

# EUROPEAN INVESTMENT JOURNAL

SPRING 2021

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QUARTERLY ISSUE – SPRING 2021

## THE LAST WAVE?



MACRO STRATEGY

FINTECH

ALTERNATIVE ASSETS

PORTFOLIO CONSTRUCTION

ESG-INVESTING

RETIREMENT PLANNING

FIXED INCOME

EMERGING MARKETS

PRACTICE MANAGEMENT

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#### **The Last Wave?**

I am very pleased to present to you the second edition of The European Investment Journal.



The blooming spring flowers are raising our spirits while vaccination rates are giving us added hope, we are at the crossroads - will this be the last wave of COVID-19?

As we look back, 2020 will go down into the history books as a year that tested our advanced business, technological and societal systems, and perhaps, even our humanity as COVID-19 raged on. We woke up one morning and wondered how we could still live, work and play. You had to determine what help your clients needed, and how best to work with them and your business partners – technology for the most part was paramount in assisting you.

Uncertainty was magnified here and globally by COVID-19 – a battle between economics and health, so intertwined that we never before realized how much. Governments embraced debt over fiscal conservatism, vaccine nationalism emerged along with closed borders, the stock markets crashed early in the pandemic but then soared to record heights. President Trump decided to add chaos to the year, although helping foster record-time vaccine development should be his legacy. Moreover, the European Union and The United Kingdom agreed upon divorce terms while other countries proved that a crisis is a good time to be a bad actor.

From the economic destruction of the pandemic, we can now look forward to recovery and growth. This edition looks forward with important issues such as:

- Where is inflation going considering the effects of COVID-19?
- Portfolio construction strategies going forward,
- Fixed income approaches with ETFs and CAT-Bonds,
- The investment suitability for ESG and impact investing, and doing well while doing good with ESG investing,
- Emerging markets, and Crypto Assets, and
- Client needs and education for retirement planning.

I hope that you will peruse through this journal for your topics of interest in between getting your jabs. Have a wonderful and open summer!

Regards,

**Keith F Costello**  
Publisher & CEO  
Radius Europe GmbH

# Features

## SPRING 2021

EUROPEAN  
**INVESTMENT JOURNAL**

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# INVESTORS SHOULD BRACE FOR A LONG RIDE ON THE INFLATION ROLLERCOASTER



Gary Smith  
Senior Consultant,  
Tabula Investment  
Management

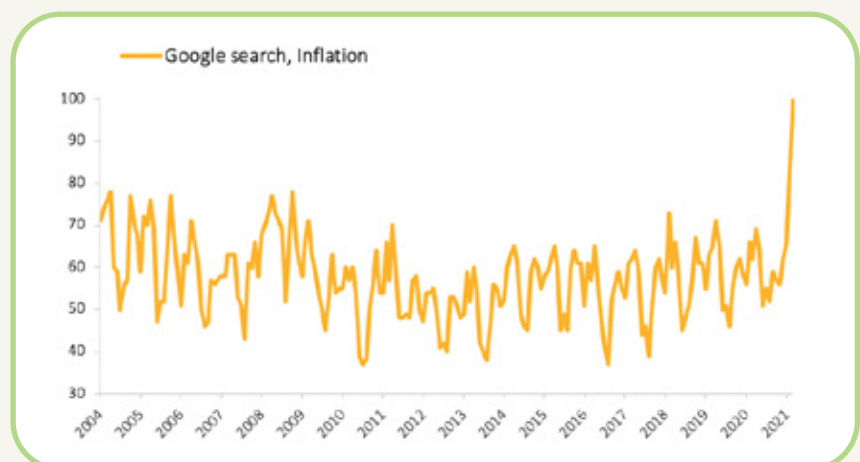
Confusion about where inflation is heading has rarely been more widespread. Uncertainty has surged over the past year as economists seemed polarised: were we heading for very low inflation (or even deflation) or for a rapid increase? This debate prompted a deluge of blogs and press articles, and a new record in Google searches on the topic (Chart 1).

The rush of interest isn't surprising. Over many years we had got used to the Fed undershooting its 2% inflation target, and investors had become accustomed to managing portfolios accordingly. Now, the 'higher inflation' side of the argument is gaining traction and we are faced with the prospect of a new paradigm, perhaps even one in which the Fed's new higher 2.25% to 2.5% inflation target is actually exceeded. Are investors ready for this?

## Market expectations are clear cut

According to Consensus Economics, the CPI projection for 2021 now stands at 2.25%. As recently as last summer the forecast for 2021 was only at 1.7%. Market measures of inflation expectations, as represented by US 10-year inflation breakevens, tell a similar story. They narrowed sharply in March 2020, from 1.60% to 0.70%, before widening consistently in subsequent months and have now reached 2.25% (Chart 2).

Chart 1: Interest in inflation reaches an 'internet-age' high

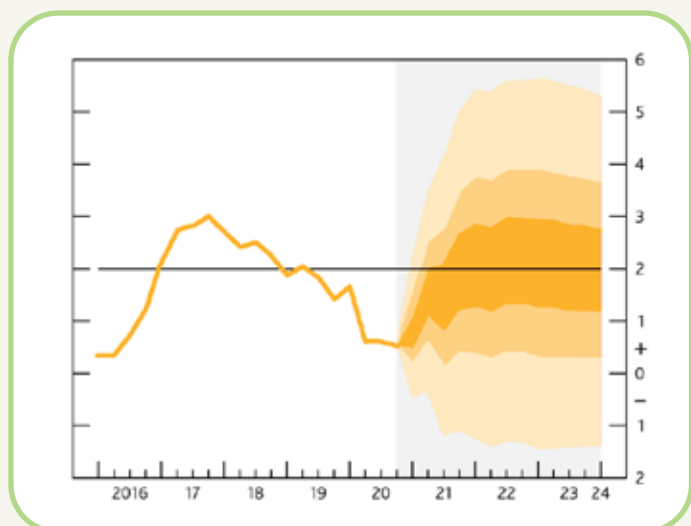


Source: Tabula and Google, 11 March 2021. Chart shows Google trends data for US-based Google users searching 'inflation'. Numbers represent search interest relative to the highest point on the chart. A value of 100 is peak popularity. A value of 50 means that the term is half as popular.

**Chart 2: 10-year inflation breakevens reach levels not seen since 2013**

Source: Tabula and Bloomberg, March 2021

Unsurprisingly, there is even more uncertainty beyond 2022. The inflation fan charts produced by the Bank of England show that the latest range of potential outcomes for 2025 stretches from -1% to +5% (Chart 3).

**Chart 3: CPI inflation projection,  
% increase in prices on a year earlier**

Source: Bank of England Monetary Policy Report, February 2021. The fan chart depicts the probability of various outcomes for CPI inflation in the future. If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter would lie within the darkest central band on only 30 of those occasions. The fan chart is constructed so that outturns of inflation are also expected to lie within each pair of the lighter ochre areas on 30 occasions. In any particular quarter of the forecast period, inflation is therefore expected to lie somewhere within the fans on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions inflation can fall anywhere outside the red area of the fan chart. Over the forecast period, this has been depicted by the light grey background.

Confusion about where inflation is heading is partly a consequence of unprecedented price volatility in many goods and services. The prices of puppies and trampolines are widely reported to have shot up, but the price of an airfare has slumped. Economy-wide measures of inflation have to calibrate the combined effect of all positive and negative price changes, and at the same time revise the weights applied to goods and services to reflect our changing spending patterns. All things considered, it is a complex situation.

The bounce back in inflation rates has caused consternation. The key question for investors is whether the bounce stops here or continues and takes us to 3%, 4%, or even higher. We have not seen numbers like these for decades – and the impact on investors who have not hedged would be enormous. (The third possibility, another move lower, does not currently have many subscribers).

We see four key reasons why the bounce in inflation could continue to accelerate during 2021 and into 2022.

Firstly, the size of the monetary and fiscal response to COVID-19 related economic lockdowns has been massive, prolonged and shows no sign of coming to an end. Indeed, some commentators have suggested that President Biden's fiscal proposals, passed in early March (he is keen on making his mark as an incoming President), could be too much of a good thing. In February, the package was expected to total \$1.0 trillion. The package that was passed in early March amounted to \$1.9 trillion. This is a significant change.

Recent commentary from Larry Summers has helped to frame the debate. An economic advisor to President Obama, Summers helped launch a post-GFC stimulus bill in 2009 that was only one third of the size of the Biden package. Summers has highlighted that the Biden package could trigger a wage-price spiral that would be tricky to halt. In response, the current Secretary of State Janet Yellen has made it clear that, although higher inflation is a risk, the 'most important risk' would be to fail to address the economic impact of the pandemic on workers.

Implementing economic policy involves making choices about which battle to fight. US policy makers have been clear that their preference is to prioritise the creation of jobs and to accept (and deal with them later) the risks of a spike in the inflation rate.



Secondly, the 'inflation bounce camp' have also highlighted that they expect to see a trend for global supply chains to be reversed. Bringing production back to a home nation would likely mean higher costs in terms of labour and materials, and potentially the need to maintain permanently higher inventory levels. The 'just-in-time' model will be gone, and so will its low-cost benefits. In a re-shoring scenario, the management threat to shift jobs to lower cost foreign nations will lose credibility, and bargaining power will swing back towards workers and away from employers for the first time since the 1980s.

Thirdly, there has been a surge in the supply of money in the economy. As the textbook tells us, 'too much money chasing too few goods' will result in higher inflation. Although we heard something similar in 2009, it is now argued that the impact of quantitative easing in 2009 was largely contained within the banking system. Some of the recently announced measures such as financial safety nets for corporates and workers will boost the wider measures of money supply.

Finally, there was the historically significant shift in the position of the US Federal Reserve in August last year. The Fed announced that they would tolerate inflation above their previous target of 2%, to balance some of the previous undershoot of that target. This new flexibility worries some economists. If the genie escapes from the bottle, how will the Fed get it back in? Managing inflation is not like controlling the speed of a car. Momentum, once gained, might prove irresistible and lead to a significant overshoot that won't be easy to rein in.

### The output gap - a simple concept, but difficult to measure

The immediate effects of the 2020 economic lockdowns were a collapse in consumer demand, followed by a decline in measured inflation rates. The collapse in demand left a surplus of supply in many sectors of the economy, putting downward pressure on prices. An output gap was opened. The challenge for economists is to assess how wide that gap has become, and hence to estimate how quickly it can be filled as economies recover. When the output gap closes, the pressure on prices will swing from downwards to upwards. This is a logical framework for the analysis of inflation pressures, but it is a fiendishly difficult thing to measure — especially on an economy-wide basis.

Let's take the example of the gym industry. Will the post-lockdown demand for gym membership be the same as pre-lockdown? Or will some gym members have permanently shifted to home workouts and ritzy peloton apps? If the demand for gym use is going to be lower in 2022 than in 2019, this might be an argument for downward pressure on

gym membership prices. However, what about supply? It is likely that some gyms will have gone bust during lockdown, so there simply won't be as many gym memberships available. And the demand for city centre gyms will be affected by whether commuting ever returns to pre-pandemic levels, as well as overall population trends. The output gap for the gym industry will be driven by supply and demand factors that are both difficult to measure.

Another example is the pricing of aircraft seats. A reduction in the number of available seats (to ensure social distancing) may lead to a need for higher prices in order to compensate for having fewer seats available for sale. However, the demand for flying could fall sharply if the airport experience turns into a five-hour ordeal involving medical checks at each end. The early evidence from the airline industry service ARC is that in the US the price of airline seats is currently around 30% below 2019 prices.

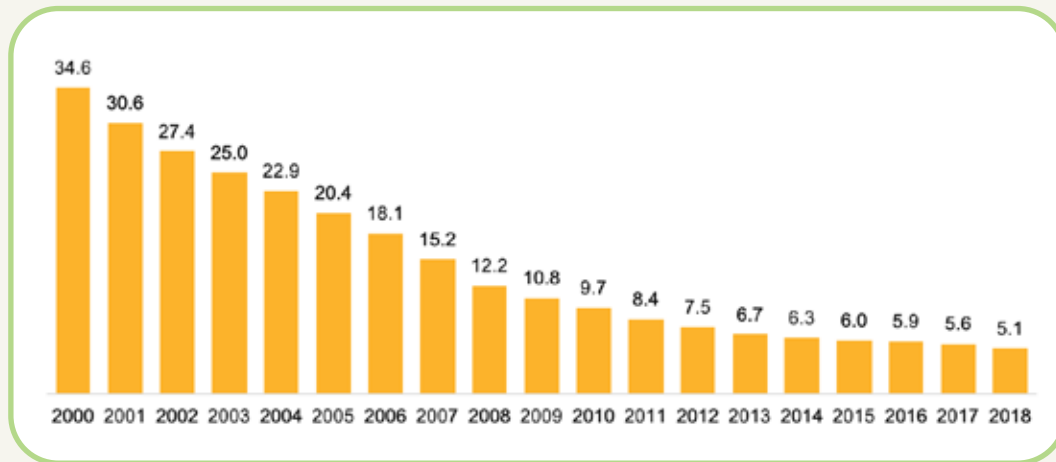
However, a decline in demand for air travel would in turn be reflected in a revised CPI basket. In other words, the inflation impact of higher prices would eventually be offset by a lower weight in a revised basket. However, basket weight revisions are currently only carried out annually. Once again, it is difficult to predict the net effect of such changes.

The gym and aircraft examples highlight the complexities of individual sectors. Calculating the economy-wide output gap will require accurate supply and demand input from hundreds of goods and services. We may be able to explain what the output gap is in theory, but, in practice, measuring it accurately is difficult. Absolute Strategy Research have projected that the US economy output gap is currently around \$1 trillion in size. If they are correct, a \$1.9 trillion fiscal package from President Biden will be more than enough to fill that gap and therefore could lead to inflationary consequences that give the markets a genuine scare. An overshoot of the 2.0% target to 2.5% might be manageable (and even desirable under the new Fed regime), but what will happen if the overshoot is to 4.5% instead?

### Wage inflation and demographics

Changes in gym membership fees, the prices of holidays and the cost of trampolines will impact the short-term trend for consumer prices. But we also need to pay attention to the structural stories that will have a longer-term impact on inflation. There is compelling research suggesting that a positive demographic pulse had a moderating influence on inflation rates in the period from 1990 to 2020. A recent book by Goodhart and Pradham suggests that a reversal of that influence might be on the cards.

Chart 4: Wage ratio - US:China



Source: Tabula and ASR

Inflation rates consistently surprised to the downside between 1990 and 2020. Economists over-estimated inflation outcomes and central banks undershot their inflation targets on many occasions. Economists who had grown up in the 1970s, when wage/price spirals were at their most pernicious, were looking for a wage/price effect in the 2000s that did not appear. They were caught out by the fact that local labour markets were starting to be influenced by global labour market dynamics.

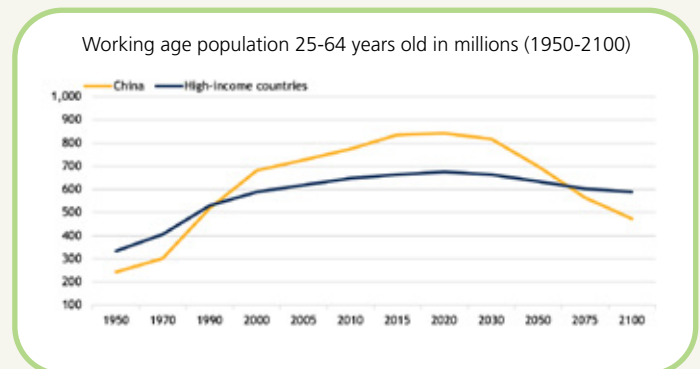
Goodhart and Pradham describe the growth of the global workforce in the 30 years from 1990 to 2020 as the 'single largest labour market supply boost in history'. It began with the emergence and availability of the Eastern European workforce in the 1990s and gained considerable momentum when China joined the World Trade Organisation in 2001. And, as this global workforce grew, liberalisation of trade allowed manufacturing companies to shift production to these low wage geographies. Labour markets for manufactured goods became global and ceased to be local. Wage pricing power went in the same direction, and Chinese workers started to have an important influence on global wage developments.

The authors describe this as a global demographic sweet spot that had a dampening influence on global wages (especially in manufacturing industries) and lasted for three decades, moderating both consumer price inflation and interest rates. Their data suggests that, in 2000, wages in China were at a 1:35 ratio relative to the US (Chart 4). With this disparity, there could have been little surprise that outsourcing production from the US to China looked like an attractive proposition. Over time, China has transitioned into a middle-income nation, and the wage advantage is now closer to 1:5. The wages argument for outsourcing has weakened and, at the same time, political pushback against globalisation and in favour of re-shoring (to the home nation) has grown stronger.

## The demographic sweet spot turns sour

Not only has the demographic sweet spot now passed, but the effect could even go into reverse as working age populations start to shrink. The Chinese working age population has already peaked and will shrink at an even faster rate than in western nations, partly due to the lagged effect of the one child policy of the late 20th century (Chart 5).

Chart 5: Working age population has peaked



Source: Tabula and UN, March 2021

Not all nations will see their working age populations shrink in the same way as China and the high-income countries. India and the African nations still have helpful demographics, but there are doubts whether they can repeat the trick performed by China as a dominant influence on global wages. Africa is a continent of over 50 nations with limited labour mobility. It really doesn't look as though it will be able to imitate China.

India looks a better bet at being able to contribute workers and come closer to replicating the Chinese contribution of 1990-2020. However, India's political structure and democratic systems will not lend themselves to a repeat of the single-minded state led model of economic development deployed with vigour by China.

Migration to high income nations from African nations and India could help address the shrinking working age population phenomenon, but the current political climate in the receiving nations doesn't suggest that this will be a likely outcome.

Robotics and automation may be able to mitigate some of the effects of shrinking working age populations, but not offset. Similarly, delayed retirement could also slow the pace at which working age populations shrink. However, on this point note recent evidence from the US labour market suggested a large number of older workers are being nudged into early retirement. In 2020, 2.4 million decided to retire compared to 0.8 million in 2019. To the extent that these discouraged workers have made a decision that is permanent, this represents a shrinkage in the labour force and supports the argument that wage pricing power could make a comeback for US workers.

Demographics don't usually play a role in investors' considerations of where the inflation rate might go, because financial market forecasts are usually limited to a two-year rather than two-decade horizon, and fluctuations in the price of oil, food (and trampolines and gym memberships) will have a more immediate impact on the numbers. However, the experience of forecasters during the 1990-2020 period would argue that ignoring structural forces long term was a mistake.

## There are more twists and turns ahead

It looks as though the long running trend of stability in inflation rates is ending, and that we need to buckle up for more twists and turns on the inflation roller coaster.

The shift in the Fed policy target in 2020 was a significant event. Recent comments from Fed Governor Powell were unequivocal. Powell has clarified that the Fed will err on the side of allowing inflation rates to overshoot before enacting interest rate increases that might damage employment prospects. Incidentally, we should not ignore the fact that an inflation overshoot will ensure that the real value of swollen government debt will be conveniently eroded.

Linked to this issue of convenience, commentators have expressed concern that central bank independence might be a casualty of the crisis, as finance ministries and central banks work more closely together. To the extent that the period of central bank independence has coincided with a period of generally lower inflation outcomes, there is a concern that an erosion of independence might contribute to a period of higher inflation.

Charles Goodhart has suggested that, over a five-year horizon, there is a risk that CPI inflation in developed nations could reach 5%. Such an outcome would be an event of enormous significance for financial markets and a massive jolt for investors. Who is positioned for such an outcome?

## About Tabula

Tabula is an independent investment manager and ETF provider focused on fixed income. Our ETFs provide unique exposures and solutions in the fixed income space. In October 2020 Tabula launched a new approach to hedging portfolios against inflation, by combining exposure to expected and realised inflation. Since inception the ETF has outperformed both TIPS and gold and has attracted over \$50m of AUM.

Web: [tabulaim.com](https://tabulaim.com)



# Hedging Portfolios Against Inflation With ETFs

## Traditional approaches

Traditional inflation ETFs force investors to choose between either realised inflation or inflation expectations. For many investors, both are important measures of inflation and a more efficient solution would be to combine them.

### Realised inflation ETF

- ✓ Good long-term inflation protection via inflation-linked bonds
- ✗ Little sensitivity to inflation expectations
- ✗ Significant interest rate exposure (problematic as rising inflation often coincides with rising rates)

### Inflation expectations ETF

- ✓ Good sensitivity to breakeven inflation
- ✓ No interest rate exposure
- ✗ No carry/real yield
- ✗ More suitable for an overlay than a funded inflation strategy

## Hedging against inflation with gold

An alternative has been to use exposure to gold as an inflation hedge, however, over the last six months gold prices have fallen while inflation data is rising, showing that the commodity can often be an ineffective tool for inflation hedging. Meanwhile, US government inflation-linked bonds (TIPS) have traded sideways, while an index that incorporates inflation expectations has proven more sensitive to the changing inflation environment.



Source: Tabula and Bloomberg, 1 March 2021. Enhanced inflation Index represents the Bloomberg US Enhanced Inflation Index, H35616US Index. US Govt inflation-linked bond Index represents Bloomberg Barclays US Govt Inflation-Linked Bond Index, BCIT1T Index. Gold represents London Gold fixing price (3pm), GOLDLNPM Index.

## Combining expected and realised inflation

A broad TIPS portfolio combined with an inflation expectations portfolio (breakevens) can provide meaningful inflation protection with real yield.

# WELCOME TO THE NEW NORMAL OF DIVERSIFICATION



**Matthias Kunze**  
Head of Distribution,  
Assenagon

- The negative return on safe bonds is increasingly reducing the diversification potential in traditional investment portfolios
- The market movement in 2020 illustrated the weakness of traditional diversification strategies.
- Volatility offers a strategic alternative.

For decades, the classic portfolio allocation of safe government bonds and equities constituted a robust investment strategy to both institutional and private investors. The bond component, in particular, has contributed significantly to the success of such mixed portfolios. On the one hand, investors could expect a continuous income stream. On the other hand, the positive bond performance in times of market stress cushion the losses incurred by falling stock markets.

