

Market Perspectives

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Foreword

Welcome to our latest edition of *Market Perspectives* which aims to provide much-needed context and clarity, at a time when volatility and uncertainty weighing on investors' minds.

The hint of quicker-than-expected US rate hikes to counter elevated inflation, and a flattening yield curve, are raising concerns of a central bank policy error, or even potential recession, among some investors. In this month's report, we look at just how likely a recession might be, and what it could mean for equities, bonds, and other asset classes.

While an inverted curve has historically been a reliable indicator of recession, our experts weigh up a wider range of indicators and offer their 'big picture' view of current conditions, as well as equity and bond market opportunities.

Within equities, it seems prudent to adjust our cyclical tilt and introduce defensive sectors, such as healthcare, to diversify portfolios. We are also considering possible hedging strategies. In fixed income, positioning in medium-duration bonds, and moderate credit exposure, still looks appealing for now.

Beyond our usual asset class and financial market analysis, you'll also find our latest sustainability insights.

As the risks of global warming for investors and society become clearer, the former can do much to fight climate change by building net zero portfolios. But this need is not just an altruistic move. Incorporating net zero analysis into investment performance analysis and asset class selection, can also help to limit portfolio risk and identify fresh opportunities.

As always, we hope you enjoy the report and we thank you for entrusting us with your investments.

Jean-Damien Marie and Andre Portelli, Co-Heads of Investment, Private Bank





Are recession risks increasing?

As the US central bank eyes the end of its monetary largesse, bond yields rise, and geopolitical tensions increase, many investors are gripped by the prospect of another recession. However, timing one is tricky. Many go-to indicators for downturns may be losing their effectiveness. However, we believe that inflation will ease in many developed economies in the second half of the year, and the risk of a recession in the short term seems overblown.



In response to the coronavirus pandemic, the American economy saw a swift economic recovery last year following the sharp contraction in 2020. The markets' views of the world, and its behaviour, have shifted quickly in the last three months to a mid-cycle scenario. The next stage (a late cycle) is usually followed by recession. While it seems too early to worry about a recession being on the horizon, the recent flattening of the US yield curve, often seen as an indicator of a downturn, raises questions.

A VIABLE RECESSION INDICATOR

Historically, the yield curve has been a reliable leading indicator of an upcoming recession. Indeed, the last six American recessions started after the differential between the yield on the 10-year and the 2-year (the so-called "2/10") US government bonds turned negative.

With a 2/10 spread around 50 basis points (bp), down from 150bp a year ago, concerns are emerging in financial markets. While we appear some way from an inversion, parts of the futures curve have nonetheless started to invert. If the curve continues to flatten, as the difference between short-term and long-term bonds narrows, recession calls will only multiply in our view.

NOT A PERFECT CRYSTAL BALL

While the US yield curve's track record as a leading indicator of a recession is second to none, it is still imperfect. First, the time between when inversion and a period of three consecutive months of contraction (or a recession) begins can vary substantially. In the late 80's, the curve first inverted in December 1988. The recession that followed started 18 months later. In the late 90's, the curve briefly inverted in 1998, before steepening again and collapsing in early 2000. The "dotcom" recession officially started in March 2001, some three years after the first inversion.

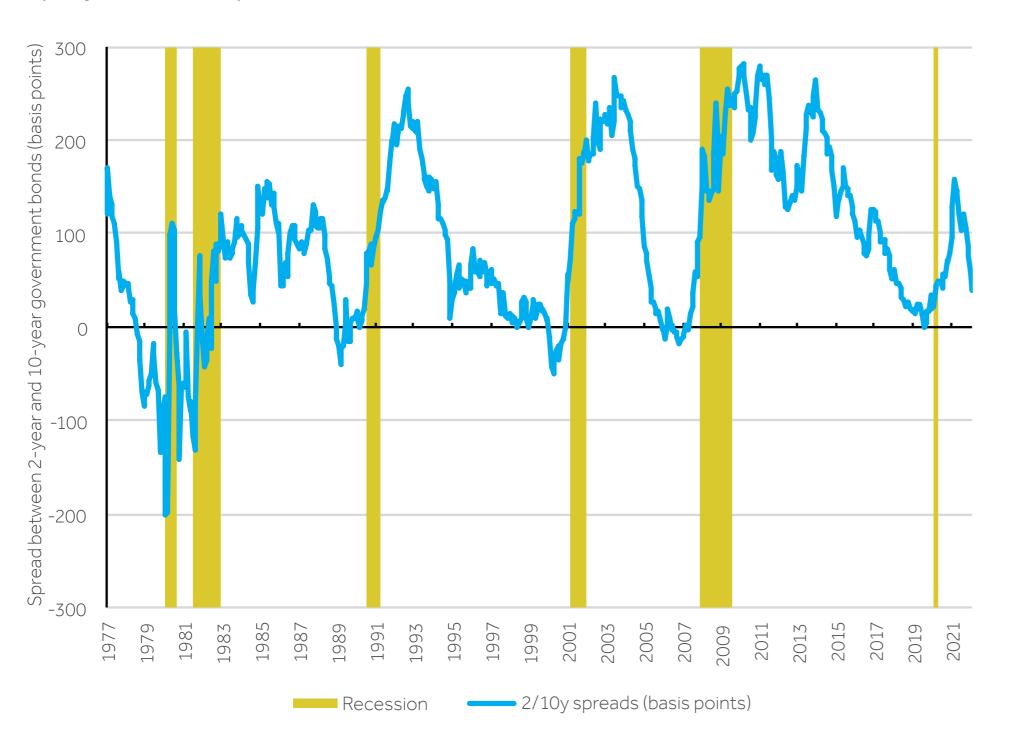
Most recently, the curve inverted in August 2019 and there was a pandemic-led, "flash" recession between February and April 2020. Here, though, the recession was caused by an exogenous, health-related shock, and not a typical end to the business cycle. As such, we will never know if and when this would have happened without COVID-19.





US YIELD CURVE INVERSIONS FORETOLD RECESSIONS IN THE PAST

US recessions as defined by the National Bureau of Economic Research and difference between the US 10-year and 2-year government bond yields



THE INFLUENCE OF CENTRAL BANKS

Not only is the shape of the US yield curve becoming an imperfect timing signal for a recession, but it is increasingly influenced by factors that can weaken its predictive power. After the ballooning of the US Federal Reserve's (Fed) balance sheet to \$9 trillion in its asset-purchase programme, the central bank now owns around a fifth of the country's debt. As a result, yields across the curve have been significantly distorted, and may not fully reflect the true shape of the US economy.

The power of central banks to distort yield curves is also evident in Europe. A study by the European Central Bank showed that central bank asset purchases lead to a flattening of the curve, since the yields of longer-term bonds tend to decline by more than those of short-term bonds.

IS A US DOWNTURN IMMINENT?

As discussed earlier, the yield curve is a useful, but imperfect, tool to judge when a recession might strike. This is why investors tend to monitor a wider range of indicators. None is perfect, but, taken together, they can help build a better picture of where the US economy is headed.

Some of the most popular recession predictors include: the yield curve, real interest rates, recession probability models, and composites of leading indicators. The table shows that none of these is a source of concern, at this stage. This does not mean that a recession in the short term is impossible. It simply means that its probability is rather low.

Indicator	Trigger	Level as of	Level six
		28 Feb	months prior
US yield curve slope (10-year to 2-year Treasuries, (bp)	Negative	40	110
Real rates	Positive	-0.79%	-1.03%
New York Fed recession model	Above 20%	6.0%	18.9%
Leading indicators index	Negative	7.3	8.7

Sources: Bloomberg, Barclays Private Bank, February 2022





LOW BUT INCREASING RISK

While the risk of a recession is low, compared to six months ago, the risk has increased. This is predominantly driven by the Fed's move to a gradual tightening of monetary policy, from an ultra-accommodative stance. As the US central bank moves to increase interest rates and shrink its balance sheet, there is a concern that the pace of hikes is too quick and the domestic economy starts to contract.

This is a scenario that is gaining traction in markets. In fact, the yield curve shows that in 2023, the Fed may be forced to cut interest rates again. While this could happen without a recession (a "soft landing"), the market is increasingly pricing in a policy mistake.

STAGFLATION VERSUS RECESSION

We expect the bears' narrative to gradually evolve in one of two ways as we go into the summer. On one hand, "stagflation fears" similar to the one experienced in the second half of last year could re-emerge. This scenario is most likely to occur if inflation stays high (we think price increases will be elevated until the second half of the year), growth slows from elevated levels, and the Fed appears too prudent.

