ticker	Date	(USD Mil)	Strategic-Beta Group
MEXTRAC	Mexico	MEXTRAC	8/27/2009	593.6	Dividend
It Now IMA-B5+ FUNDO DE INDICE	Brazil	IB5M11	9/23/2019	206.6	Fixed Income
Satrix Divi Plus ETF	South Africa	STXDIV	8/30/2007	124.2	Dividend
1nvest SWIX 40 ETF	South Africa	ETFSWX	10/5/2010	105.6	Other
It Now IDIV Index Fund ETF	Brazil	DIVO11	1/3/2012	76.8	Dividend
Satrix RAFI 40 ETF	South Africa	STXRAF	10/16/2008	72.1	Fundamentals
CoreShares S&P Glbl Div Aristocrats ETF	South Africa	GLODIV	2/22/2018	57.5	Dividend
ETF Bradesco IMAB-5+ Fundo de Indice	Brazil	B5MB11	12/11/2019	31.8	Fixed Income
Satrix Swix Top 40 ETF	South Africa	STXSWX	4/10/2006	24.1	Other
NewFunds Equity Momentum ETF	South Africa	NFEMOM	1/26/2012	22.5	Multifactor
QVGMEX 18	Mexico	QVGMEX	5/2/2018	21.5	Multifactor
NewFunds Value Equity ETF	South Africa	NFEVAL	3/26/2018	18.5	Value
ETF Trígono Teva Acoes Micro/Small Cap	Brazil	TRIG11	11/11/2021	17.4	Other
Sygnia Itrix SWIX 40 ETF	South Africa	SYGSW4	10/30/2017	11.1	Other
NewFunds Low Volatility ETF	South Africa	NFEVOL	3/26/2018	8.2	Risk-Oriented
CoreShares S&P SA Dividend Arst ETF	South Africa	DIVTRX	4/14/2014	8.1	Dividend
CoreShares SciBeta M-FI ETF	South Africa	SMART	7/10/2019	7.8	Multifactor
ETF It Now S&P/CLX Chile Dividend UNICA	Chile	CFMDIVO	1/11/2019	7.6	Dividend
Inter Eqi Teva ETF GrandesGurusdoMercado	Brazil	GURU11	12/3/2021	7.2	Other
NewFunds S&P GIVI SA Top 50 ETF	South Africa	GIVISA	6/23/2008	5.4	Multifactor
iShares MSCI Mexico Risk TRAC	Mexico	MEXRISK	9/24/2014	5.1	Risk-Oriented
NewFunds Volatility Mgd Hi Growth Eq ETF	South Africa	NFEHGE	2/25/2019	4.9	Risk-Oriented
Satrix Quality South Africa ETF	South Africa	STXQUA	9/26/2017	4.2	Quality
NewFunds Volatility Mgd Moderate Eq ETF	South Africa	NFEMOD	2/25/2019	3.6	Risk-Oriented
NewFunds Volatility Mgd Defensive Eq ETF	South Africa	NFEDEF	2/25/2019	3.5	Risk-Oriented
Indice de Acoes Brasil ETF Fundo Indice	Brazil	TECB11	10/4/2021	3.1	Other
BB ETF S&P Dividendos Brasil	Brazil	BBSD11	12/8/2014	3.0	Dividend
Satrix Momentum ETF	South Africa	STXMMT	11/16/2018	2.2	Momentum
iShares MSCI Mexico Momentum TRAC	Mexico	MEXMTUM	9/24/2014	2.1	Momentum
BTG Pactual Teva Acoes Commod Bra Indice	Brazil	CMDB11	11/29/2021	2.0	Commodity
Smartshares SMARTRC 14 ETF	Mexico	SMARTRC	4/1/2014		Fundamentals
Courses Marsingstor Direct Marsingstor Deceased Date	as of Das 21 2021				-

Sources: Morningstar Direct, Morningstar Research. Data as of Dec. 31, 2021.

# Appendix — The Morningstar Analyst Rating

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 133 strategic-beta ETPs worldwide. Exhibit 47 contains our ratings for those currently covered by our global manager research team. They collectively held \$1.17 trillion in investors' money as of Dec. 31, 2021, representing 71% of the total amount invested in global strategic-beta ETPs.