This balancing effect was very reliable in the past: interest rates for 10-year German government bonds fell by around 1.5 percentage points during the financial crisis — a substantial gain of around 15% even before coupon payments, which was even more substantial for 10-year US bonds. This diversifying effect has recently been significantly lower:

	German 10-year bond yield	Change during the crisis	Performance
Global financial crisis 2008	4.5%	-1.5%	+15%
Euro Crisis 2011	3.5%	-1.5%	+15%
Trade war 2018	0.5%	-0.2%	+2%
COVID-19 pandemic 2020	-0.2%	-0.3%	+3%

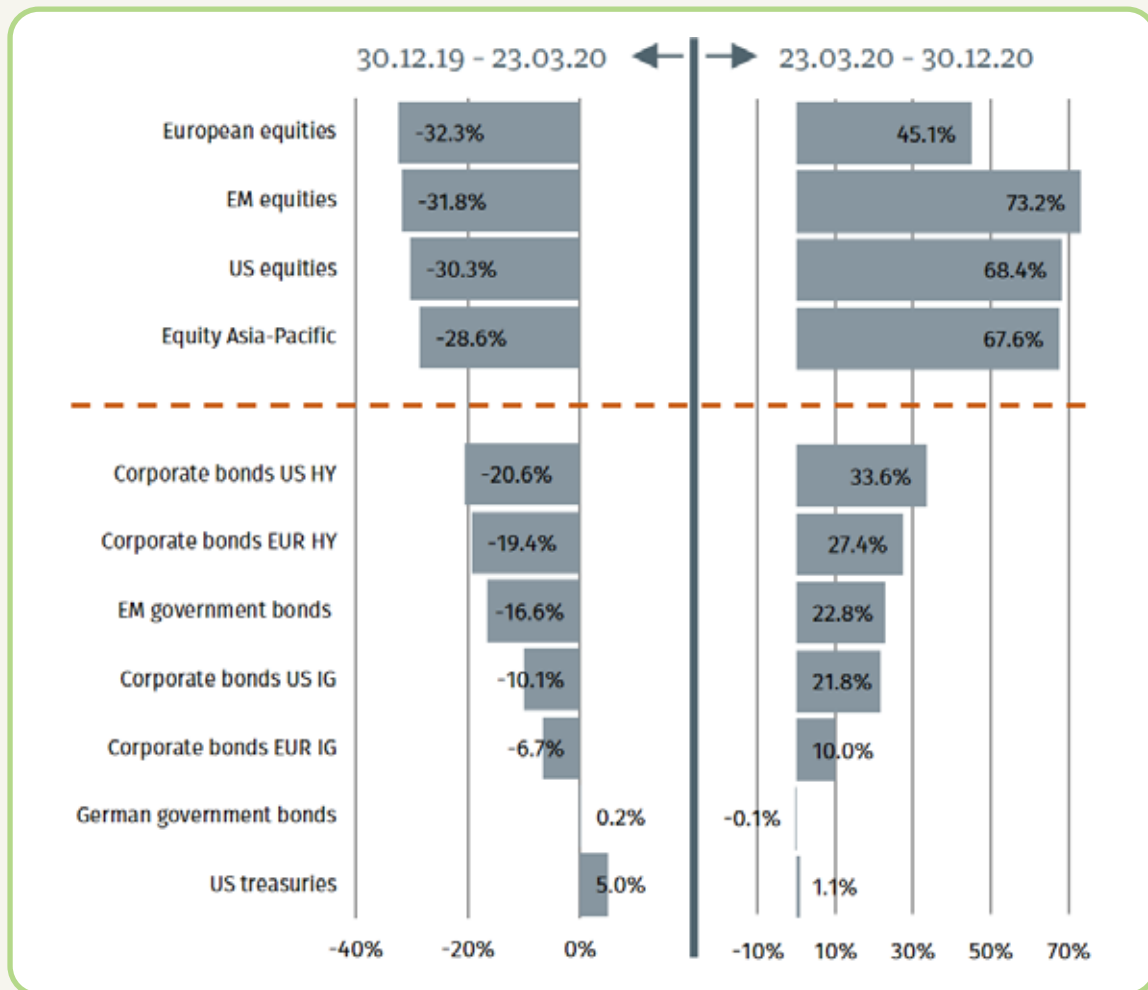
Source: Bloomberg

## Example German bonds: potential of diversification has been tenuous for years

In order to achieve a similarly positive portfolio effect today, the 10-year German bond yield would have to decline to almost minus 2% — a scenario that was neither realised in the sell-off in the fourth quarter of 2018 nor in the first quarter of 2020. Going forward: one should not rely upon such movements in the future either. In both recent sell-offs

of Q4 2018 and Q1 2020 market participants experienced historically high cross-asset correlations, which foreshadow the prospective diversification challenges of balanced investments. Particularly traditional investments were extremely correlated and hardly delivered the needed diversifying cross-asset effects seen in the past. A quick view on the performance of traditional asset classes in 2020 highlights the dilemma.

### Extreme correlations in 2020: performance across asset classes



Source: Bloomberg

## Volatility funds as an alternative

There are some alternatives such as precious metals that usually are negatively correlated to equities. However, gold for example moved up to all time highs in line with equities and is now at a price of 1,700 US dollars. Volatility is another asset class that naturally reacts to declining stock prices. Equity volatility directly measures the fluctuation of stock prices — i.e. exactly the risk investors want to protect themselves against. Market corrections and rising stock market volatility are inextricably linked. This property was also evident in the 2020 COVID-19 sell-off.

Stock market volatility can be traded using derivatives such as options. Funds that use options to benefit from an increase in volatility are listed in the CBOE Eureka hedge Long Volatility Index. In 2020, all funds with a volume of over 100 million US dollars listed in the index have reported a positive return between 7.8 and 91.3%, delivering a significant impact on a portfolio level. Accordingly, a portfolio allocation that incorporated volatility strategies offers attractive opportunities.

## Long-term performance comparison: the COVID-19 sell-off as a game changer

The following chart compares the performance of a traditional and an alternative portfolio since December 2014. Each portfolio is Euro-hedged and rebalanced quarterly:

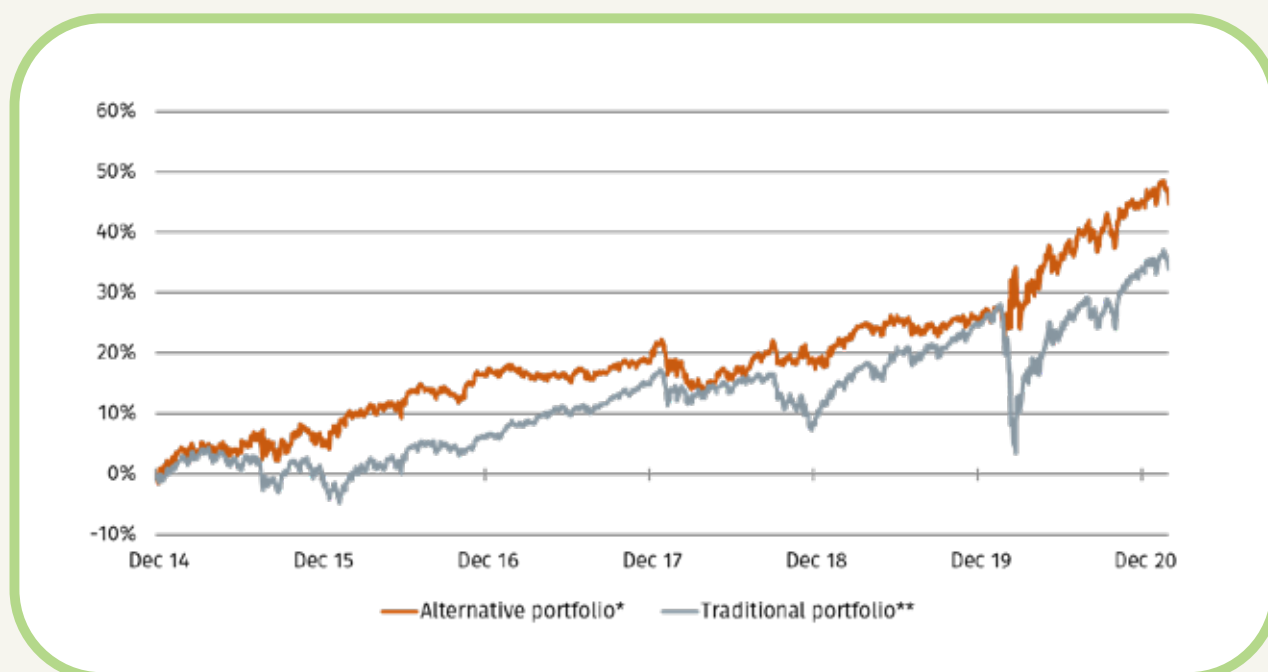
The traditional portfolio consists of a global equity ETF and a global investment grade bond ETF and the alternative portfolio consists of a global equity ETF and the Assenagon volatility strategy, which has been implemented at Assenagon in 2012. Both portfolios are equally weighted.

The chart shows that the alternative portfolio outperformed the traditional portfolio. From March 2014 to February 2021:

the alternative portfolio generated an annual return of 6.2%, while the traditional returned 4.9% annually. This outperformance of 1.3% p.a. was delivered despite the fact that the global flood of money and falling interest rates in recent years have had a tremendously positive effect on the bond component of the traditional portfolio. The maximum drawdown of the two balanced portfolios was comparable for a long time — however, since 2020 this has no longer been true: While the alternative portfolio of volatility and stocks showed a maximum drawdown of 7.6% in 2020, the traditional portfolio declined by almost 20%, significantly more than in the past. The risk profile of the traditional portfolio changed substantially, whereas the alternative portfolio still shows a well-diversified performance.

### Alternative vs. traditional portfolio (EUR hedged)

(30.12.14 – 26.02.21)



\* 50% LU057525335 + 50% IE00B441G979, quarterly rebalancing  
rebalancing. Source: Bloomberg

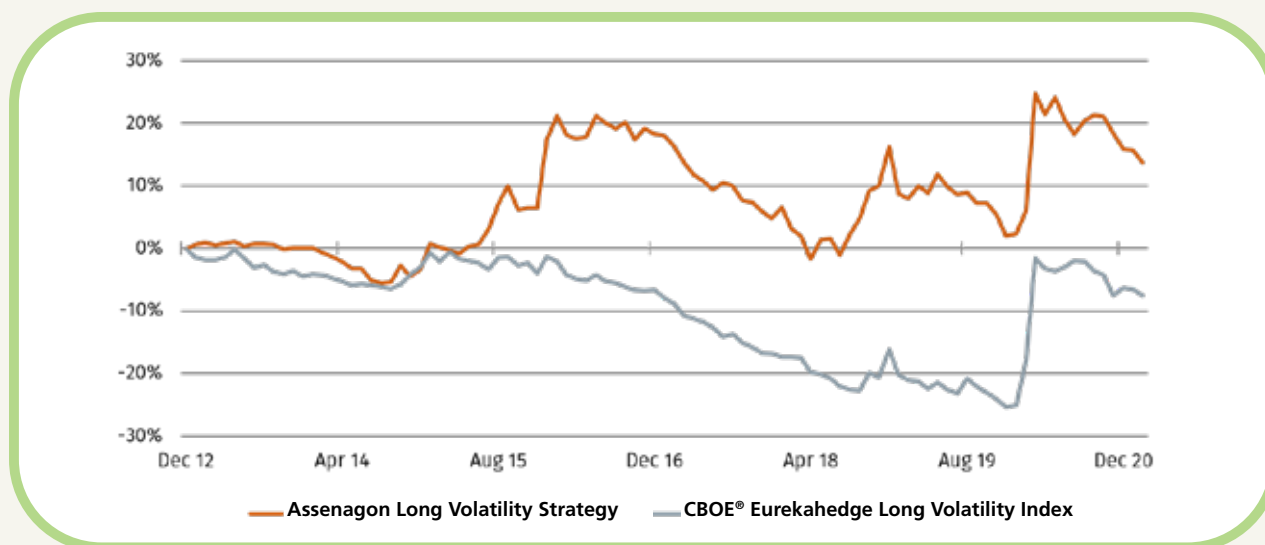
\*\* 50% LU0942970798 + 50% IE00B441G979, quarterly

## The specific microstructure of volatility markets

Volatility markets are global, transparent, liquid and efficiently accessible to both institutional and private investors. Despite the large number of market participants and high trading volumes, there are structural imbalances in volatility markets that allow sophisticated investment approaches to generate persistent returns.

For example, the consistently high demand for equity index derivatives for portfolio hedging purposes (e.g. hedging against falling stock prices) gives rise to the well-known volatility risk premium. In contrast, the market for volatility on single stocks is not characterised by a comparable need for hedging.

### Peer group comparison (28.12.12 – 26.02.21)



Source: Bloomberg

### 'Dispersion': exploiting structural imbalances in volatility markets

In our actively managed volatility strategies, we specialize in exploiting these structural imbalances in volatility markets by combining individual stock volatility and index volatility. Within this so-called 'dispersion trading'-approach, which in the past was primarily feasible only for investment banks, individual stock volatility is bought and index volatility is sold in the course of a stringent investment process. Our goal is to create robust volatility strategies that qualify as important building block in the strategic asset allocation process of our investors.

Since the implementation of our investment strategy at the end of 2012, we have consistently outperformed our peer group (CBOE® Eurekahedge Long Volatility Index) and were awarded as "Best Performing Volatility Fund" for the year 2018 by the Hedge Fund Journal.

### The notion of government bonds as a diversifying component must be questioned

In the first quarter of 2020, the SARS-CoV-2 virus and the accompanying massive decline in oil prices led to one of the fastest drawdowns ever observed. Particularly bonds hardly contributed to diversification during the sell-off. As a result, the risk profile of traditional balanced portfolios has changed compared to the crises of the past and correlation risks have been revealed. Against the background of anaemic bond coupons and the susceptibility to correlation, which already became increasingly apparent in the fourth quarter of 2018,

investor's bond allocations as a core defensive component must be questioned. Volatility strategies, which might be a sustainable response to extreme correlation patterns, are an alternative source of returns.

Matthias Kunze

### About Assenagon

Assenagon is one of the fastest growing, independent asset managers in Europe.

As an active asset manager for institutional investors, we specialise in proactive management of capital market risks. We offer holistic fund-based risk management so that you can achieve your target returns even within a defined risk budget. Put more simply: we make risk pay. Since its foundation in 2007, investors have entrusted EUR 27 billion to the company's management.

At Assenagon we consider volatility as a separate asset class which requires a high degree of specialization and trading experience. Our proprietary volatility database and sophisticated trading infrastructure provide access to historical implied volatility surfaces for more than 600 underlying. Based on this reliable source of data we continuously evaluate which volatilities display attractive valuations in both core and niche market segments. Our volatility funds offer our investors a unique solution to take advantage of inefficiencies in the volatility markets.



# THE ANTIFRAGILE APPROACH TO MANAGING DOWNSIDE RISK



**Yann Coatanlem**  
CEO,

*DataCore Innovations, LLC*



**Raphael Douady**

*Founder and Chief Scientist,  
DataCore Innovations, LLC*

## Introduction

What tools exist to manage extreme downside risk, apart from expensive (and often ineffective) option strategies?

When the Max Drawdown of the S&P 500 reached almost -35%, many of us thought: what's the damage in my portfolio, and how can I fix this mess? Can I hedge anything? Unfortunately, there is little point in buying an insurance when the storm has hit the house. Should I take my losses and re-enter the market later? But if I didn't get the timing right on the way down, why should I get it right on the way up?

There is little one can do during a crisis. But certainly, this is an opportunity for stepping back and rethinking one's risk approach. Arguably, the intensity of crisis, if not the frequency, seems to have increased in the last few decades. And so, preparing for extreme market conditions is becoming more and more critical. The Antifragile guiding principle, as explained by Nassim Taleb in his best seller 'Black Swan' is precisely: "prepare for the unexpected rather than try to predict it". Following Taleb's terminology, fragility refers to systems that suffer from environment volatility and changes, while antifragility refers to those who benefit from them.<sup>1</sup> Typically, systems whose response to stress is convex are antifragile, while those whose response is concave are fragile.<sup>2</sup>

There is indeed no point trying to predict a crisis, its nature, its magnitude and its timing: who could have predicted the severity of the COVID pandemic? At the same time, most of us think of us as long-term investors who need the return of risky investments, if only because even when close to retirement we can legitimately expect to live several decades after retiring, not to mention optimize our wealth for our survivors.

Passive investment is tempting: simply staying long an index (or exposed to an index through a smart-beta-like product), accepting downturns and waiting for a recovery. Yet, contrary a widely spread, but false narrative, the long-term performance (say 10-year returns) of broad indices, such as the S&P 500, is not steady. Looking at the last 20 years, there have been many periods when the average return is either negative or weak. This lack of long-term performance is an issue since, inevitably, we will face market- or non-market-related crises in our lifetime, leading to unwind depreciated assets.

So, how can we combine long-term investment and reactive crisis management?

Preparing for every possible scenario seems out of reach (who knows if inflation will rebound any time soon or if long term rates jump?). Neither is it wise to count on one most probable scenario derived from past market patterns, such as 'momentum' strategies or the belief that a given investment theme (tech companies for instance) will remain a winner: on average, sectors that overperform during a decade tend to often disappoint during the following decade.

<sup>1</sup> Taleb, N. N. (2012). Antifragile: Things That Gain from Disorder. Random House.

<sup>2</sup> Taleb, N. N., & Douady, R. (2013). Mathematical definition, mapping, and detection of (anti)fragility. Quantitative Finance, 13(11), pp.1677-1689.



## The current paradigm: Black-Litterman and Markowitz

As of today, the vast majority of long-term asset management is performed within the Black-Litterman framework<sup>3</sup>, a Bayesian equilibrium implementation of Markowitz portfolio theory. While essentially based on mean-variance analysis, this model is exposed to regime changes and black swans. These not only deter portfolio optimality when they occur, but trigger changes in market dynamics that have a durable impact on the investment performance.

Indeed, nothing is simple when it comes to setting a framework which is meant to be used by the whole industry. The system, as a whole, reacts against itself, and instabilities, as observed by Minsky,<sup>4</sup> appear for any random reason. For example, if valuation of one sector starts rising, Black-Litterman 'equilibrium' hypothesis will treat this price increase as 'informed' and will recommend following it, therefore nurturing the rise, a dynamic which may evolve into a pure speculative bubble. This was observed not long ago on the US healthcare sector. The uptrend started slowly in 2011, accelerated in June 2014 and was eventually brutally reversed in August 2015, upon a general downturn

caused by the seemingly unrelated burst of the Chinese equity bubble. Initially, in 2011, the overperformance of this sector with respect to the rest of the market was justified by its economic outcome. This rise has mechanically attracted Black-Litterman driven capital inflows that exaggerated healthcare's initial overpricing. At the downturn, this sector overreacted on the downside, eventually giving up all of its overperformance relative to the S&P 500.

## Optimal is fragile

Most of the literature on portfolio management is devoted to the sake of 'optimal' investment. Hypotheses are made and tested on probabilistic representations of financial markets, models are calibrated on real data and optimal portfolios are derived from these tested and calibrated models. Everything looks sound, done with care and seriousness. This process is in fact deeply flawed and may lead to disasters. The flaw resides in model uncertainty and externalities. The optimization process itself creates, with high probability, a concave, i.e. fragile, exposure to model parameters and risk sources external to the model. Even more so, exposure

<sup>3</sup> Black, F., & Litterman, R. B. (1991, September). Asset Allocation Combining Investor Views with Market Equilibrium. *The Journal of Fixed Income*, 1(2), pp. 7-18.

<sup>4</sup> Minsky, H. (1992). *The Financial Instability Hypothesis*. Levy Economic Institute of Bard College Working Paper, 74, pp. 6-8.

to large events – so-called black swans – whether changes of parameters (or change of regime), or externalities, that is, model invalidation, is often increased by within model optimization.

Indeed, optimization uses two kinds of inputs: model parameters, considered as given by statistics, and asset selection and weights, which, in optimization theory, we call 'control variable'. It consists of finding the best values of the 'control variables', given the model and its parameters. By definition, if a set of values for the control variables maximizes a given criterion. By construction, around its maximum value, the criterion is concave with respect to the control variables. If the model is multi-factor, one can show that it is concave as well with respect to the correlations between factors. Indeed, modifying correlations acts like a change of regime and increases the risk measure, whatever the change, if the portfolio has been optimized for a given set of correlations. Increasing the risk measure worsens the criterion, which then reacts negatively to any change in correlations. This means that an optimal portfolio is always 'fragile' to a change in correlations, which are known to be volatile and also always estimated with uncertainty.

Some funds apply a 'volatility target' strategy by adjusting the exposure to market volatility. It will be increased if the volatility is low and reduced when it rises. Correlations are usually not involved in such strategies hence the above fragility is avoided. However, this 'reactive' strategy acts after the facts. Volatility surges are often sudden and catch funds at their maximum exposure, like the improvident sailor can

be caught by the storm before he has time to pull down the sails. This is typically what happened, in the recent past: in February 2018 after more than a year of very low volatility, or in the end February 2020 with then COVID crisis. When markets are over-confident, bad news can trigger a dynamic instability: selloffs increase the volatility which then induces new selloffs, etc. These events are not just 'centennial events' or 'black swans', they are rather frequent.

## Multi-regime dynamics and fat tails

These changes of correlation and volatility can be represented by a superposition of several statistical regimes, from the most probable to the most exceptional one. Typically, the most probable regime is a 'blue sky' one, with limited volatility, reasonable correlations and no fat tails. Less probable ones are more extreme and correspond to one sort of crisis or another. Unless the recent past has been particularly agitated, it is much more probable that it will be statistically close to the 'blue sky' regime. Any optimization process based on parameters calibrated on the recent past will tend, on the one hand, to maximize expected returns, which is only achievable by concentrating the selection on assets with high expected returns, also often associated with high risk. So, we have limited room here for optimization. It will, on the other hand, aim at minimizing the risk measure of the portfolio, based on a close-to-blue-sky statistics, in particular correlations. This is generally achieved by diversification, which highly depends on correlations. The 'optimized' portfolio risk reduction will



<sup>5</sup> York: John Wiley & Sons. Rubinstein, M., & Leyland, H. (1981, July-August). Replicating Options with Positions in Stocks and Cash. Financial Analysts Journal, 37(4), pp. 63-72.

be appreciable under the blue sky regime, but its risk under other regimes will not be reduced at all, if not just increased. This 'optimized' portfolio therefore has, with high (but not full) probability, a rather reduced volatility or whatever risk measure in use, and with a low probability, a much higher volatility. In other words, the ratio of volatilities between the main 'blue sky' regime and the other extreme ones is significantly increased (often several folds), which is the exact definition of 'fat tails'. In short, 'optimization' ignoring the multiplicity of regimes produces fatter tails than they were initially.

A Portfolio which appears to have uncorrelated assets during low volatility markets can behave in a completely different way in a high volatility market: alternative investments, which have been precisely chosen for delivering alpha without beta, can suddenly exhibit beta and no alpha at all.

### **If future risks are so unpredictable and popular models so unreliable, should I just be long convexity?**

Nothing is free: following the option trading metaphor, convexity produces excess return (one catches more of the upside than of the downside) but it does so at the expense of the 'Theta' of the option, this is, its time value. In other words, one avoids a severe downside risk that occurs once in a while, but at the cost of an 'insurance premium' which leads to lagging performance in the periods between the crises.

In order to mitigate this impact, managers may use a 'covered-call' strategy, which consists in selling and rolling short a call option struck above the current index value at the rolling date. This is not fully satisfactory. Indeed, one compensates cutting downside tails by also cutting upside ones. This again comes at a cost, since an important part of the index profits resides in these exceptional rallies. Generally speaking, covered-call strategies don't have significantly higher long-term performances than their underlying index, but they certainly have less volatility and, even more so, less maximum draw down. Overall, the long-term performance is not so much improved, but the path is much smoother. At least, it seems to be...

Indeed, there is systemic risk attached to wide-spread 'portfolio insurance' strategies. Hayne Leland and Mark Rubinstein<sup>5</sup> made popular this investment strategy, according to which one would maintain a position in equity markets that corresponds to the 'Delta' of a call option, thus replicating its pay-out: the market performance if it is

positive, and no loss (other than the cost of the replicating strategy) if it is negative. What Leland and Rubinstein failed to anticipate was the feedback loop between the market orders and its evolution. So long as the stock market stayed in the uptrend, participants increase their positions and reinforce the uptrend. But if markets start dropping, participants must start selling off their long positions, thus accelerating the fall in prices. This deadly dynamic occurred in the most volatile manner on that fateful day in October 1987, where the S&P500 index experienced what is still today its largest one-day close-to-close loss: more than 20%.

Summarizing these observations, we conclude that any attempts to replace black swans by a smoother evolution are fraught with danger. Not only one has to pay the insurance fee, but the sake for convexity creates its own black swans, that are no better than those they are supposed to avoid. In fact, we see that any given simple automatic rule to reduce fat tails on the downside produces its own potential severe losses.

Efficient downside risk management requires more sophisticated approaches. Nassim Taleb, who nailed down the concept of 'black swan', advocated 'cutting the tails' by maintaining an out-of-the-money put protection to immunize oneself against negative events which, however rare they can be, do occur with a potentially devastating size. Such an approach is efficient but requires long option trading experience not to overpay this tail protection.

### **Market anticipation strategy and dominant factor analysis**

For a marginal investor, an active strategy that anticipates major market downturns and cleverly selects sectors or securities to produce superior long-term returns while tempering the downside, makes a lot of sense. The Dominant Factor strategy achieves that by measuring market instability and systemic risk.

Market anticipation strategies offer a number of advantages. Firstly, they provide 'free convexity'. While portfolio insurance reacts after the facts, implying that positions are reduced only after markets have dropped, and reinforced after they have risen, any anticipative strategy follows the market on the upside, while reducing exposure before the downturn. Indeed, downside risk management is all about 'how much too early' should one get out of the market before the bubble bursts.

<sup>5</sup> Coste, C., Douady, R., & Zovko, I. (2011). The Stress VaR: A New Risk Concept for Extreme Risk and Fund Allocation. *Journal of Alternative Investments*, 13(3), pp. 10-23.