Such a scenario would be a decent backdrop for risk assets, especially if inflationary pressures moderate. On the other hand, talk of recession could dominate everyday discussions if the Fed is forced to aggressively combat inflation. Then, the curve would likely invert as more hikes are priced in on the short-end of the curve. This would be a much more challenging environment for investors.

POSITIONING FOR HEIGHTENED UNCERTAINTY

Acknowledging the uncertainty created by the conflict in Ukraine, we believe maintaining composure is key to investors' long-term success. As such, we stay invested and continue to prefer equities to bonds. Yet, there are challenges ahead, and volatility will likely remain elevated for the foreseeable future. This year's increases in bond yields suggest that we are approaching levels where it may soon be worth locking in rates again.

In equities, the value/cyclical tilt we supported going into this year has played out well, but the opportunity is gradually shrinking and geopolitical tensions may add to the confusion. Short-term investors may need to be even more selective, while longer-term ones may want to start looking at quality and growth stocks again.

Author: Julien Lafargue, CFA, London UK, Chief Market Strategist





Can equities outperform as the yield curve flattens?

The situation in Ukraine is changing rapidly. It is likely to dominate financial markets in the short term. Another concern for equity investors is the flattening in the US yield curve, which has sparked worries of an economic downturn, or even a recession. So just how should equity investors position portfolios at such times?



Following the recent developments in Ukraine, the increase in market volatility and sharp flattening of the US yield curve, we remain constructive on equities and maintain our tactical preference for cyclicals, value and non-US equities. However, in view of the recent worsening of growth expectations relative to inflation expectations, we believe that investors should strive to improve diversification and adopt a more balanced approach in portfolios.

In this article, we discuss our views on the recent repricing of the growth/ inflation n dynamics and their implications for equities and risk assets in general. We also highlight more defensive areas of the market, which seem attractively valued, and could represent diversification opportunities for investors in the current environment.

THE US YIELD CURVE HAS CONTINUED TO FLATTEN AT AN EXTRAORDINARY PACE

In February, equity and bond volatility continued to trend higher, reflecting the rise in geopolitical tensions and increasing concerns of a policy error by the US Federal Reserve (Fed)

The US yield curve has continued to flatten aggressively. Between mid-January and mid-February, the curve has flattened by 41 basis points (bp), or a 3.0 standard deviation move, based on observations over the past five years.

This sharp flattening of the yield curve suggests that markets are repricing growth risks. With Fed fund futures now discounting more than six 25bp hikes in the next 12 months, there has been increasing concerns that excessive policy tightening by the Fed could derail the economic recovery, with negative implications for risk assets.

THE MARKET MAY BE OVERPRICING THE PACE OF US RATE HIKES

The path of policy normalisation discounted by the market appears overly aggressive. Indeed, we remain of the view that inflation should moderate in the second half of the year, as consumer spending shifts from goods to services, and supply-chain disruptions abate. We note that the US market is even pricing an 80% chance of a rate cut after the next two years.

The outlook for central bank policy may also be clouded by geopolitical risks, which increased significantly in February as Russia attacked Ukraine. Typically, the volatility associated with such events is short-lived, and equities recover quickly. Yet, whether such risks threaten growth or boost inflationary pressures, via higher energy prices, any geopolitical conflict is another reason for central banks to tread carefully.

EQUITIES NORMALLY PERFORM WELL WHEN YIELD CURVES FLATTEN, UNTIL THEY INVERT

February's *Market Perspectives* noted that equities tend to perform well during rate-hiking cycles, after an initial mild/short-lived pullback in the first couple of months following the first hike. We now explore how equities usually perform in periods of flattening yield curves.

Starting with curve inversion, a recent analysis by our investment bank's European Strategy team showed that in the past eight US rate cycles, equity markets peaked, on average, ten months after the yield curve inverted (within a window of two to 18 months), but never before.

We also looked at how equities generally performed in the months following a flattening yield curve to levels below 100bp in the US, Europe, and globally, using data going back to 1980 (see table, p7). With the US 10-year versus 2-year yield spread already below 50bp, we concentrated our analysis on three





EQUITIES USUALLY GENERATE SUPERIOR RETURNS FROM CURRENT LEVELS OF THE US YIELD CURVE

Subsequent annualised performance of equity markets based on various levels of the US yield curve slope (10-year minus 2-year yield spread), following a flattening. Data since 1980

			S&P	500		S&P 500/10-year US Treasuries				US Cyclicals/Defensives				
US 10y-2y level	Observations	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	
& flattening	Observations	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	
0.5% - 1.0%	11%	18.8	15.9	13.3	12.0	18.9	16.1	11.5	8.0	4.6	2.4	-0.3	-2.2	
0.0% - 0.5%	13%	21.0	16.8	16.1	14.1	14.4	9.9	8.6	8.3	1.8	1.4	-0.9	-0.1	
< 0.0%	8%	8.4	8.0	3.4	1.1	3.9	1.9	-1.6	-4.7	-6.7	-8.1	-7.0	-5.3	
Unconstrained	100%	13.8	11.5	10.3	9.6	10.9	8.1	6.4	5.3	0.8	-0.4	-0.9	-1.1	

			European Equities				European Equities/10-year Bunds				European Cyclicals/Defensives			
US 10y-2y level	Observations	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	
& flattening	Observations	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	
0.5% - 1.0%	11%	16.6	14.1	12.8	11.9	14.5	12.9	10.9	9.6	3.3	2.8	0.1	-2.1	
0.0% - 0.5%	13%	19.9	14.2	13.3	11.9	15.4	10.7	9.4	9.5	-0.7	-2.5	-3.4	-1.4	
< 0.0%	8%	6.0	3.9	2.9	-2.7	8.1	4.6	2.3	-5.5	3.2	0.5	-1.5	-4.8	
Unconstrained	100%	13.5	10.6	9.0	8.2	11.3	7.9	5.9	4.7	-0.1	-1.0	-1.5	-1.9	

		Global Equities				Global Equities/10-year US Treasuries				Global Cyclicals/Defensives				
US 10y-2y level Observations		Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	Fwd 3m	Fwd 6m	Fwd 12m	Fwd 24m	
& flattening	Observations	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	CAGR	
0.5% - 1.0%	11%	22.9	17.7	14.9	12.4	24.1	17.9	13.1	7.7	3.2	3.1	1.2	-0.6	
0.0% - 0.5%	13%	18.4	12.7	12.2	11.7	12.9	7.1	5.3	5.9	-0.9	-1.1	-2.9	-1.9	
< 0.0%	8%	4.0	3.4	1.6	-1.7	-1.5	-4.3	-5.8	-10.0	-0.9	-2.6	-2.8	-3.2	
Unconstrained	100%	13.2	10.8	9.4	8.6	10.2	6.9	4.9	3.6	-0.2	-0.5	-0.9	-1.0	

different scenarios of spreads declining to ranges of (i) 50bp to 100bp, (ii) 0bp to 50bp, and (iii) inverted. Those three scenarios represent 11%, 13%, and 8% of weekly observations over the period, respectively.

When the yield curve flattens to less than 100bp, history suggests that equities normally generate superior returns, as long as the curve does not invert. This is true for equity performance in absolute terms and relative to bonds in the US, Europe, and globally. It makes sense from a fundamental standpoint as, at this stage of the cycle, the Fed is usually trying to cool an economy which is growing above potential, with a strong labour market.

However, relative performance within the equity market is less clear-cut below 50bp, and varies by region. In all regions considered, cyclicals tend to outperform defensives modestly in the year following a curve spread of 50bp to 100bp. Below that level, performance is less differentiated, with the exception of the US market, where cyclicals tend to underperform defensives markedly in the months following inversion.

IMPLICATIONS FOR EQUITY ALLOCATION

Based on how equities have tended to perform in periods of flattening, and our belief that a recession is not imminent, we remain constructive on equities and risk assets. However, in view of the recent growth/rate scare, it appears prudent to increase portfolio diversification, and add more defensive exposure. In order to identify those opportunities, we looked for possible dislocations in the market, following the significant increase in 10-year yields.

Sources: Refinitiv Datastream, Barclays Private Bank Research, February 2022

Table notes:

- * Cyclical and defensive indices mentioned in this note refer to Barclays Private Bank's market-cap weighted indices, denominated in USD.
- Cyclicals include financials, consumer discretionary, industrials, energy, basic materials, technology hardware.
- Defensives include healthcare, consumer staples, telecoms, utilities, real estate, software and computer services.
- CAGR stands for compound annual growth rate.





EQUITIES TEND TO PERFORM WELL AROUND HIKING CYCLES

As discussed previously, cyclical and typically value-oriented sectors, such as financials, energy, industrials, and basic materials, tend to benefit from higher yields and inflation. Consistent with the increase in US 10-year yields, this positioning has worked well so far this year.

