UNDER PRESSURE?

Smart beta under the microscope as underperformance continues

Tom Eckett
Why smart beta launches are slowing

Vitali Kalesnik
What the tech bubble means for value investors

Riccardo Rebonato
The post-pandemic bond world

60 Seconds
7IM’s senior investment manager
Peter Sleep
The Advances in Asset Allocation Online Course

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**About us**

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David trained as an economist before moving into financial journalism where he has written about investing and finance for many years. David is CEO and Editor in Chief of AltFiNews and is also a columnist for the Financial Times (the Adventurous Investor), Investment Week and Money Week. David is an experienced media entrepreneur (he’s set up a number of online media companies focused on online TV and viral videos) and investment expert of retail repute.

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Editorial

Hello and welcome to Beyond Beta – the one and only magazine dedicated to smart beta and quantitative investing. This issue focuses on the wider factor investing landscape as we build-up to Europe’s largest factor investing event this year, Beyond Beta Europe Digital 2020.

There is no doubt the concept of smart beta is under pressure. With ETF launches slowing to a snail’s pace in the last two years and recent academic research finding smart beta indices see a drop in performance when an ETF goes live, there are certainly question marks over the design of many smart beta ETFs that were brought to market between 2014 and 2017. Even within specific factors such as size there can be a big performance disparity. Highlighting this, the S&P EM Small Cap index, for example, outperformed the MSCI EM Small Cap index by 5.4% in 2019.

The smart beta ecosystem has also not been helped by value’s underperformance since the Global Financial Crisis however two pieces from David Stevenson and Research Affiliate’s Vitali Kalesnik show why calls that the factor has died are misled. Despite value underperforming wider markets once again during the coronavirus turmoil, Kalesnik, in particular, examines the unique market environment value investors find themselves in as the spread between value and growth companies reaches its widest levels on record.

Along with a deep dive into the value factor, the state of the market in a post-coronavirus world is another theme in this issue which begins with a market overview, looking at the best performing and newly listed smart beta ETFs from around the world. It then moves to a series of interviews and essays with top experts from across the quantitative investing landscape. Highlights include research from Riccardo Rebonato, Professor of Finance at EDHEC Risk-Institute, who examines where bond prices will go in a post-pandemic world while Parala Capital’s co-founder and co-CIO Steven Goldin analyses whether smart beta is a smart strategy.

As always, a quick note from us on definitions. We define smart beta as non-market-weighted rules-based ETFs. For us, smart beta ETFs do not have to be index-tracking. What matters is that they meaningfully deviate from the market weighted portfolio, while trading according to a set of rules. (Where those rules, preferably, have some basis in peer-reviewed literature).

This means, for example, that actively managed ETFs with portfolio managers making ad hoc trades are not smart beta for us. While index tracking ESG ETFs that make consistent far-reaching exclusions can qualify as smart beta. Quantitatively, we would expect smart beta ETFs to have a correlation coefficient less than 0.95 with their broad market benchmarks. Smart beta ETFs that demonstrate a correlation higher than this, for us, count as “closet trackers”.

Tom Eckett, deputy editor, ETF Stream
The best performing smart beta ETFs in Q2 2020

<table>
<thead>
<tr>
<th>Ticker</th>
<th>Fund Name – 3 Month Total Return</th>
<th>% change</th>
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<tbody>
<tr>
<td>INRG</td>
<td>iShares Global Clean Energy UCITS ETF</td>
<td>34.55%</td>
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<td>BCHS</td>
<td>Invesco Elwood Global Blockchain UCITS ETF A</td>
<td>31.43%</td>
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<td>EMQP</td>
<td>HANetf EMQQ Em Markets Internet &amp; Ecommerce UCITS ETF</td>
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<td>EQGB</td>
<td>Invesco Nasdaq-100 UCITS ETF GBP Hedged</td>
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<tr>
<td>ESGB</td>
<td>VanEck Vectors Video Gaming and eSports UCITS ETF</td>
<td>25.92%</td>
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<tr>
<td>KLWD</td>
<td>WisdomTree Cloud Computing UCITS ETF USD Acc</td>
<td>23.08%</td>
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<tr>
<td>BATG</td>
<td>L&amp;G Battery Value-Chain UCITS ETF</td>
<td>20.93%</td>
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<td>VanEck Vectors Junior Gold Miners UCITS</td>
<td>19.20%</td>
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<td>CHRG</td>
<td>WisdomTree Battery Solutions UCITS ETF USD Acc</td>
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<td>AIAG</td>
<td>L&amp;G Artificial Intelligence UCITS ETF</td>
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</tr>
<tr>
<td>EBUY</td>
<td>Lyxor MSCI Digital Economy ESG Filtered (DR) UCITS ETF - Acc</td>
<td>17.61%</td>
</tr>
</tbody>
</table>

The UK’s top performing ETFs in Q2 were an interesting mix of mostly thematic ETFs.

The best performer will give hope for those looking for an environmentally sustainable future: the iShares Global Clean Energy UCITS ETF (INRG). INRG buys companies that produce green energy as an alternative to fossil fuels. While green energy has been talked up for years, it has struggled against fossil fuels due to the tremendous government subsidies that oil, coal and gas industries receive. However, if share prices are any guide, investor sentiment is starting to turn even if government policies are not. Oil and coal companies – and energy sector ETFs that track them – have been utterly smashed in 2020. Alternative energy companies, such as those included in INRG, have done very well.

Another stellar performer has been the EMQQ Emerging Markets Internet & Ecommerce UCITS ETF (EMQQ). The ETF more or less perfectly picked the emerging markets internet stocks in what would win from the coronavirus. These include Alibaba and its top competitors Tencent, Meituan and JD.com. While EMQQ struggled to gather investor interest in London in 2018 and 2019, its first two years of listing, it has come to life in 2020. With a 0.86% fee and $112 million in assets, it will be happily profitable too. It is a well-deserved success story.

A third success story has been the WisdomTree Cloud Computing UCITS ETF. The fund invests in cloud computing companies in the US, based on revenue purity. The biggest names in the fund are Salesforce and Adobe, which have thrived under the coronavirus. The fund has also been a winner with investors, dragging in more than $240m despite being just 14 months old.

What they have in common

What all the strongest performing ETFs have in common though is a focus on companies that are thought to be coronavirus proof. That is, they will benefit from people working from home, benefit from people shopping online and benefit from people looking for alternative entertainment options – such as video games.
What on earth is dry bulk shipping?

The top performer in the US this quarter has been the Breakwave Dry Bulk Shipping ETF (BDRY). This is an extremely unusual ETF that tracks the costs of shipping dry commodities around the world. Dry commodities are things like iron ore and grain – as distinct from strawberries or pork, which are “wet” and need to be containerised. The way BDRY tracks the price of shipping commodities is by buying futures contracts. Unknown to most investors, there are three main kinds of futures for dry shipping: panamax, supramax and capesize. Panamax refers to the biggest kind of ships that can fit through the Panama Canal. Capesize refers to ships that are too big to fit through the Panama or Suez canals. Supramax are smallest and face no difficulties getting through. BDRY buys a blend of these futures once a year.

BDRY delivered a 90% return for the period which is pretty incredible. What made it do so well? From what we can tell: the awful weather and the oil price. When the price of oil goes up, the price of shipping goes up too. This is because ships run on oil but also, plain old supply and demand. When China, for example, buys a lot more iron ore, there is more demand for shipping, the price therefore goes up. This quarter the oil price went higher thanks to hurricanes in oil drilling regions. And economic activity started to pick up again. Which all boded well for BDRY.

Clean energy made up half the top performers

Another standout feature this quarter was – as with the UK – the prevalence of clean energy ETFs in top performers. Part of this surely owes to the Tesla effect. Young people, often retail investors, are jumping after clean energy companies as they believe – very probably correctly – that clean energy is the future.

Tesla is one of the biggest stocks in many of these best performing ETFs – such as PBW, CNRG and TAN. And given Tesla’s run the past three months – shooting up more than 200% – it is unsurprising that it has helped carry up many of these ETFs.

Spotlight on: Roundhill BITKRAFT Esports & Digital Entertainment ETF (NERD)

Video games ETFs are one of the industry’s top growth areas at the moment. Three years ago, no-one thought the niche was viable as video games are just for losers and kids. Or so the thinking went. Yet now globally they have $2+ billion in them and they are highly profitable. Therefore, everyone is taking an interest.

In the US, there are four main video games ETFs – ESPO from Van Eck, GAMR from Wedbush, HERO from Global X and this one here: NERD from RoundHill.