Exhibit 47 Strategic-Beta ETPs With Morningstar Analyst Ratings

				Assets	Morningstar
Name	Domicile	Ticker	Strategic-Beta Group	(USD Mil)	Analyst Rating
Amundi IS JPX-Nikkei 400 ETF-C JPY	Luxembourg	JPNY	Quality	323.9	<b>℧</b> Silver
BetaShares FTSE RAFI Australia 200 ETF	Australia	QOZ	Fundamentals	293.1	₩ Bronze
BetaShares S&P 500 Equal Weight ETF	Australia	QUS	Other	154.7	Neutral
Fidelity® High Dividend ETF	United States	FDVV	Dividend	1,049.4	🐯 Silver
First Trust Value Line® Dividend ETF	United States	FVD	Dividend	12,953.8	<b>℧</b> Bronze
FlexShares iBoxx 3Yr Target Dur TIPS ETF	United States	TDTT	Fixed Income	1,499.8	Neutral
FlexShares Quality Dividend ETF	United States	QDF	Dividend	1,720.6	🐯 Silver
Goldman Sachs Acss Invmt Grd Corp Bd ETF	United States	GIGB	Fixed Income	790.3	Neutral
Goldman Sachs ActiveBeta® EMkts Eq ETF	United States	GEM	Multifactor	1,333.6	Neutral
Goldman Sachs ActiveBeta® Intl Eq ETF	United States	GSIE	Multifactor	3,274.9	🐯 Silver
Goldman Sachs ActiveBeta® US LgCp Eq ETF	United States	GSLC	Multifactor	14,879.7	<b>℧</b> Silver
Hartford Multifactor Dev Mkts (exUS) ETF	United States	RODM	Multifactor	1,888.1	🐯 Silver
Hartford Multifactor US Equity ETF	United States	ROUS	Multifactor	406.5	🐯 Silver
Invesco BuyBack Achievers ETF	United States	PKW	Other	1,540.2	Neutral
Invesco Dynamic Large Cap Value ETF	United States	PWV	Value	814.8	Neutral
Invesco Emerging Markets Sov Debt ETF	United States	PCY	Fixed Income	2,614.6	Negative
Invesco FTSE RAFI Canadian ETF	Canada	PXC	Fundamentals	205.6	Neutral
Invesco FTSE RAFI Dev Mkts ex-US ETF	United States	PXF	Fundamentals	1,142.1	🐯 Silver
Invesco FTSE RAFI US 1000 ETF	Ireland	PRUS	Fundamentals	311.2	🐯 Silver
Invesco FTSE RAFI US 1000 ETF	United States	PRF	Fundamentals	5,786.9	🐯 Silver
Invesco FTSE RAFI US 1500 Small-Mid ETF	United States	PRFZ	Fundamentals	1,914.3	<b>℧</b> Silver
Invesco FTSE RAFI US ETF	Canada	PXU.F	Fundamentals	100.9	🐯 Silver
Invesco Fundamental Hi Yld® Corp Bd ETF	United States	PHB	Fixed Income	990.0	Negative
Invesco S&P 500 High Div LowVol ETF	Ireland	HDLV	Dividend	104.5	Neutral
Invesco S&P 500® Equal Weight ETF	United States	RSP	Other	32,038.8	Neutral
Invesco S&P 500® High Div Low Vol ETF	United States	SPHD	Dividend	3,099.5	Neutral
Invesco S&P 500® Low Volatility ETF	United States	SPLV	Risk-Oriented	9,062.0	Neutral
Invesco S&P 500® Pure Growth ETF	United States	RPG	Growth	3,614.0	Neutral
Invesco S&P 500® Quality ETF	United States	SPHQ	Quality	3,594.8	<b>℧</b> Silver
Invesco S&P Intl Dev Low Vol ETF	United States	IDLV	Risk-Oriented	702.6	Neutral