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An obvious objection to the anticipative strategy is that no one has a crystal ball and can predict the markets. Not exactly true. The power of anticipation on long-term returns is so huge, that capturing even a relatively small portion of forthcoming moves produces appreciable benefits to portfolio returns. A pure mechanical dynamic strategy, which makes no specific assumptions on the market behavior, can provide partial downside protection for a marginal investor. One will still need to verify that the strategy is really robust to actual crises. However, anticipation is the only solution when markets as a whole, including feed-back, are considered. We should be extremely careful when an investment approach based on a mechanical action is generalized as these tend to produce a counter-effect that is prone to blow up in investors' face.

A second, less obvious, benefit of anticipation relies precisely on its difficulty. Every market actor uses a different, imperfect method, and actions come at different times. These heterogenous decisions dilute any potential market impact and thus help avoid, or at least reduce, the feed-back loop stemming from coincidental actions.

Our favorite market anticipation strategy, the Dominant Factor Analysis (DFA) is a powerful method for estimating risks and, from there on, deriving winning strategies by selecting portfolios that are naturally immune to large downturns.

It is based on three fundamental principles:

- 1) Risk, that destroys long-term performance, is not volatility. On the contrary, some reasonable volatility tends to be favorable to performance. Risk is a matter of extreme events. In this case, everything becomes correlated: this is the 'tail concentration' effect, which invalidates correlations measured on past returns.
- 2) It is in general impossible to know where the risk is coming from. Many risk sources may impact the portfolio. It is therefore necessary to monitor a substantial set of possible risk factors. The number of risk factors largely exceeds the size of a reasonable multifactor model.
- 3) Like correlations, factor betas are different, often larger, in volatile markets than in calm ones. This is a sign of a nonlinear relation between the risk factors and the portfolio returns. Even if the portfolio does not explicitly contain nonlinear assets (bonds, options), its performance cannot be represented with just alpha and beta. Higher order dependence is involved.

DFA principle consists in comparing the investment return to a very large number of potential risk factors, scanned and taken separately, by fitting a different nonlinear model for each factor. Unlike traditional multifactor models, which, to avoid overfitting, are constrained to be linear (i.e. with

frozen correlations) hence not adapting to regime changes, nonlinear polymodels can incorporate regime changes within the model. Each factor is assigned a score corresponding to the quality of its fit with the investment. Only factors with a high enough score are kept (so-called dominant factors), while other factors are discarded. For each dominant factor, fitting the investment to it provides an Impulse Response Function (IRF) which is then used to map crises experienced by the factor in the past to the current sensitivity of the investment to this risk factor. This systematic factor scanning produces a list of extreme scenarios for the investment which represent its Risk Profile.<sup>6</sup>

After having identified a very large set of risk factors that can potentially impact the portfolio, the following steps are performed:

1. For each asset in the portfolio or, more generally, in the investment universe, and each risk factor
  - a. Perform a nonlinear regression of the asset returns with respect to the factor returns (single-factor modeling, one factor at a time) over a period of time and a time frequency of interest (e.g. weekly over one year)
  - b. Score the strength of the relationship between the factor and the asset over the particular period, by measuring the p-value of the nonlinear regression, then  $\text{Score} = -\text{Ln}(\text{p-value})$ . Select only factors with sufficiently high a score (i.e. low p-value). These risk factors are called 'dominant'.
  - c. For each selected risk factor, estimate (preferably using extreme value theory) the distribution of factor returns over as long a period as possible (e.g. 30 years)
  - d. Map this long-term distribution onto the asset returns using the nonlinear model estimated above. This distribution contains all the extreme events the factor went through and how they would impact the fund returns.
  - e. Estimate the risk and the expectation of the fund returns, as explained by the given factor.
2. Aggregate risks from the various 'dominant factors':
  - a. Risk measure = worst risk measure from all the selected factors
  - b. Average = weighted average of the expected distribution of the asset obtained from each of the selected risk factors.
  - c. Compute a criterion of your choice from these two measures.
3. Select assets according to this criterion and assign them weights that are in relation with their measured risk.



Nonlinear modeling mechanically penalizes assets that are concave, i.e. fragile, with respect to some risk factors and favors those who display a convex profile, with less downside risk.

The power of the risk screening is ensured by the 'tail concentration' effect, which ensures that enough risk factors are selected.

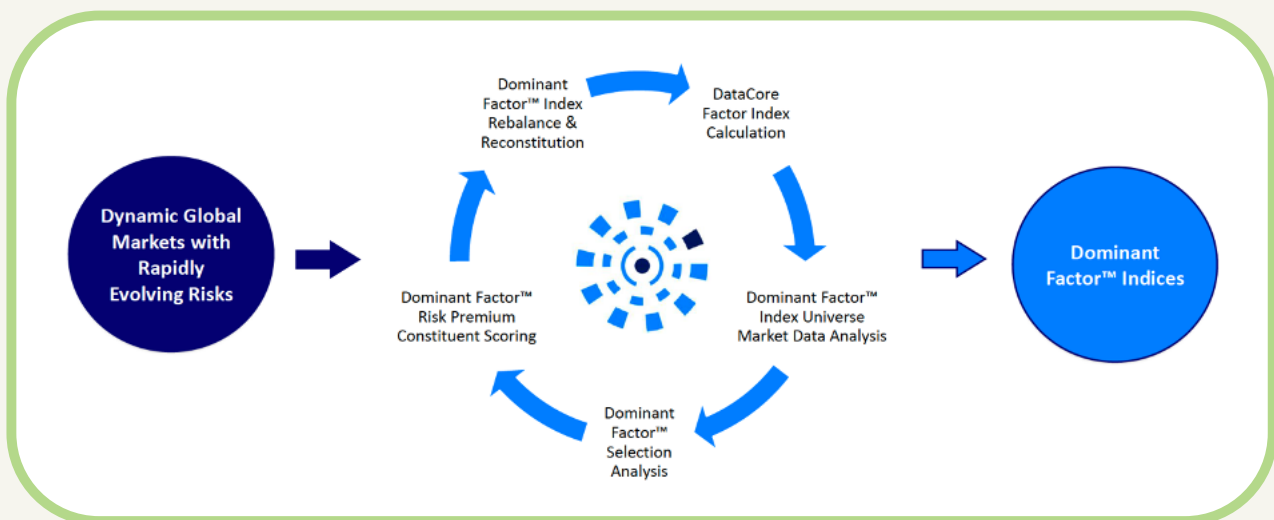
In periods preceding a financial crisis, the enhanced correlations between risk factors increase the number of dominant factors, hence of extreme scenarios that are mapped to the investment. Various crisis indicators can be derived from this information. One of them is simply the sum of scores of all the factors, an indicator that tends to 'ring the bell' too often but doesn't miss a crisis (to use statistical testing language, its power is high, despite its large size).<sup>7</sup>

One can't pretend to predict when and where black swans will fall. However, detecting that markets are more prone to a black swan event is usually possible. The philosophy of it, rather than looking at the match or the cigarette that will set the forest ablaze, is to monitor the amount of dry wood and measure the hygrometry of the forest. We can't really tell when a spark will occur, but we can tell if this spark is likely to ignite the whole forest or not.

Nevertheless, one can say that a bubble occurs when the predictable part of market dynamics dominates their purely random component. Sornette and his collaborators built their research on financial crises on the intuitive idea that a crowd in panic is much more predictable than a calm one, where everyone goes about their business in apparent randomness.

The following strategy provides a concrete example of DFA index: not only are extreme risks mitigated, but long-term returns are much more robust:

### Dominant Factor Indices: self-adapting to rapidly evolving risks



## Conclusion

Market dynamics are essentially driven by trends, bubbles, fears, overreactions and, most of all, herd behavior.

The solution to a safer implementation of antifragility, stabilizing markets rather than destabilizing them, while not biasing the natural evolution of the economy, relies on the dispersion of portfolio managers' reactions to market

evolution. Paradoxically, the more complex and proprietary the rules and algorithms employed by managers, the less 'herdy' their actions, hence fewer unstable dynamics occur. Avenues have been proposed here to anticipate financial crises and tame down their impact on portfolios managed for the long term.

<sup>7</sup> Douady, R., & Ye, X. (2019). Systemic Risk Indicators Based on Nonlinear PolyModel. J. Risk Financial Manag., 12(2), pp. 1-24.

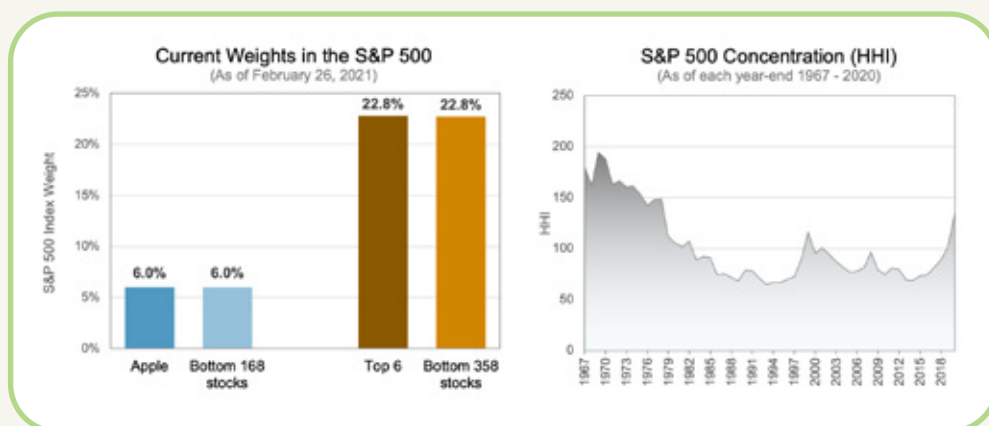
# A MORE BALANCED APPROACH TO LARGE-CAP U.S. EQUITIES



Tim Edwards, Ph.D.  
Managing Director,  
S&P Dow Jones Indices

As the economic and market trends have ebbed and flowed over the decades, a few companies often enjoyed periods of extraordinarily fast growth. If such trends extend, it is possible for the allocations of capital across the equity markets (and the benchmarks that reflect them) to become relatively concentrated. At such times, other approaches, such as equal weighting, can offer a more balanced benchmark alternative.

Blue-chip U.S. equities currently provide a leading example of higher-than-usual concentrations. A look at the S&P 500®, as a reflection of the overall US equity market, demonstrates this development. One company, Apple, now has a 6% weight in the S&P 500, larger than the combined weight of 169 smaller constituents. Added to other 'Big Tech' names of Microsoft, Amazon, Alphabet, Facebook and Tesla, six companies compose 23% of the index, outweighing 358 smaller names in aggregate. Driven by the performance of the largest companies in particular, the overall concentration of large cap U.S. equity market has risen since 2016 to levels not seen since the tail end of the "Nifty Fifty" era in the mid-1970s.



Source: S&P Dow Jones Indices. Data as of February 26, 2021. Provided for illustrative purposes only. "HHI" is the Hefindahl-Hirschman Index of concentration, calculated as the sum of all squared weights, multiplied by 10,000.

Over the last five years, a larger allocation to larger companies has contributed to the S&P 500's 1.7% p.a. outperformance of its equally weighted equivalent. But when larger companies outperform, their benchmark weights rise, increasing concentration and making ongoing index performance increasingly dependent on a select few constituents.

There is a natural dynamic that drives an eventual 'reversion to the mean' in concentration: by way of example, Apple may have the best return of any major listed U.S. equity since December 31, 2000, with a total return of over 52,397% compared to the benchmark's 429%.<sup>1</sup> However, a similar degree of outperformance in the future could be a challenge: in that case, theoretically its weight would rise to well above 99% of the U.S. large-cap universe; a situation that might draw regulatory and political objections along the way.

<sup>1</sup> As of February 26, 2021. Source: S&P Dow Jones Indices.

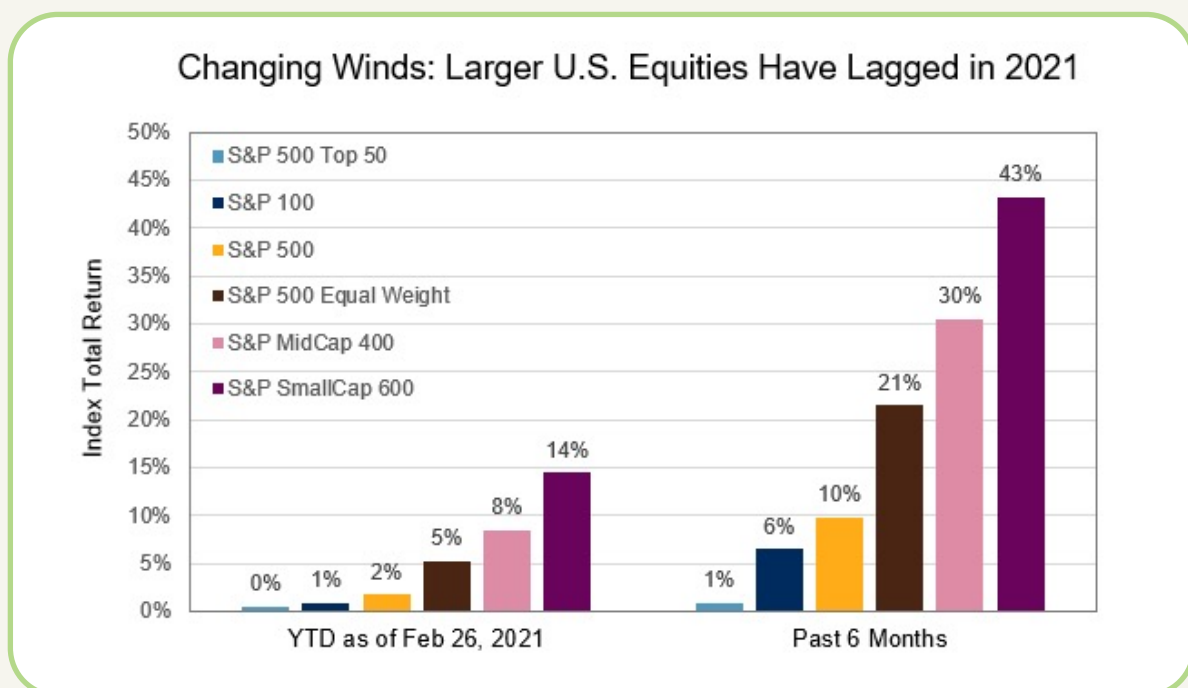
The immediate response in the equity markets to the COVID-19 pandemic was to extend the outperformance by the tech titans, whose business stood well-placed to benefit from the 'work from home' phenomenon and, in relative terms, were less sensitive to a slowdown in the domestic economy. However, with trillions of U.S. dollars now anticipated in ongoing fiscal and monetary stimulus and a vaccine program gaining pace, smaller companies, which are typically more domestically focused and have a larger representation in more cyclical sectors, may take a turn in the lead. Meanwhile, an increase in longer-dated bond yields has had the effect of lowering discount rates, to the detriment of 'growth' companies whose valuations typically depend more heavily on the hope of future profits.

Evidencing a change in the winds, so far in 2021, and even more so over the past six months, the S&P 500 Equal

Weight Index has outperformed its capitalization-weighted equivalent by a considerable margin, while the performances of S&P Dow Jones Indices' benchmarks for U.S. mega-, large-, mid- and small-cap equities have aligned inversely with their size.

It is too early to say whether the performance of 'Big Tech' has gone into long-term reverse, but the answer may prove of particular importance to U.S. equities: despite the more recent leadership from smaller companies, by historical standards, S&P 500 concentration remains relatively high. By assigning less weight to the very largest companies, alternatively weighted indices such as the S&P 500 Equal Weight can offer an option for strategies seeking to limit concentration within a large-cap equity allocation, while still being reflective of the overall opportunity set in large-cap equity markets.

### Changing Winds: Larger U.S. Equities Have Lagged in 2021



Source: S&P Dow Jones Indices. Data as of February 26, 2021. Provided for illustrative purposes only. Past Performance is no guide to future performance.

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# FIXED INCOME ETFs: FIXING THE FALLACIES



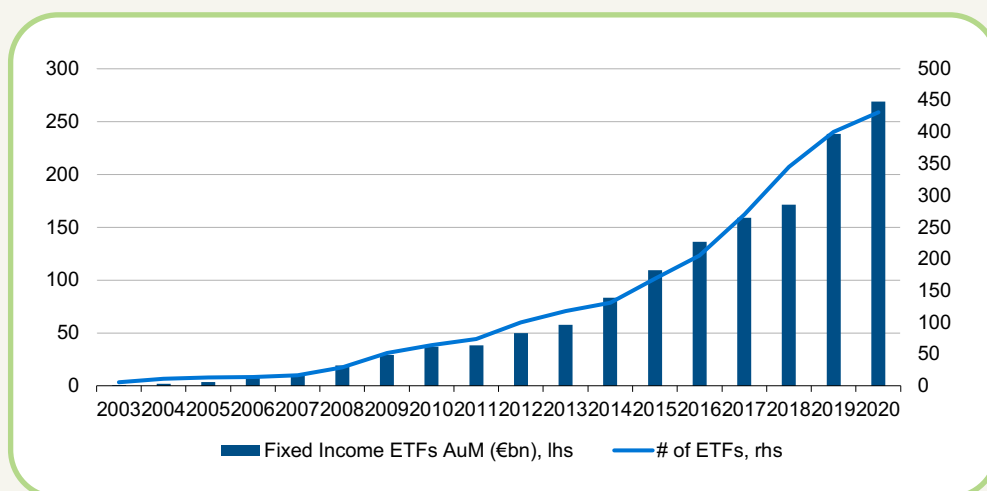
**Cosmo Elms**  
Head of ETF Business  
Development,  
Legal & General  
Investment Management

*Fixed income ETFs have now established track records that should convince even sceptics that they are a versatile and mainstream instrument for gaining fixed income exposure*

## Myths persist about fixed income ETFs – and must be busted

The immense stresses placed on asset markets during the first quarter of 2020 were a 'make or break' period for many investment strategies and financial products. Fixed income ETFs rose to the challenge of providing investors with continuous pricing and liquidity during these unprecedented strains, in our view clearly demonstrating their value during an extreme test. In fact, the secondary market – a unique feature of fixed income ETFs as a mainstream investment option for bonds – provided investors with much needed liquidity as secondary market trading volumes in ETFs spiked to record levels. Only a small proportion of ETF trading activity required primary market access, another source of liquidity for investors.

**Fixed income ETFs by number and assets under management in Europe**



Source: LGIM, Bloomberg, as at 31 December 2020

Even the Federal Reserve, in attempting to provide liquidity to the corporate bond market in America, identified ETFs as the most efficient tool for gaining exposure to the underlying bond market. This was an implicit but significant endorsement of a conclusion many other investors had already reached. As the above chart shows, the use of fixed income ETFs has been rising for many years – and is expected to continue doing so. Despite this tremendous increase in asset growth through both bull and bear markets, we are aware a few misconceptions remain when some investors are considering investing in fixed income through ETFs. In this guide, we tackle five of the most prevalent.

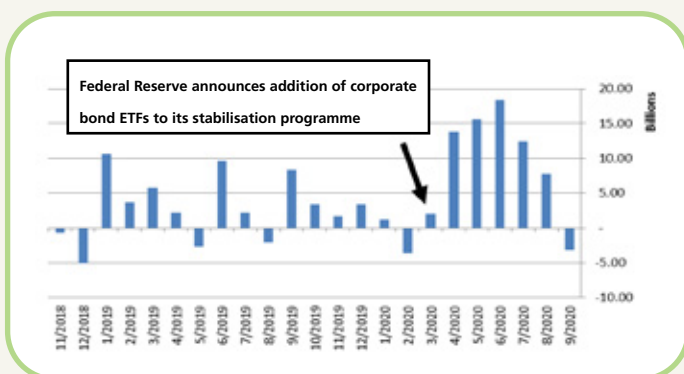
<sup>1</sup> As of February 26, 2021. Source: S&P Dow Jones Indices.

### Myth 1: Fixed income ETFs had to be rescued by central banks

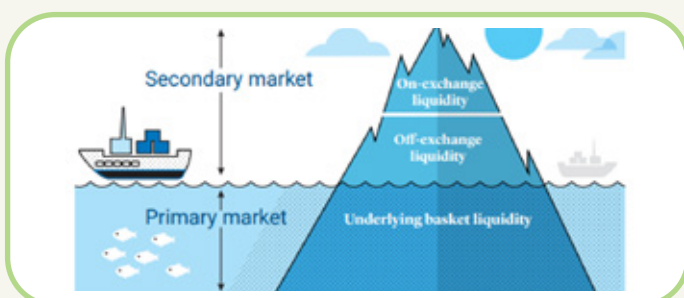
**Reality:** The US Federal Reserve believed that bond markets (not ETFs) had to be supported during a period of crisis, and did so through the most efficient method available – by purchasing fixed income ETFs

At the height of the market turmoil in March 2020, the Federal Reserve announced that, as part of its efforts to support the US corporate debt market, it would expand its stabilisation programme to include the purchasing of corporate debt ETFs. These measures formed part of the Fed's 'rescue' package for corporate America amid extreme economic and financial anxiety; we believe they should be viewed as a vote of confidence in ETFs as an investment structure. As evidence of the strength of the ETF structure in fixed income, consider this chart of flows into US bond ETFs before the Fed's announcement. As you can see, there were modest outflows in February but there was no 'run' on these investment vehicles that required intervention.

**Net new assets into domiciled  
USD corporate bond ETFs**



The Fed's actions were simply about supporting the corporate debt market – but we believe the fact that the central bank chose to express this view through ETFs should give investors confidence in the structure. The Fed itself explained that it recognised that ETFs can provide access to the broad underlying bond market in simple, efficient and scalable transactions; an ETF buying programme can be set up much more easily than creating an infrastructure for interacting with the over-the-counter bond market directly.

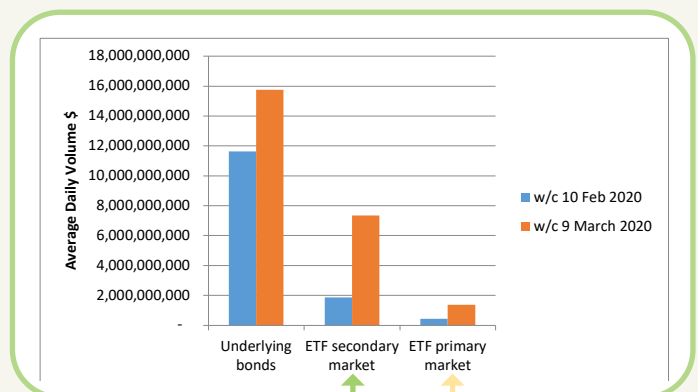


### Myth 2: Fixed income ETFs only provide an illusion of liquidity

**Reality:** Fixed income ETFs can provide meaningful liquidity, even in times of market stress; the secondary market is a source of liquidity not available to traditional unlisted funds

The ETF structure inherently provides a number of layers of liquidity: investors access the secondary market first to find willing buyers and sellers of the ETF before portfolio managers have to buy or sell the relevant bonds to create or redeem ETF shares respectively. If these top two layers of liquidity (as illustrated below) in the secondary market were illusory, they would have disappeared during the stresses of the first quarter. In fact, during that turmoil, secondary market trading volumes in ETF shares rose significantly, as we see in the chart.

**Trading in bond ETFs during peak of COVID-19 panic,  
February and March 2020**



These increases in secondary market volumes provide good evidence that, despite the misconception that in stressed markets holders of fixed income ETFs will not be able to find buyers, in fact many buyers were found.

Authorised participants and market makers are able to match buyers and sellers in the secondary market without needing to access the primary market to create/redeem ETF shares

Actual primary market volumes in many fixed income ETFs represented only a fraction of total volumes traded via bond ETFs even during these recent periods of market stress, meaning there was no need for large-scale trading in the underlying bonds and reiterating the importance of the secondary market.

This emphasis on secondary market trading, with relatively little dealing in the primary market, means there is a lower risk of a fire sale of those underlying assets because investors exiting the ETF do not necessarily trigger the disposal of any bonds.

Source: Bloomberg and LGIM. 'Underlying bonds' refers to universe of USD investment-grade corporate bonds; ETF analysis covers all US-domiciled USD investment-grade corporate bond ETFs.