What is fun about this niche – its growth and novelty aside – is just how different all the video games ETFs are. They pick different stocks. They have different ways of weighting their picks and they have all delivered very different returns. NERD picks video game tournament managers and platforms. Interestingly, NERD is mostly exposed to Asia. Most of its weighting comes from China, Japan, Singapore, Hong Kong and Taiwan. Sweden – the world’s video game capital – also gets a heavy piece of the pie.
The number of new ETFs listed in Q3 2020 diminished quite significantly in the third quarter. This diminishing very probably owes to the coronavirus. Launching ETFs on the London Stock Exchange is far faster than in other jurisdictions. This meant there was no backlog to help shore up the number of new ETFs coming to market.

What listings there were however showed that ESG investing continued to be the main theme of ETF industry this quarter. In the UK, there are now ESG alternatives for almost every main kind of “plain vanilla” fund exposure.

ETF issuers used different definitions of what constitutes ESG. For the new Franklin Templeton fund 500P, the definition was companies that are aligned with global commitments to lowering carbon dioxide emissions. “Paris-aligned” – the name of the fund – refers to the Paris Agreement in 2015 to get carbon emissions down. HSBC took a similar idea centring around low carbon, but without reference to the Paris agreements. Both funds are designed to give a return similar to the market and charge similar fees.

Beyond ESG, First Trust helped to bring over more American biotech and cybersecurity ETFs. These funds, like their American counterparts, are likely targeting the adviser market and more retail investors. First Trust also runs both of these funds in the US, where they have each amassed large amounts of assets.

### New UK Listings

<table>
<thead>
<tr>
<th>Ticker</th>
<th>Fund name</th>
<th>TER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOAT</td>
<td>VanEck Vectors Morningstar Global Wide Moat UCITS ETF A</td>
<td>0.52%</td>
</tr>
<tr>
<td>500P</td>
<td>Franklin S&amp;P 500 Paris Aligned Climate UCITS ETF</td>
<td>0.15%</td>
</tr>
<tr>
<td>EUPA</td>
<td>Franklin STOXX Europe 600 Paris Aligned Climate UCITS ETF</td>
<td>0.15%</td>
</tr>
<tr>
<td>HSWD</td>
<td>HSBC Developed World Sustainable Equity UCITS ETF USD</td>
<td>0.18%</td>
</tr>
<tr>
<td>HSEP</td>
<td>HSBC Europe Sustainable Equity UCITS ETF EUR</td>
<td>0.15%</td>
</tr>
<tr>
<td>HSJP</td>
<td>HSBC Japan Sustainable Equity UCITS ETF USD</td>
<td>0.18%</td>
</tr>
<tr>
<td>HSUD</td>
<td>HSBC USA Sustainable Equity UCITS ETF USD</td>
<td>0.12%</td>
</tr>
<tr>
<td>PABU</td>
<td>Lyxor S&amp;P 500 Paris-Aligned Climate (EU PAB) (DR) UCITS ETF</td>
<td>0.20%</td>
</tr>
<tr>
<td>-</td>
<td>Lyxor S&amp;P Global Developed Paris-Aligned Climate (EU PAB)</td>
<td>-</td>
</tr>
<tr>
<td>PRUK</td>
<td>Amundi Prime UK Mid and Small Cap UCITS ETF DR GBP</td>
<td>0.05%</td>
</tr>
<tr>
<td>CIBR</td>
<td>First Trust Nasdaq Cybersecurity UCITS ETF Acc</td>
<td>0.60%</td>
</tr>
<tr>
<td>FBT</td>
<td>First Trust NYSE Arca Biotechnology UCITS ETF Acc</td>
<td>0.60%</td>
</tr>
</tbody>
</table>

### Spotlight on: First Trust Nasdaq Cybersecurity UCITS ETF (CIBR)

CIBR tracks a popular index from Nasdaq, which has earned other ETF-followers around the globe. The index picks companies that are deemed to be cyber security companies by the lobby group the Consumer Technology Association. CIBR invests mostly in software and networking businesses, with familiar companies such as Cisco and Palo Alto Networks near the top.

What is interesting for us at Beyond Beta however is the fund’s weighting methodology. Unusually, CIBR weights its stocks based on their liquidity not market capitalisation or revenue purity. This is highly irregular and we know of few instances like it. We believe this owes to the ETF being heavily invested in small and micro caps.

### Spotlight on: VanEck Vectors Morningstar Global Wide Moat UCITS ETF (GOAT)

Like the listings from First Trust, GOAT is also an import from the US. The fund has made waves for outperforming the MSCI World in its short lifespan. The ETF’s approach is intuitive: it picks stocks with “wider moats”, as judged by Morningstar. The moat is assessed on the business school textbook criteria such as substitutional difficulties, patents, network effects, etc. Stocks are selected based on a valuation model, about which Morningstar does not give too much away. Those that make the final cut are equally weighted.

### US new listings: Traditional active giants arrive

Active management has been the direction of travel for the US ETF industry in 2020. This owes partly to the SEC’s decision to allow opaque active ETFs on exchange while showing their holdings only once a quarter. But also due to the fact that ETF providers are tired of the margin compression occurring in the index ETF market, where Vanguard, Fidelity, BlackRock and BNY Mellon lead a race literally to zero.

### T. Rowe Price comes to ETFs

The active surge meant that new entrants arrived in the ETF industry that many thought would never ever list ETFs. Foremost among them was T. Rowe Price, a bastion of traditional active management, whose founder was one of the pioneers behind growth
ETSTREAM.COM

SMART BETA UPDATE
NEW LISTINGS

investing. This quarter, the group listed four new ETFs, all of which are based on and priced in line with its mutual funds.

The US asset manager has listed an interesting line up, that more or less match the man on the street’s understanding of how to buy stocks. They do so presumably with exactly that man on the street in mind. Interestingly, they have listed a blue chip ETF, which picks reliable big companies based on fundamentals.

**BlackRock wins more pension fund clients for ESG**

ESG ETFs were also popular for quarterly listings in the US, as well as in the UK. For years, people debated whether ethical investing would ever take off in the United States, or whether it would be a phenomenon restricted mostly to Europe and Scandinavian pension funds in particular.

While there had been some US ESG funds launched in the previous decades, they were very often “greenwashed”, which is where funds call themselves ethical or environmental in their marketing, but are really just ordinary funds.

This quarter, it seems we have a bit of an answer to this puzzle. It turns out, ESG ETFs will flourish in the US, but mostly thanks to European pension funds asking US money managers to bring them out.

On this score, BlackRock launches this quarter are instructive. The world’s largest asset manager launched yet another US equity ESG ETF – the iShares ESG Advanced MSCI USA ETF (USXF). This is the third ETF of its kind, after SUSA and SUSL. When BlackRock has launched these ultra-low cost ESG ETFs in the past, it has typically been at the request of their large clients, often in based Europe.

**Spotlight on: Direxion Fallen Knives ETF (NIFE)**

NIFE should perhaps be named “buy the dip” ETF. It picks stocks that are falling sharply in price despite having sound fundamentals, where fundamentals are assessed on cash flow and debt to equity. The aim here, of course, is to buy them low and sell them high. Perhaps naming a fund “buy the dip” is banned by regulators.

**Spotlight on: Direxion Work From Home ETF (WFH)**

WFH is another cute – or gimmicky, depending on your perspective – product from Direxion, timed for the coronavirus. It targets companies that provide work from home technology, like Zoom. Although going through its portfolio it looks more like a cybersecurity ETF, with Twilio and Crowdstrike its two top holdings.
Once described as the “most significant trend in ETFs” in 2016, smart beta ETF launches have fallen off a cliff in the last two years as issuers appear to have moved on to developing other investment strategies such as ESG and thematics.

Towers Watson first coined the term smart beta in the early 2000s but it was not until 2003 the first single-factor ETF was launched, when Rydex brought to market an equal-weighted version of the S&P 500 (RSP) in April that year.

However, it was not only after the Global Financial Crisis in 2008 when investors became disillusioned with active fund managers that smart beta as a concept began to take off. With its origins tracing back to the academia of Benjamin Graham and Fama-French, smart beta strategies offered investors the perfect promise of outperforming the market while employing a rules-based approach. Recognising the opportunity, ETF issuers began to launch smart beta products at a rapid pace in order to capture the rapidly growing demand. This culminated in the three years between 2015 and 2017 when 203 smart beta ETFs were brought to market.

Investor demand followed with smart beta assets under management (AUM) reaching $616bn in 2016 and now total approximately $818bn, according to data from FactSet. However, new launches have almost ground over the past two years. According to data from Bloomberg, there have been just 9 smart beta ETFs launches in 2020, as of 25 August, and there were 11 last year compared to the 203 launches between 2015 and 2017.

