FALL 2020

EUROPEAN
INVESTMENT JOURNAL

www.radiuseurope.com

INAUGURAL ISSUE – FALL 2020

THE WINDS OF CHANGE ARE BLOWING ACROSS THE CHANNEL

GEOPOLITICS
PORTFOLIO CONSTRUCTION
FINTECH
ESG-INVESTING
ASIA
COMMODITIES
ALTERNATIVE ASSETS
RETIREMENT PLANNING
PRACTICE MANAGEMENT

The **EUROPEAN INVESTMENT JOURNAL** is published quarterly by **RADIUS EUROPE GmbH.**

RADIUS EUROPE GmbH

Am Südhang 15
53343 Wachtberg
T – 49 228 8869 0770
E – info@radiuseurope.com
www.radiuseurope.com

Publisher	Keith Costello, MBA
Managing Editor	Regina Costello, TEP CFP
Lead Editor	Ursula Kamper
Art Director	Vic Finucci
Sales Director	Tony Sanfelice

CONTRIBUTIONS

The publisher welcomes articles, letters and other form of contribution for publication in the **EUROPEAN INVESTMENT JOURNAL**. All submissions become the property of the **EUROPEAN INVESTMENT JOURNAL**, which reserves the right to exercise editorial control in accordance with its policies and educational goals.

If you would like to cancel your subscription at any time, please contact:
info@radiuseurope.com

radius Europe GmbH
Financial Education

The Winds of Change are Blowing Across the Channel

I am very pleased to present to you the inaugural edition of The **European Investment Journal**. This quarterly publication will bring together the best experts and thought leaders in the European financial services industry who will discuss the salient issues of today and the evolving trends of tomorrow.

This challenging year of 2020 has crystallized that excellent financial advice and solutions are at the cornerstone of the economic and social health of our society. COVID-19, Brexit and the U.S. foreign policy reset are all exerting tremendous pressure on the European community. The U.K.'s relationship with Europe and the world will be redefined as highlighted in **Dr. Rudolf G. Adam**'s article – *'Departing the EU – Destination Unknown?'*. These winds of change blowing across the channel will once again challenge the resilience and ingenuity of the British people. What is certain is that the strong relationships between the financial centers both on the continent and the isles must and will remain for the prosperity of all.

It is with this theme that we have assembled the very best experts to deliver value to all types of stakeholders working in this industry through a diverse set of topics. This edition will discuss geopolitical issues, strategies for portfolio construction, the fast moving fintech sector, and various perspectives on ESG investing. Further, we will discuss the technology leap in Asia and new alternative assets. Also, we will feature insights into commodities, retirement planning and practice management.

I hope that you enjoy reading this journal and that there are some valuable ideas for you. Have a safe and enjoyable upcoming holiday season. May you achieve new prosperity for 2021 as COVID-19 winds down and we take 'new' out of 'new normal'!

Regards,

Keith F Costello
Publisher & CEO
Radius Europe GmbH

Features

FALL 2020

EUROPEAN INVESTMENT JOURNAL
www.radiuseurope.com

Departing the EU - Destination Unknown?

Implications of Brexit

Dr. Rudolf G. Adam
Independent consultant

On January 31st, 2020 the United Kingdom left the European Union, losing vote and voice. It was a legal departure. Until the end of 2020 the UK will be treated as a member in economic and financial aspects. The critical date is not January 31st, but December 31st, 2020. This is when Brexit will be felt in the world of money and products.

Brexit was a vote against the EU. It remained silent of what was to replace EU-membership. During the campaign, Leavers assured voters that nothing substantial would change - Britain would have its cake and eat it, in the immortal and immoral words of Boris Johnson; Britain would retain unrestricted access to the Single Market, an agreement on future trade relations with the EU would be the easiest treaty in diplomatic history.

A Launch Without a Place to Land

The Brexit referendum had given the command 'cast off'. But neither the captain nor the crew knew the port of destination, what course to take or which manoeuvres to execute. Nobody had a map with suitable places to anchor. Nobody had the slightest idea about costs or potential profits of this journey.

The confusion of what to make of the Brexit vote was responsible for the tortuous path British politics took under Theresa May. But it was not confusion about Brexit that made her stumble. It was Northern Ireland and the Backstop.

Northern Ireland had played no role in the Brexit campaign of 2016. Once the UK left the Single Market, however, it was inevitable that there had to be either border checks between Northern Ireland and Ireland or between Northern Ireland and the rest of the UK. Neither options were acceptable to the Parliament in Westminster. The result was stalemate.

May's successor Boris Johnson devised a new solution which seemed vague enough to satisfy Parliament. The Protocol that he signed with the EU is couched in blurred language and leaves wide room for divergent interpretations and inconsistent application. The suspicion of bad faith has been growing with Johnson's bravado, his opportunistic remarks and his hoodwinking machinations.

A Family Member Leaves

The EU loses a family member. The UK represented 18% of the EU's economic potential, 13% of its population and more than 20% of its military strength. The EU has lost a member with nuclear weapons and a permanent seat in the Security Council, a country whose traditions in the rule of law, liberal institutions and democratic government were a model worldwide. It is in the EU's vital interest to keep a departing UK as close to itself as possible; but it is an equally vital EU-interest to keep its own institutions intact and immune from disturbing influences.

Only a Hard Brexit is a Good Brexit

A hard Brexit is now preordained. The question is only: Will there be some sort of contractual frame or will it be a departure in acrimony and frustration? The EU-27 obviously need a different sort of agreement with a country that lies on their doorstep from one with a country that is beyond the Atlantic Ocean. To invoke Canada or Australia as a model is absurd: EU trade with Canada is a fraction of trade with the UK and the EU has no trade agreement with Australia. The situation in Northern Ireland is peculiar to the United Kingdom and therefore makes special arrangements inevitable. The British Government has introduced an Internal Market Bill that flatly contravenes the Withdrawal Agreement concluded a year ago. The United Kingdom not only flouts the rule of law. It appears as a fraudster whose words cannot be trusted. It has repeatedly tried to renege or to re-interpret texts that seemed agreed. Mistrust and suspicion are creeping in.

At the moment, the British government seems to seek a radical separation from all EU-norms and regulations and unconstrained freedom of action. It proclaims 'Global Britain', implying a return to free trade without quotas and tariffs, without bureaucratic inspections or specifications. This radical idea of free trade is not realistic. Despite globalisation, national markets differ in safety, health, environmental aspects, designations of origin, fight against counterfeited products etc. The EU cannot accept that an economic power like the United Kingdom can export uncontrolled into the Single Market unless its products meet basic specifications of this market. The British government that pushed for the Single Market under Margaret Thatcher knows this well enough.

Empty Promises and False Prophets

Those advocating Brexit have promised economic independence and a revitalisation of economic ties with Commonwealth countries, taking back control over borders, controlling migration, saving money and higher growth rates. None of these promises stands the test of reality.

Global Britain Faces Head Winds

The vision of Global Britain comes at an inopportune moment. The peak of multilateral free trade has passed. Since 2016, the USA is pursuing a strict 'America first' course. Punitive tariffs are a central element of Trump's foreign policy.

The present administration is looking on foreign trade primarily through the lens of protecting jobs in the USA and using tariffs and sanctions as leverage for political ends. If the UK is turning away from the continental EU, the obvious alternative partner is the USA. But in this relationship the USA is clearly dominating, not only because of its size, but also because the UK is under time pressure and has few alternatives. The idea was to have a US-deal before an EU-deal, thus putting additional pressure on the EU. That has turned out to be an illusion. The US-President is in the midst of an election campaign and has to negotiate with rigour. The diktat from Washington could be no less troublesome than the alleged diktat from Brussels. The recent trade deal with Japan covers 2 percent of British foreign trade. It opens Japan to more exports of Scotch whisky, but it also opens the United Kingdom to cars made in Japan. That will spell the end for Japanese cars manufactured in Britain. The idea of economic independence in an interdependent world is a daydream.

As to the rest of the Commonwealth - most Brexiteers prefer to speak of the Anglosphere - hopes of reviving trade with down under seem flimsy. Before 1973, Australia and New Zealand were among Britain's main trading partners, Britain accounting for 33 percent or 45 percent of their foreign trade respectively. Today, Britain's share has shrunk to 3 percent. Both Australia and New Zealand have integrated into the booming economies of East Asia. Neither of them will bend over backwards to accommodate an antipodean country that has second thoughts about its economic preferences. India has shown little enthusiasm. A trade agreement with China will be difficult not only because a nation of 65 million will not have the same weight as the EU-Single Market of 450 million, but also because political issues could interfere. It seems inconsistent to ban Huawei from doing business in the UK and to threaten sanctions over Hongkong while expecting favourable access to the Chinese market.

The Cake is Getting Smaller

Regional and bilateral trade agreements are displacing global free trade. The COVID-19 pandemic is accelerating this trend. World trade is increasingly subjected to reshoring, protectionist trade barriers and regional obstacles. Supply chains are being shortened to make them less vulnerable. Gigantic government aid programs flow exclusively into national economies and distort competition. This makes accusations of dumping, countervailing duties, punitive tariffs or retaliatory measures more likely. The dispute settlement procedure of the WTO is paralysed. Since the Doha Round in 2008, no world trade talks have been held in WTO format. Only a handful of nations trade on WTO-conditions. World trade is politically charged, moral disapproval manifesting itself in economic sanctions. Even allies are affected by such sanctions. The global economy is expected to shrink by five percent this year. With Brexit, the British are losing privileged access to one of the most productive regional markets with high living standards and enormous purchasing power. They will have to cut a new piece out of a smaller cake elsewhere.

Loss of Control

The hope of regaining control of national borders turns out to be an illusion. The Northern Ireland Protocol creates a hybrid role for this part of the United Kingdom: one territory, two systems. Northern Ireland remains part of the EU's economic order without having a say in Brussels. A new control regime will have to be imposed on the Irish Sea that will likely encourage smuggling and black-market activities – perhaps even tolerated by authorities that are inadequately equipped or deliberately turn a blind eye or, if the Internal Market Bill should be approved by Parliament, by a Minister of Her Majesty's Government who knowingly and deliberately contravenes treaty obligations. The political authorities of Belfast will remain excluded from decisions that affect their vital interests, since they are not represented on the Committee that is to implement this agreement. 'Take back control' may apply to London; for the regional governments in the United Kingdom, Brexit means a loss of control.

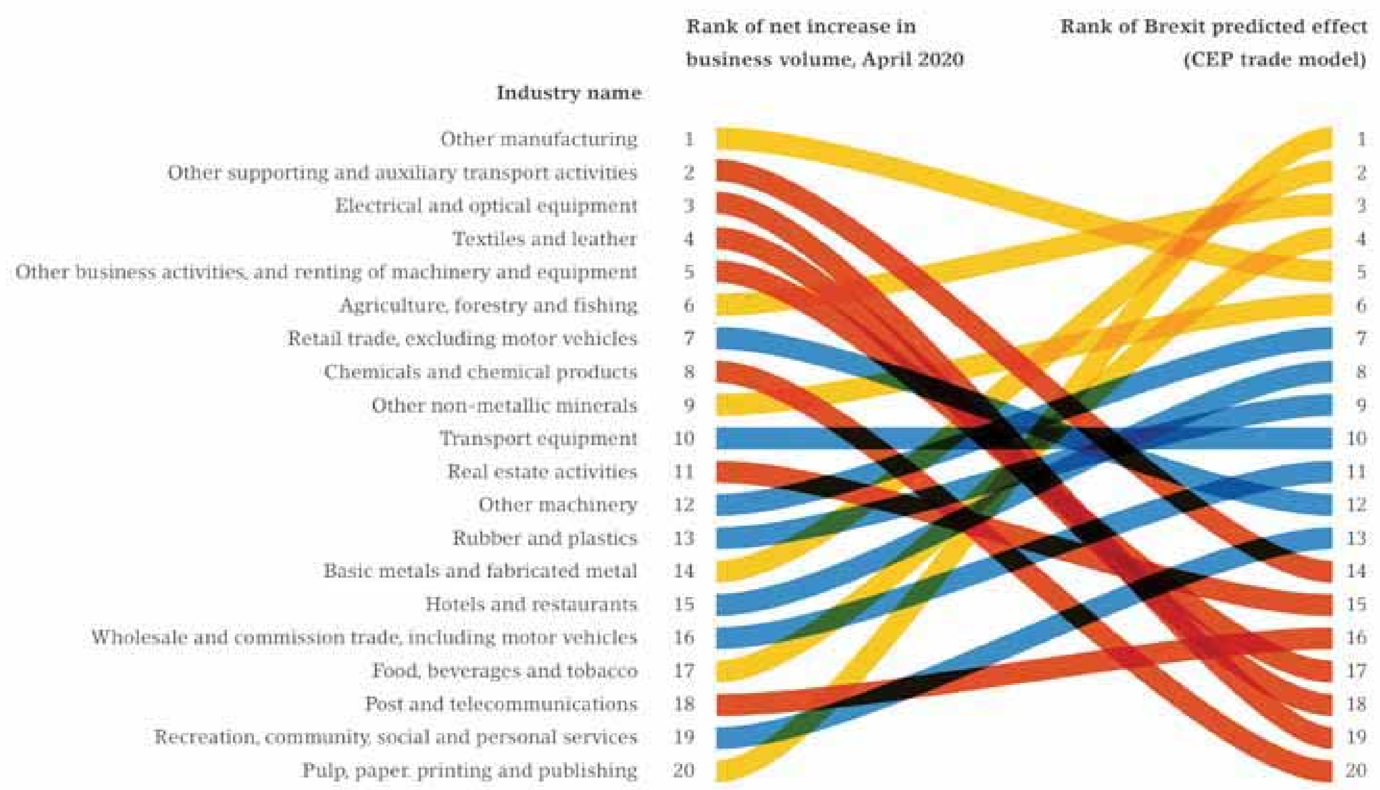
Migration has Changed but not Dropped

A core demand of the Brexit campaign was better control over immigration. Migration from EU countries today is less than half of what it was in 2015/16. But immigration from non-EU countries has risen and reached the level of total immigration in 2016. Immigration has not fallen, it has just changed composition. Migratory pressure from non-European countries will continue to rise. Not only will Britain have to find substitutes for the thousands of low paid Eastern Europeans who helped out as nurses, as seasonal workers on the fields or in the building trade. Seasonal workers from the continent return after completing their stint. Seasonal workers from Pakistan, the Philippines or Ghana are less likely to return and will probably try to stay illegally. In the Hong Kong crisis, the Prime Minister has promised residents with British overseas passports unrestricted entry with a work permit. This could affect up to 3 million Hong Kong Chinese – 10 times the current level of annual immigration, and more than all EU citizens currently residing on UK territory taken together. As long as the Common Travel Area with Ireland remains in force, the route via Dublin offers uncontrolled access to the United Kingdom.

By contrast, emigration is increasing. British citizens are applying en masse for citizenship of other countries: in Germany, applications have soared by 3,000%, in Ireland by 800% and in France by 500%.

Brexit does not Save Money

The UK's obligation to contribute to the EU budget – so far about £10 billion net per year – will cease at the end of the transition period. But these savings will be offset by huge new expenditure. The UK government will have to provide national subsidies for farmers and fishermen. It will have to build up national authorities for environmental issues, medicine approvals, and product safety. New customs and border controls will be needed, requiring perhaps 50,000 workers and corresponding infrastructure. Preparations for a



'no deal' exit have swallowed £2 billion. The British economy is facing high transformation costs and risks. All larger companies have set up special teams to prepare for the consequences of Brexit at an estimated cost of £5-10 billion. SMEs in particular find it difficult to master the complexities required to adapt to post-Brexit conditions.

After Brexit and COVID-19, tax revenues will plummet, but expenditures will rise steeply. The latest budget estimates for 2020 are alarming: expenditure: £1,050 billion, revenues £780 billion, deficit £270 billion (15% of a GDP likely to shrink by 10%). Some fundamentalist Brexiteers regard this as a boon. Amid the general recession caused by COVID-19 it will become impossible to attribute exactly which part of an eventual decline can be attributed to Brexit.

A hard Brexit will have lasting repercussions on the structure of the British economy. Any analysis has to be tentative as long as the conditions defining the future relationship with the EU are unclear. The earlier diagram is an attempt to measure how different branches may be affected.

Enduring Uncertainty

The worst effect of Brexit is enduring uncertainty. Investment options need reliable information about of the way ahead. Supply chains and marketing postures need to be adapted to post-Brexit conditions. Britain has lost four years in adapting and modernising through dithering about Brexit. Long term structural consequences of Brexit will only become apparent in 2021. What is known so far is that the automotive sector and aerospace will be seriously affected. Aston Martin, Bentley and Rolls Royce are English icons and cannot be produced anywhere else. But the fate of most of the other car manufacturers is in abeyance. The Japanese have never left any doubt that for them Britain was the gateway to Europe, and once that gate slums shut or tolls become payable, the basic assumption for locating their production in Britain falls away. Airbus could relocate production to the USA, particularly if that could help easing American pressure over imbalances in transatlantic trade.

Preliminary Assessment

Prospects are dim. The best guess is that there will be some sort of agreement. Neither side can afford to let the negotiating process crash. There will probably be a rerun of October 2019: bluster, recriminations, threats, brinkmanship, but a superficial verbal compromise will be cobbled together. But papering over the real differences through verbal acrobatics will not solve the real problems. And there is a considerable probability that whatever is agreed may be re-interpreted nonchalantly by the British Government on second thoughts. The reliability of the British government is not beyond doubt.

Brexit is much more than devising a new trade policy for the United Kingdom. It is an enduring process that will fundamentally alter the structure of the British economy and the mentality of British society. It has upset the traditional balance of the constitutional powers – Crown, Government, Parliament and the people – and it will take great statesmanship to find a new balance. The survival of the United Kingdom as a unitary state is at stake: The United Kingdom could become an Untied Kingdom. Another referendum about independence of Scotland becomes more probable as Brexit becomes harder. A secession remains implausible, however. But relations between Scotland and England will grow acrimonious and controversial. The situation in Northern Ireland is more dangerous and fragile. Border controls between Northern Ireland and the rest of the UK will reinforce tendencies in Northern Ireland to open itself to the south. If, however, the UK should ignore its obligations, forcing Ireland and the EU to institute border controls, the result could be a return of violence and troubles. The IRA would remobilise. On top of all this, the deep divisions within English society persist. Should the results of Brexit turn out to be disappointing (as they most likely are), there could be nasty, perhaps even violent repercussions.

Singapore-On-Thames

A post-Brexit UK will try to emulate Singapore's model: Low taxes, emphasis on financial services and on high tech. It will set out to become more competitive in research and development where it already enjoys some success. The World Wide Web was a British invention. But seeking a future in AI, quantum computing, bioscience, robotics and communication will align Britain increasingly with the United States. This marks the death of the idea of Europe pooling its resources to challenge the undisputed American leadership in new technologies. Britain will evolve either into an appendix of the North American market or into a convenient and cheap workhouse where US high tech companies can relocate some of their business that they have to withdraw from China for political reasons.

Brexit is neither done nor achieved. It is likely to keep British society polarised, fighting about the right path forward. Brexit could mark the moment when Britain, breaking free from the shackles of Brussels, called for free trade in a world turning away from that idea.

Dr. Rudolf G. Adam , *Advisor, Berlin Global Advisors*
rudolfgadam@gmail.com

Rudolf Georg Adam serves as an Advisor to BGA. He joined the Foreign Service in 1976. After working as a Second Secretary in Singapore and First Secretary in Beijing, he became a speechwriter for the Federal President Dr. Richard von Weizsäcker in Bonn, political counselor at the German Embassy in Moscow and then worked in the Planning Staff of the Federal Foreign Office in Bonn.

In 1995 he became Director for Global Disarmament and Arms Control at the Federal Foreign Office and in 1998 European Correspondent (Common Security and Foreign Policy of the EU). In 2001 he became Vice-President of the Federal Intelligence Service (BND). From 2004 to 2008 he was President of the Federal Academy for Security Policy. In 2008 he became Deputy Head of Mission in Moscow, and from 2011 he held the same position in London. He retired in 2014 after a year as Chargé d'Affaires at the German Embassy in London. He is currently an external lecturer at the Universität der Bundeswehr, Munich, and President of the CSASC. He has written three books on Brexit and contributes to Cicero, Süddeutsche and the FAZ.

BREXIT-Revolution: Das Vereinigte Königreich in einer Verfassungskrise, Springer Verlag 2020

(BREXIT-Revolution: The United Kingdom in a Constitutional Crisis)

Book published in German: Der Brexit hat Großbritannien an den Rand einer Revolution geführt. Das Machtgefüge zwischen Krone, Regierung, Parlament und Volk ist aus dem Gleichgewicht geraten. Ein unabhängiges Schottland und ein vereinigtes Irland sind realistische Optionen. Die Gesellschaft Englands ist tief gespalten und das traditionelle Zwei-Parteien-System im Wanken. Nicht nur die äußere Abkehr des Vereinigten Königreichs von den Werten und Zielen der EU, sondern vor allem die Hinwendung nach innen, auf nationale Identität, macht den Brexit zu einem schleichenden Prozess, der noch nachwirken wird, wenn der Austritt Großbritanniens aus der EU längst vollzogen ist.

BREXIT: CAUSES and CONSEQUENCES, Springer Verlag, August 2019

This book offers a comprehensive political assessment of Brexit. Based on a historical review of the role of the United Kingdom in the European Union, the author, a former diplomat at the German embassy in London, presents well-founded insights into arguments in favor and against the Brexit deal and the status quo of the Brexit negotiations. Furthermore, the book discusses the consequences of Brexit – for the UK and the rest of the EU, for security in Europe, and for the transatlantic relationship, as well as for global trade relations and the competitiveness of Europe and the UK.

BREXIT – Eine Bilanz, Springer Verlag, Februar 2019

Book published in German

Der Brexit bildet eine historische Zäsur, dessen Wurzeln siebzig Jahre zurückreichen. Seine Folgen werden lange nachwirken. Die Entscheidung Englands für den Brexit hat die dort schwelende EU-Debatte nicht gelöscht, sondern erst richtig entfacht und das Land unversöhnlicher gespalten als je zuvor. Die angeblichen Vorteile des Brexit bleiben vage, seine ökonomischen Probleme sind hingegen konkret. Die EU ihrerseits steht vor einer existentiellen Krise.

Der Mythos der Unumkehrbarkeit und der Anspruch, das manifest destiny Europas zu verkörpern, sind dahin. Die EU verliert ein wichtiges, leistungsfähiges und wirtschaftlich starkes Mitglied. Der Autor, selbst jahrelang als Diplomat an der Deutschen Botschaft in London tätig, zeigt in diesem Buch eingängig auf, wie es zum Volksentscheid für den Brexit kommen konnte und wie das Ergebnis zu bewerten ist. Welche Ansätze verfolgt Theresa May mit ihrem Kabinett, um das Votum der Wähler umzusetzen? Welche Zukunftsperspektiven ergeben sich daraus für das Vereinigte Königreich? Welche Folgen könnte dessen Ausscheiden für die EU insgesamt, insbesondere aber für Deutschland haben?

Die Antworten auf diese Fragen bilden die Grundlage für die spannenden und anschaulich gestalteten Analysen und Diagnosen des Autors. Das Buch ist der erste Ansatz, den Brexit umfassend als historisches Ereignis in allen seinen unterschiedlichen Aspekten zu begreifen. Es beruht auf wissenschaftlicher Forschung sowie auf umfangreichen Recherchen, persönlichen Interviews und direkten Kontakten aus seiner Zeit als Diplomat. Niemand, der sich für den Brexit und seine Folgen interessiert, kommt an diesem Buch vorbei!

Sizing Smart Beta, Active, and Traditional Indexing: A Portfolio Construction Approach

Julia Rees
Head of Portfolio Strategy, EMEA and AeJ, GSAM Strategic Advisory Solutions, Goldman Sachs Asset Management

Executive Summary

In addition to the more traditional actively managed and indexed strategies, investors today can choose from hundreds of 'smart beta' strategies. As investors look to thoughtfully deploy these options in their portfolios, a practical question arises: How should we blend multiple managers with the same benchmark? And how do relatively new approaches like smart beta blend with active or traditional indexing strategies investors already own?

Here, we provide a framework for professional investors looking to divide an asset class allocation across multiple managers. Our framework's key tenets:

- We believe manager sizing discussions should take place after decisions have been made around overall asset allocation strategy and risk tolerance
- How far a given strategy deviates from a benchmark index is critical information in determining portfolio fit and sizing for smart beta and active strategies. Tracking error quantifies this deviation
- There is a certain amount of 'active' decision-making at play in all investment vehicles, and in how investors choose to distribute capital across said vehicles. Explicit consideration of active risk and correlations of excess returns across strategies may add important information to a rigorous allocation process

Everything is Active, Even Market-Cap Weighted ETFs

A startling story has played out in equally-weighted US large cap ETFs over the last few years. The two largest equally-weighted 500-stock US large cap ETFs have accumulated a performance spread of up to 751 bps! How could that be? Any time a product trails its closest peer by hundreds of basis points is cause for concern. This particular episode was all the more relationship-jeopardizing because the drastic underperformer is a passive product designed to give market-like exposure. The reason for the drag: the ETFs are equal-weighted representations of different takes on the most significant 500 US large cap stocks, one being the S&P 500 index, a committee-driven approach, and one being the 500 biggest stocks by free-float market cap, a purely quantitative approach. Somebody does the security selection that underpins passive vehicles. In many cases, it is the index committee. Committee-driven processes are innately active as judgement is applied and changes need to be approved. Another example - many investors assume Tesla is included in the S&P 500 because of its market cap (larger than Volkswagen, Daimler, BMW, General Motors, Ford, Fiat Chrysler, and Peugeot combined) and huge investor following, but it is not!

Goldman Sachs
Asset Management

This episode reminds investors that any time they chose an implementation vehicle, they make an active decision to follow, or deviate from, a benchmark index that itself may embed some views. Our framework that follows brings risk-based analytical rigor to the process of optimizing a blend of managers using a key measure of 'activeness,' tracking error.

Finally, asset allocation – the decision-making process of apportioning the portfolio across various asset classes – in our view is the single most important fiduciary process investors undertake and it is innately active as well. Our conversation that follows is downstream of asset allocation because it is focused on optimizing the blend of managers within a given asset class.

Smart Beta: New Tools, Familiar 'Rules'

Among the implementation options available today are traditional active, traditional indexing (to a market-cap weighted index), and the relative newcomer, smart beta. Smart beta consists of passive investment vehicles tracking indices designed to outperform market-cap weighted indices by tilting towards certain drivers of excess return, called 'factors.' The factors are defined using predetermined rules. Some vehicles focus on just one factor, like momentum or quality, and others blend multiple factors. Typically blending multiple factors can convey diversification benefits.

Although investors often focus on the differences between smart beta and more traditional investing methods, we would stress that the differences should not obscure smart beta's very similar objective – delivering the opportunity to outperform. Further, in our experience, the smart beta investment factors tend to show up as attributable sources of tracking error for active managers when we analyse their holdings.

Within any given asset class, particularly large asset classes, many investors choose to split their capital across more than one manager or strategy. In the forthcoming discussion, we focus on how we use tracking error and the correlation of excess returns to determine how to optimize this split.

Measuring the 'Activeness' of Investment Strategies

Tracking error (TE) is one of the most commonly used risk measurement tools. Sometimes called active risk, tracking error measures the degree to which an investment's performance differs from that of the benchmark. This metric is calculated as the standard deviation of the difference between a portfolio and benchmark return. It assumes a normal distribution, similar to the measurement of total risk or volatility; however, it measures risk in terms relative to the benchmark.

Tracking error is not a directional measure; it indicates the possibility of outperformance or underperformance. For example, if a benchmark's return is 10%, a tracking error of 1% indicates a 68% probability (one standard deviation on each side of the mean) that the return of the investment may be between 9% and 11% (+/- 1% the benchmark return). A tracking error of 3% represents a 68% probability that the return would be between 7% and 13%.

