House View 2023 Outlook

The intelligence that guides our investment decisions

AVIVA INVESTORS

House View

The Aviva Investors House View document is a comprehensive compilation of views and analysis from the major investment teams.

The document is produced quarterly by our investment professionals and is overseen by the Investment Strategy team. We hold a House View Forum biannually at which the main issues and arguments are introduced, discussed and debated. The process by which the House View is constructed is a collaborative one – everyone will be aware of the main themes and key aspects of the outlook. All team members have the right to challenge and are encouraged to do so. The aim is to ensure all contributors are fully aware of the thoughts of everyone else and that a broad consensus can be reached across the teams on the main aspects of the report.

The House View document serves two main purposes. First, its preparation provides a comprehensive and forward-looking framework for discussion among the investment teams. Secondly, it allows us to share our thinking and explain the reasons for our economic views and investment decisions to those whom they affect.

Not everyone will agree with all assumptions made and of the conclusions reached. No one can predict the future perfectly. But the contents of this report represent the best collective judgement of Aviva Investors on the current and future investment environment.

Executive summary

Managing volatility in a changing world

As 2022 draws to a close, the macro environment is radically different to the one that prevailed at the start of the year. Growth has slowed much more than anticipated. Not only did inflation fail to ease as expected, but it increased further. Meanwhile, central banks have embarked on the most rapid pace of policy tightening in 40 years. The supply chain problems that emerged in 2021, following the initial economic recovery from COVID, extended into 2022 and broadened in unforeseen ways. First and foremost, the Russian invasion of Ukraine in February led to sanctions and removal of supply that greatly impacted global energy markets. But the supply challenges have appeared in other areas as well. Job vacancies have soared to all-time highs in almost all regions, while labour force participation has either fallen, as in the United States and United Kingdom (reflecting a combination of both early retirement and increased long-term sickness) or failed to rise enough (Figure 1).

2022 was punctuated by the historic rise in inflation

As a result, despite the growth slowdown, there has been almost no easing in labour market slack. That has kept upward pressure on wage growth, which has moved well above its long-term average across most regions through the course of 2022. At the same time, having risen markedly in the first half of the year, underlying inflationary pressures have remained persistent through the second half of 2022. Core measures of inflation remain far above central bank targets, while headline rates reached double digits in most economies. That has led developed market central banks (except for the Bank of Japan) to raise policy rates from the effective lower bound at the start of the year into restrictive territory. Increases of 50 or 75bps per meeting became commonplace, as central banks scrambled to get on top of the inflation breakout.

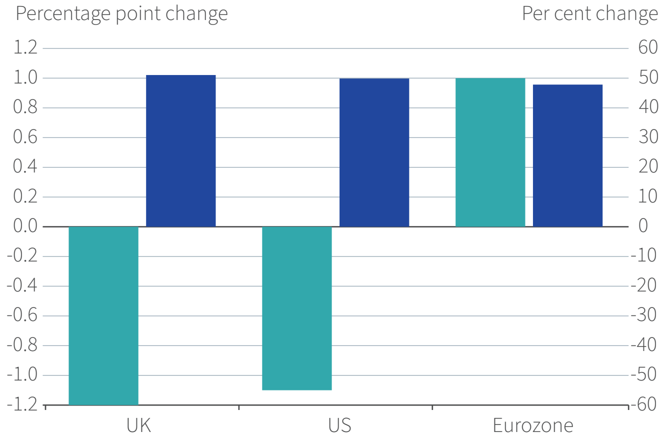
Central banks responded by rapidly raising rates into restrictive territory

That tightening in monetary policy led to a sharp tightening in overall financial conditions, as risk assets repriced to reflect the unexpected and dramatic move up in real rates. In an almost unprecedented outcome, virtually all global asset classes from government bonds to corporate credit, equities and real assets saw declines in 2022 (Figure 2). The pain was felt across both developed and emerging markets. The only major asset class to see positive performance over the year were commodities, but even there it was largely restricted to energy and agriculture. The dramatic shift in cross-asset correlations was also accompanied by a significant increase in asset market volatility, most notably in bond markets, but also in foreign exchange and equities.

Global asset markets fell in unison, as the world adjusted to higher real rates

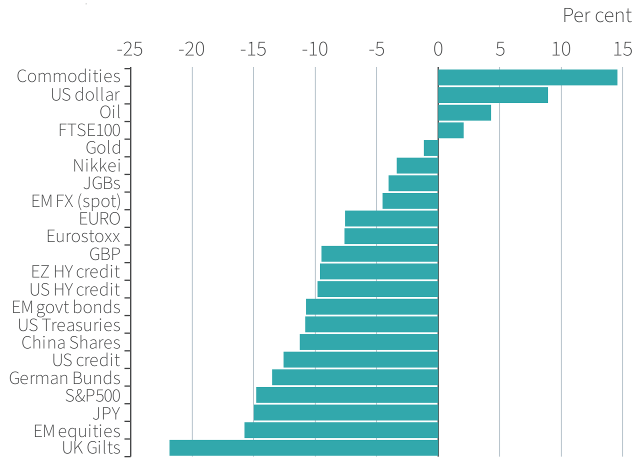
Looking ahead, we expect the impact of both the energy supply shock and the rapid tightening in monetary policy will push the major economies into recession. The United Kingdom and Eurozone are expected to be at the forefront, with both expected to see a

Figure 1. **Labour supply challenges**
Change in participation rate and job vacancies since end-2019



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 2. **2022 was a challenging year across asset markets**
YTD returns across major asset classes



Source: Aviva Investors, Macrobond as at 29 November 2022

decline in output in 2022Q4, with further declines in 2023. The United States is expected to slip into recession in the second half of 2023. In each of these cases, the recession is expected to be relatively mild given that household and corporate balance sheets are not extended. However, just how mild will depend on the severity of any further increase in energy prices in Europe and the extent to which the Federal Reserve and other central banks need to deliver even tighter policy should above-target inflation prove to be persistent.

We expect a shallow global recession across 2023

Global growth is expected to slow to around 2½ per cent in 2023 and 2024, down from 3¼ in 2022 (Figure 3). Within that, developed market economies are expected to account for all of that slowdown, with growth of just ½ per cent expected in 2023 and 1 per cent in 2024, down from 2½ in 2022. That largely reflects the impact of both the energy shock in the UK and EZ, dragging down real disposable income and spending, alongside the restrictive stance of monetary policy weighing on households and businesses. In the emerging markets, growth is actually expected to be a little better in 2023, rising by around 4¼ per cent, largely reflecting an improvement in China as it exits from zero-COVID policies that have led to continued lockdowns in 2022.

The impact of tighter monetary policy and high energy prices are the main drivers

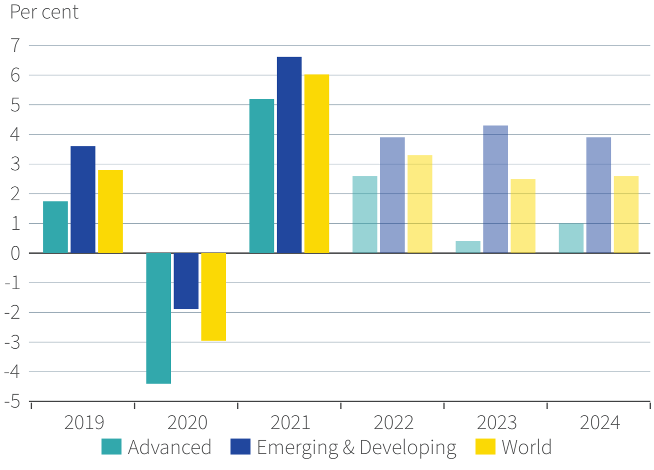
Headline inflation is expected to decline in 2023, as the impact of earlier increases in energy and food prices falls out of the comparison with a year ago (Figure 4). By itself, that could account for a fall in headline inflation of 3-5 per cent in the UK and EZ and 2-3 per cent in the US. However, that view is conditioned on an assumption that oil and gas prices broadly follow the path shown by futures markets. There remains upside risk to that outlook. In Europe, the severity of the cold this winter, alongside the ability to procure gas or diversify to other energy forms in 2023 will be key to avoiding another ramp up in wholesale natural gas prices heading into next winter. Moreover, with sanctions on Russian oil expected to be tightened going into 2023 along with OPEC cutting output, there is likely to be more supply removed from the market. That could push prices higher, even with the expected slowing in global growth. Fiscal policy may be utilised further to cushion future increases in energy prices, however, there will be limits to how long such a policy can be maintained.

We expect headline inflation to fall back materially through 2023, but risks remain to the upside

We expect core inflation, which has been in the range of 5-6 per cent during the second half of 2022 in the US, UK and EZ, to also decline through 2023. In terms of core goods, the easing in global supply chain pressures should see inflation of traded goods ease further. For core services, the negative impact on real income and spending of higher energy prices, as well as the restrictive stance of monetary policy weighing on demand and ultimately working its way through to a loosening in the labour market and weakened pricing power. However, we expect that process will be quite slow, with core inflation likely to remain above the central bank targets of 2 per cent throughout 2023. Indeed, the risks are also tilted to the upside here, with incoming information on likely wage settlements in the UK and EZ for 2023 significantly

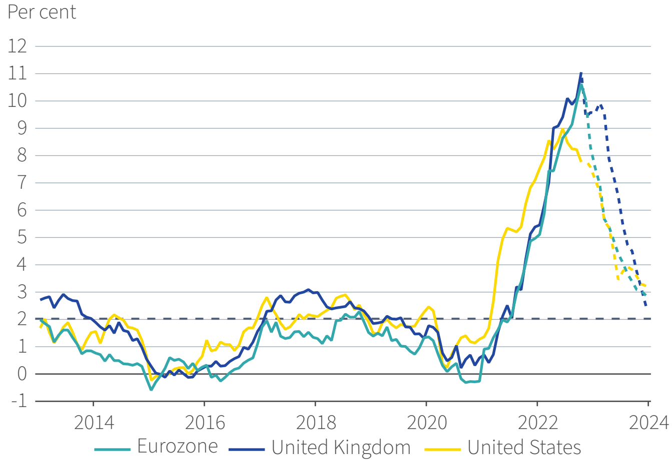
Core inflation should also fall back, but could prove to be more persistent

Figure 3. **Aviva Investors growth projections**
Shallow recession expected in 2023



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 4. **Aviva Investors CPI inflation projections**
Declining in 2023, but risks to the upside



Source: Aviva Investors, Macrobond as at 29 November 2022

higher than in 2022, reflecting a degree of success on the part of employees in reacting to the decline in real wages experience this year. In the United States, where wage bargaining is more decentralised, recent outcomes show no sign of slowing in wage growth, which remains in the 5-6 per cent annualised range.

While we see the risks to inflation tilted to the upside again in 2023, the range of possible outcomes is wide. Uncertainty about inflation is likely the greatest we have seen in 40 years. We have seen some of the largest forecast errors ever this year from official bodies (Figure 5). Those errors reflect the shocks that have impacted inflation, in particular, from the supply-side. We expect a range of structural factors could result in both a sustained tailwind to inflation and increased likelihood of positive inflation shocks. Changes due to the political shift towards deglobalisation, the drive to decarbonisation and changing demographics could all work to increase economic and policy uncertainty, resulting in greater variability and higher average level of policy rates.

Uncertainty is unusually high and structural factors are likely to be tailwinds to inflation

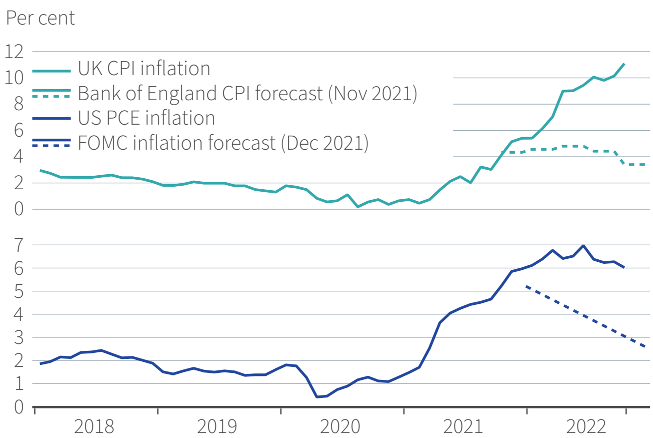
As such, we expect central banks to continue to adopt a risk management approach to setting policy rates, with the primary focus on bringing inflation down to target over a horizon that doesn't create too much economic pain. In our central projection, we expect the Federal Reserve, ECB and Bank of England to reach the peak of the tightening cycle by the end of 2023 Q2, with rates of around 5 per cent, 3 per cent and 4 per cent, respectively. We expect the Bank of Japan will adjust its policy of yield curve control (YCC) in 2023 Q2, as multi-decade higher inflation feeds into moderately higher wage growth and higher inflation expectations. We expect the PBOC will continue to run easier policy through 2023 to help encourage the post-COVID recovery in China.

We expect major central banks to keep raising rates into mid-2023

We prefer to be broadly neutral in equities. Equity markets have de-rated through 2022, reflecting the move higher in real rates. Looking to 2023, we expect to see downward revisions to earnings expectations in coming quarters, reflecting the shallow economic recession, to weigh on markets (Figure 6). Only once there is a clear downshift in inflation do we expect to see risk assets perform better. We have a mild preference for the UK over Europe given the relative exposure to energy and resources. We have a preference to be modestly underweight duration, with upside inflation risks outweighing the downside recession risks. However, the peak in policy rates is likely approaching, requiring a nimbler approach to duration in 2023. We prefer to be neutral in credit, where we think the recent rally in spreads makes high-yield less attractive going into recession. On investment grade, the all-in yield on short-dated paper does make it relatively attractive, but is competing with attractive risk-free cash returns. Finally, we prefer to be long the US dollar going into 2023, reflecting the weakening global growth environment and the strength of underlying inflation in the United States, but think that the longer-term dollar trendcould eventually everse as growth prospects improve in late 2023.