# FIXED INCOME

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Even if greater activity in the primary market had been required, fixed income ETFs are at least as liquid as their underlying components.\* This alone puts them on a par with other collective investment funds, but in practice the liquidity available in the secondary market has generally been sufficient without needing to trade the underlying bonds.

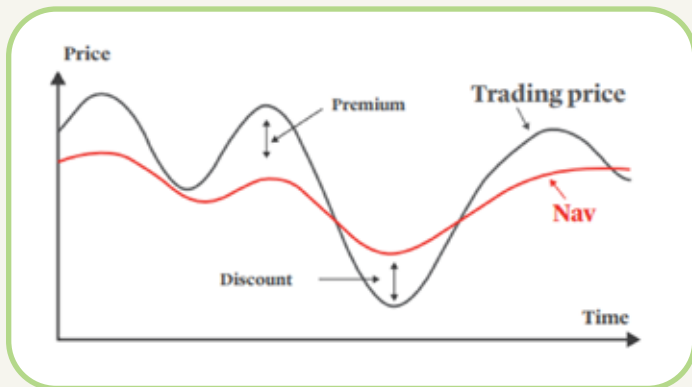
\*Investors should be aware that these underlying components may themselves become less liquid, but this is true of all collective investment funds and is not unique to the ETF structure.

### Myth 3: Fixed income ETF prices cannot be relied on in times of market stress

**Reality: Fixed income ETFs accurately reflect the real-time conditions of the markets while providing price transparency to all investors, even in volatile markets**

During the volatility of the first quarter of 2020, some fixed income ETFs began trading at discounts to the net asset value (NAV) of the underlying bonds in their portfolios.

#### Stylised illustration of an ETF's price relative to its NAV



Source: LGIM. For illustrative purposes only

During normal market conditions, the ETF creation/redemption mechanism by primary market participants means that material premiums or discounts to NAV are rare, and as a result some investors were concerned about this difference between the ETF price and the NAV.

While an ETF's price should generally track its NAV closely, we don't believe investors should be unduly worried by the brief dislocations witnessed during the first quarter of 2020. Rather, the discounts widened because the ETF prices became better reflections of market conditions than the NAV under these extreme circumstances.

This is because the intraday price of the ETF is based on live trading in the ETF, driven by supply and demand, whereas the NAV that's calculated at a single point in the day (and even an intra-day calculated indicative NAV) is based on

the most recently traded or more commonly broker quoted prices in the underlying bonds, which can quickly become stale in extreme market conditions.

The underlying bonds in a fixed income ETF are traded over the counter, which means they are not bought and sold on transparent and widely accessible exchanges like equities or ETFs themselves. If those bonds in the ETF have not traded on a given day, or even that week, the ETF's NAV is based on estimates or outdated pricing. In contrast, an ETF's price is set with each trade through a day, and so is more dynamic than the NAV.

*"ETFs are not papering over the true illiquidity in underlying bonds; they are replacing the underlying bond illiquidity with a new, liquid, market"*

— Matt Levine, Bloomberg Opinion columnist, 15 May 2020

When robust trading volumes are observed, fixed income ETFs can act as real-time indicators of the prices of the underlying basket of bonds. They can therefore be viewed as price-discovery tools. Discounts or premiums can thus arise as the NAVs catch up. They are evidence of the ETFs' efficiency and provide an important tool for capital markets; they are not defects or cause for alarm.

*"ETFs trade continuously, and their liquidity is supported by a variety of intermediaries. As a result, ETFs incorporate information in a more timely manner than the underlying bonds."*

— Sirio Aramonte and Fernando Avalos, 'The recent distress in corporate bond markets: cues from ETFs,' Bank for International Settlements, 2020

### Myth 4: For any given exposure, all index funds are essentially the same

**Reality: Not all indices, and not all index funds, are created equally; some funds are more thoughtful in their design through active input by the asset manager**

Index funds, even those nominally tracking the same asset class or sector, are not homogenous. Investors are already likely to be familiar with issues such as fees, tracking error and rebalancing methodology, but those using fixed income ETFs should also be aware of other important considerations.

### Liquidity and size thresholds

Indices with lower minimum issuer thresholds (i.e. the minimum amount of debt an entity can issue for the bond to be eligible for index inclusion) could potentially face greater challenges with liquidity. For instance, all else being equal, an index that sets a \$500 million minimum issue size is likely to

be more liquid than an index with a \$300 million minimum issue size. On the other hand, smaller sized issues may offer investors a size premium. A thoughtfully designed index should aim to provide better liquidity while retaining a level of access to the size premium that smaller issues may offer.

### Investor crowding around maturity and credit events

Indices by nature are rules-based and transparent. A rules-based trading strategy can however create inefficiencies when many market participants seek to place trades at the same time. Index providers' rules governing the treatment of upgraded or downgraded bonds – e.g. investment grade bonds that are downgraded to a high-yield rating – can lead to crowded trades and forced sales.

### Bonds' performance relative to investment grade index, six months before and after downgrade

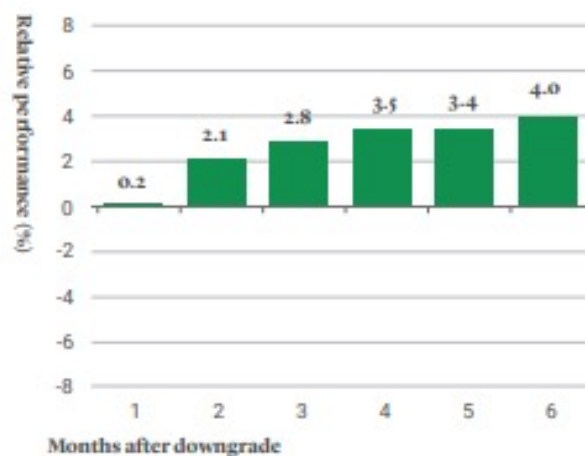
For example, if a bond has to be removed from an index on the last day of the month following a rating downgrade, this could lead to a crowd of investors all selling the same bond at once, thereby depressing its price. However, if an ETF is managed flexibly around these events, investors can benefit from trades that are better timed to potentially extract additional value, as indicated by the two following charts. Similarly, some providers remove all bonds with a maturity of less than one year from the index on the rebalancing date. This can have the same effect of crowded sales as soon as the bond crosses that one-year point. An ETF that can hold bonds closer to their maturity can avoid this congestion and potentially add value for investors.

#### 'Fallen Angels' — 6 months before downgrade relative performance versus IG index (cumulative)



Sources: LGIM, Bloomberg, snf, Markit, iBoxx, Analysis covers GBP corporate bonds for the period from 1 January 2012 to 30 June 2020.

#### 'Fallen Angels' — 6 months after downgrade relative performance versus IG index (cumulative)



Sources: LGIM, Bloomberg, snf, Markit, iBoxx, Analysis covers GBP corporate bonds for the period from 1 January 2012 to 30 June 2020.

### How invested are you anyway?

Coupons accrue through the month and some index providers hold them as cash until the month's end before reinvesting them. This can lead to a cash drag on performance. Thoughtful indices reinvest coupons immediately so that the ETF is exposed to the desired bond market without a cash drag.

### ESG factors and responsible investing

Indices without explicit references to ESG factors in their methodology do not typically incorporate these criteria in their rules and exposure. ESG considerations can be integrated in fixed income indices through approaches including exclusions, tilting, and optimisation. For tilting and optimisation in particular, different processes for creating an ESG score for issuers can lead to different exposures and ESG profiles.

### Conclusion

Our guiding principle in creating strategies and portfolios is that investors should expect more than what is currently available to them given the quickly changing market landscape. We hope the analysis we have shared above illustrates our commitment to considering the critical, but sometimes misunderstood or overlooked, dynamics in fixed income ETFs.

# FIXED INCOME

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2020 demonstrated perfectly that the liquidity of bond universes is vitally important to investors and should be a key consideration when designing Fixed Income ETF strategies. We know too that an increasing number of investors expect their asset manager to recognise the inefficiencies that can exist in traditional market-cap indices, whether equity or fixed income, and in recognising these seek to take advantage of added value opportunities should they arise.

ESG factors are also important when investors consider the outlook for bond issuers, and we don't believe that the traditional market-cap index strategies, first conceptualised so many years ago in fixed income, are able to properly address ESG-related risks.

So, especially in fixed income, proactive steps need to be taken in both the design of the investment strategy and in the management of the portfolio. We therefore encourage investors to scrutinise their fixed income exposures more closely, particularly when it comes to liquidity and embedding ESG standards as a way to mitigate risks, unearth investment opportunities, and align returns to a long-term horizon.

## Key Risk Warnings

Past performance is not a guide to the future.

The value of an investment and any income taken from it is not guaranteed and can go down as well as up; you may not get back the amount you originally invested

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# CAT-BONDS – AN ALTERNATIVE IN A CHALLENGING FINANCIAL ENVIRONMENT



**Harald Steinbichler**  
*Managing Partner,  
axessum GmbH*

**Question: Who are the main issuers of CAT bonds? Is it true that more and more primary insurers are also issuing CAT bonds? (Proportion compared with reinsurers)? Are there country differences (US/Europe/Germany)?**

(A quick note on terminology: the term 'issuing' can easily be misunderstood, since technically it is not the insurance companies that issue CAT Bonds, but the securitization is done through Special Purpose Vehicles (SPVs). This sounds pedantic, but is important in that investors do not bear the general credit risk of the insurance company, since the funds are not on the companies' balance sheets, but remain with the SPV and are given by them into trust accounts).

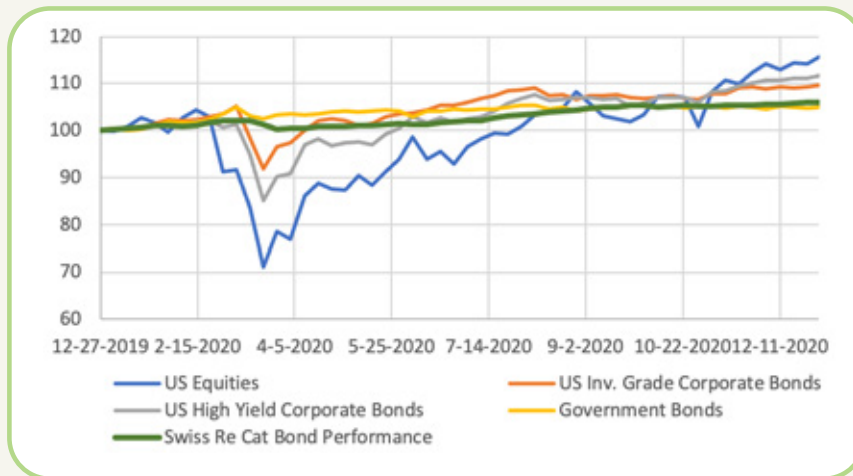
Historically, primary insurers have always been heavily involved as sponsors of CAT bonds. One of the oldest players in the market is the U.S. primary insurer USAA (one of the largest property-casualty insurers in the U.S.), which has been sponsoring transactions with great regularity since 1997. As of the end of 2020, just over 40% of the outstanding market volume of natural catastrophe CAT bonds was sponsored by primary insurers. A good 30% came from reinsurers or companies with mixed business models. The remaining nearly 30% largely fall into two classes. The first is governmental or quasi-governmental organizations or insurers that, as so-called 'state pools,' provide coverage where the private market has withdrawn or has never been involved, and the second is the World Bank, which uses special risk transfer programs to help emerging countries build greater resilience to natural catastrophes or pandemics.

In regional terms, Europe and Bermuda have traditionally had a strong reinsurance industry, whereas the USA has a particularly large number of primary insurers. Japan is also special, as the insurance market there is very concentrated and almost all Japanese risks originate from primary insurance companies.

**Question: Insurance Limited Services are characterized by a low correlation to equity and bond markets. How have correlations evolved since the beginning of the Corona crisis? Have the World Bank pandemic bonds been an exception in terms of correlations or is there generally a higher correlation to bonds/stock markets for bonds securitizing health risks?**

Even though there were slight price declines in the CAT bond market in the first quarter of 2020, the situation was in no way comparable to the highly volatile situation in other segments of the investment markets. CAT bonds have been able to impressively demonstrate their potential as a stabilizing diversifier in difficult market situations.



**CAT Bonds compared to traditional asset classes:**

In principle, bonds covering life insurance risks such as mortality or health insurance costs do not have a higher correlation with other market segments than natural hazard bonds. However, in the case of COVID-19, the pandemic event that caused the market dislocation was precisely the trigger for the default of two World Bank bonds explicitly issued for pandemic risks. (One default 100%, another default 16.6%.) So here we were dealing with a direct functionality, and the strong coupling should not be surprising.

**Question: What are the new developments in insurance-linked securities?**

On the structural side, it is noticeable that for some time (and sometimes more actively, sometimes less so) the World Bank has been bringing CAT bonds to the market with its resilience-promoting programs for emerging markets. An interesting opportunity is also currently available with the first CAT Bond for the Red Cross. The project is nearing completion and offers the opportunity to invest in a bond with volcano risk.

**Question: Regarding climate change, what are the new trends in the design of CAT bonds due to climate change? What role does compliance with the 2/1.5 degree target from the Paris Climate Agreement play in the design of CAT bonds? How are climate risks securitized that follow other scenarios (e.g. 3 degrees)?**

When it comes to climate change, it is important to distinguish between the role of the reinsurance industry in general and the design of individual transactions.

Reinsurance was probably the first industry to take the risks of climate change seriously. Initial research reports and commentaries by Munich Re and Swiss Re date to the 1970s. Today, reinsurance is an important so-called 'enabling' industry for addressing climate change through market-based processes via the monetary feedback provided

to insurance buyers through pricing processes for climate-sensitive risks. The major reinsurers are also very active in the area of research.

However, individual CAT bonds do not focus directly on climate goals. CAT bonds typically have a maturity of three to four years. It is understandable that different climate scenarios, which differ in their impact over decades, are not the main focus of structuring here.

Also, CAT bonds do not per se insure against different realizations of climate scenarios in the sense of trend deviations, but always the expression of climate in specific weather events or other events such as forest fires that are related to climate via drought. (Note that there are, of course, other CAT bonds that cover risks such as earthquakes and thus are not in the climate context). However, through the market's pricing mechanism, such CAT bonds provide feedback and hopefully important fiscal stimulus for economic adaptation to climate change, as described above.

**Question: Which climate scenarios do you base your investment decisions on? Are compensation-based triggers preferable to parametric triggers, and if so, why? Can you give examples here?**

At the portfolio and risk management level, the situation is similar to that for the industry as a whole: CAT bonds have a typical maturity of three to four years and are clearly short-dated compared to climate change time scales. Reinsurance contracts are even shorter, typically 12 months. This means that medium- to long-term climate scenarios are not directly factored into pricing, but expectations for the next few years drive the analysis. In this respect, reinsurance is significantly better positioned than many other industries, which may not be as directly affected by climate-induced risks, but are nowhere near as quick to 're-price' as reinsurance should new insights require a change in positioning.

### Question: Hurricanes and wildfires are on the rise. Do investors have to expect more outages here?

Due to intensive reporting and because of a great sensitivity in the general public for these topics, this impression must arise. However, data and science give a multi-faceted picture. Certainly, it is clear that higher global temperatures lead to a greater amount of heat in the tropical oceans, from which hurricanes can draw their energy. Also, extended dry spells lay the groundwork for catastrophic forest fires such as the recent one in California. On the other hand, one must be careful to keep the big picture in mind when highlighting extremes. The record active 2020 hurricane season in the Atlantic contrasted with the most passive year since 2010 in the Pacific in the same year. Before Hurricane Harvey hit Texas in 2017, we had a record period without a major hurricane (Cat 3 or stronger) striking the U.S. since Wilma in 2005.

Regardless of this, however, we assume in our analysis that CAT bond events will occur more frequently in the future. However, the driver for this does not have to be the increased climate risk, which experienced portfolio managers will manage as best as possible through relatively short-term repositioning as described above, but rather the fact that increasingly non-transparent structured transactions are being pushed into the market, which carry a higher risk of unexpected negative surprises and are uncritically sucked into portfolios by multi-billion large funds.

### Question: What are usually the costs of securitization?

You have to ask the investment banks and global reinsurance brokers who structure the deals. As an investor, we see the bottom line and the coupon versus the risk.

### Question: In which tranches should institutional investors such as pension funds or foundations invest in order to avoid a total loss risk? What risk-adjusted returns can be expected from CAT bonds?

Institutional investors prefer to allocate CAT bonds via specialized CAT bond and insurance-linked fund managers. There is now a whole range of different fund solutions: from broadly diversified CAT bond funds to focused US hurricane CAT bond funds. Worldwide, there are only a few pension funds that hold the bonds in their direct portfolio. Since a CAT bond is 'designed to default', a total loss can never be excluded. However, the market is structured similarly to the credit market: senior bonds are better positioned than junior tranches in the event of a default.

Depending on the expected loss, returns between 1% and 15% are possible for individual CAT bonds. A broadly diversified fund currently has an expected return of 400 basis points above Libor - a dynamic portfolio offers return expectations of around 800 basis points above Libor.

### Question: How attractive are CAT bonds in an inflation environment? How do CAT bond prices develop in an inflationary or deflationary environment?

The return on a CAT bond is made up of the components insurance premium and money market interest rate. In a rising inflation environment, insurance premiums typically increase because the underlying business of insurance policies is subject to ongoing value adjustments. If inflation also leads to an increase in short-term money market interest rates, the investor also benefits from this market trend. However, the increase in the insurance premium only affects newly issued CAT bonds, as the premium is typically fixed over the term of the CAT bond - most CAT bonds have a maturity of three years. The investor benefits directly from a rise in money market rates, as the current 3-mth money market rate is always used in the structure of the CAT bond. A deflationary environment has the opposite effect. It is important for investors to know that a typical CAT Bond fund has an average maturity of 1.5 years with a modified duration of about 0.10%. Thus, changes in the credit spread as well as the interest rate spread have only a very minor impact on a CAT bond portfolio.



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# THE DIGITAL DISRUPTION GENIE IS OUT OF THE BOTTLE



Allan Lane  
Co-Founder,  
Algo-Chain

**As the world of Wealth Management continues to make the transition to a fully digitized eco system, if the first few weeks of 2021 are anything to go by, the disruptive power of FinTech appears to have lived up to its billing. What is not so clear, though, is whether these extreme behaviours constitute nothing more than what some commentators have described as a bout of Digital Tulip mania or if this is a sign of the shift in the balance of power which has shaken the foundations of Wall Street.**

For quite some time now one of the main trends in the Financial Services industry has been the democratization of investing. This philosophy has been cited as one of the attributes that has gone hand in hand with the growth of the ETF industry, but to that we can add a number of other factors which suggests that in the future an increasing level of control will reside in the hands of the end investor.

As with most things in life, as soon as one takes something for granted, along comes an event that really knocks that perception for six. In the world of Wealth Management, that something has been the year-on-year growth of the ETF industry. We first had the news that in the US, brokerage firms will start offering zero-cost trading commissions on ETFs and stocks, but little did we know this one thing would change the landscape way and beyond what anyone of us would have initially imagined. All of a sudden, strategies that were once not cost effective are now fair game. Why pay unnecessary fees to an unessential cog in the ETF eco-system, when under the new rules of zero trading costs, with the help of a platform, one could track your favourite ETF by directly investing in the stocks themselves? What is attractive to an investor that adopts this framework from a tax perspective is the ability to not include those stocks to which they are already overloaded with – or want to exclude or overweight because of personal preferences.

Evolution and not revolution is the word here, and once that barrier has been breached, it is then a simple matter to offer access to customized indexed solutions. In a future where ESG themed investing might become the whole market, this could rapidly turn into a must have requirement on one's own Financial Advisor or Robo platform. To make matters worse, or should I say better, depending on which side of the fence you are sitting, using technology to deliver just-in-time customization is not the end of the story. Later in the article we will cover why new arrivals to the FinTech scene, such as Walmart, are causing concern from New York to London.

It is too early to say for sure which institutional firms will re-invent themselves, but the era of disruptive innovation is well and truly upon us. Indeed, since the 2008 Global Financial Crisis, some economists have espoused the views of Nikolai Dmitriyevich Kondratiev, the Russian economist who lived from 1892 to 1938. Kondratiev's take on what might best be described as creative destruction, was that business cycles come in waves.





Source: George Grantham Bain Collection (Library of Congress)

Each of the five waves since the first one in 1780, has been based around an invention, the steam engine, railways, electrification & chemicals, automobiles and petrochemicals and most recently information technology and the network effect. If, as some suggest, we are entering the sixth wave, it looks as if this will be based around the disruptive impact of Environmental Tech, BioTech & Genomics.

## Market swarming & the role of social media

From an investor's perspective, what a year 2020 turned out to be as many market sectors performed very well. For example, last year the iShares Global Clean Energy UCITS ETF, returned 140% in USD, yet that was put into the shade with a 695% return delivered to investors in Tesla. Little did we know that the real excitement had yet to happen, barely a month into the new year and GameStop, an American video game, consumer electronics and gaming merchandise retailer, had returned 2,000% during a frenzied two-week period.

If this story had only been about small amounts of money changing hands, albeit in an obscure corner of the market, then the professionals as we may wish to call them, could safely ignore it and get back to their job. While precise numbers are in short supply, we are talking multi-billions of market cap changing hands over a very short period as an increasing amount of self-directed investors' investment groups, now synonymous with social trading platforms such as Reddit, Robinhood, and Discord, discussed and with

it fuelled the stock market. In the US alone, it has been estimated there may be as many as 50 million investors who trade on their own account, which if many of them are truly influenced by what they read, is quite a force to reckon with. Couple this with zero-cost trading commissions, and none of us should be surprised to learn that this time it really is different.

To fully appreciate the extent to which interest in the stock markets has played throughout the history of investing one has to only see the photographs that are available at the Library of Congress's digital archive that recall a time in 1905 when a brokerage house on Wall Street had to set up temporary camp beds so the staff could stay overnight at the office and attempt to clear through the backlog of tickertape trades. Irrational exuberance is hardly a new phenomenon, some two years later in 1907, during a three-week period, the market endured a 50% correction, which became known as the Knickerbocker Crisis named after the Trust at the centre of the storm. For those of us who tend to think that after a sharp sell-off the stock market always recovers, think again.

After the 1929 crash it took almost 29 years before The Dow Jones Index retraced its losses! Likewise, I'm not so sure one can take much comfort from Mark Twain who once said that history never repeats itself, but it does often rhyme. During recent times, there has been one extreme market event after another, which does suggest there will be repercussions, but in what form?



## The rise of the model portfolio industry

Much has since been written about how the battle based around the shorting of the GameStop stock pitted the hedge fund industry against the social investment community and the degree to which the industry had underestimated this group of investors. Yet to those who have been tracking the model portfolio industry, it would not have been the first time one has been blindsided. According to a recent article in the Wall Street Journal, the data provider Broadridge Financial Solutions estimates that model portfolios in the US held over \$4 trillion of assets as of September 2020, and to this we can safely add nearly another \$1 trillion if we include the UK. Yet, if you speak to an institutional investor, this is an alien world that they do not inhabit.

Just pause for a moment on that point, can it really be true that there is a \$5 trillion financial industry that the 'professionals' have very little to do with? In short, the answer is yes, and to see why, one needs to simply realize that by their very design, model portfolios are fleet of foot which is in stark contrast to the constraints that so many institutional firms are hemmed in by as regulation and red tape limit their application. Model portfolios do not constitute a legal fund wrapper, instead just think of them as a loose form of a basket of funds and stocks, which leaves a lot of room for artistic merit and interpretation.

Not surprisingly, this flexibility is one of the key reasons they have become so ubiquitous and if Broadridge's forecasts are to be believed, this sector is expected to grow by 19% each year for the next three years.

Notwithstanding their convenience, why have model portfolios proven so successful? With so many assets deposited in these vehicles it would be wrong to characterise them in a single way, but common to many solutions made available by Discretionary Fund Managers to Financial Advisors is the idea of providing a portfolio with a known level of target risk. Of course, building a portfolio using active funds or built on the back of a stock selection framework, should in principle behave different to one constructed using ETFs and other passive investment funds. In practice though, if the manager can stick to the promise of not moving too far away from the advertised level of target risk, model portfolios have an unerring knack of doing what it says on the tin. This has proven to be even more the case with passive buy and hold strategies that by their very nature will deliver the long-term returns, or should we say risk premia, for the level of risk in question. This predictability, in an unpredictable investment world, is exactly what Financial Advisors are looking for when making recommendations to their clients.