The MSCI World value index had outperformed growth by 15% in 2022, as of 23 February, and developed market cyclicals outperforming defensives by 4%, led by energy on the positive side (up + 18%), and information technology and communication services on the negative side (down - 17% and - 14% respectively).

The relationship has been strongly correlated in the past, and the recent moves are consistent with historical patterns (see chart).

However, within cyclicals, some sectors appear to have overshot, compared to their historical relationship ("beta") with yields, while others have lagged (notably industrials).

The energy sector in particular seems to have run ahead of its fundamentals. While the sector should continue to be supported by higher energy prices (up to a certain point), inflation, and geopolitical risks, we believe it offers less value than industrials at this point in time. Should events in Ukraine broaden significantly, or become more entrenched, the energy sector would not be immune from a broad-based market sell-off.

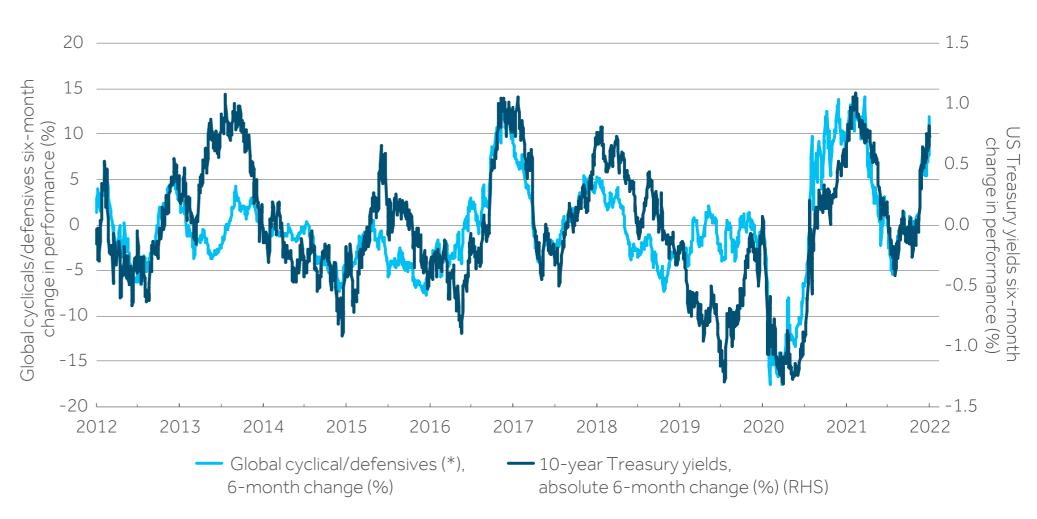
For investors looking to increase their exposure to more defensive parts of the market, the healthcare sector appears attractive. Indeed, unlike consumer staples and utilities, which have performed better than expected given their inverse relationship with yields, the performance of healthcare has been consistent with the move in yields.

Within styles, small caps continue to stand out, both tactically and structurally. Indeed, smaller companies have lagged their larger peers, despite the rise in yields, which is unusual. On the other hand, value's outperformance versus growth appears slightly overdone, suggesting that some consolidation may be on the horizon.

Author: Dorothée Deck, London UK, Cross Asset Strategist

TRACKING GLOBAL CYCLICALS VERSUS DEFENSIVES WITH US 10-YEAR TREASURY YIELDS

Based on six-month percentage changes in the relative total returns of global cyclicals versus defensives, against the absolute six-month change in US 10-year Treasury yields



Sources: Refinitiv Datastream, Barclays Private Bank, February 2022





What does a flat US yield curve mean for bond investors?

While geopolitical tensions are likely to impact global bond markets over the medium term, in the long run it is primarily driven by central bank policy, with the market pricing in a fast pace of normalisation. Is the market getting too excited?



SHIFTING PRIORITIES

The macro challenges facing countries might be variable, and could be affected by the Russian/Ukrainian crisis. But, the overarching emphasis seems to be on protecting the economy, and consumers, from "entrenched" and elevated inflation. In America, the US Federal Reserve (Fed) admitted that it has to be more "nimble" in the central bank's fight against higher inflation. The recent minutes revealed that, "most participants noted that, if inflation does not move down as they expect, it would be appropriate for the committee to remove policy accommodation at a faster pace than they currently anticipate".

Given the importance of the future Fed policy to the bond market, the question is how a "faster pace" could play out? It seems very likely that the central bank, at the very least, will hike faster than the three hikes in 2022 implied in its "dot plot" projections.

Given another record print in inflation for January, at 7.5% on an annualised basis, it seems more likely that the central bank may have to settle for up to five 25 basis point (bp) hikes this year, lifting the upper limit from 0.25% to 1.5%. That said, the Fed will also consider the geopolitical risk and financial conditions. In the short term inflationary pressures are unlikely to improve, and any energy-related disruptions will not help.

TWO-YEAR YIELD WELL AHEAD

The rate market prices in six rate hikes for 2022 which is reflected in the significant rise of the 2-year yield from 0.2% back in September, to over 1.5%. In the past 39 years (which have seen seven rate-hiking cycles) the 2-year yield started to rise from its prevailing lows on average five months ahead of "lift-off" in the cycle.

This time, the 2-year yield started to climb thirteen months ago, illustrating the exceptional degree of market excitement. This "lift-off euphoria" is also reflected in the level of the 2-year yield. The hiking cycle has not even started, and the difference between the bond yield and the policy rate is 125bp. This is the biggest steepness since 2004 between the 2-year yield and the actual policy rate during, or in advance of, a hiking cycle.

STEEPNESS AND FLATNESS IN ONE

At first glance, the yield curve seems flat. But the headline flatness (difference 10-year and 2-year Treasury yields) overlooks the current curve dynamics. The flatness can only be witnessed at the long end, with the difference between the 5-year and 10-year yields a mere 10bp. This means that investors obtain only 10bp yield more by doubling the tenor. The curve at this point is the flattest seen since 2007.

While a steepening at the short end has regularly been accompanied by a flattening at the long end, the magnitude of the recent steepening and flattening is surprisingly high, by historical standards.

But what does the exceptional steepness and flatness at the respective segments of the curve imply? The steepness at the short end suggests a high conviction in the market of a steep hiking cycle. While recent save-haven flows have led to lower yields at the longer end, the flatness at this point of the curve hints of confidence that the Fed can tame inflation in the medium to longer run. Is the market being too complacent?





HISTORY SUGGESTS THAT EIGHT FED HIKES WOULD NOT BE EXTREME

A closer look at the 2-year yield in comparison to past hiking cycle patterns provides more insights. The forward rate curve points to a US policy rate of 2.25% in two-years' time (equivalent to eight 25bp steps). During the last six cycles since 1983, the Fed hiked by 270bp (equivalent to 11 25bp moves) in a two-year period. Eight 25bp hikes appears moderate by comparison. However, in most prior periods of rising rates, yields were substantially higher. During the last such period the Fed hiked eight times, with seven of them occurring in a two-year time frame.

OVERSHOOTING THE TARGET

While eight increases are far from abnormal, based on previous hiking cycles, the 2-year yield tends to overshoot. During the last six cycles the yield overshot the peak in the policy rate by around 80bp, on average (see chart). This implies that often the market forecast at least three hikes more than occurred, with the exception being the era of stagflation in 1980 and 1981.

While the Fed may still lift the policy rate above 2%, the current pricing of hikes implies that the market puts a higher probability on a scenario of excessive inflation ultimately forcing the US central bank to adjust.

We have written in our previous publications that the Fed has drastically changed its course. It previously was willing to let the economy run "hot", looking through a period of higher inflation, to protect the broad recovery in the job market. However, the narrative has changed, of late, to a more hawkish one, in attempts to stop inflation becoming "entrenched". And with the latest inflation readings being over 7%, the central bank is running against time. As such, it seems plausible that the Fed is trying to front-load hikes as much the geopolitical uncertainties and market conditions allow, to keep long-run inflation expectations anchored.

