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GLOBAL MACRO RESEARCH — ECONOMIC GROWTH, INFLATION CYCLES AND ASSET ALLOCATION

JANUARY 2022



EXECUTIVE SUMMARY

This note focuses on two key issues that affect our asset-allocation thinking:

1 The extent to which the post COVID environment has changed the outlook for growth, inflation, and the longevity of business cycles. We conclude:

- Compared to recent decades, we see greater uncertainty around both growth and inflation. The latter is important because the absence of pricing pressure over the past 20 years has given policymakers the flexibility to respond to growth shocks with stimulative policy, to micromanage or extend the business cycle. We assume big government is here to stay, but even allowing for higher budget spending, the current starting point for monetary and fiscal balances means there is less scope to counterbalance further negative growth shocks in the future.
- Given the current level of bond yields and, arguably, elevated valuations of some equity markets, this a) argues for lower return expectations, and b) questions the performance expectations for previously successful strategies such as the 'balanced 60/40 style' portfolio. These are both valid concerns. However, in our minds it re-enforces the need for a dynamic approach to asset allocation with the flexibility to embrace a broad opportunity set, including a range of alternative strategies.

2 We review our cyclical asset-allocation framework to assess its suitability to tackle the likely challenges ahead. We conclude:

- The key drivers of asset class performance appear stable through time. For equity markets growth is a dominant force, for FX and bonds, real rates matter most. For commodities, inflation is important. The interaction between inflation and risk assets is not as simple as is often assumed. Real interest rates are important, again when viewed in conjunction with growth dynamics.
- Our growth and inflation regime framework allows us to assess how asset class behaviours differ in various states of the world going back over 50 years. The clarity and consistency of our findings suggest the framework is still likely to provide a solid starting point for asset allocation. Finally, we show how this framework can help identify alternative diversifiers when the role of government bonds is less certain than in the past.

NEW CHALLENGES AND THE IMPLICATIONS FOR ASSET ALLOCATION

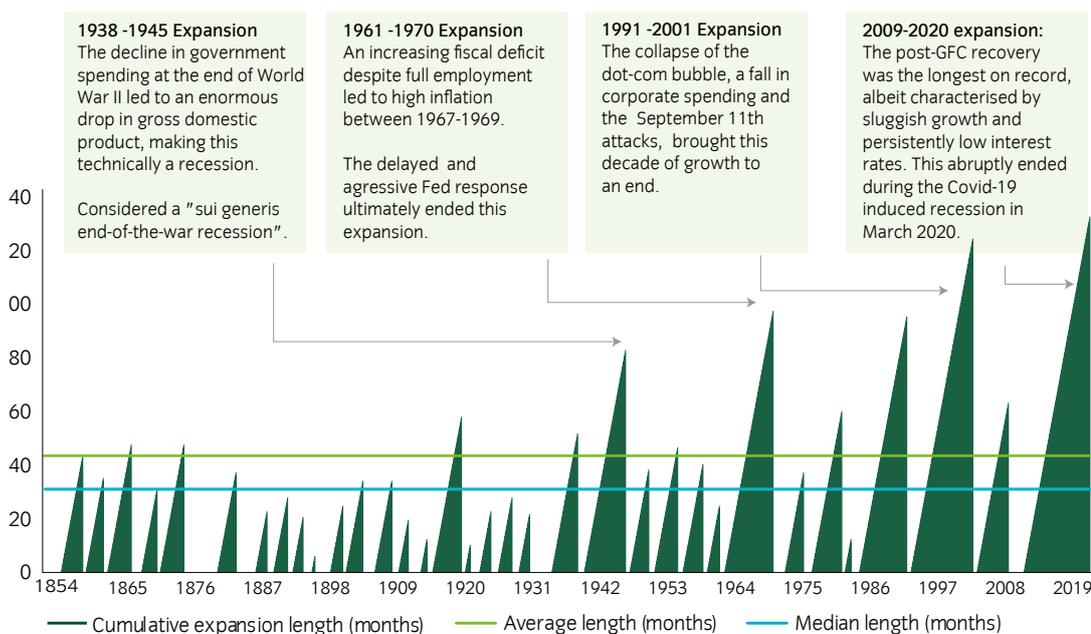
Over two years ago we published a paper ‘Asset allocation and growth cycles’ in which we laid out the framework that guides our fundamental assessment of asset class preferences from a cyclical standpoint.

The investment backdrop back then was somewhat different. The US economy was enjoying its longest period of economic expansion in 165 years and some of our note was devoted to discussing the reasons for, and the consequences of, lengthening business cycles.

In this note we provide an update of our thinking, first from a fundamental standpoint and then we assess how our ‘investment toolkit’ has evolved to reflect the new challenges we face.

The goldilocks era of ‘mini-cycles’ within an extended growth cycle fine-tuned by policymakers was shattered by COVID-19. The global economy was pushed into an unparalleled recession, the ferocity and depth of which was historic, but the scale of the unprecedented policy response set the scene for what is now a record-breaking rebound.

Figure 1: A new-cycle (US economy months of consecutive expansion) – but how will it compare?¹



Now, bigger picture questions abound, be it on the medium-term growth prospects against a post-pandemic backdrop or the need to limit the further damage we inflict on the planet. At the same time, the medium-term inflation outlook is unusually uncertain. On many metrics, both equities and bonds sit on uncomfortable valuation platforms and the role of government bonds as the natural diversifier in growth portfolios is under challenge – at least relative to their position in past decades.

So how do we assess the investment outlook? Multiple decades of analysis suggest to us that growth and inflationary pressures are the key to understanding the longevity of economic cycles and, consequently, asset class behaviours. We are inclined to believe that the same forces hold sway today. That leads us to think about the legacies of COVID-19 in terms of the growth and inflation debate. In that context, the pandemic brings with it positive and negative forces that may shape the outlook over the medium term. Many influences are transitory, but others will endure. Here we touch on what we believe will be some of those longer-term influences.

¹ Source: NBER, Insight Investment.



THE GOOD...

Crises are well known to be accelerators of change. In many spheres, such as medicine and communication for example, the pandemic has seen a transformational leap forward in practices.

According to McKinsey, the crisis has brought about years of change in the way companies in all sectors and regions do business. Companies have accelerated the digitization of their customer and supply-chain interactions and of their internal operations by three to four years. Consumers have shifted on mass to online channels. The business response, to create digital or digitally enhanced offerings, has led to an even greater leap, perhaps accelerating adoption in the region of six to 10 years (see Figure 2).

Figure 2: Average share of products and/or services that are partially or fully digitised²



There are many other consequences; for example, a leap forward in green technology/energy efficiency – spurred on by a renewed appreciation that our behaviours can change, and some of these may provide new drivers of growth in this next cycle. Authors such as Phillippe Aghion highlight the importance of innovation (and creative destruction) at the heart of the market economy³. Governments also have a key role in providing an environment where innovation can thrive. While they want to protect viable firms to protect jobs, they also need to encourage new firms that will compete, and ultimately destroy some incumbents. Of course, those incumbents are not passive participants. Those in the position to do so (with money and or influence) will act to protect their interests (for example by lobbying) and will disrupt the path of new entrants or innovative firms. So, the process is far from smooth, but it has historically been a powerful driver of growth and there are good reasons to believe that the changes brought forward by the pandemic will stimulate innovation.

There are of course other areas where the pandemic may have triggered possible productivity-enhancing changes. For example, to the extent that remote working (beyond the simple how many days in the office versus working from home) opens the door for greater labour force participation, it can have broader economic ramifications. If a job genuinely can be done remotely, does it matter where (in which country) it is done? Within an economy, if remote working frees skilled workers (who have, for example, care obligations) from a binary decision to work full time or not to engage in high value-added activity, the available pool of skilled labour increases significantly. These forces could be profoundly important in increasing productivity.

² Source: McKinsey: COVID-19 digital transformation and technology – Survey October 2020.

³ For example, see Aghion, P., Bunel, S., Antonin, C. (2021), *The Power of Creative Destruction: Economic Upheaval and the Wealth of Nations*. Spain: Harvard University Press.

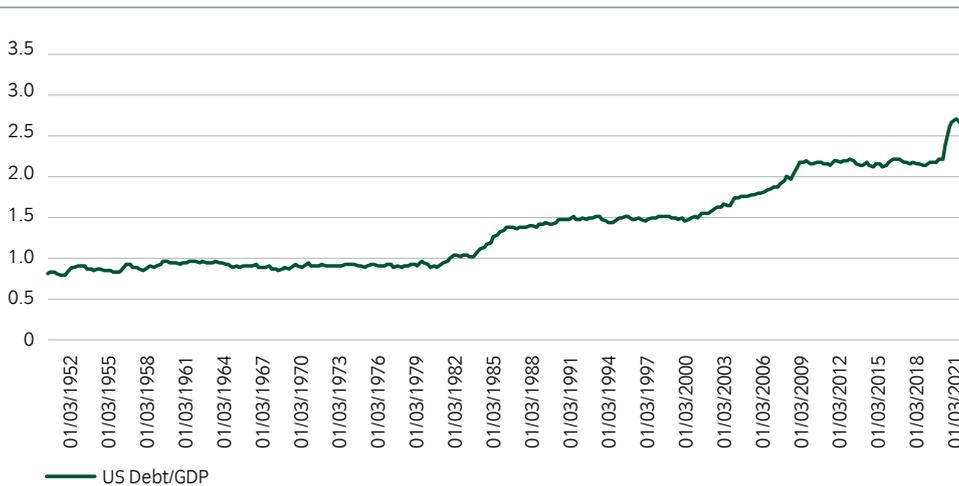
... THE BAD....

The crisis led to the building up of excess savings for the majority of households, but it is important not to overlook the extent to which COVID-19, like many other periods of economic distress, tends to hit hardest those who are at the bottom rungs of the economic ladder and those in the lowest income quintiles. Job support schemes, such as the furlough scheme in the UK for example, have only recently ended. In that sense, some of the real losses, both for corporates and households, may only become apparent in the quarters ahead. Economic history suggests the scarring from material recessions can take a long time to heal. Policymakers did a commendable job in many developed economies of limiting the damage, but some there will surely be. Where vaccine deployment has been more challenging, for example, in parts of the developing world, damage may be longer lasting. Moreover, as the Omicron variant reminds us, we could be living with the pandemic for some time yet.