What has happened in the past two years to cause such a dramatic decline in new products? Is it simply a case of the market maturing to the point where no further launches are needed or is there something more structurally significant at play?

One obvious reason for the drop in launches is ETF issuers are turning their attention to other parts of the market where they see rapidly growing investor demand. One of these segments is ESG investing which has seen rapid growth over the past two years. According to data from Morningstar, there have been 46 ESG ETF launches in Europe this year as of 30 June, 11 more than the previous highest in 2018.

A recent report by Citi analysts predicted ESG and thematics will replace smart beta which can sit as both satellite and core holdings. The report also called for the breakdown of smart beta as an overarching definition into three distinct categories; single factor ETFs, dividend ETFs and multi-factor ETFs. “Smart beta has become passé,” the analysts said. “The immediate challenge to broader smart beta growth is the emergence, and adoption, of both ESG and thematic solutions. ESG has been more effective in displacing traditional core indices, while thematic differentiation is increasingly more attractive for longer-term alpha seekers.”

MARKET SATURATION

However, the slowdown in launches is arguably part of the natural progression of a maturing market. If there are only five or six academically-backed factors, this limits the number of smart beta ETFs

One obvious reason for the drop in launches is ETF issuers are turning their attention to other parts of the market where they see rapidly growing investor demand
that can be launched. As Athanasios Psarofagis, ETF analyst at Bloomberg Intelligence, said, the universe has been well filled out following the rush of launches in 2016 and 2017. “In 2016, there was a massive push in low volatility strategies but this has shifted to ESG and thematics this year. “This is pretty normal,” he continued. “Issuers always change focus so what used to be smart beta is now ESG and thematics.”

Steven Goldin, managing partner and CIO at Parala Capital agreed. He said the slowdown was just a case of “digestion”. He said different factor strategies can have different returns despite both being called ‘small cap’, for example, so it was a case of the market “vetting” which strategies have done what they were supposed to do.

In a previous article for Beyond Beta, he highlighted how the S&P EM Small Cap index outperformed the MSCI EM Small Cap index by 5.4% in 2019 due to the macroeconomic factors at play. “Many issuers saw smart beta as an opportunity due to the low barriers to create these strategies, however, it is an overproliferated market so it is just a case of vetting each strategy and see how they perform,” Goldin said.

**POOR PERFORMANCE**

However, the reason for the slowdown in smart beta launches could be driven by something more structurally significant. Recent academic research entitled The Smart Beta Mirage has found smart beta ETFs suffered from a “sharp” drop in performance after they were listed.

According to the co-authors Yang Song at the University of Washington and Shyang Huang and Hong Xiang at the University of Hong Kong, the average return of smart beta indices drops from 2.77% per year before ETF listing to -0.44% per year after listing.

They concluded: “We find evidence of data mining in constructing smart beta indexes as the post-ETF-listing performance decline is much sharper for indexes that are more susceptible to data mining in backtests. Our results caution the risk of data mining in the proliferation of ETF offerings as investors respond strongly to the stellar performance in backtests.”

Data mining has been a big issue for the smart beta industry. Even many academically-backed factors have underperformed once gone “live” leading to many to describe the proliferation of factors as the ‘factor zoo’.

This significant underperformance could be driving ETF issuers away from smart beta into the arms of ESG, an area of the market that has been outperforming over the past decade. It will only be in the next few years when there is sufficient past performance that the market will be able determine which smart beta ETFs are viable products and which need to be left on the shelf.
Although there is some debate about the terminology and categorisation of smart beta strategies, there is general agreement that broad investor interest dates back to the collapse of the dot com bubble in the 2000-2002 period.

The disproportionate impact of the sharp post-bubble correction of stocks in the technology, media and telecommunication sectors (“TMT”) on market-capitalisation weighted indices led investors to consider alternative weighting schemes including equal-weighted indices that were deemed to have better risk-return characteristics (see Chart 1):

As studies later showed, implicit in different weighting schemes and, at times, key to their outperformance, was exposure to style factors such as small size and value[1]. These first-generation products, with their different weighting schemes, were deemed limiting as their construction methods did not allow for explicit linkage to risk factors. With that knowledge, more recently, the definition and range of smart beta strategies has broadened to include a whole set of rules-based strategies that provide engineered exposure to certain risk factors that have been identified by academics to provide higher returns than the market portfolio (see Chart 2).

WHY DO INVESTORS FIND SMART BETA STRATEGIES SO ATTRACTIVE?

Structural shifts and refinement of the smart beta proposition has made these strategies very attractive to investors. The investment management industry is going through a disruptive period. This has been brought about by several structural changes including the following:

· An unprecedented and accelerating shift from active to passive management due to the sustained underperformance of active managers
· A low expected return environment
· The search for innovative strategies that can produce incremental returns with a greater degree of certainty (or at least lower cost) than traditional active strategies

As far back as 1949, Benjamin Graham in his seminal book The Intelligent Investor had the following to say about active management:

We would be less than frank, as the euphemism goes, if we did not at the outset express grave reservations on this score. At first blush the case for successful selection appears self-evident. To get average results – e.g., equivalent to the performance of the DJIA – should require no special ability of any kind. All that is needed is a portfolio identical with, or similar to, those thirty prominent issues. Surely, then, by the exercise of even a moderate degree of skill – derived from study, experience, and native ability – it should be possible to obtain substantially better results than the DJIA.

Yet there is considerable and impressive evidence to the effect that this is very hard to do, even though
the qualifications of those trying it are of the highest. The evidence lies in the record of the numerous investment companies, or “funds,” which have been in operation for many years.

Graham, arguably the first factor investor, was as intelligent and right on this score as he was on so many other tenets of investing and empirical evidence continues to suggest that traditional active managers have lived up to his expectations (see table below).

What has changed since the days of Benjamin Graham is that investors are finally beginning to vote with their feet and are aggressively shifting assets into passive strategies (see Chart 3).

Even though traditional active managers, particularly those investing in equities, had historically failed to deliver alpha on a consistent – or any – basis, the shift to passive has inevitably led to the rationalisation of expected returns through diminished expectations of alpha.

This has been compounded by the combination of slow economic growth, low inflation, high equity valuations and historically low bond yields reducing return expectations across asset classes (see Chart 4 overleaf).

In response investors are increasingly looking to diversify into a range of alternative investment strategies and in particular are looking for innovative strategies that can deliver incremental returns with a higher degree of certainty, or at least lower costs, than traditional active managers.

Unsurprisingly in this environment, an extensive body of research showing that factor exposures have been the biggest determinant of active manager performance and that idiosyncratic risk has gone unrewarded, has resulted in the development of smart beta strategies that provide low-cost and direct exposure to factors with

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<th>5-year (%)</th>
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<td>All Domestic Funds</td>
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<td>All Small-Cap Funds</td>
<td>S&amp;P SmallCap 600</td>
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<td>61.02</td>
<td>77.37</td>
<td>88.61</td>
<td>89.08</td>
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<td>82.31</td>
<td>89.02</td>
<td>90.21</td>
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<td>42.28</td>
<td>60.00</td>
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<td>93.83</td>
<td>97.38</td>
<td>91.95</td>
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<td>Large-Cap Value Funds</td>
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<td>82.21</td>
<td>88.92</td>
<td>91.89</td>
<td>81.41</td>
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<td>Mid-Cap Growth Funds</td>
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<td>88.30</td>
<td>93.67</td>
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<td>93.37</td>
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<tr>
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<td>91.36</td>
<td>96.72</td>
<td>92.35</td>
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<td>Small-Cap Value Funds</td>
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<td>92.77</td>
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<td>75.81</td>
<td>87.80</td>
<td>91.28</td>
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<tr>
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<td>Multi-Cap Value Funds</td>
<td>S&amp;P 500 Value</td>
<td>91.80</td>
<td>92.17</td>
<td>96.04</td>
<td>96.37</td>
<td>86.96</td>
</tr>
<tr>
<td>Real Estate Funds</td>
<td>S&amp;P BMI US REITs</td>
<td>26.58</td>
<td>54.76</td>
<td>63.41</td>
<td>81.61</td>
<td>83.10</td>
</tr>
</tbody>
</table>
associated risk premia, being perceived as the panacea for investors. (see Chart 5)

And asset managers who have borne the brunt of the shift towards passive through lower margins have been more than happy to oblige with an ever-growing range of smart—and not so smart—offerings that are attracting substantial assets (see Chart 6).

WHY INVEST IN SMART BETA STRATEGIES?

Smart beta or factor-based investments, which systematically differ from the market portfolio, are attractive to investors because they allow investors to take on undiversifiable risk and receive a premium for doing so.