We prefer to be neutral equities and credit, but underweight duration

Figure 5. **Central bank inflation forecast errors...**
...have been unusually large in 2022



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 6. **Asset allocation**

	Underweight										Overweight
	-5	-4	-3	-2	-1	0	1	2	3	4	5
Equities						0					
Nominal Government					-1						
Credit						0					
Cash									3		
Currencies (funded by USD)				-2							

Source: Aviva Investors, Macrobond as at 29 November 2022

Key investment themes and risks

Investment themes

1. **Shallow recessions expected**
2. **Inflation persistence and uncertainty**
3. **Fiscal backstops**
4. **Global fragmentation**
5. **Energy security, commodities and decarbonisation**
6. **Changing market structures**

Shallow recessions expected

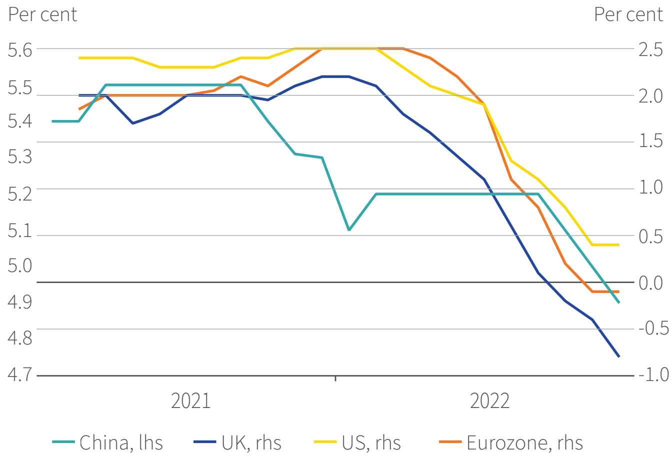
Global growth projections for 2023 are still being revised lower (Figure 7), but the pace of revisions might be slowing, suggesting that analysts believe we are getting close to "peak pessimism". As importantly, differences are appearing across regions and countries. The implication is that we may be evolving from an environment in which every nation is feeling the impact of the same shock in a similar manner, to one where outlooks diverge. Three generic areas of such differences spring to mind. First, the energy shock is being felt disproportionately by Europe, where it alone has been sufficient to usher in strong (supply-side) recessionary downdraughts. The US has not been unaffected, but the impact has been far smaller (Figure 8). Moreover, momentum in the US economy has been significantly stronger, implying that demand is having more of an effect on the inflation impulse. Secondly, downgrades for emerging and developing economies have been lower than for the major developed nations. One explanation is that many such countries hiked rates sooner and more aggressively, meaning the policy-induced element of downturn may be more complete. Outside of Europe, emerging markets are also not being as impacted by the energy shock. And finally, China continues to be affected greatly by COVID cases and resulting lockdowns.

Recessions in most regions, but timings will vary

But even with these differences, the global outlook overall is still pretty poor. World GDP growth may struggle to reach 2.5 per cent in 2023, close to the pace at which a global recession is declared. Outright declines in world GDP are very rare. Many regions and countries will experience recession over the coming year and even if some manage to avoid it, the threat will hang heavy throughout 2023 and quite possibly beyond. We have stressed previously that, unlike many previous recessions, there is less need for cathartic periods of adjustment and correction currently: private sector balance sheets (household and corporate) are generally in good shape and banking systems are well-capitalised and functioning properly. In theory, therefore, downturns and/or recessions can be shallow by historical standards. That's about as

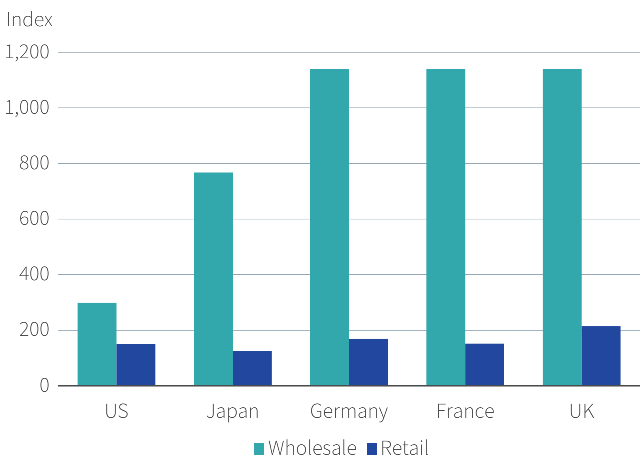
Downturns do not need to be deep or lengthy – there are few private sector imbalances

Figure 7. **Gloomy growth forecasts for 2023**
Bloomberg consensus for GDP growth in 2023



Source: Aviva Investors, Bloomberg, Macrobond as at 29 November 2022

Figure 8. **Natural gas prices, September 2022**
(March 2021 = 100)



Bureau of Economic Analysis; Statistics Japan; Eurostat; US Energy Information Administration; Japanese Power; and OECD calculations far as the good news goes. Global central banks all believe that weaker or negative growth is a price worth paying to get inflation back under control. More immediately, the pain of what has been termed in many places a "cost-of-living" crisis, is very real for many and there will be more difficult times to come. The squeeze on (real) household incomes over the next year or two is unprecedented in the post-war period. Figure 9 shows the history of real household income growth in the UK along with the latest projections. It is this, rather than the behaviour of any fiscal aggregate, that shows what real austerity looks like. And the pattern will be very similar elsewhere across Europe.

Inflation persistence and uncertainty

Ultimately, inflation is still always about supply and demand. The inflation outcomes of 2020-2022 represent a stark contrast to the experience of the previous 20 or 30 years (Figure 10). Visually at least, this picture offers compelling evidence that something has gone badly wrong. Surely the spike in inflation rates to 10 per cent or more is clear evidence of policy failure? The truth is more complicated, although it has to be conceded that, with the benefit of hindsight, some of the actions – or inactions – of central banks have probably contributed to the problem.

Inflation is at rates thought banished to history

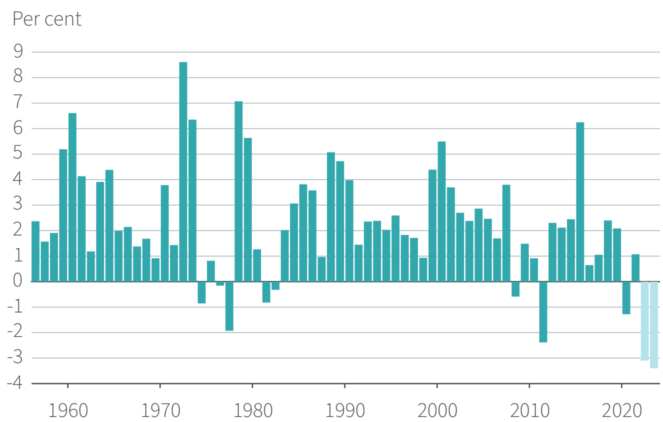
In fact, there has been a unique confluence of factors – supply and demand – that have contributed to higher inflation. Each one in isolation might have resulted in a temporary inflation spike not dissimilar to those seen in 2008 or 2012. But taken together (or in very quick succession), they have combined to push inflation up to the very high rates which prevail today. Historical context is important here too. The tides of globalisation, including the emergence of China as a world heavyweight, released powerful deflationary forces around the world, pushing down the prices of tradeable goods. The assumed success of central banks in bringing inflation to target helped anchor inflationary expectations and created a virtuous circle for prices and wages. In the wake of the GFC, central banks were able to cash in on this credibility by loosening monetary policy dramatically and it seemed, without inflationary consequence. This resulted in some complacency about inflation being "yesterday's problem". Ironically, loose policy settings probably started to get more meaningful traction just as other factors also started adding to the inflation impulse.

Unique confluence of supply and demand factors

With globalisation now slowing or reversing, the world has also been hit by two massive supply shocks. First COVID, then the energy shock. Many global trade flows simply stopped, and a range of frictions, disruptions and shortages meant that restarting them has been a lengthy process which is not yet complete. Higher energy prices have contributed directly to rising inflation (Figure 11). They have also boosted food prices because much of food production is energy intensive. As and when these prices stabilise or fall back, overall inflation rates should fall. However, inflation has also become much more broad-based (Figure 12),

Energy price contribution should wane significantly in 2023

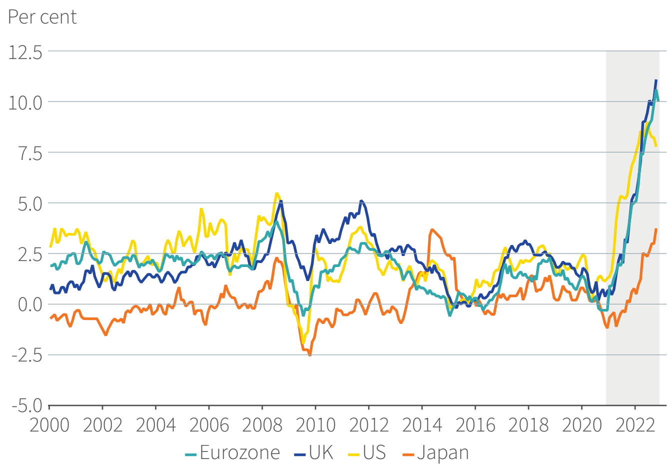
Figure 9. **UK real disposable income, y/y**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 10. **Inflation is back**

Consumer price inflation in major nations



Source: Aviva Investors, Macrobond as at 29 November 2022

pointing to some other underlying drivers. In simple terms supply constraint was being felt, while demand was being sustained or boosted directly by COVID support and energy packages. It should be no surprise that price pressures emerged. Rather late in the piece, central banks have realised that underlying inflation can only be tamed by deliberately suppressing demand.

More fundamentally, the inflation regime that eventually emerges may be different from the one we have got used to over the last 20 or 30 years. Inflation is set to be both higher and more persistent. Underlying the supply and demand issues which we have already highlighted, there are a number of deep-rooted structural trends which will push inflation higher and, perhaps, make it more volatile. We have mentioned de-globalisation. Two others are demographics and climate change. Shrinking workforces and efforts to de-carbonise are both likely to add to inflation. The bottom line is that while inflation should drop back significantly, where it eventually settles is less certain. In statistical terms, the mean of its future distribution may well be higher than we had got used to. But also, the range of outcomes is likely to be greater than in the past and skewed more to the right-hand tail of the probability distribution (higher inflation outcomes).

A number of structural drivers point to inflation settling at a higher rate in the future

Fiscal backstops

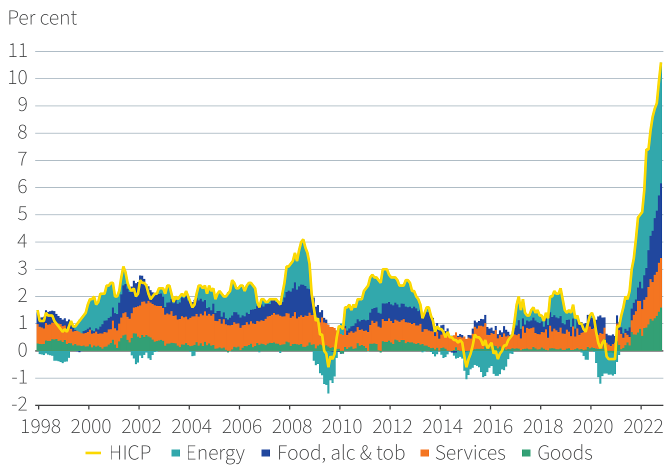
The relative importance of fiscal and monetary policy has ebbed and flowed in the post-war period, with each enjoying a position of comparative dominance for extended periods at certain times or in certain places. In general terms more activist fiscal policies have been associated more with left-leaning political parties (notably in parts of Europe), while monetary policy was linked with more closely with right of centre parties, most of which favoured greater adherence to free market principles (the US is probably the best example). In the 80s, 90s and 00s, monetary policy was more prominent, but after the global financial crisis, the dial moved back to fiscal, with initiatives related more to rescue packages (banking systems) and political imperatives (Eurozone sovereign crisis). But only a few years later, even the fiscally conservative US was embarking on ambitious stimulus programmes. In the wake of the COVID pandemic and in response to the present energy shock, most nations have leaned more heavily on fiscal programmes to sustain demand (Figure 13). In short, fiscal seems back in fashion.

Pandemic and energy crisis support have leant heavily on fiscal

However, this does not mean that expansionary fiscal initiatives can be pursued indiscriminately. As the risks section (see below) makes clear, the rules of fiscal sustainability have not been abandoned. In recent years public sector budgets have been helped by robust growth, high inflation and low (government borrowing) rates. All of those are now moving in less helpful directions. Looking ahead, it seems very unlikely that the fiscal stance will transition to anything remotely resembling "Austerity 2.0", especially across Europe where the pain of the 2010-14 period is still fresh in the memory. In the US, political stalemate in the two-

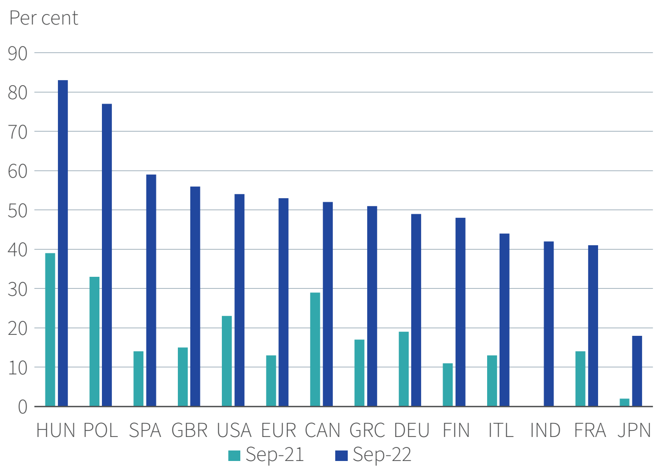
Austerity 2.0 seems unlikely, but there are risks ahead

Figure 11. **Energy a key driver of high inflation**
Eurozone: contributions to HICP inflation



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 12. **Inflation is much more broad-based now**
Proportion of CPI basket with inflation rate above 6%



Source: OECD, Aviva Investors, Macrobond as at 29 November 2022 year period after the mid-terms means it is unlikely that any fiscal measures of significance will be adopted. One issue which now feels much more relevant is the greater possibility of crowding out of private spending. Public borrowing has to compete for the finite pool of savings resource that is available. If government borrowing is “excessive”, then real interest rates will move higher, choking off private investment. The calamitous (though thankfully short-lived) fiscal experiment in the UK under Prime Minister Truss and Chancellor Kwarteng served as a timely reminder that financial markets can still act as de facto fiscal police if governments go too far or too fast.

The OECD recently stated that fiscal support will still be needed in response to the energy crisis, but also argued that such measures will need to be less extensive and more targeted. It is difficult to make cross-country comparisons as the fiscal aggregates still reflect a lot of pandemic measures, many of which will run off automatically. In terms of headline numbers, the forecasts project moderate fiscal consolidation in both 2023 and 2024 for the OECD overall, with underlying primary budget balances improving by around 0.4 per cent of GDP next year and 0.6 per cent the year after (Figure 14). These are modest by historical standards and reflect a delicate balancing act. Governments will not want fiscal policy to pull in the opposite direction from the monetary stance if that results in central banks having to tighten more aggressively. At a more micro level, they will (or should) also wish to ensure that energy support measures do not weaken incentives to reduce energy consumption or prevent reallocation to less energy-intensive activities.

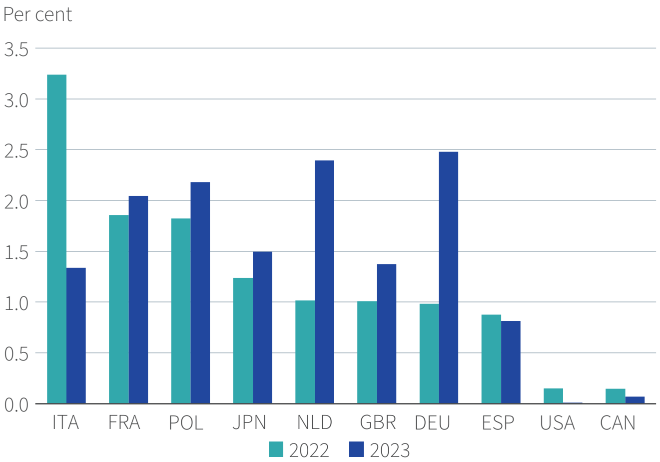
Modest fiscal consolidation expected in future years

Global fragmentation

The IMF was set up at the Bretton Woods conference in the 1940s to end the beggar-my-neighbour policies of the 1930s, to encourage greater openness and to prevent countries exporting deflation. In the immediate post-war period progress was slow, but incrementally the world became more open. The transformation accelerated from the 1970s and the next three decades are rightly characterised as the golden age of globalisation. But as we have noted before, that period now seems to be coming to an end. The last 10 or 15 years have seen attitudes change in many fields including trade and politics. As Figure 15 shows, there have been a number of global trade regimes over the last 200 years and it seems as if we have entered a new one since the global financial crisis. It is unlikely that we will return to the damaging era of protectionism of the 1920s and 1930s, but the risk of a less cooperative global environment is probably greater now than it has been for several decades. It is to be hoped that what will actually evolve is a “redefinition” of globalisation based more on security than cost-cutting efficiencies.