Exhibit 1: Historical Comparison of Average Tracking Error (To the Respective Benchmark) Among Investments in Each Category

Higher Tracking Error

	Tracking Error to Benchmark	**Excess Return Range (Middle 70%)**
Long/Short US Large Cap	7.7%	26.4%
Smart Beta Emerging Markets	5.7%	11.9%
Active Emerging Markets	4.7%	8.0%
Smart Beta International Developed Equity	4.3%	7.2%
Active International Developed Equity	4.0%	6.4%
Active US Large Cap Equity	3.8%	5.6%
Smart Beta US Large Cap Equity	3.4%	7.5%
Passive International Developed Equity	3.0%	1.0%
Passive Emerging Markets	2.9%	1.2%
Passive US Large Cap Equity	0.2%	0.6%

Lower Tracking Error

Source: GSAM SAS Portfolio Strategy and Morningstar. For illustrative purposes only. Analysis from the one year period ending December 31, 2019. Tracking error is the dispersion of a portfolio's returns from its stated benchmark. More specifically, it is the standard deviation of alpha. The benchmarks used to calculate the average tracking error are the following: S&P 500 Index for US Large Cap Equity and Long/Short US Large Cap, MSCI EAFE Index for International Developed Equity, and the MSCI Emerging Market Index for Emerging Markets. The excess return range was derived by taking the range of excess returns for each category, removing the top and bottom 15% to adjust for outliers. Please see additional disclosures in the end notes for the methodology of how each of the categories were derived. **Past performance does not guarantee future results, which may vary.**

As a rule, a higher tracking error means greater variability of returns around the expected asset class or benchmark return. The more a manager differs from the benchmark (i.e. taking larger overweights and underweights), the greater the typical tracking error. Typically, marketing messages like 'concentrated' or 'high conviction' correspond to higher tracking error approaches. Note that tracking error is not indicative of the skill of a fund manager, and low tracking error does not necessarily mean low active returns. Even traditional indexing strategies have tracking error, especially in international markets, due to factors such as time zones, trading costs and local restrictions.

Tracking error is helpful when comparing a variety of investments, specifically to learn how performance may vary relative to the specified benchmark. Exhibit 1 provides a comparison of average tracking error among active mutual funds, traditional indexing mutual funds, and smart beta ETFs in the US Large Blend, International Large Blend, and Emerging Market Equity Morningstar categories. Notice how Smart Beta approaches tend to fall between passive and traditional active in terms of tracking error.

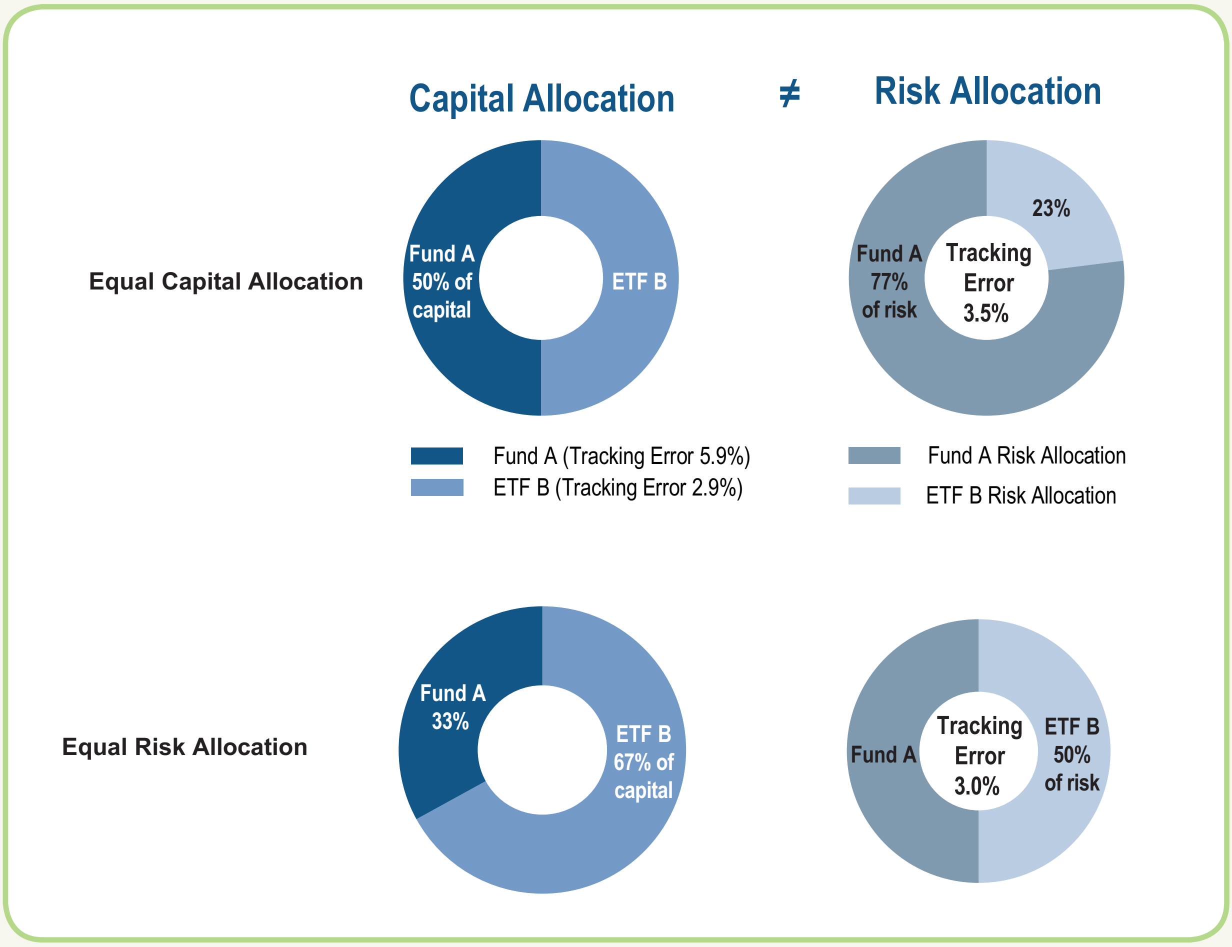
Using Tracking Error to Size Positions in Active, Traditional Index, and Smart Beta Strategies

Active + Smart Beta

One of the reasons investors allocate to two or more investments in a given asset class, like US Large Cap equities, is to reduce manager risk, or over-reliance on a single manager. Our observation after working with thousands of clients is that many professional investors allocate equal capital positions to managers. The typical justification is that the client has equal conviction in all the funds they have chosen, so they allocate equal capital to each. However, the equal capital-weight approach often comes with an unintentionally lopsided risk budget. As shown in Exhibit 2, an equal capital allocation to two funds may result in one of those funds representing the majority of the active risk that the investor intends to take.

Consider the example below. If an investor allocates according to equal capital, they allocate 77% of their allocation's active risk to Active Fund A, a position that conveys more

Exhibit 2: A Sample Capital and Risk Allocation for Active Fund A and Smart Beta ETF B



Source: GSAM SAS Portfolio Strategy. For illustrative purposes only. Diversification does not protect an investor from market risk and does not ensure a profit. These examples are for illustrative purposes only and are not actual results. If any assumptions used do not prove to be true, results may vary substantially.

conviction in Fund A than in Smart Beta ETF B. Rather, we let the risk budget drive the capital allocation. If the investor has equal conviction in both funds, they may allocate equal portions of the risk budget to each, resulting in less capital being deployed in the higher-TE fund.

The specific mix that delivers the risk budget is determined by (1) the tracking error of each manager as well as (2) the correlation between their excess returns. The lower the correlation between managers, the lower the final allocation tracking error. Therefore, seeking active managers who have lower correlations of excess returns may help to reduce the overall level of active risk. While this example uses two managers, the principle applies to mixes of two, three, or more managers.

Tracking error can also be the starting point for identifying a desired mix of implementation options. Consider an investor who, in his or her US Large Cap equity allocation, would like an opportunity to outperform the index, but also uses passive instruments to keep costs low. Such an investor may use a traditional market-cap indexed vehicle and add a smart beta vehicle. Identifying a tracking error target for the combined allocation can point toward specific percentage allocations to smart beta.

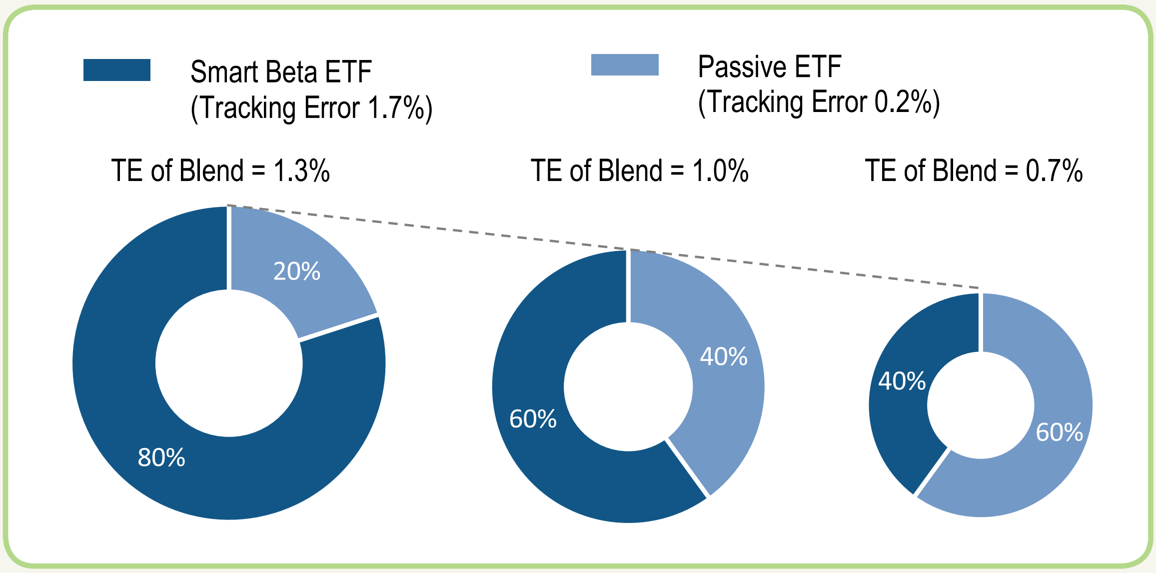
For instance (Exhibit 3), an investor seeking a relatively low level of tracking error (0.7%) might overweight the traditional indexing investment with relatively low tracking error (0.2% in our hypothetical Exhibit 3 example) versus the position with higher (1.7%) tracking error. This would result in a more benchmark-like investment experience. Alternatively, an investor seeking greater potential outperformance would instead target greater tracking error as the tradeoff of aiming for higher returns.

Key Takeaways

- Tracking error is an important tool in sizing smart beta, active, and traditional indexing allocations
- Equal capital-weight approaches to a blend of two or more managers may result in an unintentionally lopsided risk budget that conveys more conviction in higher active risk managers
- Tracking error can be either the end point or starting point in determining an allocation to smart beta or smart beta plus a combination of other strategies

Julia Rees, *Head of Portfolio Strategy, EMEA and AeJ, GSAM Strategic Advisory Solutions, Goldman Sachs Asset Management* *GSAM.com*

Exhibit 3: Sample Mixes of a Smart Beta ETF and a Passive ETF



Source: GSAM SAS Portfolio Strategy For illustrative purposes only. Diversification does not protect an investor from market risk and does not ensure a profit. These examples are for illustrative purposes only and are not actual results. If any assumptions used do not prove to be true, results may vary substantially.

This material is provided for educational purposes only and should not be construed as investment advice or an offer or solicitation to buy or sell securities.

Exhibit 1 Notes: The categories in the chart were derived from Morningstar Categories. US Large Cap Equity represents the US Fund Large Blend category, International Developed Equity represents the US Fund Foreign Large Blend category, and Emerging Markets represents the US Fund Diversified Emerging Markets category. Long/Short US Large Cap represents US Fund Long-Short Equity. Categories that are 'Passive' include funds that are categorized in the 'Index Fund' filter. 'Active' includes funds that are neither categorized in the 'Enhanced Index' nor 'Index Fund' filters. 'Smart Beta' includes ETFs that are categorized in the 'Strategic Beta Group' filter. Smart Beta US Large Cap Equity excludes outliers (the three highest tracking error ETFs).

Important Considerations between ETFs and mutual funds - ETFs generally have lower expenses than actively managed mutual funds due to their different management styles. Most ETFs are passively managed and are structured to track an index, whereas many mutual funds are actively managed and thus have higher management fees. In addition, unlike ETFs, actively managed mutual funds have the ability to react to market changes and the potential to outperform a stated benchmark. Since ordinary brokerage commissions apply for each ETF buy and sell transaction, frequent trading activity may increase the cost of ETFs. Furthermore, ETFs can be traded throughout the day, whereas mutual funds are traded only once a day. While extreme market conditions could result in illiquidity for ETFs, typically, some are more liquid than most traditional mutual funds because they trade on exchanges.

Exchange-Traded Funds are subject to risks similar to those of stocks. Investment returns may fluctuate and are subject to market volatility, so that an investor's shares, when redeemed, or sold, may be worth more or less than their original cost. ETFs may yield investment results that, before expenses, generally correspond to the price and yield of a particular index. There is no assurance that the price and yield performance of the index can be fully matched.

ETF shares are not individually redeemable and are issued and redeemed by the Fund at their net asset value ('NAV') only in large, specified blocks of shares called creation units. Shares otherwise can be bought and sold only through exchange trading at market price (not NAV). Shares may trade at a premium or discount to their NAV in the secondary market. Ordinary brokerage commissions apply. Brokerage commissions will reduce returns.

Confidentiality
No part of this material may, without GSAM's prior written consent, be (i) copied, photocopied or duplicated in any form, by any means, or (ii) distributed to any person that is not an employee, officer, director, or authorized agent of the recipient.

This information discusses general market activity, industry or sector trends, or other broad-based economic, market or political conditions and should not be construed as research or investment advice. This material has been prepared by GSAM and is not financial research nor a product of Goldman Sachs Global Investment Research (GIR). It was not prepared in compliance with applicable provisions of law designed to promote the independence of financial analysis and is not subject to a prohibition on trading following the distribution of financial research. The views and opinions expressed may differ from those of Goldman Sachs Global Investment Research or other departments or divisions of Goldman Sachs and its affiliates. Investors are urged to consult with their financial advisors before buying or selling any securities. This information may not be current and GSAM has no obligation to provide any updates or changes.

Although certain information has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness. We have relied upon and assumed without independent verification, the accuracy and completeness of all information available from public sources.

Any reference to a specific company or security does not constitute a recommendation to buy, sell, hold or directly invest in the company or its securities. It should not be assumed that investment decisions made in the future will be profitable or will equal the performance of the securities discussed in this document.

Views and opinions expressed are for informational purposes only and do not constitute a recommendation by GSAM to buy, sell, or hold any security. Views and opinions are current as of the date of this presentation and may be subject to change, they should not be construed as investment advice.

Index Benchmarks
Indices are unmanaged. The figures for the index reflect the reinvestment of all income or dividends, as applicable, but do not reflect the deduction of any fees or expenses which would reduce returns. Investors cannot invest directly in indices.

The indices referenced herein have been selected because they are well known, easily recognized by investors, and reflect those indices that the Investment Manager believes, in part based on industry practice, provide a suitable benchmark against which to evaluate the investment or broader market described herein.

Past performance does not guarantee future results, which may vary. The value of investments and the income derived from investments will fluctuate and can go down as well as up. A loss of principal may occur.

Goldman Sachs Asset Management

Goldman Sachs Asset Management (GSAM) is one of the world's leading investment managers. With more than 2,000 professionals across 38 offices worldwide, GSAM provides institutional and individual investors with investment and advisory solutions, with strategies spanning asset classes, industries and geographies.

Our investment solutions include fixed income, money markets, public equity, commodities, hedge funds, private equity and real estate. Our clients access these solutions through our proprietary strategies, strategic partnerships and our open architecture programs.

For more information please contact
GoldmanSachsAssetManagement@gs.com

As of June 30, 2020. GSAM leverages the resources of Goldman, Sachs & Co. subject to legal, internal and regulatory restrictions.

In the United Kingdom, this material is a financial promotion and has been approved by Goldman Sachs Asset Management International, which is authorized and regulated in the United Kingdom by the Financial Conduct Authority.

FOR INSTITUTIONAL CLIENT USE ONLY - NOT FOR USE AND/OR DISTRIBUTION TO THE GENERAL PUBLIC

GSAM.com

Join the Fast-Growing World of Exchange Traded Funds

Dramatic changes are happening in the world of investments, thanks to the explosive growth of exchange-traded funds (ETFs). Each day, more and more investors are discovering how ETFs enable them to make trades conveniently, access markets flexibly, diversify portfolios broadly, and manage fees and taxes efficiently.

But what are ETFs? They are pooled funds that trade like stocks. ETFs and traditional investment funds both bundle securities into diversified pools. But ETFs are bought and sold on an exchange, like a stock, giving investors access to markets and their money throughout the trading day.

Like stocks, ETFs are traded on exchanges, at negotiated prices that change throughout the day. Unlike stocks, the supply of ETF shares isn't fixed and can change at any time to meet investor demands. When sellers outnumber buyers, for example, ETF shares can be removed from the market to help correct the imbalance and minimise any disruptions to their price.

ETFs do this by tapping into the trading power of their portfolio holdings. Remember, ETFs are 'baskets' usually made up of hundreds of different securities. Even if an ETF itself is lightly traded, it will still be liquid if its underlying basket of securities are actively bought and sold.

Access to a Broad Range of Active and Passive Strategies

As market conditions and investor needs change over time, ETF providers are responding with more choices and innovative new approaches. Investors can now access similar strategies long available through traditional pooled funds, plus others unique to the ETF world. Broadly, there are three types of ETF strategy to choose from: Passive, strategic – or smart – beta, and active.

Passive ETFs are among the most commonly used ETFs, offering an easy, low-cost way to 'buy the entire market,' without deviating from an index. Passive investing, or 'indexing,' works by matching portfolio holdings and performance to a market benchmark, with funds building portfolios based on company size (or bond issuance). Bigger companies (or the most indebted) make up more of the portfolio, smaller companies make up less. The aim is to earn very similar returns to an index by investing in the same companies, in the same proportions.

Strategic beta, or smart beta, ETFs seek to enhance the return potential of market cap weighted portfolios by distributing risk more evenly across regions, sectors and stocks. They do this by using criteria other than company size to determine portfolio holdings. Some weigh stocks equally. Some screen for stocks with specific characteristics, or 'factors,' such as low valuations, strong earnings or price momentum. And some do both. As a result, strategic beta ETFs can combine the efficiencies of index investing with enhanced portfolio or security selection.

Active investing seeks to achieve a specific outcome (for example, generating an income, outperforming an index or reducing risk) by picking only those securities considered most attractive, usually selected by professional fund managers. Active ETFs offer the cost-effectiveness, liquidity and transparency of the ETF wrapper, plus the experience and expertise of professional fund managers. This human element gives active ETFs more flexibility in pursuing returns and managing some of the limitations of traditional passive indices. During volatile times, for example, managers can take defensive measures aimed at limiting losses versus an index.

The Advantages of Active ETFs

While passive ETFs continue to dominate flows, fund providers are increasingly realising that the ETF wrapper is also an ideal home for actively managed strategies. Active ETFs are one of the factors that will drive further ETF growth, providing investors with the opportunity to earn excess returns on their investments while still gaining all the benefits that they expect from the ETF vehicle.

Active ETFs can also be used to mitigate some of the limitations that are inherent in market-cap indices. Active fixed income ETFs, for example, have the ability to assess the creditworthiness of individual issuers and deviate from the weighting methodology of traditional fixed income benchmarks, which give larger weightings to issuers with higher outstanding debts.

Another advantage of active strategies is their ability to provide exposure to certain investment criteria, such as securities with strong environmental, social and governance characteristics, or to mitigate market volatility by reacting to unexpected market events.

However, as demand for active strategies grows and more active ETFs are launched, it's important for investors to have a full understanding of how they can be employed in portfolios, and the due diligence and trading questions that they should be asking their ETF providers.

Selecting an Active ETF Provider

When choosing an active ETF provider, investors should select a provider with a history of delivering active investment management expertise. Because active ETFs can differ significantly from an index, investors should also ask how the ETF's underlying index is constructed so that they can understand the drivers of the fund's performance. What is the investment objective? How are securities selected? How are weightings assigned? What are the potential sector or stock biases that result?

Investors should also look at the active ETF's liquidity profile. A liquid active ETF will maintain exposure to liquid and tradeable underlying securities, which will allow the cost of creating and redeeming shares to be low, and the ability to provide intra-day pricing to be high.

Investors should ensure that the ETF provider has the requisite capital markets resources and technology support needed to manage active ETFs effectively. And they should assess the ETF's ability to access the secondary market – if an ETF suffers a redemption, or receives inflows, it may not need to trade its underlying securities. Consolidated trading reports, which show the level of hidden over-the-counter (OTC) trading as well as exchange-based trading, can help give a better view of an ETF's secondary markets access.

J.P. Morgan Research Enhanced Index Equity (ESG) ETFs: The Best of Passive and Active in a Single ETF Strategy

There are multiple active ETF strategies to choose from to fit different investment objectives and portfolios. A popular active equity approach unique to J.P. Morgan Asset Management is the Research-Enhanced Index (REI) Equity (ESG) strategy. The strategy provides access to a suite of active equity products that have proven successful, outperforming their benchmark since inception.

The secret to the success of our Research-Enhanced Index Equity (ESG) ETFs is their ability to blend passive index exposure and active stock selection within a robust environmental, social and governance framework, making them an attractive option for investors looking to earn incremental excess returns on their equity exposure at low active risk.

Time to Consider a Research-Enhanced Approach

Whether investors are seeking to de-risk portfolios or looking to perhaps dip their toes back into markets, our Research-Enhanced Index (REI) Equity ETFs provide a cost-effective way to gain equity index exposure, with the added benefit of being able to target excess returns by tapping directly into the stock-specific ideas of J.P. Morgan Asset Management's experienced team of career analysts.

Quarterly Global Equity Investors' Survey

Source: J.P. Morgan Asset Management. A subset of survey results are shown for Global Equity Investors Quarterly. Responses received in March 2020. These responses are taken from a quarterly survey representing 36 CIOs and portfolio managers across global equities.

With our hybrid approach, equity investors don't have to choose between passive index exposure and active security selection – they can have both, supplemented by a value-added focus on sustainability through ESG sector exclusions and corporate engagement.

Cost-Effective Equity Index Exposure

We believe equities will remain an important component of overall portfolio returns, particularly in the short term, if stock markets experience a sharp rebound as global economies begin to recover from coronavirus lockdowns. This view is widely held among global equity investors. Some 86% of respondents to our latest quarterly global equity investors' survey expect equity returns to be above average over the next 18 to 24 months.

As stock markets recover, our REI Equity strategy is able to provide the cost-effective index exposure that investors need. This is because, like passive funds, our REI Equity ETFs stay close to fully invested at all times, with regional, sector and style exposures closely controlled relative to the index to provide a consistent, low tracking error – and a competitive fee.

Incremental Excess Returns

While equity index exposure remains important in the short term, the contribution from active management is likely to be crucial in the longer term. According to our latest long-term asset class forecasts[1], annual equity returns could fall to 5.5% per annum over the next 10 to 15 years – significantly lower than the 7.3% annual return enjoyed over the last 30 years. In a lower return world, the excess returns produced from active management can make a larger contribution to overall equity performance.

We believe our REI Equity ETFs are particularly well placed to generate the long-term excess returns that investors need. Unlike index funds, they are able to take many small overweight positions, driven by the proprietary stock insights of our experienced team of equity research analysts. Our analysts base their stock valuations on sustainable long-term earnings, allowing them to look through the current crisis to identify companies that look undervalued at today's stock price. The goal is to maximise these stock-specific opportunities, while minimising uncompensated market, sector and style risks.

The opportunities for our analysts to identify undervalued stocks and to generate excess returns look particularly strong in today's markets. The COVID-19 crisis has exacerbated the recent trend towards large-cap, growth and defensive stocks at the expense of highly leveraged and cyclical stocks, sending valuation spreads (the difference between the most expensive and cheapest stocks in a market or sector) to extreme levels.

We believe this market distortion has created significant share price anomalies that can be exploited through our bottom-up stock research. For example, we are finding significant long-term value in many strong 'structurally winning' companies whose share price has been unduly impacted by the sell-off, while we're mindful of holding companies that are highly leveraged and will struggle to service their debts through a deep recession. In general, our REI equity ETFs are always well balanced and remain focused on maximising their exposure to our analysts' insights.

Aligned with Investor Priorities

Another important differentiator of our REI Equity ETFs is our active ESG framework, which plays a critical role in assessing the long-term sustainability of stock returns, and also considers the broader impact of our portfolio holdings with the environmental, social and governance factors that increasingly matter to investors.

We employ a two-tiered approach to incorporating ESG, using values/norms-based screens to exclude tobacco, thermal coal, controversial weapons and weapons producers, while also systematically and explicitly considering ESG factors in all our investment decisions and encouraging best practices through company engagement.

We believe that the consideration of ESG factors can add significant long-term value. ESG factors can impact corporate revenues, costs and operating cash flows, while poor ESG practices can erode the value of assets and limit access to financing.

Versatile Funds with Strong Performance Track Records

Our Research-Enhanced Index ETFs span four regions, allowing investors to gain cost-effective and efficient exposure to all major stock markets:

- **JREG**: JPM Global Research Enhanced Index (ESG) UCITS ETF
- **JREU**: JPM US Research Enhanced Index (ESG) UCITS ETF
- **JREE**: JPM Europe Research Enhanced Index (ESG) UCITS ETF
- **JREM**: JPM Emerging Markets Research Enhanced Index (ESG) UCITS ETF

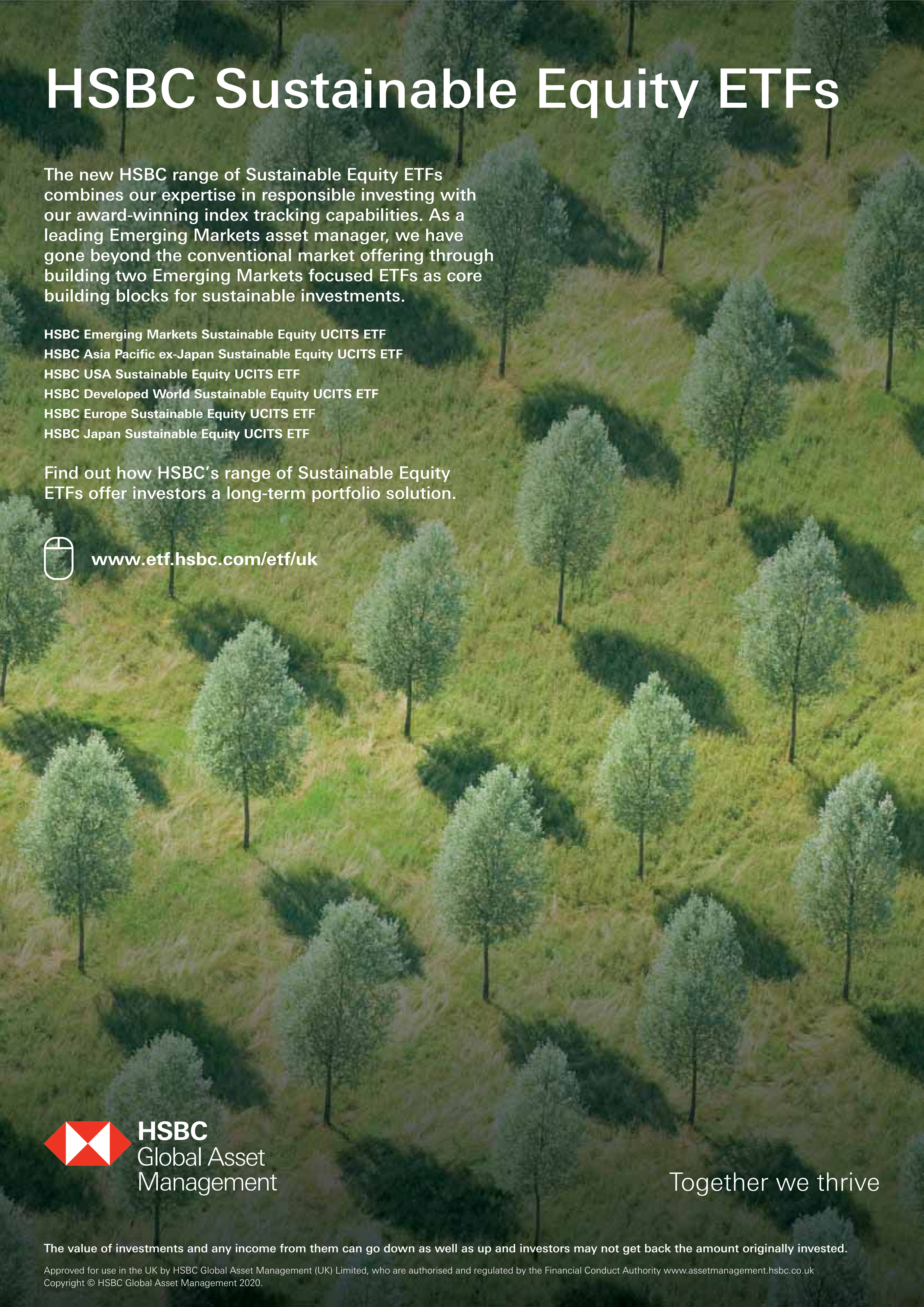
Each fund incorporates the research insights of approximately 80 fundamental equity analysts and benefits from an investment research process that has been sharpened for over 30 years. While past performance should not be used as an indicator of future returns, all our REI Equity ETFs are outperforming their benchmarks over one year and since inception, and in most cases with less volatility and lower maximum drawdowns.