When it came to what lies behind the secret of investment management, the US-based ETF commentator, Tom Lydon, once remarked that by using ETFs as the building bricks in a model portfolio, it was essentially game over for the active managers. A view that over time I have come to agree with, particularly as more news filtered through that not all active managers delivered on their promise during the great sell-off and even greater rebound of 2020.

## Will customized indexing upset the continued growth of the ETF industry?

First, we had the news in the summer of 2015 that the size of the ETF / ETP industry had outgrown that of the hedge fund industry, and to that we can now add the observation that model portfolios will account for a significant percentage of the wealth management industry, and as a rule these vehicles do not favour hedge funds when asset selections are being made.

Here we are in 2021 and to that we can add the thousands of retail investors using social media to gang up against the hedge fund titans. In truth if that were the only challenge that the professional investment community faces it is one that they will easily win. The much bigger existential threat comes from the next generation of the platform industry and what can be achieved with smart software and customized services.

As each year passes and the success of passive investing shows no sign of abating, it is getting harder to deny that there is a discernible shift of power from Wall Street to Main Street. Yet no sooner than the news arrives that there is a lot of hope on the horizon as many active fund managers look to launch their strategies within an ETF wrapper, along comes technology to upset the apple cart. Although the current generation of investor platforms offer so much more than they did as recently as three years ago, there is every reason to believe we are on the cusp of significant change. The success of ETFs has been many years in the making, but to that we can now add the latest levers of change as new businesses look to cut out the middle layer by employing technology to offer direct indexing and custom indexing solutions, all of which is only possible in an economy which offers the benefits of zero-cost trading.

While the COVID-19 pandemic was distracting many of us, behind the scenes the M&A industry has been busy with many FinTech transactions taking place. Most noticeably, Morgan Stanley took ownership of Eton Vance who owned Parametric, a direct indexing specialist with \$358 billion

in assets under management (AUM). Likewise, BlackRock recently took a stake in Aperio, a US-based direct indexing platform which manages \$36 billion in AUM.

Almost overnight it is as if 'shared' investment vehicles are so yesteryear and personalization is the new 'cool'. With multiple firms looking to enter the customization arena, it does appear that it is now only a matter of time before these 'better, cheaper, faster' ways of managing one's investments is coming to a robo-shop near you.

### The ultimate threat of Walmart as a distributor of portfolios

In Asia, the success of Ant Group's 900 million users had been so profound that after many years of a hands-off approach, the Chinese regulator stepped in and blocked ANT's IPO back in November 2020. More recently, and just 24 hours after President Xi Jinping said that Beijing would start cracking down on large technology firms, CNBC reported that Alibaba's browser had been removed from app stores operated by Huawei and Xiaomi. A different continent and a different political system for sure, but in many ways the battlelines look very similar. The key difference being one of numbers, in China the sheer size of the user base provides a viewport of what the landscape might look like in the West when FinTech platforms dominate the wealth management industry.

Recently in the US, the world's largest retailer, Walmart, announced that it had set up a FinTech unit which will be headed by Omer Ismail and David Stark, both previously from Goldman Sachs' and instrumental to the success of Marcus, Goldman's D2C retail platform. Initially launched in 2016, Marcus has amassed over \$97 billion in deposits and no doubt will serve as a blueprint to be copied by many of their bulge bracket rivals. One can well understand why both Goldman Sachs & JP Morgan established their own ETF businesses as a way to compete with the success of BlackRock's iShares, particularly as it continues to eat into the market share of active fund managers. It is, however, an altogether different matter to suddenly wake up one day and find that Walmart has parked its tank on their 'Retail Investors' lawn. It has been suggested by some commentators that Walmart intends to build their own super app, much in the spirit of Alibaba, but if they do it will almost certainly redraw the battlelines. This will give a whole new meaning to investing as Wal Mart replaces Wall Street.

Over the last hundred years the interplay between the professional investment community and the general public has not always led to the best outcomes. And to complicate matters, it is not as if one can only lay the blame of irrational exuberance at the feet of retail investors – history is littered with its fair share of professionals who have gone rogue, Bernie Madoff readily comes to mind. Welcome to the sixth Kondratiev wave, what happens next is anyone's guess.



# DOING WELL WHILE DOING GOOD



**Andrew Walsh**  
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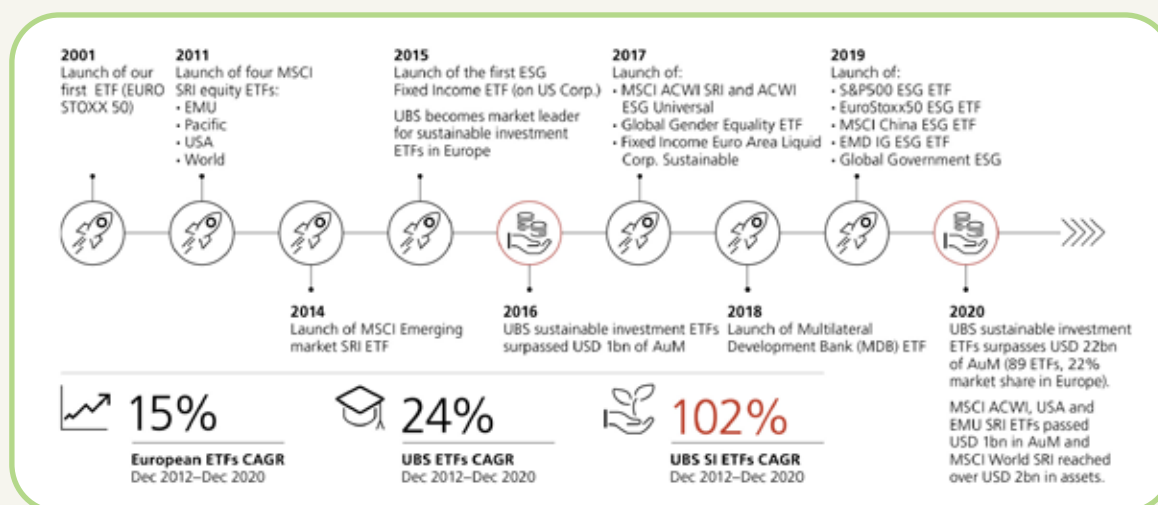
## 20 Years of UBS ETF – 10 Years of Sustainable UBS ETF

2020 represented a turning point for passive sustainable investing. Assets invested in sustainable ETFs (UCITS) have more than doubled over the past year alone, reaching USD100 billion by December 2020. As shown in Figure 1, UBS started its journey in the sustainability ETF space in 2011, a journey that led us to become the second largest sustainable ETF provider in Europe, with USD22 billion AUM (22% market share, ETFGI, data as of 31.12.2020). During these 10 years we have witnessed sustainable investing grow from being a niche investment to becoming a core component of many investors' portfolios. During this time we have had the unique opportunity to engage with our clients, exchanging feedback and ideas which then constituted the basis for our product development phase. This has helped us to constantly remain at the forefront of innovation and being the first to bring innovative sustainable solutions to the market. For example, UBS ETF was the first provider to have launched ESG variants of the flagship S&P 500 and Euro STOXX 50 in 2019, launching thematic exposures like Sustainable Bank Bonds or Gender Equality, as well as starting with Fixed Income sustainable ETFs already in 2015.

## Our sustainable value proposition

The product range today consists of 13 ESG ETFs covering equities and 7 ESG ETFs in fixed income, all offered in different currency-hedged versions in order to enable investors to build global sustainable portfolios. Our shelf is built in order to offer different shades of green: some funds use a light-green screening that excludes only few controversial activities and ESG laggards, while other products have a dark-green approach that selects only highly rated companies and excludes a broader list of controversial activities. The cornerstone of UBS' ETF offering is our 'dark green' line of products, which track MSCI SRI indices and select only the top 25% of the highest ESG-rated companies from respective universes. As shown in Figure 1, this set of products has been live since 2011 and UBS currently offers the widest selection of ETFs tracking MSCI SRI indices, spanning over nine different geographies and multiple currency-hedged share classes. During this decades' worth of experience with SRI solutions we've witnessed a constant evolution of sustainable investing, with certain themes like climate change rising to the top of investors' agendas. Recently many of our clients have expressed a desire for a 'dark green' approach with an additional focus on climate change elements. For this reason we have worked closely with MSCI to create a unique customized solution that maintains the SRI best-in-class characteristics of our ETFs, which further improves the climate risk profile while limiting exposure to stranded asset risk. This new approach will ensure SRI investors can address their climate change concerns in a very focused way while also addressing the various metrics across the ESG framework.

Figure 1: UBS ETF – pioneer in sustainable investments



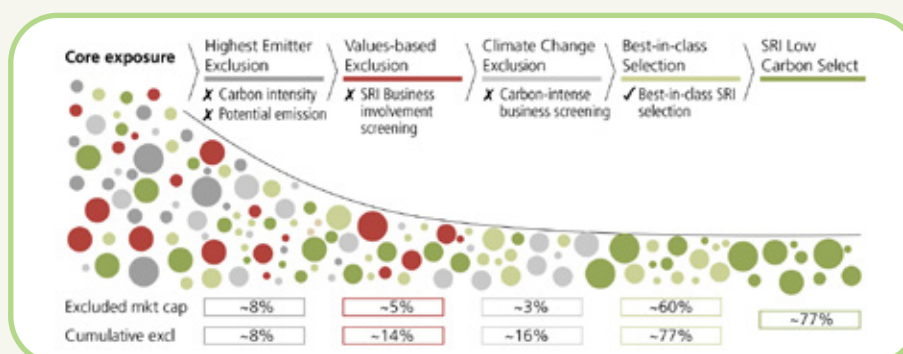
Source: UBS Asset Management, ETFGI, Morningstar. Data as of December 2020.

## The enhancements in a nutshell

As of December 2020, our UBS SRI ETFs changed benchmarks to the new MSCI SRI Low Carbon Select 5% Capped indices. As you can see in Figure 2, these indices are constructed in four distinct steps, with the best-in-class SRI selection remaining the cornerstone of the methodology. Starting from a core exposure, we first exclude the highest carbon emitters, which are identified as the worst 10% securities (by number) in terms of carbon intensity and potential emissions. In a second step, we perform values-based exclusions which are in line with the standard MSCI SRI approach by removing companies deriving revenues from activities such as Controversial Weapons, Tobacco, Alcohol

and others. Subsequently, companies that fail to meet our new 'Climate change based exclusions' criteria (listed in Figure 3) are removed as well. As depicted in the table, MSCI also performed changes to its standard SRI methodology, but we went one step further by adding additional activities and lowering the revenue thresholds to the minimum possible. The final step remains the best-in-class SRI selection which aims to screen out of the portfolio companies that are involved in controversies or are ESG laggards, and in addition selects only the top 25% ESG rated companies per GICS sector.

Figure 2: Methodology overview



Source: MSCI, UBS Asset Management. Exclusion criteria as per November 2020 index rebalance. Weights from MSCI World as 1 December

Figure 3: Climate Change Exclusions

Climate Change Based Exclusions	MSCI SRI Market Consultation	MSCI SRI Low Carbon Select <sup>New</sup> UBS
Thermal Coal Mining	0% ■■■	0% ■■■
Thermal Coal Power Generation	5% ■■	0% ■■■
Unconventional Oil & Gas (Oil Sands, Shale Oil & Gas, Arctic Drilling, etc.)	0% ■■■	0% ■■■
Conventional Oil & Gas	N/A	0% ■■■
Oil & Gas Power Generation	N/A	0% ■■■
Fossil-Fuel Reserves Exclusions	✓	✓
Carbon Emission Exclusion Criteria	N/A	10% ■■■ Heaviest Emitters

Source: MSCI, UBS Asset Management. Data as of December 2020. For illustrative purposes only.



## Doing well while doing good

From a performance perspective and using MSCI World as an example, we can see in Figure 4 that our new approach (World SRI Low Carbon Select 5% Capped) has shown a historically better performance when compared to both the parent benchmark and our previous SRI benchmark (World SRI 5% Issuer Capped). As shown in Figure 4, you notice how this excess return also combines with a lower volatility, which results in an overall improved risk-return profile for the new benchmark. When looking at the tracking error versus the parent benchmark, the figure is slightly higher for the new solution. This is however expected, as the additional exclusions are moving our portfolio further away from the

parent benchmark. Nevertheless, this tracking error translated to higher performance. Along with these risk-return metrics, you can also notice how the additional exclusions translated into a substantial improvement from an ESG rating and a carbon footprint perspective for the new benchmark. More specifically, the weighted average carbon intensity of the MSCI World SRI Low Carbon Select is reduced by two thirds when compared to the SRI, and by three quarters when compared to the parent MSCI World.

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**Figure 4: A step further in climate-change**

	MSCI World	MSCI World SRI 5% Capped	MSCI World SRI Low Carbon Select 5% Capped
<b>Returns p.a.</b>	12.18%	13.52%	14.04%
<b>Volatility p.a.</b>	16.08%	15.72%	15.34%
<b>Sharpe Ratio (Rf=0)</b>	0.76	0.86	0.92
<b>Tracking error vs MSCI World</b>	0.00%	2.06%	2.72%
<b>Weighted Average ESG Score</b>	6.1	7.8	7.9
<b>Weighted Average Carbon Intensity tons CO<sub>2</sub>e/USDm sales</b>	140	81	35

Source: Bloomberg, MSCI, UBS Asset Management. Data from end-December 2014 to end-December 2020. Includes backtested data. Past performance is not a reliable indicator of future results.

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# THE CASE AGAINST EM EQUITIES



Nicolas Rabener  
Founder & CEO,  
FactorResearch

- EM equities are highly correlated to US stocks & high yield bonds, limiting diversification benefits
- They outperform primarily when the USD is depreciating, making it a currency play
- The largest MSCI EM index members will experience 50% population declines

## Introduction

Seeing latex slowly dripping out of rubber trees into wooden bowls on a plantation in Malaysia was a fascinating experience as teenager. We had a great local guide that described how the milky substance had to be collected daily, which would then be processed into rubber. He also mentioned that he was living on the plantation with his seven children, which he attributed to the lack of electricity post sunset.

Many people expected the COVID-19 crisis to result in a population boom. After all, most couples have been locked up with not much to do. However, some preliminary statistics for 2020 show that in some countries the number of births actually declined. In China, there were 15% less births according to their Ministry of Public Security. In South Korea, deaths exceeded births for the first time as per their health ministry.

Low birth rates are not only an issue for developed markets, but also for many emerging ones. Given that the change in the working population is one important driver of GDP, this trend will result in lower economic growth. In turn, this makes the long-term outlook for stocks less attractive.

Emerging markets (EM) stocks have been marketed in recent times as a way to escape the expensive valuations of US equities. Although the performance of EM stocks has been disappointing over the last decade, investors should be forward and not backward looking. However, there are also some structural arguments against emerging markets stocks that investors should consider, and we outline them in this research note.





## Valuations are no longer cheap

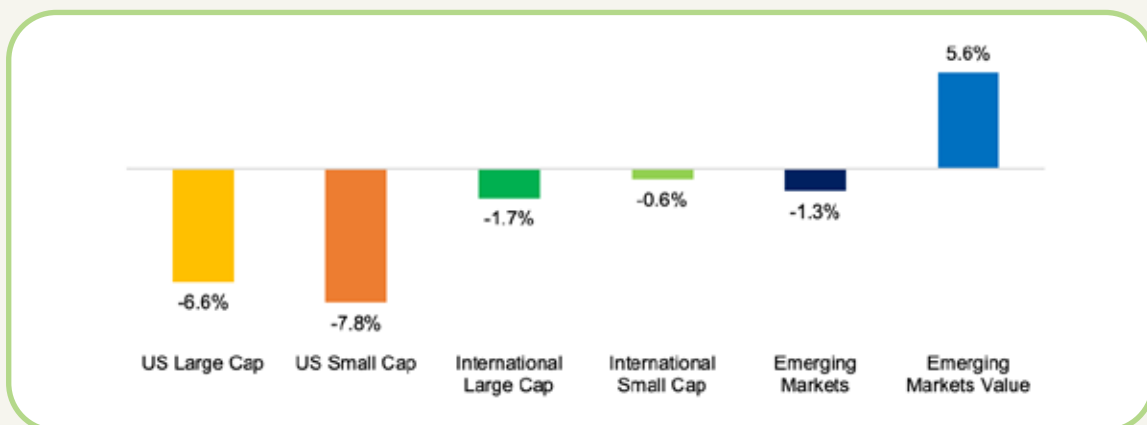
The average price-to-earnings multiple of the MSCI EM Index, which is the most well-known and tracked index for emerging market stocks, is approximately 20x currently. It is roughly comparable to that of international stocks, but significantly lower than the 28x for the S&P 500.

However, EM stocks cannot be considered cheap at these levels anymore. GMO, a large US asset manager, provides a seven-year forecast of real returns for stocks that is primarily based on valuations. We observe that EM stocks look

attractive on a relative basis, but investors are still expected to lose money in real terms. Only buying EM stocks with a value tilt seems attractive to GMO currently.

Naturally, this is only the perspective of one asset manager and expected returns would increase when markets and multiples decline. It is more a tactical rather than a strategic argument against EM stocks.

**GMO's 7-Year Real Return Forecasts for Stocks**



Source: GMO (Q4 2020), FactorResearch

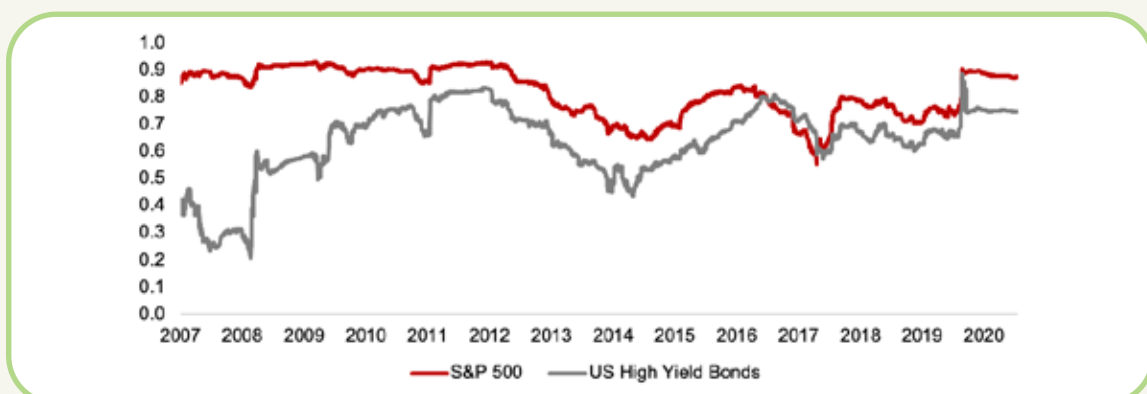
## Lack of diversification benefits

Investors should aim to have diversified portfolios, which requires uncorrelated instruments and asset classes. However, the global economy has become much more integrated over the last decades. Global stock markets are highly synchronized, making diversification more difficult. We observe that the correlation of EM equities was 0.8 to the S&P 500 and 0.6 to US high yield bonds between 2007 and 2021. The correlation decreased during some

years, but spiked during crisis periods like March 2020, which unfortunately is when diversification benefits were most needed.

Given these high correlations, investors should consider EM stocks more as a replacement for US equities or high yield bonds as it essentially provides similar risk exposures.

**EM Equities: Correlation to S&P 500 High Yield Bonds**



Source: FactorResearch

## EM equities is a bet on a depreciating US-dollar

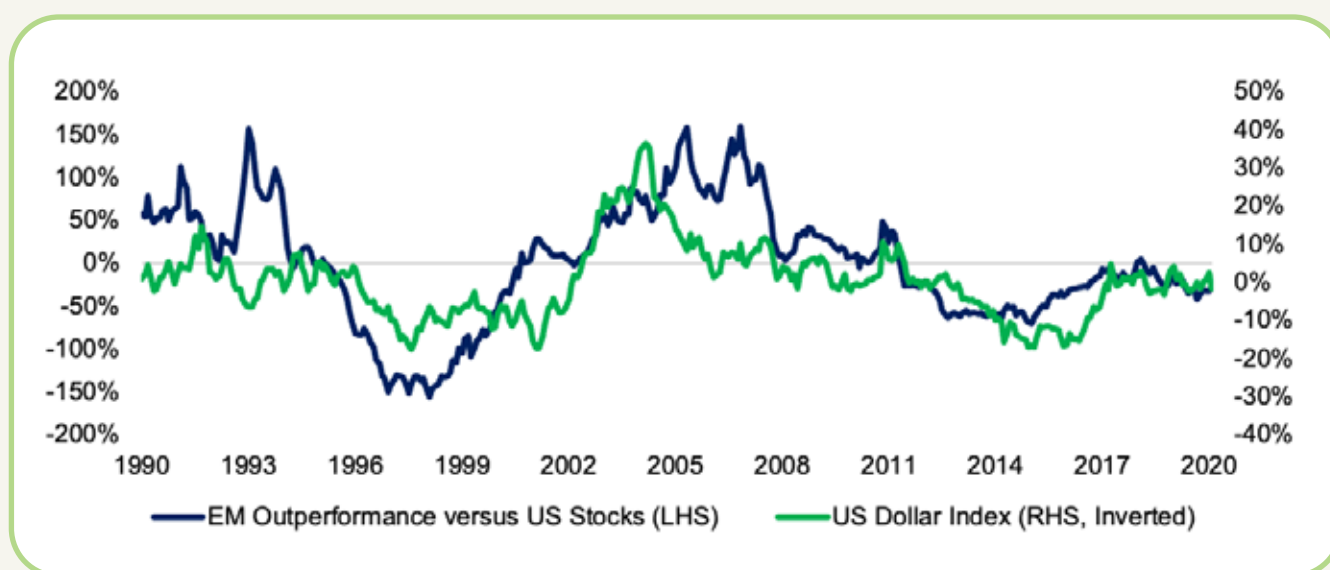
Most emerging markets are dependent on the US-Dollar, in one way or the other. It might be a country like India that needs to import oil for domestic consumptions, or a country like Argentina that sells its agricultural products in international markets. Almost all commodities are priced in the US-Dollar and changes in the currency impact these economies.

We can demonstrate this relationship by comparing the outperformance of EM to US equities and the inverted US dollar index. We observe that EM equities outperformed

when the US-Dollar depreciated. It is not a perfect relationship (there are none in finance), but it held broadly in the period between 1990 and 2020.

Given this, investing in EM equities compared to US stocks requires a view on the US-Dollar. However, investors have a poor track record in speculating on currencies and even if they were skillful at timing FX movements, then it would be far more efficient to directly go long or short the US-dollar via futures.