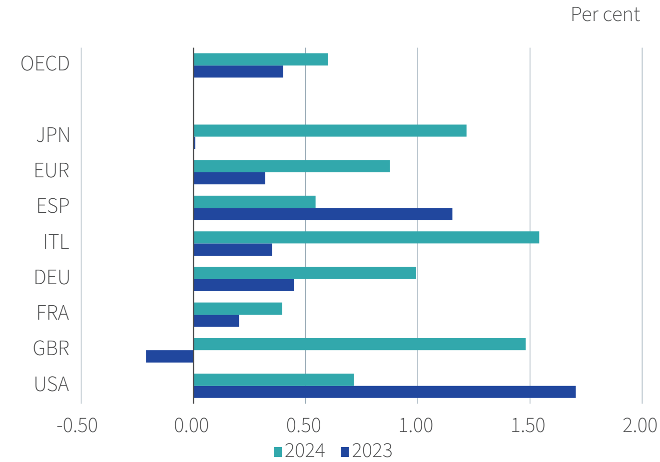
The era of ever-increasing globalisation has come to an end

Figure 13. **Huge energy support packages**
Cost of energy-related fiscal support, per cent GDP



Source: OECD, Aviva Investors as at 29 November 2022

Figure 14. **Fiscal consolidation to be moderate and uneven**
Change in primary budget balance, per cent GDP



Source: OECD, Aviva Investors, Macrobond as at 29 November 2022

The overriding message from the annual Washington meetings hosted by the IMF in October was that we now live in a more fractured, less open world. There were some testy exchanges between nations, and not just those involving Russia or China. The Americans were unhappy at Saudi Arabia's oil production cuts. India expressed concerns about the global ramifications of aggressive US interest rate hikes and Britain was heavily criticised after the disastrous mini-budget. The managing director of the IMF, Kristalina Georgieva, expressed concerns over de-globalisation trends: "Fragmentation in the world economy means that we might see shifts in supply chains that impact on cost structures on a more permanent basis". She also suggested that we are moving from a world of relative predictability and stability to one with greater uncertainty and volatility. The present tensions between Russia and the West and between the US and China are the most important, but they also belong to the broader category of geopolitical and social frictions of recent years such as the Brexit vote, right-wing populism in Europe and the election of Donald Trump. In some ways, the pandemic and energy price shock have brought such issues more out into the open.

Geopolitical tensions are just one example of a more fragmented world

The Russian invasion of Ukraine is obviously an extreme example of this theme and it will have permanently damaged Russia's place in any new world order. But there are many other geo-political tensions around the world, and these generate risks for global trade and international capital flows and threaten to erode the pillars of multilateral cooperation frameworks that were built up in earlier decades. Sanctions on Russia have been effective and are unlikely to be reversed or even relaxed any time soon. Meanwhile the Biden administration's sweeping restrictions on China using US-produced semiconductor chips is an overt attempt to slow Beijing's technological and, presumably, military advances (Figure 16). The latest measures represent an extension to earlier initiatives that halted shipments of equipment to Chinese factories. But their severity and bluntness are a reflection of how poor Sino-US relations have become. This is unlikely to be the last such episode. There may well be a further ratcheting up such measures in the future, with China likely to retaliate with its own partisan actions. It is impossible to predict the exact nature of these skirmishes, but it is not entirely inaccurate to describe them as a new "cold war". This time around, stand-offs will relate to commerce more than weapons, but the two are not unrelated, especially when it comes to technology.

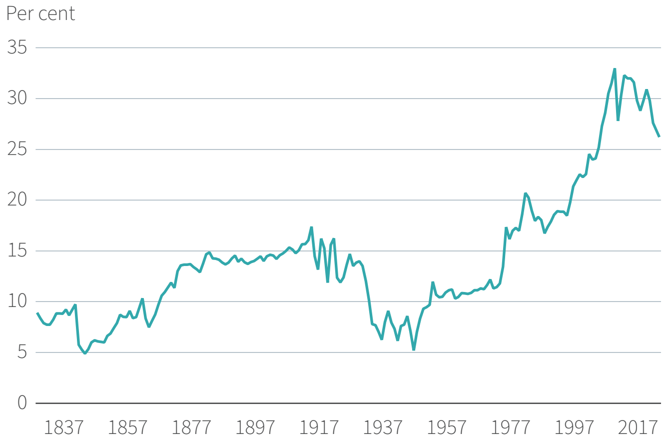
Possibility of new "cold war" between China and the US

Energy security, commodities and decarbonisation

The conflict in Ukraine has reminded everyone that national security should not be taken for granted. Moreover, the devastating impact on energy prices that has resulted has refocused attention on other issues, including energy security and the transition to cleaner and renewable sources of energy. Even if the war were to end soon or come to some form of resolution – neither of which looks imminent – it has permanently changed the geo-political, energy and, more debatably, economic landscape in Europe and elsewhere. Fears that Russian restrictions on natural gas supplies would lead to shortages and rationing over the winter have receded, helped by the astonishingly rapid substitution into coal and oil, an

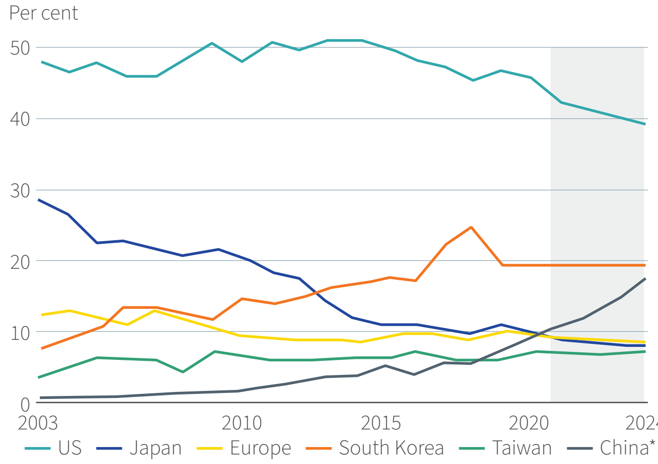
Russia's invasion of Ukraine is changing attitudes towards energy

Figure 15. **Have we entered a new global trade era**
World exports as per cent of world GDP



Source: Our world in data, Aviva Investors, Macrobond as at 29 November 2022

Figure 16. **China rising**
Semiconductor sales, global market share, per cent



* Annual average increase of 30%, 2021-24
Source: Semiconductor Industry Association

equally swift build-up of energy inventories and, at least at the time of writing, mild weather. Absent an unusually large and enduring cold snap (which can't be ruled out), the consensus view is that Europe has sufficient energy stocks to get through winter without major problems. However, rebuilding stocks to a similar "safe" level before the 2023/24 winter will be more difficult. Long term, as the IMF points out, the geopolitical realignment of energy supplies in the wake of the invasion is broad and permanent. Europe and others will reduce or eliminate their dependence on Russian energy supplies. But that transition will take longer than a year. In the meantime, further disruptions and energy price spikes should not be ruled out.

Wholesale natural gas prices are still very elevated by the standards of the last ten years, but they are well below the recent spikes when it looked as if shortages could be sizeable (Figure 17). It is also noteworthy that commodity prices more generally, which had recovered significantly after the COVID episode and then spiked higher after the invasion, have also fallen back meaningfully (Figure 18). Looking further ahead, the OECD highlights how the Ukraine has changed things: "Governments will need to ensure that the goals of energy security and climate change mitigation are aligned. Efforts to safeguard near-term energy security and affordability through fiscal support, supply diversification and lower energy consumption should be accompanied by stronger policy measures to enhance investment in clean technologies and energy efficiency". In the short term, some tensions have emerged between energy independence and the green transition – some European nations are burning more coal to make up for reduced imports of oil and gas, while some nations in Asia are also using more coal because LNG supplies have been diverted to Europe.

Some tensions between energy security and the green transition

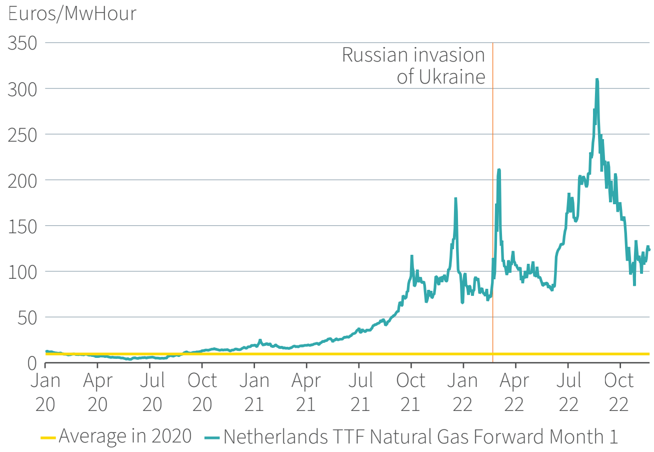
In any event, the best response to the crisis must surely be to speed up the transition to net zero carbon emissions. In time this should reduce costs, improve energy security and enhance prospects of meeting climate objectives. More generally, if these issues are to be addressed properly, ongoing global cooperation and coordination will be needed. COP26 and COP27 have seen some progress, but it is still far too slow. If our global fragmentation theme is correct, this may become progressively more difficult and expensive.

Progress on climate change initiatives needs to be accelerated

The current energy shock does bear some comparison to the twin crises in the 1970s. Those events inflicted short-term pain but led to far-reaching changes to the energy industry that were in the end beneficial. Longer-term aspirations for green energy are appealing and, we hope, realistic. But they will not inevitably be achieved. Governments are being pulled both ways – ease and speed the transition but keep prices low. They will not all do the right thing. Some may prioritise short-term relief through increased fossil fuel production or distorting subsidies, potentially exacerbating the climate crisis. The green transition remains a laudable ambition. Recent events may both help and hinder, but care needs to be taken to ensure that macroeconomic policy adapts dynamically to present circumstances and continues to smooth the path to cleaner energy and less pollution.

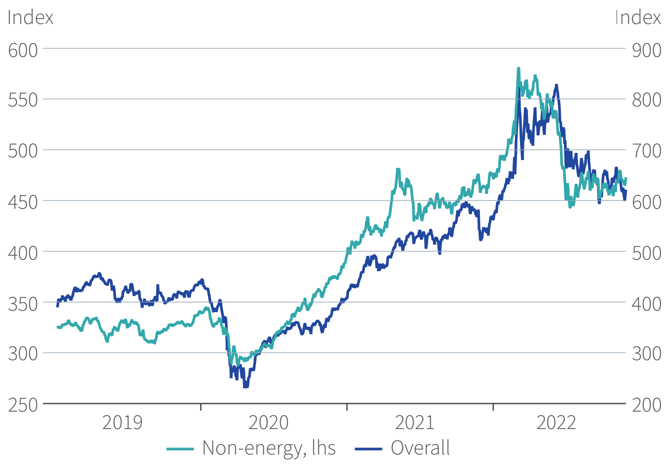
The energy shock may lead to beneficial change over the longer run

Figure 17. **Natural gas prices off highs**
European natural gas price (one month forward)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 18. **Commodity prices have fallen back**
World commodity indices



Source: Aviva Investors, Macrobond as at 29 November 2022

Changing market structures

In most recessions, fragilities that were previously overlooked are often exposed as unstable, and depending on feedback loops and spillovers, can lead to damaging market implosions, or even more severe depressions. As asset values decrease in market downturns, illiquidity and difficulties funding leveraged structures, problems rolling over debt, and margin calls requiring forced selling, are all to be expected. Fraud and what economist JK Galbraith termed "bezzle" (phony wealth bordering on the criminal) flourish during periods of plentiful liquidity and risk appetite, and the assumed asset values are vaporised when liquidity is withdrawn. This should be expected to be a theme in coming quarters, just as Enron, Madoff and subprime CDOs were exposed in previous cycles. We don't list this as a risk factor but a theme because the serial defaults and insolvencies of Chinese real estate developers, the British LDI conflagration and the FTX bankruptcy already show that such fears are not a possibility, but a reality. There will almost certainly be more to come.

Underlying fragilities are often exposed during economic downturns

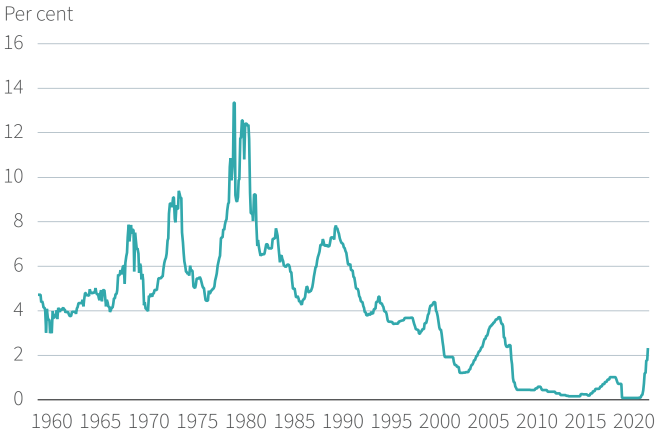
The fiscal sustainability and global hard landing risks would of course intensify and reinforce this theme. After 12 years of ultra-accommodative monetary policy (Figure 19) and generally suppressed volatility, the sudden shift to aggressively tight central bank stances and a global slowdown are certainly sufficient. An important change, which we discuss in the Markets Outlook and elsewhere, is that cash is no longer a drag on portfolios: negative yields are a thing of the past (outside of Japan), and thus TARA – "there are real alternatives" to risky assets – is the appropriate viewpoint. The positive correlation of government bonds and equity markets is another significant change in market structure, making balanced funds and risk-parity approaches more challenging, and, we argue, supporting higher risk premia across all asset classes.

Higher cash rates mean there are real alternatives – TARA

Moritz Schularick and Alan M. Taylor's analysis of "Monetary Policy, Leverage Cycles, and Financial Crises" shows that credit booms typically precede financial crises, and that whether or not a recession is accompanied by such a disaster is predictive to a large degree of whether the subsequent recovery is quick and "V-shaped", or prolonged and "L-shaped", with permanent damage (hysteresis or scarring). COVID unleashed a huge wave of essential fiscal and monetary support, but as Figure 20 shows, it was short-lived compared to previous booms. The hope that the coming recessions and slowdowns will be "mild" rests in large part on market structure adjusting to a new and harsher reality without too much disruption. As we have highlighted elsewhere, there is much less need for retrenchment and private sector deleveraging, implying there is justified hope in the present episode being painful, but comparatively brief and shallow.