In the near term, we believe our REI equity ETFs can help investors maintain or rebuild equity exposure to capture upside from a potential recovery rally. Longer term, we think their ability to generate incremental excess returns will be critical for investors to boost expected low returns across most asset classes. It's this ability to differentiate through in-depth research, while also providing efficient index exposure, that really sets our REI Equity ETFs apart.

Edward Malcolm, *Executive Director, UK Head of ETF Distribution, J.P. Morgan Asset Management*
edward.malcolm@jpmchase.com +447780706027

Note: Mr. Malcolm is point of contact for J.P. Morgan Asset Management, but is not the author of this article.

[1] J.P. Morgan Asset Management 2020 Long-Term Capital Market Assumptions.


HSBC Sustainable Equity ETFs
The new HSBC range of Sustainable Equity ETFs combines our expertise in responsible investing with our award-winning index tracking capabilities. As a leading Emerging Markets asset manager, we have gone beyond the conventional market offering through building two Emerging Markets focused ETFs as core building blocks for sustainable investments.
HSBC Emerging Markets Sustainable Equity UCITS ETF
HSBC Asia Pacific ex-Japan Sustainable Equity UCITS ETF
HSBC USA Sustainable Equity UCITS ETF
HSBC Developed World Sustainable Equity UCITS ETF
HSBC Europe Sustainable Equity UCITS ETF
HSBC Japan Sustainable Equity UCITS ETF
Find out how HSBC's range of Sustainable Equity ETFs offer investors a long-term portfolio solution.
www.etf.hsbc.com/etf/uk
HSBC
Global Asset
Management
Together we thrive
The value of investments and any income from them can go down as well as up and investors may not get back the amount originally invested.
Approved for use in the UK by HSBC Global Asset Management (UK) Limited, who are authorised and regulated by the Financial Conduct Authority www.assetmanagement.hsbc.co.uk
Copyright © HSBC Global Asset Management 2020.

The New Silk Roads Built on Blockchain

Allan Lane
Managing Partner, Algo-Chain

Apologies for the nonchalance but all it took was a global pandemic and before you knew it the world was hooked on video conferencing. Analysts at Bernstein estimate that from the beginning of March 2020, Zoom's user base exploded from an initial count of 14 million to 173 million – all within three months. Nothing beats being in lockdown for over four months to concentrate the mind. One can only speculate how many C-Suite executives have had their own eureka moment when asking themselves whether their own business model would survive the crisis?

Always being a fan of using ETF valuations as a temperature check for the stock markets, as of August 10^{th}, 2020 the best performing Equity ETFs listed on the London Stock Exchange were the Market Vectors Video Gaming and eSports and the WisdomTree Cloud Computing ETFs, both up more than 50% year-to-date. Compare that to the Amundi ETF that tracks the MSCI Europe Banks Index which was down 37% during that same period and it suggests difficult times ahead for the banking industry.

In their book 'This Time is Different' economists Carmen M. Reinhart and Kenneth S. Rogoff challenged the notion that the old valuation rules no longer apply, although subsequently their analysis has been deemed to be flawed as a result of computing errors by their researchers. Nonetheless, it is with interest to read the recent commentary of Rogoff where he strongly suggests the world's Central Banks are losing the FinTech arms race by not moving fast enough to match the new world of digital payments and more importantly that the consequences of this might be profound.

A FinTech Future

Welcome to a post pandemic FinTech future where it is no longer if but when the status quo of the Financial Services industry re-wires itself into a Blockchain powered eco-system. Much has been spoken about Blockchain over the last five years, and without blunting the message it became clear that for many Financial Services firms the very close association with Bitcoin became too hot to handle. Complete with the realization that many of the ideas for the brave new world were built on vapourware, real progress was not going to be instant. Five years on though, and a proverbial lifetime in today's technology circles, times have moved on. The development of interest is the concept of Smart Contracts and against this backdrop it does seem that the transition has been made and the future looks bright. For those readers not familiar with the notion of a Smart Contract, such a construct is a rules-based piece of software built using Blockchain technology on a distributed ledger that automatically executes all or parts of an agreement between two or more entities.

Don't think highly complex situations; instead think of dumb applications where a machine can do a better job than a human and costs much less to implement. Why pay a person to sell cans of Coke from a stall, when a vending machine can be programmed to dispense the goods more cheaply. Smart Contracts will become common place across the settlement system, and much like reel-to-reel tape machines our children will wonder what it was like when it used to take three days to settle a payment. The possibilities are endless, not just for security settlement, but also for custody, fund management, and potentially any contract between two financial parties. With the threat of a long-term recession looming large, it is easy to understand why public work programs can help the economy. The simple task of re-tarmacking all of the UK's pothole studded roads would bring employment and revenue to many.

Maybe not quite the Martial Plan that some politicians would have us believe, but there is a case to be made that many of the proverbial roads of the world's financial systems need re-building. What's proving difficult here though, is the building animosity between the world's three largest superpowers, the US, China and Russia. While many were contemplating Donald Trump's suggestion that the US Treasury should get paid a finder's fee if Microsoft was to buy TikTok, China's Blockchain-based Service Network (BSN), the country's nationwide blockchain project, launched its official international website. With integration of six public chains including Ethereum, EOS, Nervos, Tezos, NEO and IRISnet, the aim is to allow developers to build dApps (decentralized applications) which operate on overseas BSN data centers. With a technologist's hat on, the mere thought that via the API's of these multiple Blockchains one can gain access to the Chinese market of 1.4 billion will prove hard for many to ignore. It is too early to say if China will succeed in their ambition to dominate the global Blockchain market but given their rapid adoption of all things AI & Machine Learning, I'm not sure I would want to bet against them.

Blockchain Adoption by the Investment Management Mainstream

Closer to home, the recent months have seen an increasing number of press releases informing the market of a number of Blockchain projects by the big incumbents. Vanguard completed their pilot that saw them, along with BNY Mellon, Citi & State Street, put the processing of an Asset Backed Security onto a decentralized ledger. To that we can add JP Morgan's announcement that they had put a number of components of their Money Market Funds business onto Calastone's Blockchain driven funds network. There are many others, and it is clear that in the West the FinTech arms race is well underway. At Algo-Chain we took the decision a couple of years ago that we would digitize our Discretionary Fund Management business and offer it as a FinTech proposition. We felt the marriage of our in-house Machine Learning based re-balancing models and the benefits that ETFs brought to the table seemed hard to ignore.

Technology for technologies' sake has never really been a big selling point, which suggests there will have to be some very good reasons why an increasing number of firms will be willing to take the risk that comes with the innovator's dilemma. In simple terms the questions are stark, but at its heart is the issue of cannibalizing a company's revenue stream at the risk of losing out on future market share. When the stakes are so high, implementing change is a risky business. At times the Financial Services industry has not always operated with the best of intentions; too often its services and products are unnecessarily complex and poorly priced. It would be a missed opportunity if some of the cost benefits of the re-wired solution were not passed onto the end user.

The Final Phase of the Democratization of Wealth Management

In a world where there has been a root and branch re-building of the way the Financial Services industry operates, what might these significant changes amount to as seen by the clients? Sticking to the area that I am most familiar with, namely investment management, it does feel like it might take a full generation to sweep out the misconceptions and contortions the industry often has to defend. The debate about Active and Passive management reminds me of the 'Frequentist versus Bayesian' debate that dominated the world of Mathematical Statistics for several decades. As a story with its own twists and turns, there is not sufficient space to do it justice here. The story of Alan Turing, though, makes a good case study to portray what was at stake. During the war years at Bletchley Park, Turing had employed what we would now describe as a Bayesian approach when analysing data to attempt to crack the Enigma code, but for many years this work remained classified and was thus hidden from view for many years. However, many leading statisticians discounted Bayesian methods, favouring their own much more familiar approach.

In investment management a similar stand-off has raged for years between active and passive investment frameworks, but very little of this debate has focused on what really benefits the end investor. If there is a lesson to be learned from the mathematicians and scientists as they fought their corner on the debate, it's the simple realization that often the smartest people in the room waste their time on the wrong questions. Roll on the day when it becomes blatantly obvious that more time should be spent in ensuring that as a Wealth Manager you are delivering a top of the line service. If not, then as the buying power slowly but surely moves over to the client side, your competitor is only one click away on the mobile phone. According to the recent Accenture-Orbium Wealth Management C-Level Survey (June 2020), Wealth Managers expect to lose on average 32% of their clients' wealth on succession which could amount to over $1 trillion per year, so there is a lot at stake here.

Nothing helps clear the mind better than the sheer scale of this potential wealth transition and will usher in what might well be the final phase on the democratization of Wealth Management. Take it as read, this next generation when making investment decisions will not constrain themselves by using yesteryear's ideology; expect their value proposition and philosophy to be 'ESG' centric from the go get. A Wealth Manager's values will become increasingly important, and if they want to rule the roost it will be imperative that they deliver both good value and a quality level of service.

As the FinTech future forges ahead, it does feel like most of the progress will be based on the back of the notion of democratization. The power is slowly but surely being taken from the big institutions and handed over to the end user, almost exclusively via their smartphones. As the over-arching success of technology continues unabated, a winner takes all culture dominates many industries that either leverage technology (think Netflix) or own the technology (think Amazon Web Services). It is not clear how to re-distribute that wealth – solve one problem and up pops another.

Investment Management Skill or Raw Computing Power – Take your Pick

In the future when Smart Contracts and countless dApps drive the smart economy, what is really going to happen to all those potential cost savings? Will it result in a much better level of service or will the potential for reduced management fees result in a better fund performance as the year-on-year compounding effect of a lower drag coefficient does its job?

Pre or post the FinTech revolution, as an investor it sounds entirely reasonable that I would be prepared to pay higher fees to get better performance. In every other walk of life it is standard practice to pay more to get access to the best, but what if those higher returns are not generated by the skill of an individual investment manager but instead arise from a platform's computer driven models? Should an investor pay less fees in that scenario, if so where does this line of thinking stop? Personally, I'm not sure there is a single manager alive that doesn't get a computer to do most of the work for them, but I am certain that a pen and paper's not going to hack it when I'm studying which stocks to use from a cast of thousands. At Algo-Chain, when trying to make sense of over 10,000 listed ETFs, we found it indispensable to use smart search routines across vast amounts of data to be able to identify what the DNA is that makes a Model Portfolio robust across different economic regimes.

At this point of the tale, one is reminded of how the debate around Bayesian forecasting methods and the era of big data has turned out. In short, the benefits of Machine Learning have been shown to be real, and for many tasks it simply does not make sense to entrust an individual to improve upon what a carefully designed piece of software can do, but please do not confuse the topic of Artificial Intelligence with the much more modest activity of Machine Learning algorithms. While this may now feel self-evident, it does not address the issue of morality and what is good for society at large. Spend ten minutes looking at your mobile phone news feed and it is clear that what can be deployed via technology is not always for the better.

Fortunately, there is some good news to end on as there is more to FinTech than the next generation of Robo-Advisors. If one takes the view that this shift of power from Financial Institutions to the technology sector is irreversible, one can take heart from the recent news that Alphabet (the parent company of Google) just completed a $10 billion bond issue, where $5.75 billion will be used to help small and medium businesses impacted by COVID-19, affordable housing and fund organizations that support Black entrepreneurs. As the tech giants take on Congress in what might well be an on-going anti-trust hearing, and the tech firms look to leave their mark on society, we can expect more of these 'ESG' bond issues to hit the market.

Allan Lane, *Managing Partner, Algo-Chain*
allan@algo-chain.com

Quant = Profits!

How CrossBorder Capital's New Macro-Systematic Equity Fund (MSEF) Successfully Implements AI and Big Data

Michael Howell
CEO
CrossBorder Capital

Q: Why the MSEF (Macro-Systematic Equity Fund)?

A: The big idea is 'evidence-based investing'. Stock markets are 80% determined by movements in investor sentiment and sentiment itself moves positively in-step with the short-term business cycle. Temporary deviations between investor sentiment and business activity identify profit opportunities; when sentiment is too upbeat relative to business momentum the fund automatically reduces its investment positions ('Risk Off'), and when investors appear too downbeat about prospects relative to incoming economic data, it systematically increases its exposure ('Risk On'). It's that straightforward (see Figure 1).

		GDP Momentum Indicator	
		-	+
Investor Risk Appetite Indicator	-	0	Increase Exposure
	+	Reduce Exposure	0

Figure 1: Signal Generation Matrix

Figure 1: Signal Generation Matrix

Q: What does the name Macro-Systematic Equity Fund (MSEF) mean?

A: 'Equity' says that our investment focus is stock markets, and here we take a 'global' view and invest internationally across major World markets. 'Macro' indicates that our investment universe is markets not individual stocks, and we implement our investments through stock index futures. These have the added attraction of being highly liquid. 'Systematic' refers to the fact that the investment decision-making is based on quant methods that do not rely on human discretion, but still require definitive data signals.

Q: What is different?

A: Like many other quant funds, we use latest machine learning (ML) and artificial intelligence (AI) technologies. But in addition, we add 'big' data from two long-established proprietary data feeds: the Liquidity.com *Investor Risk Appetite Indexes (RA)* and the Now-Casting Economics *GDP Momentum Indicators (NC)*. Having both facets makes us unique among quant funds. What's more, the algorithms we use were pioneered by leading academics and policy-makers, including Lucrezia Rechlin (previously Head of Research at the European Central Bank) and Domenico Giannone (who created a similar model for the *Federal Reserve Bank of New York*).

Q: Surely the use of Index Futures and the limited human interface means investors face more risk?

A: The investment history (actual and simulated) show annualised volatility 3% points consistently lower than *MSCI World Index*, and substantially less draw-down of capital. Index futures are no more risky than traditional cash equities and given their liquidity, less risky in terms of buying and selling.

On top, our risk overlay system significantly reduces downside risk and adds further protection to the portfolio. The overlay takes into account two factors: 1) general equity volatility and 2) individual market drawdowns. We use the VIX Index to define general equity volatility and relative levels of the VIX determine the size of the portfolio's gross book. We break these 'relative levels' (and subsequent % reductions) up into three silos using Z-Scores: fewer than two standard deviations from the mean (no % reduction), between two and three standard deviations from the mean ('x'% reduction in the portfolio's gross book) and greater than three standard deviations ('2x'% reduction in the portfolio's gross book). The individual market drawdown threshold is based on a 'y'% drawdown from its high watermark, and if exceeded, a 'z'% reduction in gross exposure is applied to each market in question. [Note: parameters are proprietary to the investment manager] Our investments conform to the official Central Bank of Ireland definition of leverage, the average absolute sum-of-notionals for the futures strategy equals 90%, and the maximum absolute sum-of-notionals equalling 200%. Turning attentions to Value-at-risk (VaR), our model has been constructed with an average level between 2%-3% (at a 99% confidence interval), and a maximum VaR of 4% (at a 99% confidence interval. Additionally, the model's average margin-to-equity falls between 12%-15% and a fixed maximum level at 20%.

Q: Can you show any evidence of how and when the strategy performs?

A: **The strategy significantly outperforms the MSCI World Index in bear markets,** yet it exhibits significant upside returns in rising markets. The model takes into account that markets generally trend upwards, by maintaining a negative skew in the trading signal. This can be seen in Figure 2 using the fact that the portfolio has had a net exposure of 35-40% over the period 2008-2020. To highlight the model's ability to reposition itself in adverse market conditions, we look closely at the *US equity bear market of 2007-2009 and the COVID-19 Sell-off,* as shown in Figure 3 and Figure 4, respectively. Figure 3 indicates the model's average net exposure across the period is zero (note: half of time holdings are net short), and back-testing shows returns of 33%. Figure 4 underlines the importance of our risk management systems. When equity volatility spiked, the model's positive net exposures were immediately cut (see 'Surely the use of Index Futures and the limited human interface means investors face more risk?' for further details). We compare the performance statistics for the *MSCI World Index*'s ten best and ten worst months against the model and the *HFRX Global Marco Index (HFRX)* in Figure 5 and Figure 6, respectively. Comparisons with the MSCI World Index in both figures tell of the model's efficacy, as the portfolio's beta shifts beneficially between extreme market conditions. Using *HFRX* as a benchmark for global macro funds, we find that in both rising and falling markets, our model outperforms significantly.

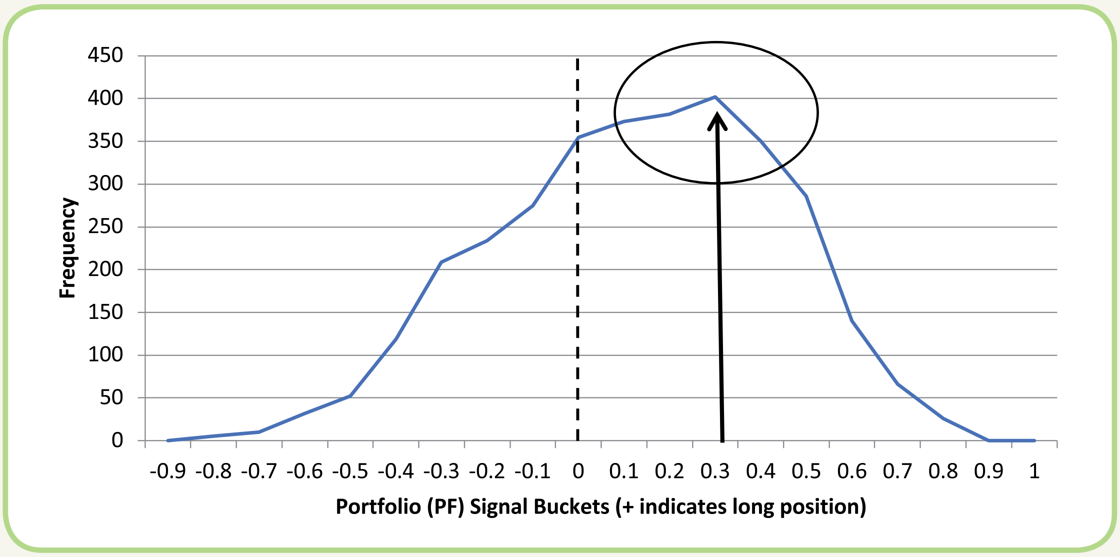


Figure 2: Negatively Skewed Portfolio Signal

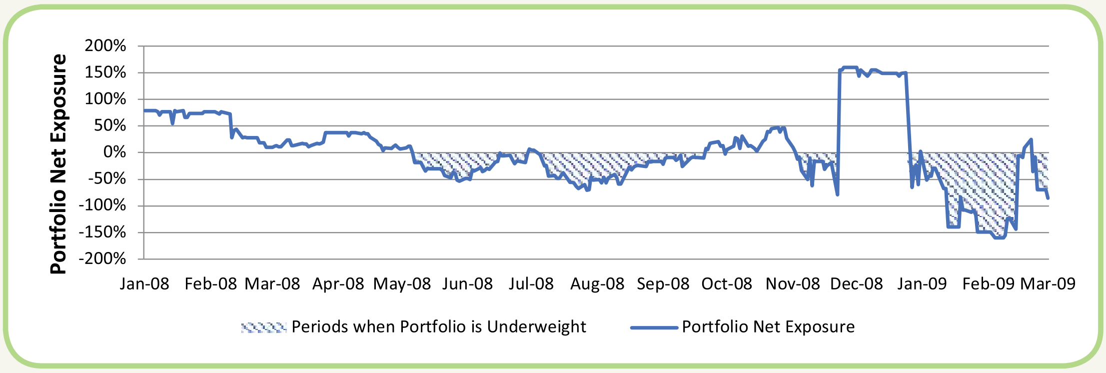


Figure 3: MSEF Exposure in Falling Markets

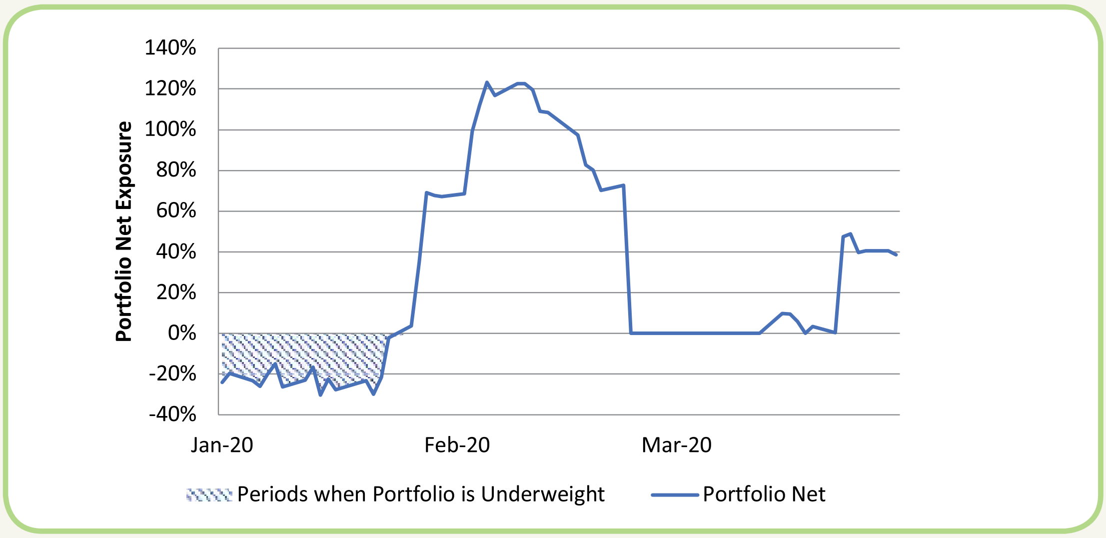


Figure 4: MSEF Successful Implementation of Risk Overlay System

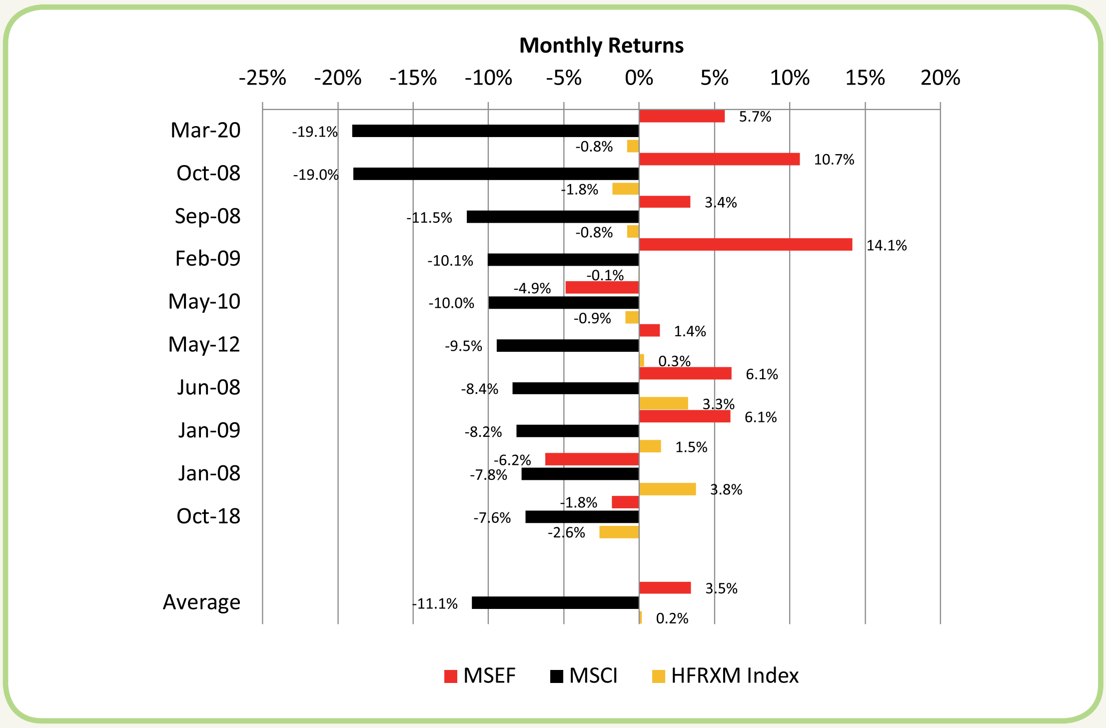


Figure 5: MSEF Performance in MSCI Worst 10 Months

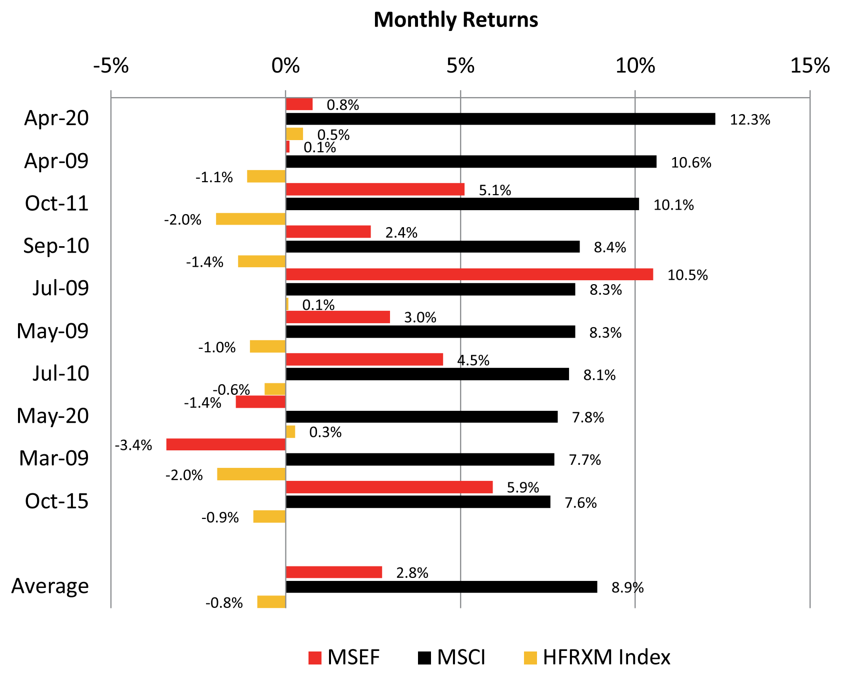


Figure 6: MSEF Performance in MSCI Best 10 Months

Q: How do returns compare to a traditional 60:40 investment portfolio?

A: A traditional 60:40 investment portfolio dropped a whopping 22% from its peak through February-March 2020 (a net 19% loss compared to the MSEF), but this performance disparity is not an isolated event. Figure 7 shows the daily cumulative returns of a Global 60:40 Index (60% *MSCI World Index* and 40% *Vanguard Global Bond Index Fund*) against the MSEF (fees and costs included), and Figure 8 details the ratio between the two. This ratio identifies systematic outperformance for the MSEF of 10.4% per annum. Figure 9 takes a look at the scatterplot of monthly returns, with the Fund providing significant convexity (i.e. it falls by less and rises by more than the benchmark) and a monthly alpha of 1.3% against the constructed 60:40 portfolio.