Even though these premiums are not a “free lunch” in that they may go through lengthy periods of underperformance versus the market, the expectation, generally based on academic studies, is that they will outperform the market (see Chart 7).

Unlike market-capitalisation weighted approaches, smart beta investments are dynamic as portfolio constituents and weights must be adjusted to maintain securities in the portfolio with shared characteristics like small size, value and momentum.

There is no consensus in terms of the construction of these strategies with some being faithful to the original academic constructs and others taking liberties with not only the choice of factors but the optimal construction of the underlying index to provide the exposure. The degree of tilt to a factor and the general diversification of the indices are areas of key differentiation.

What the strategies share is that their construction methods are rules-based and due to improvements in technology, operational efficiencies, and limited requirements for gathering proprietary information through teams of analysts, they can be delivered at low cost to investors (see Charts 8 and 9).

It is this combination of academic pedigree, return expectations which are higher than the market portfolio and low fees that has driven investor interest and fuelled the growth of the sector.

Similarly, product providers are attracted by the potential of these strategies to allow them to protect their franchises from the onslaught of passive strategies, or if they have strong passive management franchises, to increase their average fees.

WHERE TO?

Smart beta strategies are an innovative response to structural developments in the asset management industry and even though they are still a tiny fraction of the over $71 trillion of AUM by financial institutions, they are one of the fastest growing
segments and here for the long-term. For those considering these strategies, which seems to be a substantial cross-section of retail and institutional investors globally, the following principles should provide guidance.

It is paramount to consider smart beta strategies as being active strategies and to apply at least the same rigour in selection as that applied to the selection of traditional active managers and strategies. If structured appropriately, factor risk premiums can be reaped over the long-term but may be out of favour for extended periods; investors and their advisors need to have the conviction through rigorous analysis and selection processes that the appropriate set of factors and implementation strategies have been selected.

With roots based in academia, investors should only consider those providers that have successfully bridged the gap between an intellectual exercise and practical implementation. Apart from the choice of factors, which is critical, real life considerations such as the impact of trading costs, liquidity of the underlying holdings and portfolio diversification criteria will have great impact on the final outcome, which may end up being very different from results in studies and backtests.

Approach to factor selection, portfolio construction, risk management and attribution reporting should be holistic. The proliferation of strategies and fundamental differences in design and execution, mean that the standard investment analysis tools available in the market may no longer be sufficient for investors with substantial and long-term exposure to factor risk.

Smart beta strategies are only building blocks to use for building diversified portfolios. It is therefore important that investors only consider these strategies if they have the advanced toolkits that can provide sophisticated risk management and attribution analysis which ensure alignment of aggregate portfolio exposure and risks to their expectations and desired outcomes.

Cost should not be the only consideration for product selection. The science of data analysis, portfolio construction and risk management is evolving rapidly. Advances in using big data and applying adaptive learning techniques to financial analysis to deal with uncertainty is gradually moving into the mainstream.

If investors accept that smart beta strategies are a variation of active management, they should spend the time and effort to identify the best of breed providers that can genuinely make a difference to their long-term outcomes.
The last few weeks have brought on a wonderful blossoming of acronyms which have kept this market observer endlessly amused. FOMO (fear of missing out) combined with TINA (there is no alternative) have produced a huge momentum-based surge in share prices for FAANGs. These wonderful acronyms have now combined with a profusion of letter based scenarios – we started with hopes of a V-shaped recovery which then turned into a more dismal U-shaped one, but not before many of us thought a W-shaped recovery might emerge which has in turn been superceded by a K-shaped recovery. Scratch beneath the surface patina though of this wonderful jargon and old debates bubble up, wearily familiar to anyone with more than a passing knowledge of factors and risk premia.

I discussed in the Q2 edition of Beyond Beta the growing concerns about concentrated returns
patterns i.e. broad indices being pushed forward by a small sub section of mega large cap stocks. There are some very real concerns here but in truth most benchmark indices have always been vulnerable to dominate sub sections of the market – in previous decades we have worried about banks or resource stocks or even a previous generation of tech stocks in the early years of this new millennium.

Chart 1 should also remind us not to get too carried away with worries about concentration. Sure, the FAANGs are important but the chart shows the share price for Nvidia, a graphics microprocessor business that is riding two concurrent thematic transformations – the cloud and the rise of eGaming. The sheer rapidity of the ascent of Nvidia’s share price is arguably even more astonishing than the rise of the FAANGs. Something is afoot that is more wide ranging than just a few big stocks dominating an index.

That ‘something’ is the age-old debate between growth and value. What the FAANGs and Nvidia share in common is the moniker of a growth stock, in this case built on technology. By contrast value stocks seem marooned, devoid of interest and lagging ever further behind the wider market. Thus, it comes as no surprise when popular US day trader Dave Portnoy recently declared that Warren Buffett was past his prime and that a new world of investing has arrived – one presumably populated by lots of tech stocks favoured by Dave.

It is easy to mock the Barstool investing hero but more than a few finance professionals reckon that Portnoy has a point. Paul Cuatrecasas, who previously founded Alegro Capital in 2003 and also co-founded ARC Associates in 1993, is behind a new research venture called Aquaa Partners Investment Research. Their latest research paper is worth a read on this subject – it is called The death of value investing and the dawn of a new tech driven investment paradigm. I will pull out a few choice bits, and accompanying charts – truly are extra ordinary.

Chart 2 illustrates total shareholder returns since 1999 for key tech and non-tech indices.

“In the 22 years since 1999, the Nasdaq 100 Tech index has delivered a TSR to investors of 11,630%. This compares to the Nasdaq 100 non-tech index TSR of only 4,543% (despite this non-tech index including Amazon and Alphabet). The TSR since 1999 of the Nasdaq 100 Tech index was almost 13 times greater than the TSR of the FTSE 100 Non-Tech index (838%).

“Chart 2 also illustrates how these differences have become even more pronounced since 2009 as tech began to pick up exponential speed. the TSR of the Nasdaq 100 Tech index from 2009 to 31 July, 2020 was six times greater than that of both the FTSE 100 NonTech index and the DAX Non-Tech index.”

In other words, over a 22-year period technology stocks have delivered an approximate return 15 times greater than non-technology stocks, despite the dot-com collapse from 2000 to 2003. Even in the last five and half years, since January 2015, the Nasdaq 100 has delivered a TSR close to 3.5 times greater than that of the average of the
non-tech indices. Ah, but surely all these amazing returns have come with much greater risk? Not so, says Aquaa. They point to chart 3.

Their chosen measure of risk is based on calculating the maximum point of loss in each year since 1995 from the first day in the year of trading. Yearly averages are calculated, and the figures amalgamated. The exercise is then applied to both tech and non-tech stocks. Again, the Nasdaq 100 index is used as the source of tech sector data, while the non-tech sector is measured by the average of non-tech data for the FTSE 100, CAC 40 and DAX 30 indices. According to the Aquaa report, “in the 12 years from 2009 to 2020 (seven months to 31 July, 2020), the average of the maximum point of loss for the tech sector was only 7.6%, compared to 12.7% for the non-tech sector”.

So, what is the driver of this extra ordinary transformation – which the report reckons could continue for many years hence? “It is the effect of Moore’s Law materialising in all industries as the world becoming more technology dependent. This force is only to going to grow, despite the inevitable market cycles.”

I am a little uncertain where to draw the line between tech and non tech. In my experience a great many ‘legacy’ non tech businesses and actively building huge tech businesses. Walmart is a huge tech business. The sports retailing mammoth the Frasers Group (Sports Direct) has an enormously successful online business

And what happens if the regulators come after the tech giants? “If the concern is that larger tech companies are at risk of being broken up by regulators, then what gets spun out, split off or severely taxed can, and likely will, still grow.

“Our view is that when Big Tech falls, smaller tech develops to take its place. The tech industry is characterised by a faster rate of change than traditional industries. This fast rate of change lends itself to greater adaptability and growth.”

As for concentration risk, there is always the next generation of businesses in new sectors coming along to challenge this year’s FAANGs. Cue the emergence of AI, robots, drones, electric self-driving vehicles, 5G, VR, AR, holograms, renewable energy, plant-based meat, vertical farms, 3D printing, blockchain.

“All this advanced tech is emerging now and is growing exponentially fast.”

These concurrent transformations are, in part, being helped along by a wall of money flooding into venture capital. In 2019, approximately $161bn of venture capital was invested in 22,645 companies in North America and Europe, yielding an average of $7.1 million invested per company. By contrast, in the dot-com boom years of 1998, only $6 billion of venture capital was invested in only 979 companies, the majority of them in North America.

Add this all up and you see that growth investing is “unconstrained it is not a bubble”. On a long-term basis, growth investing in tech delivers a superior balance of risk-reward, i.e. “value”, compared to the traditional value stocks. Tech stocks are the new value stocks. “In simple terms, value investing is dead on its feet.”