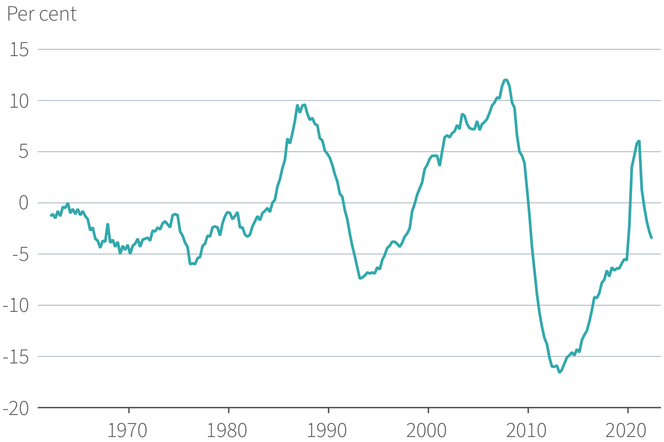
The recent credit impulse was not really a "bubble"

Figure 19. **Monetary policy has been exceptionally loose**
GDP-weighted G7 policy interest rate



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 20. **Recent credit "bubble" was short-lived**
US credit to private sector as per cent of GDP (relative to trend)



Source: BIS, Aviva Investors, Macrobond as at 29 November 2022

Risks

Inflation becomes more entrenched

Even if headline inflation has peaked or is peaking, high inflation rates have now been around for long enough to cause more lasting damage. As we have shown elsewhere, although higher energy prices are a major reason for elevated inflation (directly and indirectly), other components are now contributing too (Figure 12 & Figure 21). The Fed, the ECB and the Bank of England all – to varying degrees – now state explicitly that the aggressive policy tightening they are all delivering is required to slow demand growth deliberately by pushing the policy stance into restrictive territory. All believe that the cost now, in terms of reduced output and demand, is a necessary evil. The alternative would in the longer run be worse: allowing inflation to continue unchecked would require an even more severe tightening and an even greater loss of output in the future. Time will tell if they have acted early and boldly enough. But it might be too late already: there is a risk that the inflation genie is already out of its bottle.

Central banks are, rightly, worried about second-round effects

The key relationship is that between wages and prices. The inflationary disasters of the 1970s and 80s had several things in common. But one was critical – increases in consumer prices inflation were accommodated and followed by commensurate increases in wages. This process meant that wage-price spirals developed and that inflation became deeply embedded and self-reinforcing. One of the most encouraging aspects of the current episode is that longer-term inflation expectations have not taken off. They are nothing like as high as present realised rates of inflation, indicating that there is still a belief that current inflation rates are not normal and that they will decline again. Central banks must take advantage of this hard-won credibility to help prevent those dangerous second round effects. The risk is that they fail: underlying wage growth of 5 per cent or 6 per cent in the US and UK, for example, is already too high to be consistent with inflation targets (Figure 22).

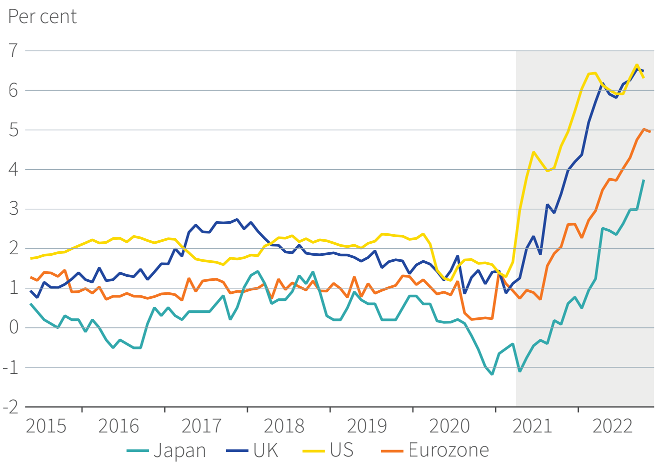
Inflation will be a far worse problem if wage-price spirals are established

Fiscal sustainability

As we described in the themes section, fiscal policy has moved back into the limelight in the last 15 years or so, both for explicit and targeted support and for more refined demand management. The era of exceptionally low interest rates added importantly to the attraction of using fiscal policy and also contributed significantly to a reassessment of what constitutes a prudent and sensible limit for Government debts and deficits. As macroeconomic circumstances change (higher rates, lower inflation, weaker growth), those judgements are likely to be revisited. More fundamentally, and another point that we have made regularly, the rules of fiscal sustainability have not been re-written. There is still a well-known and well-understood relationship between key variables which determines whether public finance plans in any country are sustainable or not in the long run. And as the debacle in the UK recently showed, if governments present irresponsible fiscal intentions, the reaction from financial markets can be violent (Figure 23). There is no doubt that the sharp moves in gilt yields and the currency led quickly to the abandonment of the UK's plans for unfunded tax cuts.

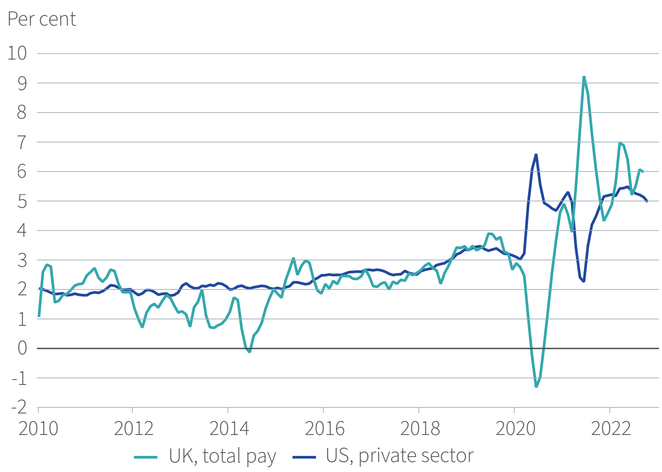
Higher interest rates, lower growth and falling inflation will all challenge fiscal sustainability

Figure 21. **Core inflation has risen everywhere**
Core inflation, y/y per cent



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 22. **COVID distortions, but wage growth too high**
Wage growth in the US and UK, 3m mavg



Source: Aviva Investors, Macrobond as at 29 November 2022

So, while attitudes towards expansionary fiscal policy have arguably become more enlightened after GFC, the pandemic and the energy crisis, there are still limits. Both the OECD and the IMF have recently begun to steer their commentary and guidance back towards notions of fiscal prudence. The latest OECD Economic Outlook stated that "credible fiscal frameworks would help to provide clear guidance about the medium-term trajectory of the public finances and mitigate concerns about debt sustainability at a time of rising spending pressures and higher future payments on public debt". The IMF has pointed out, rightly, that fiscal vulnerabilities may be greater for some nations: the war in Ukraine has helped to precipitate a surge in sovereign spreads for some emerging and developing markets. Higher rates in developed economies are likely to add pressure to borrowing costs for many. Some are well-placed to deal with this, but others, including those hardest hit by energy and food price shocks, will be less able.

There are still limits to fiscal policy

Global hard landing

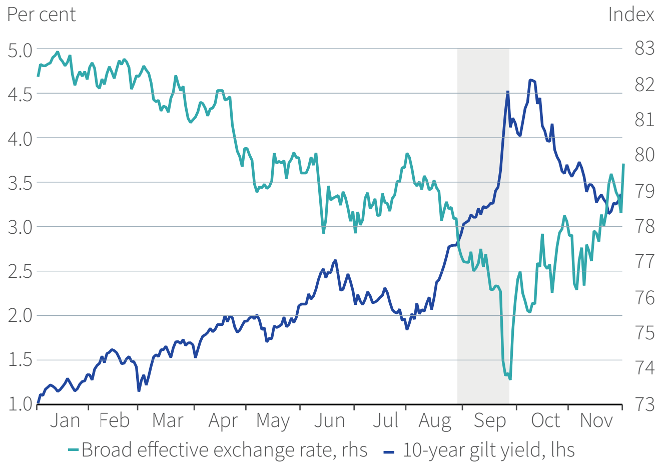
There is no official textbook definition of an economic "hard landing", but most believe that they would recognise one. It may be easier to characterise the "soft landing" alternative, which is generally considered to be the successful transition from a bubbly, potentially overheating economy to a slower but more sustainable pace via a nudge or two on the policy brakes. The less palatable alternative is of a more jarring adjustment, requiring painfully tighter policy settings and bringing about big drops in sentiment and retrenchments in activity. Sometimes these are necessary; sometimes they can happen by accident. Moreover, there are both supply-side and demand-side elements to this fine-tuning. Finally, sharp contractions can be driven by changes in either fiscal or monetary policies, which are often motivated by very different considerations and can pull in different directions. In the last three months, the risks of a hard landing have risen again, and arguably some elements have already materialised: it is clear that parts of the world (Europe, primarily) are experiencing a difficult adjustment to the energy price and supply shock, while others (China et al) are still coping with disruption related to COVID policy (Figure 24).

Danger that downturns can become self-perpetuating

The dynamic which has added to the hard landing risk more forcefully this year has been the aggressive rate hikes by the major central banks. This evolution, magnified by market expectations, has increased the chances of a sharper recession being brought about as a result of dealing with the inflation problem now, rather than run the risk of an even worse problem further down the line. In other words, as central banks attempt to suppress demand growth, they increase the chances of the downturn gathering its own momentum. Any intensification of supply shocks (for example, a harsh winter and additional Russian supply restrictions) over this period would add to this risk. The higher the risk that inflation is a more fundamental problem, the greater the possibility of a harder landing. It is still true that the world economy does not have anything like the scale of vulnerability from over-leveraged private balance sheets and under-capitalised banks which have characterised previous recessions and that means that any downswing can be short-lived. But that is far from certain.

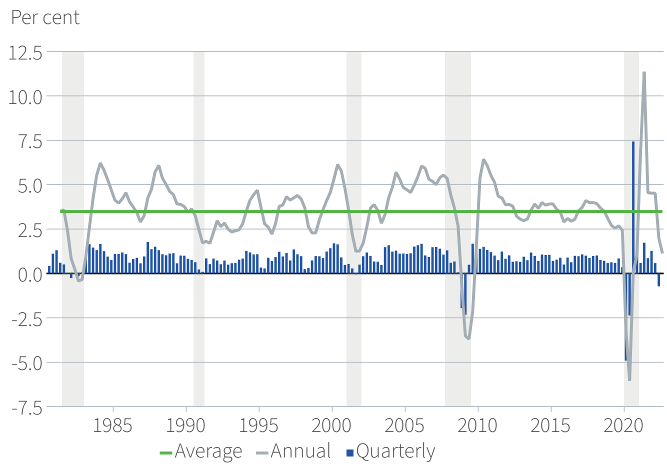
Downside risks to growth, even with recessions

Figure 23. **Violent market reactions to UK mini-budget**
UK gilt yield and the currency in 2022



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 24. **Global growth continues to slow sharply**
Estimates of global GDP growth



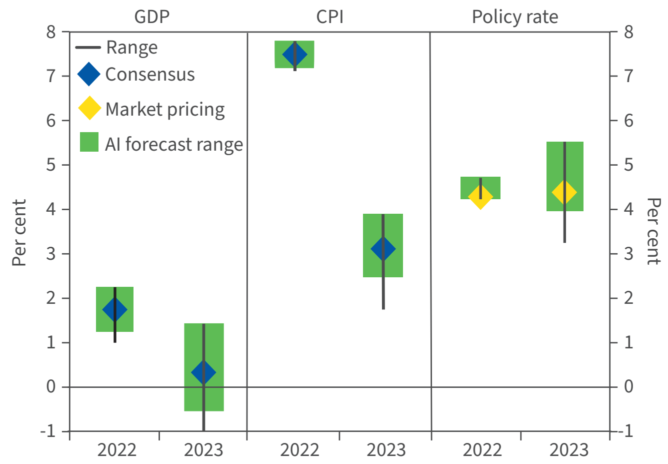
Source: Aviva Investors, Macrobond as at 29 November 2022

Macro forecasts charts and commentary

US

We expect annual growth in the United States to slow further in 2023, to around 0.6 per cent, as the full effect of the aggressive monetary tightening is felt. We expect the economy will enter a shallow recession around the middle of the year, as household spending growth flatlines and both residential and business investment subtract from growth. That is likely to result in a steady increase in the unemployment rate throughout 2023. We expect inflation to fall through the year, which should provide some support to real disposable income, as wage growth is only expected to moderate slowly over the course of the year. We think core inflation will decline as well, ending the year around 3 per cent. Our growth and inflation outlook are predicated on the Federal Reserve tightening policy further in 2023, with the peak in rates expected to be around 5 per cent by Q2. We do not expect any subsequent cuts in the policy rate before the end of 2023.

Figure 25. **US**

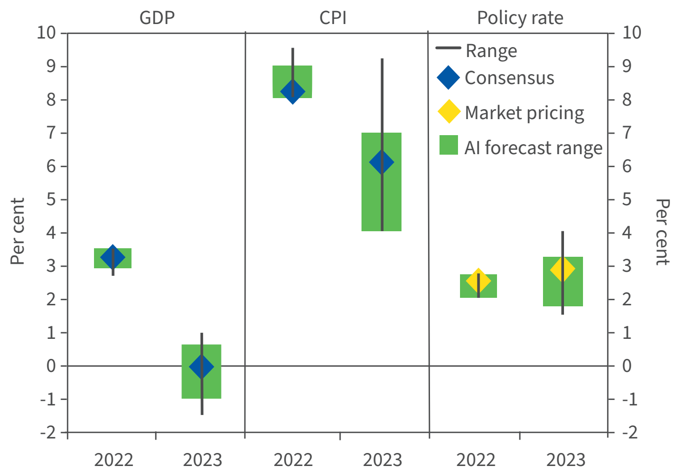


Source: Aviva Investors, Macrobond as at 29 November 2022

Eurozone

The Eurozone economy has remained remarkably resilient so far this year in terms of numbers, but the outlook and underlying mood have both darkened significantly as the year has progressed. The energy price shock is likely to usher in a recession beginning in Q4 this year and lasting until around the middle of 2023. We believe that inflation has peaked, but it will remain high for some time yet, implying that its detrimental impact on real incomes will be felt throughout 2023, hurting sentiment and holding back spending. Energy support packages will offer some relief, but governments are aware that "excessive" fiscal stimulus would compel the ECB to be even more hawkish. Recent rate hikes – and the prospect of more to come – will gain traction over the next year, slowing demand to keep pace with restricted supply and force inflation lower. This transition is necessary, but will inflict real economic pain on households and businesses in the form of higher interest costs and increased unemployment while it happens.