**Exhibit 47** Strategic-Beta ETPs with Morningstar Analyst Ratings (continued)

Name	Domicile	Ticker	Strategic-Beta Group	Assets (USD Mil)	Morningstar Analyst Rating
				,	
Invesco S&P MidCap Low Volatility ETF	United States	XMLV	Risk-Oriented	1,371.5	Neutral
Invesco S&P SmallCap Low Volatility ETF	United States	XSLV	Risk-Oriented	1,229.9	Nevtral
iShares Canadian Fundamental ETF Comm	Canada	CRQ	Fundamentals	78.1	Nevtral
iShares Canadian Select Dividend ETF	Canada	XDV	Dividend	1,456.6	Nevtral
iShares Core S&P US Growth ETF	United States	IUSG	Growth	14,103.0	<b>℧</b> Silver
iShares Core S&P US Value ETF	United States	IUSV	Value	12,022.0	<b>℧</b> Silver
iShares Dev Mkts Prpty Yld ETF USD Dist	Ireland	IWDP	Dividend	2,513.1	₿ Bronze
iShares Edge MSCI EM Mini Vol ETF \$ Acc	Ireland	EMMV	Risk-Oriented	472.7	🐯 Silver
iShares Edge MSCI Eurp Mini Vol ETF €Acc	Ireland	MVEU	Risk-Oriented	1,061.3	🐯 Silver
iShares Edge MSCI Multifactor Intl ETF	United States	INTF	Multifactor	910.3	₩ Bronze
iShares Edge MSCI USA Val Fac ETF \$ Acc	Ireland	IUVL	Value	3,170.4	🐯 Silver
iShares Edge MSCI Wld Min Vol ETF \$ Acc	Ireland	MVOL	Risk-Oriented	4,526.2	<b>℧</b> Silver
iShares Edge MSCI World Multifactor ETF	Australia	WDMF	Multifactor	136.6	<b>℧</b> Silver
iShares Edge S&P 500 Min Vol ETF USD Acc	Ireland	SPMV	Risk-Oriented	1,579.4	<b>℧</b> Silver
iShares European Prpty Yld ETF EUR Dist	Ireland	IPRP	Dividend	2,246.2	Neutral
iShares MSCI EAFE Growth ETF	United States	EFG	Growth	13,598.3	<b>℧</b> Bronze
iShares MSCI EAFE Min Vol Factor ETF	United States	EFAV	Risk-Oriented	8,159.5	🐯 Silver
iShares MSCI EAFE Value ETF	United States	EFV	Value	15,353.2	℧ Bronze
iShares MSCI Emerg Mkts Min Vol Fctr ETF	United States	EEMV	Risk-Oriented	3,778.3	🐯 Silver
iShares MSCI Emerging Mkts Mltfctr ETF	United States	EMGF	Multifactor	876.8	Neutral
iShares MSCI Global Min Vol Factor ETF	United States	ACWV	Risk-Oriented	5,588.2	<b>℧</b> Silver
iShares MSCI Intl Momentum Factor ETF	United States	IMTM	Momentum	908.8	<b>℧</b> Silver
iShares MSCI Intl Quality Factor ETF	United States	IQLT	Quality	4,221.6	<b>℧</b> Silver
iShares MSCI Min Vol Canada ETF	Canada	XMV	Risk-Oriented	112.1	<b>℧</b> Silver
iShares MSCI Min Vol EAFE ETF	Canada	XMI	Risk-Oriented	149.5	<b>℧</b> Silver
iShares MSCI Min Vol Emerg Mkts ETF	Canada	XMM	Risk-Oriented	58.7	<b>℧</b> Silver
iShares MSCI Min Vol Global ETF	Canada	XMW	Risk-Oriented	145.7	<b>℧</b> Silver
iShares MSCI USA Min Vol Factor ETF	United States	USMV	Risk-Oriented	30,491.5	<b>℧</b> Silver
iShares MSCI USA Momentum Factor ETF	United States	MTUM	Momentum	14,805.2	℧ Bronze
iShares MSCI USA Multifactor ETF	United States	LRGF	Multifactor	1,280.1	<b>℧</b> Bronze
iShares MSCI USA Quality Factor ETF	United States	QUAL	Quality	25,418.4	<b>℧</b> Silver
iShares MSCI USA Value Factor ETF	United States	VLUE	Value	16,109.9	<b>℧</b> Silver
iShares National Muni Bond ETF	United States	MUB	Fixed Income	25,159.3	<b>℧</b> Silver
iShares Russell 1000 Growth ETF	United States	IWF	Growth	79,116.7	<b>℧</b> Silver
iShares Russell 1000 Value ETF	United States	IWD	Value	59,972.3	<b>℧</b> Silver
iShares Russell 2000 Growth ETF	United States	IW0	Growth	12,349.9	Neutral
iShares Russell 2000 Value ETF	United States	IWN	Value	15,989.2	Neutral
iShares Russell Mid-Cap Growth ETF	United States	IWP	Growth	16,244.4	<b>℧</b> Silver
iShares Russell Mid-Cap Value ETF	United States	IWS	Value	15,428.4	<b>℧</b> Bronze
iShares S&P 500 Growth ETF	United States	IVW	Growth	40,615.6	<b>℧</b> Silver
iShares S&P Mid-Cap 400 Growth ETF	United States	IJK	Growth	8,632.9	<b>℧</b> Silver
iShares S&P Mid-Cap 400 Value ETF	United States	IJJ	Value	8,968.7	Bronze
iShares S&P Small-Cap 600 Growth ETF	United States	IJT	Growth	6,335.4	₩ Bronze
iShares S&P Small-Cap 600 Value ETF	United States	IJS	Value	8,775.4	Bronze
iShares S&P/ASX Dividend Opps ETF	Australia	IHD	Dividend	215.0	Neutral
	<u> </u>				