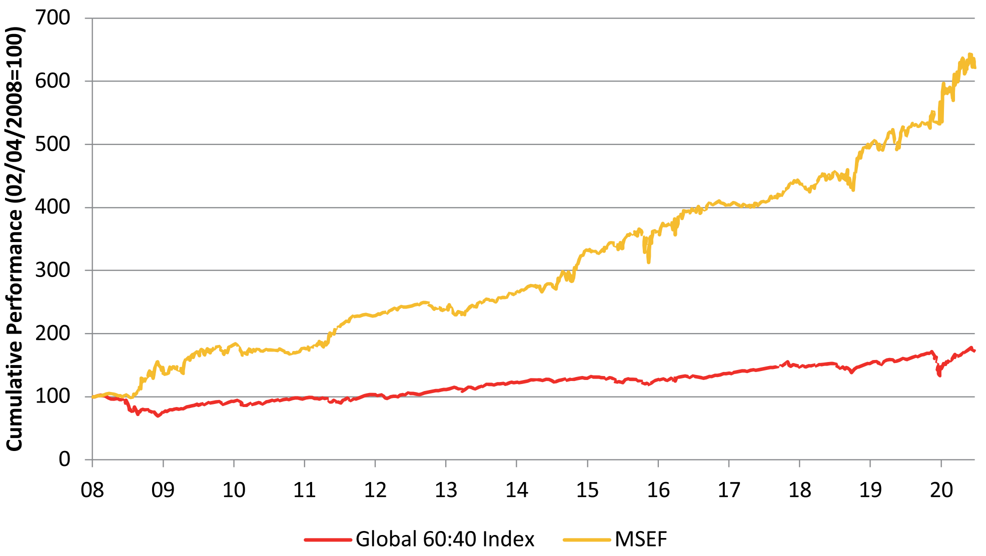


Figure 7: Cumulative Performance of MSEF and Calculated Global 60:40 Index

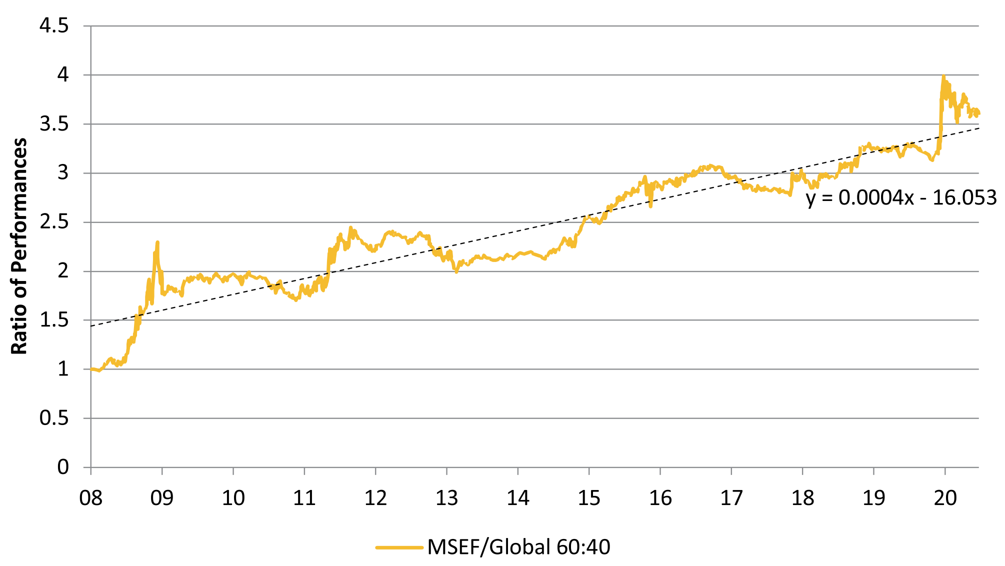


Figure 8: 1) Ratio of Cumulative MSEF and Calculated 60:40 Index, and 2) Linear Regression and Equation of the Performance Ratio

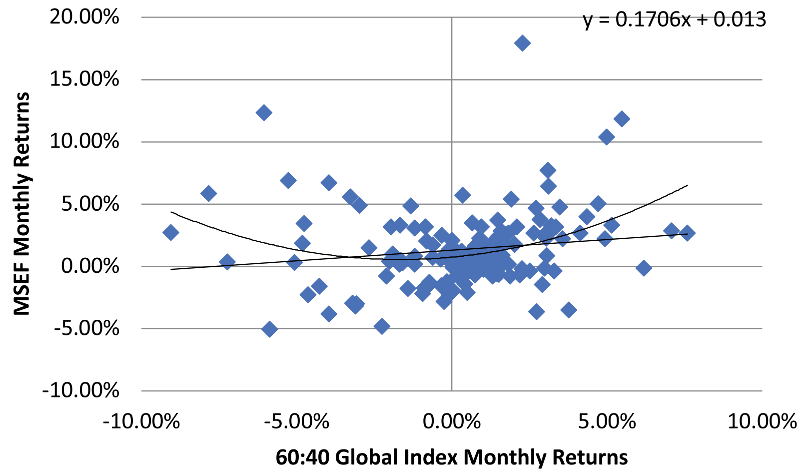


Figure 9: 1) Scatterplot of MSEF and 60:40 Monthly Returns, 2) Linear Regression and Equation of Monthly Returns, and 3) Polynomial Regression (order=2) for Monthly Returns

Q: How do you measure risk appetite?

A: **RA is defined by the positioning of investor portfolios, using 'big data' algorithms.** Investors display different attitudes towards given levels of risk: disliking risk (risk-aversion), indifference to risk (risk-neutral), or favouring risk (risk-seeking). These attitudes are often quantified by the Arrow-Pratt coefficients of risk aversion from utility theory. Although *risk appetite* is frequently equated with the Arrow-Pratt coefficient, a stricter definition argues that risk appetite is distinct from risk aversion because it also incorporates perceptions of risk (i.e. the degree of riskiness that investors believe they face). *Liquidity.com*'s index incorporates these ideas and force us to think of asset allocation in a macro portfolio context.

Improvement in the handling of 'big data' has increased granularity of asset holdings data. The model scrapes daily data (with a 2-day lag) on the varying asset-classes for 20+ economies from a variety of vendors, such as national stock exchanges, new issuance and custodial data. Figure 10 reports this quantitative division of asset-classes in investors' portfolios, i.e., are investors holding equities, fixed income, emerging market holdings, precious metals, corporate bonds, and liquid assets. From here, the data team group the asset classes into two buckets: 'safe'-assets and 'risk'-assets. We define 'safe'-assets as G10 government fixed income and cash. 'Risk'-assets cover equities and corporate bonds. The mix between these two asset groups has been used by *Liquidity.com* for over three decades in equity market research.

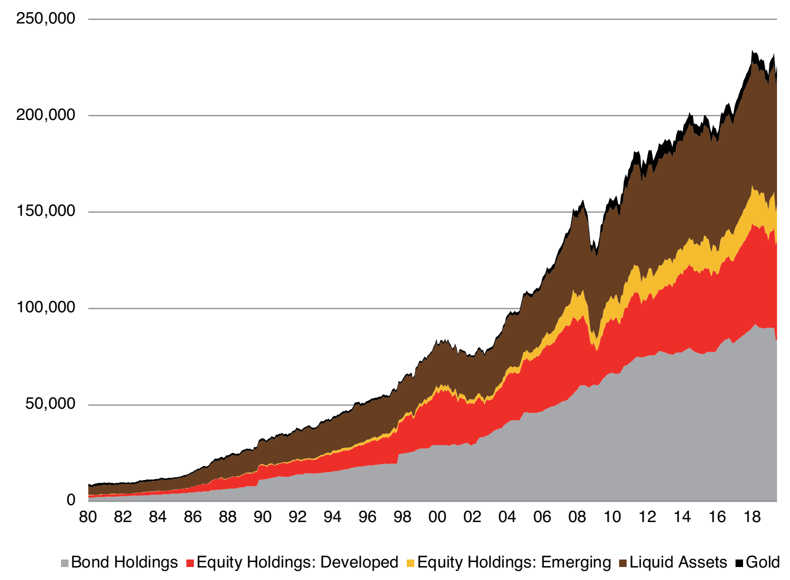


Figure 10: Breakdown of Asset Class Holdings in Global Portfolios

RA formally measures the split between the normalised 'risk'-asset holdings series and normalised 'safe'-asset holdings series, with the hybrid data exhibiting a mean of zero, a standard deviation of 20 index points and ranges from -50 (low investor risk sentiment) to +50 (high risk sentiment). The plot of *RA* World aggregate (red line) and World economic activity (yellow line) in Figure 11 shows three key themes: 1) Investor positioning changes significantly through time; 2) Investor positioning is mean-reverting; and 3) Asset allocation to 'risk'-assets is highly pro-cyclical. Intuitively, as the economy is strengthening, investors' portfolios reshuffle to equities and more risk-taking, and vice-versa when there is an economic downturn.

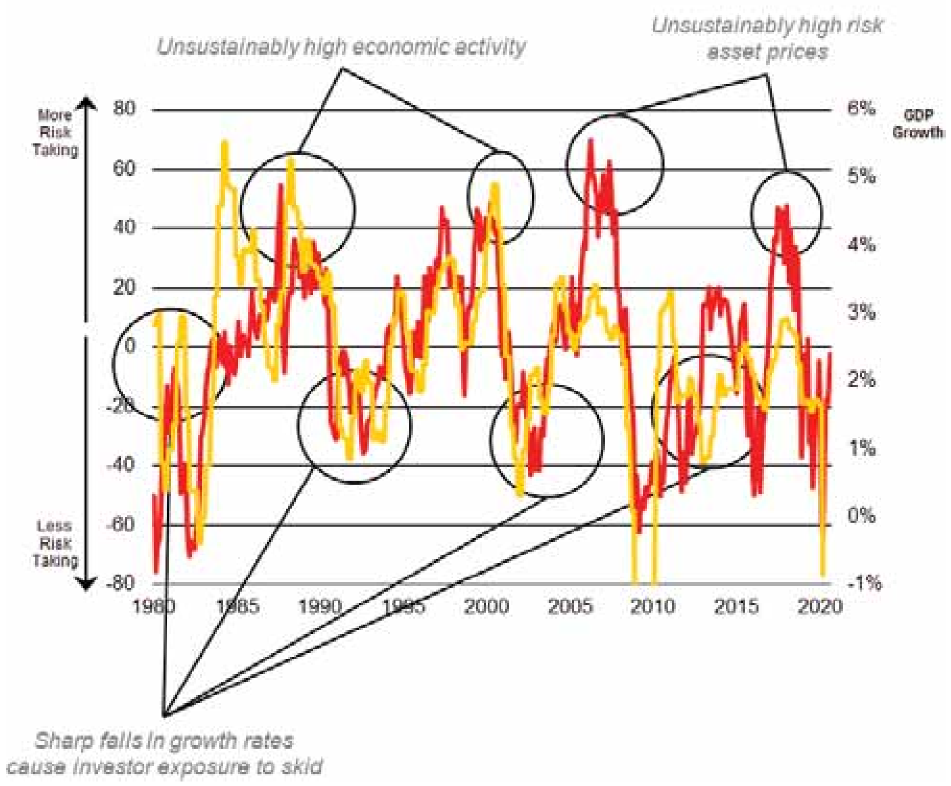


Figure 11: Global Risk Appetite Index and World Economic Activity

Q: What is NowCasting and the Economic Momentum Signal?

A: Using an advanced statistical model, NC synthesises 'hard' and 'soft' economic data (by market) to produce an up-to-date daily measure of GDP momentum. The basic principle of a now-casting model is the exploitation of the information which is published early compared with the target variable of interest in order to obtain an 'early-estimate' sometime before the official figure comes out. The idea here is that the 'hard' information like industrial production and 'soft' information like surveys may provide an early indication of the current developments in economic activity. We define the *NC* as a multivariate dynamic-factor model, which extracts the latent forces that drive the movement in economic data. It is these 'drivers' that produce a forecast for each economic time series that the *NC* model tracks. The forecasts of these tracked series produce an estimate of the current state of the real economy. Differences between the model's forecasts and actual data releases of tracked series produces 'news', which in turn impacts the nowcast of GDP growth. 'News' can also be defined as revisions, with Figure 12 giving an indication of the *impact* these have. The model's initial design emanated from several leading economists, including Lucrezia Rechlin (previous Head of Research at the European Central Bank) and Domenico Giannone (constructed a similar model for the *Federal Reserve Bank of New York*), and now includes some 28 economies globally or two-thirds of the World by share of GDP. Similar to *RA*, we transform the *NC* data to produce a normalised series with zero mean, a standard deviation of 20 index points and ranges from -50 (low GDP growth) to +50 (high GDP growth).

NOW-CASTING.COM

At 118.84 for Sept., up from 92.09 for Aug.

	14 Aug. 2020	15 Sept. 2020
Aug. 20	94.18 A	–
Sept. 20	126.01 F	118.84 A
Oct. 20	–	125.53 F

• A: Actual is an estimate of current month activity • F: Forecast is the forecast of the next month's acivity

Impact of releases on NCI™

Release Date	Release Name	Country	Ref. Period	Unit	Release Value	Model Expect.	Impact of data releases: NCI™ Aug.	Impact of data releases: NCI™ Sept.
17 Aug.	Empire State Manufacturing Survey - General Business Conditions	US	Aug. 20	Index	+49.8	+56.72	-1.52	-2.65
18 Aug.	Housing Starts	US	Jul. 20	MoM%	+22.62	+21.89	-0.12	-0.09
18 Aug.	New Private Housing Units Authorized	US	Jul. 20	MoM%	+18.84	+12.07	+0.49	+0.36
20 Aug.	Philadelphia FRB Bus Outlook: Current Activity	US	Aug. 20	Index	+17.2	+34.35	-1.80	-3.46
21 Aug.	PMI: Manufacturing	US	Aug. 20	Index	+53.64	+53.01	+0.51	+1.07
21 Aug.	PMI: Svcs Business Activity Index	US	Aug. 20	MoM%	+54.81	+50.26	+0.64	+1.53
25 Aug.	Conference Board: Consumer Confidence Index	US	Aug. 20	Index	-6.9	+5.26	-0.91	-1.59
25 Aug.	Richmond Fed - Fifth District Survey of Manufacturing Activity	US	Aug. 20	Level, hours	+18	+17.08	+0.07	+0.13
26 Aug.	Manufacturers' Unified Orders: Durable Goods	US	Jul. 20	MoM%	-0.75	-0.17	-0.09	-0.07
26 Aug.	Manufacturers' New Orders: Durable Goods	US	Jul. 20	MoM%	+11.19	+9.29	+0.16	+0.11
26 Aug.	Manufacturers' Inventories: Durable Goods	US	Jul. 20	MoM%	-0.45	+0.14	+0.22	+0.09
27 Aug.	Kansas City Fed Mfg Survey	US	Aug. 20	Index	+14	+11.74	+0.27	+0.52
28 Aug.	Real Disposable Personal Income	US	Jul. 20	MoM%	-0.10	+1.51	-0.33	-0.22
28 Aug.	Real Personal Consumption Expenditure	US	Jul. 20	MoM%	+1.59	+1.52	+0.09	+0.06
28 Aug.	MNI Chicago Business Barometer	US	Aug. 20	Index	+51.2	+61.14	-0.80	-1.32
31 Aug.	Texas Manufacturing Outlook Survey - Current General Business Activity	US	Aug. 20	Level%	+8	+12.45	-0.30	-0.64
1 Sept.	ISM Mfg: PMI Composite Index	US	Aug. 20	Index	+56	+58.38	-0.36	-0.66
2 Sept.	Change in ADP Nonfarm Private Payroll Employment	US	Aug. 20	Thousands	+428	+1,001	-0.41	-0.93
3 Sept.	ISM Nonmanufacturing Composite Index	US	Aug. 20	Index	+56.9	+59.87	-0.26	-0.51
4 Sept.	Change in Nonfarm Payrolls	US	Aug. 20	Thousands	+1.371	+1,792	-0.38	-0.77
15 Sept.	Empire State Manufacturing Survey - General Business Conditions	US	Jul. 20	Index	+52.5	+54.47	-0.37	-0.75
15 Sept.	Industrial Production	US	Aug. 20	MoM%	+0.40	+1.23	-1.44	-2.43

Figure 12: Publication and Calculation of GDP Momentum Indicator

Q: When do you invest?

A: Combining the proprietary data sets adds value to our model. Our investment signal is derived through stages. It starts with differencing the two normalised series (*NC* and *RA*), where larger discrepancies (positive or negative) indicate larger net exposure (positive or negative). Signal production for each market is independent, and weighting in the portfolio is based on the volatility of the individual markets (we limit the gross exposure of emerging markets to 20%).

For a more robust investment signal, the model evaluates trends over varying time horizons in its calculation – this provides a more fluid signal over time and reduces turnover. Figure 13 indicates performance based on a pure *RA* strategy, pure *NC* strategy, the combined signal strategy (our trading strategy) and the *MSCI World Index*. The outperformance of our trading strategy indicates the information contained in the combined measure of how exposed investors are to equities relative to the underlying momentum of economies.

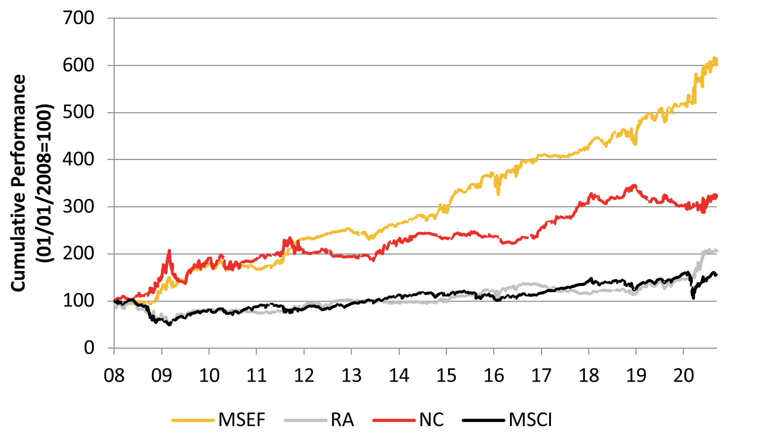


Figure 13: Cumulative Performance of MSEF (Hybrid Indicator), Individual Signals (RA and NC) and MSCI World Index

Q: Aren't all 'Quant' systems guilty of data-mining?

A: The model is based on a simple rule-based algorithm. We attribute successes in our out-of-sample data to the model being purely rule-based, and not being a back-fitted optimisation process. Our systematic framework does not back-fit a regression model to past data. Figure 14 indicates a consistent and robust Sharpe Ratio in the transition from in-sample to out-of-sample. Given this, we believe our historical results to be a fair indication of future returns.

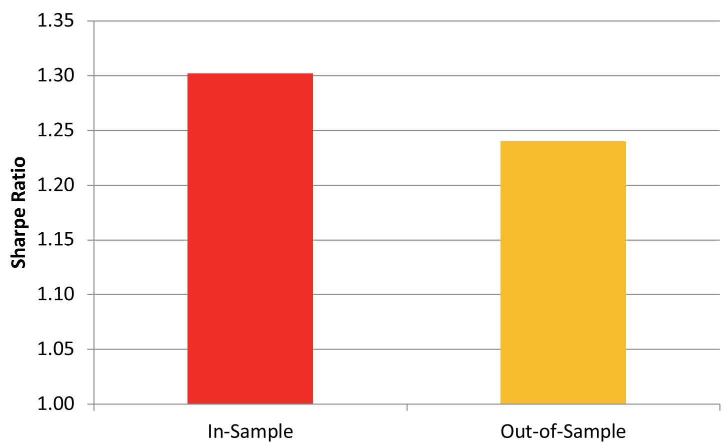


Figure 14: Sharpe Ratio of In-Sample and Out-of-Sample Data

Q: How is 'big' data handled?

A: Our data retrieval automatically screens sources across the globe, capturing the latest available data from trusted sources, such as the information from IMF, UN and BIS, National Treasuries and Central Banks, Trade Organisations, major lending corporations and data vendors, like Thomson Reuters and Bloomberg. All retrieved data is cleaned, validated and moved to our Data Analysis Environment, where our core research activity takes place. Modelling systems are powered by *R*, providing us with both the flexibility and robustness to manipulate the data. *Python* powers portfolio construction and application of the automated execution system. We use Amazon AWS cloud infrastructure to host our research platform, which negates the need for physical storage. From a practicality standpoint, the model trades daily (4 pm, GMT), whilst the risk overlay is systematically run bi-daily (10 am, GMT and 3:30 pm, GMT).

Summary: MSEF

The investment strategy of the Fund (*MSEF*) is designed to systematically exploit macroeconomic data in the implementation of investments in global equity indexes. Our investment signal describes how efficiently financial markets price the state of the economy. The model interprets this information and takes up arbitrage positions to generate alpha until economic information perfectly reflects prices.

Michael Howell, *CEO, CrossBorder Capital*

Socially Responsible Investing: Good for Your Wallet too?

Aashu Virmani
Chief Sales & Marketing Officer, Fuzzy Logix

In this article, we look at a question that is front and center for advisors, asset owners, and individual investors: Do I have to sacrifice returns if I want to invest in companies with a conscience? Put it another way: Does ESG investing cost me in terms of annual returns, or can I invest responsibly, but also beat the broader market while doing so? We will breakdown the underpinnings of the Environmental (E), the Social (S) and the Governance (G) metrics. Finally, we will look how ESG funds have performed in the short term during the COVID-19 crisis, and what implications ESG has on a portfolio's longer-term performance versus the broader market.

First, let's get the tactical, pandemic related outperformance question out of the way, so we can focus on the big picture. I have been asked this question on numerous occasions: 'Why is it that the ESG funds performed better than non-ESG funds, during the pandemic?' Well for one reason, most ESG funds typically screen out companies in certain sectors such as fossil fuels, gambling and recreation, tobacco, guns, weapons of mass destruction. During the lockdown, fuel consumption hit an all-time low, and the energy sector did poorly. Casinos and other gambling activities (other than online gambling) took a big hit. ESG indexes and funds that had either eliminated, or underweighted such securities were natural beneficiaries of the pandemic. A report from MorningStar quoted that 51 of their 57 ESG Indexes outperformed their peers during Q1 2020, while another from MSCI indicated that 15 out of 17 of their sustainable indexes outperformed their benchmarks. Blackrock also did a study and concluded that 94 percent of a broad range of widely invested ESG indexes outperformed their parent benchmarks during the same period. (https://www.hedgeweek.com/2020/05/19/285741/new-blackrock-research-points-esg-resilience-during-coronavirus-downturn)

So, while the pandemic made the ESG funds shine brighter during first two quarters of 2020, the broader question is whether this outperformance is longer lasting. At FastINDX, we firmly believe so. After designing dozens of ESG Indexes and custom portfolios, we have come to the conclusion that properly constructed ESG Indexes and portfolios imply a certain level of quality screening, and generally outperform their non-ESG peers, both in backtest research as well as during live performance. The Nasdaq Sustainability Index (NQCRD), for instance, has consistently outperformed its underlying benchmark over a long history. As another example, the Thomas Schumann Water Risk Index ekes out alpha from the Euro STOXX 50 while preserving similar risk profile, while the LGBTQ100 ESG Index has beaten S&P 500 by around 400 bps annually – both in testing and in live performance (chart on the next page).

It stands to reason, then, that ESG must be contributing to a positive bias in security selection. Let's analyze this by breaking down what the individual E, S, and G ratings mean, and what are the implications for equity screening in Indexes.

FUZZY LOGIX

A combined ESG score, often arrived at by blending (say 33% each) the individual E, S and G scores for a company, which many Indexers and analysis often use as a quick and dirty proxy for screening 'good' companies is a confusing measure at best. The industry has done a disservice to itself by merging three very different characteristics into a single number. What does it mean when we select a company that has atrocious social practices within the organization, but seems to score very well on the climate/sustainability front, just because they happen to be a totally virtual, low carbon footprint, technology company? Or what does it mean to compare a mid-stream energy distribution company with a healthcare company when it comes to their overall ESG measure? At best, we are comparing apples and oranges. Applying a single, blended number to every company is not how we would go about designing thoughtful portfolios. Other than perhaps a basic exclusion screen, we have found that we always need to dig deeper into the underlying KPIs when constructing smart-beta indexes and portfolios for our clients.

When we look for companies with high 'E' scores, we are looking for KPIs such as Waste Recycling Ratio, Total CO2 per unit of revenue produced, Water Use to Revenues generated. Companies that have senior leadership focused on these metrics, indicate to us that they are serious about looking at the entire value chain, and are taking steps to reuse waste product and optimize their resource consumption, thereby improving their unit economics.

Turning now to the 'S' factor, or Social performance, the underlying KPIs we typically analyze include Gender pay gap, Employee Satisfaction, Total Injury Rate, Training Hours, Racial/ Sexual Orientation equality and more. The net effect when a company outperforms along these metrics is that they create a friendlier workplace, raise employee morale, enjoy lower cost of hiring and reduced attrition. Such companies have an engaged employee base, translating into higher customer satisfaction and long-term business outperformance. The example presented above of the LGBTQ 100 ESG Index is mainly about the 'S' factor, and selects companies that focus on advancing equality in the workplace. It has outperformed the S&P consistently.

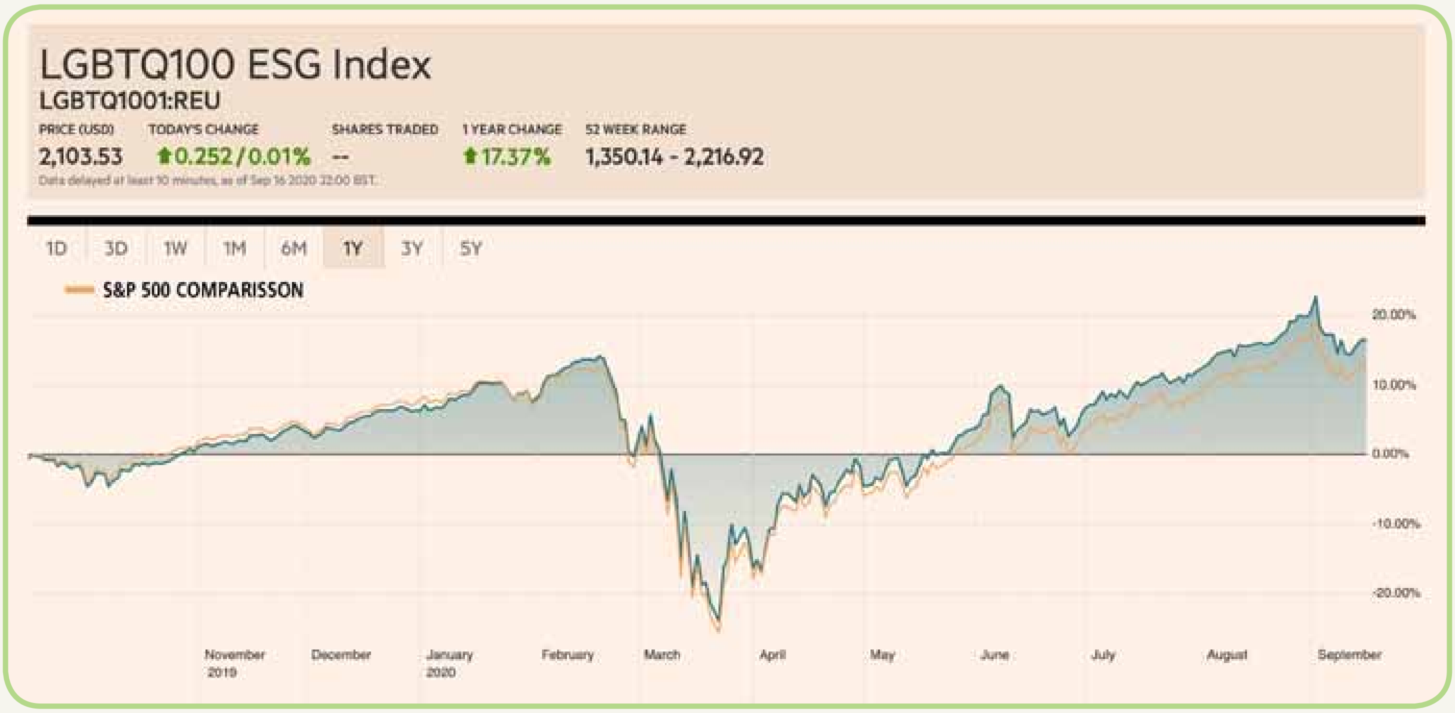
Finally, when we look at the 'G' or the Governance metric, we are effectively selecting or overweighting companies that are well governed, have Board Independence, Board Cultural and Gender Diversity, and good ESG reporting – in other words, they are serious about transforming themselves to be socially responsible, and open to diverse points of view.

It is no surprise then, that when we construct indexes and portfolios integrating the appropriate ESG screening methodology, we are effectively tilting the portfolio towards better run, better quality, healthy companies. Over a mid to long term, we should fully expect such thoughtfully constructed portfolios to outperform the benchmark.

We are witnessing an ever-increasing pull exerted by investors, family offices and independent advisors for ESG instruments to invest in. Mandates put in place by pension funds, 401(k) plans and various employee unions are causing an even greater influx of assets into ESG funds. The wonderful thing about socially responsible investing is that it is not just about doing charity by giving up performance for a just cause. The portfolios and indexes we have been designing seem to consistently beat their non-ESG counterparts, which means that our customers can do well for themselves by doing good at the same time.

It is about time our money did more than just make more money. Perhaps it can bring about a positive change in the world too.

Aashu Virmani, *Chief Sales and Marketing Officer, Fuzzy Logix* *Aashu.virmani@fuzzylogix.com*



Passive Managers Actively Involved in Transition to the Green Economy

Fong Yee Chan
Senior Product Manager, Sustainable Investing, FTSE Russell

Growth in ESG benchmarks are putting issuers' sustainability performance in the spotlight and changing the notion that passive investment managers are always 'forced buyers'.

The COVID-19 pandemic is teaching us two important lessons that have applicability to climate change. Firstly, it is important to act upon high probability and high impact risks in a timely manner. Secondly, sectors of the economy can be quickly disrupted when governments swiftly and decisively implement measures to avoid threats to humanity.

Studies have shown that the cost of transition to meet the Paris 2050 target of less than two degrees global warming differs drastically on a sectoral and country level. A publicly available tool developed by companies including London Stock Exchange Group's Beyond Ratings, demonstrates the extent to which sectors such as energy and aviation face a disproportionate cost. These projected costs serve as a stark reminder of the extent of the challenge ahead.