Figure 26. **Eurozone**

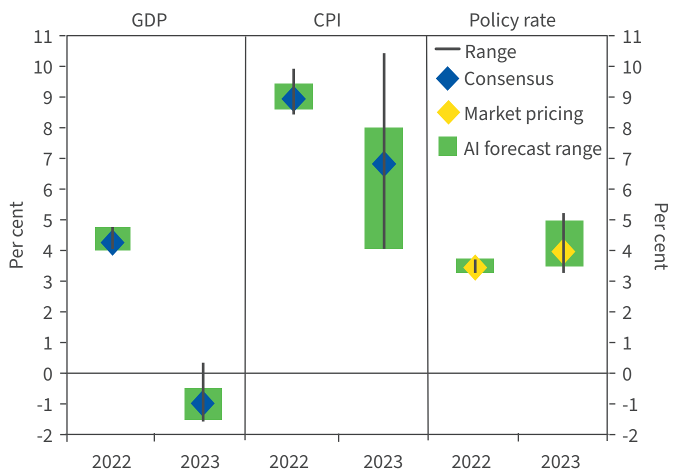


Source: Aviva Investors, Macrobond as at 29 November 2022

UK

Growth in excess of 4 per cent in 2022 may be mathematically correct, but it is misleading, reflecting the rebound to activity following post-pandemic reopening. The likelihood of a significant annual decline in 2023 – still being revised successively deeper – is a much better reflection of the truth for the UK economy and the mood of the nation. The energy price shock is having a major adverse impact on real incomes for households, restricting discretionary spending. They are also being hurt by higher interest rates (especially for mortgages) and are likely to face the additional pain of rising unemployment next year. Some fiscal common sense has been restored, but Brexit is hurting UK exports. The Bank of England remains steadfastly hawkish in the face of stubbornly high inflation, striving to restrict demand and force inflation lower. If that falls next year, as we expect, then they can pause and eventually reverse. But that is a long way off. It will be a long, tough winter.

Figure 27. **UK**

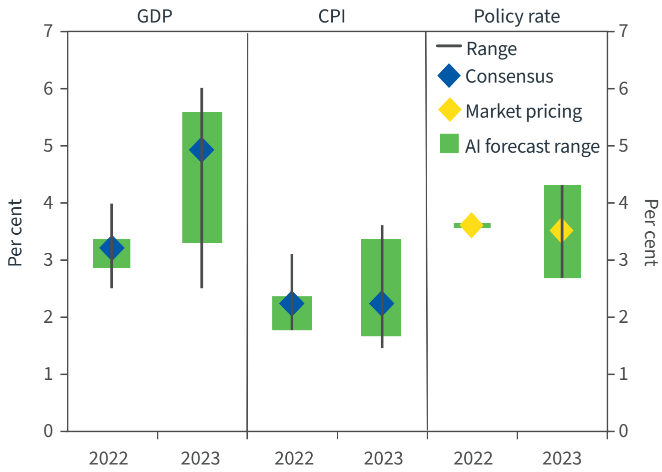


Source: Aviva Investors, Macrobond as at 29 November 2022

China

Gradual reopening may cause a COVID wave that is met with renewed lockdowns to protect the elderly, but eventually a more or less complete abandonment of ZCP will lift 2023 GDP, and provide relief across sectors, though exports will weaken due to the global slowdown. Lockdowns in Q2-22 and around October's Party Congress damaged 2022 growth to sub-4 per cent, providing easy y/y comps, but trend growth is slowing toward 4.0 per cent. Now that Xi's third term has started, some political fear and paralysis should ebb, but the focus on social control, Common Prosperity, deleveraging and de-risking, and self-sufficiency will dominate economic concerns in Xi's third term, weakening private investment and heightening trade and investment fragmentation: FDI and portfolio flows will stay weak despite progress on convertibility and index inclusion. Weak demand that kept core CPI under 1 per cent may reverse upon reopening, keeping PBoC from easing policy to support growth. On net, CNY and CNH will be under downward pressure as G10 central banks deliver their final hikes, and the 'dirty float' will weaken against its trade-weighted basket, and probably adjust to around 7.50 per dollar.

Figure 28. **China**

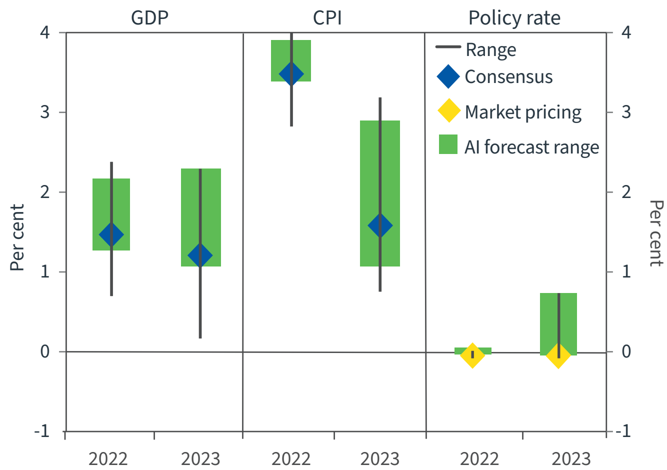


Source: Aviva Investors, Macrobond as at 29 November 2022

Japan

Sluggish growth and a statistically weak Q3 masks a steady reopening dynamic, which should continue to receive a boost in 2023 from tourism as Japan drops restrictions. Local services should benefit, with Services PMI staying generally above 50 most of the year, after the Omicron worries faded. Thanks to strong fiscal support, with a supplementary budget offsetting some of the energy price shocks and loose monetary policy, Japan may buck the global slowdown and again grow 1-2 per cent next year. Despite price freezes and subsidies, a weaker yen has helped drive inflation to close to 4 per cent y/y, and core inflation is running at above the 2 per cent target of the BoJ. Nevertheless, Kuroda is unwilling to give up negative rates and YCC until wages and more data confirm this dynamic is sustainable, even at the risk of falling somewhat behind the curve. This divergence has helped drive the yen weaker, though positioning and technical, and a Fed repricing, can also affect the dollar leg more broadly. When the BoJ does adjust monetary policy, some yen strength will ensue, but the huge swing in the current account balance, erasing much of the surplus as import costs surged, is important medium term as well.

Figure 29. **Japan**

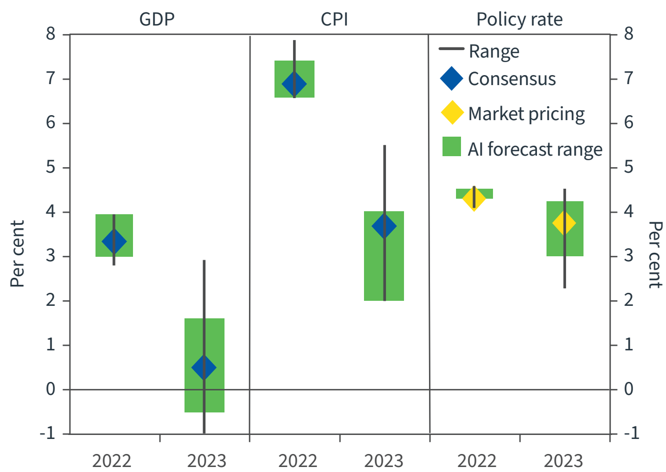


Source: Aviva Investors, Macrobond as at 29 November 2022

Canada

The Bank of Canada was perhaps the most hawkish G7 central bank in 2022, raising its policy rate to 4.25 per cent by the end of the year, well into restrictive territory. Although they may increase rates again, the accompanying statement indicated that they believe that they are close to a peak. Higher rates are slowing the economy and weakening the bubbly and over-leveraged housing market. A recession in 2023 is not inevitable but would not be a great surprise. Higher energy prices are a mixed blessing for Canada which is a major exporter of oil and natural gas (mainly to the US). Headline inflation has probably peaked, but core rates are still uncomfortably high, and the labour market is tight. If growth slows as we expect and inflation also fades next year, it is not out of the question that policy could be loosened before the end of next year.

Figure 30. **Canada**



Source: Aviva Investors, Macrobond as at 29 November 2022

Global market outlook and asset allocation:
a new regime

- **Aggressive interest rate hikes in 2022 set the stage for a 'mild' global recession that is just beginning. High inflation means monetary policymakers will likely err on the hawkish side, lifting the front-end yields and inverting yield curves**
- **Having rallied into late-2022, credit and equity markets are expensive given the central scenario of a downturn, the risk of a global hard landing, and substantial yield provided by cash**
- **As the slowdown sets in, rate levels and volatility should subside; eventually this will help risky assets rally, and the dollar decline**

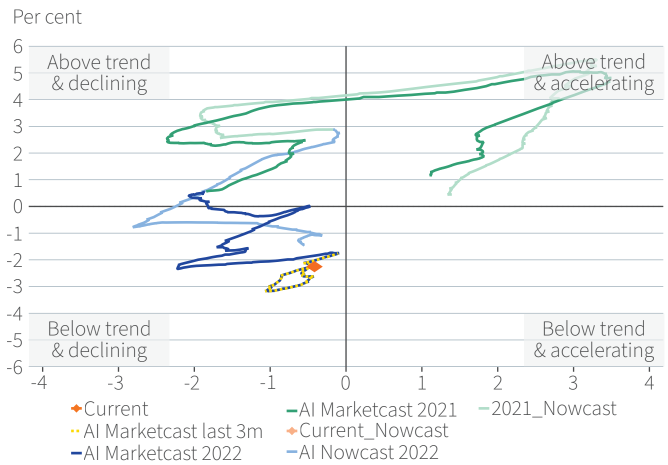
The past year has been one of rapid regime change; inflation reared its ugly head in 2021, but did not prove transitory, and Russia's invasion resulted in an energy shock and fiscal response that forced inflation higher and pushed growth lower. This shattered the post-GFC era of low inflation and central bank accommodation, and the accompanying 12-year bull market both equities and government bonds. The bear market for fixed income arguably started in July 2020, but severe losses began in early 2022, just when equities also began to respond to significant, synchronised global monetary tightening. The dollar similarly showed some strength throughout 2021, even as emerging market central banks raised rates ahead of G10 countries, but the greenback's gains accelerated into the past year, driven by risk aversion and outflows from EM and Europe, as well as higher real rates. Because of the 'flipped' positive correlation between bonds and stocks (particularly growth and tech), treasuries and gilts were no longer a useful hedge: they were the cause of the risk and volatility! Cash, offering a decent yield and – assuming inflation abates – a store of value as well, is for the first time in many years a viable and essential tool for to achieve target returns and manage risks for investors.

A new regime means positive-yielding cash is now more attractive than at any time in the post-GFC era

Looking forward to 2023 the global economy is expected to enter a mild recession as growth slows further and central bank policy remains tight. In this environment of below trend and declining global growth, growth-sensitive risk assets have tended to perform poorly. In 2022, this certainly proved to be the case and for how long this trend continues will be a key question for investors in 2023. Our measure of market pricing of the economic cycle (Marketcast) suggests that the market generally moves roughly three months ahead of the economic data as investors try to price in their forward-looking expectations for growth. Current market pricing is consistent with our view that global growth will continue to weaken in early 2023 (Figure 31). While markets have seen a significant rally into year end, we believe it is premature for markets to be pricing a recovery in the economic cycle, even considering their forward-looking nature.

Recession is expected by markets, but downside risks mean it is premature to position for recovery

Figure 31. **Aviva Investors market implied pricing of global growth & Nowcast**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 32. **Asset return by quadrant**

Global Growth	Rate chg	Global equities	Global HY Credit	Commodities	US Treasuries	USD
Below trend & declining	+ve rate chg	-6.1	-5.5	2.7	-2.4	3.8
	flat rate chg	-2.7	-5.7	-1.1	-1.5	2.2
	-ve rate chg	0.9	2.0	-0.3	3.7	-1.3
Below trend & accelerating	+ve rate chg	0.0	2.6	-0.1	-9.6	5.3
	flat rate chg	-1.2	0.2	-1.2	-2.3	-2.8
	-ve rate chg	4.0	3.3	-0.7	2.2	-4.7
Above trend & accelerating	+ve rate chg	-0.7	-2.2	2.0	-4.6	-1.0
	flat rate chg	0.7	-0.2	1.6	-1.3	1.5
	-ve rate chg	4.1	1.6	-1.3	6.2	0.5
Above trend & declining	+ve rate chg	-1.8	-0.5	1.5	-2.4	-1.2
	flat rate chg	0.3	-0.5	-3.2	0.7	1.3
	-ve rate chg	1.3	0.4	-2.8	3.5	0.7

Source: Aviva Investors, Macrobond as at 29 November 2022

As more economies move towards recession the need for further monetary tightening will diminish and therefore, we have likely seen the peak in rate acceleration. Whether or not slowing growth is enough to allow central banks to pause and eventually ease in line with market pricing remains to be seen. What we do know, however, is that the rate environment can have significant implications for expected asset returns wherever we are in the economic cycle. Figure 32 shows excess returns of different asset classes based on where we are in the economic cycle (using our proprietary quadrant model) and the rate environment relative to the prior 1-year average. This analysis highlights the cyclical nature of the dollar and suggests some further appreciation in early 2023 and therefore we prefer to be long USD for now. Later in the year as the slowdown sets in and rate levels subside, the dollar will likely decline.

Expected returns in credit can also be informed by the global growth cycle. Figure 33 shows US IG & HY spreads where the colour reflects the growth quadrant. In below trend and declining environments spreads typically widen while spreads usually tighten most significantly as the global economy recovers. There is scope for credit to outperform once the recovery is on the horizon and can be reasonably be priced in by the market.

The rapid repricing of hiking cycles across G10 countries and extended hiking cycles in Emerging Markets have taken global government bond yields to their highest levels since 2008 and make us close to neutral on the outlook for government bonds. Risks are two-sided: if inflation is more entrenched, then despite economic weakness, policymakers will have to remain restrictive, or perhaps even fine-tune with additional hikes, after a pause. The rate cuts that are implied by inverted yield curves, from Brazil to Central Europe to the US and UK, could get priced out or pushed further into the future, and that would punish bondholders with capital losses, in addition to negative carry. The upside scenario for bonds is that inflation either proves transitory, or that a hard landing occurs, necessitating lower yields to cushion economic distress.

Emerging market bonds are becoming attractive, but still will face some headwinds in the early part of 2023. Local government bond yields have risen from sub-6 per cent at the beginning of the year to over 7 per cent but these are not high in real terms in aggregate. Hard currency EMBIG spreads are 100bp above pre-pandemic levels, and offer adequate protection compared to defaults and recovery, but are well below their peaks and HY in developed markets (Figure 34). The end of rate hikes will be the catalyst for the strong dollar to stop inflicting losses, but perhaps just as important, wide variation in valuations and fundamentals will continue to provide ample relative value opportunities within both asset classes.

Commodities are an important factor and asset class in their own right: a cyclical downturn has eased industrial metals, but tight supply mean energy prices will remain supported, with $80-100 oil needed to spur production and induce some demand destruction. Natural gas remains constrained by Russia, and this keeps a floor on coal and crude, while also feeding through to other downstream commodities and goods.

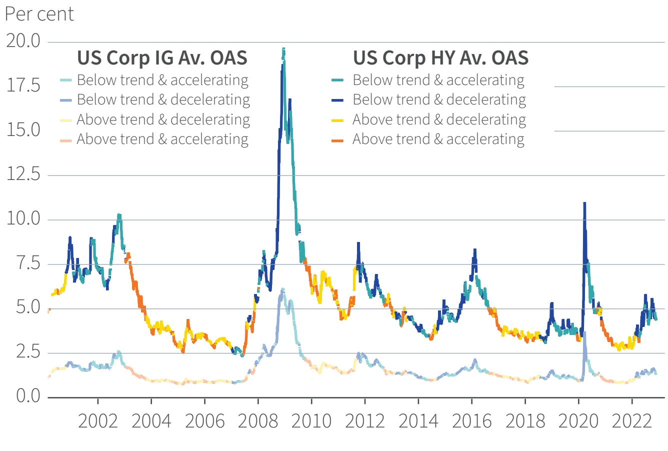
If the economy recovers later in 2023 credit will likely perform well and USD weaken

Risks in rates now look more two-sided than they did in 2022

Emerging market bonds are becoming attractive, but still will face some headwinds in the early part of 2023.