**Exhibit 47** Strategic-Beta ETPs with Morningstar Analyst Ratings (continued)

				Assets	Morningstar
Name	Domicile	Ticker	Strategic-Beta Group	(USD Mil)	Analyst Rating
iShares U.S. Fixed Inc Bal Rsk Fac ETF	United States	FIBR	Fixed Income	114.5	Neutral
iShares US Property Yield ETF USD Dist	Ireland	IDUP	Dividend	857.8	🐯 Gold
JHancock Multifactor Mid Cap ETF	United States	JHMM	Multifactor	2,634.4	🐯 Silver
JPMorgan Diversified Return Intl Eq ETF	United States	JPIN	Multifactor	841.2	Neutral
Legg Mason Low Volatility High Div ETF	United States	LVHD	Dividend	780.2	<b>℧</b> Silver
PIMCO RAFI Dyn Multi-Factor US Eq ETF	United States	MFUS	Multifactor	87.5	Neutral
Russell Inv High Dividend Aus Shrs ETF	Australia	RDV	Dividend	190.5	Neutral
Schwab Fundamental Emerg Mkts Lg Co ETF	United States	FNDE	Fundamentals	4,911.8	Neutral
Schwab Fundamental Intl Lg Co ETF	United States	FNDF	Fundamentals	7,135.5	Silver
Schwab Fundamental US Large Company ETF	United States	FNDX	Fundamentals	8,869.2	Silver
Schwab Fundamental US Small Company ETF	United States	FNDA	Fundamentals	5,023.2	Silver
Schwab US Dividend Equity ETF™	United States	SCHD	Dividend	31,278.3	Silver
Schwab US Large-Cap Growth ETF™	United States	SCHG	Growth	17,814.7	Silver
Schwab US Large-Cap Value ETF™	United States	SCHV	Value	10,471.2	Silver
SPDR® MSCI Australia Sel Hi Div Yld ETF	Australia	SYI	Dividend	202.8	Neutral
SPDR® MSCI EAFE StrategicFactors ETF	United States	QEFA	Multifactor	910.8	Silver
SPDR® MSCI USA StrategicFactors ETF	United States	QUS	Multifactor	1,069.2	♥ Silver
SPDR® MSCI World Quality Mix ETF	Australia	QMIX	Multifactor	22.5	♥ Silver
SPDR® Portfolio S&P 500 Growth ETF	United States	SPYG	Growth	16,324.2	Silver
SPDR® Portfolio S&P 500 Value ETF	United States	SPYV	Value	12,973.8	Silver
SPDR® Russell 1000® Yield Focus ETF	United States	ONEY	Dividend	739.1	Silver
SPDR® S&P Dividend ETF	United States	SDY	Dividend	20,899.8	Silver Neutral
SPDR® S&P Global Dividend ETF  UBS ETF Fact MSCI USA Qual USD A dis	Australia Ireland	WDIV UQLTD	Dividend	254.7 696.4	Neutral Silver
UBS ETF MSCI USA Sel Fac Mix USD A dis	Ireland	USFMD	Quality Multifactor	233.7	Silver
UBS(Lux)FS MSCI EM SRI USD Adis	Luxembourg	MSRUSA		1,571.4	₩ Bronze
VanEck Australian Equal Wt ETF	Australia	MVW	Other	1,287.8	Silver
VanEck MSCI Wild ex Aus Olty ETF	Australia	OUAL	Quality	2.045.3	Silver
VanEck MSCI Wid ex AUS Qui H ETF	Australia	QHAL	Quality	313.1	Silver
Vanguard Australian Shares High Yld ETF	Australia	VHY	Dividend	1,489.9	₩ Bronze
Vanguard Dividend Appreciation ETF	United States	VIG	Dividend	69,830.9	<b>₩</b> Gold
Vanguard FTSE Canadian High Div Yld ETF	Canada	VDY	Dividend	1,132.0	Neutral
Vanguard Growth ETF	United States	VUG	Growth	90,457.4	<b>₩</b> Gold
Vanguard High Dividend Yield ETF	United States	VYM	Dividend	42,650.4	<b>℧</b> Silver
Vanguard Intl Hi Div Yld Idx ETF	United States	VYMI	Dividend	3,190.9	<b>℧</b> Silver
Vanguard Mega Cap Growth ETF	United States	MGK	Growth	14,386.7	<b>℧</b> Silver
Vanguard Mega Cap Value ETF	United States	MGV	Value	4,992.6	<b>℧</b> Silver
Vanguard Mid-Cap Growth ETF	United States	VOT	Growth	12,765.9	<b>℧</b> Gold
Vanguard Mid-Cap Value ETF	United States	VOE	Value	16,048.0	<b>℧</b> Gold
Vanguard S&P 500 Growth ETF	United States	VOOG	Growth	7,957.9	<b>℧</b> Silver
Vanguard Small-Cap Growth ETF	United States	VBK	Growth	16,386.4	<b>℧</b> Gold
Vanguard Small-Cap Value ETF	United States	VBR	Value	26,845.0	<b>℧</b> Gold
Vanguard US Dividend Appreciation ETF	Canada	VGG	Dividend	806.9	<b>℧</b> Silver
Vanguard Value ETF	United States	VTV	Value	92,697.4	<b>℧</b> Gold
VictoryShares USAA MSCI EM VI Mntm ETF	United States	UEVM	Multifactor	239.3	Neutral

