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Smart beta ETFs – Euphemism par excellence

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- The aim of smart beta ETFs is to outperform the broad market. In doing so, they follow the investment strategy of the underlying tracking index, whereby the performance difference between the ETF and the index (tracking error) should be negligible.
- Both aims have been missed for the US market. The yearly return for an average smart beta ETF in our sample was 0.5 percent and 0.4 percent lower than the return of the broad benchmark and of the tracking index, respectively.

Few trends on capital markets have received so much attention as the strong growth of exchange traded funds (ETFs). Within this asset class, the so called smart beta (SB) products enjoy ever growing popularity. Contrary to a classic ETF, which is supposed to faithfully replicate the performance of a market index, the label “smart” suggests that these smart ETFs are able to beat the broad market. This should be achieved through a modified weighting strategy of single portfolio members from the broad index. Whereas the portfolio weighting for a classic ETF corresponds with the market-cap-weighting in the index (so that, for instance, the weighting in the world’s biggest ETF, SPDR S&P 500, is the same as in the underlying S&P 500 index), SB ETFs imitate the performance of alternatively defined (although still based on the original broad index) tracking index. These alternative definitions are related to different

factors, which eventually determine the weighting strategy of the tracking index. To give an example, the S&P 500 growth index classifies constituent companies from the S&P 500 according to their descending growth scores.¹ Other strategies weight companies according to their dividend yield or low volatility.

Given that individual companies will be deliberately under- or over-weighted, this investment style is sometimes called semi-active or semi-passive. Unlike a typical passive strategy, SB protagonists actively search for factors, which positively correlate with company’s performance, but, at the same time, should allow an

¹ Growth scores are computed for each company as the average of the standardized values of the three growth factors, namely, three-year change in earnings per share over price per share, three-year sales per share growth rate, and momentum in terms of 12-month percentage price change.



over-performance with respect to the benchmark. Contrary to active investment styles, SB strategies are strongly rule-based and rigid, with no role left for subjective assessments of the portfolio manager. Moreover, the investment universe is clearly defined, given that companies in the ETF portfolio, although alternatively weighted, are those of the underlying index.

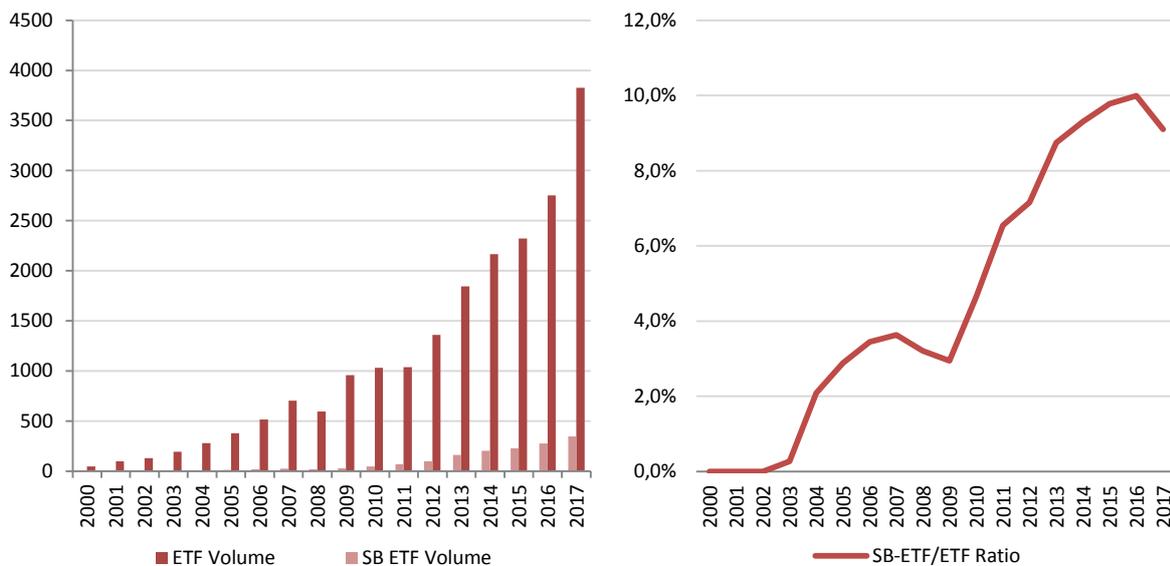
Even before looking at data it is questionable to which extent the “smart”-label is justified. The bare definition of mechanical weighting strategies cannot lead to a sustainable outperformance in the context of more or less efficient markets. If there were a high-dividend-yield company able to outperform the broad market over a longer term, it would be logical to align to it a portfolio or an ETF. But if all in the market do the same, the valuation of the company would rise and the expected outperformance would disappear. Moreover, given such a broad

spectrum of smart beta strategies, it follows that on average these products mirror the performance of the broad market, at least before costs. At the same time, it is feasible to expect that the performance of some of these strategies will systematically differ from the broad market – in one or the other direction.