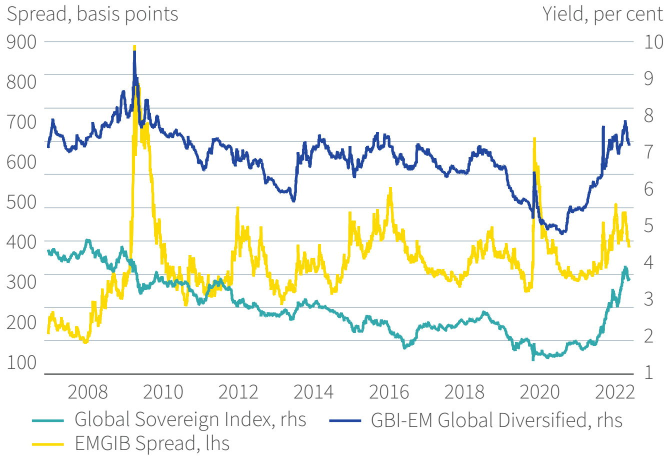
Instability in equity-bond correlations could have significant implications for portfolio construction

Figure 33. **US Credit HY & IG OAS by growth quadrant**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 34. **EM (GBI-EM yields and EMBIG spreads)**



Source: Aviva Investors, Macrobond as at 29 November 2022

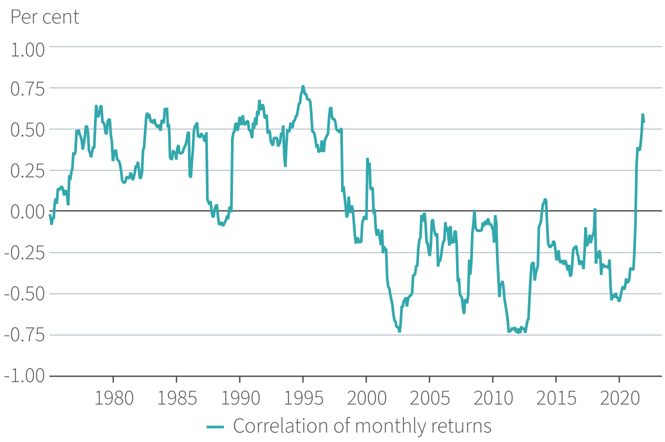
A trend of 2022 that investors will be watching moving into 2023 is the equity-bond correlation. From the early 2000's onwards equity prices were reliably negatively correlated to bond returns. In 2022, however, that long-standing negative correlation broke down and became significantly positive, more akin to the relationship prior to the 2000's (Figure 35). If the equity-bond correlation is no longer reliably negative, it will likely have significant implications for multi-asset portfolio construction. As fixed income assets may no longer act as risk reducers, a higher expected return may be demanded to entice investors to hold them in their portfolios.

Bond allocations are likely not the only asset class under scrutiny as we enter 2023. After nearly four decades of gradually declining yields, the higher rate environment increases the probability that financial distress exposes vulnerabilities. Figure 36 shows that many measures such as repo markets, bid-ask spreads and dislocations on curves are showing meaningful stress. This also indicates opportunities for relative value trades in mispriced or less liquid assets. In short, real yields, corporate bond spreads and equity risk premia are all likely to be structurally higher going forward – making some of the spread-widening and equity de-rating permanent. This, in turn, could encourage investors to shift allocations back towards less risky assets while still generating the same or better expected returns.

We remain neutral on equities; to be more constructive we would need to see earnings forecasts and multiples fall

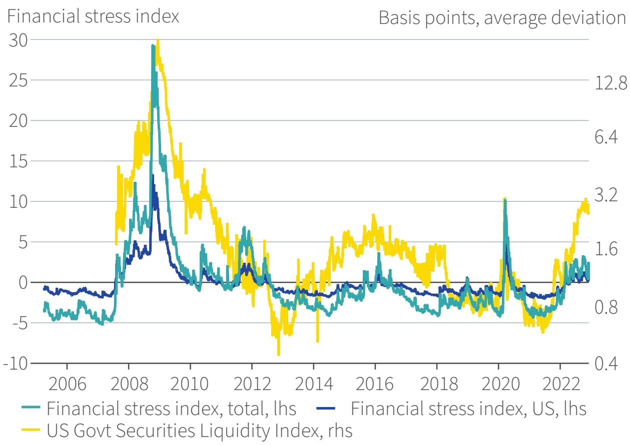
This difficult environment keeps us neutral on equities. The markets have incorporated much of the downturn in the economy and partially adjusted for the higher real rate environment, in our assessment. For the longer term, average excess returns are expected, but in the coming quarters, the main drivers of volatility will be the probability of a deeper global recession, the ability of monetary authorities to cease their deliberate tightening, and based on those inputs, analysts', and investors' expectations of earnings. In expansions, inflation and higher rates are part and parcel with bull markets and strong returns, but in the current stagflationary regime, high inflation is not beneficial for margins, and produces rate hikes that push down equity prices (via higher discount rates of future cash flows, particularly harmful for growth sectors). To be more constructive, we would need to see earnings forecasts fall along with multiples, which then sets the stage for multiple expansion as growth accelerates from low levels (Figure 32), even as earnings may take several more quarters to recover.

Figure 35. **US Treasury and S&P 500, return correlation**
2 yr window, monthly changes



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 36. **Financial stress is building, but not (yet) extreme**



Source: Bloomberg, OFR; Aviva Investors, Macrobond as at 29 November 2022

Figure 37. **Asset Allocation**

	Underweight										Overweight
	-5	-4	-3	-2	-1	0	1	2	3	4	5
Equities						0					
US						0					
Europe					-1						
UK							1				
Japan						0					
Pacific Basin ex-Japan						0					
Emerging markets						0					
Nominal Govt					-1						
United States						0					
United Kingdom							1				
Germany					-1						
France						0					
Italy						0					
Japan					-1						
Canada						0					
Australia						0					
Credit						0					
US Investment Grade						0					
European Investment Grade						0					
Asian Investment Grade						0					
UK Investment Grade						0					
EUR High Yield						0					
US High Yield						0					
Emerging Govt (Hard Currency)						0					
Emerging Govt (Local Currency)						0					
Alternatives						0					
Cash									3		
Currencies (vs USD)				-2							
GBP				-2							
EUR						0					
JPY						0					
CAD						0					
AUD						0					
EM FX					-1						

The weights in the Asset Allocation table only apply to a model portfolio without mandate constraints. Our House View asset allocation provides a comprehensive and forward-looking framework for discussion among the investment teams.

Source: Aviva Investors, Macrobond as at 29 November 2022

ESG insight: scarcity rules

A systems view on the low-carbon transition

The world's largest climate conference, COP27, took place this year against the disconcerting backdrop of geopolitical tensions, spiralling cost inflation and the spectre of sustained energy insecurity. While the rate of growth in GHG emissions over the past decade has slowed compared to the previous decade, average GHG emissions this last decade were the highest on record.[1] The global response to COVID-19 had an unprecedented impact on emissions (Figure 38), yet its effects were short-lived at best; daily emissions data now suggests that CO_2 emissions had already rebounded by the end of 2020, paving the way for increasing warming trends and projected emissions in 2022 of approximately 37.5Gt, up from pre-COVID levels of 33Gt
in 2019.[2,3,4]

The global response to COVID-19 had an unprecedented impact on emissions, yet its effects were short-lived at best

Clearly the window of opportunity to curb global emissions to a path consistent with 1.5ºC warming is closing rapidly or is now even beyond the realm of bio-physical feasibility.[5] Regardless of these prospects, the threat of global scarcity of resources (material, energy, political capacity) now determines the pace at which the energy transition moves forward.

The window of opportunity to curb global emissions to scientifically permissible levels is closing rapidly or is now even beyond the realm of bio-physical feasibility

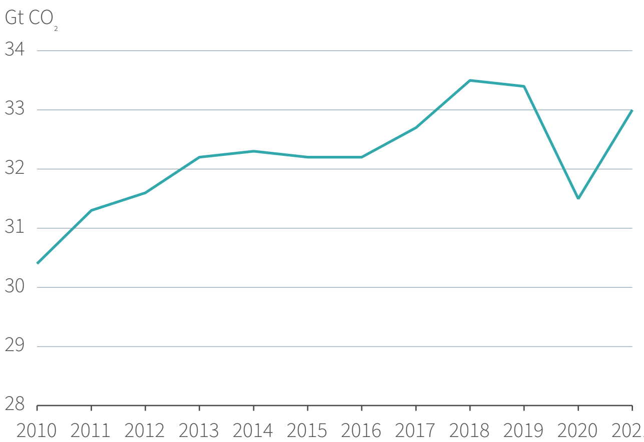
Much has been said about the origins of the current crisis of energy scarcity. The IEA World Energy Outlook succinctly summarises its cause as a combination of multiple and interlocking factors:

Projected emissions for 2022 will in all likelihood beat the pre-COVID-19 record of 33Gt

1. **The speed of economic rebound post-COVID-19**, stretching global supply chains including those in the energy sector; in 2021, demand for all forms of fossil fuels grew by 5 per cent.[6]
2. **Weather-related events**: extreme weather events triggered a higher incidence of supply outages and events such as droughts limiting Brazilian hydropower output, while a sustained heatwave in Europe impacted nuclear power availability in France and lower wind speeds affecting wind generation in Europe.
3. **Underinvestment in oil and gas** since the spectacular fall in oil prices between 2014 and 2015, reflecting lower revenues and investor frustration at poor returns, thereby triggering

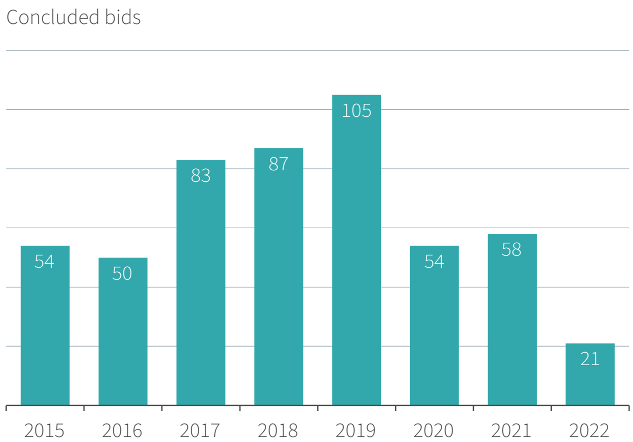
1. UNEP (2022), Emissions Gap Report
2. UNEP (2022), Emissions Gap Report
3. Global Carbon Budget (2022)
4. IEA (2019), Global CO_2 emissions in 2019 – Analysis - IEA
5. https://www.economist.com/interactive/briefing/2022/11/05/the-world-is-going-to-miss-the-totemic-1-5c-climate-target
6. IEA WEO (2022)
7. IEA WEO (2022)

Figure 38. **Global energy-related emissions 2010-2021**



Source: IEA as at 1 December 2022

Figure 39. **Global oil and gas leases awarded per year**



Source: Rystad Energy Upstream Solution, Ecube, Rystad Energy research and analysis as at 1 December 2022 capacity constraints.[7]

How much is left in the tank? Energy scarcity and the low-carbon transition

The IPCC provides a range of low-carbon energy pathways compatible with limiting global warming to 1.5°C, yet, at present, there are no estimates of the energy requirements needed to build and maintain a low-carbon energy system, or what amount of GHG emissions would be associated with the build-out of such a transition.[8] A low-carbon energy transition requires major investments, not only financially, but also in terms of energy and materials and since the global economy is still dependent on fossil fuels, the transition itself may become a significant source of emissions.[9] Hence, recent studies suggest that the carbon emissions associated with the transition to a low-carbon energy system are substantial, ranging from 70 to 395GtCO_2 (with a cross-scenario average of 195GtCO_2), thereby significantly impacting the remaining carbon budget (see House View Q4 2021).[10,11] This should by no means be read as a case against the low-carbon transition; on the contrary, the emissions avoided by scaling up clean and renewable technologies now are vast and the overall impact of 'transition emissions' is dwarfed by those resulting from prolonged inaction. However, the realisation that the transition itself will take up a considerable chunk of the available carbon budget should trigger a rethink along three axes:

(i) how to triage and manage the available pool of high-density energy sources to propel the low-carbon transition forward;

(ii) doing so in the most efficient way so as not to exceed an already smaller carbon budget; and

(iii) possibly contending with hard choices related to the use of energy for low-carbon investments vs. energy for consumption.

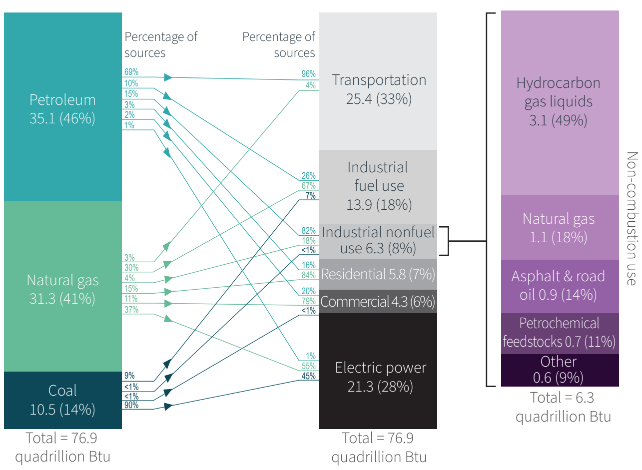
Research by Rystad shows that global oil and gas exploration has declined this year, in large part due to the effects of COVID-19, with acreage awarded this year hitting a 20-year low (Figure 39).[12] The spectre of gross energy declines are redolent of past debates around 'peak oil' and while the risks of a production crunch have been warned about (notably by the IEA in 2018), little attention has been paid to how the availability of net energy (i.e. the energy available after accounting for the cost of its acquisition) may impact the low-carbon transition.[13] This begs the question: which parts of the energy system can accelerate their

A low-carbon transition requires major investments, not only financially, but also in terms of energy and materials...