Back to that old debate again! It is difficult to argue with the growth advantage in the current macro-economic environment – which by the way could change in a heartbeat – but I am not so sure about the death of value.

I would make a number of points to counter this. The first is that I have never seen value and growth as opponents. I am perfectly happy to run a large portion of growth alongside a smaller portion of value. That is especially true for different geographies – value has real virtues in Europe and the EM ex-China markets. Less so in the US.

Next up I am a little uncertain where to draw the line between tech and non tech. In my experience a great many ‘legacy’ non tech businesses and actively building huge tech businesses. Walmart is a huge tech business. The sports retailing mammoth the Frasers Group (Sports Direct) has an enormously successful online business. Is Easyjet or Ryanair a legacy
value stock or are they pioneers of internet enabled travel? Put simply, many legacy businesses are now digitising their operations and products like crazy – and making huge amounts of money.

Next up my concern – and hope – is that the US and China are about to enter a technology fuelled face off. China might react by stopping inward foreign investment in its tech businesses to safeguard its national interest. That could throw a spanner in the whole argument for tech.

Lastly, I also have my deep suspicions around tech profitability and margins, best explained by a small example. I have a few cloud based services which seem to become ever more expensive. Like many consumers with endless online subscriptions I have noticed that tech inflation – sure you get more product but you pay more for the experience – has become a real challenge. That is wonderful for the margins of the tech businesses but as they become large parts of consumer expenditure, and tech service inflation becomes more noticeable, I would expect to see real pushback on those massively profitably margins.

Société Générale strategist and permabear Albert Edwards has made a much broader point that backs up this narrow example. In a paper from earlier in the summer, Edwards reminded investors that in 1999 and 2000, investors were equally convinced that ever higher tech share prices would be backed up by ever higher tech earnings. Then a recession hit and within 12 to 18 months those supposedly defensive tech earnings started to crumble and fade. Tech turned out to be ever so slightly more cyclical than everyone had expected. As a consequence, valuations started to crumble, and the tech sector wilted and waned for a number of years.

So, in sum, it is easy to accept that growth has the upper hand at the moment but who is to say that advantage will persist? Logic and experience suggest that eventually markets mean revert and value kicks back in – and if it does not, then rather than worry about value, we will all collectively need to rethink how we talk about investment styles and factors. Which perhaps prompts the observation that the old definitions dividing growth from value are increasingly not fit for purpose. Maybe we need a new factor set to define a new world order?
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The Covid-19 lockdown is a unique event that will be studied in textbooks decades after the fact. Record unemployment, broken supply chains, unprecedented government spending, and a significant drop in GDP are just some of the events the world has experienced so far in 2020. After an initial drop of more than 30% in February and March of this year, the developed equity markets have recouped that loss, racing higher, seemingly disconnected from global economic reality.

A handful of tech companies has fuelled this unprecedented equity growth. The tech-dominated Nasdaq Composite closed nearly 17% higher on August 24 than its pre-crisis peak, up almost 27% from the beginning of the year, and amassing an enormous cumulative gain of 410% over the preceding 10 years. As of July 31, the US equity market valuation has reached the bubble-level valuation of 29.6x in terms of price to cyclically adjusted most-recent 10-year earnings (also, known as the Shiller P/E ratio) and 3.5x in terms of price-to-book ratio (P/B).

The growth (many of them, tech) companies today are priced at some of the most expensive, bubble-like levels in history. At the same time, crisis fears have pushed value companies’ valuations to some of the cheapest levels in their history. Both growth and value have hit these extreme valuation levels before, but never at the same time—the spread between value and growth valuations is the widest it has ever been!

Past experience has shown that the resolution of crisis uncertainty has been the best time to be invested in risk strategies. If history is an accurate guide, a return to economic stability combined with the historically unprecedented spread in valuations implies a very attractive value investment opportunity.

**THE NEW TECH BUBBLE?**

Given this environment, do we consider equity markets as verging into bubble territory? Yes, we do. Rob Arnott and his co-authors in *Yes, It’s a Bubble. So What?* defined bubble conditions as occurring when the gap between current valuation and historic average valuation of a stock or asset class is at an extreme. The market constantly creates single-asset microbubbles, isolated

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**CHART 1. CURRENT P/B VALUATIONS FOR GROWTH AND VALUE COMPANIES**

Note: The chart displays the P/B ratio of growth and value portfolios, constructed following the Fama and French (1992) HML definitions. Growth portfolios select the 30% highest P/B ratio stocks and value portfolios select the 30% lowest P/B ratio stocks. The portfolios are balanced by size.
Past experience has shown that the resolution of crisis uncertainty has been the best time to be invested in risk strategies. If history is an accurate guide, a return to economic stability combined with the historically unprecedented spread in valuations implies a very attractive value investment opportunity.

Vitali Kalesnik

A partner and senior member of the investment team. He leads research and business strategy in the European region. Previously, Vitali led the Equity Research team and continues to perform general equity-related research. Vitali earned his PhD in economics from the University of California, Los Angeles, where he was a winner of the UCLA Graduate Division Fellowship for 2001–2005. He speaks fluent English, Russian, and French.

The extreme concentration caused by these and other highflier bubble-territory tech stocks impacts market cap–weighted indices. These indices are moving into bubble territory too as they take on increasingly larger positions in these stocks, replicating the concentration of the indices they track. Investors should be wary.
Lessons from smart beta ETFs’ performance during the coronavirus crash

Kenneth Lamont, senior analyst, manager research, passive strategies, at Morningstar, examines how different smart beta strategies behaved during the coronavirus turmoil and in particular highlighting the importance of looking beyond the label when buying factor ETFs.

In the first five months of 2020, the COVID-19 crisis roiled markets. This episode reinforced important lessons about strategic beta approaches to portfolio construction and taught some new ones about how these products perform in stressed markets.

Strategic beta – widely referred to as “smart beta” – aims to capture a specific factor or set of factors such as value, momentum, size, low volatility, or quality. They are widely marketed for their ability to enhance returns or minimise risk relative to more-traditional benchmarks. While many aim to capture market premia which have been academically substantiated over decades, most of the ETFs currently available in Europe have relatively short live track records.

The recent market turmoil has given many of these products the first real stress test. By looking more closely at the performance of these products over this period, we can understand how they might perform in future market environments. Additionally, by observing how funds tracking the same investment factor have performed, we can see to what extent differences in product construction can have a meaningful impact on investment outcomes.

COVID-19 PERFORMANCE: A MIXED BAG

The performance among European-listed strategic-beta ETFs in the first five months of 2020 was mixed. Table 1 shows the average return for ETFs in each Morningstar Strategic-Beta Group, as well as the corresponding average return for their Morningstar Category Indexes. European-domiciled strategic-beta ETFs’ average returns were lower relative to the relevant Morningstar Category Indexes for six of 11 strategic-beta groups. The success rates for each group, shown in Table 2, tell a similar story. These are calculated as the percentage of strategic-beta ETFs in each Morningstar Strategic-Beta Group that outperformed their respective Morningstar Category Indexes. The categories in which these ETFs belong do not have category indexes. Morningstar Long-Only Commodity Index was used as proxy.

Table 1. Average Returns for Strategic-Beta ETFs and Morningstar Category Indexes

<table>
<thead>
<tr>
<th>Strategic-Beta Group</th>
<th>ETP Returns (%)</th>
<th>Category Index Returns (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity*</td>
<td>-27.1</td>
<td>-28.4</td>
</tr>
<tr>
<td>Dividend</td>
<td>-20.6</td>
<td>-16.3</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>-2.6</td>
<td>-2.2</td>
</tr>
<tr>
<td>Fundamentals</td>
<td>-21.8</td>
<td>-20.0</td>
</tr>
<tr>
<td>Growth</td>
<td>-3.8</td>
<td>-8.7</td>
</tr>
<tr>
<td>Momentum</td>
<td>-3.4</td>
<td>-10.4</td>
</tr>
<tr>
<td>Multifactor</td>
<td>-14.0</td>
<td>-12.0</td>
</tr>
<tr>
<td>Other</td>
<td>-16.2</td>
<td>-14.2</td>
</tr>
<tr>
<td>Quality</td>
<td>-7.8</td>
<td>-10.6</td>
</tr>
<tr>
<td>Risk-Oriented</td>
<td>-11.3</td>
<td>-12.2</td>
</tr>
<tr>
<td>Value</td>
<td>-21.8</td>
<td>-19.2</td>
</tr>
</tbody>
</table>

Source: Morningstar Direct, Morningstar Research. Data from Jan. 1, 2020, through May 31, 2020. (*The categories in which these ETFs belong do not have category indexes. Morningstar Long-Only Commodity Index was used as proxy.)