Exhibit 47 Strategic-Beta ETPs with Morningstar Analyst Ratings (continued)

				Assets	Morningstar
Name	Domicile	Ticker	Strategic-Beta Group	(USD Mil)	Analyst Rating
VictoryShares USAA MSCI Intl VI Mntm ETF	United States	UIVM	Multifactor	355.0	Neutral
VictoryShares USAA MSCI USA Sm Cp VM ETF	United States	USVM	Multifactor	294.7	🐺 Silver
VictoryShares USAA MSCI USA VI Mntm ETF	United States	ULVM	Multifactor	375.4	🐯 Silver
WisdomTree Emerging Markets High Div ETF	United States	DEM	Dividend	1,870.7	Neutral
WisdomTree Europe Hedged Equity ETF	United States	HEDJ	Dividend	2,144.9	Neutral
WisdomTree US High Dividend ETF	United States	DHS	Dividend	866.8	₩ Bronze
WisdomTree US LargeCap Dividend ETF	United States	DLN	Dividend	3,362.2	🐯 Silver
WisdomTree US MidCap Dividend ETF	United States	DON	Dividend	3,166.0	🐯 Silver
WisdomTree US Quality Dividend Gr ETF	United States	DGRW	Dividend	7,100.8	Neutral
WisdomTree US SmallCap Dividend ETF	United States	DES	Dividend	1,915.2	<b>℧</b> Silver
WisdomTree Yield Enhanced US Aggt Bd ETF	United States	AGGY	Fixed Income	1,106.7	Neutral
Xtrackers Russell US Multifactor ETF	United States	DEUS	Multifactor	188.2	<b>℧</b> Silver
Xtrackers S&P 500 Equal Weight ETF 1C	Ireland	XDEW	Other	4,639.5	Neutral

Sources: Morningstar Direct, Morningstar Research. Assets as of Dec. 31, 2021. Morningstar Analyst Ratings as of May 31, 2022.

## Appendix — Definitions and Morningstar Strategic-Beta and Index Attributes

Strategic beta—widely referred to as "smart beta"—refers broadly to a group of indexes and the ETPs and other investment products that track them. Most seek to enhance returns or minimize risk relative to more-traditional benchmarks. 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-value-weighted fixed-income benchmarks. These indexes may also aim to capture a specific factor or set of factors such as value, momentum, small size, low volatility, or quality.

Index selection and weighting methodologies can vary for different strategic-beta indexes that otherwise appear similar. These indexes can also employ some of the same selection or weighting methodologies as more-traditional benchmarks. Therefore, it is valuable to both recognize and distinguish strategic-beta indexes versus traditional benchmarks but also to understand the underlying index selection and weighting methodologies for both.

The goal of Morningstar's strategic-beta and index-attribute data is to provide a more-granular view of how indexes are constructed. Morningstar first introduced its strategic-beta taxonomy in 2014; it aimed to provide additional detail on strategic-beta products through assignment of one or more strategic-beta attributes as well as a strategic-beta group. Our updated methodology, which took effect in 2018, replaced strategic-beta attributes with index selection and index-weighting attributes for all eligible index-tracking products and uses a more descriptive list of strategic-beta groups for strategic-beta index-tracking products.