...yet, the public discourse to date neglects the urgent question of how a decline in net energy will impact the low-carbon transition

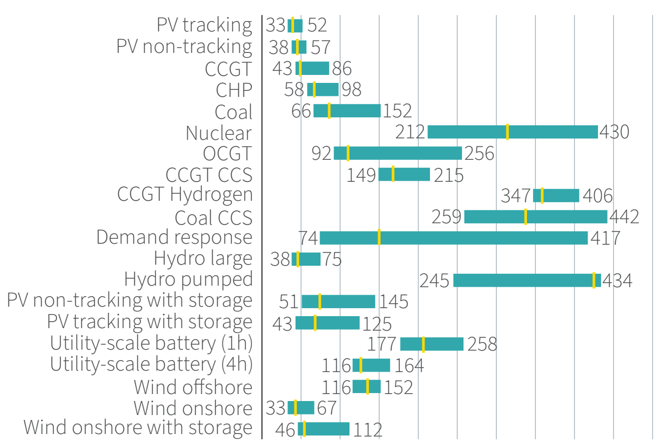
8. Daly, H. E., Scott, K., Strachan, N. & Barrett, J. 'Indirect CO2 emission implications of energy system pathways: linking IO and TIMES models for the UK'. Environ. Sci. Technol. 49, 10701–10709 (2015)
9. Slameršak, A. et al., 'Energy requirements and carbon emissions for a low-carbon energy transition', Nature, 14 Nov 2022
10. Slameršak, A. et al., 'Energy requirements and carbon emissions for a low-carbon energy transition', Nature, 14 Nov 2022
11. The remaining carbon budget to limit warming to 1.5°C at a 50% likelihood is 380Gt (Global Carbon Budget, 2022)
12. Rystad, 'Oil & gas exploration on the decline with global awarded acreage near all-time lows', 8 Sept 2022
13. Delannoy, L. (et al.), 'Peak oil and the low-carbon energy transition: A net-energy perspective', Applied Energy, Vol 304, December 2021

Figure 40. **US fossil fuel consumption by source and sector, 2021**
Quadrillion British thermal units (Btu)



Source: EIA as at 1 December 2022

Figure 41. **Levelised cost of electricity (LCOE) range (US, 2022, 1H)**
Current LCOE range $/MWh, nominal – US, 2022 1H



Source: BNEF as at 1 December 2022

path towards a low-carbon outcome relatively efficiently and quickly, particularly in a context of overall net energy decline?

Doubling down on renewables

Power generation currently accounts for approximately 20 per cent of primary energy consumption (Figure 40). Low-carbon solutions including solar and wind are proven technologies to decarbonise the remainder of power generation emissions (especially once long-term storage options are available) while alleviating concerns around security of supply.

This is further borne out from a cost perspective where renewables continue to outcompete fossil fuel sources (Figure 41); in H1 2022, global levelised cost of electricity (LCOE) for gas and coal was US$74MWh and SU$81MWh, respectively, sitting on the higher end of the cost curve compared to solar, US$40MWh and onshore wind US$46MWh.

With the shortest project completion time vs. other renewables, solar is a logical winner, particularly as a result of the EU's ramped up renewable energy ambitions (Figure 42). As the EU looks for opportunities to rapidly scale up renewable capacity, solar would be a logical choice based on average lead times; capacity would be able to come online during 2023, as opposed to 2026 onshore wind and 2027/28 offshore wind. Logically, solar may therefore find itself the favoured renewable technology in Europe in coming years, with a beneficial impact on solar developers (including major oil and gas players expanding).

It is worth noting the lifecycle emissions of utility-scale solar are higher than both onshore & offshore wind, yet it is still a fraction of the lifecycle emissions of gas and coal (Figure 43).

Resource scarcity impacts progress in hard-to-abate sectors

The question remains how fast the so-called hard-to-abate sectors can be decarbonised in time, as they constitute, the remaining 80 per cent of the energy system. Little progress has been made thus far in scaling up alternatives to fossil fuels in sectors such as cement, steel or shipping and tackling these emissions will require concerted government action to incentivise the development of low-carbon technologies to replace energy-dense fossil fuels.

Aviation emissions may serve as the proof point for how policy action (Figure 44) can trigger momentum; producers of sustainable aviation fuel (SAF) received significant policy support this past year, the EU's SAF blending ambitions increasing from 63 per cent to 85 per cent by 2050. In a similar vein, both the US IRA and Sustainable Aviation Fuel 'Grand Challenge', launched by the US government provide welcome tailwind to SAF producers in the coming years. Based on announced projects, BNEF estimates total capacity to reach 14.6bn gallons per year in 2027, up from 3bn gallons in 2020 (Figure 45).

SAFs are drop-in fuels, produced from sustainable feedstocks, that can be safely mixed with existing fossil-based kerosene to drastically reduce the CO_2 emissions of aviation fuel.

Low-carbon solutions such as solar and wind power are proven technologies to decarbonise the remainder of emissions associated with power generation

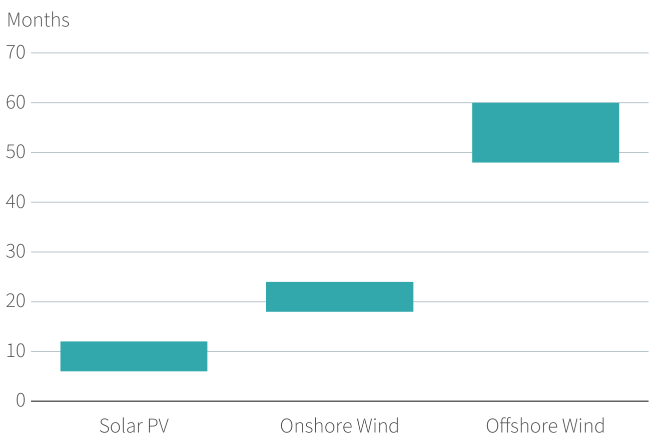
The levelised cost of electricity (LCOE) of solar continues to fall and now outcompetes conventional sources of power generation

With the shortest project completion time vs. other renewable energy sources, solar is a logical winner...

...but the question remains how hard-to-abate sectors, such as aviation, steel and cement can be decarbonised in time

Emissions from aviation may serve as the proof point for how greater policy action can trigger momentum

Figure 42. **Average project lead time by renewable energy source**



Source: MSCI, Bloomberg Intelligence, Lazard, Acciona Energia and Orsted as at 1 December 2022

Figure 43. **Lifecycle emissions by energy source**

Source	g CO2e/kWh Min	Median	Max
Coal	740	820	910
CCGT	410	490	650
Biomass (Cofiring)	620	740	890
Biomass (Dedicated)	130	230	420
Geothermal	6	38	79
Hydropower	1	24	2200
Nuclear	4	12	110
Concentrated Solar	9	27	63
Solar PV - Utility	26	41	60
Solar PV - Rooftop	18	48	180
Onshore Wind	7	11	56
Offshore Wind	8	12	35

Source: IPCC as at 1 December 2022

However, the carbon emitted from the combustion of SAFs is equal to the combustion of emissions of traditional kerosene.

As such, airlines' use of SAFs will likely need to be complemented with advanced carbon capture, utilisation and storage (CCUS) and offset programmes to reach true net zero. Aviation infrastructure is wholly designed to transfer liquid fuel from refinery, to airport, to aircraft and for combustion in an engine. As such, SAFs are an attractive decarbonisation solution as they can be introduced (up to a 50 per cent blend limit) into current aviation infrastructure seamlessly without significant investment for airports or airlines.

However, scarcity concerns underpin much of the potential scalability of SAF driven by higher costs and importantly, a chronic lack of feedstock supply. To avoid conflicts between food production and affordability, a shift in planning is needed away from conventional bioenergy sources towards advanced biofuels, focusing on two inputs; sustainable waste streams that do not require specific land use and dedicated short rotation woody crops grown on cropland, pasture land and marginal lands that are not suited to food crops.[14] The sheer scale of this challenge is made clear in the IEA's Net-zero scenario where biofuels produced from waste streams need to grow to 50 per cent of the biofuels consumed in 2030, up from an estimated 8 per cent in 2021 (Figure 46).[15]

Outside of aviation, there are as yet only exploratory efforts underway to transition trucking and shipping – the mainstays of global supply chains. Today, oil still constitutes a critical supply chain component for 90 per cent of all industrially manufactured products and a basic requisite for the transportation of large quantities of goods over long distances[16]. This creates a unique vulnerability; the current worldwide diesel shortage could hurt the economy even further as diesel is the fuel used in sectors crucial to the energy transition (mining, manufacturing, agricultural equipment)[17]. Diesel markets were already stretched before Russia's invasion of Ukraine, however once the EU's embargo on diesel imports comes into force, the market will likely tighten further, adding more fuel to inflationary pressures[18]. Thinking about energy scarcity therefore matters in the context of the low-carbon transition and it may mean short-term investments in two parallel systems (Figure 47); sustaining conventional energy sources (oil, natural gas) while accelerating investments in a broad spectrum of low-carbon technologies.

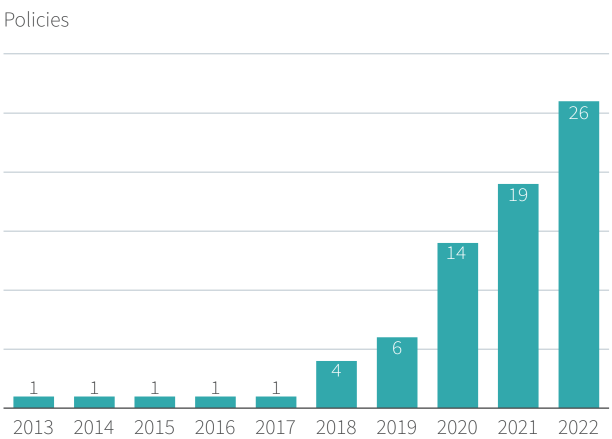
Sustainable Aviation Fuel (SAF) is an attractive decarbonisation solution as it can be seamlessly introduced into current aviation infrastructure

To avoid conflicts between food production and affordability, a shift in planning is needed away from conventional bioenergy sources...

...but outside of aviation, there are as yet only exploratory efforts underway to transition other hard-to-abate sectors, notably trucking and shipping

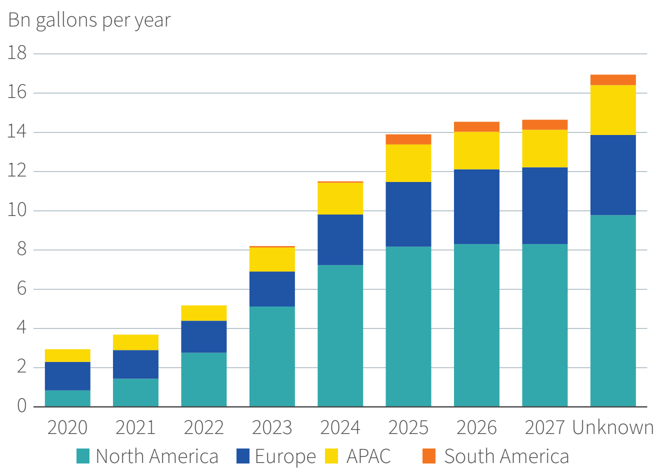
14. IEA WEO (2022)
15. IEA (2022), Biofuels, Biofuels – Analysis - IEA
16 Simon Michaux, 'Oil from a Critical Raw Material Perspective', Geological Survey of Finland (2019)
17. Rationing Looms As Diesel Crisis Goes Global | OilPrice.com
18. IEA warns surging diesel prices risk worsening European energy crisis | Financial Times (ft.com)

Figure 44. **SAF policies (global)**



Source: ICAO as at 1 December 2022

Figure 45. **Cumulative renewable fuel capacity per annum (million gallons per year)**



Source: Bloomberg as at 1 December 2022

'Bend, not break' – options for a managed transition

Risks around energy and resource scarcity will underpin much of the energy transition this decade as the urgency of decarbonising the global industrialised economy is set against the backdrop of a dwindling carbon budget and a shrinking pool of available high-density energy sources.

This requires an ability to think both 'fast and slow'[19] and a two-pronged approach:

Increasing net energy availability: The 2020 coronavirus oil consumption plunge, subsequent price war between Saudi Arabia and Russia and the ongoing war in Ukraine have strongly undermined the industry's capability to quickly recover pre-crisis production levels, therefore requiring extended production from existing fields, which can be brought to market quickly and making use of natural gas that is currently flared and vented[20]. As the IEA highlights, this may create an investment case for projects with shorter lead times, quicker payback periods and low-carbon intensity to replace shortfalls from Russian energy supplies.

Reducing energy consumption and doubling down on existing low-carbon options: Lowering energy use and accelerating decarbonisation strategies across all parts of the energy system can sustainably minimise emissions in the long term and should be prioritised as part of any policy plan. Interestingly 'degrowth' options, once eschewed, are now filtering into mainstream discussions[21]. New infrastructure projects, for instance LNG terminals, could be built with future hydrogen-based imports in mind, thereby minimising the risk of asset stranding and the issue of timeframes.

The conclusion of this year's COP in part reflects the unease with 'phasing out or down' the use of fossil fuels and highlights the so-called 'oil paradox' which sits at the core of the energy transition; the recognition that at the interface of geopolitical, social, economic and climatic challenges oil is essential to the globalised economy and yet – along with habitat destruction and loss of biodiversity (see House View 2021 Outlook and AIQ article June 2022) – one of its biggest risk drivers in endangering planetary life support systems[22]. The current energy predicament further underscores the challenge in finding scalable alternatives with respect to hard-to-abate sectors and highlights the need for triaging energy sources or managed planning of the transition.

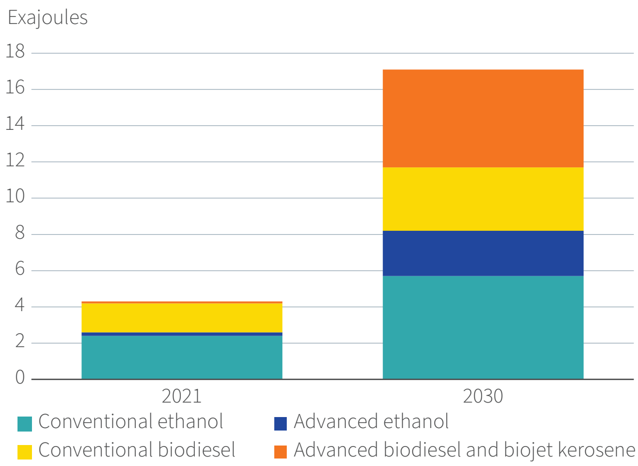
The current energy predicament further underscores the challenge in finding scalable alternatives for hard-to-abate sectors

Reducing energy consumption and doubling down on existing low-carbon options should be part of any policy agenda

Recognising the 'Oil paradox' highlights the need for triaging and managing the available pool of high-density energy sources so as to propel the low-carbon transition forward

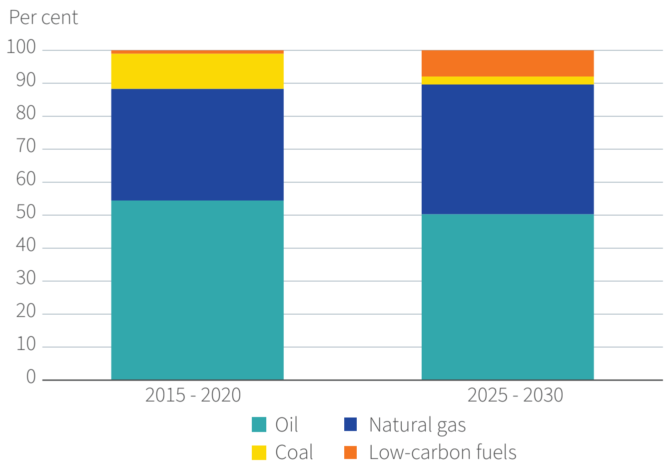
19. Daniel Kahnemann, 'Thinking, Fast and Slow', Farrar, Straus and Giroux (2011)
20. IEA WEO (2022)
21. Degrowth: A dangerous idea or the answer to the world's biggest problems? | CNN Business
22. Delannoy, L. (et al.), 'Peak oil and the low-carbon energy transition: A net-energy perspective', Applied Energy, Vol 304, December 2021

Figure 46. **Liquid biofuel production by feedstock and technology in the Net Zero Scenario**



Source: IEA as at 1 December 2022

Figure 47. **Annual average energy investment in fuels in the Sustainable Development Scenario, 2015-2030**



Source: Annual average energy investment in fuels in the Sustainable Development Scenario, 2015-2030 – Charts – Data & Statistics – IEA

Risk and portfolio construction: correlation matters

The correlation of asset returns is an important consideration for building diversified portfolios, constructing hedging strategies and managing risk. Over the past two decades, multi-asset portfolios have benefitted from an environment in which straightforward portfolio construction approaches have achieved attractive risk-adjusted returns for investors. This period has been characterised by low inflation and accommodative central bank policy, which has been a supportive environment for both equities and bonds.