This recession was not caused by endogenous economic factors. Governments deliberately shut down their economies. The natural response was enormous fiscal support. Some monetary support was also necessary to stop financial markets becoming dysfunctional. But the degree of monetary easing deemed appropriate (to boost demand as supply shrunk), is open to question. Irrespective, we are left with much higher government debt levels and expanded central bank balance sheets.

The sharp increases in public (and private) sector debt may impact on the post-pandemic recovery and medium-term growth dynamics (see Figure 3). The link between the government debt burden and the future implied tax burden has long been seen as an influence on the savings available for investment today (Ricardian equivalence). Economists Reinhart and Rogoff made popular the long-held theoretical link between high debt levels and lower future growth prospects after the global financial crisis.

Figure 3: The US debt/GDP growth ratio rose sharply over the coronavirus crisis⁴



Of course, alongside the pandemic, the increased urgency of the need to address climate change is now an imperative. Since the industrial revolutions, higher levels of economic activity have implied higher usage of energy and raw materials. Without the technological advances alluded to above the challenge appears near impossible to meet. But without even entering into the 'green growth' equals 'de-growth' debate (which seems an impractical policy prescription for many countries), the adjustment has potentially negative growth and possibly inflationary consequences in the short term.

⁴ Source: BIS, Bloomberg. Data as at 30 June 2021. Total US Debt (Public & Private excluding financial sector).



... AND THE UNCLEAR

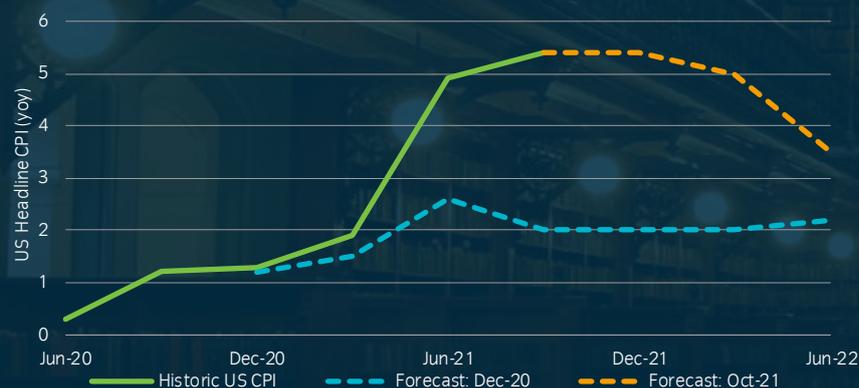
The policy or political landscape also appears to have changed. Whether that is good or bad depends more on political preferences. Neoliberalism has been the dominant policy paradigm since around 1980. The general belief among policymakers was that markets are more efficient than governments at allocating resources, so the best thing governments can do is get out of the way, by shrinking the governments' share of the economy both in terms of government spending and ownership of key industries. The coronavirus crisis may end up being viewed as a tipping point where the role of government has moved back into the ascendancy. The positive forces of innovation and creative destruction referred to above require careful balancing if they are not to aggravate inequality which is already a major concern. Governments, to use Aghion's terminology, play the role of both 'investor' (in creating an incentive structure that encourages innovation) and an 'insurer' (by providing a safety net for those temporarily displaced by the creative destruction). The balance between market forces and the role of the state depends on social expectations and norms. In some countries, this balance can exert a powerful and positive environment for growth, but in many countries, it is not clear that all the actors are fit for their roles.

THE INFLATION DEBATE IS BACK

As we came out of COVID-19-induced lockdowns, demand has boomed. Supply chains are struggling to come out of semi-hibernation at the same rate. As a result, inflation is rising (Figure 4). The consensus points only to a temporary rise in prices, but thus far, the inflationary pulse has been larger and more persistent than initially assumed. So how might the inflation story evolve?

Much of the popular narrative surrounding the inflation debate accurately describes the unprecedented stimulus that was unleashed to cope with the pandemic and inflation risks posed by a period in which demand outstrips supply. But the leap from that to parallels with the inflationary periods of the 1970s and 1980s need to be viewed with caution.

Figure 4: US inflation – changing market expectations in context⁵



The economic composition, or sectorial balance, for most developed countries is very different from the 1970s or 80s. They are less dependent on cyclical sectors (such as oil) and are more balanced. Demographic trends may be becoming less helpful, but the supply chain headlines are a reminder that globalisation is with us. As noted earlier, COVID-19 has accelerated technological change which is often disinflationary.

When inflation last accelerated, job markets were inherently local in nature. Unionised workers accounted for a large proportion of the labour force (a third in the case of the UK in the 1980s) and collective bargaining of wages was the norm. Given this, wage and price controls were the main inflation-controlling mechanisms of policy. In that regard, arguably,

⁵ Source: Insight, Bloomberg. Data as at 30 November 2021.



the policy control panel is better equipped now than in the past to manage any inflationary threat and inflationary expectations are better anchored after decades of disinflation.

All of this suggests that the most likely inflation risk is not that inflation becomes 'out of control'. Rather it is that central banks misjudge the supply constraints and, for example, wage pressures start to build more broadly such that policy has to tighten aggressively – making the Federal Reserve's shift to average inflation targeting (known as AIT) seem ill-timed at best.

PREPARING FOR A LESS CERTAIN WORLD

Compared to recent decades, we see greater uncertainty around both the growth and inflation environment. On the growth front, we see both positive and negative dynamics at play. The crisis in some areas has been an accelerator of change and the innovation it has triggered should see an environment where investment is a positive driver of medium-term growth, beyond short-term cyclical support. Whether all countries are best placed to harness the potential benefits of a wave of innovation is, however, unclear. Moreover, the pandemic will have left scarring, in many areas of the economy, and the lesson of history is that the healing process, for example bringing people back into the workforce, can take considerable time.

Of course, it has been the absence of inflation in recent decades that has provided an environment where policymakers could use the flexibility at their disposal to set policy to sustain economic expansion. Recession risk has come via other routes, often financial excess, but policymakers had the flexibility to respond. The medium-term inflation outlook remains unclear, but for the next few years central banks will have no choice but to set policy with at least one eye on the inflation backdrop and this leaves them arguably with less flexibility than before. In addition, from both a monetary and fiscal perspective there is the simple point that a great deal of policy ammunition has been used up since the global financial crisis.

Against this background, it's harder to envisage a swift return to 'as we were'. We assume big government is here to stay, but even allowing for higher budget spending, the current starting point for monetary and fiscal balances means there is less scope to counterbalance further negative growth shocks in the future. That suggests that shorter cycles, either via exogenous shocks or via cyclical forces that appear to have a higher amplitude in the wake of COVID, are a material risk.

THE CASE FOR MORE ACTIVE ASSET ALLOCATION

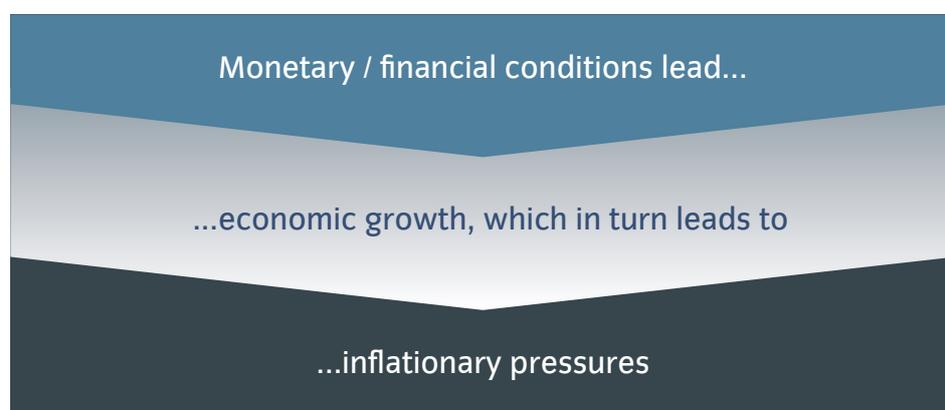
The brief summary above is meant only to flag some of the key bigger-picture issues, as we see them, in determining which way the growth and inflation cycles in the years to come will play themselves out. To quote Yogi Berra, "it's tough to make predictions, especially about the future" so irrespective of whether our own biases are proved right or wrong, our asset allocation framework needs to be both robust and also sensitive enough to aid timely investment decision making.

In some regards that requirement has become more pressing. Given the current level of bond yields and, arguably, elevated valuations of some equity markets, this a) argues for lower return expectations, and b) questions the performance expectations for previously successful strategies such as the 'balanced 60/40 style' portfolio. These are both valid concerns. We can choose to either to be a passive recipient of market gyrations or we have to be comfortable that we have the tool-kit ready to navigate an uncertain environment. This raises the importance of asset allocation as a source of value creation. It is in that context that we review our 'regime-based' asset allocation framework.

REVIEWING OUR ASSET ALLOCATION FRAMEWORK

In Figure 5 we illustrate the simple economic transmission mechanism that serves as our starting point for analysis. The idea that monetary or financial conditions lead growth sits at the heart of central banks' rationale for using monetary mechanisms (interest rates and more recently quantitative easing) as tools of policy. Historically at least, periods of excessive growth brought with them inflationary pressures and, whilst such pressures have largely been absent in recent years, the post-pandemic inflationary pulse has brought that relationship back into sharp focus.

Figure 5: The transmission mechanisms from macroeconomic forces into asset class behaviours⁶



FINANCIAL CONDITIONS AS A LEADING INDICATOR

While monetary policy has been the main lever used to fine tune growth, Financial Conditions Indicators (FCIs) incorporate a wider range of factors than short-term interest rates and we believe are a useful indicator as to whether the overall conditions are either conducive to, or a headwind for, growth. Our own FCIs are calculated by using interest rates, corporate yields, exchange rates and equity markets across five regions (US, Europe, UK, Japan and Australia), weighted by GDP.

DOES AN INCREASED ROLE FOR FISCAL POLICY DILUTE THEIR POWER?

To the extent that most central banks have already used up most of their monetary policy ammunition, fiscal policy is now having a greater role in determining likely growth paths. Does this diminish the information embedded in FCIs? At the margin, possibly, but we believe our indicators are likely to reflect at least the markets' interpretation of what material fiscal adjustments mean from a broader economic perspective. Of course, a lot depends on what we use our FCIs for. In our investment process, they are a useful guide as to the forward-looking trajectory of growth, but they are by no means our only growth indicator. We also use them as a useful guide or barometer of market risk appetite.