The market for smart beta ETFs

As much as 3.8 trillion US dollar were invested globally in equity ETFs (smart and non-smart) at the end of 2017. Last year has also been the industry’s most successful year in terms of flows so far. With 440 billion US dollar flowing in last year, ETF industry more than doubled its own result from the previous years (Figure 1). The share of smart beta ETFs of 10 percent is still low. However, their strong growth over the last decade impresses.

Figure 1: Volumes of ETFs and Smart Beta ETFs in billion of US dollar, as well as shares of smart beta ETFs volumes over total



Source: Bloomberg, own elaborations Flossbach von Storch Research Institute, as of February 2018.



Smart beta strategies

The spectrum of offered smart beta ETFs has been continuously growing of late. For the time being, one can roughly identify four main categories, which can be in turn distinguished in nine smart beta strategies (Figure 2).

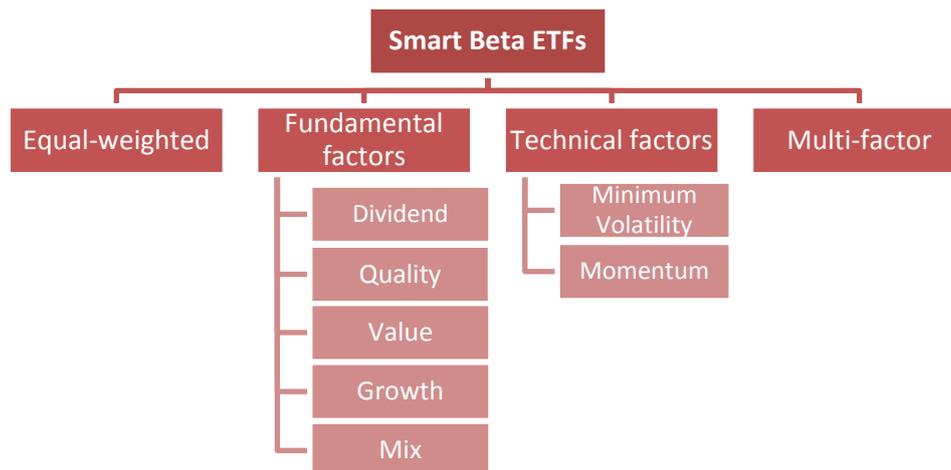
One of the simplest strategies consists in an **equal weighting** of the constituents of a broad-market index (benchmark) rather than according to their market capitalization. At the first sight this might seem of little importance, especially regarding very broad indices. But this is by no means the case. To give an example, the weight of the market-cap biggest company in the S&P 500 (Apple) amounted to 3.5 percent, whereas of the smallest (News Corp.) was 0.01 percent. If equally weighted, both companies would be assigned 0.2 percent respective weights based on the S&P 500. This can lead to non-negligible performance differences, given that small companies bear higher risks, which in turn may lead to higher return expectations.

This is neglected in the market-cap-weighted index, where large companies have relatively stronger influence on the index performance.

The other strategies leave behind a naïve weighting of single companies. The weighting strategies they apply are based on fundamental or technical factors, with the rebalancing (i.e. portfolio adjustment based on new weights) taking place periodically (eg. quarterly).

Among popular fundamental-based approaches is the so called **dividend** strategy. It segregates companies based either on their observed past dividend strength or on their dividend yield. Strategies focusing on **quality** assess the company's fundamentals not only based on dividend performance, but additionally consider quality indicators related to company's equity, financial and earnings position. The **value** strategy deepens this assessment procedure by looking at company's valuation, as measured, for instance, by price-to-earnings or price-to-book ratio. Consequently, companies with relatively lower val-

Figure 2: Schematic classification of smart beta ETFs



Source: Own elaborations Flossbach von Storch Research Institute.