**EM Equities Outperformance vs US Dollar Index (Inverted): 3-Year Rolling Returns**



Source: FactorResearch

## Massive population declines in EM markets

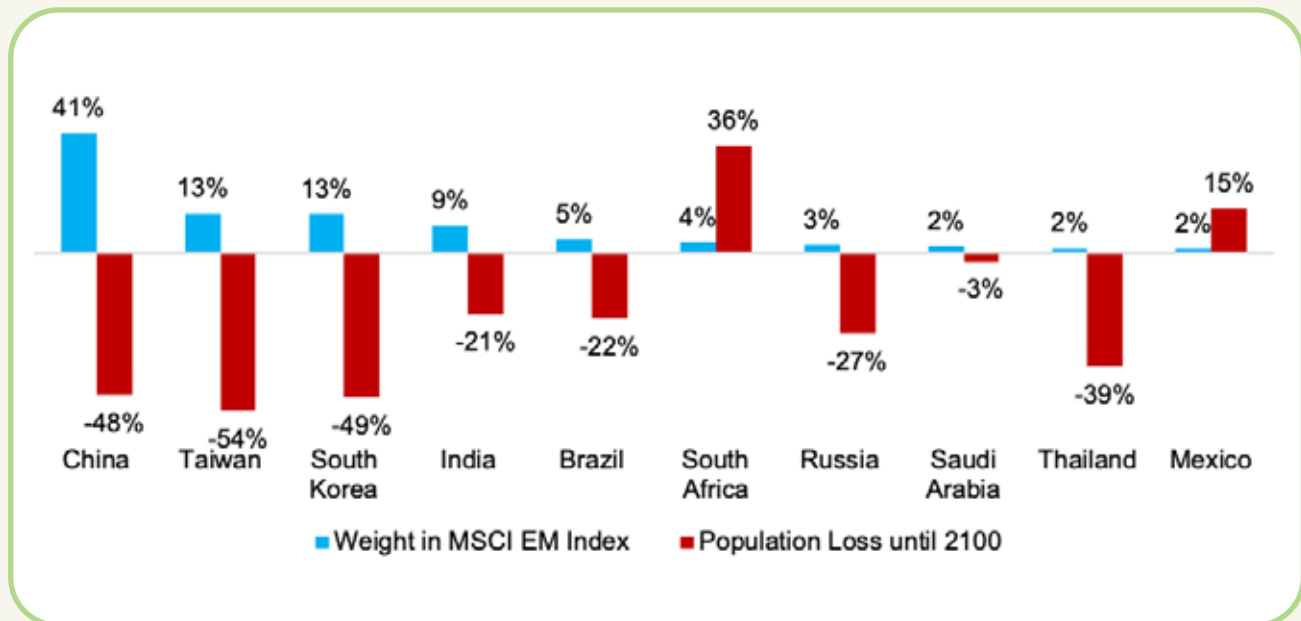
As highlighted in the introduction of this research note, some emerging market countries have exceptionally poor demographic outlooks.

Three markets, namely China, Taiwan, and South Korea, constitute 67% of the stocks in the MSCI EM Index. Each economy is expected to lose approximately 50 per cent of its population until 2100, which is a cumulative 720 million people.

The top 10 countries, representing 93% of the index constituents, are expected to lose 1.1 billion people over the next 80 years. In fact, only two out of these ten countries, South Africa and Mexico, are forecasted to increase their populations, representing only 5% of the index constituents.

It is difficult to fathom the amount of damage these population declines will do to these countries and the global economy. The human civilization is built on a steadily expanding global population, not a diminishing one. For example, most Chinese invest in property. Half of the residential properties will become permanently unoccupied, resulting in massive wealth destruction. Using a classical framework for reference, it is hard to imagine increases in productivity large enough to overcome this reduction in labour.

A counterargument is that the index composition will change over time, which is naturally true. However, these index changes are slow and the majority of EM countries with better demographic profiles are found in Africa. Unfortunately, that continent has consistently disappointed to generate steady economic growth and evolve into more stable regimes over multiple decades, so investors may be sceptical on it carrying EM indices to new heights.



Source: Article by Professor Vollset et al in Lancet (July 2020), MSCI, FactorResearch.

## Further thoughts

EM specialists would likely argue that their skill is in picking the right stocks in the right countries. However, generating alpha seems as difficult in emerging as in developed markets, despite all the information asymmetries and less efficient markets. For example, the S&P SPIVA Scorecards show that more than 80% of the mutual fund managers in Mexico, Brazil, and India did not manage to beat their benchmarks over a five-year period.

On a different note, it is worth noting that although this article is making a case against investing in EM equities, it is more from an absolute than relative perspective. Europe and Japan also feature poor demographic profiles and the US stock market features exceptionally high valuations, which typically leads to low or negative long-term returns.

Investing in stocks today is like being between a rock and a hard place, with the low-hanging fruit harvested a long time ago.

## About FactorResearch

FactorResearch is a financial technology company headquartered in London, UK, with staff in the US and Asia. We empower investors to optimize their investment portfolios and ultimately improve their investment outcomes. In addition to our quantitative solutions, we publish finance research on a consistent basis to educate ourselves as well as the investment community.





# WHAT DOES THE WORLD'S SECOND LARGEST BOND MARKET HAVE TO OFFER?



Dr. Xiaolin Chen  
Head of International,  
KraneShares

**The opening of the onshore financial markets means that China's bond market is now accessible to foreign investors. With low to negative yields pervading the sovereign debt market in much of the developed world, China is one of the only major economies offering an attractive risk-free rate.**

In 1981, China issued its first government bond to the public. My mother, a radio broadcaster at the time, alerted the public to the new issue. I remember when she and a few of my relatives queued outside of a retail bank to buy the bonds. After all, their choices for investing were limited back then and, consequently, issuers in the domestic bond market did not need to worry about finding investors.

Much has changed since then. As China's economy and financial sector develop, the Chinese public has an ever-expanding universe of stocks, bonds, and other financial instruments to invest in. While China's government bonds (CGBs) have perhaps become less relevant to the Chinese investor, they are more relevant than ever to the global investor.

The opening up of China's onshore bond market has been led by reforms of the quota and disclosure requirements for foreign investors and, most importantly, the establishment of the Bond Connect program, which allows foreign investors to purchase onshore bonds through accounts in Hong Kong.

As a result of these reforms, in April 2019, RMB-denominated government and policy bank bonds were added to the Bloomberg Barclays Global Aggregate Index for the first time. Subsequently, both JP Morgan and FTSE Russell have announced similar efforts to include China government bonds in their flagship indexes. The market anticipates over \$300 billion in inflows to the onshore bond market because of inclusion.



Hui Xu, Dr. Xiaolin Chen's mother, at the local radio broadcast station in Heilongjiang province, where she announced new government bond issues.

**Bloomberg Barclays**

April, 2019 to December, 2020

**Inclusion Type:** Sovereign and semi sovereign

**Bonds to be Added:** 322 onshore China government and policy bank bonds

**Weight Increase:** 0% to 6%

**Expected Inflows:** \$150 billion

**Flagship Index:** Bloomberg Barclays Global Aggregate Bond Index

**Notes:** This is earliest and most comprehensive inclusion among the index providers


**JP Morgan**

February, 2020 to November, 2020

**Inclusion Type:** Sovereign

**Bonds to be Added:** 9 China government bonds

**Weight Increase:** 0% to 10%

**Expected Inflows:** \$20 billion

**Flagship Index:** JP Morgan Government Bond Index – Emerging Markets Global Diversified

**Notes:** This inclusion process was delayed in March 2020 due to potential implementation risk stemming from COVID-19 pandemic.

**J.P.Morgan**

**FTSE Russell**

October, 2021 to October, 2022

**Inclusion Type:** Sovereign

**Bonds to be Added:** TBA

**Expected Inflows:** \$150 billion<sup>4</sup>

**Weight Increase:** TBA

**Flagship Index:** FTSE Russell World Government Bond Index

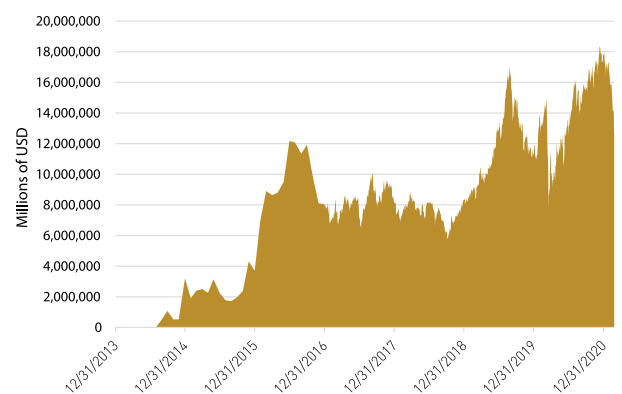
**Notes:** Implementation details will be published in March 2021.



Source: Bloomberg, JP Morgan, and FTSE Russell. See below for index definitions.

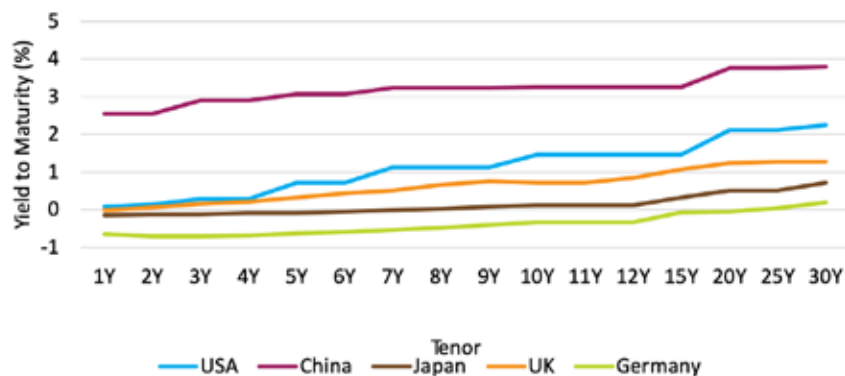
It has now been over a decade since I first heard the phrase 'hunting for yield' and the task is proving to be even more challenging today as 25% of global debt worth nearly \$14 trillion currently carries a negative yield.<sup>1</sup> Fixed income investors now must either move up the risk spectrum or go for extra-long-dated bonds to achieve a positive pick up in yield.

Unlike central banks in developed economies, China refrained from pursuing an ultra-low interest rate monetary policy in response to the pandemic. It is now one of the only countries with both a strong economy and high yields. Furthermore, the steepness of China's yield curve also offers a safety buffer, which is not a given in developed markets. The 10-year China Government Bond (CGB), for example, currently offers around a 180 basis point<sup>2</sup> yield pick-up over the 10-Year US Treasury. China's sovereign yields are significantly higher than most developed economies on both a real and nominal basis. Compared with the rest of emerging Asia, China offers a higher credit rating without much compromise in the way of return.

**Negative Yielding Debt Worldwide\***


Date from Bloomberg as of 3/Mar/2021. \*Within the Bloomberg Barclays Global Aggregate Bond Index

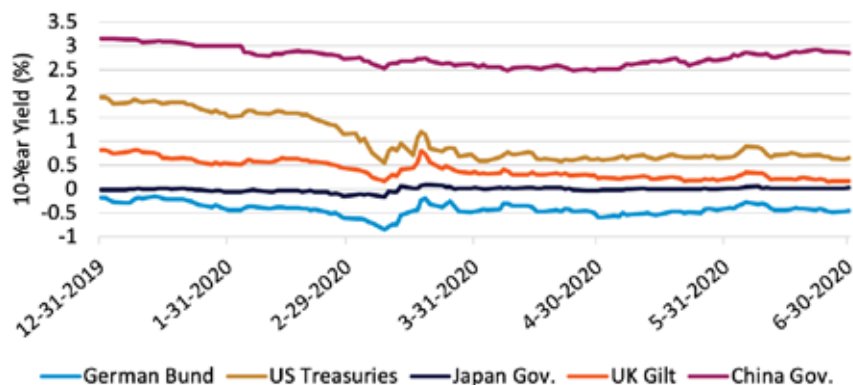
## Sovereign Curves



Data from Bloomberg as of 4/Mar/2021. Curves are for illustrative purposes only. Securities may not be available at every maturity.

During the flight to cash seen globally in late February and early March of last year, China's government bond yields exhibited stability compared to their regional peers. Chinese policymaking is usually more self-styled to reflect domestic economic needs, rather than adhering closely to other global central banks.

## Government Bond Yields During Coronavirus Outbreak



Data from Bloomberg as of 30/Jun/2020

According to our analysis, over the past five years, CGBs exhibited a correlation of under 15% to government bonds issued by the US, Japan, and Germany.

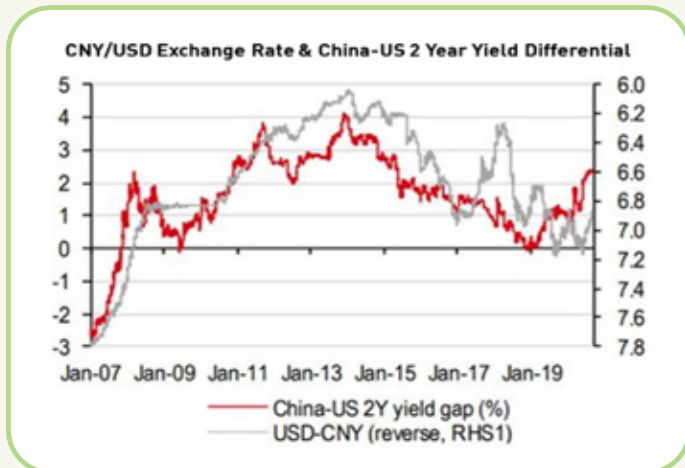
## Correlation Matrix

	China Gov.	Japan Gov.	Treasuries (US)	German Bund
China Gov.	1.00			
Japan Gov.	0.07	1.00		
Treasuries (US)	0.01	0.55	1.00	
German Bund	0.00	0.57	0.75	1.00

Weekly Correlation Data from 12/31/2015 - 12/31/2020. Sourced from Bloomberg.

China's interest rate differential versus the US and other major economies has reached a record high due to divergent central bank policies. The current two-year rate differential between China and the US suggests that the Renminbi (RMB) may continue to appreciate versus the dollar.

### CNY/USD Exchange Rate & China-US 2-year Yield Differential



Source: CEIC, HSBC

China's current account surplus is widening and expected to stay wider for longer due to favorable terms of trade and a sharp decline in imports. Meanwhile, China's exports soared in 2020 and, despite headlines, the country continues to occupy a central role in global supply chains. All of this means that China will continue to be flush with foreign reserves, allowing the country to maintain a high sovereign credit rating.

Market data shows monthly average inflows of around \$10 billion into China's fixed income market in 2020<sup>1</sup>, which has resulted in consistent demand for RMB. This is occurring before FTSE has even begun its inclusion of RMB-denominated bonds into its indices, which is expected to drive at least another \$150 billion in inflows<sup>3</sup>. Additionally, we expect equity inclusion to resume this year, which will also drive demand for RMB.

Moreover, the PBOC is keen on promoting RMB internationalization by accelerating market reforms and capital account liberalization. Given the yield advantage, strong portfolio inflows, and the expected widening of China's current account surplus are all supportive of long-term RMB appreciation.

China bonds have become easier than ever to invest in. Regulators have been delivering on their promises to remove investment quota restrictions, provide clarity on tax rules, and lengthen the bond settlement cycle. In November 2018, regulators announced that foreign investors would be

exempt from taxation on all types of onshore bonds until at least November 2021.<sup>5</sup> This makes investing in CGBs and policy bank bonds all the more attractive to global investors.

Since the Bond Connect program was introduced in 2017, the issuance of CGBs has risen by nearly 8x. At present, CGBs are primarily owned by institutional investors including banks. China's banks hold 60% of central government and policy bank bonds and typically hold them to maturity as long-term investors.<sup>6</sup> Although foreign investors bought one third of the net supply of CGBs in 2019, their ownership of the market, at just 2% according to the People's Bank of China (PBOC), remains low compared to more internationalized sovereign debt markets such as the US and Japan.<sup>6</sup> For example, over 30% of bonds in the US are owned by foreigners.<sup>7</sup> This suggests that there remains significant room for investors to allocate to the asset class.

China issued nearly RMB 4 trillion worth of CGBs in 2020, which is almost 130% more than in 2019.<sup>6</sup> However, issuance may fall throughout 2021 as the central bank adopts a neutral policy stance. Therefore, now could be an excellent entry point into the market.

## Conclusion

China's bond market offers a unique investment opportunity due to its outlier status in terms of yield. With a low correlation to other financial assets and billions of dollars still expected to be invested due to continuing inclusion efforts, this opportunity has yet to be fully realized by the global investment community. We believe this asset class matters to clients' portfolios. The second-largest bond market in the world can offer global investors tax-free, enhanced returns and diversification benefits. In addition to the benefits of owning the market, at \$15 billion<sup>4</sup>, it is simply too big to ignore.

I continue to be amazed at how much has changed in China in the nearly 40 years since 1981 and how much the country will change over the next 40 years. Back then, my savings-minded family had to wait in line at a physical bank to get their hands on the only financial asset available to them. Nowadays, Chinese citizens can invest in a wide variety of securities and investment products with ease using cutting-edge financial technology platforms that have become ubiquitous. It is truly remarkable that the same bonds that Chinese investors flocked to back then are now enjoying a moment in the spotlight for yield-seeking international investors.

**Citations**

1. Data from Bloomberg as of 31/Dec/2020.
2. Data from Bloomberg as of 4/Mar/2021
3. Estimates Sourced From Index Providers: Bloomberg, JP Morgan, FTSE Russell
4. Data from the Bank for International Settlements (BIS) as of 31/Mar/2020.
5. "Financial Services Tax News Flash: China issues formal tax regulation for three-year tax exemption on bond interest for foreign investors," PWC. November, 2018.
6. Data from the People's Bank of China (PBOC)
7. Shu, Chang. "China's bond market is too-big-too-ignore," Bloomberg Professional Services. 18 April 2019.

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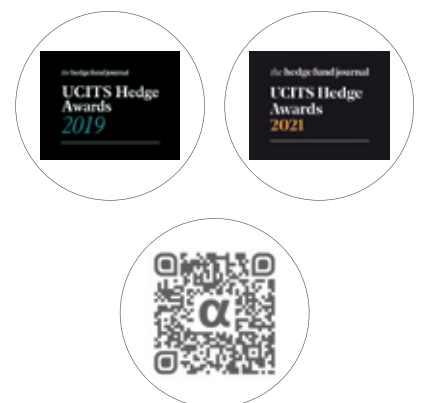
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# EXPLORING SCARCITY AND EXPONENTIALITY IN DIGITAL ASSETS



**Regina Costello**  
*TEP and CFP, Editor  
European  
Investment Journal*

At the end of April, NFL player Sean Culkin disclosed in an interview<sup>1</sup> to 'convert', i.e. average-cost, his entire salary for the season into bitcoin. The rationale: "Expenses in fiat. Savings in bitcoin." Why not, the 27 year-old professional reasoned, take this generational and asymmetric bet to save money in an asset which appreciates 200% plus against devaluing fiat monies. Signs of a mania or signs of transformative changes? We suggest, it is rather the consequence of network effects benefitting its users, shifting trust, and an exponential focus of human ingenuity. But it is definitely also part of the melt- up story with an asymmetric feature: an asset boom thanks to ultra-low interest rates and massive interventions from central banks and governments.

## The ground floor

### Bitcoin

The indisputable fact is that the inventor of Bitcoin created the rationale for a trusted instrument, even infrastructure, via an unchangeable public ledger outside the traditional financial system. A non-manipulative database of information eliminates the need for trust, or trusted third parties. And challenges the current fabric of our economic and financial system. The supply of Bitcoin is limited to 21 million and the creation of coins is slowed by a halving mechanism every four years. Clearly a contrary concept to the inflationary action of our central banks. And one which intends to create scarcity by limiting supply within a proprietary network. Its proponents argue its superiority to gold, as the latter's supply expands by about two percent a year. Bitcoin's technical architecture works well as a store of value, but less as a payments or transfer network.

At the core of bitcoin lays the narrative of the world's hardest money in a new, fairer financial system. It is fair as the participants profit from a network effect: the more people join and buy Bitcoin, the more it goes up in value due to restricted supply. The institutional acceptance has been increasing, a sign of an almost exponentially growing network, and Michael Sayer, CEO of Microstrategy, has published an extensive study on holding Bitcoin as a treasury asset<sup>2</sup>. However, when we look at Bitcoin's merits, traditional valuation metrics seem to be less influential than the overarching reach of big data and behavioural economics<sup>3</sup>. In the case of Bitcoin, scarcity enables the concentration of value, but it does not create value itself. One has to bear in mind that the expression of the value of such an ecosystem is always to be regarded in relation to other ecosystems.

<sup>1</sup> Business of Sports Podcast with Andrew Brandt, April 27th, 2021.

<sup>2</sup> <https://www.microstrategy.com/en/bitcoin/bitcoin-for-corporations>.

<sup>3</sup> "The inconvenient truth about crypto currencies", Raoul Pal via RealVision Macro Insiders, Jan. 2021.

## Altcoins

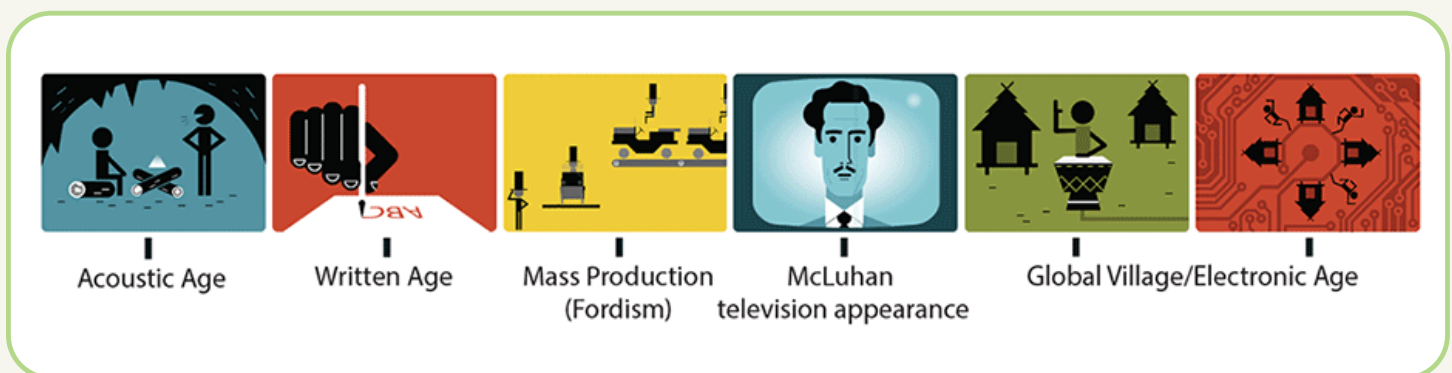
According to Investopedia, altcoins are cryptocurrencies, or blockchain protocols, other than Bitcoin. They differ from Bitcoin in providing new or additional capabilities, such as smart contracts or low-price volatility. As of March 2021, there were roughly 9,000 cryptocurrencies, giving it a taste of the Wild West. Almost forgotten, but a catalyst for the development of the crypto ecosystem and the increasing involvement of central banks, was the attempt of Facebook in 2019 to create a global digital payment system with Libra, a stable coin now renamed Diem.

## Stable coins versus utility tokens

Different blockchain and crypto protocols serve different needs. One can look at the development of complex blockchain protocols as Lego blocks of a new financial

infrastructure, fulfilling varying degrees of speed, flexibility, levels of trust, and scalability. Stable coins are linked to the US-Dollar and enable the efficient transfer of fiat currencies into the crypto ecosystem. However, altcoins attracting the most attention belong to the best projects and companies in the blockchain space. Blockchain companies issue their own cryptocurrency tokens and make those tokens a requirement to interact with their platforms. If a platform adds value, and thus creates a lot of users, the price of the token will increase, potentially as exponentially as the network of participants increases. Therefore the qualifying characteristic for the success of crypto assets is generally the rate of adoption. Similar to the development of the internet, this ecosystem will produce a vast amount of failures and successes among the contestants. To put the crypto ecosystem in a historical context, this seems to be the next revolution for civilization (Graph 1).

Graph 1



Source: Marshall McLuhan via "Into The Void: Where Crypto Meets The Metaverse", Febr. 2021

## The new infrastructure

### Ethereum

Ethereum is currently the second largest protagonist behind Bitcoin, providing a digital ledger technology with scalability. Its narrative is focused on technical merits as it serves as a platform for the internet of value and forms of programmable money. In effect, this is an enabler of smart contracts and other new digital value-exchange ecosystems at a fraction of the cost of traditional execution. It is used in such a multitude of applications that it currently<sup>4</sup> generates a daily fee income of US\$27 million. Notable examples are (1) the issuance of a €100 million two-year digital bond on an Ethereum ledger by the European Investment Bank on April 27, 2021 and (2) an equity raise by Fatburger at the end of

2019, using Ethereum to track that equity raise. Due to its success, Ethereum is now experiencing growing pains and it will be interesting to see the evolution, also in comparison to its competitors. One can argue that the value being concentrated in Ethereum is derived almost entirely from a combination of its adoption (network effects), but also its lower switching costs away from Bitcoin as a challenger net-work. But as a comparison<sup>5</sup> with bitcoin shows (Graph 2), active addresses seem to be the primary determinant of price action. It is not out of the question that the exponential potential will give rise to an even larger price movement than Bitcoin.