INFLATION PULL-EFFECT

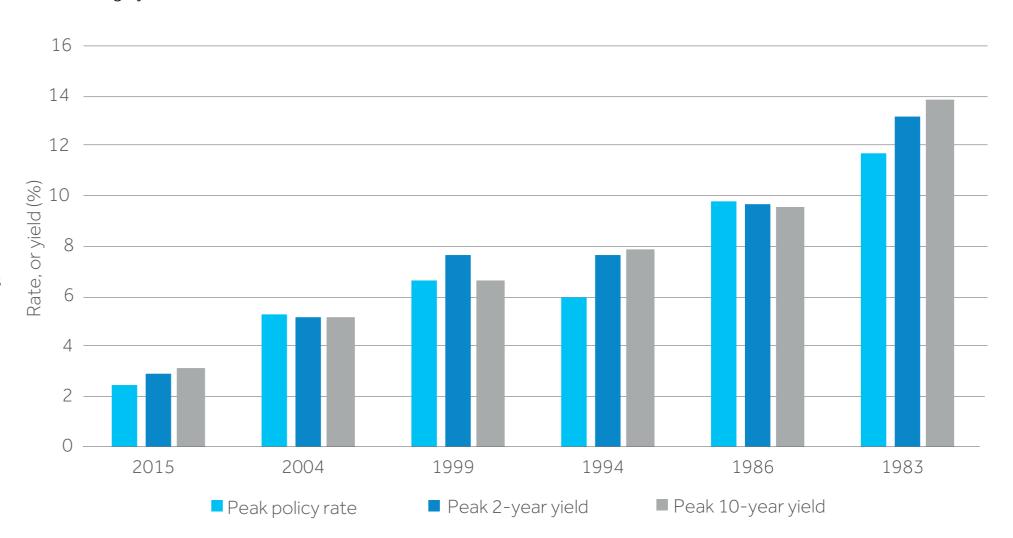
While the inflationary challenges facing countries might be slightly different and are likely to be impacted by the Russian/Ukraine crisis, the overarching emphasis of central banks seems to be to protect the economy, and consumers, from "entrenched" and elevated inflation.

This leads to the crucial question concerning the longer end of the curve: how far can long end yields rise? Historically, the long end tried to anticipate the terminal, or neutral, rate for the Fed (the rate at which the economy reaches trend growth without inflation running away or avoiding deflationary tendencies).

Guessing this neutral rate tends to be more of an art than a science, and is often only discovered at the point of no return, for instance, the realising that it had hiked one too many times. In 2019, taking the policy rate to 2.5% proved too much for the economy, and financial markets. This time the rate market implies an even lower terminal point, leading to the described flatness in the curve.

2-YEAR YIELD REGULARLY OVERSHOOTS PEAK POLICY RATE IN HIKING CYCLES

Comparison of the Fed's peak policy rate, 2-year Treasury peak yield, and 10-year Treasury peak yield in last six US rate-hiking cycles



Sources: Bloomberg, Barclays Private Bank, February 2022





CURVE SHOWS INVERSION

In fact, the 1-year projected 5-year forward rate is only 15bp higher than the current spot rate, while the entire 1-year projected curve is inverted (that is, when shorter-term yields are higher than longer yields), something that usually only occurs during the later phase of a hiking cycle, clearly not at the outset. This illustrates the market expectation that 2.25% could mark the tipping point.

TERMINAL RATE, TERM PREMIUM

According to various studies, a substantially elevated higher terminal rate would either require a much higher trend or equilibrium growth, or the excessive stagflation seen in 1980s. Both scenarios seem less likely in our view.

Furthermore, higher leverage means that the economy is less likely to withstand rates substantially beyond 2.25%. In addition, the market is rediscovering the importance of holding longer bonds during geopolitical uncertainties. However, the aggressive hiking expectations, combined with depressed yields (leading to early stage inversion) at the medium to longer end, leaves room for volatility.

A reduction in monetary accommodation and increasing uncertainty over the long-term inflation path could lift the term premium out of negative territory. This, in turn, may spark more volatility at the long end, pushing yields at that point of the curve, at least temporarily, higher.

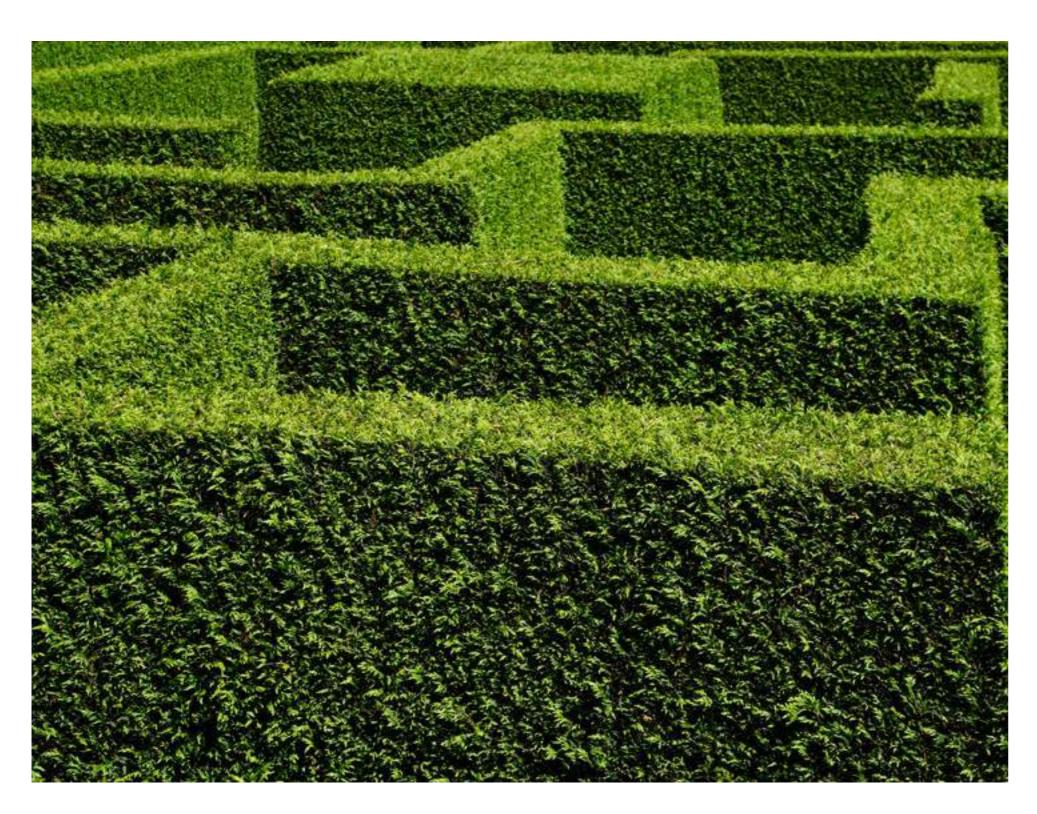
A positioning at the medium point of the curve, in combination with moderate credit exposure, seems more appealing in this environment.

Author: Michel Vernier, CFA, London UK, Head of Fixed Income Strategy



Beyond diversification: tail-risk hedging

Persistent upward inflationary pressures, a nearing US rate-hiking cycle, as well as medical and geopolitical risks add to the risk of slower economic growth or an equity market sell-off. Staying nimble, being diversified, and considering tail-risk hedging may be the key for portfolio resilience in coming months.



Financial markets have been particularly volatile this year. As inflation continues to surprise, reaching the highest annual level since 1982 in the US, leading central banks are more focused on rate hikes than on defending their initial "transitory" narrative.

One of the main questions ahead of monetary tightening is how well will equities perform when rates are rising?

Historically, equities usually underperform in the first couple of months following the initial rate hike. However, they tend to build up resilience during the hiking cycle and ultimately perform relatively well thereafter (see February's *Market Perspectives*).

MACRO UNCERTAINTY FLARES UP

Inflation uncertainty and the risk of over-aggressive policy tightening are among the main concerns on investors' minds. Coupled with heightened medical and political risks, they raise doubts over the strength of future growth. This is echoed in the US economic policy uncertainty (EPU) index hitting its highest level in December 2021 (see chart, p13).

Even though policy uncertainty has abated somewhat this year, it has remained elevated largely due to inflation-driven uncertainty around US monetary policy, and may climb again on current geopolitical events.

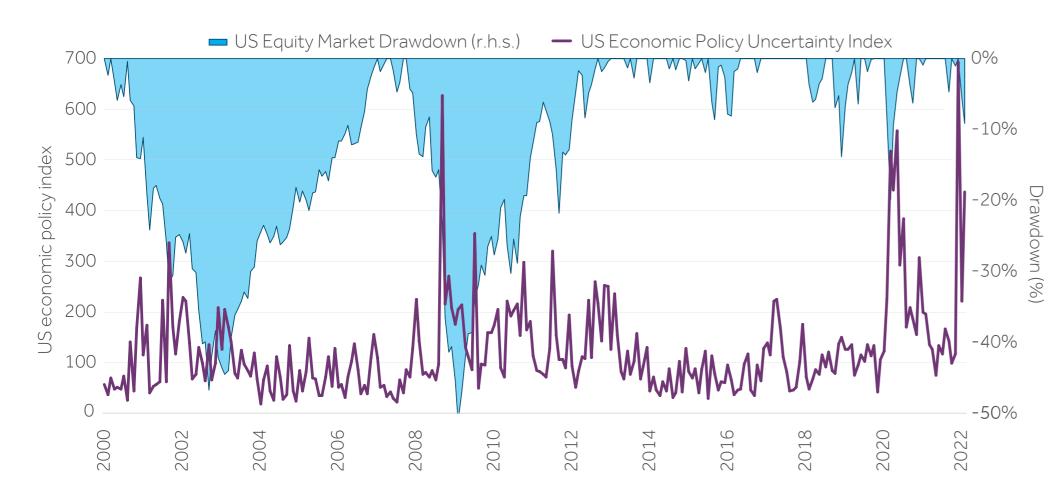
Asset pricing theory suggests that some of these effects should already be priced in, due to market efficiency. Although the US EPU index is not a predictor of financial crises, its largest spikes occurred in 2001, 2008, and 2020, during equity sell-offs, and acted as harbingers of further downside risk.