In addition to collecting Index Selection, Index Weighting, and the Strategic-Beta Group data, Morningstar also has a strategic-beta tag in some products. We define this as an indication that the index, or the investable product that tracks the index, follows a strategic-beta investment mandate. Strategic-beta products employ rules to exploit a specific list of factors in order to improve their return profile or alter their risk profile.

Below are general parameters and characteristics we use to recognize strategic-beta products:

- ► These benchmarks and the investable products that track them exploit many of the same "factors" (size, value, quality, momentum, and so on) or mitigate risk in a manner similar to active managers.
- ► This group represents a middle ground on the active-to-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 the space in the negative, including products tracking any benchmark that does not weight its constituents on the basis of their market capitalization.
- ► Per our definition, while most of the indexes' underlying investment products in this class are not market-cap-weighted, some are (for example, those that have style "tilts" that 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, 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 or protective puts).
- We exclude quantitative tactical strategies.
- ▶ We exclude products offering some form of exposure to volatility (for example, VIX or VSTOXX).
- ► We also 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:

- ► They are index-tracking investment products.
- ► They track nontraditional benchmarks that have an "active" element contained within their methodology that typically aims to improve returns and/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 broad marketcapitalization-weighted benchmarks, like the S&P 500.

# **Eligible for Collection**

The strategic-beta and index strategy data points reflect the methodology of an index, so that any two eligible investment products tracking the same index will also display the same data. Eligibility for collection is based off the investment product, though, so not all the indexes that Morningstar covers will have the strategic-beta and index strategy data points populated.

Index Selection, Index Weighting, and Strategic-Beta Group are not assigned to all indexes, exchange-traded products, and open-end funds. Index Selection and Index Weighting are collected for all eligible index-tracking products and the indexes they track. Strategic-Beta Group will apply to eligible strategic-beta products and is assigned as "Not Applicable" for standard indexes and the investment products that track them. Index Selection, Index Weighting, and Strategic-Beta Group will not be populated for excluded products.

#### Eligible

- ► We include global index-tracking ETPs and open-end funds that do not track a blended benchmark and are not included in our "trading" categories, such as leveraged and inverse funds.
- ► An index will be assigned only when an eligible investment product is tracking it.
- If the investment product and its index are strategic beta, a Strategic-Beta Group is assigned.
- ► Standard benchmarks are assigned as "not applicable" for Strategic-Beta Group.

Strategic-Beta	Strategic-Beta Group	Index Selection	Index Weighting
Yes	Commodity	Beta	Beta
No	Dividend	Buyback/Shareholder Yield	Buyback/Shareholder Yield
	Fixed Income	Committee	Dividend
	Fundamentals	Credit	Duration
	Growth	Dividend	Earnings
	Momentum	Duration	Equal
	Multifactor	Earnings	Fixed
	Other	Fixed	Fundamentals
	Quality	Fundamentals	Growth
	Risk-Oriented	Growth	Liquidity
	Value	Liquidity	Market Capitalization
	Not Applicable	Market Capitalization	Maturity
		Maturity	Modified Market Capitalization
		Momentum	Momentum
		Optimization	Optimization
		Other	Other
		Proprietary	Production
		Quality	Proprietary
		Sector	Quality
		Single Commodity	Revenue
		Small Size	Single Commodity
		Target Maturity	Size
		Value	Tiered
		Volatility	Value
		Yield	Volatility
			Yield

Source: Morningstar Research.

# Strategic-Beta Group

A group used to classify strategic-beta products with similar objectives. Eligible strategic-beta investment products and the indexes they track will be assigned to one group from the choices below.

# Commodity

A group for strategic-beta products that aim to improve upon the performance of standard commodity indexes (such as the Bloomberg Commodity Index or S&P GSCI). They may do so by attempting to avoid the chief drawbacks of standard commodity indexes, such as roll losses resulting from contango. These indexes may also seek to harness other fundamental factors, such as momentum.

#### Dividend

A group for strategic-beta products that seek to deliver equity income by employing a number of dividend-related screening and/or weighting criteria. Dividend-oriented strategies include screening a universe of stocks for dividend-paying firms, weighting stocks on the basis of dividend payments,

screening on dividend growth or yield, isolating firms based on metrics that would indicate dividend stability, and other dividend-related criteria.