More so than ever, investors recognise the risks and opportunities associated with the low carbon transition. They are increasingly integrating climate considerations into their portfolios, which is fundamentally changing the investment landscape. Investors are bringing a wider set of criteria such as carbon, green revenues and climate governance into their decision making. This is happening across asset classes, with one of the most pronounced changes happening in passive investing through Exchange Traded Funds (ETFs).

ETFs have transformed the investment landscape, with trillions of dollars being directed into thousands of lower-cost market-cap weighted index funds. Today, instead of simply reflecting the underlying market, there is increasing use of alternatively weighted indexes to integrate a variety of environmental, social and governance (ESG) considerations directly into index construction.

FTSE Russell's annual smart beta survey for 2019 captured investor appetite for ESG investing. 77% of European respondents expressed interest in applying ESG considerations into smart beta allocation – up 22% from 2018. Among those who anticipate applying ESG considerations to a smart beta strategy, over three quarters are motivated by avoiding long term risk, compared to a little over half last year.

FTSE Russell

Investor demand to incorporate sustainable investment issues into passive portfolios has already translated into a growing number of listings. Sustainable Investment ETFs represent a growing portion of new ETFs listing on London Stock Exchange. There are now approximately 80 Sustainable Investment ETFs providing equity or fixed income exposure listed, with about a third of the total listed in 2019. Trading volumes based on ESG ETFs were up by 54% between 2018 and 2019 to £650 million in turnover.

The growth in Sustainable Investment index funds is also placing a spotlight on how passive funds can be used as a positive force to encourage change in corporate behaviour. Companies may be over or underweighted or completely excluded based on sustainability metrics applied to index funds. Transparent, rules-based index construction methodologies help companies understand how they are assessed and what actions are required to be included or have improved weighting in an index. This will incentivise companies to improve disclosure on ESG issues and demonstrate that their corporate activities are aligned with investor's long-term objectives.

The latest example of this development is HSBC Global Asset Management's new range of Sustainable Investment UCITS ETFs which provide access to several dedicated equity markets including the FTSE Developed and FTSE Emerging indexes as well country-specific exposure to USA, Japan and UK. The ETFs adjust the weights of company constituents to achieve carbon emissions and reserves reduction by 50% and 20% improvement to the index level ESG Ratings, based on FTSE Russell's ESG Ratings[1]. The ETFs also exclude companies involved with controversial product activities – weapons, thermal coal, tobacco, nuclear power and companies involved with controversies related to the UN Global Compact principles.

Sustainable Investment products, such as these, help investors incorporate climate and ESG considerations into their investments and provides a tool to incentivise corporates to align their behaviour with sustainability objectives. Innovative products such as these are way for passive investing to be actively engaged in the transition to a low carbon, more sustainable economy.

Fong Yee Chan, *Senior Product Manager, Sustainable Investing, FTSE Russell* *info@ftserussell.com*

[1] FTSE ESG Low Carbon Emissions Select Indexes Ground Rules

ESG – A Very Real Issue

The Responsibility of Financial Institutions in Transitioning to a Low Carbon Economy

Olga de Tapia
Global Head of ETF sales, HSBC Global Asset Management

In recent years, there has been a collective realisation that more work needs to be done if we are to effectively transition to a low carbon and more sustainable economy. As CO_2 emissions rise to alarming levels and some companies continue to fall short when incorporating high-level environmental, social, and governance (ESG) principles into their business models, scientific experts and policymakers alike are searching for scalable responses that make an impact. Most recently, the Europe 2020 Strategy – which aims to deliver smart, sustainable and inclusive growth – is one such response, with a focus on inspiring innovation and accelerating change. This initiative, alongside many others of a similar nature, has propelled the sustainability agenda further.

Companies have also come to realise the importance of aligning their strategies to the wider sustainability objectives. This has been demonstrated by numerous recently announced strategic shifts, particularly those made by oil majors who have set an ambition for 'net zero' by 2050 or sooner. Beyond this, consumers, investors and governmental bodies are also becoming increasingly aware of the extent of the issue. As a corollary, the desire for corporations to become more accountable and take action has never been higher. Their behaviour and actions sit firmly under the spotlight. This presents both opportunities and challenges.

In order to overcome the hurdles and make the most of the opportunities, a comprehensive and collaborative undertaking at the political, social and economic level is required. To date, concerted efforts at both the social and political spheres mark good progress. But instigating change from an economic perspective, and thus transforming a system that is deeply entrenched, requires extensive investment. This underscores the role of financial institutions in mobilising capital. To quantify this perspective, the UN's Intergovernmental Panel on Climate Change (IPCC) estimates that an annual investment of US-$ 2.4 trillion is needed in the energy system alone until 2035, to limit temperature rises to below 1.5°C from pre-industrial levels[1]. This demonstrates the pivotal role investors have in shaping the future of our planet, helping to mitigate the effects of climate change and ensuring a more socially conscious future.

How can Investors Take Action?

From our perspective, there are two main channels through which investors can be involved.

The first is to integrate ESG performance as part of investment decisions, to identify companies that are transitioning to a more sustainable economy. To drive this change, investors need to realise that incorporating ESG factors into their investment decision making process can help to achieve good risk-adjusted returns in the long-run. We are already witnessing this change take place, and as responsible investing continues to gain traction among investors, companies are becoming more cognisant of the fact that they must adapt to this paradigmatic shift. In this way, ESG investments permeate further into the mainstream, by becoming core building blocks in portfolios.

The second channel through which this transition can be achieved involves asset managers capitalising on their unique position as stewards of their clients' assets. Collectively, investors can leverage their influence over investee companies by engaging in shareholder voting. By voting in ESG and/or climate-related shareholder resolutions, asset managers are well-placed to initiate change at the board level.

HSBC Global Asset Management

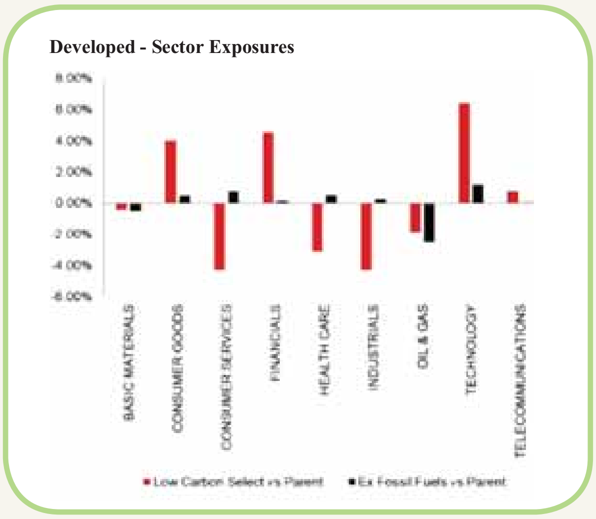
Responsible Investing in Practice

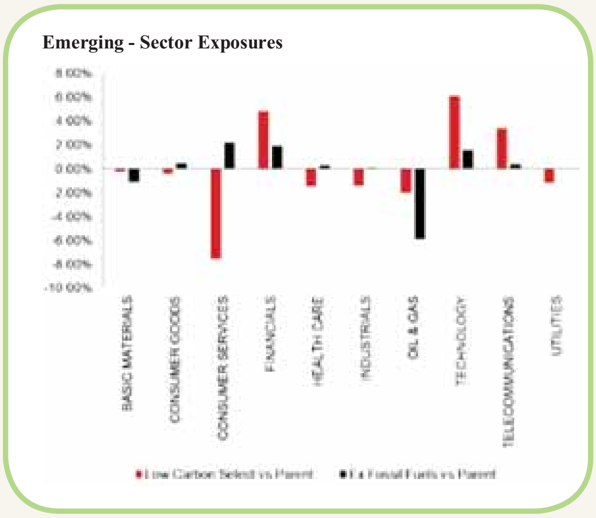
To address the first channel, it's worth looking at how the recent growth of ESG ETFs is placing a spotlight on passive funds and how they can be used as a positive force to encourage change in corporate behaviour and ethical growth. HSBC Global Asset Management has recently launched a range of sustainable equity ETFs, paving the way for a new generation of sustainable products that can play a part in the transition to a lower carbon economy. The ETFs track the FTSE Russell ESG Low Carbon Select Indices which were developed and customised in collaboration with FTSE Russell. As well as aiming to achieve a 20% ESG score uplift, the indices target two areas of carbon exposure – a 50% carbon emissions reduction and a 50% fossil fuel reserves reduction, relative to the parent index. This triple tilting methodology applies a carrot and stick approach whereby strong performers are rewarded with an 'overweight' representation in the custom benchmark, whilst laggards are penalised with an 'underweight' representation. We define this titling approach as the smart solution to exclusions.

We have chosen not to apply an excessively restrictive exclusion list, as it may unfairly penalise companies that derive a marginal amount of revenues from a specific area or companies that are in the process of transitioning towards a more sustainable business model. Instead, the ETFs have been uniquely designed to capture and support the transition to a more sustainable economy.

This notion is best exemplified through the fossil fuel reserves tilt, which takes a nuanced approach to addressing climate change risk. Specifically, the indices penalise or privilege stocks based on their ability to adapt to the transition to a low carbon and more sustainable economy. Due to the evolution of the energy industry, the indices aim to capture stocks with lower fossil fuel reserves intensity, including alternative energy companies. The indices' target of a 50% reduction on fossil fuels reserves allows them to include those companies that are at the forefront of this transition.

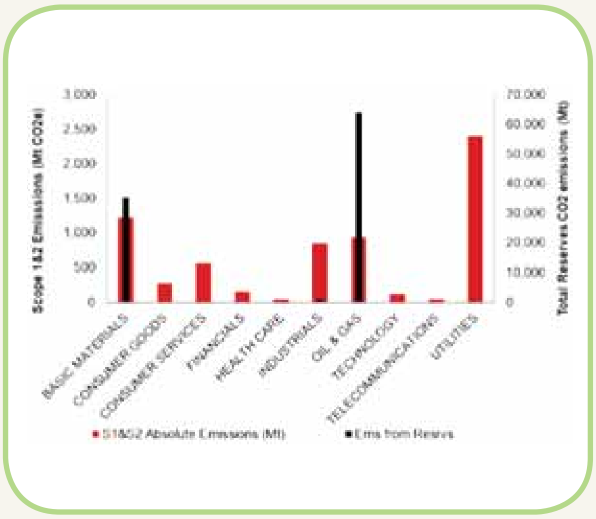
Figure 1: Sector over and underweight relative to the parent of different approaches

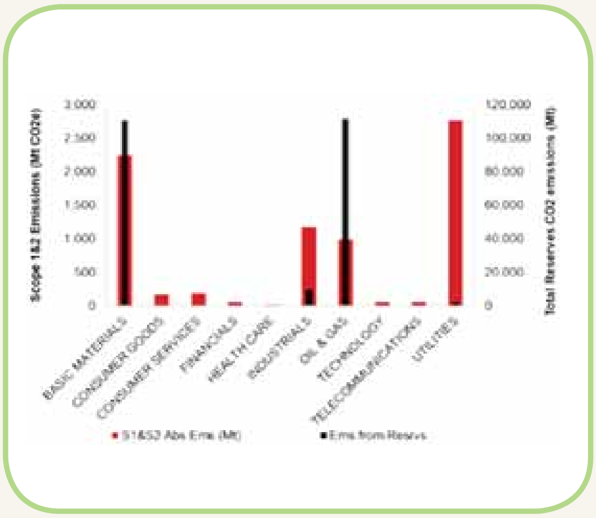




Source: FTSE Russell April 2020

Figure 2: Sector absolute carbon emissions – Scope 1&2 and fossil fuel reserves





Source: FTSE Russell April 2020

Figure 3: Relative weighted average carbon intensity

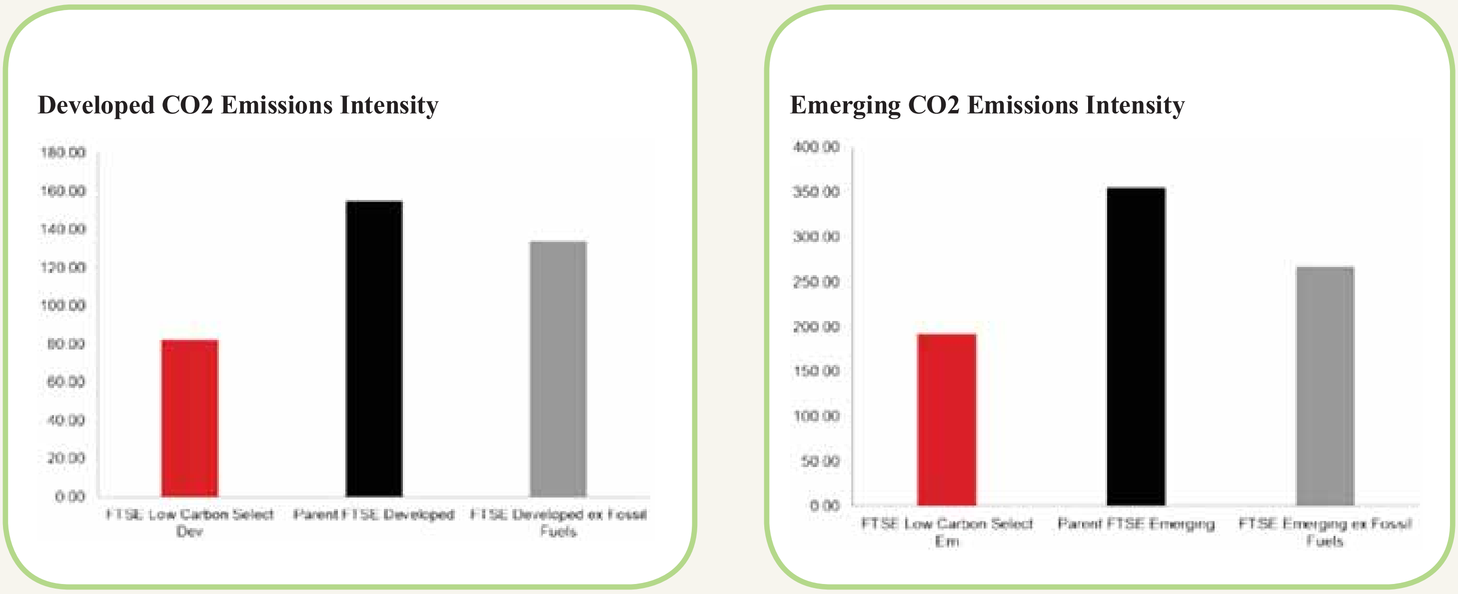
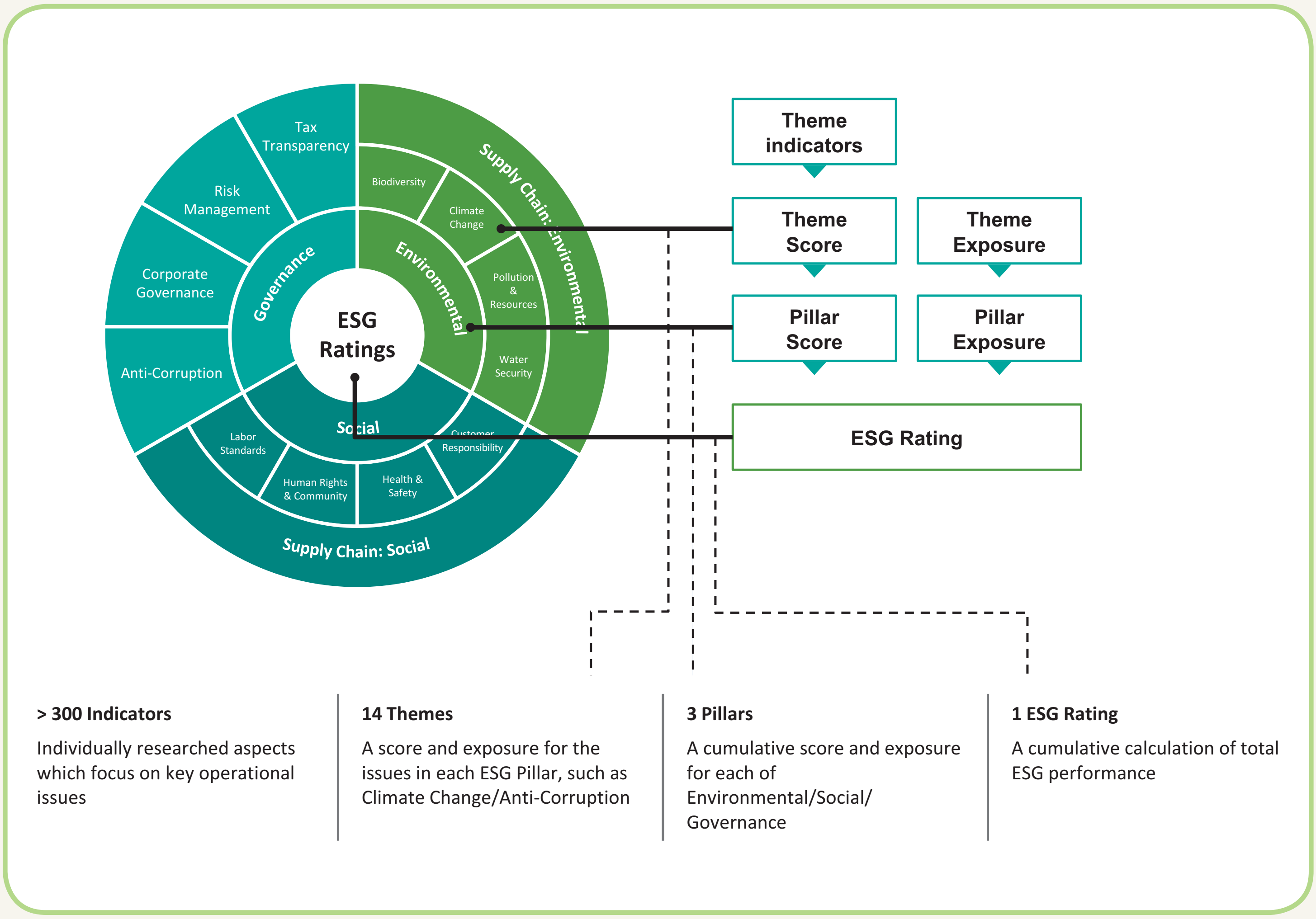


Figure 4: FTSE Russell's ESG Scoring Methodology



Another reason to follow a titling methodology is that, from a risk management perspective, any exclusion introduces biases, and excluding all fossil fuel-exposed stocks can bring significant divergence. This can be a particular problem for ETFs tracking such indices, if they are being used as building blocks for a broader portfolio rather than a stand-alone product. The oil and gas sector currently represents four percent of the FTSE Developed Market Index, and seven percent of the FTSE Emerging Market Index by market capitalisation. However, with the recent volatility in oil prices and previously higher index weights, excluding this sector can have a notable impact on the return profile.

The tilting approach can deliver a significant reduction in the weighted average carbon intensity[2], a metric which measures exposure to carbon-intensive companies, while limiting significant sector over or under weights (see figures 1 and 2).

As noted, the tilting methodology applies a carrot and stick approach as a means for accelerating change. Through ownership and embracing one's equity holding, investors are able to work with companies and vote on shareholder resolutions in a positive way. This approach of working with companies lends itself well to FTSE Russell's ESG scoring methodology, which is transparent and rules-based. The ESG rating breaks down into underlying Pillar and Thematic Scores (see figure 3) that themselves are built on more detailed indicator assessments which allow investors to understand a company's ESG practices in multiple dimensions. Companies that are rated by FTSE have the capacity to access the FTSE Ratings platform and view their scores. They are able to see the areas of the ESG scoring methodology in which they are performing poorly and, consequently, look into ways of improving.

Driving Top Down Change

To address the second channel and to deliver a stronger impact in corporate decision-making, asset managers, through engagement and voting, need to act as stewards of their clients' money. By retaining some exposure (as opposed to applying absolute exclusions), asset managers can use shareholder vote and engage on companies' plans to decarbonise or integrate ESG principles into their business models. This vote provides shareholders with the right and a responsibility to hold the management of a company to account. Active stewardship can be used effectively to drive improvements in long-term business strategy and performance. Conversely, divesting from a company means the investor has opted out of any potential improvement or opportunity to guide change in the company. Investors have significant ability to influence the actions of companies through engagement and stewardship activities which may lead to emissions reductions in the real economy. We have seen notable shifts in company strategy due to investors engagement on climate issues, through initiatives such as ClimateAction100+.

Initiatives such as the Paris Climate Agreement are essential milestones for society, but there remains a call for the investment industry to accelerate the response. Customised ETFs that target measurable objectives represent an opportunity for investors to achieve this, providing mass market access at an efficient cost. The focus of the HSBC Sustainable Equity ETF range is not to exclude companies, but rather to work with companies to stimulate broader change. Effecting change through tilting, the application of limited exclusions and market leading shareholder voting and engagement, is a solution which meets the Europe 2020 Strategy's call for smart, sustainable and inclusive growth.

Olga de Tapia, *Global Head of ETF sales, HSBC Global Asset Management* *olga.detapia@hsbc.com*

[1] Intergovernmental Panel on Climate Change, 2018. Global Warming of 1,5°C. Summary for Policymakers. Switzerland: IPCC.
[2] Measures the level of Greenhouse Gas emissions per unit of economic activity. This metric is recommended by the Task Force for Climate-related Disclosures (TCFD).

The Impact of the Coronavirus Crisis on Environmental, Social and Governance Investments

And the Challenges in Socially Responsible Investing

Florent Deixonne
Head of Sustainable & Responsible Investments, Lyxor Asset Management

It's still too early to know for sure how COVID-19 will affect the environmental, social and governance (ESG) market, but at Lyxor ETF, we certainly believe that it could be a catalyst for further growth.

The crisis has focused minds on how well companies are run, from their contingency planning to the resilience of revenue streams. More and more investors (and non-investors) are now asking questions about the sustainability of business models and how better governance relates to long-term performance.

As the global economy moves towards recovery, we believe the 'S' or social aspect of 'ESG' could shine, with the focus on creating a more sustainable model for the future. As part of that, we may see increased pressure on issuers and governments that fell short during the crisis and increased investment in those that succeeded.

At Lyxor, we have already seen this play out in fund flows. ESG funds in Europe held up remarkably well during the crisis. When investors urgently reduced their equity exposure in March, they largely did it by selling massive amounts of traditional broad-based index funds – usually weighted by market capitalisation rather than ESG ratings – while leaving ESG allocations as they were or even adding to them. This makes sense in that ESG allocations are usually part of more stable pockets of portfolios than other equity exposures, which is consistent with the long-term nature of a sustainable investment approach.

Given some of the recent equity outflows, investors who had previously decided to increase their ESG allocation but stayed on hold, may have larger pools of capital to redeploy in the coming months and years. With all that's happened since the start of the crisis, investors may move forward with a new perspective on some of the investment risks addressed by ESG funds. We believe this may lead to a long-term reallocation of capital and further growth in the ESG market.

YTD cumulated Net New Assets for ESG and non-ESG ETFs in Europe (M€)

Chart source: Lyxor International Asset Management, as at 16/07/2020.

A Change in Emphasis Between the Three Pillars of ESG

It is possible that the crisis may bring a change in emphasis on the three pillars of ESG. COVID-19 has already been an unprecedented stress test of corporate social responsibility. As previously mentioned, the 'S' of 'ESG' could shine: and by this we mean the 'social value chain', from employee protection to customer support, supply-chain management, and privacy concerns.

This increased emphasis can be seen playing out in the increase of COVID-19-related social controversies negatively affecting companies' performance and reputation. This can be seen with the number of news stories on inadequate protective gear for staff across different industries, weak policies or processes for consumer protection, misleading or misguided information on the pandemic, questions about data management and privacy rights, and so on.

Several socially-focused initiatives have appeared since the crisis began, such as the investor's statement organised by Domini Impact Investments, the Interfaith Centre on Corporate Responsibility and the New York City Comptroller's Office. This letter, which called on companies to help workers with paid holidays, health and safety measures and employment guarantees, was endorsed by investors representing over US-$ 9,2 trillion in assets under management.[1]

The United Nations Principles for Responsible Investment (UN PRI) have put in place a specific workshop with investors.[2] The European Leverage Finance Association (ELFA) has produced a set of Reporting Best Practice Guidelines to support discussions between investors and company management during this period.[3] We expect these types of initiatives to continue.

The Challenges in Socially Responsible Investing

The first challenge for effective socially-responsible investing is having good-quality ESG and climate data. At Lyxor, we believe that building cutting-edge systems to help investors assess the impact of their portfolios in terms of ESG and climate risks is key. We have partnerships with some of the most advanced data providers (e.g. MSCI, the Climate Bonds Initiative, Sustainalytics) and pride ourselves on having teams with strong financial engineering backgrounds who can do great work with the data from these partnerships.

Aside from the data aspect, the second challenge, especially in light of the new EU regulations[4], will be the industry's move in 2020 towards the 'portfolio temperature' disclosure. Soon it will be possible to calculate the implicit temperature-increase scenarios for all the major known reference market indices (e.g. CAC 40, Euro STOXX 50, S&P 500, MSCI Europe… etc) and see immediately whether or not a portfolio or benchmark is aligned with the Paris Agreement goals.[5]

Even if the intellectual methodology behind this subject is highly complex, associating an investment portfolio with a thermometer will be a concept of powerful simplicity, one that can be understood by everyone in the world and which we believe will become a de facto benchmark for future investors.

At present, the major equity benchmarks display scenarios of a temperature increase of four to five degrees, which by all scientific evidence is a disaster scenario in the making. The temperature impact of a portfolio will be a key input when setting portfolios on a low-carbon trajectory, which we think is the most effective strategy for managing transition risks for a financial player and also a relevant investment strategy to maximise the profitability of its portfolio in the medium term at a given level of risk.

Benefiting from a Passive Approach

There are many benefits to taking the passive approach in ESG investing. Firstly, thanks to improvements in data quality, indices today can be built to reflect all sorts of climate and ESG policies, then make them accessible to investors at a low cost. Innovations in this area include selective screens that filter out, as an example, companies that consume or extract high amounts of thermal coal. They include the implementation of specific values such as gender equality, or stock selection based on carbon ratings, or alignment with the UN's Sustainable Development Goals (SDGs).

Overall, better data means better indices and more ways to invest with an index-based approach in a transparent, low-cost and rules-based way – all important considerations for investors looking to generate sustainable performance through time.

Secondly, passive vehicles are extremely transparent. In our case, we share our proprietary method for ESG and carbon footprint analysis in our ETFs, allowing investors to monitor and measure the portfolio carbon footprint. We can share ESG ratings breakdown of companies, their exposure to positive and negative ratings trends, their business activities, the portfolio exposure to ESG controversies, UN Global Compact Controversies and transition risks, carbon risk management, the exposure to issuers offering environmental solutions and the revenue exposure to environmental solutions which contribute to SDGs.

All this information is easily accessible through the product pages of our public website, meaning that any investor in our ETFs has this key information at their fingertips. ETFs and index funds also invest in publicly-listed assets rather than private and as listed assets have higher liquidity than unlisted ones, an index investor can mobilise larger amounts of capital and make it work towards their goals.

Finally, good passive managers really have an active voice, setting up voting policies like an active manager. These policies and voting records are public and the manager is accountable to fund holders. In our case, Lyxor's shareholder engagement policy involves a direct dialogue with companies to communicate expectations, for example with respect to governance. This shows that it is possible to encourage sustainable business practice with index investing – if that investment is with a responsible 'active' passive manager.

Florent Deixonne, *Head of Sustainable & Responsible Investments, Lyxor Asset Management*
florent.deixonne@lyxor.com

[1] https://www.iccr.org/investor-statement-coronavirus-response
[2] https://www.unpri.org/covid-19
[3] https://elfainvestors.com/resources/Documents/ELFA%20COVID-19%20Reporting%20Best%20Practice%20Guide.pdf
[4] https://ec.europa.eu/info/publications/sustainable-financeteg-climate-benchmarks-and-disclosures_en
[5] https://unfccc.int/process-and-meetings/the-parisagreement/the-paris-agreement

How to Engage with Companies on Labour Standards

BMO Share the Experience of their Responsible Investment Team

Nina Roth
Director, Analyst, Responsible Investment, BMO Global Asset Management

Tim Bonds
Analyst, BMO Global Asset Management

COVID-19 and its Labour-Related Impacts

- Labour issues are likely the biggest corporate theme resulting from the pandemic; the momentum needs to be grasped by investors and multi-stakeholder initiatives alike.
- Companies that had not been managing their social issues well took longer to adjust to the new situation, demonstrating the business case for good social management.

The evidence that labour issues should be front and centre for businesses and societies alike is vast. We know that if social risks are not managed effectively, they fuel rising inequality and hamper progress towards securing decent work for all. There is also evidence that companies with lower staff turnover rates, higher employee satisfaction levels and better gender and ethnic diversity across the workforce often see more favourable financial returns than their counterparts[1].