⁶Source: For illustrative purposes only

There are two signals we apply to our FCI indicator:

- **Mean reversion:** When FCIs are extremely loose (high) or tight (low). Here we are picking up either excessive exuberance or extreme pessimism which may warrant a contrarian asset-allocation stance.
- **Momentum:** When FCIs are either 'moderately' high or low. We view this as confirming either a pro-cyclical or anti-cyclical bias implied by either easy or tight financial conditions. For us, the bias is to run with that trend.

Figure 6 Global financial conditions – a good indicator of future growth and a helpful market timing indicator⁷



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The idea that monetary or financial conditions lead growth sits at the heart of central banks' rationale for using monetary mechanisms (interest rates and more recently quantitative easing) as tools of policy.

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⁷Source: Insight, Bloomberg. Data as at 30 November 2021.

GROWTH REGIMES: OUR ASSET-ALLOCATION FRAMEWORK

At the risk of stating the obvious, as a growth asset, stocks tend to do well in periods where economic growth is good, and less well in periods of contraction. Government bonds, by contrast, tend to behave in the opposite manner, at least from a growth perspective.

When assessing growth dynamics, we look at a wide range of indicators, some forward-looking, some co-incident. One of the best sets of timely indicators is the purchasing managers' indices (PMIs) which reflect the health of the manufacturing and service sectors. At Insight, we track 38 monthly country and regional releases. Interpreting PMIs is relatively simple. Any data point can be in one of four regimes:

A STYLISED VIEW OF PMI GROWTH REGIMES

Accelerating PMI > 50 and rising A	Moderating PMI > 50 but falling B
Rising PMI < 50 but rising D	Falling PMI < 50 and falling C

Using this framework, we look at asset-price returns and other performance characteristics (for example volatility and drawdowns) across these different regimes since the early 1970s. This analysis serves as a guide in our asset-allocation framework.

Before we delve into our data, it's worth highlighting some broader economic observations.

THE LAST TWO DECADES – A LONGER CYCLE ENVIRONMENT

Compared to earlier periods, the longer-cycle environment, by definition, has meant that we have spent more time in 'good' investment environments and less in bad: i.e. we have spent most time switching between regimes A and B (Acceleration and Moderation), with only small and shallow dips into the sub-50 PMI regimes (C and D) which were often insufficient to tip the US (or other economies) into recession. That in part explains the window of good risk asset returns in recent decades.

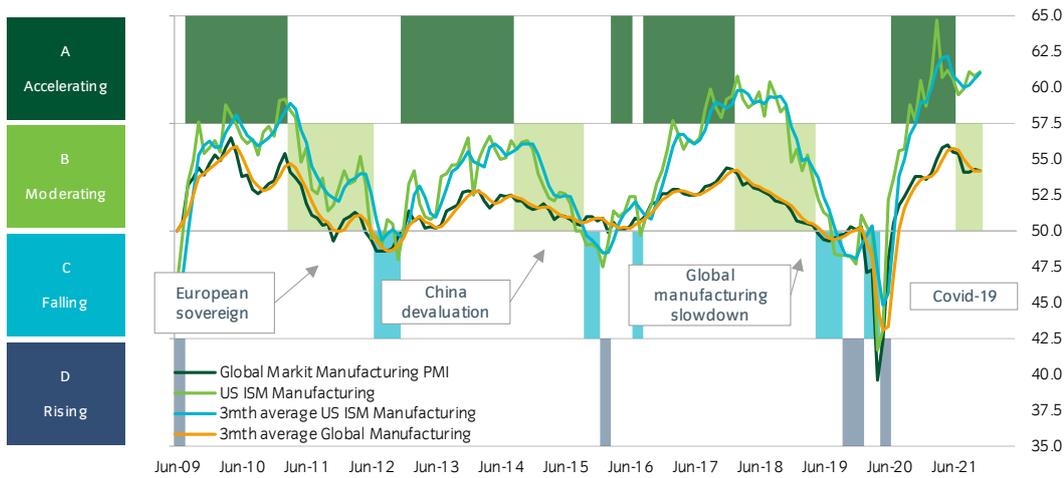
On a cross-country basis, few other countries have seen such an impressive cycle as the US. The US economy has spent around 85% of the decade in regimes A and B (approximately 50% in A, 35% in B), while only 15% in regimes C and D (10% in C and 5% in D). We follow 32 countries and translating this analysis onto them gives a percentage count of 70% in regimes A and B (split 40% in A and 30% in B) with 17% and 13% in regimes C and D respectively.

Moreover, the traditional causes of recession (industrial downturns/oil shocks) or policy errors (aimed at capping rising inflation) have largely been absent in recent decades.

Instead, recession risk has come via financial transmission mechanisms (for example, inflated stock prices in the late 1990s or the real-estate bubbles which lay at the heart of the sub-prime crisis at the start of the global financial crisis). Or, of course, most recently, in the form of an exogenous shock – the pandemic. Indeed, arguably we have not had a 'text book' economic policy-led recession since the 1980s.

We believe, however, that our growth framework works because these shocks, whatever their initial cause, need to be big enough to have real economic consequences if they are to have significant medium-term asset-allocation implications.

Figure 7: Global growth regimes since the global financial crisis⁸



CYCLE LONGEVITY FOR DIFFERENT REGIMES

In Figure 7 above, we show our growth assessment in time-series form, whereas in Figure 8 we show the longevity of the different regimes, and later in this note we show different facets of asset class performance broken down by regime.

The sweet spot for risk assets tends unsurprisingly to be an accelerating regime (A). During these times, the correct asset-allocation strategy was to skew towards pro-cyclical (equity) exposures.

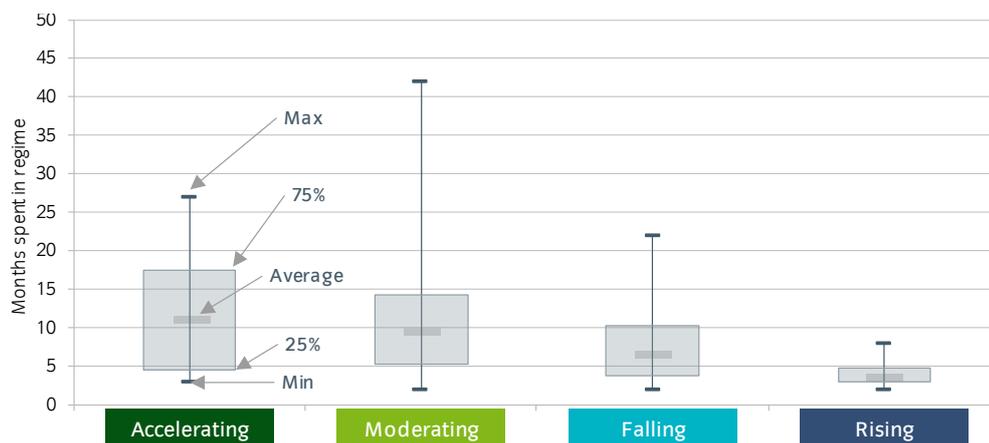
In moderating regimes (B) risk-asset returns are generally lower than in an accelerating regime and the variability of returns tends to be higher, with a greater chance of meaningful drawdowns.

The length of time spent in the sub-50 PMI regimes (C and D) is relatively small. The COVID-19 crisis saw another such episode and, while our experience of them over the last decade has only been fleeting, asset price behaviour has been consistent with history.

The Falling (C) regime is the only one in which average equity market returns have historically been negative. That said, the 'normal' range of returns experienced across asset classes is not dissimilar to those seen in regime B. However, volatility tends to be much higher when PMIs are sub-50 and the historic range of drawdowns seen in regime C are more extreme than in any other growth regime.

Asset class performances are better in regime D (where PMIs are below 50 but rising), which makes sense in that such a move is consistent with economic recovery. Like regime C, these episodes are rare, and the time spent in them small. Historically, volatility is again elevated in these time periods. Drawdown risks, however, appear materially less than in regime C.

Figure 8: Longevity profile across different growth regimes⁹



⁸Source: Insight as at 30 November 2021.

⁹Source: Insight, Bloomberg. Data between December 1976 and November 2021.

THE IMPORTANCE OF GROWTH – EQUITY BEAR MARKETS AND RECESSIONS

Our analysis on the interaction of economic data with asset class behaviour across history shows us that the growth backdrop is an important driver for all asset classes. In particular, periods of strong or weak growth are significantly influential for equity markets. This is unsurprising; the intrinsic relationship between economic growth, corporate profitability and share prices is something we have described many times in the past. However, Figure 12 shows just how pronounced these linkages are, particularly in more extreme periods of growth where equity downside risks are dominant.

We begin by looking at every bear market (i.e. a peak-to-trough decline of more than -20%) for the S&P 500 Index over the past 100 years. We have split these into three categories: normal bear markets (declines of -20% to -30%), large bear markets (declines of -30% to -50%) and mega bear markets (declines of more than -50%). We then look at growth indicators across these periods.

The key observation is that each and every bear market has been historically associated with a recession. Therefore, as an asset allocator, a timely understanding of when the growth backdrop is deteriorating should always be a key component of an investment framework.

A second point to note is that bear market size tends to reflect the severity of growth decline.

Figures 9-11 show a positive correlation of equity drawdowns to the magnitude of fall of a range of growth indicators (consumption, corporate profits and manufacturing surveys).

The COVID-19 bear market is fresh in our memories, and the table also highlights how unique it was in many ways. Of course, each period in history has its own unique facets, but the link between big drawdowns in stock markets and growth holds, even if the causality can work both ways.