US ECONOMIC POLICY UNCERTAINTY (EPU) INDEX AND US EQUITY DRAWDOWNS SINCE 2000

The US EPU index is a business news-based indicator that tracks general state of the economy (higher levels correspond to periods of elevated macroeconomic uncertainty)



Sources: Bloomberg, Barclays Private Bank, February 2022

HEIGHTENED UNCERTAINTY CALLS FOR PRUDENCE

The macro picture and outlook for equities remain positive in our view, as economies prepare to shift from pandemic to endemic, as COVID-19 comes under more control, and global markets reintegrate.

That said, we acknowledge that a risk-off regime may last for a while, before macro uncertainty is resolved and equities rebound. As such, it may be time to consider hedging strategies that can mitigate the impact of potentially adverse, extreme market moves.

In a typical balanced portfolio, equities represent the key growth driver. The flipside is that they expose investors to both volatility and potential losses. Cautious investors seeking protection against equity drawdowns have three powerful tools at their disposal – strategic diversification, tactical diversification, and tail-risk hedging strategies.

DIVERSIFICATION FOR THE LONG RUN

The first line of defence for any portfolio is diversification through a structured and diligent investment process. Crafting a well-diversified portfolio is a key tenet for investment success and growing wealth over the long term.

Our strategic asset allocation (SAA) is the bedrock of our investment process, and it represents the optimal long-term positioning in a range of asset classes. The SAA design is guided by our investment philosophy, which revolves around the principles of long-term investing, wealth preservation, international multi-asset class diversification, and optimal risk-return trade-off.

Spreading capital across different asset classes can help investors to navigating risks and keep portfolio volatility under control. For example, developed government bonds may earn stable and secure income, and typically provide protection when equities tank. Meanwhile, commodities and other real assets usually offer a hedge against rising inflation.

Hedge funds generate returns using dynamic trading strategies by leveraging exposures to equities and fixed income, often by the means of long-short strategies and derivatives. They can stabilise portfolio returns, and provide significant diversification benefits on average. Last, but not least, investors able to accept some portfolio illiquidity, can find return and diversification opportunities in a range of private markets.





ATTENUATING CYCLICAL SWINGS

Getting the long-term asset allocation policy right is important for successful investing. To achieve that goal, the SAA should reflect the baseline, most likely a forward-looking scenario which blends various macro-financial conditions over business cycles. As such, the SAA represents an optimal portfolio mix for a disciplined long-term investor capable of looking past intermittent market volatility.

Cyclical market gyrations and bouts of elevated uncertainty can result in portfolio losses. A tactical asset allocation (TAA) and security selection process is therefore critical to generate alpha and shelter portfolios in downward-trending equity markets over shorter horizons (three-12 months).

TAA decisions alter the optimal long-term asset allocation mix to better align portfolios with medium-term economic scenarios. During periods of market stress, tactical shifts are necessary to reduce exposure to risky assets. For example, reallocating to defensive and low-beta equities. Credit risk can be reduced by moving exposure from lower-to higher-credit quality. On a cross-asset basis, increasing allocation to safe-haven assets, like government bonds, gold, the US dollar, and Japanese yen, usually provides portfolio protection.

It is important to recognise that there is no universal recipe for an optimal TAA. As discussed previously, equity drawdowns substantially differ in nature. It is necessary to explore, and understand, the potential impact of various macro-financial factors on equity sell-offs. However, this does not diminish the importance of the TAA as the second line of defence in a portfolio.

WHEN IT RAINS. IT POURS

In fast-paced markets, extreme moves can occur quickly. Moreover, when a crisis hits, large negative jumps in asset prices tend to cluster, resulting in equity market drawdowns of 40-50%. During such meltdowns, volatilities and correlations rise sharply, and liquidity dries up. At that point, many investors may look for protection beyond the diversification benefits offered by the SAA and TAA.

Tail risk hedges, such as buying put options on the underlying (for instance, a stock market index that represents a benchmark for the equity exposure in the portfolio), are perceived as a holy grail during market corrections and crisis periods. Such hedges provide the third line of defence in a portfolio, and the ultimate protection of wealth.

The demand for tail risk hedges often peaks when the market is selling off, which causes a sharp increase in their prices.

Downside protection becomes prohibitively expensive precisely when investors need it the most.

This is understandable as systematic hedging with put options – a strategy which would provide a protection against the tail risk at all times – is rather expensive. For example, a hypothetical strategy that buys and rolls at expiration onemonth at-the-money (ATM) puts on S&P 500 would have incurred an average cost of about 6.4% annually over the last two decades (See chart on page 15).

However, safe-haven assets can disappoint as well. Changing macroeconomic conditions may impact correlations, possibly diminishing their protective power. Moreover, safe-haven assets usually provide low income and represent a drag on performance over longer investment horizons. As such, there is a trade-off between portfolio return and risk.

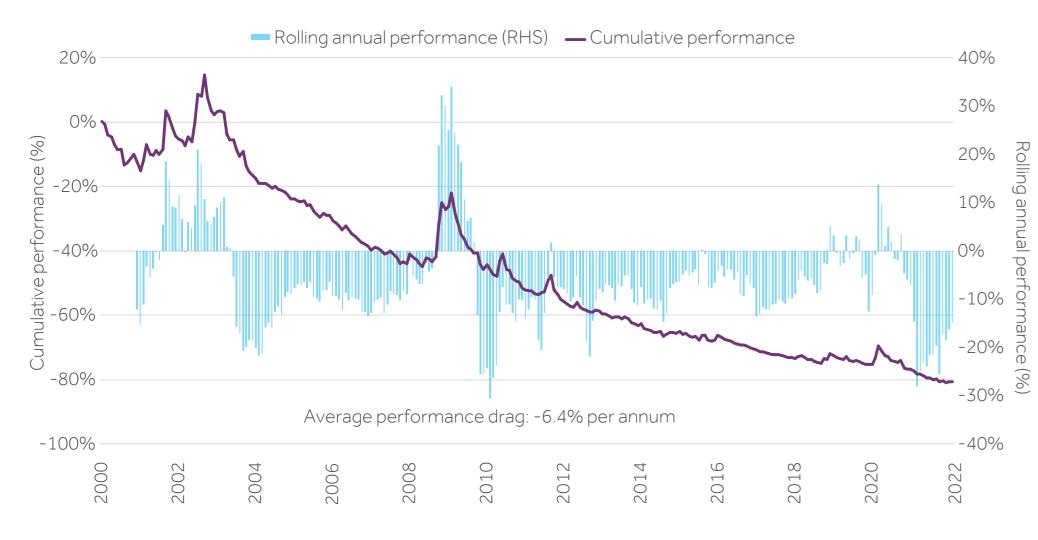
"Tail risk hedges, such as buying put options on the underlying..., are perceived as a holy grail during market corrections and crisis periods"





PERFORMANCE OF ONE-MONTH ATM S&P 500 PUT OPTION OVERLAY STRATEGY

The cumulative and rolling annual performance of buying one-month at-the-money (ATM) S&P 500 puts and rolling each month at the expiration, since 2000



Sources: Bloomberg, Barclays Private Bank, February 2022

IT'S ALL ABOUT CONVEXITY

The key to unlocking effective tail risk hedges is to reduce the exposure to downside risk, but also to limit the hedging costs. Ideally, a hedging programme should generate more money when a risk scenario realises than they lose otherwise. Therefore, the best candidates for tail risk protection are assets and strategies that produce convex pay-offs.

Our quantitative analysis indicates that cash, US Treasuries, and our protective put overlay strategy have provided most consistent protection during the quarters when the S&P 500 plummeted more than 10%. Gold, macro hedge funds, and the JPYAUD exchange rate have also posted positive returns on average in these periods, but doing so more infrequently (see chart on left-hand side of p16).

Based on these results, it is tempting to conclude that the protective put overlay is the best tail risk hedge. However, this would be the wrong conclusion to reach, not least due to the following two reasons.