#### **Fixed Income**

A group for strategic-beta products that aim to enhance returns and/or reduce risk relative to traditional fixed-income benchmarks. They may do so by selecting and weighting constituents based on measures of credit quality, momentum, yield, or other gauges of issuers' fundamentals. Other strategies in this category may have specific risk, yield, or duration targets.

#### **Fundamentals**

A group for strategic-beta products that select and weight constituents on a variety of fundamental measures of their value. These inputs may include sales, adjusted sales, cash flow, dividends, share buybacks, book value, and others.

#### Growth

A group for strategic-beta products that primarily aim to capture growth characteristics through their screening and/or weighting methodology. Strategic-beta products belonging to the growth strategic-beta group will screen a segment of the stock market looking to identify those stocks that display growth characteristics and/or may also more heavily weight constituents based on 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, book value growth, momentum, and others.

#### Momentum

A group for strategic-beta products that primarily aim to capture momentum characteristics through their screening and/or weighting methodology. Strategic-beta products belonging to the momentum strategic-beta group will select and/or weight their constituent securities on a number of momentum factors, which might include price momentum, adjustments to earnings estimates, and earnings surprises.

#### Multifactor

A group for strategic-beta products that set out to combine a variety of factors (such as value, growth, size, momentum, quality, and low volatility) to improve risk-adjusted performance relative to a standard benchmark.

#### Other

The Other group is for strategic-beta products that do not fit neatly into any of the remaining strategic-beta groups. They will tend to be highly specialized strategies and may be few in number—thus, not warranting a dedicated group of their own. As such, this group will represent different types of strategies. Morningstar routinely reviews industry trends and what products are being assigned to the Other group to determine whether a new stand-alone group is warranted.

#### Quality

A group for strategic-beta products that primarily aim to capture quality characteristics through their screening and/or weighting methodology. Strategic-beta products belonging to the Quality strategic-beta group will screen a segment of the stock market looking to identify those stocks that display quality characteristics and may also more heavily weight constituents based on quality characteristics. These characteristics will differ across index providers. Common quality characteristics include high and stable levels of profitability, clean balance sheets, capital efficiency, return on assets, economic moats, and others.

#### **Risk-Oriented**

A group for strategic-beta products that attempt to either reduce or increase the level of risk relative to a standard benchmark. Low-volatility and high-beta strategies are the most common examples of risk-oriented strategies.

#### Value

A group for strategic-beta products that primarily aim to capture value characteristics through their screening and/or weighting methodology. Strategic-beta products in the value strategic-beta group will screen a segment of the stock market looking to identify those stocks that display value characteristics and may also more heavily weight constituents based on 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.

#### **Index Selection**

Index selection attributes describe how indexes select their constituents. Eligible index-tracking investment products and the indexes they track will be assigned one or more index-selection criteria from the choices below.

# Beta

An indication the index selects constituents based on their market beta.

## **Buyback/Shareholder Yield**

An indication the index selects constituents based on one or more measures of share buybacks or shareholder yield.

# Committee

An indication there is a committee that selects constituents based on various criteria.

#### Credit

An indication the index selects constituents based on one or more credit measures such as issuer credit ratings.

## Dividend

An indication the index selects constituents based on one or more dividend-related measures such as dividend yield or dividend growth.

#### **Duration**

An indication the index selects bonds based on one or more duration measures such as targeted duration.

## **Earnings**

An indication the index selects constituents based on one or more earnings measures such as the amount of earnings or earnings growth.

#### **Fixed**

An indication the index has a fixed universe of constituents.

# **Fundamentals**

An indication the index selects constituents based on one or more measures of their fundamentals such as sales, adjusted sales, cash flow, dividends, share buybacks, book value, and others.

## Growth

An indication the index selects constituents based on one or more growth measures such as long-term projected earnings growth, historical earnings growth, sales growth, cash flow growth, book value growth, momentum, and others.

## Liquidity

An indication the index selects constituents based on one or more measures of their liquidity such as trading volume.

# **Market Capitalization**

An indication the index selects constituents based on their market capitalization or market value.

## Maturity

An indication the index selects bonds based on their maturity.

# Momentum

An indication the index selects constituents based on one or more measures of their momentum such as price momentum, adjustments to earnings estimates, and earnings surprises.

# Optimization

An indication the index uses an optimizer to select constituents.