Table 2. European Strategic-Beta ETFs’ Success Rates

<table>
<thead>
<tr>
<th>Strategic-Beta Group</th>
<th>Success Rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
<td>58</td>
</tr>
<tr>
<td>Dividend</td>
<td>25</td>
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<tr>
<td>Fixed Income</td>
<td>20</td>
</tr>
<tr>
<td>Fundamentals</td>
<td>60</td>
</tr>
<tr>
<td>Growth</td>
<td>60</td>
</tr>
<tr>
<td>Momentum</td>
<td>83</td>
</tr>
<tr>
<td>Multifactor</td>
<td>26</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
</tr>
<tr>
<td>Quality</td>
<td>87</td>
</tr>
<tr>
<td>Risk-Oriented</td>
<td>54</td>
</tr>
<tr>
<td>Value</td>
<td>19</td>
</tr>
</tbody>
</table>

Category Indexes during the first five months of 2020. In Europe, strategic-beta ETPs’ success rates were greater than 50% in six of 11 strategic-beta groups. The higher success rates in the commodity group represent strategic-beta ETPs’ lower exposure to front-month oil futures contracts during this span. Meanwhile, ETPs belonging to the quality strategic-beta group benefited from their relatively defensive postures. Fees are a contributing factor to the figures here. The Morningstar Category Indexes do not charge fees, while strategic-beta funds do. But there is more to the story. In many cases, these funds’ factor tilts also contributed to their underperformance.

### SIZE AND VALUE TILTS HAMPER RETURNS

Many strategic-beta equity funds, particularly those in the dividend, multifactor, and value groups, tend to tilt toward stocks with smaller market capitalisations and lower valuations. Those two factors (small size and value) underperformed other factors during the first five months the year among US, global and European Equities (see Tables 3, 4 and 5).

Performance across all factors was better among global and European equities than among US stocks. On the fixed-income side, strategic-beta funds

<table>
<thead>
<tr>
<th>Table 3. U.S. Factor Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>Small Size</td>
</tr>
<tr>
<td>Momentum</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Low Volatility</td>
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<table>
<thead>
<tr>
<th>Table 4. Global Factor Returns</th>
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<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>Size</td>
</tr>
<tr>
<td>Value</td>
</tr>
<tr>
<td>Momentum</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Low Volatility</td>
</tr>
<tr>
<td>Dividend Yield</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Table 5. European Factor Returns</th>
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<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>Size</td>
</tr>
<tr>
<td>Value</td>
</tr>
<tr>
<td>Momentum</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Low Volatility</td>
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<tr>
<td>Dividend Yield</td>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Table 6. Dispersion of European Strategic-Beta ETPs’ Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity</td>
</tr>
<tr>
<td>Dividend</td>
</tr>
<tr>
<td>Fixed Income</td>
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<td>Fundamentals</td>
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<td>Growth</td>
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<tr>
<td>Momentum</td>
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<tr>
<td>Multifactor</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Risk-Oriented</td>
</tr>
<tr>
<td>Value</td>
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</tbody>
</table>

tend to take greater credit risk than their respective category benchmarks. This hurt performance between January and May 2020.

**ZOOMING IN**

Within most strategic-beta groups, there was considerable dispersion in returns, as Table 6 summarises. This dispersion partially reflects the diversity of the range of the Morningstar Categories each strategic-beta group spans. However, there was still significant dispersion within some of the larger categories.

In Europe, the commodity group saw the widest dispersion among all the strategic-beta groups owing to the diversity of commodity-related ETPs available in the market, added together with the volatility experienced in the commodity space during the period.

Strategic-beta ETPs in the growth group saw the second-highest level of performance dispersion in the first five months of this year, albeit from a small sample of five ETPs in this group. Within the small group’s performance spectrum, the Deka STOXX Europe Strong Growth 20 ETF (EL4C) gained 5.71% while the iShares Euro Total Market Growth Large UCITS ETF (IDJG) lost 11.49%.

The Deka ETF tracks an index with a concentrated portfolio of 20 stocks in Europe with the highest growth characteristics and doubles down on the growth factor by weighting constituents by their growth scores, giving it a small size tilt. The iShares ETF tracks an index with the eurozone as the starting point and captures the large-cap stocks with growth characteristics to form a portfolio weighted by market capitalisation. The fund had around 70 holdings as of April 30, 2020.

These differences are apparent from the funds’ Morningstar Factor Profiles, as Exhibit 7 shows. Deka’s EL4C captured stocks with stronger growth characteristics, which also exhibited higher momentum and quality, the factors that captured the highest returns during the first five months of this year.

To conclude, strategic beta is an active approach to portfolio construction. Strategic beta ETPs’ performance through recent market volatility underscores the fact that – like discretionary active portfolios – no two of these products are created equal.

Our analysis of their performance during the first five months of 2020 reveals the differences between them and emphasises the importance of thorough due diligence when selecting from the strategic-beta ETP menu.

<table>
<thead>
<tr>
<th>Table 7. Factor Profiles for EL4C and IDJG</th>
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<tbody>
<tr>
<td>Style</td>
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<tr>
<td>Growth</td>
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</table>

**Kenneth Lamont** is a senior fund analyst for Morningstar. Within the Morningstar research team, Kenneth covers European passive funds. Before joining Morningstar in September 2013, Kenneth was a research analyst at Mergermarket, where he covered the infrastructure finance sector and previously an associate at Markit, where he held an operational role within the portfolio valuations team.
Does financial leverage make stocks riskier?

Avoiding companies with high levels of debt, especially during periods of uncertainty, is investing 101. However, Nicolas Rabener, founder and CEO of FactorResearch, shows why investing in indebted companies may not be as risky a strategy as it first appears.

The International Monetary Fund (IMF) recently issued a warning on corporate debt in its latest Global Financial Stability Report and highlighted the following areas of concern:

- The estimated share of speculative-grade debt in the corporate sector is nearly 50% in the US as well as China and even higher in Italy, Spain, and the UK.
- The share of debt-at-risk, which represents companies where the interest costs are higher than EBITDA, aka Zombie firms, is above 25% in the US and the UK.

The institution also provides an adverse economic scenario that assumes half of the GDP decline of the global financial crisis of 2009, which results in the debt-at-risk rising to $19 trillion, or 40% of the total corporate debt for the eight largest countries. It would be a Zombie apocalypse.

Unfortunately, this report was issued in October 2019 and the world has seen a much more dramatic decline in GDP in 2020 due to the COVID-19 crisis, compared to the IMF’s adverse scenario. For example, the UK’s economy contracted a mere 4.2% in 2009, but is expected to decline by 8.3% in 2020, according to a forecast from the European Commission.

Investors concerned with the outlook for the economy and the stock market may intuitively seek stocks that feature low leverage and hope for these to outperform in such an environment.

However, investing is rarely straightforward and frequently almost illogical. For example, more volatile stocks do not generate higher returns than less volatile stocks, at least not a risk-adjusted basis, which is called the Low Volatility anomaly.

Perhaps financial leverage is not as risky as commonly assumed, which we will explore in this research note.

FINANCIAL LEVERAGE IN THE US

Looking back over the last few decades highlights that non-financial corporate debt as a percentage of GDP has been rising consistently in most countries. For example, the ratio was a mere 22% in the US in 1951, compared to 49% today. The increase can be simply explained by companies

![Graph 1. Financial Leverage of US Stocks](image-url)
having increased their leverage or the corporate sector playing a large role in modern economies. However, since the Global Financial Crisis, corporates in some countries have become more conservative than in others. The UK has seen corporate debt as a percentage of GDP decrease from 102% in 2008 to 85% in 2018 and the ratio is largely unchanged in the US, Germany, and Japan, as per IMF data. In contrast, the ratio increased by 33% to 118% in Canada, by 25% to 141% in France, and 66% to 154% in China. The latter is not only a staggering increase, but also a high absolute level for an emerging economy.

In this analysis, we are focusing on all companies listed in the US stock market in the period between 1980 and 2018 and measure their financial leverage by three metrics: debt-over-equity, debt-over-assets, and debt-over-EBITDA. Specifically, we focus on the 10% most and least leveraged stocks.

We observe that listed US companies increased their leverage over the last few decades, regardless of which metric is chosen. If high leverage is regarded as high risk, then US stocks have certainly become riskier (see graph 1).