Figure 9: Bear market declines vs. fall in consumption¹⁰

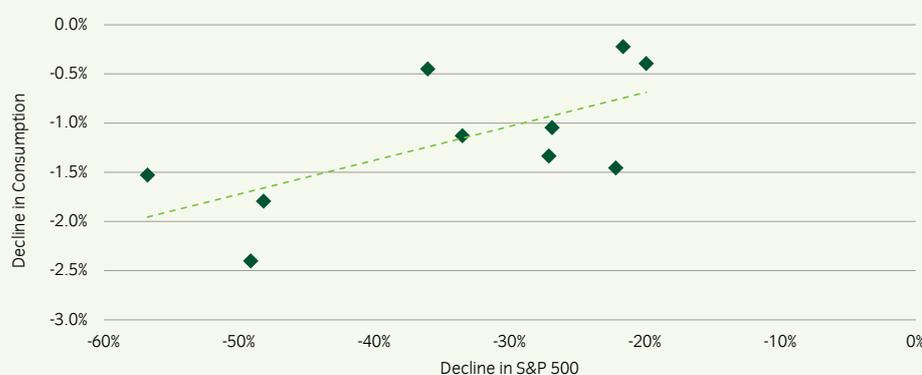
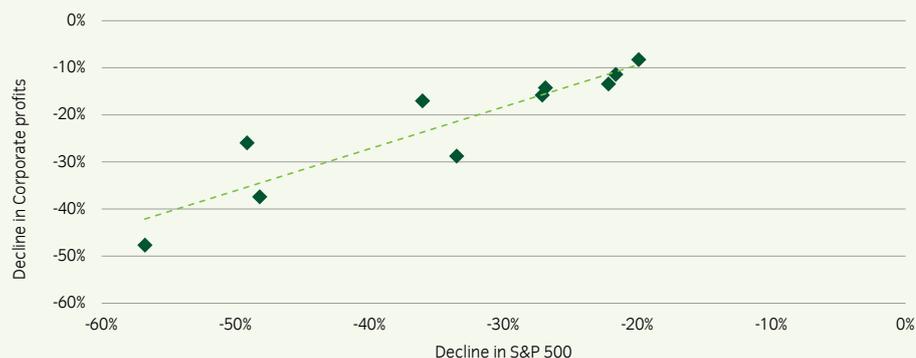


Figure 10: Bear market declines vs. fall in corporate profits¹¹



^{10, 11} Source: Insight and Bloomberg. Data as at 30 November 2021.

Figure 11: Bear market declines vs. ISM manufacturing¹²

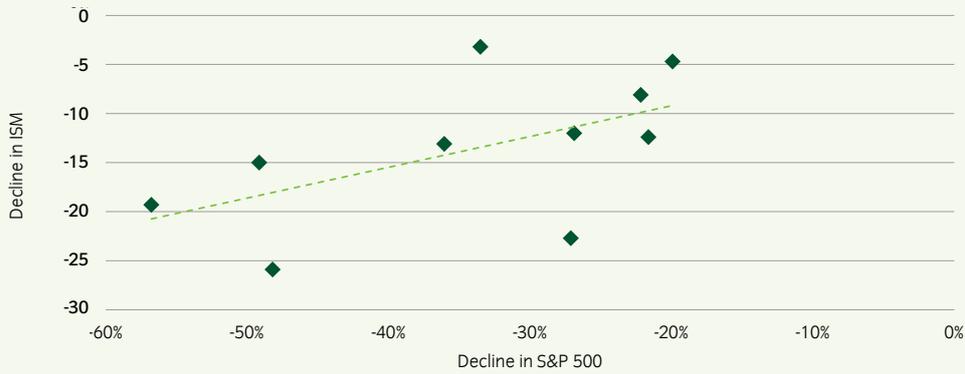


Figure 12: Historical US economic environment during S&P 500 Index bear markets¹³

	Bear market characteristics			Growth environment				
	Drawdown	Length (mths)	Realised volatility (High 22d)	EPS decline	NIPA profits decline	Real GDP decline (total)	ISM Manf'g Fall (Pts.)	Real personal consumption Fall
Normal bear markets								
Jun-46 to Apr-48	-28%	22	43					
Aug-56 to Oct-57	-22%	15	24	-11%	-24%	-3.6%	-12.4	
Dec-61 to Jun-62	-27%	6	37	-14%	-4%	-3.8%	-12.0	-1.0%
Feb-66 to Oct-66	-22%	9	20	-13%	-4%	-5.2%	-8.1	-1.5%
Nov-80 to Aug-82	-27%	21	20	-16%	-17%	-4.1%	-22.7	-1.3%
Jul-90 to Oct-90	-20%	4	25	-8%	-10%	-1.4%	-4.7	-0.4%
Average	-24%	13	28	-13%	-12%	-3.9%	-12.0	-1.1%
Big bear markets								
Jan-73 to Oct-74	-48%	22	35	-37%	-13%	-3.9%	-25.9	-1.8%
Nov-68 to May-70	-36%	19	32	-17%	-19%	-3.3%	-13.1	-0.4%
Aug-87 to Dec-87	-34%	5	92	-29%	-8%	-3.0%	-3.2	-1.1%
Mar-00 to Oct-02	-49%	31	46	-26%	-25%	-5.4%	-15.0	-2.4%
Feb-20 to Mar-20	-32%	1	86	-33%	-31%	-11.3%	-9.4	-11.3%
Average	-42%	19	51	-27%	-16%	-3.9%	-14.30	-1.4%
Mega bear markets								
Sep-29 to Jun-32	-86%	33	101	-62%				
Mar-37 to Apr-42	-60%	62	56	-17%				
Oct-07 to Mar-09	-57%	18	88	-48%	-33%	-4.0%	-19.3	-1.5%
Average	-68%	38	82	-42%	-33%	-4.0%	-19.3	-1.5%

^{12, 13} Source: Insight and Bloomberg. Data as at 30 November 2021.

INFLATION REGIMES: OUR ASSET-ALLOCATION FRAMEWORK

In Figure 13 we extend our framework to assess how asset prices behave in the face of significant moves in inflation and real interest rates. In this framework we start by identifying a cut-off, or threshold, to determine movements in inflation (we use both CPI and break-evens to capture changes in both actual and expected inflation) and real rates that are significant. We define this as three-month change in excess of 15bp and, at this level, we would say there are significant moves in both inflation and real rates (the trigger needed to signal a regime in this framework). Since the early 1970's we have been in these regimes approximately 60% of the time. We analyse these regimes (E to H), in the same manner as our growth regimes, before combining these frameworks.

Figure 13: A stylised view of inflation / real rate regimes¹⁴

Inflation Up Real Rate Up E	Inflation Up Real Rate Down F
G Inflation Down Real Rate Up	H Inflation Down Real Rate Down

One finding that seems somewhat counterintuitive is the extent to which higher CPI, breakevens and real rates appear to be the most constructive environment for risk assets, such as equity. Whilst a focus on relative value would suggest the opposite, it seems that the pro-growth backdrop implied by regime E more than outweighs other considerations. In Figures 19 and 21 we show the historical returns of equities are generally above average and drawdowns or setbacks modest for regime E.

A combination of sharply falling rates and inflation (regime H) is the worst environment for risk assets (no doubt reflecting a negative economic backdrop). Returns are often negative and equity drawdowns are worse than in any other environment, while government and investment grade bonds do best.

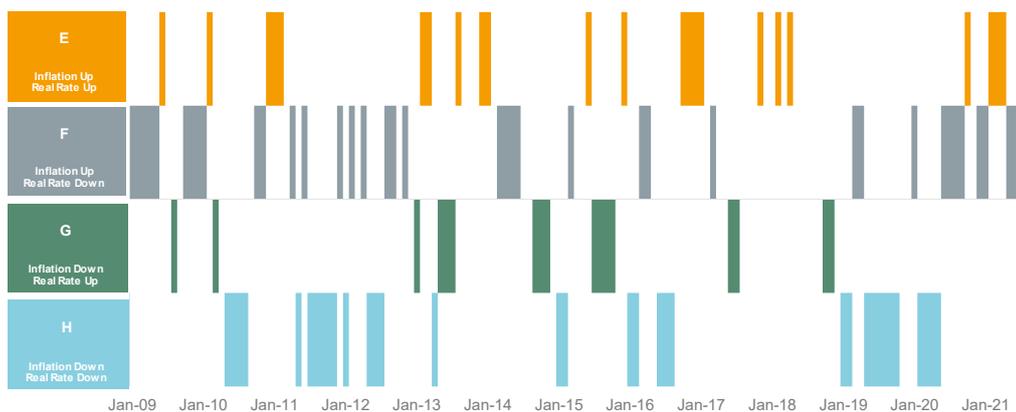
Drawdowns have also been surprisingly large when real rates are rising and inflation is falling (regime G). This makes sense in that it implies an environment where the cost of capital is going up at the same time that cyclical forces (as reflected in breakevens) are declining.

Regime F represents periods where real rates (the cost of capital) are declining but inflation is rising. This tends to provide a constructive environment for risk assets – although to a lesser degree than regime E.

¹⁴ For illustrative purposes only.

On the following pages we present Figures 16 to 21 which illustrate return, volatility and drawdown characteristics for a range of different asset classes in different growth and inflation regimes.

Figure 14: Inflation / real rate regimes over time¹⁵



The COVID-19 recovery brought with it an unprecedented demand surge, led by pent-up savings and extraordinary stimulus. This, coupled with host of supply constraints, has moved inflation concerns straight to the top of investor’s minds. Indeed, the phrase ‘stagflation’ (i.e. low growth, high inflation) has re-emerged from a long hibernation to become a dominant part of the market lexicon. While our combined regime framework outlined throughout this note allows us to understand asset class behaviour across all growth/inflation mixes, we thought it would be useful to use this lens for a deeper dive into historical periods of stagflation.

¹⁵ Source: Insight, Bloomberg. Data as at 30 November 2021.



STAGFLATION OR GROWTHFLATION? ASSET-ALLOCATION IMPLICATIONS

We define stagflation as a period of six months or more where the rate of growth is falling (i.e. the PMI growth regime is Moderating or Falling) and inflation is rising (we use both CPI and breakevens). We have also defined a comparator period, where growth is rising (i.e. the PMI growth regime is Accelerating or Rising) along with inflation. We have named this environment 'growth-flation'.

The two tables below compare asset class returns across the most notable examples of these two periods over the past 50 years. Our first observation is that the prevailing market narrative that stagflation is inherently bad for risk assets is simply not true. There are plenty of occasions where US equities delivered positive returns despite high inflation and falling growth.