Table 1: Assets under Management (AUM) in different smart beta strategies in billion US dollar

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Dividend	0,5	5,1	7,9	10,6	12,2	8,1	12,1	24,4	42,4	58,9	93,7	111,5	114,1	122,3	143,5
Value	0,0	0,5	0,8	2,2	3,5	3,6	5,3	7,4	8,1	11,2	20,0	28,0	31,6	49,7	66,4
Growth	0,0	0,2	0,6	2,0	4,6	4,1	6,2	8,6	9,8	13,2	21,1	27,3	32,7	37,4	52,3
Low/Min volatility	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,9	5,7	11,3	14,3	23,2	34,1	43,0
Multi-Factor	0,0	0,0	1,3	1,9	3,0	1,6	1,7	2,0	1,9	2,0	4,0	5,1	8,0	10,8	14,3
Fundamentals	0,0	0,0	0,0	0,3	1,3	0,9	2,1	4,0	3,4	4,5	6,8	10,2	9,3	10,6	13,3
Momentum	0,0	0,0	0,2	0,4	0,6	0,6	0,6	1,3	1,1	1,5	3,6	3,9	5,6	5,2	9,1
Quality	0,0	0,0	0,0	0,2	0,2	0,1	0,1	0,1	0,2	0,2	0,6	1,2	2,5	4,6	5,8
Equal-weighted	0,0	0,0	0,1	0,2	0,2	0,1	0,1	0,2	0,2	0,2	0,3	0,2	0,3	0,4	0,6
Total	0,5	5,8	10,9	17,7	25,6	19,1	28,3	48,0	68,0	97,4	161,4	201,7	227,2	275,0	348,2

Source: Bloomberg, own elaborations Flossbach von Storch Research Institute, as of February 2018.

uation receive higher weights in the portfolio. In the so called **growth** strategy, in turn, higher weights are assigned to companies with expected high growth and so higher valuation.

Contrary to the strategies described so far, the **low-volatility** approach builds its portfolio construction based exclusively on past equity prices. Companies with historically stable equity prices carry relatively higher weights. Typical for this strategy is its sectoral focus, given that one can distinguish between sectors with systematically lower volatility (consumer defensive and healthcare) and sectors with pronounced cyclicality (financial services and real estate). Also the **momentum** approach rests upon historical equity prices in its weighting strategy. It overweighs companies which show price outperformance with respect to their underlying index (so called relative strength). The idea behind here is that “the trend is your friend”, so that the probability that the trend will continue is assumed higher than the probability of its reversal.

Finally, the **multi-factor** strategy mimics active portfolio management, as it assesses several, often fundamental factors, together with other technical factors in its weighting process. For

that reason it is sometimes dubbed as pseudo-active. However, contrary to the truly active strategies the multi-factor approach is rule-based and leaves no space for human-based assessments.

Table 1 shows the development of assets under management (AUM) invested in the respective strategies.² The most popular among strategies is the dividend approach. With 144 billion US dollar of AUM, it holds 41 percent of the entire smart beta market. The second biggest is currently the value strategy with 19 percent market share (66 billion US dollar), closely followed by growth (15 percent or 52 billion US dollar). Among strategies based on technical factors, low-volatility approach, with its 43 billion US dollar, plays a much greater role than the momentum strategy, the latter with “only” 9 billion US dollar of assets under management. This is, however, still much more than 600 million US dollar collected so far by the equal-weighted approach.

² We consider here smart beta ETFs provided by the largest ETF sponsors, namely, Blackrock, PowerShares, SPDR State Street, Vanguard and Wisdom Tree.



All in all, the growth of smart beta market has been fast over the entire period 2003-2017, with the bulk of the raise concentrated in three strategies, dividend, value and growth.

How “smart” are smart ETFs really?

All the aforementioned strategies have in common that they follow strictly defined approaches. The weighting strategy of each smart beta

ETF is conveyed from the underlying tracking index. The smart beta can subsequently choose between full replication and the so called sampling, which implies investing not in all, but rather selected securities, supposed to be closely related to the performance of the index.

There are two basic questions which arise from the assessment of the very aim and of the oper-

Table 2: Breakdown of smart beta ETFs according to their performance* relative to the benchmark

	Outperformers		Underperformers	
	Number	Share	Number	Share
Dividend	19	35 %	36	65 %
Value	1	14 %	6	86 %
Growth	1	33 %	2	67 %
Low/Min Volatility	7	44 %	9	56 %
Multi-Factor	22	39 %	35	61 %
Fundamentals	8	62 %	5	38 %
Momentum	7	39 %	11	61 %
Quality	1	25 %	3	75 %
Equal-weighted	1	17 %	5	83 %
Total	67	37 %	112	63 %

* The starting point for the comparison is always the inception date of the respective smart beta ETF

Source: Own elaborations Flossbach von Storch Research Institute based on Bloomberg data, as of February 2018.