ARE MORE LEVERAGED STOCKS RISKIER?
Intuitively, a company that is highly leveraged should be riskier than one that has less debt. In a booming economy, debt does not matter much as revenues increase faster than interest costs. However, if an economy is entering a recession, then corporate revenues decline accordingly, but interest costs largely remain the same. Naturally, central banks try to stimulate economies by lowering interest rates in such a scenario, but debt cannot be refinanced at lower rates immediately. Given this, earnings turn negative, and the risk of corporate bankruptcy increases.

There are many ways of measuring the risk of stocks, but we will simply use the 12-month stock price volatility as the yardstick. Somewhat surprisingly, the average volatility was higher for the least leveraged stocks across all three metrics during the period between 1984 and 2018. It was not a large difference, but certainly counterintuitive (see graph 2 overleaf).

Given this somewhat unusual relationship between financial leverage and risk as measured by volatility, investors might question a similar common assumption: the most leveraged stocks should outperform the least leveraged ones. It is worth recalling that entire asset classes like private equity and real estate have the core thesis that leverage makes returns more attractive. The data highlights a

Investors concerned with the outlook for the economy and the stock market may intuitively seek stocks that feature low leverage and hope for these to outperform in such an environment.
different picture: the least leveraged stocks in the US outperformed the most leveraged stocks on average over an almost four-decade period. Stated differently and leaning on Modigliani Miller: there is no magic in leverage (see graph 3).

FINANCIAL LEVERAGE AND RISK-ADJUSTED RETURNS
Finally, we calculate the risk-adjusted returns, which highlights that financial leverage increased risk-ratios in two out of three metrics, albeit only slightly. It is worth highlighting the difference with respect to the research on the low volatility factor where stocks are sometimes called low-risk stocks. This factor is supported by an abundance of research that shows higher risk-adjusted returns for stocks with low volatility compared to ones with high volatility. However, in this case, stocks are selected on their historical volatility or beta, and not financial leverage (see graph 4).

ANALYSING THE SECTOR EXPOSURES OF LEVERAGED STOCKS
One explanation for the perhaps counterintuitive relationship between financial leverage and volatility is that high indebtedness is not equally negative across industries. Highly cyclical businesses like consumer discretionary stocks likely face a high risk of bankruptcy when featuring high leverage when compared to companies from less cyclical sectors. The breakdown by sectors highlights strong sector

Debt is like sugar. In moderate amounts, sugar provides us with energy and makes us more productive. However, in large quantities consumed over long time periods, it makes us fat and unhealthy, causing diabetes and heart disease.
biases with regard to financial leverage. Specifically, real estate and financial companies are often highly leveraged, in contrast to stocks from the healthcare and technology sectors that feature little debt, which simply reflects the different industry characteristics.

However, these industry characteristics also change over time as industries mature. For example, providing leverage to the technology sector was significantly different in 2000 than today as many of the firms have matured and offer stable cash flows that can service debt. Similarly, some industries used to be able to carry high leverage but are no longer able to do, e.g. shopping centre REITs that are facing structurally declining revenues given the rise of online shopping (see graph 5).

**FURTHER THOUGHTS**

Debt is like sugar. In moderate amounts, sugar provides us with energy and makes us more productive. However, in large quantities consumed over long time periods, it makes us fat and unhealthy, causing diabetes and heart disease. Unfortunately, it is challenging to reduce sugar consumption once we are hooked on it.

The call for debt deleveraging to consumers, corporates, and governments was clear and sound after the Global Financial Crisis, itself a debt crisis, but few have heeded it. The COVID-19 crisis has not helped and has significantly increased global public debt, which was already at record highs before the pandemic.

However, as this analysis highlights, investors do not need to be overly concerned with highly leveraged stocks as they are not necessarily riskier than lowly leveraged ones, at least when measured on a cross-sector basis.

Having said this, the entire US stock market has certainly become riskier as the indebtedness increased for all listed companies. This, coupled with higher valuations and a growing divergence between the real and financial economy, may give investors much greater concern.
The post-pandemic bond world

Following the coronavirus crisis, Riccardo Rebonato, Professor of Finance at EDHEC Risk-Institute, examines where bond prices will go amid ongoing central bank quantitative easing and the risk of rising inflation.

Prices (of bonds or, for that matter, of any assets) should be the discounted expectation of future cashflows. The S&P 500 is now within spitting distance of its start-of-year level, and 10-year Treasury bond yields hover around 90 basis points per annum. Treasury bond markets are increasingly seen worldwide as central-bank-manoeuvred equity puts. So, even if the focus of these notes is on Treasury markets, more than ever one has to consider equities and fixed income together.

Starting from the equity picture, it would be hard to argue that undiscounted expectations of future cashflows should now be higher than at the start of the year. If prices are roughly the same, asset theory tells us that the risk premium must have compressed. A compressed risk premium should be an indicator of reduced risk aversion – a behavioural feature that is difficult to reconcile with the COVID-19 world we are living in. Asset pricing is at a loss in making sense of this.

Next, when equity prices swooned in March, Treasury prices duly rose – even if not quite as in sync with the S&P 500 or as much as the equity-put-holders might have wished. Equities have now recovered, but yields have remained near their lowest values. The most disturbing feature is that since the 2008 crisis Treasury yields seem to display a ratchet-like behaviour: they drop at every crisis, but do not climb back up when the clear and present danger is over.

Now, in a healthy economy, Treasury coupons should be financed by tax receipts. These do not look very robust in the near-to-medium term future. On top of this, the US government is about to embark on a very large Treasury issuance: before the COVID-19 crisis, the Congressional Budget Office projected a $1.1 trillion fiscal deficit for 2020, or 4.9 percent of GDP. Moody’s now expects the deficit to be between 10-12%. Asset pricing theory says that these should not be good times for Treasuries either, yet prices are close to an all-time high.

Quantitative easing started because traditional monetary actions at the short end of the yield curve began to hit against the zero bound. As long-dated Treasury bond yields in US dollars, euros and sterling are now close to or below zero, and controlled asset bubbles are developing in more and more assets, central banks are running out of ammunitions.
If traditional asset pricing is of little help in making sense of these price levels, to what should we turn? Current prices (in all asset classes) can only be understood through the lens of the unconventional actions undertaken by the central banks. In their attempts not to add a financial crisis to a COVID-19-induced real-economy crisis, central banks all over the world have engaged in yet another extremely aggressive round of asset purchases. This is understandable, but the fact remains that the information about risk and reward that financial prices should convey has now become fully distorted.

**RUNNING OUT OF AMMUNITION**

Quantitative easing started because traditional monetary actions at the short end of the yield curve began to hit against the zero bound. As long-dated Treasury bond yields in US dollars, euros and sterling are now close to or below zero, and controlled asset bubbles are developing in more and more assets, central banks are running out of ammunitions. If they want to continue their accommodative actions, they will have to keep on extending the asset classes in which they intervene. The price distortions are going to become bigger and more widespread. Prices will reflect less and expected discounted cashflows.

For how long can this continue? Ultimately, coupons and dividends distribute to capital providers what the economy produces after taxes and labour costs are met. We entered the COVID-19 crisis with stretched equity valuations, and extremely low yields. Thanks to the actions of central banks, equity prices are back where they started from, and Treasury prices are higher. The balance sheets of central banks are therefore full of asset bought at prices that are unlikely to reflect future cashflows. Would future central bank losses matter?

In theory, a central bank can always meet its (domestic) liabilities by printing money. This can only happen, however, if the central banks liabilities remain a liquid and trusted method of settlement. Recent academic studies (see Stella, 2010 and Dalton and Dziobek, 2005) show a link between central bank losses and inflation outcomes. And a rising inflation would, of course, make the now-easily-serviceable national debt no longer so easy to service. Which, finally, brings us back to the long-term risks for nominal Treasury bonds worldwide.

There is no telling how long this confidence trick can last – perhaps forever. But, as the 2008 ‘subprime’ crisis and the 2011 European sovereign debt crisis have shown, confidence can turn on a dime: let us not forget the Greece 10-year yields were trading around 50 basis points above Bunds as late as the start of 2007.

**References**

60 seconds with the buy-side: What fund researchers look for in factor ETFs

7IM’s senior investment manager Peter Sleep speaks to ETF Stream’s deputy editor Tom Eckett on picking the right multifactor strategies, value making a comeback and the reasons why he has been reducing his smart beta exposure over the past 18 months.

Tom Eckett: Do you use smart beta or factor products within your clients’ portfolios?

Peter Sleep: Yes we do, but I think it is fair to say that we are using it a great deal less than we used to. I think many investors have found it very difficult to own some smart beta products over the last five years or so and we have largely reduced our smart beta allocation to a lower level.

How much of your portfolios does smart beta typically make up?

We only have about 5% in smart beta at present. If you had asked me that question 18 months ago, I would have said about 25% which was primarily invested in multifactor equity products. However, we exited those products last year after a period of difficult performance. So far, the decision to exit has been a good one.