In fact, our analysis shows that inflation, when viewed in isolation, is generally a positive factor for equities rather than negative. This is because companies generally benefit from pricing power and thus as a rule, company revenues tend to follow nominal, rather than real GDP. This is further highlighted by the periods of 'growth-flation' we analysed, which have historically been among the most positive periods for risk assets. The bottom line of each table shows how the current COVID recovery has followed the same trajectory as historical precedent. However, such a conclusion misses a key point. Real interest rates are important from an asset-allocation standpoint, again when viewed alongside growth dynamics.

Table 1: Historical examples of stagflation and growth-flation¹⁶

Stagflation periods			Asset class returns				Inflation and real rate changes		
Start date	End date	Length (mths)	US Equity	US Govt Bonds	Comod's	USD (DXY)	Breakevens	CPI	Real Rates
30/04/1973	31/03/1975	23	-16%	13%	123%	-7%	861	670	-714
31/08/1978	31/05/1980	21	19%	13%	91%	-5%	651	770	-468
31/12/1983	30/06/1984	6	-5%	-1%	2%	3%	166	130	79
30/06/1988	30/06/1989	12	21%	12%	9%	7%	11	130	-57
31/12/1989	28/02/1991	14	8%	10%	12%	-10%	140	60	-165
30/06/2021	30/11/2021	5	10%	0%	9%	4%	36	360	-50

Growthflation periods			Asset class returns				Inflation and real rate changes		
Start date	End date	Length (mths)	US Equity	US Govt bonds	Comod's	USD (DXY)	Breakevens	CPI	Real Rates
30/11/1977	31/07/1978	8	10%	2%	18%	-9%	113	110	32
31/01/1999	31/08/1999	7	4%	-3%	17%	4%	94	80	43
30/06/2003	31/05/2004	11	17%	-2%	31%	-6%	84	10	2
31/03/2009	31/03/2010	12	50%	-1%	21%	-5%	217	220	-52
30/04/2020	30/06/2021	14	50%	-3%	55%	-7%	70	290	-74

Real yields in focus

Real yields can best be thought of as a 'cost of capital' for firms, and they matter for risk assets for three reasons. Firstly, real yields determine the ease of credit flow across global markets. Increasing real yields make it more expensive for companies to borrow, reducing capex investment and ultimately growth. Secondly, real yield-driven cost increases are not easily passed to consumers (who at the same time will see their own borrowing costs going up) and thus exert margin pressure. Finally, real yields serve as a key input to both absolute valuation metrics (as the true 'discount rate') and relative valuation attraction between assets (i.e. negative real yields reduce the attractiveness of bonds relative to equities, all else being equal).

¹⁶ Source: Insight and Bloomberg. Data as at 30 November 2021.

We repeated our analysis using periods of rising real yields and growth, which we have called ‘stag-tightening’ (i.e. periods of rising real yields combined with falling growth) and ‘growth-tightening’ (i.e. periods of rising real yields combined with rising growth).

The results first and foremost reaffirm that ultimately growth will be the dominant factor in equity returns. A backdrop of rising growth with rising real yields is similar to that of the ‘growth-flation’ environment. The second is that periods of falling growth and rising real yields have historically been some of the worst for equities. This reaffirms our framework that capturing both inflation and real rate dynamics is a much more holistic approach to help inform asset allocation.

Table 2: Historical examples of stag-tightening and growth-tightening¹⁷

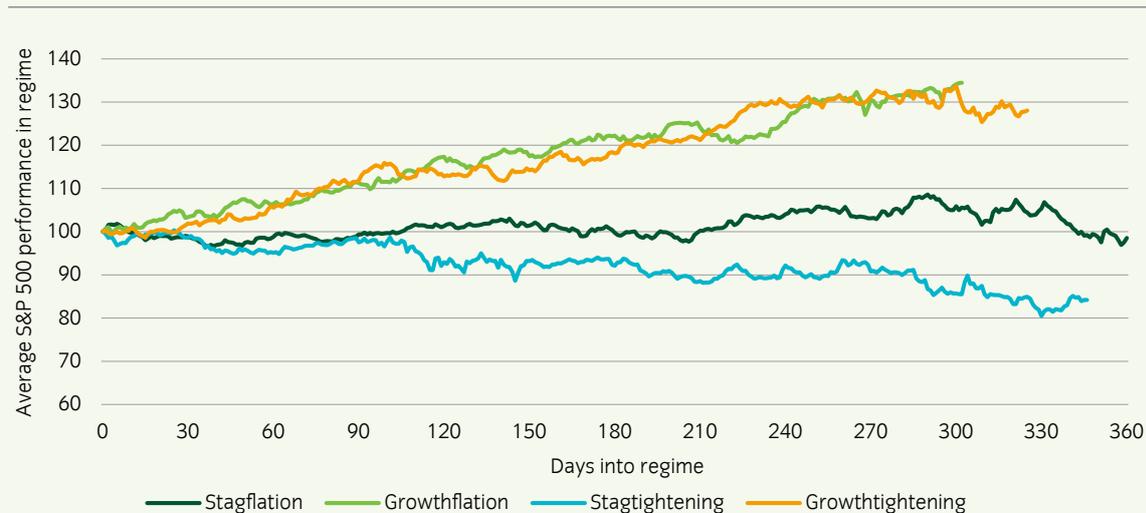
Stagtightening periods			Asset class returns				Inflation and real rate changes		
Start date	End date	Length (mths)	US Equity	US Govt Bonds	Comod's	USD (DXY)	Breakevens	CPI	Real Rates
30/11/1980	31/03/1982	16	-15%	16%	-31%	27%	-301	-630	564
30/06/2005	30/06/2006	12	9%	-2%	18%	-4%	-11	120	76
30/04/2008	30/11/2008	7	-34%	7%	-41%	19%	-196	-60	126
31/01/2018	30/11/2018	10	-1%	0%	-7%	9%	8	20	53

Growthtightening periods			Asset class returns				Inflation and real rate changes		
Start date	End date	Length (mths)	US Equity	US Govt Bonds	Comod's	USD (DXY)	Breakevens	CPI	Real Rates
28/02/1975	31/01/1976	11	28%	7%	6%	12%	-446	-520	462
31/05/1982	31/08/1983	15	57%	22%	34%	16%	-611	-580	402
30/09/1986	30/09/1987	12	43%	-1%	17%	-8%	33	260	194
31/10/1993	30/11/1994	13	0%	-5%	14%	-6%	-39	-30	249

Average S&P 500 performance across historic growth/inflation/real rate tightening regimes.

Our key observation is that in periods of rising growth, equities generally perform well despite either (or both) rising inflation or real rates. However, while periods of falling growth are mixed for equities when inflation is rising, they are generally bad for stocks when real rates are rising. This makes intuitive sense as real rates can be thought of as a firm’s cost of capital, and the true discount rate. This reaffirms our framework that capturing growth, as well as both inflation and real rate dynamics is a much more holistic approach to help inform asset-allocation decisions.

Figure 15: Growth matters for equities, then real rates, then inflation¹⁸



¹⁷ Source: Insight and Bloomberg. Data as at 30 November 2021. ¹⁸ Source: Insight and Bloomberg. Data as at 30 November 2021.