First, the average annual performance of this strategy since 2000 (including all market regimes) is negative. In fact, it has the worst long-term performer among the seven strategies covered.

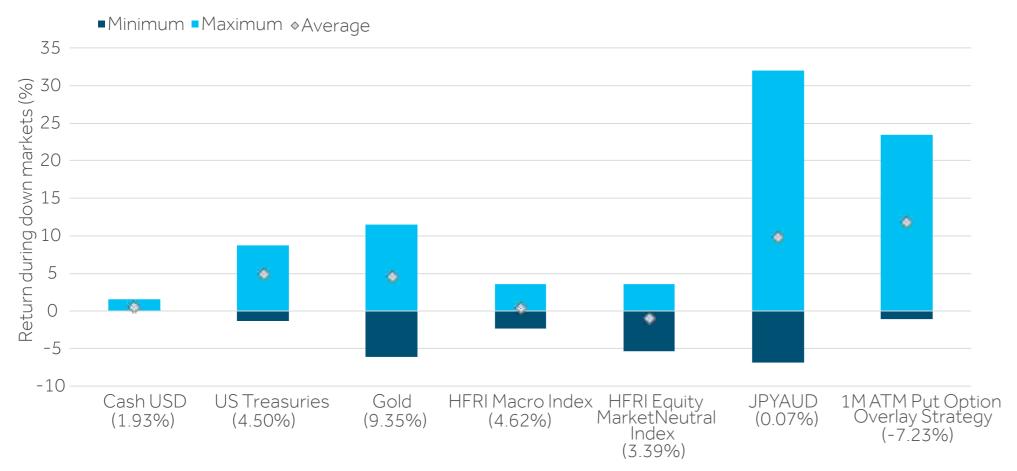
Second, if we abandon the idea of a systematic implementation of the protective put overlay, then the performance during equity down markets would be worse than shown in the chart. Such performance during stressed periods is possible only if we have a systematic hedging programme, or if the timing of the purchase is perfect (or just before the equity correction starts).





SAFE-HAVEN ASSETS AND TAIL RISK HEDGING STRATEGIES ON AVERAGE SHELTER PORTFOLIOS IN DOWN MARKETS

The best, worst and average quarterly performance of several safe-haven assets and the put option overlay strategy (one-month ATM S&P 500 puts) during periods when S&P 500 lost more than 10%, since 2000. Average returns for the full sample (i.e. across all market regimes) are reported in the parenthesis on the x-axis



Sources: Bloomberg, Barclays Private Bank, December 2022

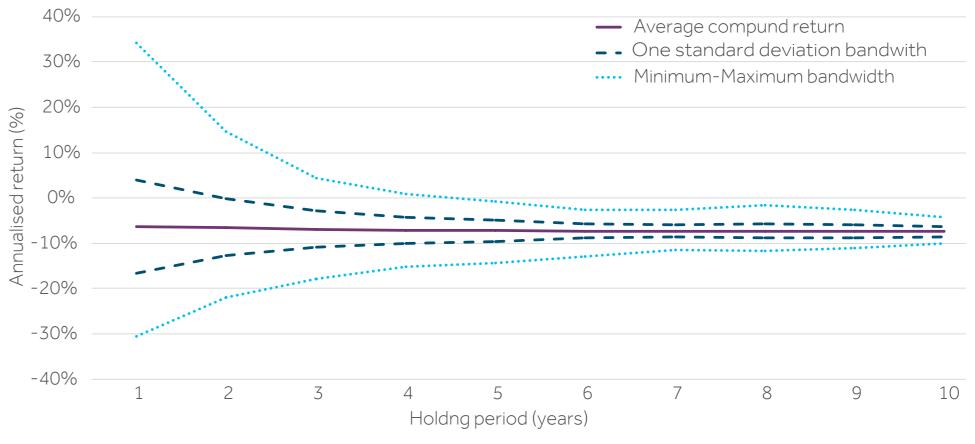
WHEN PROTECTION BECOMES EROSION

To understand better the impact of investment horizon on the performance of the hypothetical put protection overlay, we calculated the strategy's distribution of returns, since 2000, for holding periods ranging from one to ten years (see chart).

The average return is negative, ranging from -6.4% to -7.3%, worsening as the holding period increases. Moreover, beyond the four-year investment horizon, systematic buying and rolling of one-month ATM S&P 500 puts has never delivered positive returns. The short end of the "performance curve" offers some hope, however the dispersion of returns is extremely high.

PERFORMANCE CURVE FOR ONE-MONTH ATM S&P 500 PUT OPTION OVERLAY STRATEGY

The performance of buying one-month at-the-money (ATM) S&P 500 puts and rolling each month at the expiration over different holding periods, since 2000



Sources: Bloomberg, Barclays Private Bank, February 2022





IS TAIL-RISK HEDGING ILLUSIVE?

Put options are designed to provide a direct hedge of the underlying asset or strategy. In practice, they can be prohibitively expensive, especially if used systematically. However, tail risk hedging with options is an attractive approach when implemented as a targeted strategy.

Admittedly, our analysis merely scratches the surface of an important topic. For example, one could study the optimal selection of "moneyness" and maturity for put options. Option strategies, such as put spreads and collars, call options on volatility indices, and credit default swaps, are also good candidates for tail-risk hedging.

The key takeaway is that investors often face a steep risk-return trade-off when buying protection against equity market dips. This highlights the importance of a well-diversified portfolio along a strategic asset allocation with some tactical shifts in the first place.

Authors: Nikola Vasiljevic, Zurich, Switzerland, Head of Quantitative Strategy; Lukas Gehrig, Zurich, Switzerland, Quantitative Strategist





How can you rebuild your portfolio to join the net zero journey?

Find out how investors can adjust their portfolios to make their own net zero commitments, consistent with constructing "Paris-Aligned" portfolios.



Many countries and companies have made "net zero" commitments to acknowledge their responsibility, and intent to impede further climate change by reducing their greenhouse gas (GHG) emissions.

Investors may be asking themselves whether they should, or can, be making similar commitments to align their portfolios with the Paris Accords goal of a net-zero carbon economy by 2050.

As an individual or family, if you want to support the transition to a net zero economy, the most direct approach remains to invest in companies providing climate solutions, as explained in October's *Market Perspectives*.

However, these ventures will likely account for a fraction of any investors' existing, or future, portfolio. Not all companies will drive the transition via their products or services. That said, all businesses contribute to, and are affected by, climate change; and the efforts to adapt or mitigate its effects.

So what can investors do? This article focuses on the likely majority of an investors' portfolio, explaining what a net zero portfolio is, and why an investor might decide to align their portfolio in this way.

UNDERSTANDING A NET ZERO PORTFOLIO

Like many aspects of this evolving field, there is no single agreed view of what constitutes a net zero portfolio. Or how to arrive at one.

The Paris Aligned Investment Initiative starts to clarify what a "Paris Aligned" portfolio means, stating that "implementing an investment strategy that is consistent with achieving the goal of global net-zero emissions by 2050." To understand that more clearly, and the implications for investors, the definition can be broken down into two parts.

NET ZERO AS AN ASSESSMENT

Having recognised the risks and opportunities around climate change and transition efforts, many have already started to account for climate change in their investment decision-making.

A net zero commitment has more specific implications to be "consistent" with the global GHG emissions goal of being net zero by 2050. This adds a comparative element for your decision-making and performance measurement.

Understanding the pathways to achieve this goal at the level of countries, sectors, and companies should help to inform the decision on how to invest. Those on or ahead of these trajectories may be more attractive (from a climate perspective) than those that are not. As well, assessing the net zero commitments against plans, and against the progress made to achieve them, for these entities, can help investors to judge climate readiness, and ideally to achieve the net zero goal to limit global warming to $1.5^{\,\rm C}$.

As a result of this framing, portfolio temperature alignment methodologies and tools are available to assist investors with assessing their portfolios against an implied temperature rise.

Again, while variations in calculation methodologies and underlying challenges around issues, such as data quality, exist, these provide a "performance" measurement for investors. The estimated temperature of portfolio holdings enables a simplified metric for investors to understand their capital's contribution to climate change, or compare investment strategies based on a net zero framing.

<



¹Various definition exist on what constitutes "net zero" at a corporate or country level. Based on the Science-Based Targets initiative (SBTi), broadly the implications are to reduce GHG emissions to residual levels to achieve a 1.5 centigrade pathway, and then neutralising emissions that can't be avoided.