Table 3: Breakdown of smart beta ETFs according to their performance* relative to the tracking index

	Outperformers		Underperformers	
	Number	Share	Number	Share
Dividend	7	13 %	49	88 %
Value	5	71 %	2	29 %
Growth	0	0 %	3	100 %
Low/Min Volatility	4	25 %	12	75 %
Multi-Factor	13	23 %	44	77 %
Fundamentals	2	15 %	11	85 %
Momentum	10	56 %	8	44 %
Quality	0	0 %	4	100 %
Equal-weighted	1	17 %	5	83 %
Total	42	23 %	138	77 %

* The starting point for the comparison is always the inception date of the respective smart beta ETF

Source: Own elaborations Flossbach von Storch Research Institute based on Bloomberg data, as of February 2018.



ating of smart beta ETFs. First, to which extent are smart beta ETFs able to outperform their benchmark, i.e. their broader market index? Second, how close is their performance to their underlying tracking index? The answer to the first question should provide insights over the smart beta's declared aim. The second question might surprise at first, given that the difference in performance with respect to the tracking index should be limited to an allegedly negligible tracking error. The latter measures the amplitude of deviations of an ETF on the road towards its aim to replicate the performance of its tracking index. It cannot be, however, excluded a priori that, by applying sampling rather than full replication of the tracking index, significant differences in the performance might be observed.

To answer these questions, we have compared the returns of the smart beta ETFs since their inception with the return of the benchmark and of the tracking index.³

Our sample consists of 180 smart beta ETFs, provided by the four largest smart beta sponsors, namely, Blackrock, Powershares, SPDR State Street and WisdomTree.⁴ An average ETF in our sample is 7.7 years old and manages around 600 million US dollar of underlying assets. For each of the analyzed smart beta products, we have calculated both the average yearly return and the cumulative return since its

inception. Analogous calculations have been done for the benchmark and the tracking index.

If we split our smart beta sample between ETFs which performed better (outperformers) and worse (underperformers) than the benchmark, we obtain that the majority of them actually underperformed the benchmark. As shown in **Table 2**, only 67 (37 percent) out of 179 analyzed smart beta ETFs reached a higher return than the benchmark, whereas the remaining 112 performed worse. This underperformance is observed across the different strategies, with the only exception of the fundamental approach, where 8 out of 13 smart beta ETFs outperformed the benchmark.

The analogous comparison to the tracking index, as summarized in **Table 3**, leads to an even higher share (77 percent) of underperformers. Correspondingly, three out of four smart beta ETFs could not reach a better performance than the tracking index.

Tables 4 and **5** permit a more detailed analysis of absolute and relative – with respect to the benchmark and to the tracking index – performance of smart beta ETFs in our sample. To this end, we have calculated both the yearly (left part of the tables) and cumulative (right) returns of smart beta ETFs since their respective inception dates.

A first look at the results reveals a fair yearly absolute performance of 10.8 percent for an average smart beta ETF. Multi-factor and value strategies performed even better than that – 12.6 percent and 12.5 percent, respectively. However, the comparison with the benchmark and the tracking index displays a negative relative return almost across all strategies. An average smart beta ETF performed 0.5 percent and 0.4 percent worse year over year with respect to the benchmark and to the tracking index, respectively. Only fundamentally-oriented

³ In the case of smart beta ETFs, we consider total returns net of costs.

⁴ We focus exclusively on ETF sponsors who explicitly declare their smart beta ETFs as such. According to Morningstar, Vanguard would be considered as smart beta sponsor as well. However, given that Vanguard itself does not declare any of its ETFs as “smart beta”, we decided to exclude Vanguard from our analysis. Moreover, in our comparison with the benchmark, we had to exclude one smart beta ETF (Wisdom Tree Middle East Div ETF), given that we could not identify any fitting benchmark.



strategies could outperform their underlying benchmarks, whereas value and momentum strategies performed on average slightly better than their respective tracking indices.

If we again divide the sample into out- and underperformers and look at their respective relative returns, an almost symmetric picture emerges at the first sight. The outperformers were lying in the same distance above the return of the benchmark as the underperformer below it. However, this picture changes if the cumulative returns are accounted for. In this case, the average returns of underperformers were non-negligibly higher in absolute values than the average returns of outperformers. This suggests that, taking into account the average SB-ETF-age of over seven years in our sample, with an increasing lifetime, SB ETFs suffer from some performance weakness.