Figure 16: Returns across growth regimes¹⁹

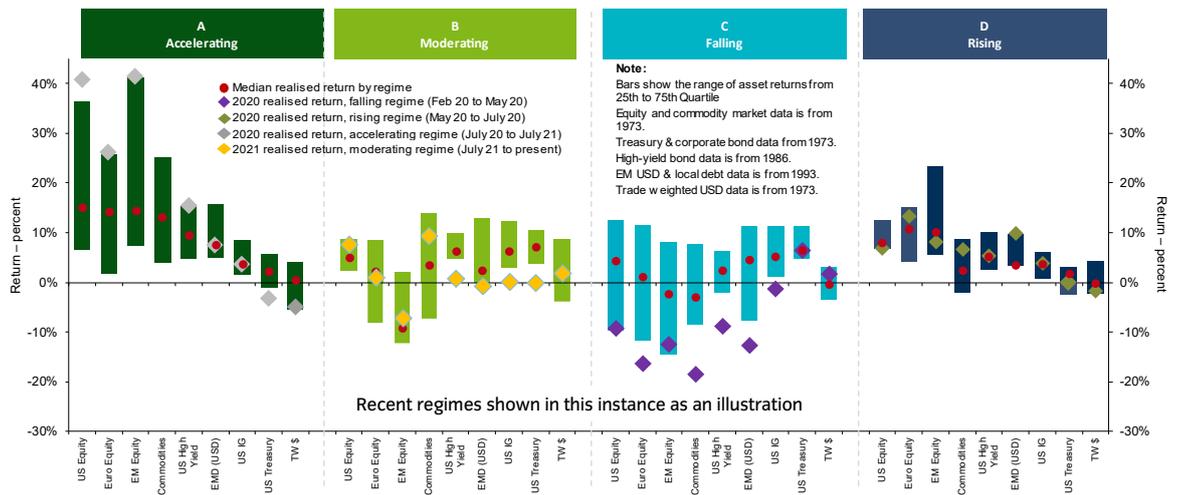


Figure 17: Volatility across growth regimes²⁰

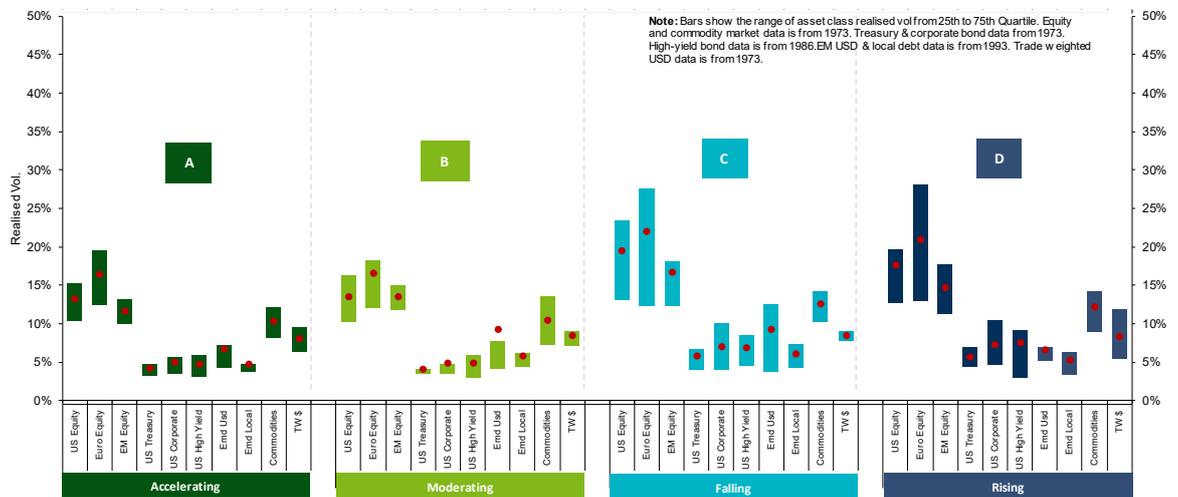
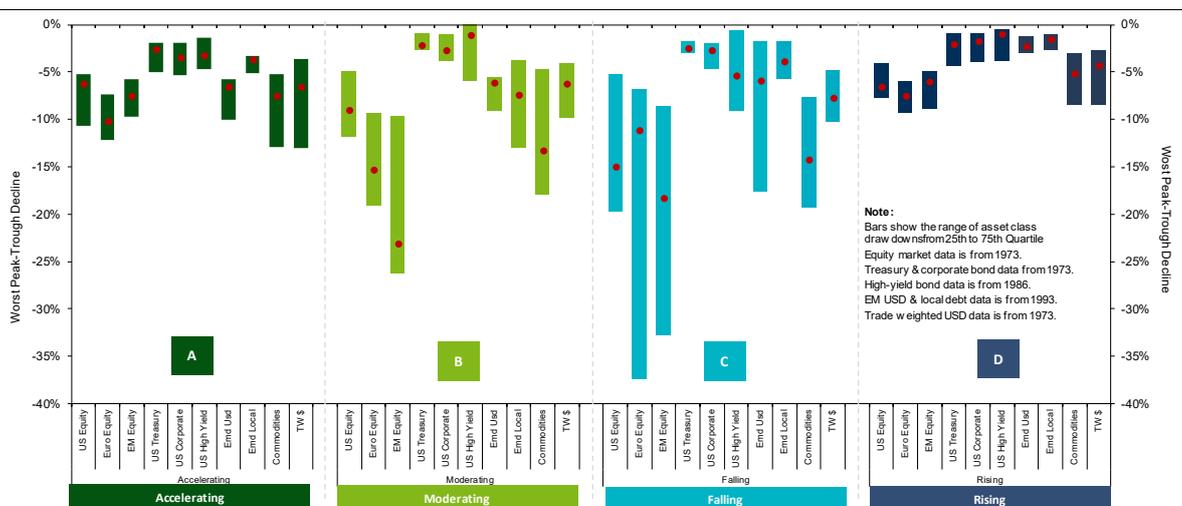


Figure 18: Drawdowns across growth regimes²¹



^{19, 20, 21} Source: Insight and Bloomberg. Data as at 30 November 2021. Data between December 1976 and November 2021.

Figure 19: Returns across historical inflation and real-rate regimes²²

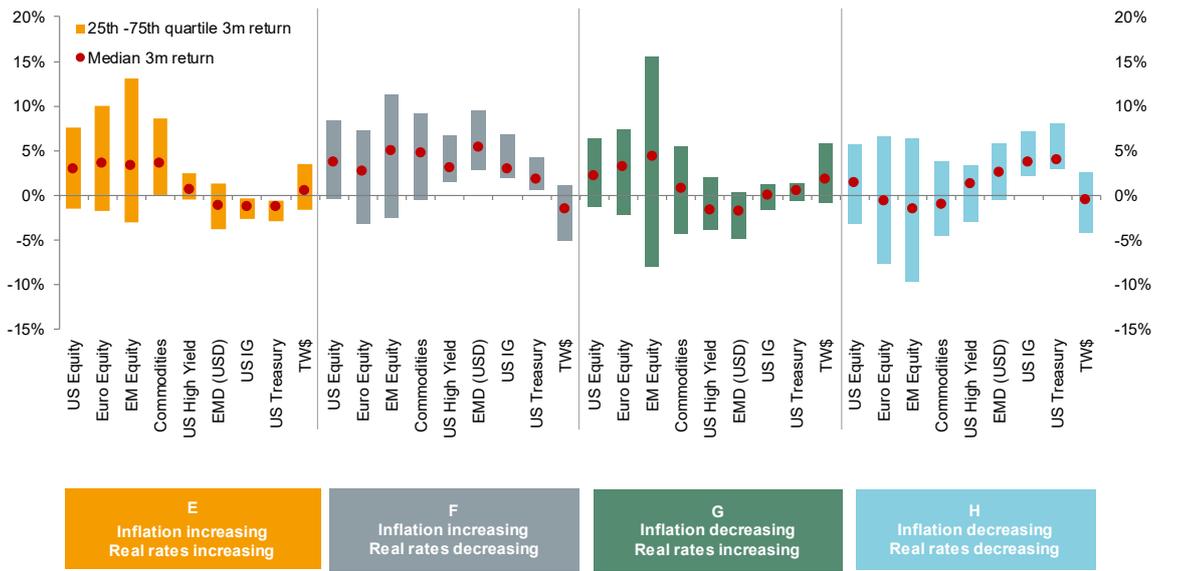


Figure 20: Volatility across historical inflation and real-rate regimes²³

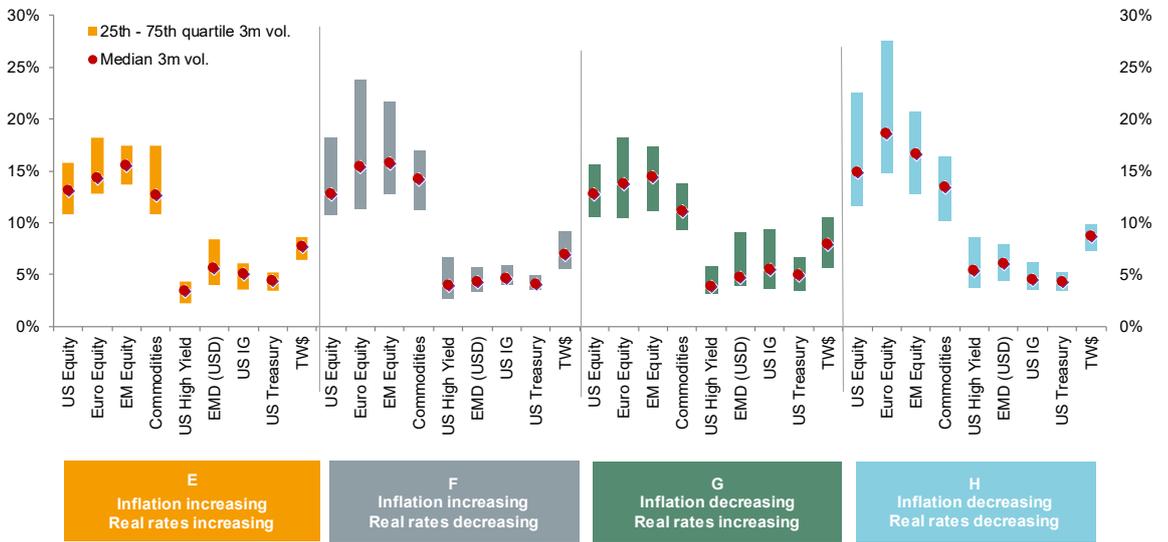
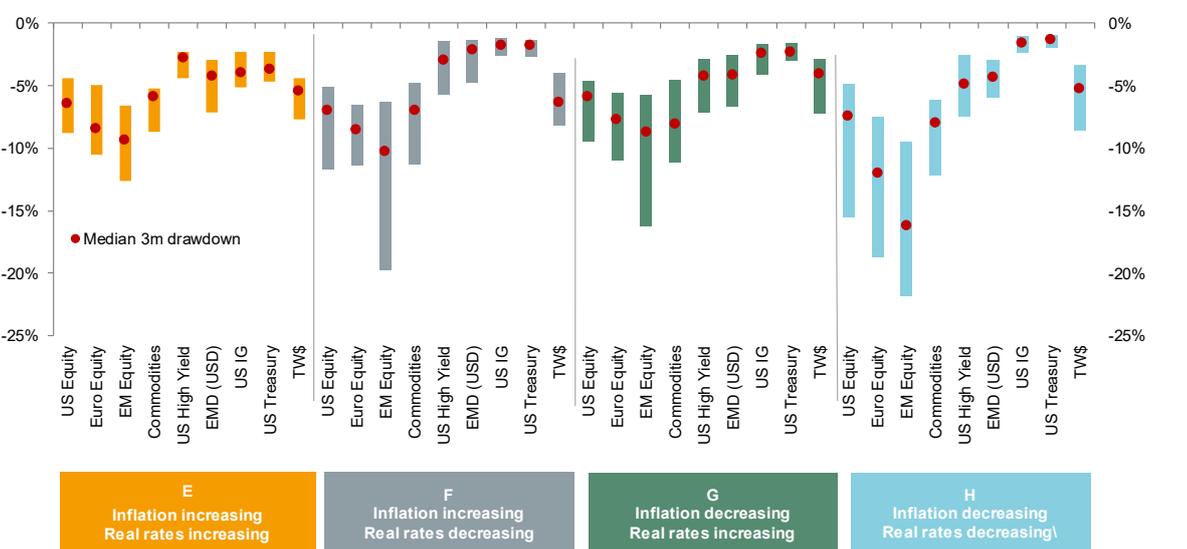


Figure 21: Drawdowns across historical inflation and real-rate regimes²⁴



^{22, 23, 24} Source: Insight and Bloomberg. Data as at 30 November 2021. Data between December 1976 and November 2021.

COMBINING GROWTH AND INFLATION FRAMEWORKS

Our analysis thus far has explored the influence of growth and inflation on asset class behaviour independently. However, a clear understanding of the interaction of both is key to delivering a better asset-allocation outcome.

Figure 23 illustrates this combining of our growth and inflation regime analysis, in this example with a focus on equity market performance based on the S&P 500 Index. Our various growth regimes are displayed on the vertical axis while our inflation regimes are shown on the horizontal axis. Using this framework there are 20 'states' of the world and in each one we have a quadrant with the following information embedded.