<sup>4</sup> February 2021, Joe Lucin, co-founder of Ethereum, in an interview with Pantera Capital.

<sup>5</sup> Graph from Raoul Pal's Twitter (@raoulGMI), May 10<sup>th</sup> 2020

Graph 2



## Smart contracts – DeFi (Decentralized finance) and NFTs (Non-fungible tokens)

**Decentralized finance (DeFi)** stands for a system without human interaction. It is powered by codes which execute so-called smart contracts automatically on a blockchain protocol. By its immutability, this technology can eliminate the middleman function on which our current financial and economic system is based. Its potential for cost saving and use is enormous: keeping track of a supply chain, ownership register for e.g. real estate, executing contracts, and many more daily forms of our economic life.

Scarcity is the concept of **non-fungible tokens (NFTs)**<sup>6</sup>, as they become widely usable and valuable by their characteristics: a unique representation of assets in the digital world, interoperability (through open token standards) and, by this, tradability on open market places. Ethereum is currently the standard with the widest usage. Developers can ensure immutability and scarcity by encoding this on the chain, a unique form of certification on a digital ledger. This is especially important for collectibles, such as art, but also real estate and other valuables.

Currently, all digital goods exist in their own digital siloes. Until now, exchanges perform the purpose of mediating the interchange between them. The development of non-fungible tokens is important as they provide for a new layer on top of a blockchain protocol, being able to transparently manage a decentralized representation of digitalized assets.

As such, they validate scarcity, uniqueness, and authenticity of those assets via the blockchain technology. Examples of early non-fungible assets are internet domains, but also costumes in the free-to-play game Fortnite.

## Welcome to the virtual world

Technological advancements in Virtual Reality (VR) and Artificial Reality (AR) in connection with this new technological infrastructure have made it possible to create a virtual world in which the participants are the actors. Virtual real estate, equipment & services, and entertainment are represented by tradable tokens. They gain and retain value by the user base of the digital universe. This contrasts with the current internet regime in which we, the participants, are the product. Originally dubbed as cyber space, it is now known as metaverse: standing for the combination of universe and the Greek preposition for 'beyond'. A definition will clarify this new concept: 'a persistent, live digital universe that affords individuals a sense of agency, social presence, and shared special awareness, along with the ability to participate in an extensive virtual economy with profound societal impact.'<sup>7</sup> (Graph 3)

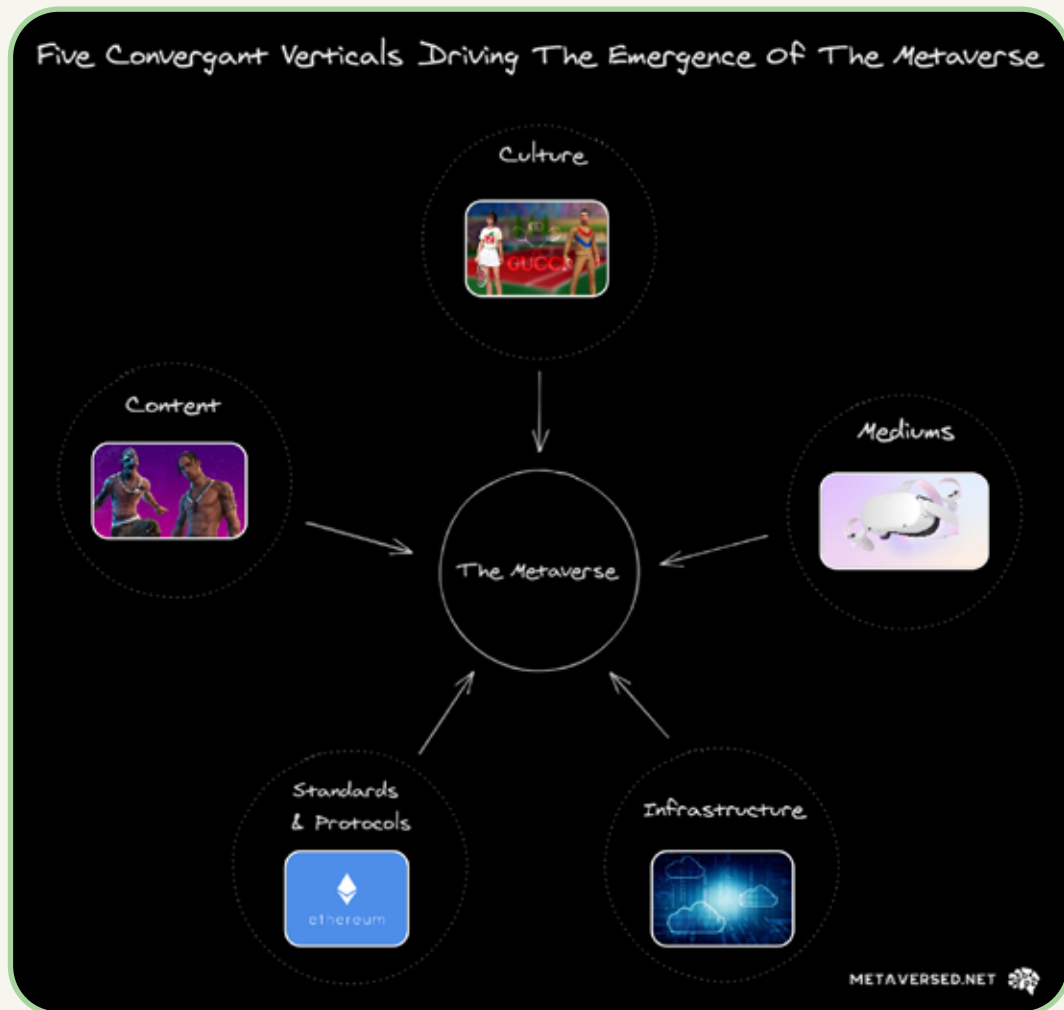
Store of value, and hence scarcity, is a confidence game. The value of Bitcoins and a lot of other digital assets does not lie in the limited supply of the coins, but in a behavioural phenomenon, the network effect. Acceptance and adoption are the keys.

<sup>6</sup> A very comprehensive guide to NFTs (Dec. 2019): <https://opensea.io/blog/guides/non-fungible-tokens/>

<sup>7</sup> A joint definition by Piers Kicks, metaversed.net and Tim Sweeney, Founder & CEO of Epic Games.



Graph 3



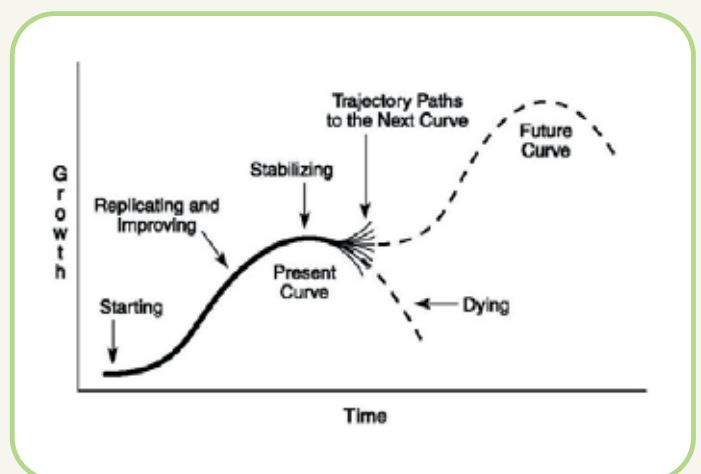
Source: [www.metaversed.net](http://www.metaversed.net)

## No risk - no fun?

One is well advised to look into the work from science fiction authors as they seem to be the most accurate forecasters when it comes to human progress: William Gibson's *Neuromancer* (1984) or Neal Stephenson's *Snow Crash* (1992), among others. The historical developments point to a new form of revo-lution, whereby its shape and protagonists are yet to be determined.

New technologies will survive, if they are adapted. The **S-Curve** (Graph 4) shows that adoption comes in waves, interrupted by obstacles or crisis moments which define the next stage of success or failure. Looking at Bitcoin, it has survived quite a few of these moments (Mt. Gox, the forking, China ban, regulation) as has Ethereum. On top of that, the crypto space is exposed to a strong **risk taking cycle**. The volatility of e.g. Bitcoin attests to it. It is no surprise, however, as riskier investments always show higher volatility. Not the least, this is true for most cryptos as assets which trade 24/7.

Graph 4 S-Curve





Three pillars stand at the center of the crypto developments: security, privacy, and user sovereignty. We are looking at the development of a decentralized infrastructure with the potential to replace at least part of our current economic structures. We have been there before: at the beginning of the internet, profound and often irrevocable decisions were made by individuals and corporations. Is it possible to pull the plug on some protocols? Is there room to corrupt these new technologies? A lot of questions remain and will accompany the further foray into our lives.

The elephant in the room is often discussed: what steps will the powers that be take in the future? Most crypto proponents argue **regulation** will be beneficial for the space. We see early signs of that, but regulation for the storing of utility technology might be different from that of value propositions. There is a potential for major disruption.

As investors, the question of **asset allocation** boils down to liquidity preferences, time preferences, and risk preferences. The world of money is going into digital currency. And matters/objects like credit contracts, insurance contracts, etc. are all transferring to blockchain. DeFi is the future of finance and it will completely change the way we operate. There will be survivors and victims on both sides. Back in the late 90s, intelligent investors could have foreseen that the internet was going to be a game changer. But one has to concur that the present feels a little like the internet **mania** in 1999/2000.

## Exponential investment choices

No doubt, getting comfortable within this new area is challenging. According to one's own risk tolerance and risk capabilities, quite a few choices exist:

- Direct investment in protocols via platforms (outside the financial system), preferring the ones with top market cap weightings.
- Financial solutions like ETNs with Bitcoin, Ethereum, or a variety of coins.
- Companies with substantial bitcoin treasury holdings
- Technology companies with focus on the new financial architecture

Highly regarded professional investors from hedge funds and family offices have been drawn into the scene early but a variety of actively managed vehicles is available for qualified investors. An early specialist in blockchain hedge funds, Pantera Capital<sup>8</sup>, is now open to non-US investors. There is also a variety of early-stage private equity funds available, e.g. focusing on European blockchain ventures, such as Fabric Ventures (UK), Greenfield One, and Lennertz & Co. (Germany) as well as US offerings from Coin Fund, Multiwin Capital, and Polychain Capital. This is not an extensive list of offerings but shows the dynamics of the scene.

## Conclusion

Continuous central bank largesse throughout the developed world and increasing aggressive fiscal stimulus packages underscore a trend to look for assets with scarcity and value characteristics. Is the concept of scarcity an artificial one in the new, decentralized digital space? Is the sudden focus on Bitcoin and its peers sign of a mania? This might be the wrong question to answer when evaluating investments in this realm. After all, trust is the essential currency in the digital sphere as well as in the real world. We seem to witness the build of a new financial infrastructure with exponential characteristics in both applicability and user base (network effect). It is very likely that scarcity lies within the exponential effects a user base can create. After all it is our attention and time which is scarce. And last, but not least, might Bitcoin et al. represent a generational shift in investment focus and attitudes.

**Regina Costello is the editor of the European Investment Journal and Founder & CEO of Ars Pecuniae GmbH, a wealth management company in Germany.**

<sup>8</sup> Founded by Dan Morehead. Pantera Capital publishes a free monthly blockchain letter which can be subscribed to: <https://blog.panteracapital.com>.

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# ESG, CLIMATE CHANGE, AND THE LURE OF FARMLAND INVESTING



**Andrea Gruza**  
Vice President,  
Capital Markets,  
Bonnefield Financial

Over the past decade, we have seen increased interest among the investment community in agriculture and farmland as an asset class. Not only are large, sophisticated, institutional investors across the globe evaluating (or already invested in) farmland and agricultural investments, so too, are increasing numbers of non-institutional investors.

Farmland (focusing in this article on cropland and not farmland for livestock, grazing, other uses) offers a diverse set of characteristics that can appeal to a broad number of investors as they look to optimize their portfolio construction. Farmland's low correlation with traditional equity or fixed income markets and its historically positive performance during times of high and rising inflation form the foundation for investor interest in the asset class.<sup>1</sup> Increasingly, however, Environmental, Social and Governance and climate change considerations are also driving potential investors towards farmland.

The following discussion outlines how ESG and climate considerations relate to farmland investing and the ways in which an investment portfolio can see increasing value from farmland. First, we look at how managers and investors can track ESG performance with respect to farmland – a minimum requirement these days but one that is still difficult to achieve in a meaningful (or standardized) form. Secondly, we look beyond simple ESG tracking to consider how certain sustainable farming practices can contribute to carbon sequestration and as a result, assist in the fight against climate change. Finally, as a Canadian farmland investment manager with nearly C\$1 billion in Canadian farmland AUM (Assets Under Management), we share Bonnefield's 10-year investing experience to showcase how Canadian farmland is uniquely positioned to provide investors with a hedge against some of the existing negative impacts of climate change.

## I. ESG and farmland

The increasing importance of Environmental, Social, and Governance (ESG) considerations for investors is widely acknowledged. However, a lack of broadly accepted, standardized ESG definitions and metrics creates a broad spectrum for tracking, measuring and discussing ESG. For our purposes, we refer to ESG in its most fundamental form, as a consideration of how certain environmental, social, and governance factors can influence the long-term value and performance of an investment.

<sup>1</sup> Kuethe T.H. et al. (2013): Farmland versus Alternative Investments before and after the 2008 Financial Crisis. Journal of the ASFMRA p.120-131

Farmland is a compelling asset class for investors looking to track the ESG characteristics of their investments because it has a natural set of value drivers that align with an ESG framework. The fact that the long-term productive capacity of farmland is predicated on having the necessary environmental conditions to support crop growth (i.e. supportive weather conditions, access to fresh water, etc.), highlights the natural relationship with the 'E' in ESG. As a result, operators and owners of farmland can implement monitoring of characteristics like soil erosion, water issues (pooling, poor draining, etc.), and organic matter in the soil, to provide a set of qualitative and quantitative metrics to monitor the asset's value drivers over time.

With respect to relevant Social and Governance metrics, these are likely to vary depending on the geography and political environment within which the asset is located. For example, in a country like Canada which has a strong regulatory environment and well-established governance structure around land ownership, the action of conducting a title search on a property is often considered perfunctory and would rarely return a surprise result. However, there may be other jurisdictions where ownership records are less well developed and it becomes highly important to investors that the manager provide ongoing reporting on the proper evaluation of ownership records.

Depending on the specific investment model, the full suite of relevant ESG metrics will vary, but the core foundational relationship between farmland and the environment exists. It is important to note that despite the primary importance of environmental factors as they relate to farmland, the ability to effectively measure performance and quantify its importance is still developing and there is no widely implemented set of reporting metrics that apply across the asset class yet. However, we believe that regulatory actions such as the development of the EU taxonomy for sustainable activities, technological enhancements for tracking and reporting on-farm metrics, and ongoing investor and manager activity will result in significant enhancements to reporting over the coming years.

## II. Farmland's role in mitigating climate change

Beyond monitoring ESG factors, it is becoming increasingly important for investors to support positive change through their activities. The most prominent example of this is the Net-Zero Owner Alliance, which is a United Nations-convened alliance of leading institutional investors who have committed to making their investment portfolios carbon-neutral by 2050. This creates a challenging situation for

investment professionals tasked with meeting return targets while rebalancing the portfolio based on its carbon footprint. Investments in certain farmland can support these efforts, as mounting evidence suggests that farmland and sustainable farming techniques can present an opportunity to mitigate a portion of global greenhouse gas emissions in the future.<sup>2</sup>

### ***Canada's role in sequestering carbon and mitigating climate change***

Among the most accessible and practical methods to reduce atmospheric carbon is to store it in our soils and vegetation. Carbon is the main component of soil organic matter ('SOM'), as it is captured by plants during photosynthesis. Plant life, from root to stem, is comprised of carbon that was previously in our atmosphere. With the adoption of modern and sustainable farming practices which encourage additional carbon storage through increasing soil organic matter over time, farmers can play a part in reducing total emissions.

Over the past several decades in Canada, there have been substantial changes in both farming practices and soil carbon sequestration, resulting in positive outcomes. Regenerative farming methods, more efficient land use, increased crop yields, and a change in crop composition, have helped to shift the average acre of Canadian farmland from a net emitter of carbon to a net collector. Canadian soils have gone from emitting 1.2 million tonnes of carbon in 1991 to removing about 11.9 million tonnes from the atmosphere in 2011.<sup>3</sup>

### **Changes in farming practices that can lead to increased carbon sequestration**

<b>Illustrative Past Farming Practice</b>	<b>Illustrative Current Farming Practice</b>
Regular tillage leading to mechanical soil disruption	Conservation tillage practices
Fields frequently left fallow during summer	Use of cover crops and green manure
Homogenous fertilizer application	Precision fertilizer applications
	Rotational grazing programs for pastureland
	Direct seeding
	Restoration of degraded lands
	Regular use of 'good' microorganisms in integrated pest management plans

<sup>2</sup> The Canadian Agri-Food Policy Institute. [www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842](http://www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842)

<sup>3</sup> Environment and Climate Change Canada. [www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842](http://www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842)



# ALTERNATIVE ASSETS

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If sustainable practices continue, the Canadian Agri-Food Policy Institute suggests that Canadian cropland can maintain a sink of 17.8 million tonnes of carbon per year from 2016 to 2030.<sup>4</sup> While this is not a total solution, these are encouraging estimates that contribute towards the global effort to reduce net emissions.

### III. Canadian farmland's resilience through climate change

While much current discussion focuses on how investors can use their influence to affect positive change with respect to the climate, it is also important to consider what impact climate change is having on the investment portfolio and identify investments that can provide a hedge against these impacts. Are large weather events – snowstorms in Texas, floods in Australia, Brazilian droughts, etc. - placing stress on certain industries? On the other hand, are government actions to combat climate change putting downward pressure on the profitability of certain companies? Against this backdrop, assets such as Canadian farmland can offer important hedging characteristics.

#### *Farmland resiliency and changing land use*

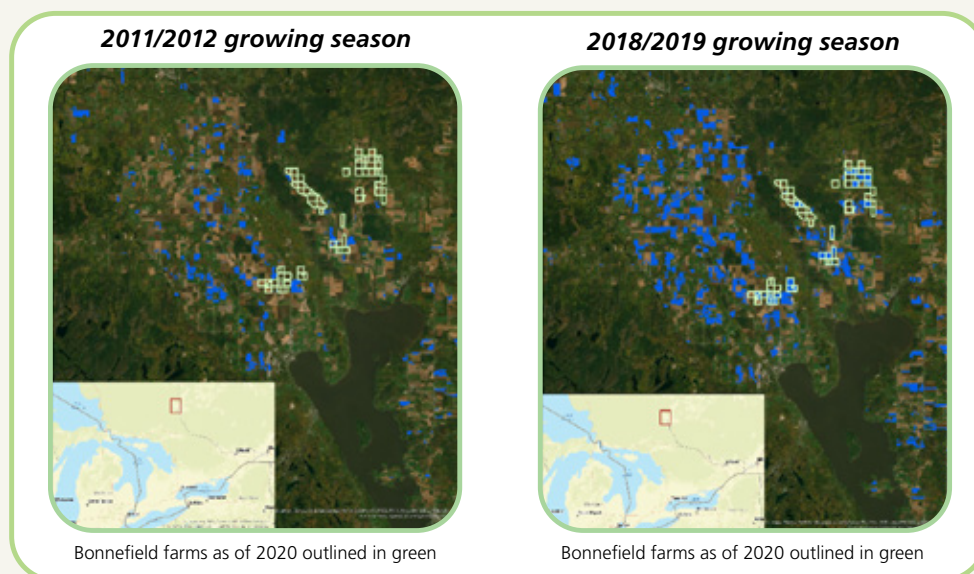
In a recent New York Times article, Abrahm Lustgarten contends that “climate change and its enormous human migrations will transform agriculture and remake the world order.” While the focus of his article is on the opportunities that trends like warming temperatures, increased rainfall

in traditionally dry regions, and longer growing seasons present for Russia, our experience investing in Canadian farmland highlight similar dynamics. In fact, we believe that exposure to Canadian farmland may offer a hedge against the negative impacts of climate change in other parts of an investment portfolio.

In Canada over the last number of years, longer growing seasons supported by warmer temperatures and changing crop genetics can elevate the productivity of farmland on previously marginal acreage – especially in more northerly regions.<sup>6</sup> Canada is a large and diverse geography with well-established agricultural regions throughout the country. Unsurprisingly, the most productive farmland, and that which is capable of growing high value crops, trades at premium prices to its 'lower quality' counterparts. Typically, this farmland has been found in more southern areas of the country due to a combination of soil type and supportive climatic growing conditions. More northerly, peripheral regions, have long supported agriculture but typically grow low value crops such as forage, since lower temperatures and shorter growing seasons are less conducive to other crop varieties.

A good example of this dynamic is in Bonnefield's Near North Land Assembly in Timiskaming, Ontario where farmers have recently introduced soybeans to the region. Historically, farmers in Timiskaming relied on two-year canola/wheat crop rotations, or a similar variant. Around 2012 however, some farmers began experimenting with soybean/wheat rotations based on observed changes to growing conditions. Today variants of soybean/wheat rotations have become the norm.

Soybean fields in the Timiskaming region of Ontario<sup>7</sup> (represented in blue)



<sup>4</sup> Smukler, S. (2019) Managing Canadian Croplands to Maximize Carbon Sequestration and Minimize Other Ecosystem Service Trade-Offs. Prepared for the Canadian Agri-Food Policy Institute.

<sup>5</sup> <https://www.nytimes.com/interactive/2020/12/16/magazine/russia-climate-migration-crisis.html>

<sup>6</sup> Chapagain, Tejendra (2017) Farming in Northern Ontario: Untapped Potential for the Future; [www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/forest-change-indicators/growing-season/18470](http://www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/forest-change-indicators/growing-season/18470)

<sup>7</sup> Annual Crop Inventory, Agriculture and Agri-Food Canada. <https://open.canada.ca/data/en/dataset/ba2645d5-4458-414d-b196-6303ac06c1c9>



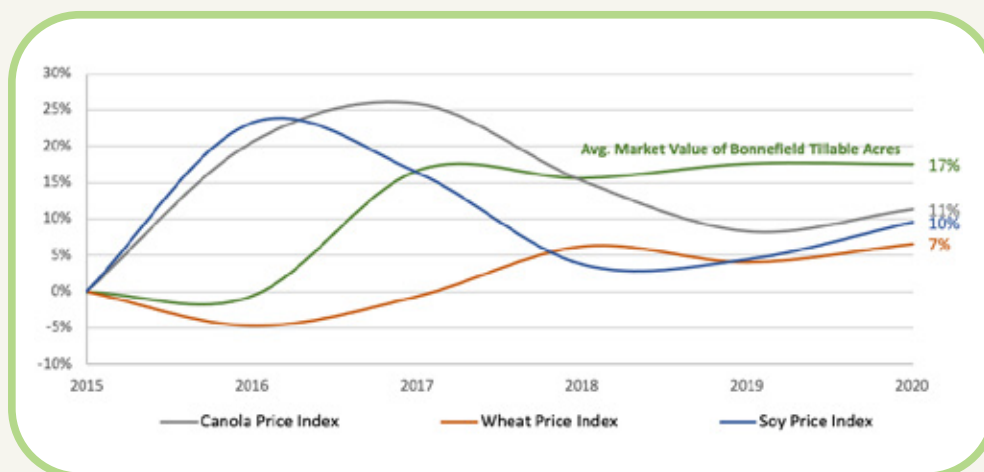
The significance, from an investment perspective, is that soybean is a higher value crop than canola. The illustrative example below shows an estimated increase of approximately 48% to farm profitability when comparing a canola vs soybean rotation.

With farm profits being a key driver of farmland value, we would expect to see appreciation in the underlying farmland asset resulting from the introduction of higher value crop rotations. In fact, Bonnefield's farmland in the area has appreciated 17%<sup>9</sup> since 2015 and outpaced performance of the underlying commodities during this timeframe.