We have long believed that strong labour standards can have a positive impact on corporate performance: better reputation, increased customer satisfaction and higher sales, enhanced employee satisfaction and lower injuries or turnover rates. The current COVID-19 crisis has shown just that. A recent study by Harvard Business School[2] indicated that during a market collapse as experienced at the beginning of the pandemic, firms responding with a focus on stakeholders outperform their competitors.

Key Risks

The value of investments and any income derived from them can go down as well as up as a result of market or currency movements and investors may not get back the original amount invested.

COVID-19 has brought social issues into sharper focus. We think that those companies that had not been managing their social issues well took longer to adjust to the new situation, their workers suffered more, experienced higher likelihood of being infected, and strikes were more prevalent[3] too. Existing concerns, such as the lack of paid sick leave, have been aggravated by the pandemic.

BMO Global Asset Management

The Social Impacts of COVID-19

The impact of the COVID-19 pandemic on workers has not been felt evenly. The implications for worker welfare differ significantly depending on the sector, the jurisdiction, and the nature of jobs. In our observations, we distinguish between three categories:

1 Customer-facing businesses
2 Businesses where working from home is possible
3 Broader supply chain impacts and consequences for workers

Customer-Facing Businesses

These can be split between those that provide essential and non-essential services. Essential services, including food producers[4], retailers and pharmacies, have remained open during the lockdown across many jurisdictions. Key risks include increased exposure to the virus and general employee safety. Increased union activity[5] and strikes are an indication that labour standards might be deteriorating. Non-essential services, such as restaurants and apparel stores, have had to close their high street operations. Key risks here are around job losses and lack of supply chain continuity once the business can re-start.

The implications of COVID-19 for worker welfare differ significantly depending on the sector, the jurisdiction, and the nature of jobs.

Working From Home

Most white-collar offices quickly needed to enact working-from-home protocols. However, concerns have arisen around workforce productivity[6], exacerbated by limited childcare options as parents juggle work and home schooling. Whilst cutting out commuting is saving time and lowering stress levels, IT functionality, as well as limited room and equipment availability, might have the opposite effect. With women taking on a disproportionate share of caring responsibilities in many households[7], this could have long-term knock on effects on gender diversity within corporations, unless mitigated by strong support measures. Support staff, such as catering, facilities, or cleaning, might be heavily affected by furloughing or lay-offs.

Supply Chain Impacts

Faced with unprecedented demand for some products and plummeting demand for others, the negative effects felt by supply chains include cancelled contracts, extended payment lead times and thus loss of liquidity to pay for already executed work, millions of jobs lost[8], lack of appropriate workers (as in agriculture), and pressure from buyers with ongoing sales to reopen factories despite domestic shutdown, leading to enhanced occupational health and safety risks. With, for example, the lack of auditing due to travel restrictions, as well as labour laws being suspended, already low labour standards might decrease further – such as has been the case in the Indian state Uttar Pradash[9].

Our Engagement Approach

In March 2020, BMO Global Asset Management released a statement on 'Expectations for social practices'[10], in which we outlined our core expectations around social issues, building on three main pillars: respect human rights, uphold labour rights, and safeguard public health. The statement also covered other aspects, some particularly relevant as part of our COVID-19 engagement response:

- Provision of a healthy and safe work environment
- Provision of fair wages
- Responsible business conduct (including tax transparency)
- Effective stakeholder engagement
- Respect for freedom of association and collective bargaining

Engagement on COVID-19 responses now forms a regular part of our day-to-day engagement dialogue with companies. Dependent on the company, region and sector, we call for measures in areas including:

- Occupational health and safety, including the provision of protective gear
- Paid sick leave, especially in jurisdictions such as the US where there is no government mandate
- Flexible shift work for those not able to work from home/ remotely
- Flexibility and adjustment in expectations for home-working staff who are impacted by childcare closures
- Pay premiums for workers that are deemed essential
- The provision of mental health support.

We see a clear business case for taking a progressive approach on these issues: workers experiencing physical or mental health difficulties are less likely to be able to perform their tasks, causing disruptions to business continuity; additional pressure through a lack of flexibility in a stressful pandemic environment will limit employee satisfaction, performance, and loyalty; fair wages ensure that no 'distracting' additional jobs are necessary, basic needs are paid for, and retention rates increase. Failure to respect worker rights can also be harmful to corporate reputations, particularly for consumer-facing businesses.

On the positive side, the response to our labour-related engagement has been better than expected, with many companies installing physical distancing measures, providing at least some protective gear, and enabling remote work where possible. Paid sick leave and pay premiums have also been commonplace – but many are time-limited, with some companies already announcing their end[11]. In our engagement, we highlight the need to make these changes last as overall social benefits, which can lead to positive returns for the company.

The response to our engagement has been better than expected, with many companies installing physical distancing measures, providing at least some protective gear, and enabling remote work where possible.

There has also been some enhanced transparency around corporate COVID-19 responses. Some companies have dedicated websites, for the first time acknowledging the relevance of their workers as crucial for their business; others have proactively approached investors about their responses.

Engaging on supply chain management and underlying social issues has been more difficult, as transparency is very limited. Particularly worrying reports continue to emerge from the apparel industry: buyers do not stick to existing contracts; physical distancing is not an option in cramped factories; pay is being diminished; and payment lead times are extended, leaving companies without enough money to pay their staff. All this will have negative effects on workers and their ability to live and work, meaning that once the pandemic is under control, it will be more difficult for producers to pick up order inflows.

In response to these concerns, our engagement with companies in key sectors such as apparel has encouraged them to take responsibility for the impact their decisions are having on their supply chain, and asked them to take measures, including:

- Providing more transparency around supply chain management and actions taken
- Ensuring payment for products already produced
- Arranging early payment of suppliers and not extending payment lead times
- Upholding labour standards, and considering remote audits

In Focus: The Effect of COVID-19 on the Retail Sector

Building on our engagement project on the living wage within the retail sector[12], we have explored how our focus companies for this project have adapted their business operations to COVID-19 constraints.

Global food retailers **Costco, Dollar General, Dollar Tree, Loblaw, Tesco** and **Walmart** have remained open to the general public throughout widespread lockdown. Our key concern here is around employee safety. For those that have remained closed on the high street – apparel giant **Fast Retailing** and consumer electronics company **CECONOMY** – we have placed greater emphasis on how they have managed their supply chains in the face of dwindling demand. Business-to-business food distributor **Sysco**, faced with customer restrictions in the form of restaurant closures, has switched focus to supplying grocery retailers.

We began monitoring these retailers towards the end of March 2020, with COVID-19 updates and enhanced business communications seen across the board – some providing daily updates, and a small subset proactively reaching out to us, as investors, to share more details.

Across the food retailers, we have been pleased to see significant safety measures being deployed in-store almost universally, though generally with a two-week time-lag from the onset of lockdown. We will look to engage further on these measures within non-essential stores as restrictions begin to be lifted.

Additional employee support has been provided both in monetary terms (increased hourly pay (e.g. Dollar Tree) and onetime bonuses (e.g. Walmart)) and general wellbeing (sick leave provisions (e.g. Loblaw) and expanded mental health support (e.g. Tesco)). However, we continue to engage on the former, in tandem with our living wage project, to encourage companies to keep these pay premiums beyond the pandemic. We will ask companies to evaluate the benefits, consult their employees, and make these changes permanent. We also hope to see further flexibility for shift workers, especially those dealing with limited childcare options as schools remain closed.

Perhaps less visible is the knock-on effect felt by supply chains. We believe there must be a concerted effort from retailers to work with their supply chain networks to deal with changing wholesale and retail demands during this period. Whilst we have seen some positive examples of this (e.g. Tesco), sadly, there are still reports of retailers reneging on supplier contracts (e.g. Asda, Walmart's subsidiary) or extending payment lead times. Fast Retailing has been addressing their supply chains from both a financial and worker safety standpoint[13], including overall enhanced transparency.

Further measures taken by retailers above and beyond the scope of labour issues discussed here, including priority shopping hours for the vulnerable (e.g. Dollar General) and healthcare workers (e.g. Costco), enhanced delivery options for those stuck in isolation (e.g. Tesco) and philanthropic acts (e.g. Walmart), have all served to boost the reputations and consumer trust of these brands in such uncertain times.

Outlook

The post-virus labour situation is likely to be very different to that at the start of 2020: fewer jobs, extensive home working where industry allows and even a lack of labour laws for years to come in some regions. It will become all the more important for investors to engage more thoroughly on social aspects, and ensure corporations commit to upholding labour standards, reporting transparently on their efforts and competing for a race to the top, and not otherwise.

Nina Roth, *Director, Analyst, Responsible Investment BMO Global Asset Management*

Tim Bonds, *Analyst, BMO Global Asset Management Sales.support@bmogam.com*

Retailer	HQ Country	Responsiveness to BMO engagement	Protective gear	Sick leave provisions	Pay premiums	Mental health support	Supply chain mgmt.
Costco	USA	*	×		×		
Dollar General	USA	***	×	×	×	×	×
Dollar Tree	USA	No response	×	×	×	×	×
Walmart	USA	**	×	×	×	×	
Sysco	USA	***	×	×	×	×	×
Tesco	UK	***	×	×	×	×	×
Loblaw	Canada	***	×	×	×	×	×
CECONOMY	Germany	No response	N/A	N/A	N/A	×	
Fast Retailing	Japan	***	N/A	N/A	N/A		×

As at 30 April 2020

***Had an engagement call and/or in-depth email correspondence, **Email feedback received, *Call requested & accepted, not taken place yet. No response = no response

[1] https://shareaction.org/why-its-time-to-talk-about-the-s-in-environmental-social-and-governance-principles/
[2] Harvard Business School Accounting & Management Unit Working Paper No. 20-108 , https://papers.ssrn.com/ sol3/papers.cfm?abstract_id=3578167
[3] https://www.aljazeera.com/ajimpact/coronavirus-fight-worker-unions-aggressive-200417212003336.html
[4] See also our recent Viewpoint on COVID19 and food production
[5] https://www.theguardian.com/world/2020/may/06/us-union-activism-spikesamid-coronavirus
[6] https://news.stanford.edu/2020/03/30/productivity-pitfalls-working-home-agecovid-19/
[7] https://www.theguardian.com/world/2020/may/27/working-mothersinterrupted-more-often-than-fathers-in-lockdown-study
[8] 'Two million Bangladesh jobs 'at risk' as clothes orders dry up' https://www.bbc.co.uk/news/world-asia-52417822
[9] https://www.mondaq.com/india/employment-and-workforce-wellbeing/935398/suspension-of-labour-laws-amidst-covid-19
[10] https://www.bmogam.com/wp-content/uploads/2020/03/expectations-for-socialpolicies.pdf
[11] Say goodbye to 'hero pay' Korger tells workers, May 2020 https://nymag.com/intelligencer/2020/05/say-goodbye-to-hero-pay-kroger-tells-workers.html
[12] https://www.bmogam.com/gb-en/intermediary/news-and-insights/esg-viewpoint-living-wage-in-the-retail-sector/
[13] Fast Retailing recognizes that one of our most important responsibilities is to protect the security and safety of the people who help to make our clothes. https://www.fastretailing.com/eng/sustainability/news/2004221500.html

Asia's Information Technology Leap

Sharat Shroff
Portfolio Manager, Matthews Asia

Inbok Song
Portfolio Manager, Matthews Asia

Asia's information technology (IT) sector is at the forefront of several long-term, secular trends driving growth in the region. Rising spending among Asian consumers is fueling entirely new business ecosystems, from e-commerce to online gaming. China is currently the world's largest e-commerce market, with revenues expected to surpass US-$1 trillion in 2020.[1] We also see a need for increased labor productivity in Asia due to rising wages, creating a long runway for growth for software and automation solutions. Enterprise software sales in Asia are expected to grow to US-$ 26 billion by 2026.[2] Finally, innovation and services are playing increasingly important roles in developing markets.

Examining the broad architecture of IT today, companies tend to fall into two broad categories – software and hardware. Among software makers in Asia, we see entirely new paradigms emerging. The software side has historically included IT companies in India, as well as assorted software producers and providers across Asia. We now see the growth of enterprise software among business of all sizes. Smaller mom-and-pop businesses that traditionally used paper based payroll and accounting systems are moving to mobile-friendly, cloud-based systems. And larger business are starting to do more with their data, engaging in sophisticated data analytics for marketing and improving daily operations.

Turning to hardware, we see an industry that has built a solid platform and is starting to advance in terms of its capability set. In Asia, the main manufacturers of semiconductors and microchips have historically been centered in South Korea and Taiwan. However, we also see traction for hardware within mainland China. Together, we believe software and hardware provide two compelling strands of the IT sector with attractive long-term growth potential for the Matthews Pacific Tiger strategy.

Software and hardware companies are supporting new forms of consumption in Asia, such as the growing popularity of online games. Is online gaming part of the IT sector? Should investors consider online gaming as part of the communication services or the consumer discretionary sectors? In one sense, gaming can logically be viewed as part of the IT sector because IT provides the backbone for the gaming ecosystem. In another sense, the surge of popularity of online games in Asia includes the way that many multiplayer games might function as a form of social media, with chat functions built into the platforms. Social media more traditionally falls in the vertical communication services. Online gaming also bleeds into the discretionary share of the consumer's income. Online games illustrate the ways in which technology is being woven into everyday life.

The IT hardware sector in particular has been prone to short-term cycles in the past, often driven by global factors. Cyclicality in the sector remains, but encouragingly, we have also seen an evolution of the types of companies now available in the sector.

Software Shines

Demand for cloud services is growing and we see a new crop of software providers that are starting to address enterprise needs, particularly within mainland China. These companies have been relatively small in the past but with the growing digital nature of economies across Asia, there is a real need to improve efficiency. Adoption of software is accelerating as companies look to enhance their labor productivity. Furthermore, some businesses on mainland China prefer to engage with local software providers who can customize solutions to the needs of individual enterprises. The software industry is starting to mushroom and we see quite a bit of capital flowing to innovative businesses.

When we look at the software sector in the West, U.S. companies adopted Microsoft, Oracle and SAP software products a long time ago. These products began as desktop versions of software, but are now slowly migrating into the cloud. In Asia, however, use of traditional desktop software has developed slowly. As a result, many companies in Asia have the opportunity of leapfrog straight to cloud-based software – similar to how many countries in Asia skipped the stage of generating hardwired telephone lines and went straight to mobile phones. To understand the growth trajectory of the industry, we believe we must focus on trends on the ground in Asia. Investors cannot understand pricing mechanisms in Asia by looking at the Western experience.

The move toward cloud-based software systems is a plus for Asian software developers. In the absence of legacy PC-based software systems, it is faster and easier for businesses to adopt new cloud-based enterprise software solutions. New users and software subscribers can simply start fresh from the cloud. Enterprise software development in Asia can move quickly because it is unencumbered by the past.

Hardware Remains Crucial

The hardware side of the sector is at a slightly different stage of evolution. Asian companies seek to move up the curve by offering valued-added solutions and becoming more competitive on a global scale. Historically the hardware companies in Asia have been part of the global supply chain. Now hardware companies in Asia are starting to generate more intellectual property, given these companies' own investments in research and development. Some companies in Asia are competing with the best run hardware companies globally, including companies in Silicon Valley. We believe a small, select group of Asian hardware companies has the potential to become global leaders, particularly companies in North Asia. Western businesses have dominated the semiconductor space for a long time, but some Asian hardware manufacturers may be ready to pick up the baton. In our view, certain aspects of Asia's semiconductor industry are not well understood by the market. Growing pricing power for some hardware manufacturers may provide increased sustainability in their growth trajectories.

Fundamental Research is Key

Asia's IT sector is broad and diverse. Deep knowledge of local markets and in-depth research are crucial, in our view. Valuations for innovative businesses in Asia's IT sector require a multi-prong approach, as traditional P/E ratios may provide only part of the story. We often begin our analysis with a company's research and development efficiency. The ability to develop intellectual property builds competitive moats for software companies and drives long-term success. The quality of human talent and ability to control operational costs are also important. The hardware side is more capital intensive. When researching a hardware maker, we need to understand a company's capital expenditures and cost of capital. Moving up the spectrum in terms of value-added products can take time and investment. Nevertheless, the best hardware makers are investing in intellectual property as well and building competitive moats of their own.

As part of our research efforts, we also seek to understand and mitigate risks of investing in the sector. On the software side, competition can be fierce. Understanding how intellectual property may create user loyalty is important. Disruption of a software company's business model can also potentially come from many sources, so it is important to understand the full ecosystem a software company operates in. On the hardware side, the semiconductor industry can be highly cyclical. However, there are businesses that may have more persistent trends driven by secular factors, such as the search for greater productivity and efficiency.

Increased usage and adoption of IT solutions is essential for most businesses in Asia, even traditional blue-chip industries. Some of the largest insurance companies in Asia, for example, have been heavy spenders on data analytics and software. IT companies are using data analytics to upgrade efficiency of their operations. Likewise, we see other traditional businesses around the region as in banking and health care using IT to boost efficiency. Technology isn't a silo. Greater IT integration is table stakes for any company or business to be successful in Asia these days. Importantly, younger generations continue to seek newer ways of buying products and services, while improving their quality of life. We believe changing demographics open the door for innovative IT companies in Asia to continue to grow and expand.

Sharat Shroff, *Portfolio Manager, Matthews Asia*

Inbok Song, *Portfolio Manager, Matthews Asia*

globalfunds@matthewsasia.com

[1] Source: Statistica.com. Forecast adjusted for expected impact of COVID-19 as of June 2020.
[2] Source: Allied Market Research.

The Interview: Maneuvering Commodities in a Fragile Environment

Tobias Tretter
CIO and CEO
Commodity Capital

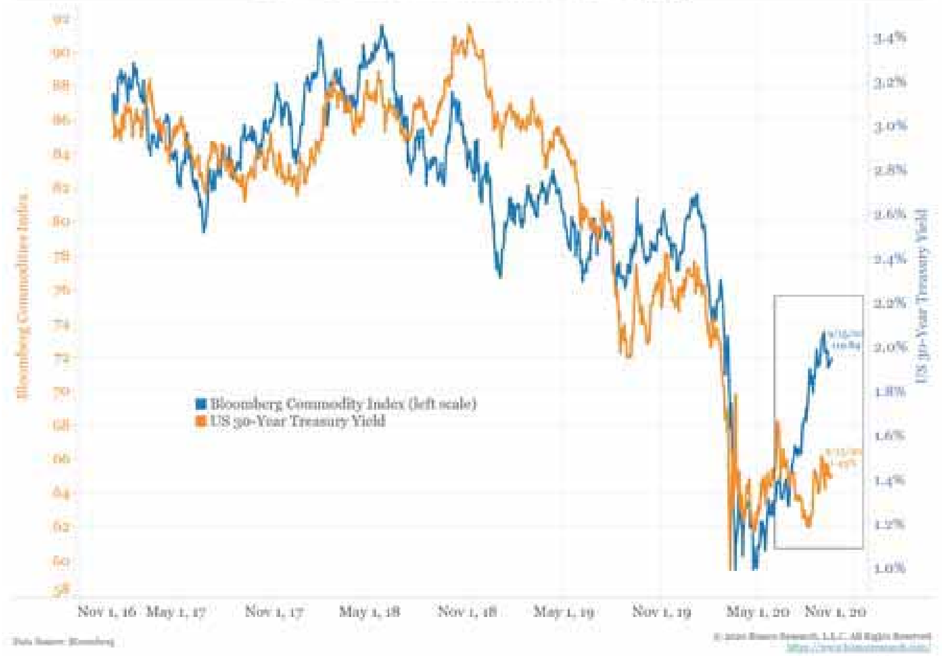
Regina Costello
European Investment Journal
Editor

Our editor, Regina Costello, spoke with Commodity Capital's Tobias Tretter and Abid Mukthar on an asset class which is gathering more attention in recent months.

Q: We have seen dramatic price movements in all asset classes. Do you see any correlation between bond yields and commodity prices?

A: I can't say that I see any correlation now, given COVID-19, the US election year, vast amounts of central bank stimulus and money being 'printed'.

Commodities and Interest Rates Diverge



commodity capital
invest in real assets

The Bond Market is Ignoring Dr. Copper

Source: Bianco Research via Twitter, September 16th, 2020: 'Should interest rates be this low? Consider these twio charts. The bond market often moves in tandem with commodities. But as the boxes show, that has not been the case recently. Commodities are suggesting interest rates should be moving higher, but they are not.'

Q: According to the FED Chairman Powell, the recent rise in commodity prices is due to supply shortages. Other analysts are pointing to the weakening of currencies by fiscal and monetary policies in developed market economies. How do you interpret the price action of the last few months?

A: The current pandemic has impacted everything and everyone this year. In my opinion, both those statements are connected. Yes, prices increased due to supply shortages, however, those supply shortages are in part due to the fact that operations were shut down globally in an effort to curtail the spread of the virus. Just recently,we have seen a resumption of operations. Now we have to anticipate what the outcome will be of this second wave hitting areas around the world. Will we need to shut down again? If so, will it be a more intense shutdown? In response to the shutting down of operations, businesses, schools, etc., central bank stimulus increased worldwide and 'new' money was "printed" and entered the money supply. Events like this have resulted in the price increase in gold and silver.

Q: Do you differentiate between precious metals and other commodities? Do different commodities tell you different 'stories'?

A: Yes, precious metals move according to economic, fiscal and monetary considerations. Base metals have less effect on stock market levels or hedges against inflation, etc. More so, the base metals are tied to infrastructure development.

Q: How does the 'green' movement affect different commodities?

A: I think the 'green' movement has no differentiation with respect to different commodities. At the end of the day, a mining project will have a social and environmental impact. The question is how the company will manage the process. Will they work with communities as partners and choose the right path that makes sense for the communities, government, the company and shareholders or will they do as they wish and draw the condemnation of all those parties. One of the results of this growing awareness has been that the investors, such as Commodity Capital, make it a point in our due diligence process to ensure that any potential company is making the proper decisions based on the former. In cases, where current portfolio companies do not adhere to our ESG guidelines, we make efforts to affect a change in management's course or exit the investment. Companies need to understand that if they do not adhere by a set of guidelines that the sources of capital needed by them to explore and operate, will quickly disappear.

Q: What are the most important aspects in commodity investing you learned in your decades of experience?

A: Do not only look at project and commodity prices, but make investments with great management teams. Great management teams will always do their best to acquire or find the best projects.

Q: Can you tell us about your approach?

A: We focus on three basic premises – Jurisdiction, project economics and management. **Jurisdiction:** Invest in jurisdictions that have established rule of law, and better yet laws and regulations around mining. Helps avoid corruption that may lead to company's project being given to someone else. It basically provides comfort to investors that the project/company they are investing in has protections under the law. **Project economics:** At the end of the day, the project has to make sense from an economic perspective. Whether it's the underlying commodity price, operating costs (exploration or production costs) or government taxes and royalties, the project should provide for an attractive IRR and payback period. It should also demonstrate the potential to expand beyond its original scope. **Management:** In our opinion, one of the most important factors. Poor management can jeopardize the project and even the company, such as misinterpreting geology and drilling in the wrong area or correct orientation, poor negotiation in acquiring properties (i.e., structuring the deal), excessive operating costs, and over-the-top compensation packages (i.e., greedy management).

Many other factors are important as well, e.g. picking wrong jurisdiction, etc. A great management team is one that works not only for shareholders in picking the right project in the right jurisdiction but most importantly works with the communities in the area they are operating. Community relations and ESG are critical factors that will help companies succeed and also bolster share price as opposed to those who do not consult with their local communities. There are also additional factors to consider, especially for junior mining companies, such as marketing, liquidity, etc. However, the three factors mentioned here are an excellent foundation to start from. In addition to those premises, we check ESG criteria on site.

Q: When investing in the commodity space, what do you regard as a reliable timeframe for you?

A: Realistically, projects can take ten years or more to go from discovery to production. We focus on the curve that provides most upside, that of exploration to discovery (and further to development). This process can be quick or it can take some time, perhaps three years or more.

Q: Commodities have been in a bear market for a considerable time; historically even through the centuries. How can one make money in this environment?

A: We believe that focusing on the above mentioned core factors will give satisfactory results. In the end it is all about investing in those management teams that are capable of finding and acquiring economic projects in excellent operating jurisdictions.

Q: Gold prices seem to move in 10-year cycles. Do you agree? Where are we in the cycle?

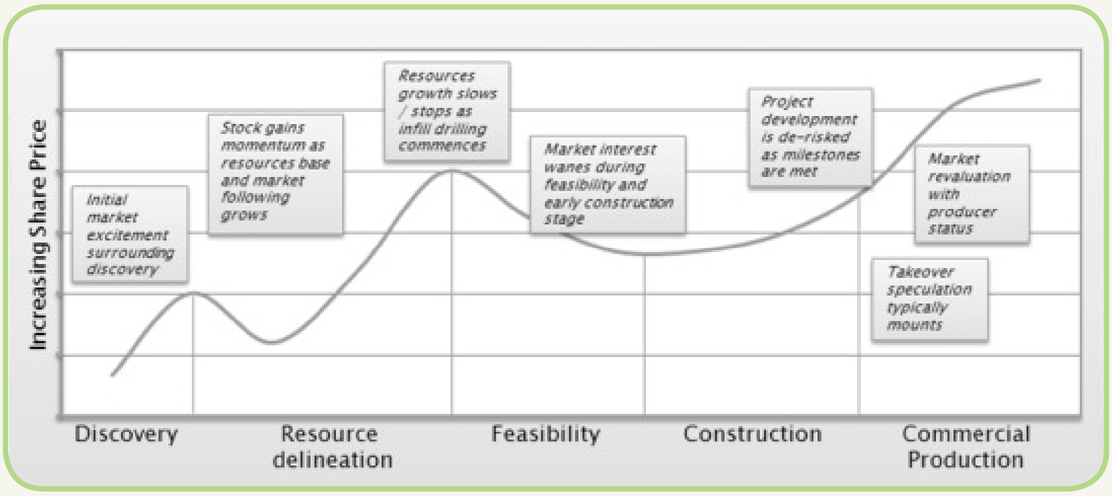
A: Due to all the extraordinary developments this year, I cannot say where we are in this cycle. I do believe that we are in a period where gold will enjoy specific strength, given what has happened in the world and, more so, what governments have done, and continue to do so, to counter the pandemic. Excessive amounts of 'new' money is entering the money supply and it is not clear where this will lead to from an economic perspective. If gold is that safe haven and a hedge to inflation then we can assume there will definitely be an impact in its price.

So again, anything that might have had some regular cycle has been affected this year by a number of factors which have combined. However, with this break in 'normality' comes the potential opportunity to make investments which could generate excellent returns.

Q: How do investment strategies differ for different kind of investors?

A: Conservative investors ought to be more focused on de-risked projects, those that are in development or production. Growth-oriented investors should be ready to invest in exploration companies which have a higher degree of risk associated with their operations. Either they find the ore bodies which can lead to a production story or they have to shift gears and drop that project because it is uneconomic and find another project.

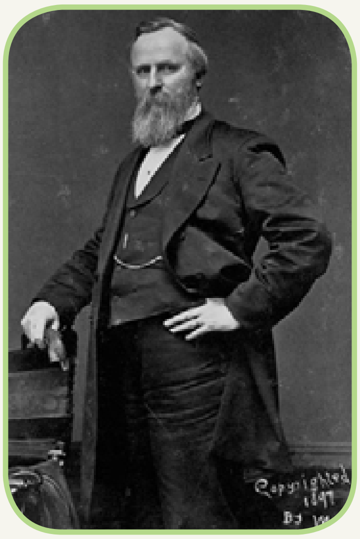
Tobias Tretter, *CIO and CEO, Commodity Capital*



Cryptic Crypto Assets Purchase, Custody, Risks

Mark J. Valek
Partner
Incrementum AG

Harald Steinbichler
Managing Partner
axessum GmbH



(US-President, Rutherford B. Hayes, 1822–1893)

'An amazing invention.
But who would ever want to use it'?

Just as the American President Hayes was skeptical about the telephone in the aforementioned quote, many investors are wondering whether crypto-currencies are a fad or will establish themselves in our society in the long term.

What are Crypto Assets Anyway? First, you Have to Understand Blockchain.

Blockchain is one of those buzzwords or miracle words that is currently causing a lot of excitement in the technology world. Technology could turn the financial world upside down, we often hear. A blockchain is a decentralised payment and contract system; a network of users manages transactions without the involvement of lawyers, banks or public authorities. The crypto currency Bitcoin, for example, is based on blockchain technology. With these lines we give you an overview of the purchase, the custody, the risks and an outlook on Bitcoin & Co.

How Does the Blockchain Work?

Often the words Blockchain and Bitcoin are mixed together, but these are two different concepts. Bitcoin is the first crypto currency based on the blockchain. In the meantime, however, many different crypto currencies have developed, all of which use the blockchain.