²Paris Aligned Investment Initiative, Net Zero Investment Framework, Oct 2021 https://www.parisalignedinvestment.org/media/2021/10/Net_Zero_Investment_Framework_final.pdf

KEY MILESTONES TO IEA'S PATHWAY TO NET ZERO

economies



Beyond assessment, the above definition implies that net zero is a process of investing; not on a prescribed set of portfolio holdings. By "implementing an investment strategy" investors have flexibility on the approach they take to achieve net zero.

Most frequently, this means tilting portfolios either away from high carbon intensity sectors or companies, or toward lower intensive ones. Already, investors can use the carbon footprints, or quantification of GHG emissions, on an absolute or relative basis, to inform these decisions. Implementing a net zero process requires more active monitoring and clear decision guidelines against the backdrop of the global transition, as well as increasing expectations to reduce these emissions.

Flexibility in approach also means that your investments may vary considerably. To maintain a diversified sector allocation for a portfolio, it's possible carbon intensive sectors may remain as holdings. At the most extreme end, fossil fuel producers could be included if they have Paris-aligned net zero plans³. While less likely, it does indicate for investors the importance of understanding, or defining, the parameters and process to be used.

SHOULD INVESTORS BE INTERESTED IN A NET ZERO PORTFOLIO?

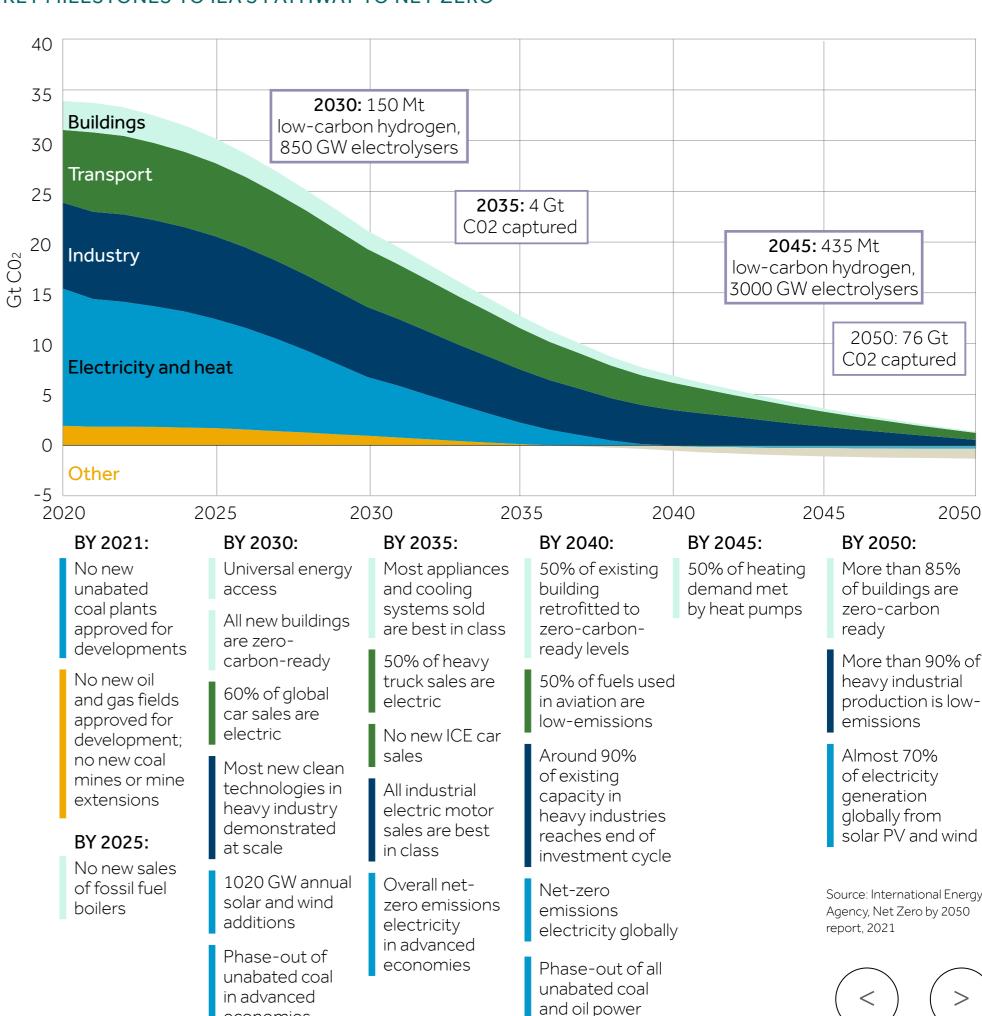
From a purely investment standpoint, Paris-aligned portfolios may help investors to avoid risks or to generate alpha.

Additionally, investors may have personal, ethical views about climate change. Likely these will be around sectors or companies that generate the greatest proportion of GHG emissions. Investors may not want to own or fund any of these companies, given views about past or potential climate damage linked to these organisations. Then, divestment and/or excluding these holdings is an acceptable way to align the portfolio to their personal views. For the moment, we're focused on the investment case, rather than ethical one.

Returning to the financial aims, the risk and reward opportunities will be generated by the relationship of portfolio holdings to the impact of climate change, and the efforts to address. This is most clearly seen through scenarios for how specific industries and countries will need to operate to align with a net zero economy.

As an illustration of this, the International Energy Agency has published various scenarios for the energy economy and transition roadmaps⁴. Considering the scenario of Net Zero Emissions by 2050 (NZE) showcases how net zero scenarios can provide insight to investors⁵ (see chart).

³While possible, this is an unlikely scenario, and notably for portfolios booked in Europe, requirements around the EU Green Taxonomy and Principle Adverse Impacts. However, even within this EU framework, debates about what classifies as "green", most recently around the inclusion of gas and nuclear sectors, remain.



plants

 $^{^4\,}IEA\,(2021), World\,Energy\,Outlook\,2021, IE\,Paris\,https://www.iea.org/reports/world-energy-outlook-2021; IE\,Paris https://www.iea.org/reports/world-energy-outlook-2021; IE\,Paris https://w$

⁵ Net Zero by 2050, IEA, May 2021 https://www.iea.org/reports/net-zero-by-2050

When reviewing this scenario, we can see, for example, the NZE suggesting that the annual installation of new renewable electricity capacity must triple by 2030 to meet net zero goals. Or that by 2050 fossil fuel demand will need to fall by three-quarters, to less than 20% of total energy supply. But also, current government funding commitments of \$25 billion are insufficient to meet the \$90 billion thought to be needed for clean energy innovation.

Applying similar science-based scenario analysis like these, investors can use net zero analysis to limit portfolio risks and spot opportunities.

"Applying similar science-based scenario analysis... investors can use net zero analysis to limit portfolio risks and spot opportunities"

COMMITTING TO YOUR OWN NET ZERO JOURNEY

Climate change is increasingly becoming a key investment factor for portfolio construction, asset allocation, and security selection. While there is no "one-size fits all" approach to net zero portfolios, the overall intent can be incorporated into any investor's portfolio.

Critically, decarbonising your investments does not change global emissions, which can be accomplished by funding climate solutions. However, it can still generate benefits for your portfolio, and contribute to in a wider movement to protect our planet.

Authors: Damian Payiatakis, London UK, Head of Sustainable & Impact Investing





Beware of overreacting to sudden, sharp market moves

Many investors have a tendency to overreact to dramatic and unexpected events, like short-term falls in financial markets. Being aware of, and understanding, how cognitive biases might affect you can help lead to better long-term investment decisions.



This year got off to a bumpy start, with market volatility spiking in response to surprisingly high inflation, and a potentially more hawkish monetary policy response. There is nervousness about how economies might fare as interest rates rise. Investors were also hit by a sharp correction in many tech stocks, as investors switched into value stocks from growth ones, and large moves in response to earnings.

Adding to the "risk-off" sentiment are mounting geopolitical risks, with the possibility of, and now the realisation of, armed conflict between Russia and Ukraine causing large swings in indices in recent weeks. Against this backdrop, there are also the challenges of the coronavirus pandemic, which continues to linger (albeit with reduced severity).

In times of uncertainty, unexpected and dramatic events can lead to violent market moves. Sometimes they are short-lived, and the market will bounce shortly after. As such, markets frequently overreact to news, at least initially. For investors, having an awareness of these reactions and triggers – which seem to run counter to the efficient market hypothesis – can help them to navigate such periods better.

EXAMINING INDIVIDUAL INVESTORS

According to models of rational decision-making, individuals make judgements on the likelihood of events occurring based on a conditional probability rule, which is updated given new or additional evidence.

When considering purchasing an individual stock, forming a view on the probability of making a gain, based on past performance, and you receive news that affects that probability, your beliefs should be updated with the fresh information, applying an appropriate weight to it.