Conclusions

We show that the majority of the analyzed smart beta ETFs does not deserve the name. An average as “smart” dubbed ETF achieved a yearly return which is 0.5 percent lower than the

return of its underlying benchmark. Moreover, by investing in an average SB ETF from our sample, one would arrive at a cumulative return lying 10 percent under the benchmark.

In this way, we could confirm our initial conjecture that on average these smart strategies are not able to beat the market – just the opposite of their own investment goal. But what is truly surprising is the fact that just one among the nine strategies was able to outperform the benchmark. Moreover, not only with respect to the benchmark was the performance unconvincing. The aim to follow the performance of the tracking index was reached only by the few. The yearly underperformance of 0.4 percent (cumulative 6.5 percent) is quite striking here. The fact that the majority of products in our sample could not keep their promise to deliver a “smart” return demonstrates that in almost perfectly efficient markets it is unfeasible to generate a sustainable outperformance by applying simple weighting methods. Moreover, given that SB ETFs normally imply higher costs than their non-smart pendants, smart beta investors tend to pay a higher price for a worse service. May a mature investor be informed.



Table 4: Performance of smart beta ETFs since inception: Absolute and relative to the benchmark

	Yearly				Cumulative (since inception)			
	Absolute performance	Performance relative to the benchmark	Average return of the outperformers	Average return of the underperformers	Absolute performance	Performance relative to the benchmark	Average return of the outperformers	Average return of the underperformers
Dividend	10,2%	-0,7%	2,2%	-2,2%	83,5%	-11,0%	17,1%	-25,8%
Value	12,5%	-0,1%	6,0%	-1,1%	104,2%	-18,5%	16,4%	-24,4%
Growth	10,9%	-0,2%	1,7%	-1,1%	179,0%	-16,3%	24,0%	-36,4%
Low/Min Volatility	11,2%	-0,6%	0,8%	-1,8%	69,1%	-4,8%	4,4%	-11,9%
Multi-Factor	12,6%	-0,5%	2,8%	-2,5%	69,1%	-7,4%	23,2%	-26,7%
Fundamentals	8,0%	0,1%	1,2%	-1,5%	105,0%	2,6%	16,8%	-20,1%
Momentum	9,6%	-0,4%	2,0%	-1,9%	110,9%	-14,0%	24,4%	-38,5%
Quality	8,0%	-0,7%	0,5%	-1,2%	68,3%	-14,8%	3,6%	-21,0%
Equal-weighted	8,4%	-1,8%	0,2%	-2,2%	108,2%	-29,6%	6,2%	-36,7%
Total	10,8%	-0,5%	2,1%	-2,1%	84,4%	-9,7%	18,2%	-26,4%

Source: Own elaborations Flossbach von Storch Research Institute based on Bloomberg data, as of February 2018.

Table 5: Performance of smart beta ETFs since inception: Absolute and relative to the tracking index

	Yearly				Cumulative (since inception)			
	Absolute performance	Performance relative to the tracking index	Average return of the outperformers	Average return of the underperformers	Absolute performance	Performance relative to the tracking index	Average return of the outperformers	Average return of the underperformers
Dividend	10,0%	-0,5%	0,9%	-0,7%	82,0%	-5,7%	9,5%	-8,0%
Value	12,5%	0,6%	1,2%	-0,7%	104,2%	3,1%	11,2%	-17,2%
Growth	10,9%	-1,4%	--	-1,4%	179,0%	-42,9%	--	-42,9%
Low/Min Volatility	11,2%	-0,5%	0,2%	-0,7%	69,1%	-4,1%	1,3%	-5,9%
Multi-Factor	12,6%	-0,3%	0,6%	-0,6%	69,1%	-4,8%	2,7%	-7,0%
Fundamentals	8,0%	-0,4%	0,3%	-0,6%	105,0%	-9,1%	0,8%	-10,9%
Momentum	9,6%	0,1%	1,3%	-1,4%	110,9%	2,8%	23,8%	-23,5%
Quality	8,0%	-2,2%	--	-2,2%	68,3%	-45,8%	--	-45,8%
Equal-weighted	8,4%	-1,1%	0,3%	-1,4%	108,2%	-26,6%	6,5%	-33,2%
Total	10,8%	-0,4%	0,8%	-0,8%	84,4%	-6,5%	9,7%	-11,6%

Source: Own elaborations Flossbach von Storch Research Institute based on Bloomberg data, as of February 2018.



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