Figure 22: The four characteristics we use for our framework²⁵

KEY

Time spent in regime	3m return
Drawdown (3rd quartile)	Sharpe

This combined view helps to clarify not only what the prevailing environment means for an asset's performance but also how those prospects change as economic conditions evolve. In the equity market example shown in Figure 23, a shift from an Accelerating growth environment to a Moderating one clearly implies a move to a less impressive (though solid) equity return backdrop. However, if growth is robust enough to keep breakevens rising and, at the same time, the cost of capital (real rates) is falling, then the risk-adjusted returns potentially on offer are amongst the most favourable we can see.

Rising growth environments tend to be associated with the most spectacular equity returns but the amount of time spent in these regimes is fleeting. Indeed, identifying such periods is akin to 'buying stocks at the bottom' – an easy concept to grasp but somewhat harder to execute in practice.

If, on the other hand, a shift from Accelerating growth to Moderating occurs against a backdrop where inflation and real rates are also declining sharply, the risks of a speedier transition to a Falling growth regime are more elevated.

Indeed, the worst environments from an equity perspective are all Falling growth regimes – return and drawdown risk are particularly unappealing either in a world where inflation and real rates are moving sharply lower (often reflecting a severe downturn) or when growth and inflation are declining and when real rates (again, we think in terms of the cost of capital) are rising.

²⁵Source: For illustrative purposes only.

For completeness, a stagflation-style world would likely see our growth assessment shift into a Moderating or Falling environment while inflation pushes higher.

Figure 23 helps assess the relative attractions of these different regimes shown in the matrix. For each asset class we can rank the attractiveness of the regimes. In this illustration we are assessing on a combination of return, drawdown, Sharpe ratio and positive return 'hit rate'. The resultant list helps put the risk and opportunities implicit in these different economic states into context. Our analysis shows that growth dynamics are the dominant driver for equity returns and that real interest rates should carry more weight in our thinking rather than inflation.

In this note we have primarily focused on equity markets to illustrate our framework on the basis that, as the most volatile of the mainstream assets within a multi-asset portfolio, understanding their likely performance characteristics is paramount. However, in practice we use this framework to guide our allocation across a broad investment universe, including both traditional and alternative assets.

In figures 24 to 27 we show the same framework for government bonds, commodities and the US dollar. This highlights how the dominant influence within the growth and inflation mix differs significantly across asset classes. While growth is the most important for equity market returns, for commodities (Figure 26) it is the direction of inflation that matters most. The top four regimes for commodities are those where inflation is rising, while the four worst regimes are when inflation is falling. This is intuitive given the intrinsic linkage between commodity prices and inflation, but it serves to reaffirm the usefulness of viewing assets within an economic regime construct. Similarly, for the trade-weighted dollar (Figure 27) the most dominant driver is the direction of real rates. This is once again an intuitive result; however, we believe the clarity of this framework stands us in good stead to deal with the new growth and inflation challenges we expect in the post-COVID world.

Figure 23: Growth and inflation framework – Equity market performance characteristics²⁶

	Neutral		Inflation increasing Real rates increasing		Inflation increasing Real rates decreasing		Inflation decreasing Real rates increasing		Inflation decreasing Real rates decreasing	
Accelerating	17%	5.1%	6%	5.1%	6%	4.9%	6%	3.0%	3%	1.9%
	-7.4%	1.5	-7.6%	1.6	-8.2%	1.3	-7.4%	1.0	-14.1%	0.5
Moderating	13%	3.5%	3%	2.7%	6%	4.3%	3%	0.4%	6%	1.7%
	-7.9%	1.0	-8.5%	0.8	-7.5%	1.4	-9.3%	0.1	-16.7%	0.4
Falling	8%	3.3%	2%	-1.9%	4%	-1.5%	3%	-3.5%	7%	-1.7%
	-15.4%	0.8	-10.2%	-0.5	-15.9%	-0.4	-15.4%	-0.6	-19.2%	-0.3
Rising	2%	8.4%					3%	5.6%		
	-13.8%	1.7					-9.8%	1.6		

²⁶Source: Insight Investment. December 2021. Data between December 1976 and November 2021.

Figure 24: Growth and inflation framework – Equity market regime ranking²⁷

Growth Regime	Inflation Regime	Combined Regime	3m Return	Sharpe	Drawdown (3rd quartile)	Hit Ratio	3m Return Ranking	Sharpe Ranking	Drawdown (3rd quartile) Ranking	Hit Ratio Ranking	Average ranking	Time Spent in Regime
Rising	Neutral	D0	8.4%	1.88	-14%	92%	1	1	11	1	3.00	2%
Accelerating	Neutral	A0	5.1%	1.52	-7%	84%	4	4	2	4	3.80	17%
Accelerating	Inf. up RR up	A1	5.1%	1.59	-8%	84%	3	3	4	5	3.80	8%
Rising	Inf. down RR up	D3	5.6%	1.63	-10%	80%	2	2	9	6	4.20	3%
Moderating	Inf. up RR down	B2	4.3%	1.39	-7%	91%	6	5	3	2	4.40	8%
Accelerating	Inf. up RR down	A2	4.9%	1.32	-8%	88%	5	6	6	3	5.00	8%
Moderating	Neutral	B0	3.5%	1.01	-8%	77%	7	7	5	7	6.80	13%
Accelerating	Inf. down RR up	A3	3.0%	0.97	-7%	59%	9	8	1	13	8.00	8%
Moderating	Inf. up RR up	B1	2.7%	0.83	-9%	81%	10	9	7	11	9.40	3%
Falling	Neutral	C0	3.3%	0.77	-16%	73%	8	10	13	8	9.40	8%
Accelerating	Inf. down RR down	A4	1.9%	0.53	-14%	84%	11	11	12	10	11.00	3%
Moderating	Inf. down RR up	B3	0.4%	0.13	-9%	61%	13	13	8	11	11.80	3%
Moderating	Inf. down RR down	B4	1.7%	0.40	-17%	87%	12	12	16	9	12.20	8%
Falling	Inf. up RR down	C2	-1.5%	-0.36	-16%	36%	14	15	15	16	14.80	4%
Falling	Inf. up RR up	C1	-1.9%	-0.50	-10%	11%	16	16	10	17	15.00	2%
Falling	Inf. down RR down	C4	-1.7%	-0.32	-19%	47%	15	14	17	15	15.20	7%
Falling	Inf. down RR up	C3	-3.5%	-0.59	-15%	50%	17	17	14	14	15.80	3%

Figure 25: Growth and inflation framework – Government bond market regime ranking²⁷

Growth Regime	Inflation Regime	Combined Regime	3m Return	Sharpe	Drawdown (3rd quartile)	Hit Ratio	3m Return Ranking	Sharpe Ranking	Drawdown (3rd quartile) Ranking	Hit Ratio Ranking	Average ranking	Time Spent in Regime
Accelerating	Inf. down RR down	A4	4.9%	3.51	-1%	93%	1	1	1	2	1.20	3%
Falling	Inf. down RR down	C4	4.6%	3.47	-2%	92%	2	2	2	3	2.20	7%
Moderating	Inf. down RR down	B4	3.5%	3.39	-2%	97%	3	3	4	1	2.80	6%
Moderating	Inf. up RR down	B2	3.1%	3.28	-2%	64%	4	4	3	8	4.60	6%
Falling	Inf. up RR down	C2	2.6%	1.54	-2%	65%	5	6	5	7	5.60	4%
Falling	Neutral	C0	2.3%	2.05	-3%	70%	6	5	9	4	6.00	8%
Moderating	Neutral	B0	1.1%	1.13	-2%	70%	9	8	8	5	7.80	13%
Falling	Inf. down RR up	C3	1.9%	0.93	-3%	50%	7	9	10	11	8.80	3%
Accelerating	Inf. up RR down	A2	1.6%	1.53	-4%	69%	8	7	15	6	8.80	6%
Accelerating	Neutral	A0	0.8%	0.79	-3%	62%	11	10	11	9	10.40	17%
Rising	Neutral	D0	1.0%	0.68	-4%	58%	10	11	13	10	10.80	2%
Moderating	Inf. down RR up	B3	0.2%	0.22	-2%	44%	12	12	7	12	11.00	3%
Accelerating	Inf. down RR up	A3	0.0%	0.04	-3%	31%	13	13	12	13	12.80	6%
Moderating	Inf. up RR up	B1	-0.9%	-0.98	-2%	6%	16	16	6	16	14.00	3%
Rising	Inf. down RR up	D3	-0.5%	-0.31	-4%	13%	14	14	16	14	14.40	3%
Falling	Inf. up RR up	C1	-0.9%	-0.46	-4%	0%	15	15	14	17	15.20	2%
Accelerating	Inf. up RR up	A1	-1.8%	-1.62	-5%	13%	17	17	17	15	16.60	6%

²⁷ Source: Insight and Bloomberg. Data as at 30 November 2021. Data between December 1976 and November 2021.