## **Other**

An indication the index selects constituents based on other measures that do not fit neatly within any of the remaining index-selection attributes. These factors will tend to be highly specialized. As such, they may be few in number and do not warrant a dedicated attribute of their own. Consequently, this attribute is applied to a variety of different selection strategies. Morningstar routinely reviews industry trends to determine whether a new stand-alone selection attribute may be warranted.

# **Proprietary**

An indication the index selects constituents based on one or more proprietary measures.

# Quality

An indication the index selects constituents based on one or more measures of quality such as profitability and financial leverage.

## Sector

An indication the index selects constituents based on one or more specific sectors such as industrials or financial.

## **Single Commodity**

An indication the index is composed of futures contracts for a single commodity.

## **Small Size**

An indication the index tilts toward smaller stocks within its selection universe.

## **Target Maturity**

An indication the index selects fixed-income constituents based on a targeted maturity date.

# Value

An indication the index selects constituents based on one or more value measures such as low price/prospective earnings, price/book, price/sales, and price/cash flow ratios, above-average dividend yields, and others.

## **Volatility**

An indication the index selects constituents based on one or more measures of volatility.

#### **Yield**

An indication the index selects constituents based on one or more yield measures.

## **Index Weighting**

Index-weighting attributes describe how indexes weight their constituents. Eligible index-tracking investment products and the indexes they track will be assigned one or more index-weighting criteria from the choices below.

#### Beta

An indication the index weights constituents based on their market beta.

## **Buyback/Shareholder Yield**

An indication the index weights constituents based on one or more measures of share buybacks or shareholder yield.

## Dividend

An indication the index weights constituents based on one or more dividend-related measures such as dividend yield or total dividend payments.

#### **Duration**

An indication the index weights bonds based on one or more duration measures such as targeted duration.

# **Earnings**

An indication the index weights constituents based on one or more earnings measures such as the amount of earnings or earnings growth.

#### Equal

An indication the index weights constituents equally.

# Fixed

An indication the index applies fixed weights to constituents.

#### **Fundamentals**

An indication the index weights constituents based on multiple fundamental measures such as sales, adjusted sales, cash flow, dividends, share buybacks, book value, and others.

# Growth

An indication the index weights constituents based on their growth characteristics such as long-term projected earnings growth, historical earnings growth, sales growth, cash flow growth, book value growth, momentum, and others.

#### Liquidity

An indication the index weights constituents based on one or more measures of their liquidity such as trading volume.

## **Market Capitalization**

An indication the index weights constituents by market capitalization or market value.

#### Maturity

An indication the index weights bonds based on their maturity.

# **Modified Market Capitalization**

An indication the index weights constituents based on their modified market capitalization. Examples include benchmarks that apply weighting caps or other adjustments to conform with diversification-related regulatory requirements.

#### Momentum

An indication the index weights constituents based on one or more measures of their momentum such as price momentum, adjustments to earnings estimates, and earnings surprises.

## Optimization

An indication the index uses an optimizer to weight constituents.

## **Other**

An indication the index weights constituents based on other measures that do not fit neatly within any of the remaining index-weighting attributes. These factors will tend to be highly specialized. As such, they may be few in number and do not warrant a dedicated attribute of their own. Consequently, this attribute is applied to a variety of different weighting strategies. Morningstar routinely reviews industry trends to determine whether a new stand-alone weighting attribute may be warranted.

#### **Production**

An indication the index weights commodities based on the quantity of each commodity in the index that is produced.

# **Proprietary**

An indication the index weights constituents based on proprietary metrics.

## Quality

An indication the index weights constituents on the basis of their quality characteristics such as profitability and financial leverage.

#### Revenue

An indication the index weights constituents based on their revenue.

#### Single Commodity

An indication the index is composed of futures contracts for a single commodity.

## Size

An indication the index weights constituents on the basis of their size to tilt toward smaller companies within the selection universe.

## **Tiered**

An indication the index assigns constituents to multiple tiers. Each tier will likely have a target weight. Within each tier, constituents may be weighted in a variety of ways (equally, based on market cap, and so on).

## Value

An indication the index weights constituents based on their value characteristics such as low price/prospective earnings, price/book, price/sales, and price/cash flow ratios, above-average dividend yields, and others.

## Volatility

An indication the index weights constituents based on one or more measures of their volatility.

#### Yield

An indication the index weights constituents based on one or more measures of their yield.

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## ₩ 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 pillars that are the basis for our analysis.

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Represents funds our analyst has high conviction in, but not in all of the 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).

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