How do you view smart beta/factor-based ETFs?

It is another tool for an investor to select from. Investors come to investment intermediaries like us to get the return of the market. With active managers or smart beta an investment intermediary might be able to achieve that return, with passive the investment intermediary is guaranteed to fall short of that return because of fees. Smart beta does offer some long-term prospect of achieving market returns after fees.

Which parts of the smart beta/factor-based spectrum (including thematic ETFs) interest you most at the moment?

The present market regime is fascinating and the winning factors are momentum and quality. The market is rewarding long duration, “quality growth” stocks and ignoring value stocks.

All the momentum is in quality growth and quality growth investors are rampant. Investors who describe themselves as value are suffering and struggling to survive.

I do not want to try to predict when the present regime might end, but I think the value factor will eventually rally and is looking increasingly interesting.

When you focus on a particular smart beta product to invest in what factors do you take into account?

Jason Hsu, founder, chairman and CIO of Rayliant Global Advisors – who is speaking at Beyond Beta Europe Digital 2020 later this month – wrote a great paper called Finding Smart Beta in the Factor Zoo as a guide to help investors to think about all the different factors out there and to filter them down.

To paraphrase him, a factor needs to be broadly accepted in the academic world and it has survived peer review; it has worked out of sample; the factor works not just in the US, but works worldwide; the factor should be persistent and it can be explained by economic risk exposure or behavioural biases.

We always consider fund structure, tracking error and other things, but the factor has to be robust to start with.

Alongside smart beta and factor-based investing, we have also seen the rise of thematic based investing using ETFs (robotics, ageing society for instance) – does this interest you?

Thematic ETFs are always interesting if only because they show what is going on in the market, I am not sure that I would ordinarily buy though.

Are you concerned by the recurring accusations of hacking and data mining levelled at all factors and smart beta strategies?

I think there is a lot of data mining going on and for this reason I would add another rule to Jason Hsu’s list. Never consider a factor put forward by someone in a shiny suit from an American or French bank. The strategy will back-test beautifully but will be rubbish going forward. The core smart beta strategies are well established and accepted. The premiums are robust but their returns are not linear and some have underperformed for a long period which can make them painful to hold.

How do you engage with clients about smart beta?

We have clients that are sophisticated and they are keen to understand what we are doing, but the
majority of our clients tend to focus more on overall performance and economic outlook rather than the nitty gritty of what is in the portfolio. When we do receive enquiries, I think it is possible to explain smart beta in simple terms and I find that most clients intuitively understand the concepts.

**Are there any specific areas where you would like to see new products emerge?**
We have been investing in factor based fixed income funds from Robeco and TOBAM for some time and we have had a very good experience. I think it is more likely that we see ESG strategies and equity smart beta combined rather than more fixed income smart beta. Smart beta is about alternative weighting to market cap and it may be relatively easy to incorporate the two, if there is the demand. I am always happy to see innovation and competition in the ETF market. It is healthy and shows that capitalism is alive and kicking.

**Does multifactor investing interest you?**
That depends. Some of the multifactor strategies I have seen seem to be more geared towards generating trading volumes for the banks’ dark pools than making money for clients. If I were to buy multifactor product, I would have a strong preference for investing with the large and research led buy side firms like Winton, AHL, or AQR, who are incentivised to minimise churn, rather than an ETF issued by a bank or an ETF backed by a bank swap where churn can seem to be a goal.

**By 2025, do you think you will be making extensive use of smart beta products and factor ETFs?**
It could come a lot sooner than 2025. I think there is a good chance we will be looking products that give us more cyclical exposure very soon as we recover from the coronavirus crisis. Smart beta could be the place to find that exposure in value ETFs or maybe sector ETFs.

We only have about 5% in smart beta at present. If you had asked me that question 18 months ago, I would have said about 25% which was primarily invested in multifactor equity products. However, we exited those products last year after a period of difficult performance.
Value and multi-factor ETFs struggle to hold assets while markets gain momentum

ETF Stream’s senior writer George Geddes highlights the drivers behind the $6.1bn outflows from smart beta ETFs this year

ETF investors selling off their value and multi-factor exposures throughout 2020 has resulted in smart beta ETF issuers suffering some significant losses. According to data from Koris International, smart beta ETFs have suffered outflows worth $6.1bn year-to-August. This has been driven mostly from outflows from value and multi-factor products which have seen net redemptions of $1.9bn and $3.5bn, respectively.

The Xtrackers MSCI World Value UCITS ETF (XDEV) has struggled to recover from its downward performance seen in March caused by the coronavirus pandemic. XDEV fell 21.7% between January and August. However, value does tend to perform well in the recovery periods after a recession and with a large number of countries across Europe entering a recession, this could be a turning point for the factor. At the beginning of September, State Street Global Advisors launched its global value ETF which could be a sign of growing interest.

Unsurprisingly, momentum ETFs were the only strategy which has seen significant positive inflows in 2020 so far, having accumulated $899m over the same period. This has been bolstered by three consecutive months of inflows between June and August when equity markets were recovering and exceeding previous 2020 highs. Since its lowest point of the year at mid-March, the iShares EDGE MSCI World Momentum Factor UCITS ETF (IWMO) has recovered 61.6% meaning its year-to-August performance is 18.9%.

Despite markets recovering over the summer period, July was still the second worst month of 2020 in terms of flows for smart beta products. There were $1.8bn in outflows in July, just behind March which saw a heavy loss of $1.9bn. The key reason for the outflows in July was high dividend ETFs seeing over $1.3bn in outflows for the month. This is likely as a result of a large volume of companies announcing a reduction in dividend payments after poor revenues during the coronavirus turmoil.

Some 4,445 companies listed on the London Stock Exchange said they were cutting their dividends between January and July, according to GraniteShares. Across the broader European ETF market, assets have been continuing to pour in the later stages of Q2 and the first two months of Q3.

Equity ETFs have also had three consecutive months of inflows ranging between $4.1bn and $7.8bn. This has rectified the $15bn of outflows seen in March meaning the asset class has received $10bn inflows year-to-August. The performance of Europe’s equity market has been slightly underwhelming, however, with the FTSE 100 being down 3.3% between July and August. Therefore, the index remains down by 21.6% for the year.

Meanwhile, the Euro Stoxx 50 is only up 1.2% over the past two months, so is similarly still in the red for the year at -13.7%. Fixed income and commodities have maintained steady inflows month after month meaning both asset classes have grown their assets by $15bn and $31.6bn, respectively.

US and UK government bond ETFs have shown a steady upward performance in 2020. The Vanguard UK Gilt UCITS ETF (VGOV) climbed a respectable 6% this year, behind the iShares USD Treasury Bond 20+yr UCITS ETF (DTLA) which has climbed 19.7%. Gold ETCs became increasingly attractive in the beginning of Q3 as the yellow metal’s value surpassed $2,075 an ounce, a record high. This was mostly driven by concerns of a second wave of coronavirus threatening to shut down economies again and investors seeking haven however tensions have since eased and the price has fallen below $2,000 an ounce.

As a result of the price rally, the Invesco Physical Gold ETC (SGLD) is up 29.3% for the year. Crude oil on the other hand has not recovered from the impact of Q1’s volatility. For most exposures, the downward trend only lasted the duration of March, but for the WisdomTree WTI Crude Oil ETP (CRUD), it had a consistent negative performance between January and May. CRUD has seen a slight recovery since then as factories return to normality and travel slowly begins to resume but has plummeted -55.4% for the year.

<table>
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<th>Month</th>
<th>Growth</th>
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<th>Low Volatility</th>
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Source: Koris International
BIG CALL: FIXED INCOME ETFS

With fixed income ETFs accounting for less than 1% of the overall bond market, the growth outlook over the next five years is huge. This digital event will explore the different issues facing investors when looking to slice and dice the fixed income ETF market while also taking a deep dive into the macro outlook for the bond market.

Key topics:
- Central banks: Where to go from here?
- New ideas in the search for yield
- ETF liquidity: Bonds under the spotlight
- Investigating the increasing demand in fixed income ETFs

BIG CALL: ESG INVESTORS FORUM

ESG ETFs have become a major focus for investors and issuers have responded by launching a slew of products. However, a lack of consistent data and a whole host of different ESG screens makes selecting the right ETF a tricky task. This digital event will explore the issues currently facing investors and the factors that will continue to drive the green revolution.

Key topics:
- ESG under the microscope: Regulatory developments in the space
- Climate change ETFs: Investigating the latest ESG trend
- ESG and fixed income: Time for rapid growth?
- Portfolio construction: Incorporating ESG ETFs

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