Illustrative analysis: profitability comparison between canola and soybean<sup>8</sup>

Rotation	Illustrative Yield BU/Acre	Commodity Price (\$/BU)	Estimated Cost/Acre	Estimated Profit
Canola	57.31	\$11.18	\$486	\$154
Soybean	47.00	\$11.40	\$308	\$228
Difference				48%

Appreciation of Bonnefield Timiskaming properties vs. underlying commodity price index (2015-2020)<sup>10,11</sup>



## Concluding thoughts

As demand continues to increase in the investor community for action on ESG, and climate change in particular, farmland investing can play an increasingly important role to support these broader objectives. Farmland's low correlation with traditional equity or fixed income markets and its historically positive performance during times of high and rising inflation forms the foundation for investor interest in the asset class. But, farmland may also offer important benefits as a (partial) hedge to the negative impact of climate change and can play

a positive role in any portfolio focused on meeting net zero emissions targets. With the right management, farmland plays a meaningful role as a carbon sink which can be used to move overall investment portfolios closer to net zero emissions. In Canada particularly, climate change is opening opportunities for farmland to migrate to higher value crops and offer a hedge against some negative impacts of climate change.

<sup>8</sup> OMAFRA Southern Ontario estimated 2020 crop budgets (winter canola hybrid and Roundup ready soybean budgets) <http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/budgettools.htm#crops>

<sup>9</sup> Calculated based on appraised value of property, less capital expenditure. Based on Bonnefield properties owned since 2015.

<sup>10</sup> Commodity prices based on not seasonably adjusted annual average price. Property values based on actual year-end appraisals.

<sup>11</sup> Commodity prices sourced from Economic Research Federal Reserve Bank of St. Louis. [www.fed.stlouisfed.org](http://www.fed.stlouisfed.org) CAD/USD exchange rate sourced from US Federal Reserve [www.federalreserve.gov](http://www.federalreserve.gov)

# ITS LIFE BUT NOT AS WE KNEW IT!



**Robert Reid**  
*Director,  
Pertinent Chartered  
Financial Planners*

## Longer-term than first thought

At the start of 2020, no one expected the long tunnel we would soon be entering. Similarly, it has always been difficult to convince clients to plan due to either their own underestimations of their longevity or their unfounded belief that they are immortal. Convincing people to plan isn't ever easy - people often respond in a negative manner if they feel themselves to be too restricted. They often continue their quest for flexibility and, ironically, find themselves in an even more restricted lifestyle, where choice has been minimised or lost altogether.

By the time we reached the middle of 2020, it became apparent that COVID-19 was not something that was going to disappear in the better weather and was a pandemic that would change people's perceptions on many different topics and activities. Not only would it cause people to look at their future with a more fearful gaze, but it also caused them to reminisce and start to consider things that were once standard (a hug, a cup of coffee with a friend, a walk) as things to be cherished and hoped for.

With so many stressors competing for our attention, things have been hard for both advisers and clients. The future is a difficult thing to consider when we have no idea what life will be like post vaccinations and restrictions being lifted, making it both harder for employees to advise and clients to make decisions.

## So, what does it mean for the financial sector?

In the world of financial services, there's not always time to reflect or to think longer-term, but some say that from challenge comes opportunity. The sector faced a major test when the bulk of people were forced to work from home, losing access to office facilities and putting massive pressure on IT systems and communications. However, removing the need to commute enabled people to have more time to focus on longer-term planning or on the opportunities that could arise from this change of working environment. Additionally, this reduction in social interaction also allowed many people to ascribe value to the elements of their social life that they missed the most. From an employer's perspective, this also gave managers who focus on their teams wellbeing (as we all should) the chance to reevaluate how they can support them from afar and encourage team camaraderie outside of the office – whether it be through team coffee mornings through a screen or a themed Zoom quiz.

However, employers do need to consider the reality of the disparities in working from home across their teams, and acknowledge that difficulties will not all be uniform.

## Disparities in working from home

Before we assume that Working From Home (WFH) is a perfect solution, we need to recognise that for many people working from home is less than ideal. When this all started there were claims of a significant increase in productivity but that has fallen back to previous levels or below as lockdown continued, something which is completely understandable due to the overwhelming stress this situation has had on all of us. As futurists rush to talk of the 'new normal', they often forget that although many people don't miss the daily commute, they do miss being in the office and the interaction that provides.

We also cannot ignore the fact that not all homes are suitable for working in long-term. If you live alone it may be fine, but what if you need quiet and your partner or flatmate has a voice that carries when on the phone or in a video conference? The stay at home orders have also put unprecedented strains on home wifi systems, with capacity issues coming to the forefront with too many people on the one location using lots of bandwidth. Whether you add children also logging on for long-distance learning or those sharing with flatmates all working and needing to be on Zoom at once, the quality of your internet connection can be a highly frustrating topic.

It's not just about having a good wifi connection, though – it's about desks, chairs and general conditions for people's work-space. Few firms have organised any form of checks regarding this and I expect claims for those who haven't had proper work chairs shipped/bought for them by their employer. Furniture aside, the security of data is an issue, with many lacking a secure way to hold confidential files or a way to shred sensitive paperwork.

With the vaccine roll out moving along, reduced rates of infection, and the restrictions across the UK slowly starting to lift throughout spring, people have started to consider whether working from home on at least two days a week is something that they could do longer-term. It is more likely



that flexible working will be the norm and not WFH at all times, a hybrid option. Those whose firms had plans laid out in case of a return to the office in early 2021 may already be privy to plans on staggered start times, shift work, removal of hot desking and social distancing where possible.

It's clear to me that we need a social atmosphere to work in and this cannot be delivered purely by electronic means. All of these work/life changes have an impact on mental health, which is something managers need to be aware of.

## Mental health and/or overwork

It comes as no surprise that mental health has suffered as lockdown went on – from those finding the isolation from social circles difficult, to those obsessively cleaning and unable to leave the house. There is a distinct difference between the first lockdown and those which have followed, the regularly mentioned increase in productivity from WFH has not noticeably increased further through subsequent lockdowns.

The risk of overwork for some will be significant, especially when there is no discernible difference between home and work anymore. It's easy to continue typing away when there's not a train to catch or office to lock up. I worked from home back in the Nineties and after a few years an office was built in the garden in what amount to a shed with an ego. That allowed the disconnect that is so important, and I can see an increased demand for garden offices where the property allows. However, I am conscious that this is a huge privilege and hardly a simple solution for everyone.

Traditionally, the phrase 'burn-out' has been used as a colloquial description for a particular set of work-related symptoms such as being constantly stressed, overwhelmed, and not having enough energy to devote to a given task or even an entire career.

The term was brought to the research lexicon in 1974 by the article 'Staff Burn-Out' written by the psychologist, Herbert Freudenberger. He defined it as 'the depletion of motivation, a growing sense of emotional exhaustion and cynicism'.

In May 2019, the term 'burn-out' was officially given a medical definition in the 11th revision of the International Classification of Diseases (ICD-11) and was recognized as a formal mental health problem. WHO announced that burn-out would be classified under 'Factors influencing health status or contact with health services'. A spokesperson for the World Health Organization, Christian Lindmeier, described it as 'not conceptualized as a medical condition, but rather as an occupational phenomenon'.



Whilst there was a mental health crisis before the pandemic, this jarring experience for the population as a whole has brought the discussion to the forefront, giving me hope that asking for help is no longer seen as a weakness but a strength. Overwork or burnout is also now recognised as a mental health problem and together with appropriate working conditions needs to be addressed.

Ultimately, if we are to help our clients plan for their future and their retirement, we need to invest in our staff now. Mental health struggles, poor homeworking environments and the stress of instant information has the ability to be completely overwhelming and managers need to be tapping into their empathic abilities to support their team. If not, how can they be expected to give advice and guidance to those who have been forced to face their own mortality in this period of fear and uncertainty? And what do we need to consider when having those discussions with clients and their retirement planning?

### Longevity and Immortality

For some time, the debate around retirement planning has been about just how long your money will need to last? This has led to the quest for the sustainable withdrawal rate, a single percentage that is universally applicable. Having said that its vulnerability lies in its vain attempt to treat everyone

the same. Its more sensible to talk about longevity as recent research has shown that many people under-estimate their remaining time on the earth. Just as it's not possible to have a single safe withdrawal rate nor is it sensible to assume all will live to the same age.

Many Financial Planners have attempted to prevent clients underestimating their longevity, a significant addition to this discussion was the publication of "The 100-Year Life" book by Lynda Gratton, professor of management practice at London Business School, and Andrew Scott, professor of economics at the same institution.

If we accept that we will continue towards living to a hundred being common just what will someone's life look like? The concept of early retirement will be less common in the UK as those with defined benefit schemes are in the minority. Will the thought of working for 60 or 70 years motivate or demotivate? Some will choose to work much longer i.e. past 65 and others may find that physically impossible.

For some time, I have purposely not asked clients or prospects when they intend to retire, I was always puzzled by fact find questions that asked people to state when they would 'like' to retire this promoted a response such as "Yesterday". Had they, more sensibly, been asked "when do you plan to retire" the question of financial resources would have tempered their response.





My question is simple; I ask them “what do you plan to do next?” This often leads into a discussion over part time working and phasing into full retirement. For some full retirement holds little appeal. Some years ago, the late Ron Spill, a leading pensions expert, stated retirement was “half the income and twice the husband”.

The other question that takes some thought is what income someone needs in retirement, wants in retirement and what someone wishes for in retirement. To determine these distinct segments, we need to determine what’s needed from a picture of retirement, in other words a budget based on capital needs and activities.

For as long as I can remember, people have considered a three-stage approach to working lives: education, followed by work and then retirement. With the increase in life expectancy, the demise of final-salary pensions, and the increasing numbers of people who are juggling multiple careers we need to consider how we can best boost our physical and mental health over a longer and more varied lifetime. Relationships with friends and family will be so important in this new path through life as will the way you transition from one phase to another.

Post pandemic, this methodology will be the superior approach in retirement planning, as more and more people had seen this series of 'lockdowns' as a rehearsal for retirement and spending more time with their partner. On a less positive note the end of lockdown will lead to some partnerships coming to an end.

The new normal will need new approaches and a recognition that a cliff edge retirement is no longer tenable. It's far more important for you to develop a career and a route through life path that rewards and enriches you while maintaining a balance between work and leisure.

## What's important?

This uncertain and isolating period has given us all time to think what life is all about and what we would like to change, a greater recognition of longevity is building and with that the financial pressures that delivers.

So, in this new world, what is important? From my perspective, it's people first, collective experiences next and money last. Some used to state that those with the most toys win – but they don't – they just have more toys to sit with.

People will need help in planning for this new normal and making sure the money doesn't run out, having someone challenge your plans and dreams is essential. Being challenged isn't a bad thing if it forces you to reconsider pre-conceived notions that seemed stable pre-March 2020.

We also need to consider generational differences. Millennials don't want to hear about retirement; they want to hear about their options and the many paths their life can take. They want to know how to plan without feeling restricted and without having the templates their 60-year old colleagues are given. The world is already changing and the options now may not exist in 40 years. We need to help them navigate the financial world in a way that sets them up for whatever comes next – once we, ourselves, have already retired.

Financial Planners need to be able to engage clients in a manner that suits them, whether that means mass customisation, technical skills, engagement skills, delivering real progress commercially professional and personally for the end client. Flexibility, as we've found in this pandemic, is the way forward.





# SUITABILITY FOR ESG AND IMPACT INVESTING



Greg Davies, PhD.  
Head of Behavioural  
Science,  
Oxford Risk

## Standfirst

**An outline for weaving social preferences into suitability and using financial personality profiling to close the gap between hyper-personal sustainable-investing desires and large-scale solutions.**

## ESG: time to get personal

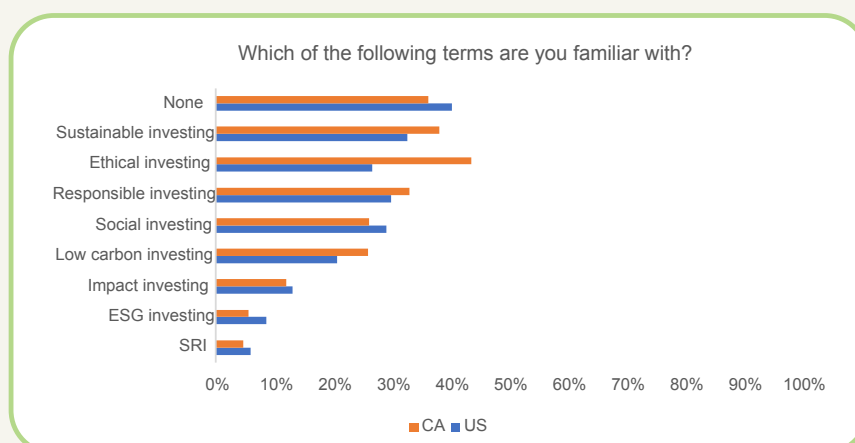
*What does the future of sustainable investing look like?*

There are many reasons to believe we're at a critical juncture.

Sustainable investing has moved from the fringe to the core of both investment institutions' and their customers' concerns. A new generation of investors is both more open to, and more demanding of, the opportunities to match their social goals with their investment ones. Later this year, European Commission legislation will come into effect to regulate the marketing of ESG financial products.

This legislation points to a major factor that will play a part in determining where the sector goes from here. Namely: sustainable investing means different things to different people. What does ESG – or any of a dozen similar labels – even mean? Ambiguity triggers aversion, not investment.

People invest in stories of things that resonate with their story of themselves. The sustainable-investing sector is an anthology of stories. Absent any existing knowledge of its contents, a book's chance of being picked up, let alone bought, rests on its title and its tagline. Sustainable investing has yet to find its voice, or even its preferred name. The jumble of terminology for the concept as a whole, as well as its constituent parts, hinders the construction of an enticing, investible narrative.



Our research has shown that familiarity with different names – is it 'Sustainable'? 'Ethical'? 'Responsible'? 'Impact'? 'ESG'? – is divided fairly evenly, and relatively low across the board. In particular, 'ESG', while easy to spell, and increasingly favoured by the industry and media, is one of the least resonant and familiar terms to actual and would-be investors.

Interest in the idea of sustainable investing is high across the globe. Approximately 80% of respondents to research we conducted in the US and Canada were at least moderately interested; and our parallel research in Europe and Asia has yielded comparable figures. But what precisely is this interest in? Actually doing good? Feeling like good is being done? The chance of higher financial returns? Support for specific causes?

If this interest is to be harnessed, and the gap between good intentions and good investments closed, the stories that shape the sector need to better engage their audience.

## Enter behavioural science

Matching personalised demand with scalable supply of solutions isn't easy. How do you overcome the inherent clash between options sufficiently bespoke to speak to the investors for whom they're suitable, and so many options that all anyone hears is noise? How, in summary, do we match individual investors to the many sustainable investment options in a way they will feel comfortable actually making the investment?

The answer should not be to bash them all together and hope for the best. One size doesn't need to fit all. What if we could match the multi-dimensional recipes of investor desires to the universe of investment options in a way that brought added clarity, not complexity?

Our research has shown that we can successfully leverage technology and financial personality profiling to better understand investor motivations. And our unique sustainable-investing profiling tools have put these insights to practical use for both the suppliers of sustainable investments and those that would invest in them.

Using our tools, we can play an investor's matrix of motivations back to them, and present them with the relevant and engaging information needed to choose investments that best meet their goals; and to do so with comfort and confidence.

We can also help institutions use this information to both design more desirable investment options, and tell more compelling stories about those options to those that want to hear them. Financial personalities are integral to the buying decision. They should be integral to the design and marketing of the thing being bought.

What does sustainable-investing profiling look like? What can it tell us? How can it be applied?

A profiling system is a filtering process. It's a means of assessing the key dimensions on which individual investors differ to paint an increasingly refined portrait of personal preferences. Well-designed, it leads investors towards suitable solutions, and keeps them engaged along the way.

Attitudes to these aspects of a sustainable-investing profile tend to cluster together. This allows us to build a bridge between hyper-personalised combinations of wants, and scalable solutions to meet them.

## Sustainable solution matchmaking

Oxford Risk approach this filtering in a three-stage process, as outlined below.

### Stage one: High-level appraisal of attitudes

This is the social parallel to determining investors' willingness and ability to take investment risk that is at the heart of the investment-suitability process.

#### *1. How much does the investor want to focus on meeting social preferences while investing?*

We measure this on our 'Impact Desire' scale. Impact Desire tells us how strongly an investor wants to make a positive difference through their investments.

For those low in Impact Desire, it is probably not worth emphasising social investing. It's definitely worth engaging with those higher on this scale... though which messages you should lead with is heavily influenced by other factors.

#### *2. How much is the investor willing to consider a trade-off between social and financial outcomes?*

We measure this on our 'Impact Trade-off' scale. Impact Trade-off is a person's willingness to make a trade-off for social good, e.g. sacrificing financial returns or liquidity, or taking extra risk.

A common mistake is to suggest that social impact comes for free. Some investments can produce social returns without any sacrifice of financial efficiency, but these would be invested in anyway, even by those with no interest in doing social good, so don't deliver additional social returns. These can be a valuable entry point for social investing, but many investors aspire to a more effective balance between social and financial returns.

The existence of charity donations proves people are willing to make financial sacrifices to do good. Doing good makes people feel good. But it's harder to experience the emotional returns of doing good if you've given up nothing in the process.

Our research shows that many investors are alienated by messaging that focuses on the lack of the very sacrifice they are willing – if not actively seeking – to make. Telling investors that doing social good comes for free could also undermine intrinsic motivations, and alienate those most motivated to maximise social outcomes. What most sets apart individuals who have already made sustainable investments from those who haven't is the trade-off, not the desire.

### *3. To what extent does the investor prefer to make these trade-offs via philanthropy versus investing?*

We measure this on our 'Charity Orientation' scale.

This is the extent to which an investor believes donating can do more good than investing sustainably; or to which they'd prefer to keep their social and financial preferences separate.

### **Stage two: Fine-tune the solutions**

This is akin to reflecting the investor's detailed needs and preferences (e.g. liquidity, income, active vs. passive) when building their suitable portfolio.

### *4. Which general factors – environmental, social, or governance – does the investor most care about?*

The environmental-social-governance (ESG) terminology is well-established and well-understood within the investment industry (though the jargon is poorly understood by investors themselves).

Our research shows that investor interest in the components runs in the opposite direction to industry focus. The industry's priority order tends to be G-S-E. But the typical order of investor interest is E-S-G.

### *5. Which specific causes does the investor care most about?*

Making investors comfortable with the complex and daunting world of investing requires narratives – we are all more comfortable with investments that have a good story. Advertising everything may be good for garnering some attention from everyone, but it tends to dilute the appeal of messages to each individual. To fully unlock demand for sustainable investing requires finding the stories that resonate most with each investor.

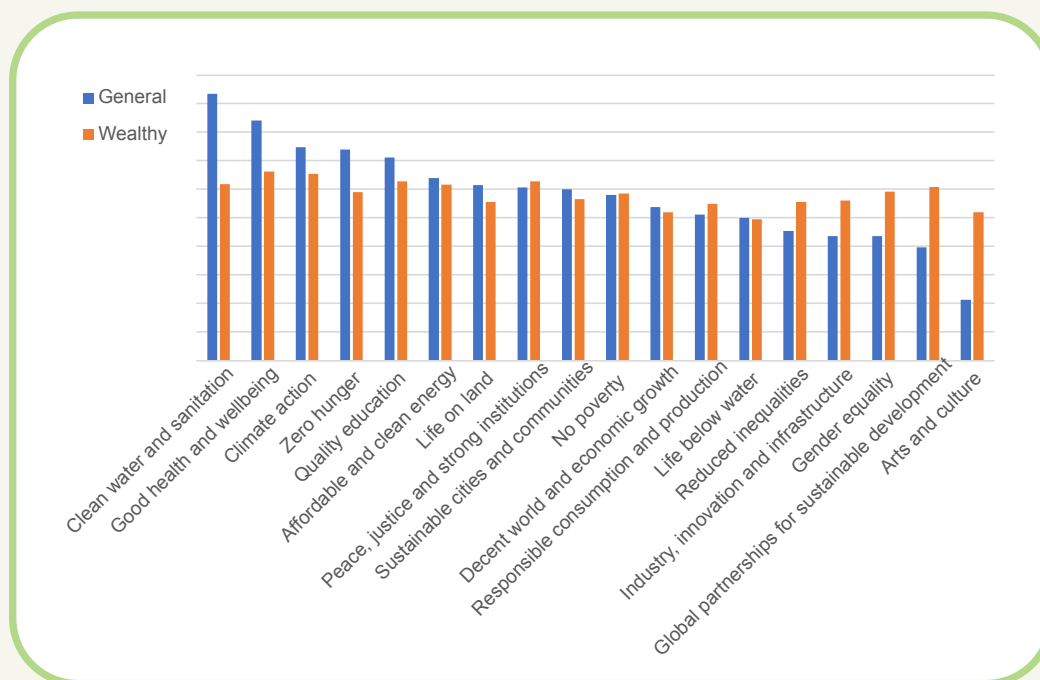
The most widely accepted framework for categorising social narratives comes from attitudes towards the 17 UN Sustainable Development Goals, e.g. Climate Action, No Poverty, Zero Hunger, etc.

Overall, we found little pattern to the specific causes that most influence potential investors: each investor is likely to have their own unique pattern of preferences. However, looking at overall averages and individual causes hides helpful insights. Here are three things the data on individual concerns tell us:

1. E, S, and G clusters – Individuals who favour one environmental, social, or governance cause are likely to favour others of the same group. This suggests that lumping all ESG messages together will dilute, rather than strengthen messages.
2. Personal experience – Preferences are enhanced by direct experience. This makes them idiosyncratic, highlighting the need for individual-level profiling.
3. Wealth and cause concern – Less wealthy people have a clearer ranking of cause importance, whereas wealthier people have no such stand-out preferences. This is not an indication that the wealthy care less about more popular and pressing causes, but rather that they can better afford to contemplate supporting a wider range of causes.

### **Stage three: Messaging**

Messages gain greater traction when focused on achievable, specific, tangible outcomes. Emphasis on 'ambitious' projects is to be avoided for most investors. An important exception is for high Impact Trade-off investors, who are more willing to embrace longer-term, less-certain, 'moon-shot' opportunities that others tend to avoid.



#### 6. How much evidence do sustainable investors want that their investments are doing as advertised?

A key element of effective messaging is how much to focus on evidence, especially as this can run counter to crafting a narrative. We measure this on our 'Need for Evidence' scale: The degree to which someone may require impartial evidence that a sustainable investment will do good.

Need for evidence is generally high, though the nature of the evidence doesn't seem to matter much; feeling that someone trustworthy is counting the consequences is more important than the details of what they're counting. Some demand less exacting proof than others: using profiling tools to identify this need for each investor can help to construct the right messages to draw them into social investing.

#### 7. Do investors prefer to engage with and change unsustainable companies, or simply avoid them?

To a surprising degree, the empirical evidence is clear: investors with the keenest preference for engaging with companies in a bid to improve them (rather than ignoring or divesting from them) also tend to be those with high Impact Trade-off and Impact Desire, i.e. once you've identified those investors who are keen on sustainable investing, you are safe assuming they're more likely to be on the side of engaging, rather than divesting.

#### 8. Use of archetypes

Profiling analysis shows individuals aren't on a single mission. They have different needs and will respond to different types of communications depending on their personalities, their attitudes to sustainable investing, or the stage of the investment cycle they're in.

This is important, because some of these missions are at odds with each other. The very solutions and messages that could engage one set of potential investors could dampen the enthusiasm of or even put off another.

This is where investor archetypes come in – profiles built on sets of attitudes that distinguish one group of typical investors from another. We have already identified several archetypes that act as signposts for the future direction of sustainable-investing solutions and the messaging that promotes them.

#### Hitting targets is easier when you can see where they are

People care about sustainable investing. However, general interest outstrips awareness of specific investment options. Combatting this requires clearer messages which are precisely targeted at the groups of people and the clusters of causes they care about.

Sustainable investing is about satisfying a collection of niche desires with scalable investment solutions. Financial personality profiling is the key to closing this gap and unlocking latent demand.

The future of sustainable investing is personal. How well the industry embraces this – how well we understand investor attitudes, and what to do with them – will determine where it goes from here.





## Gold as a strategic asset

Learn how gold can play a fundamental  
role in investment portfolios in 2021





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