With the help of the blockchain technology, it is possible to carry out transactions or manage contracts without the opportunity to manipulate the content. In the entire blockchain, all transactions that have ever been carried out are thus stored. A certain number of transactions are stored in a so-called block like in a computer file. These blocks are linked together using cryptography. Each block contains two additional pieces of information: the hash, a unique code, of the previous block and a hash that summarises all transactions contained in the current block. The integrity of the blockchain will be checked by a computer, which independently calculates these two hash values and checks them against the stored values. Manipulation would thus be immediately noticed and any fraudulent participant would be excluded from the system and ignored. Due to the complexity of the chains, verifying computers need to use an exceptional amount of power and energy.

It makes sense to categorise the many crypto currencies in principle. The majority of the so-called crypto currencies are not currencies at all, but either a kind of digital voucher to participate in a network or digital securitisation of assets. The Swiss regulator FINMA consequently distinguishes three different types of crypto currencies: Payment tokens, utility tokens and security tokens. Bitcoin, and a few other, belong to the first group.

Bitcoin Stands Out From all Other Crypto Currencies in Terms of Security and Liquidity and is Often Referred to as Digital Gold.

How can you purchase crypto currencies directly?

This can basically be done in three ways:

1) Donation – 'let me do it and I will understand'

One can find owners of crypto currencies among friends or acquaintances, who are often willing to provide a small amount for testing purposes.

2) Mining – the 'craft' in the crypto area.

With the necessary hardware and technical know-how one gains access to crypto units. However, this area has now been professionalised and from an economic point of view can only be carried out with large investments.

3) Buying – acquisition via trading centres.

You can buy from crypto stores, Bitcoin machines, from other people 'over the counter' (OTC) or stock exchanges Binance, HitBTC, coinbase, Bittrex or kraken.com.

For direct investment, crypto stock exchanges such as kraken.com or brokers such as Crypto Finance AG are available to investors. Coins are stored either in Cold Wallets or Hot Wallets at the investor's or broker's premises.

How are Crypto Currencies Purchased Indirectly?

If you enter 'Crypto Currency Fund' in Google, you will get over 43 million entries. Currently, European investors can invest effectively in very few products and these are mostly domiciled offshore. However, many managers are in the planning stages to launch funds, and the fund industry could experience a real boom with Crypto Funds. At this time, the first products are available as unregulated funds, such as hedge funds, RAIFs and similar products. We assume that some products will be launched in the regulated fund sector in the near future.

Bitcoin ATM in Zürich

In Liechtenstein, Incrementum AG has launched one of the first regulated funds, the Incrementum Digital & Physical Gold Fund. This fund is structured like a traditional mutual fund investment and invests in gold, silver and crypto currencies. Regulated fund structures offer the investor co-ownership of the fund assets plus the benefit of better security, as the investment vehicle is supervised by the Financial Market Authority and independent audits. The assets are held in custody by a regulated custodian. There is no doubt that increased security and transparency result in higher administrative costs compared to other indirect investments.

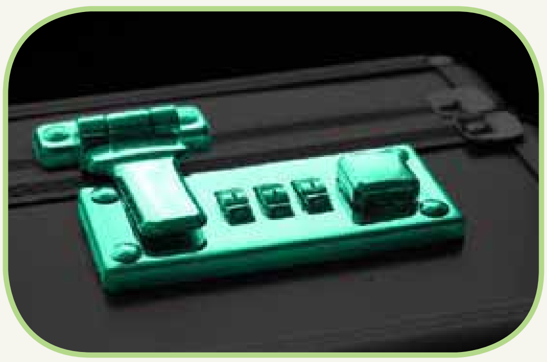
In the meantime, many structured products are available for different crypto baskets and individual currencies. They allow investors easy and quick access to different, often static crypto portfolios. However, high spreads by market makers and issuer risk are disadvantages which need careful evaluation.

The third, and currently largest area, are unregulated products with domiciles outside the European Economic Area. The advantage of these products lies in their flexibility and fee structure. The disadvantage is that these products usually do not have a recognised audit and pricing is often not transparent. Depending on the prospectus, redemptions in kind might be available. Experience shows, this is certainly not an easy procedure for investors.

Finally, there are also equity products and ETFs, which often focus on investing in the blockchain technology itself, companies with meaningful crypto involvement and sometimes contain crypto currencies.

How are Crypto Currencies Stored?

As with any other asset, safe custody is essential. Due to the decentralised structure of crypto currencies, they can also be stored independently and away from any access by third parties. You need a wallet and a private security key (usually a mnemonic sequence of words) to access the wallet.



Hot Storage – refers to storage on devices connected to the Internet. This form of storage has the advantage that the value units can be accessed quickly and at any time. The disadvantage is that it is easily compromised by possible external access from the network.

Brokerage, Stock Exchange Custody – some investors leave their holdings with the respective stock exchange immediately after purchase. This has the advantage of being easy to trade. However, investors take a very high counterparty risk with this form of custody. An example is the Mt. Gox swap exchange, which filed for bankruptcy in 2014. This form of custody is also only suitable for investors who do not want to carry out payment transactions with their units.

Cold Storage – this is a very secure form of custody: the private key is stored on storage devices without internet connection. However, it is less suitable for everyday use with payment transactions, as access takes longer due to the lack of an internet connection.

Hardware Wallet – some providers offer special hardware devices, similar to a USB stick, which support cold storage. A secure form of storage, especially for larger stocks.

Bank Custody – some selected banks now offer the custody of crypto assets. This has the advantage for customers of secure bank custody with all the liability assumed by the respective bank. Especially in asset management, such a form of safekeeping is ideal for obtaining a complete overview of all assets (shares, bonds, crypto currencies, ...) and for meeting the regulatory requirements.

Paper Wallet – here the private key is stored on paper. Similar to the safekeeping of gold in your own house, this form of safekeeping has advantages and disadvantages.

Risks

'He who dares nothing may hope nothing.'
(Friedrich Schiller (1759-1805), German poet)

Liquidity risks, price risks, technical risks, settlement risks, counterparty risks, legal risks, tax risks, etc. One could fill a whole risk management manual with the risks of crypto assets. Here we would like to point out two risks in particular:

– The blockchain technology is changing the way we do business with each other. We see it as a major risk if individuals, institutions, companies and government agencies will not make an effort to reach an informed opinion about the blockchain technology. This would inevitably contribute to a detrimental business success.

– Protect your private key – the authors see an insecure storage of this key as one of the biggest risks in practice.

Mark J. Valek, *Partner, Incrementum AG*

Harald Steinbichler, *Managing Partner, axessum GmbH*

Passive Property – Another Brick in the Wall?

There is an Alternative

Matt Brennan
Head of Passive Portfolios
AJ Bell

Historically, investing in the property asset class would have been undertaken using a daily traded property fund, with an active manger purchasing physical properties. Despite the growth of passive investing, firstly in equities and latterly in fixed income, alternative asset classes such as property have continued to be predominantly invested through active management.

Physical property indices cover a vast number of properties and assets. For example the MSCI UK Real Estate Index consisted of 8,993 properties with a total value of £162 billion at the end of March 2019. To invest passively means purchasing a proportionate share in every financial security of an index. The logistics of securing a part share in each property would be nigh impossible and come at great cost.

However, since 2016 we have experienced two rounds of property fund suspensions, in the aftermath of the Brexit referendum, and more recently during the COVID-19 pandemic. This has highlighted the liquidity mismatch of physical property funds – the underlying properties are rarely traded and have high transaction costs, whereas investors have an expectation that they can deal the fund relatively simply on a daily basis. As well as suspending trading, locking up investors' cash, many of the funds have introduced anti-dilution mechanisms, meaning high transaction costs for investors. We have also seen the FCA launch a consultation on the liquidity mismatch of property funds, highlighting that it is in the regulator's radar.

In tandem with the growth of ETFs, there has been a boom in what is known as a multi-passive fund, a passively implemented multi asset fund. Perhaps the most famous in the UK market is the Vanguard Lifestrategy range and the Blackrock Consensus range. These ranges have proved extremely popular with both direct investors and financial advisers given the low costs and strong performance compared to active multi-asset funds.

However, herein lies the conundrum – on one hand arguably the biggest advantage of multi-asset investing is the benefits of diversification – by using lowly correlated asset classes, one is able to construct a portfolio that delivers a given level of return with a smoother path, than say a portfolio of just equities or bonds. On the other hand, for a long-term investor the virtues of keeping costs low is well appreciated. As an example, a portfolio with a starting value of £100,000 delivering an average gross annual return of 5% with investment costs of 1% (a typical active portfolio) will be worth £45,000 less than the same portfolio with investment costs of 0.35% (a typical passive portfolio) viewed over a 25-year time horizon. However, this is predicated on both portfolios generating the same 5% gross return – this is much harder for the cheaper portfolio if it isn't able to benefit from the use of alternative asset classes such as property.

So, how do multi-passive funds tackle this issue? We run through the different options, and the benefits and drawbacks of each.

Property Free

One option is to eschew property as a separate asset class (although some exposure may be gained through equities investing in property in broad equity indices). This is the approach taken by the Vanguard Lifestrategy range. The clear advantage here is lower costs. By focusing on broad equity and fixed income asset classes, the Lifestrategy range is the cheapest in the market, with an OCF of 0.22%. The proposition is simple and easy to understand. However, as multi-passives have only come to the market post-2008, portfolios without alternative investments have not been properly stressed in a market, where for example we see significant weakness is the US-Dollar and US equities, for which the Lifestrategy range is biased towards. As an investor choosing a multi-passive fund without property, a consideration should be made as to what may happen if bonds and equities fall at the same time, especially in a lower risk portfolio.

Bricks and Mortar

Another route for a multi-passive fund is to go active. This is the approach taken by the L&G multi-index range. This brings all the diversification benefits discussed, however, it (literally) comes at a cost. The panic after the EU referendum vote in June 2016 and the more recent COVID-19 pandemic, and the ensuing suspension of dealing in active property funds, highlighted the lack of liquidity for physical property. To combat this, active fund managers have, amongst other measures, protected its investors in two ways. Firstly, many active UK property funds have moved to full bid-ask pricing. This means the entrance and exit price of the fund can differ by as much as 6%. This means any investors buying or selling into the fund, bear the cost of buying or selling the underlying properties, covering significant legal and administration costs. The second tool used by active managers is to hold a cash buffer to cover any potential redemptions. This means an investor in the fund is essentially paying a management fee of 1% and beyond on cash.

When looking at the L&G multi-index range the average bid-ask spread of its funds is around 0.6%. The majority of this will be to cover the entrance and exit costs of its active property investments. 0.6% represents around two years of ongoing management fees. It is also worth bearing in mind that if an active property fund is suspended, the multi-passive fund will be unable to sell its investments during the suspension, potentially changing the shape of the portfolio, and in a stress scenario could lead to the multi asset fund also having to suspend.

Property Shares

Although it may be impossible to passively invest in all the individual properties, it is possible to invest in an index tracking the performance of public companies that in turn invest in property (known as REITs). This is the route taken by the Blackrock Consensus range – investing in a global REIT fund. This represents a half-way house. It brings longer term benefits of investing in property, as over a medium term timeframe REITs tend to exhibit similar return characteristics as a bricks and mortar property fund. A typical REIT tracker fund will have ongoing charges of between 0.2% and 0.5% per year, and bid-ask spreads of up to 0.5%, significantly lower on both fronts compared to an active property fund. Therefore, it presents a compromise between diversification and costs. However, with any compromise there must be some give. Although over the longer term a REIT performs similar to a physical property fund, over the short term this is not true. This is due to three factors:

- Leverage – a REIT uses debt to finance some of its property purchases. This means it is levered to property returns.
- Regional and Sectorial Concentration – a property index measures the value of all (commercial) property across a region, however a REIT may have a specific regional (such as London) or sectorial (such as retail) focus, this can mean a REIT index may contain tilts.
- Closed ended vehicles – a REIT trades like a share. That is the prevailing share price is determined by the market. This can be above or below the independently evaluated fair value of the underlying properties depending on investor sentiment.

These issues can lead to additional volatility, which is most likely to be suffered at times of market falls. This means the benefits of diversification may dissolve when needed most.

Property Replication

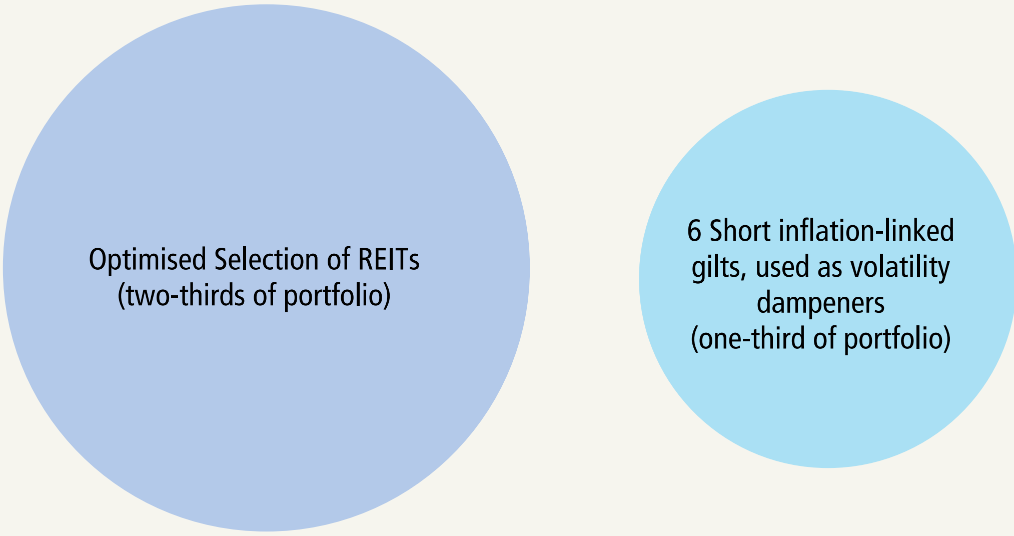
A novel approach to passive property investing is emerging, and is used by our AJ Bell funds. The starting point is an index of REITs, as previously discussed. However, attempts have been made to adjust for the drawbacks of short-term REIT volatility.

- Leverage – a blend of REITs and short-term index-linked gilts is constructed to remove the effects of debt usage by the REIT managers. The index linked bonds protect against inflation, much like a property investment.

- Regional and Sectorial Concentration – the blend is then optimised to increase weights to REITs with lower volatility and vice-versa, ensuring the index is not tilted towards high risk REITs, this is essentially a ‘smart-beta’ approach.

The resultant index can be summarised as follows:

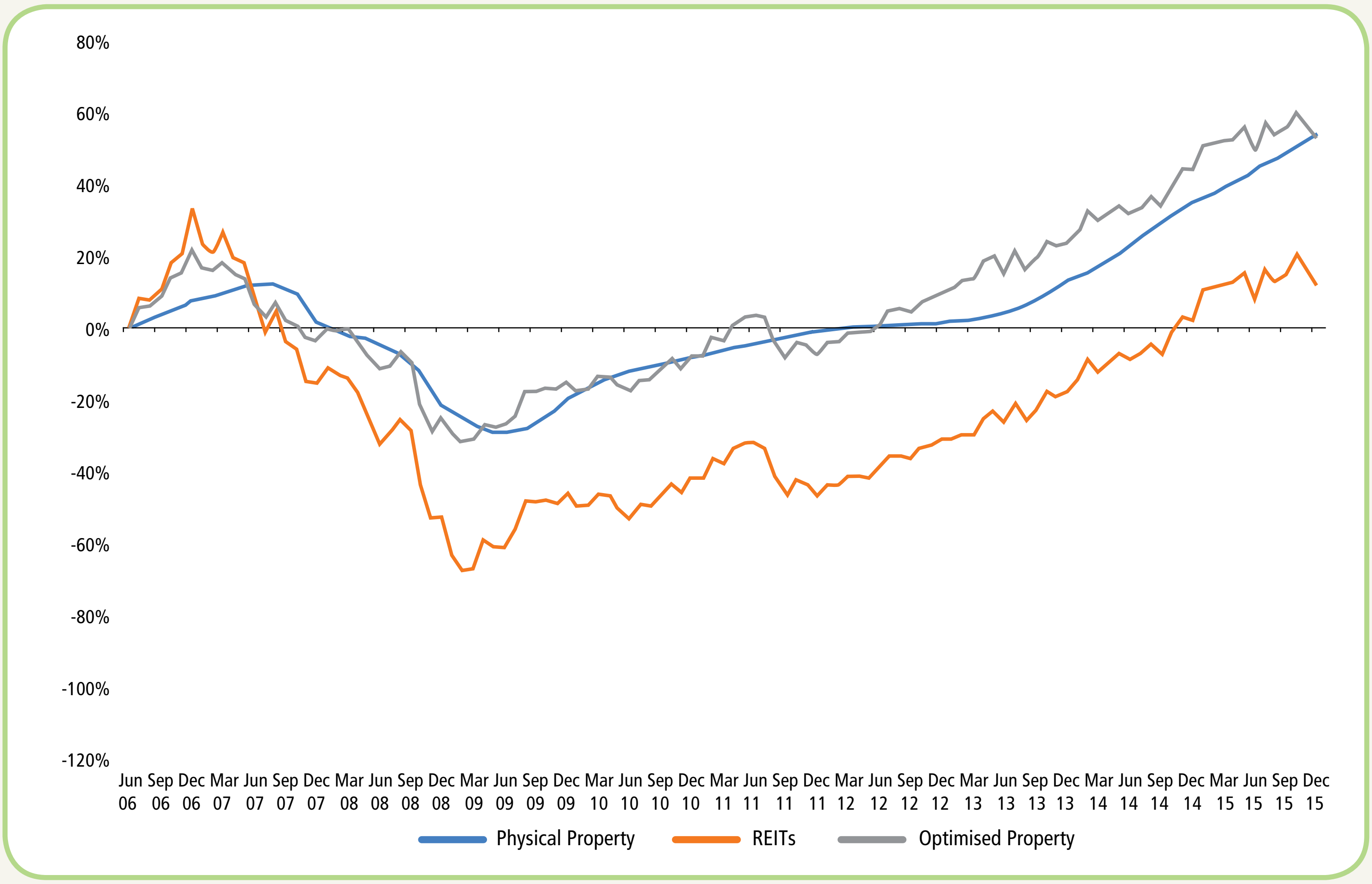
A Blended Approach



AJ Bell's investment approach to UK passive property

But does it work?

Over a ten-year period it can be seen that the grey line (representing the blended approach) delivers a return similar to that of a physical property index (blue line), whereas the REIT index lags due to the downturn during the financial crisis.



Source: MSCI

This means it delivers the diversification benefits of physical property, and with a low cost. The bid-ask spread also remains reasonable at around 0.5%. The one drawback that isn't addressed is the ability for a REIT's share price to differ from the fair value of the assets. This leads to some short-term volatility compared to physical property. It could, however, be argued that a physical property index understates risk, as property valuations tend to remain robust even when sentiment is negative, and only fall when fund managers become forced sellers, which is only likely to happen in times of stress. It is also worth noting that this approach is untested in the market, however, the robust back-testing, covering the financial crisis, does provide some comfort.

Not all Passives are Created Equal

There is no right or wrong approach to investing in property as a passive investor. However, it is important to note that the approach differs across different multi-passive ranges. Studies show that over 90% of long-term portfolio returns are delivered from the asset allocation decisions. Therefore it is important to understand the manager's approach to property – there is no point in paying lower costs if gross returns are significantly lower!

Matt Brennan, *Head of Passive Portfolios, AJ Bell*
Matt.Brennan@ajbell.co.uk

Ready for Retirement? Insights from an Income Perspective

Hamish Preston
Associate Director,
U.S. Equity Indices,
S&P Dow Jones Indices

2020 has been a highly unusual year as individuals, companies, and economies have grappled with the impact of COVID-19. Amid the uncertainty, assessing the state of one's finances – especially as it pertains to retirement savings – may have been particularly important for many people. Although each person's financial readiness for retirement depends on a multitude of variables, focusing on inflation-adjusted retirement income may be useful.

Background

A common approach when saving for retirement is to view risk through the returns lens. For example, a traditional glidepath approach typically begins by allocating heavily to equities in order to try and accumulate a 'nest egg' of savings. Over time, these equity allocations are then transitioned to income-generating assets – usually nominal bonds æ in order to secure a stream of income while also mitigating against market drawdowns: the returns to nominal bonds have been lower than equities, historically.

However, focusing on only returns may overlook a key risk for retirees and those approaching retirement: not having enough inflation-adjusted retirement income to support a desired standard of living. Indeed, inflation erodes purchasing power of cashflows from nominal bonds, and changes to inflation may make it more difficult to plan to meet anticipated liabilities in retirement. Hence, focusing on inflation-adjusted retirement income could be informative. This is especially relevant following many central banks' responses to COVID-19. For example, the U.S. Federal Reserve's policy responses have contributed to lower nominal yields and higher inflation expectations in the U.S.

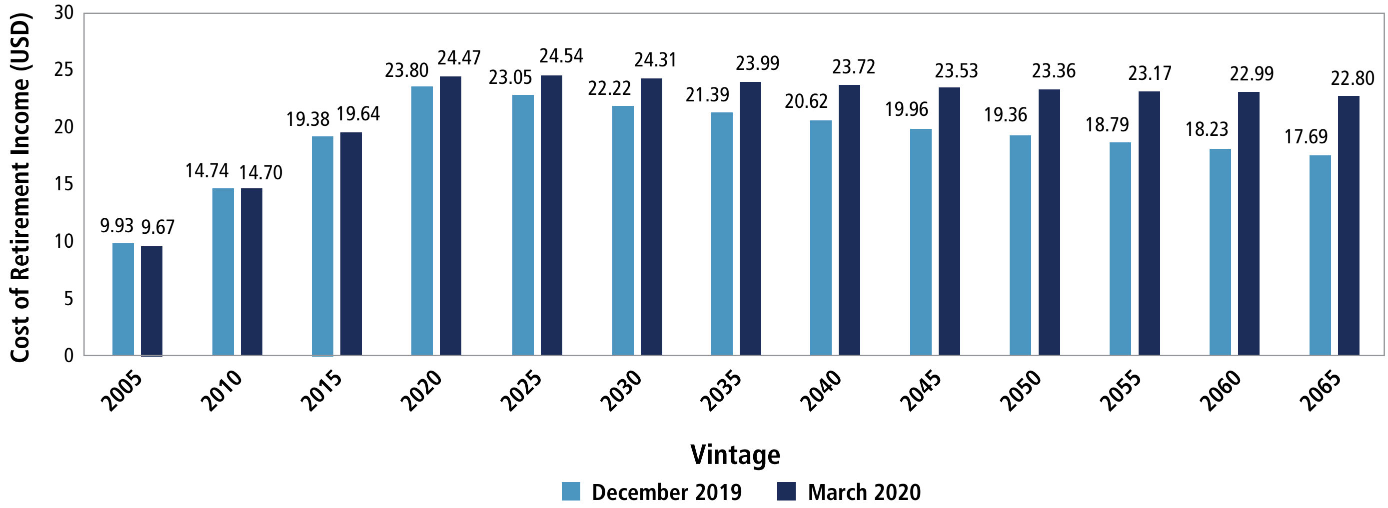
Cost of Retirement Income

In order to illustrate the potential usefulness of focusing on inflation-adjusted retirement income, we can turn to S&P Dow Jones Indices' 'Cost of Retirement Income' measure – regular updates can be found in our quarterly 'Cost of Retirement Income' dashboard. These measures are calculated by taking the present value of a hypothetical inflation-adjusted stream of cash flows, equal to US-$ 1 per year, starting at various retirement dates and ending 25 years later.

During Q1 2020, the Cost of Retirement Income increased across multiple assumed retirement dates (or vintages) as real interest rates fell in response to the U.S. Federal Reserve's decision to cut its policy rate. Similarly, the Cost of Retirement Income also rose in Q2 2020 as the entire U.S. real yield curve turned negative amid surging U.S. inflation expectations.

S&P Dow Jones Indices
A Division of S&P Global

Exhibit 1: The cost of retirement income increased for nearly all vintages in Q1 2020



Source: S&P Dow Jones Indices. Data as of Mar. 31, 2020. Chart shows the cost of retirement income for different S&P STRIDE vintages. Past performance is no guarantee of future results. Chart provided for illustrative purposes only.

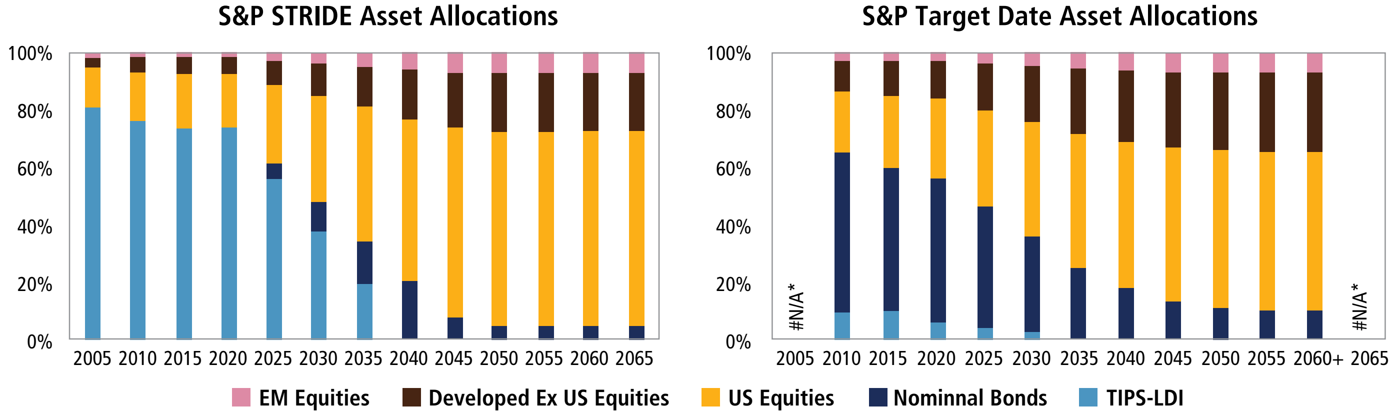
From a practical perspective, dividing a given portfolio value by a hypothetical Cost of Retirement Income offers a way to estimate inflation-adjusted retirement consumption. Indeed, the Cost of Retirement Income represents the hypothetical amount – ignoring all other considerations such as transaction costs and fees – that is needed to be invested across a combination of U.S. TIPS in order to give hypothetical inflation-adjusted cashflows of US-$ 1 per year, beginning at some desired retirement date and ending 25 years later.

Accordingly, the fact that the increases in the Cost of Retirement Income in Q1 2020 coincided with precipitous market drawdowns meant that the market environment presented challenges for someone looking to secure a desired level of inflation-adjusted retirement income. And despite the market recovery over the last few months, continued increases in the Cost of Retirement Income offset some of the benefit of those returns in terms of translating assets into a stream of hypothetical retirement cashflows.

Retirement Strategies with an Explicit Focus on Retirement Income

Despite the importance of inflation-adjusted retirement income for retirees, it is important to recognize that not all retirement strategies have an explicit focus on retirement income. Exhibit 2 shows this by comparing the asset allocations of two types of index-based retirement strategies.

Exhibit 2: Not all retirement strategies focus on inflation-adjusted retirement income



Source: S&P Dow Jones Indices. Data as of June 30, 2020. Charts show cumulative index weights across different vintages. *2005 and 2065 S&P Target Date vintages do not exist. Past performance is no guarantee of future results. Data provided for illustrative purposes only.

S&P Shift To Retirement Income & Decumulation (STRIDE) Indices (https://www.spglobal.com/spdji/en/index-family/multi-asset/sp-stride/#overview) are designed to have an explicit focus on theoretical retirement income. Nearer-dated vintages incorporate a TIPS-LDI allocation to secure hypothetical inflation-adjusted retirement cashflows while matching the duration of these cashflows to anticipated liabilities. S&P Target Date Indices (https://www.spglobal.com/spdji/en/index-family/multi-asset/target-date/#overview) embody the market consensus asset allocations of U.S. Target Date funds.

While both types of indices incorporate the traditional glidepath approach, nearer-dated S&P STRIDE indices have significantly higher allocations to TIPS than the S&P Target Date Indices. This reflects the concept that TIPS may help to mitigate the impact of inflation because they adjust their principal amounts depending on the Consumer Price Index.

As a result, focusing on risk through the income lens can be a useful way to gauge one's financial readiness for retirement or, at the very least, have additional insights into some of the considerations that may be useful when planning for retirement. Indeed, such considerations may help to explain whether different retirement solutions have an explicit focus on addressing a key risk for retirees – not having enough inflation-adjusted retirement income to maintain a desired standard of living – as well as helping to explain the resulting impacts on asset allocations and potential outcomes thereafter.