Figure 26: Growth and inflation framework – Commodities²⁸

Growth Regime	Inflation Regime	Combined Regime	3m Return	Sharpe	Drawdown (3rd quartile)	Hit Ratio	3m Return Ranking	Sharpe Ranking	Drawdown (3rd quartile) Ranking	Hit Ratio Ranking	Average ranking	Time Spent In Regime
Falling	Inf. up RR up	C1	10.2%	2.46	-9%	78%	1	1	5	2	2.00	2%
Accelerating	Inf. up RR down	A2	5.7%	1.74	-10%	77%	2	2	7	3	3.20	6%
Accelerating	Inf. up RR up	A1	5.0%	1.55	-8%	74%	4	4	2	4	3.60	6%
Moderating	Inf. up RR down	B2	4.3%	1.34	-8%	82%	6	5	1	1	3.80	6%
Rising	Inf. down RR up	D3	4.9%	1.69	-10%	73%	5	3	8	5	5.20	3%
Accelerating	Neutral	A0	2.9%	0.96	-8%	69%	7	8	3	6	6.20	17%
Falling	Inf. up RR down	C2	5.6%	1.33	-13%	61%	3	6	13	9	6.80	4%
Accelerating	Inf. down RR up	A3	2.7%	1.00	-8%	66%	8	7	4	8	7.00	6%
Moderating	Inf. up RR up	B1	2.4%	0.68	-10%	67%	9	9	9	7	8.60	3%
Falling	Inf. down RR down	C4	-0.3%	-0.09	-10%	50%	11	11	6	11	10.00	7%
Moderating	Neutral	B0	0.8%	0.24	-12%	56%	10	10	11	10	10.20	13%
Falling	Neutral	C0	-0.7%	-0.20	-13%	45%	12	13	12	12	12.20	8%
Rising	Neutral	D0	-0.7%	-0.15	-14%	42%	13	12	16	13	13.40	2%
Accelerating	Inf. down RR down	A4	-2.2%	-0.69	-11%	29%	15	15	10	15	14.00	3%
Moderating	Inf. down RR down	B4	-2.0%	-0.58	-14%	37%	14	14	15	14	14.20	6%
Moderating	Inf. down RR up	B3	-5.1%	-1.51	-17%	28%	16	16	17	16	16.20	3%
Falling	Inf. down RR up	C3	-9.1%	-2.23	-14%	21%	17	17	14	17	16.40	3%

Figure 27: Growth and inflation framework – The US dollar²⁸

Growth Regime	Inflation Regime	Combined Regime	3m Return	Sharpe	Drawdown (3rd quartile)	Hit Ratio	3m Return Ranking	Sharpe Ranking	Drawdown (3rd quartile) Ranking	Hit Ratio Ranking	Average ranking	Time Spent In Regime
Moderating	Inf. down RR up	B3	3.9%	1.92	-4%	78%	1	1	1	1	1.00	3%
Accelerating	Inf. down RR up	A3	1.5%	0.75	-7%	59%	4	4	3	5	4.00	6%
Moderating	Neutral	B0	1.0%	0.51	-6%	60%	5	5	2	4	4.20	13%
Rising	Inf. down RR up	D3	1.8%	0.87	-10%	67%	3	3	16	2	5.40	3%
Falling	Inf. down RR up	C3	3.8%	1.46	-9%	57%	2	2	15	7	5.60	3%
Accelerating	Inf. up RR up	A1	0.8%	0.40	-8%	58%	6	6	9	6	6.60	6%
Moderating	Inf. up RR up	B1	0.6%	0.34	-7%	50%	7	7	4	9	6.80	3%
Falling	Inf. up RR up	C1	0.6%	0.32	-9%	67%	8	8	14	2	8.00	2%
Moderating	Inf. down RR down	B4	0.6%	0.27	-7%	57%	9	9	6	8	8.20	6%
Falling	Neutral	C0	0.2%	0.09	-8%	50%	10	10	10	9	9.80	8%
Rising	Neutral	D0	-0.7%	-0.34	-7%	33%	11	11	5	16	10.80	2%
Accelerating	Neutral	A0	-0.7%	-0.41	-8%	40%	12	12	8	12	11.20	17%
Moderating	Inf. up RR down	B2	-1.2%	-0.62	-8%	45%	14	16	11	11	13.20	6%
Falling	Inf. up RR down	C2	-1.0%	-0.47	-8%	35%	13	13	12	15	13.20	4%
Falling	Inf. down RR down	C4	-1.2%	-0.59	-9%	39%	15	14	13	13	14.00	7%
Accelerating	Inf. up RR down	A2	-2.5%	-1.56	-8%	26%	17	17	7	17	15.00	6%
Accelerating	Inf. down RR down	A4	-1.3%	-0.60	-10%	36%	16	15	17	14	15.60	3%

²⁸ Source: Insight and Bloomberg. Data as at 30 November 2021. Data between December 1976 and November 2021.



ALTERNATIVES: EMBRACING A BROAD OPPORTUNITY SET

We wrote at the end of 2020 about the longer-term implications of low government bond yields. We concluded that, looking forward, there is greater scope for alternative investments to add value both from a risk mitigation and return generation perspective and also active asset allocation is likely to be of more importance. In delivering returns, the asset allocation framework described here is just as applicable to these alternative strategies.

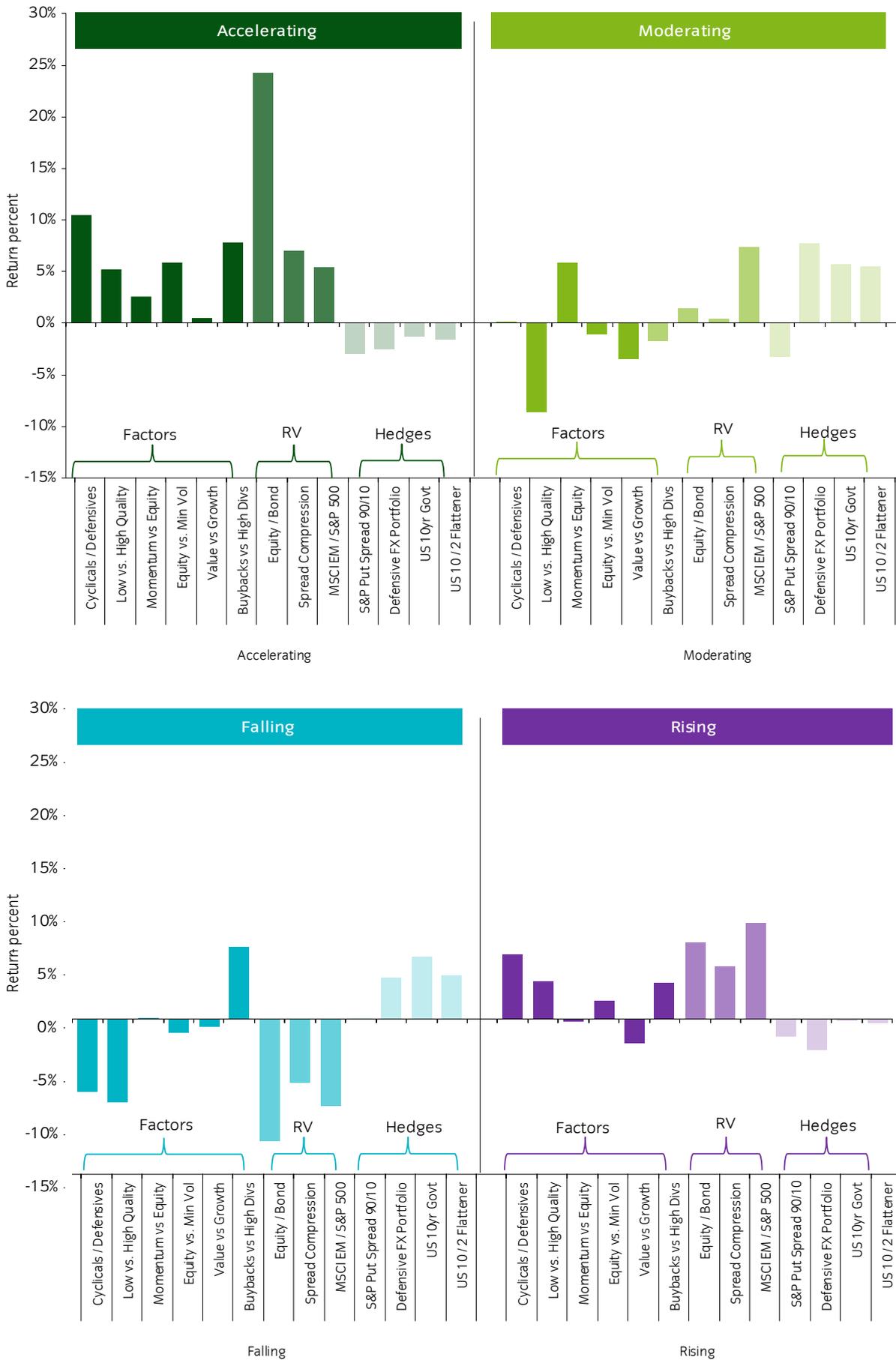
To illustrate, in Figure 28 we compare a range of alternative diversifiers through the lens of our growth framework. These include equity factor-based strategies (momentum, volatility, quality buybacks vs dividends as well as value/growth), traditional relative value trades (Developed vs emerging markets, credit spread compression and Equity vs bonds) as well as traditional hedges (option strategies, defensive FX strategies and government bond and yield curve trades). All factor-based strategies are based on US equities and use the broader US market as their funding leg.

Looking at their historical performance, the classic factor-based strategies such as 'value versus growth' appear to offer little from a regime perspective although cyclical vs defensives behave in a logical manner. Hedging strategies tend to be a drag on performance in accelerating regimes (which is when risk asset returns are greatest) but perform well in both moderating and falling regimes.

In the current environment, with government bond yields still at very low levels and with inflation uncertainty high, augmenting our portfolios with alternative strategies, like developed vs EM equities and defensive FX pairs, offers particular benefits over traditional hedges like government bonds.

This is an illustration of how we can combine our toolkit signals with the broader macro view to not only inform our asset allocation decisions across traditional assets but also help identify diversifying strategies.

Figure 28: Alternative strategies – returns viewed through our growth framework²⁹



²⁹ Source: Insight, Bloomberg. Data as at 30 November 2021.

IMPORTANT INFORMATION

RISK DISCLOSURES

Past performance is not indicative of future results. Investment in any strategy involves a risk of loss which may partly be due to exchange rate fluctuations.

The performance results shown, whether net or gross of investment management fees, reflect the reinvestment of dividends and/or income and other earnings. Any gross of fees performance does not include fees and charges and these can have a material detrimental effect on the performance of an investment.

Any target performance aims are not a guarantee, may not be achieved and a capital loss may occur. Funds which have a higher performance aim generally take more risk to achieve this and so have a greater potential for the returns to be significantly different than expected.

Portfolio holdings are subject to change, for information only and are not investment recommendations.

ASSOCIATED INVESTMENT RISKS

Multi-asset

Derivatives may be used to generate returns as well as to reduce costs and/or the overall risk of the portfolio. Using derivatives can involve a higher level of risk. A small movement in the price of an underlying investment may result in a disproportionately large movement in the price of the derivative investment.

Investments in bonds are affected by interest rates and inflation trends which may affect the value of the portfolio.

The investment manager may invest in instruments which can be difficult to sell when markets are stressed.

Property assets are inherently less liquid and more difficult to sell than other assets. The valuation of physical property is a matter of the valuer's judgement rather than fact.

While efforts will be made to eliminate potential inequalities between shareholders in a pooled fund through the performance fee calculation methodology, there may be occasions where a shareholder may pay a performance fee for which they have not received a commensurate benefit.

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