However, research in experimental psychology suggests that most people overreact to unexpected and dramatic news events. In revising their beliefs, individuals tend to overweight recent information and underweight prior data. This violates a basic statistical principle - that extremeness of news should be moderated by considerations of probability; people may make investment choices based on small amounts of data, ignoring base rate information.

One reason for this is the availability heuristic; a mental rule of thumb that leads us to assign more weight to events that are easier to recall. The implication for investors is that in response to unexpected and dramatic news events, such as a geopolitical act of aggression, they may assign more weight to the event and its consequences versus history than they should.





THE MARKET IS MADE UP OF THESE INVESTORS

The theory of efficient markets suggests that mispricings caused by individual investor biases should be arbitraged away. However, market sentiment is the sum of the mood of individual investors, and therefore, an individual's overreaction may at times be seen in the overall market, at least in the short term.

In a seminal study of market efficiency, researchers examined the question of whether the market overreacts, and found that the empirical evidence based on monthly investment returns data was consistent with the hypothesis that the market does overreact. The effect was found to be asymmetric – it was larger for negative reactions than positive.

Academic literature opines that stock price reversals might be due to short-term overreactions to news, waves of unjustified optimism or pessimism about future earnings, and fear and normatively excessive risk premia, to name a few.

SENTIMENT CAN BECOME EXTREME

An important aspect in this discussion is sentiment, or the attitude of investors toward a particular security or market.

In the same way as the experience that extreme emotions can affect how we see the world, so too can that be said of the market. Sentiment often becomes excessively bearish or bullish, and can prompt knee-jerk responses from investors.

Conversely, if sentiment is very bearish, some may pay too much attention to negative news, and not enough to positive events. Those that take a "buy the dip" approach to investing, may see this as an opportunity. Alternatively, sentiment can be so bearish that investors cling to any positive news, and even overreact to it.

Additionally, as previous bubbles and subsequent crashes have shown, these episodes can be self-fulfilling, highlighting the role of expectations in market dynamics. February's *Market Perspectives* showed that US consumer sentiment was at its lowest level since the start of the pandemic, and its lowest in a decade. A month on, it continues to weaken. Previous troughs in sentiment have followed major geopolitical shocks, which is a possibility depending on how the situation in Ukraine evolves.

As we have previously discussed, stocks do rise most of the time, and are more likely to rise if there has just been a sell-off, making staying invested a better strategy than attempting to time the market.

EARNINGS PROVIDE A LOOK INTO THESE BEHAVIOURS

Implied volatility is a metric based on options markets and captures the market's view of how volatile a security's price might be in the future.

Earnings announcements are events which attract much interest as well as considerable new data on individual companies. Frequently, implied volatility spikes before earnings announcements and collapse after publications as the unknown has become known (see chart). Interestingly, the after-the-fact realised volatility is typically lower, highlighting that uncertainty tends to be overpriced by market participants.

IMPLIED VOLATILITY SPIKES AND SUBSEQUENT COLLAPSES AROUND EARNING ANNOUNCEMENTS

Implied volatility for a particular US equity, with callouts for earnings releases relating to that company, in a period between 2016 and 2017



Sources: Bloomberg, Barclays Private Bank, February 2022





Overreaction is not limited to one-off events, it is also a feature of market momentum. A study examining the difference between implied volatility and realised volatility of a stock following sharp price movements found that following a fall of at least 10%, implied volatility of puts exceeded the ex-post realised volatility of the underlying stock by 25.3%. For a price drop of at least 20%, the volatility difference was 27.5%.

One explanation given for the difference is that put options become overpriced following extreme recent price drops, due to the demand generated by panicking investors. Following price rises, call options became similarly overpriced. The rationale here is that investors become overly excited following sharp price rises and buy calls to take advantage of anticipated further rises.

ARE YOUR OWN REACTIONS PROPORTIONATE?

For long-term investors, it is important to respond to market events in a measured and proportionate way. Reacting to short-term market news may deviate from long-term goals, and is a risk to be cognisant of.

Below are some questions that may be worth considering when faced with unsettling news:

- While dramatic, is the news fundamentally significant to investors?
- Is the event likely to have a long-lasting impact on my portfolio?
- Does market sentiment seem excessively bullish or bearish?
- Am I placing the right weight on this event, versus historical data?
- Am I considering the possible opportunities as well as the risks?

FOCUS ON YOUR LONG-TERM GOALS

There is always uncertainty on the horizon. This may lead to news which surprises, both on the upside and the downside. Such events can lead to investor and market overreaction in the short term. Emotions play a surprisingly significant role in investing. Successful investing requires investors to have an appreciation for, and control over, their feelings.

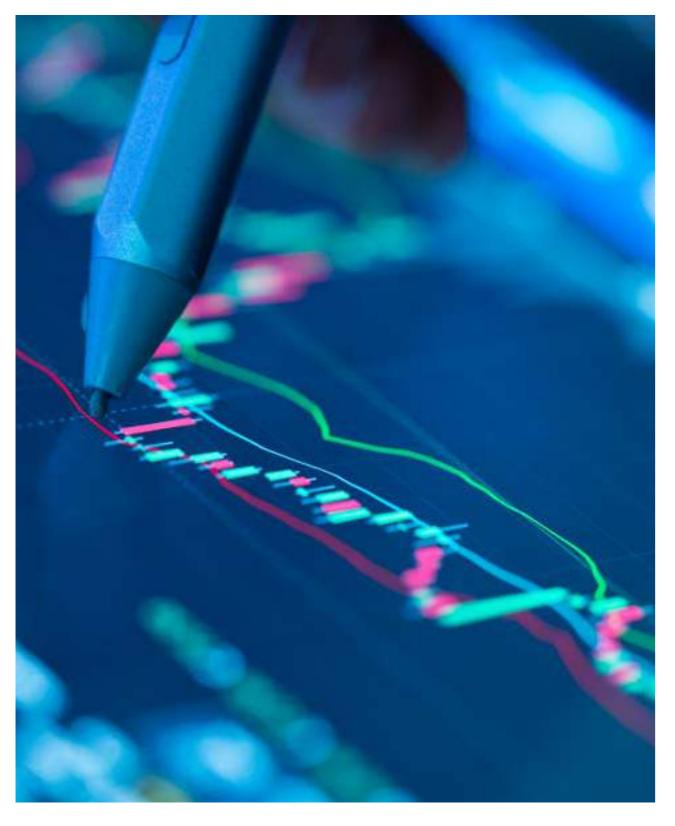
Author: Alexander Joshi, London UK, Behavioural Finance Specialist





Multi-asset portfolio allocation

Here are the latest asset allocation views of Barclays Private Bank within the context of a multi-asset class portfolio. Our views elsewhere in the publication are absolute and within the context of each asset class.



	-	=	+
Cash and short duration bonds			
Fixed income			
Developed market government bonds			
Investment grade bonds			
High yield bonds			
Emerging market bonds			
Equities			
Developed market equities			
Emerging market equities			
Other assets			
Alternative trading strategies			
Commodities			

[&]quot;-" Denotes a cautious view

CASH AND SHORT DURATION BONDS

• Given the ongoing uncertainty, and in order to manage portfolio risks, we maintain a preference for higher-quality and liquid opportunities.

FIXED INCOME

- We see only limited opportunities in fixed income
- We maintain a small preference for developed market government bonds as a hedge against possible macroeconomic volatility
- In credit, we prefer the higher quality segment, although, as spreads have recovered remarkably from their highs, our risk budget is allocated towards equities
- In high yield, selection is key, and our exposure is low, given the tightness of spreads. We prefer high yield and emerging market (EM) hard currency debt over EM local currency debt, considering the risk facing their economies and currencies.

EQUITIES

- We believe that equities remain relatively more appealing than bonds in the current environment
- Yet, we remain highly selective in our allocation
- In line with our long-term investment philosophy, our portfolios remain geared towards high-quality, cash-generative, and conservatively-capitalised businesses
- As a function of our bottom-up selection, we currently see more opportunities in developed market equities compared to their emerging peers.

ALTERNATIVE TRADING STRATEGIES (ATS)

- There are a limited number of opportunities in the ATS space, as the cost/ benefit trade-off can be challenging
- Our focus is on strategies offering diversification benefits thanks to their low-correlation to equity markets.

COMMODITIES

- As a risk-mitigating asset, gold remains the only direct commodity exposure we hold in portfolios
- From a portfolio management perspective, we believe our risk budget is better spent outside of the asset class.

Author: Julien Lafargue, London UK, Chief Market Strategist





[&]quot;=" Denotes a neutral view

[&]quot;+" Dentotes a positive view

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$Investments\ can fall\ as\ well\ as\ rise\ in\ value.\ Your\ capital\ or\ the\ income\ generated\ from\ your\ investment\ may\ be\ at\ risk.$

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