Although the above analysis offers perspectives from a U.S. market context, the principle of looking at risk through an income lens – as part of a more holistic risk management framework when planning for retirement – may have broad appeal across regions. To sign up for S&P DJI's quarterly 'S&P STRIDE: Cost of Retirement Income' dashboard and related content, please use this link – https://on.spdji.com/DashboardSignUp

Hamish Preston, *Associate Director, U.S. Equity Indices, S&P Dow Jones Indices Hamish.preston@spglobal.com*

Are Your Clients not Spending Enough in Retirement?

Dr. Meir Statman, Ph.D.

Dr.Statman, Ph.D., is the Glenn Klimek Professor of Finance at Santa Clara University and author of Finance for Normal People: How Investors and Markets Behave. His research focuses on behavioral finance.

A few months ago I was speaking at a conference about the mental obstacles underlying the 'consumption gap' and how financial advisers can help clients overcome them. The consumption gap is between people's actual consumption and potential consumption made possible by their wealth. In the February 2016 Journal paper, "Spending in Retirement: Determining the Consumption Gap," Chris Browning and his co-authors found consumption gaps among people with median financial assets, not only among the wealthy.

Adviser questions following my presentation were not about how to help clients find joy in spending their ample assets on themselves, their families, and the needy. Instead, they were about the 'retirement crisis' and the need to encourage people to save more and spend less.

In truth, the drumbeat of 'retirement crisis' is much too loud. The 2017 Vanguard research paper, "Retirement Transitions in Four Countries," by Anna Madamba and Stephen Utkus reported that 55% of retirees believe there is a national retirement crisis, but only 4 percent describe their own retirement situation as a crisis. These researchers also reported that 90% of recent retirees are able to spend freely, within reason, or cover needs with some discretionary spending; only 10% said that they are on a strict budget.

We should distinguish among three groups: one lives in true poverty, another in self-induced poverty, and a third lives just right, spending money but not wasting it. Advisers likely have no truly poor among their clients, because the poor have too little to qualify. They have many more clients who suffer self-induced poverty.

A number of advisers approached me after my presentation, telling me about widows who splurge irresponsibly soon after their husbands die, and the dangers of giving adult children money without asking them to pay it back.

Lessons Learned

More recently I wrote an article in The Wall Street Journal about the mental obstacles facing us as we transition from saving to spending ("The Mental Mistakes We Make with Retirement Spending"). I have learned much from people who posted comments or sent me emails. These lessons can help advisers improve their practice, benefitting their clients and themselves. They led me to wonder if advisers fail to see the self-induced poor because they are among them.

Here is a story of a so-called 'splurging' widow: "My husband was reared by extremely thrifty parents who survived the Great Depression and WWII and through hard work and frugality bordering on stinginess (all Christmas gifts came from the Salvation Army) accumulated a very comfortable nest egg. They passed on to him their fiscal philosophies and my husband absorbed them like a sponge."

"My husband handled our finances. Once he died and I took over the finances, I was amazed at how much money we had. I shall have to work very hard to spend all of it, but I plan to give it my best effort. In the two and a half years since my husband died, I have been to Africa and made three trips to Europe. I have already booked trips to see lowland gorillas in Rwanda and Uganda, snow monkeys in Japan, penguins in Antarctica, and ride a horse across the Mongolian steppes. These trips were booked after my doctor told me that based on her patients, 80 is the age at which people lose their energy and enthusiasm for traveling. I am attempting to get in as many trips as I can before hitting that mile marker."

"I have also made many donations to local charities and plan to set up a trust fund for a friend's grandchild who has Down syndrome and would otherwise become a ward of the state when his hand-to-mouth existence parents die."

"My husband never reaped any benefits from his saving habits and only received three months of Social Security before dying. May others escape his fate."

Is it possible that advisers empathize too much with miserly husbands and too little with women set free by widowhood?

Mental Tools to Manage Saving and Spending

We tackle the saving and spending task with the mental tools of framing, mental accounting, and self-control. We frame our money into distinct mental accounts, mainly 'capital' and 'income,' and set self-control rules of saving and spending. Income includes salaries, pensions, interest, and dividends, among other income sources. Capital includes houses, bonds, stocks, and other investments. Self-control tools include automatic transfers from income such as salary, to capital such as IRA and 401(k) accounts[1], and automatic reinvestment of interest and dividends into mutual fund accounts, and the rule of 'spend income but don't dip into capital.'

People who are fortunate to earn good incomes during their working years and employ these mental tools successfully accumulate substantial savings. But these useful mental tools can turn into obstacles in retirement when income diminishes and it is time to dip into capital. One extremely wealthy man, a retired insurance company executive, wrote in response to my Wall Street Journal article: "I've struggled with boundary issues between income and capital. I've actually taken on a couple of board of director assignments so that I feel justified spending for what I consider extravagant."

Self-Control Helps

Self-control is not easy to muster and some fail to muster it at all. Wants for spending it all today overwhelm wants for saving for tomorrow when self-control is weak. National Football League (NFL) players enjoy very large income spikes that amount to substantial wealth, but wants for spending today often overwhelm wants for saving for tomorrow. Bankruptcy filings of many NFL players begin soon after the end of their careers.

Circumstances, especially poverty, can undermine self-control, breeding scarcity and narrowing options. These overload people's cognitive and emotional resources and hamper saving, job performance, and decision-making. Poverty is regularly exploited. The most profitable American credit card consumers are those on the verge of bankruptcy.

Some people are savers by nature and nurture. The 'big-five' personality traits psychologists discuss are conscientiousness, neuroticism, extraversion, agreeableness, and openness. Conscientiousness is the trait most closely associated with self-control. The retired insurance executive went on to write: "The points on conscientious saving hit the nail on the head. I grew up as one of nine children of Depression-era parents. They always stressed education, achievement, savings, and marital happiness over satisfying urges for material things."

Excessive Self-Control Harms

Self-control can be excessive. Indeed, excessive self-control is as prevalent as insufficient self-control. Excessive self-control is evident in the tendency to spend less today than our ideal level of spending, driving tightwads to extremes beyond frugality. The prospect of spending money inflicts emotional pain on tightwads even when it might otherwise be in their interest to spend.

The interplay between emotion and cognition is evident in functional magnetic resonance imaging (fMRI) of people who see a product followed by its price and then are asked to decide whether to buy it or not. Seeing the price causes greater activation in the brain's insula among people who decide not to buy the product than among people who decide to buy, (the insula being the region associated with painful sensations such as social exclusion and disgusting odors).

Another reader wrote: "What if the enjoyment is in the saving, and the pain is in the spending?". And another shared: "Every so often there are articles of people who has accumulated vast wealth relative to their lifetime income, and when they pass at an old age and people find out they feel sad for them that they lived frugally and never spent it on anything. I sometimes think they are missing the point. The total enjoyment for that person was in the saving and living miserly and frugally and well below one's means. To a certain degree, I am that person."

[1] IRAs and 401(k) accounts are individual retirement account schemes in the US.

Moreover, excessive self-control can induce people into a mindset where spending is what irresponsible people do, reflected in the reader statement: "I'm saving now because good, admirable, upstanding people sacrifice their current standard of living to save, save, save for the future."

We Spend Less as we Age and Die Sooner than we Hope

Concern about running out of money is regularly exaggerated in inflated estimates of life-expectancy. Social Security tables indicate that, on average, only one in ten of today's 65-year-old men will live to age 95. Yet one reader wrote: "With discoveries in biotech rolling out of labs in droves, we may have reached a technological tipping point as regards life expectancy. I think todays' 60-somethings will live to be 100 easy, maybe 110, and their children will probably make it to 150." Reality, however, is still some distance away from the labs. The oldest-in-the-world woman, who was Italian, died in April at age 117, followed by the oldest-in-the-world man, who was Israeli and died at age 113 in August.

Moreover, older people spend less, in large part because physical limitations make them less able to spend and because they are less inclined to spend for personal reasons. Spending at age 84, adjusted for inflation, is 23% less than it was at age 62 among college-educated American couples. Spending on movies, theatre, opera, and concerts declines by more than 50% between the ages of 60 and 80. Spending on hearing aids, nursing homes, and funeral expenses increases by more than 50%.

One reader wrote: "Lots of people lose a spouse and do not travel or vacation much because they are by themselves. They have enough money but just do not go anywhere or do much. They have lost their best friend and have not found a second life after losing their spouse. So they sort of mope around and just do not do much. It is really sad. I know a few people in this situation and have tried to help, but there does not seem to be much you can do."

"We lose not only spouses, but friends; couples we used to dine or travel with. Same-sex individual friends we used to golf or shop with. Suddenly we're left to do those things alone, or not do them. Balance, while we have the resources to seek balance, is important to a fulfilling retirement."

Spend Your Savings on Yourself, Your Family, and the Needy

We need not feel guilty about spending our hard-earned savings on ourselves. As one reader wrote: "During my career I was a very conscientious saver and investor. I always maxed out my 401(k) contribution and put a large percentage of my salary and bonus into a deferred compensation program. I have had a difficult time changing my mindset from a saver to a spender. This article helped me make that mental transition. The first thing I did was to go out and get fitted for a new set of Ping golf clubs and I didn't feel guilty about it!"

Some people derive no pleasure from spending on themselves. Another reader wrote: "If one has never derived pleasure from material things, why would that change in retirement? A cup of coffee and a walk on the beach at dawn and I'm happy. The psychic income from being over-saved has value."

I empathize with this reader. I, too, like a cup of coffee and a walk on the beach, even if not at dawn. But why not share 'over-saved' money with family and the needy? One reader who has learned the lesson wrote: "I learned from my mom that the greatest joy in life is giving to your family. She would give something to all her six children, their spouses, the grandchildren, the great grandchildren, and all their spouses on their birthdays, anniversaries, St Patrick's Day, Valentine's Day, and no reason at all. If you want the closest thing to eternal life, try this."

Another wrote about balancing spending on himself, his family, and the needy: "I am deriving pleasure from assuming the strategy of 'I am through saving. Now I am spending.' Judiciously, to be sure, but nevertheless with a view to obtaining satisfaction. Thus, my wife and I have made some long-desired renovations to our home, plan to schedule at least two major overseas vacations a year, supplement our children's financial needs at a time when they need it and when I can see the result. I devote more time and financial support to charitable work. I continue to spend time exercising at a local athletic club, now free thanks to Silver Sneakers. I read more, and indulge in my love of classical music. All of this gives me significant satisfaction."

Better to Give with a Warm Hand than a Cold One

One reader faulted me for failing to "address preserving capital for the next generation, which is a priority for some of us octogenarians." But why not give money to the next generation with a warm hand than with a cold one?

I end with a story about the so-called dangers of giving adult children money without asking them to pay it back, a danger emphasized by some advisers who approached me after my conference presentation. One adviser stood aside, waiting until all the others had left.

"I burst out crying when you said 'It is better to give with a warm hand than with a cold one.'" Indeed, she was crying when she spoke to me. It turned out that she lent her son some $27,000 for college tuition and now demanded that he pay her by the agreed schedule. She reasoned that paying by schedule would benefit her son, teaching him financial responsibility. But the son was now financially squeezed, at the beginning of his career, lacking even money to buy his girlfriend an engagement ring, and his mother's demand soured their relationship. The mother had more than enough to forgive the loan without imposing any hardship on her, giving with a warm hand rather than with a cold one. I hope this is what she did that day. And I hope that she shares her story and lessons with her clients.

The Great Insurance Bake-Off: Cooking up a Customer Storm in the Cloud

Nigel Walsh
Partner, Deloitte

Andy Lees
Partner, Deloitte

Deloitte.

We clapped enthusiastically for carers during the height of the pandemic. But how many of us would clap for our insurers?

The outpouring of appreciation for NHS staff, carers and key workers was precisely because of the excellent, invaluable and selfless service they have provided to the public in very difficult times.

The insurance sector has also been very active during the pandemic. The COVID-19 effect can be seen in the huge spike in claims for holiday, travel and business interruption.

The honest truth is that the insurance industry has been massively stress-tested by the pandemic. The results of this test have been illuminating and, frankly, a little concerning. It has crystallised issues that some of us have been banging on about for years.

The fact is that most customers really don't care about insurance. It's an important but boring, grudge purchase so it's not surprising that most of us just go for the cheapest option.

Nearly all customer interactions with the industry come at a time of stress (a crashed car, a break in, a cancelled holiday, a very ill Fido the dog) so this doesn't make for pleasant associations and positive customer experiences.

But the pandemic has revealed starkly what customers and brokers do care about and where the industry has fallen down…

As millions were furloughed and millions simply saw their incomes dry up, customers were worried about their wealth and their health. They wanted advice about how they could get though the devastation of the pandemic.

In fact, they wanted support and reassurance, as study after study shows unprecedented levels of anxiety and depression in the country. What they were not so bothered about was granular detailed advice about filling in their insurance application or the nuanced interpretation of the wording on page 17 of their overlong, overcomplicated policy.

For them, in difficult times of lockdown, isolation and quarantine, the definition of great customer experience just took a quantum leap. Answering the phones promptly in a friendly way is simply no longer enough. The acme of good customer experience can't be the rep asking for their name before their policy number.

It now means helping them to make sure they stayed protected, helping them with accessing relief from financial strain, and helping them adjust cover easily in light of how their risk profile and financial position has changed.

With 'following the science' now almost a mantra, the insurance industry is rightly seen by many as the go-to people to understand protection and mitigation in light of COVID-19.

Risk is what insurers do, so it's not unreasonable for customers to assume that the industry could help them with, say, applying for help from government relief funds or advising them on what they can and cannot do during furlough.

They might reasonably turn to insurers for guidance on the risks and cover for returning to work, using public transport, sending the kids to school or even whether or not to wear a face mask.

Brokers and intermediaries, too, are looking for client experience of a different order. The majority are small businesses and their number one concern is finding ways to support their vulnerable businesses from the horrendous economic impact of COVID-19 during the worst economic collapse in history. They want help with continuing to place risk and service clients get relief from financial strain. Their concerns are existential.

In other words, the industry focus has to be on the individual – whether that be the customer or broker – and not on the product. In healthcare, the big trends are holistic: patient-centred medicine and wellness. Don't focus on symptoms and illnesses. Focus on achieving a healthy, happy life for the individual. Look at achieving their upside potential, not just minimising their downside.

So how do we achieve this breakthrough from answering the phone to providing an excellent, seamless and frictionless customer experience? How, exactly, can we make customers and intermediaries clap?

Well, quite simply, we offer them a cake!

A cake is exactly what insurance customers want. They don't want all the individual ingredients that they have to put together themselves. And they don't want to buy a grudge product, they want to buy a complete experience.

Some industries and companies already offer exceedingly good cakes. Peugeot, for example, once offered a single ingredient – a car. But now they've baked it in with lots of other ingredients to offer a complete customer driving experience. They call it Just Add Fuel and it's a deliciously tempting single confection comprising the vehicle, servicing, tax, roadside assistance, tyres and insurance. Desirable, delightful and ready-to-go.

And while the COVID-19 disruption has undoubtedly been tough on the industry, it may have given it an opportunity to reconsider strategies and accelerate trends towards the massively improved customer experience that could make it loveable to customers and brokers alike. It's about seeing the big picture rather than the individual pixels. It's about anticipating and satisfying needs rather than asking 'Will this do?'.

A prime example, during peak lockdown, many of us were paying for car insurance that we were not using. That's not a great customer experience.

But with telematics, it is possible to pay only for what you use, just as you do with utilities. Contact tracing apps are being rolled out to combat the spread of COVID-19. We have them on our smartphones. Imagine a product that not only automatically paused your premiums when you weren't driving but notified you of falling petrol prices and alerted you to when lockdown restrictions were eased on journeys.

The cloud's enormous data processing and data analytical power allows the industry to exploit the enormous potential of telematics, allowing customers to control the price of their insurance through their behaviours. The insights and innovations completely customised and tailored rather than off-the-shelf commodity and it gives the opportunity to genuinely place the customer at the heart of the service rather than hanging around on the product periphery. That's just one example, there are other ways the cloud can deliver this cake. It offers the means to deliver seamless, frictionless, supportive insurance services with no requirement to own and run the infrastructure: it offers the scale, agility, automation and innovation that can deliver real customer experience.

The cloud offers resilience, the ability to spin up servers to meet surges in customer inquiries and the automation to streamline the routine processes, freeing customer service teams to look after customers personal worries.

But beyond the crisis, the cloud offers the industry the chance to thrive in the longer term. Its huge data processing power and analytics can enable much faster response times and permit the move to preventative and proactive services such as notifying customers about flood warnings or increased burglary threats in their area.

We fall in love with homes, cars and pets. We don't love the insurance policy that comes with them. However, the cloud allows us to bake it into something much more appetising – a seamless, personalised, omni-channel experience that delivers a desirable result. Now, that really is something to clap about.

Nigel Walsh, *Partner, Deloitte* *ndwalsh@deloitte.co.uk*
Andy Lees, *Partner, Deloitte* *alees@deloitte.co.uk*

Generally Speaking

Tom Hosking
Equity Analyst,
Majedie Asset Management

Specialists play an important role in many fields. When it comes to investing, however, Tom Hosking believes generalists could have the advantage.

Over tens of thousands of years, we have increasingly become a society of specialists. Early hunter gatherer societies were likely characterised by generalists who were adept at a variety of tasks needed for survival. A key part of Homo sapiens's subsequent success was its ability to form larger and more stable groups. The larger the group, the more scope for specialisation. Teamwork resulted in being able to hunt large prey such as woolly mammoths. But where flint spearheads could be made by an individual person, today's guided missiles require the cooperation of thousands of specialists, each of whom would be unable to manufacture it on their own.

Adam Smith, writing in the middle of the Industrial Revolution, argued that the sole reason for economic growth was specialisation. Workers would be finely divided into roles enabling them to become more productive, and once the entire workforce was specialised economic growth would cease. Whilst Smith may have been wrong about it being the only determinant of growth, he was right to predict that society would become ever more specialised. Several people have claims to being the last person to know everything, most famously the polymath Thomas Young, but they all lived at least two centuries ago. As human knowledge advanced beyond the capability of even the most talented individual, our modern education system responded by encouraging students to focus on increasingly narrow specialties. However, there is a growing body of evidence that specialism is not always the best thing to do, as documented by David Epstein in his book, Range. Reading it motivated me to think about how this applies to fund management.

The field of investment is a good example of a subject where it may be better to be a generalist. Broadly speaking, there are two reasons for this. The first is rather obvious: specialist investors often miss the wood for the trees. Sector specialists can only assess how attractive an investment is relative to other investments in the same sector. For example, if you are a specialist banking analyst, you may be quite good at identifying which banks are good investments, but crucially only relative to other banks. It may be the case that no bank is a good investment, or equally that they all are. That can only be gleaned by looking at a range of sectors.

The second advantage is more subtle and far more interesting. A generalist's analysis of a single investment alone may be more insightful than that of the specialist who knows everything there is to know about it, as counterintuitive as that may sound. At first glance, hyperspecializing is the most efficient way to develop a skill. However, in truth this is limited to narrowly constructed 'kind learning environments'. In his research into the nature of expertise, Robin Hogarth characterises kind learning environments as fields where patterns repeat frequently and where feedback on performance is accurate and quick. As a result, learners improve simply by engaging in deliberate practice of the activity. Examples would include chess, golf or heart surgery.

However, investment is an example of a wicked learning environment. Patterns do not reliably repeat and are not obvious. Feedback on performance is often delayed and/or inaccurate. It may take years for an investment thesis to play out and for the patient investor to be proved right. This makes investment not just complicated but complex. John Kay contrasts finance to rocket science. Firing a rocket to Venus is incredibly complicated but it could be done again with exactly the same technique. The laws of planetary motion do not change and there is no reflexivity between what we think about Venus's motion and how it actually behaves.

In contrast, an investment strategy that worked last year may not necessarily work this year. This is because, in investment, the underlying determinants of success are not completely known. They change over time, and they are affected by our beliefs about it. In this regard, the investor's job is more complicated than the seemingly incredibly complicated job of firing a rocket into space.

When patterns don't reliably repeat, experience alone doesn't improve performance so developing effective habits of mind is more important. Hogarth argues that one must draw on outside experiences and analogies as a 'circuit breaker' to interrupt one's leaning toward a previous solution that may not work anymore.

Creative thinking through analogies offers a number of advantages. The first is that it helps us to reason through a problem that we have never seen before. This is particularly important when we think about new technologies or business models. For example, estimating the future market size for a product or service that does not currently exist is a difficult problem. Creative thinking can help break down this puzzle into manageable chunks so that one can use what little one knows to solve what one doesn't. What proportion of the population might buy it? How fast has the adoption rate been for tangentially similar products? The problem can be approached from many angles and the individual estimates don't have to be accurate for the answer to be approximately of the right magnitude. We often ask these types of 'Fermi problems' in graduate interviews at Majedie to help us learn how a candidate thinks.

The second advantage to analogical thinking is that it helps us to look at a familiar problem in a new context. To succeed in investment, one needs non-consensus opinions and those non-consensus opinions need to be right some of the time (it's actually possible to outperform the market while being wrong most of the time, if investments are scaled correctly). To form non-consensus opinions, it helps to be creative. And many studies have shown that the best ideas often come from combining insights from different fields. In a recent Global team meeting, when discussing the investment prospects for Equifax, a US credit ratings company, another member of the team suggested thinking about online retailers, such as Latin America's MercadoLibre, who were using their data on customers to lend based on their own proprietary credit scores. Drawing on knowledge from a different sector and different geography improved our analysis of a particular investment opportunity. One can also draw analogies from history. In another recent Global team meeting, when discussing regulation of US big tech companies such as Facebook and Google, we drew from research on the antitrust cases of Standard Oil and other monopolies of the late nineteenth century.

The number and quality of analogies can be improved by working in teams of people with different academic backgrounds. Evidence from biology laboratories suggests that teams of scientists from a range of disciplines more readily solved problems than teams which consisted solely of a specific specialism (Dunbar et al. 1995). The researchers found that scientists from different backgrounds offered more analogies from distant domains which enabled them to solve more problems. This is one reason why it is helpful that the Investment team at Majedie is made up of people from a diverse variety of backgrounds and life experiences.

Studies like this may lead one to believe that the optimal team consists of specialists, each bringing narrow expertise to the table to help solve problems. However, it is teams of generalists that tend to perform better for number of reasons. Firstly, in the case of investment, it helps if a fund manager doesn't feel compelled to own a stock in a certain sector solely due to the presence of a specialist analyst on the team. This aspect is increasingly important when managing concentrated, high conviction portfolios.

Secondly, specialist experts have a tendency to become overconfident in their predictions. Research from the CIA found that once the minimum information necessary to make an informed judgement has been obtained, additional information does not improve the accuracy of estimates, but it does lead one to become more confident in the judgement. This is a dangerous recipe for an investor: overconfidence can result in excessively rosy forecasts and bloated investment positions.

In a 2012 study, researchers asked private equity investors to forecast the return on investment (ROI) of the project they were working on (Lovallo et al. 2012). Afterwards they were asked about other investment projects 'with a broad conceptual similarity to theirs'. On average, investors estimated the ROI of their own project to be c. 50% higher than the outside projects, leading participants to subsequently cut their initial prediction. The investors were falling victim to the 'inside view', where making judgements based narrowly on the details of a particular project leads one to form more extreme judgements.

Teams are better at overcoming the inside view than individuals. In his now famous work on 'superforecasting', Phillip Tetlock found that the best forecasters were also good collaborators. When he stuck them in teams, he found that they became 50% more accurate on average than in their individual predictions. This is because team members were able to share information and, in particular, information that was contrary to existing hypotheses. While it is people's strong instinct not to look for reasons why they might be wrong, it is much easier for teammates to do so.

The final reason why teams of generalists are better than those of specialists is that being a generalist changes the way we think. It has been widely found that creative thinking is correlated with having a wide range of interests. Even in the hyper-specialised world of advanced science, researchers found that a scientist was 22times more likely to come up with a Nobel Prize-winning discovery if they had an artistic hobby such as painting or playing a musical instrument (Root-Bernstein et al. 2008). For the generalist, examining more sectors and recognising conceptual similarities between them helps the brain to create abstract models. We can then use those abstract models to think creatively about potential investments in new sectors.

Due to neuroplasticity, the structure of our brains is not constant. As certain neural pathways begin to be 'exercised' more regularly, the connections between different parts of the brain grow. For instance, some research suggests that learning a language can make you more creative. It is one of the reasons that I have been trying to learn German for the past year! Some research suggests that bilingual speakers are better at resolving conflicting information. Often different languages convey exactly the same piece of information using sentence structures that could barely be more different. So it is perhaps unsurprising that the ability of the bilingual brain to absorb an entirely different way of expressing and of understanding the world in a linguistic context should also apply to a more general context.

Not only is it important to be general in your knowledge but also in your philosophy. Different investment styles are appropriate for different macroeconomic environments. For example, it is well known that growth investing has outperformed value investing for the last decade, in stark contrast to the decade before that. This means that the best or most durable investors are flexible investors – those who are willing to change their approach to suit the existing climate. If you are less wedded to a particular investment philosophy, then you are more able to switch to another when facts change or your own thinking changes.

Research on aviation accidents suggests that 'a common pattern was the crew's decision to continue with their original plan … in the face of ambiguous or dynamically changing conditions' (Orasanu & Martin, 1998). Similarly in investing, some of the worst returns occur when an investor sticks rigidly to an original investment thesis despite changing facts. Investment strategies should be situation-specific and not held onto at all costs.

Indeed, in a world where simple investment rules such as buying stocks with a low P/E ratio, high revenue growth or high return on capital are easily replicated by an algorithm in a smart beta ETF, why would an investor pay an active manager to follow such rules? The rapid growth of indices is changing what one should desire from an active fund manager. Increasingly what is valuable is the idiosyncratic return profile of a generalist.

Specialism in investment philosophy should be left to computers and complex analysis to humans; each to their respective strengths. Such a distinction has already been found in the world of modern chess where the optimal team was found to be a combination of computers and humans. In 'advanced chess' or 'Centaur chess', players are armed with a computer. The computer is able to analyse the optimal short-term moves given the situation on the board (tactics), leaving the human to focus on overarching strategy. Garry Kasparov, maybe the greatest human chess player ever, argues that 'human creativity was even more paramount under these conditions, not less'. AI systems work well in narrowly defined worlds where relationships are stable. However, the bigger the picture, the more valuable the potential human contribution.

And that picture is growing rapidly. There is an accelerating divergence between the aggregate quantity of recorded knowledge and the limited human capacity to absorb it all. Perversely, this could result in a golden age for generalists due to the fall in communication costs that has accelerated in the last 30 years. Not so long ago, making connections between disparate pieces of research would have required access to a particularly well stocked and expensive to compile physical library. Today, one now has access to the accumulated knowledge of mankind in one's pocket in the form of a smartphone! The fall in the cost of communicating information means that it is now much easier and more fruitful to be a generalist. And ironically the more information that specialists create, the more opportunities there will be for generalists to make new connections. At Majedie, we spend a material amount of our time, after reading research and companies' results, thinking about applying what we've learned to other sectors and considering the wider implications on the portfolio. It is impossible today to be broad and deep in knowledge so we must begin by being broad and shallow, going deep only when required. We aim to synthesise information from different domains to help us form non-consensus opinions about the world, and invest wisely.

Tom Hosking, *Equity Analyst, Majedie Asset Management*

Further reading:

- The Bilingual Brain by Albert Costa (2020)
- Range by David Epstein (2019)
- Superforecasting by Dan Gardner and Philip Tetlock (2015)
- Sapiens by Yuval Noah Harari (2011)
- The Worldly Philosophers by Robert Heilbroner (1953)
- Thinking Fast and Slow by Daniel Kahneman (2011)
- Center for the Study of Intelligence, CIA (2005): 'Do You Really Need More Information' www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/art8.html
- Dunbar (1995): 'How Scientists Really Reason' https://www.researchgate.net/publication/243774176_How_scientists_really_reason_Scientific_reasoning_in_real-world_laboratories
- Kahneman & Klein (2009): 'Conditions for Intuitive Expertise' https://www.fs.usda.gov/rmrs/sites/default/files/Kahneman2009_ConditionsforIntuitiveExpertise_AFailureToDisagree.pdf
- Lovallo et al. (2012): 'Robust Analogizing and the Outside View' https://www.jstor.org/stable/41411184?seq=1
- Orasanu & Martin (1998): 'Errors in Aviation Decision-Making' https://www.pacdeff.com/pdfs/Errors%20in%20Decision%20Making.pdf
- Root-Bernstein et al. (2008): 'Arts Foster Scientific Success' https://www.researchgate.net/publication/247857346_Arts_Foster_Scientific_Success_Avocations_of_Nobel_National_Academy_Royal_Society_and_Sigma_Xi_Members
- Swanson (2001): 'On the Fragmentation of Knowledge' https://asistdl.onlinelibrary.wiley.com/doi/pdf/10.1002/bult.196

The English Channel, The Strait of Dover at it's narrowest point. Image courtesy of the European Space Agency.