Supportive environment for both equities and bonds

A simple, but effective way to achieve strong risk-adjusted returns, has been to run a portfolio with an allocation to both equities and bonds. The classic example is the 60/40 portfolio, in which investors hold an allocation of 60 per cent to equities and 40 per cent to bonds. This approach has provided a good balance of compound returns, risk-adjusted returns and preserving capital in times of market turmoil. As can be seen from Figure 48 below, the risk-adjusted returns from such a portfolio have been consistently higher than simply holding equities. The success of this portfolio construction approach has been underpinned by a consistent and favourable negative correlation between bond and equity returns over the past two decades.

Favourable negative correlation between bond and equity returns over the past two decades

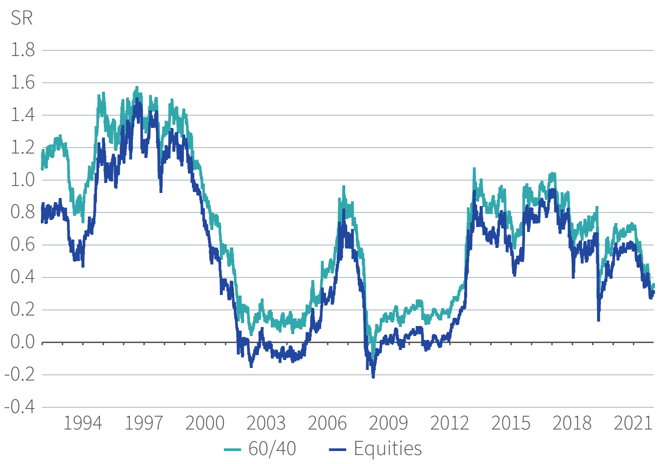
The chart below (Figure 49) highlights the rolling 36-month correlation of bond and equity returns. The overall correlation demonstrates the favourable environment where both bonds and equity returns tended to move in opposite directions, whilst both asset classes appreciated in value. However, when splitting the correlation to positive and negative equity returns, the backdrop has been even more supportive.

In periods of market turmoil, bond returns became deeply negatively correlated to that of equities, helping 60/40 portfolios to preserve capital and dampen overall volatility. Conversely, in positive backdrops, where equity market returns haven't been positive, the correlation of bond returns has been mixed and bonds have not acted as a drag to the overall 60/40 performance. The success of the 60/40 portfolio therefore has largely been in its ability to reduce exposure to equity market drawdowns, whilst still participating in the upside and hence has resulted in a higher risk-adjusted return than holding a pure equity portfolio.

It's different this time

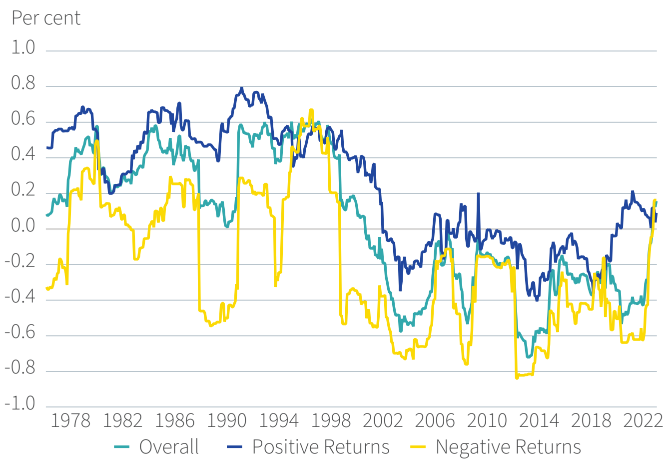
Over the last year, economies have moved decisively out of the low inflation, accommodative central bank policy rate environment to one of multi-decade high inflation and rapidly tightening central bank policy. The first three quarters of 2022 were amongst the worst quarterly returns experienced in US Treasury bonds in almost 50 years, as can be seen from Figure 50. The effects of rising rates were also felt in the equity market, with the growth

Figure 48. **5-year rolling Sharpe ratio**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 49. **Equity-bond correlation**



Source: Aviva Investors, Macrobond as at 29 November 2022

sensitive NASDAQ Composite Index losing over 30% of its value. To compound the broad-based loses, economies have recorded slowing growth and recession fears have grown.

With this change in inflationary regime, the equity-bond correlation has moved sharply into positive territory, the highest it has been in the post-2000 era, and more in line with what was experienced in the higher inflationary environment pre-2000. Both bond and equities prices falling over the same period, has resulted in 2022 being a challenging environment for investors, in particular those solely relying on traditional asset classes such as equities and bonds to help deliver their investment outcomes.

Change in inflationary regime

As a result, a traditional approach of blending equities and bonds in 60/40 portfolios have experienced heavy drawdowns. Correlations between equities and bonds moving to positive along with drawdowns in both asset classes, have amounted to a perfect storm for the 60/40 portfolio. Figure 51 shows that whilst a 60/40 portfolio was very successful in reducing previous drawdowns, 2022 has been markedly different, and the drawdown mitigation from a 60/40 portfolio versus holding equities outright has been non-existent.

Bonds as a risk reducer?

We expect an environment of high inflation to persist into 2023, which from a historical point of view has implications for the equity-bond correlation and by extension, the diversification likely achievable with a 60/40 portfolio. As is evident in Figure 52, in the low inflation environment of the previous two decades, the bond-equity correlation has been consistently negative, whilst in the preceding decades the correlation was consistently positive. If we are to return to such an inflation environment, history would suggest that bonds would no longer provide the diversification we have seen since the start of the millennium.

Bonds would no longer provide the diversification we have seen since the start of the millennium

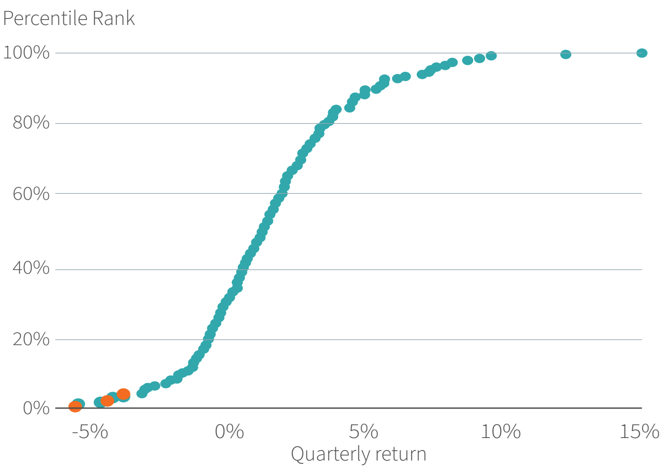
It is not only the correlation of bond returns with equity returns to consider, but also that the investment characteristics of bonds have evolved over the last 40 years. As can be seen in Figure 53, the duration, or the sensitivity of bond prices to interest rates, has doubled since the 1980s, and the yield has dropped from a peak of 16 per cent in 1981 to a low of 0.5 per cent in 2021. That level of yield compression in highly unlikely to occur going forward.

With bonds and equity markets both losing value over the course of 2022, question marks have been raised as to whether 60/40 funds are viable investment strategy going forward.

Headwinds for 60/40 portfolio

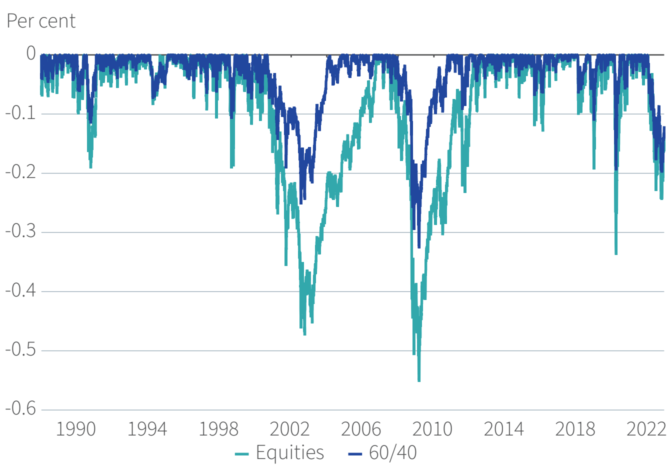
Whilst not unreasonable to query whether 60/40 allocations will be able to generate a similar risk-adjusted return to that of the last 40 years, bond yields are now at levels not seen since the Financial Crisis. Debate amongst asset allocators has increased, with value returning to the fixed income asset class. And one of the fundamental reasons for holding bonds, to dampen investment portfolio volatility, is likely to hold, even if the returns and level of diversification do not match the past, some degree of value preservation is still likely.

Figure 50. **Quarterly treasury returns: since 1973**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 51. **Drawdowns**



Source: Aviva Investors, Macrobond as at 29 November 2022

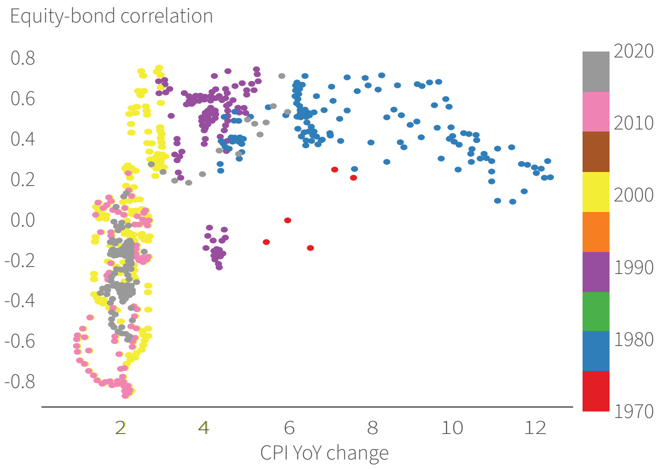
Persistent inflation and more restrictive monetary policy may result in less reliable equity and bond dynamics, as we have seen in 2022. Investors are likely to need to embrace alternative sources of diversification. Using a diversified set of strategies, investors can aim to improve their portfolios' risk-adjusted returns.

First-order exposures can be achieved via inflation, interest rates and yield curve positioning, with second-order exposure achieved through commodities, currencies and specific equity sectors. For instance, physical securities, such as oil, should move with inflation and this in turn will benefit commodity-producing countries and companies.

Correlation, and the interaction of equity and bond allocation will likely continue to be an important consideration for portfolio managers when designing resilient portfolios. However, the changing inflation environment will likely result in the need to be more dynamic with allocations and embrace other strategies. As discussed above, the current economic backdrop has the potential to be negative for bonds and equity simultaneously. However, with thorough portfolio construction techniques and the ability to access both direct and secondary exposures to instruments , investors can build resiliency and protection against inflationary shocks.

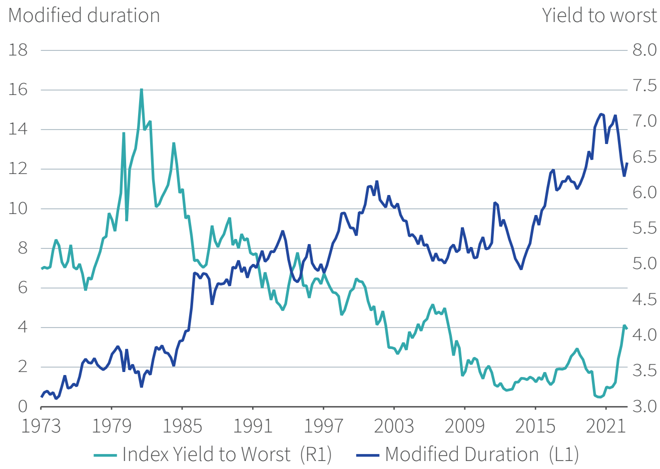
Using a diversified set of strategies, investors can aim to improve their portfolios risk-adjusted returns

Figure 52. **Correlation vs inflation**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 53. **The Bloomberg US Treasury Index evolution**



Source: Aviva Investors, Macrobond as at 29 November 2022

Economic Outlook

United States: a narrow and difficult path

- **Growth expected to slow further through 2023, with a shallow recession likely around the middle of the year as interest rate increases bite**
- **Inflation is expected to fall back on reduced contribution from energy and core goods. But services remain the risk to more persistent inflation outcomes**
- **Federal Reserve to raise rates to around 5 per cent, the highest level since before the global financial crisis**

Summary

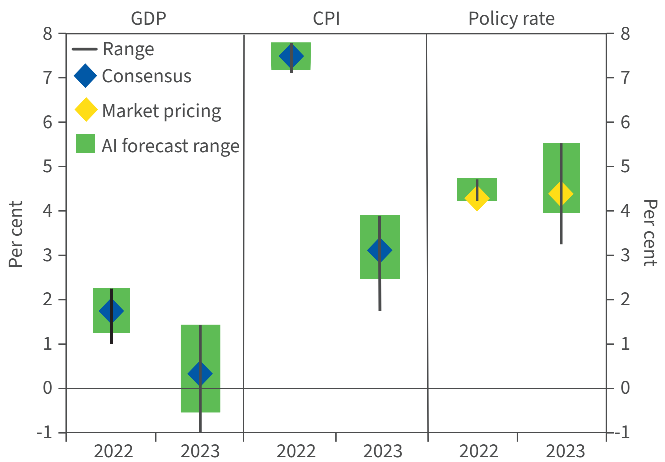
US economic activity slowed markedly in 2022, reflecting the waning boost from COVID re-opening, the drag from reduced fiscal spending, the impact of unexpectedly higher inflation on real disposable income and the effect of the rapid increase in interest rates from the Federal Reserve. We expect annual growth to slow further in 2023, to around 0.6 per cent, as the full effect of the aggressive monetary tightening is felt (Figure 54). We expect the economy will enter a shallow recession around the middle of the year, as household spending growth flatlines and both residential and business investment subtract from growth. That is likely to result in a steady increase in the unemployment rate throughout 2023, rising to around 4½ per cent by the end of the year. We do not expect a deep recession, as overall household and corporate balance sheets remain in decent shape, therefore avoiding the need for a debt deleveraging cycle.

US growth expected to be weak in 2023, with a mild recession likely

We expect inflation to fall through the year (Figure 55), which should provide some support to real disposable income, as wage growth is only expected to moderate slowly over the course of the year. The decline in inflation is expected to be driven by a substantial reduction in the contribution from energy (with oil prices assumed to be stable around the current level), as well as further easing in the contribution from globally traded goods. That reflects easing in global supply chain pressures, as the excess demand for goods recedes further. Services inflation is expected to remain elevated, as demand continues to shift in that direction and with the labour market remaining relatively tight, despite the expected loosening through the course of the year. As such we expect core inflation to decline as well, but to remain somewhat above the Fed's target of 2 per cent. We expect core PCE inflation will be around 3 per cent by the end of 2023.

Inflation is expected to fall, although core may prove to be more persistent

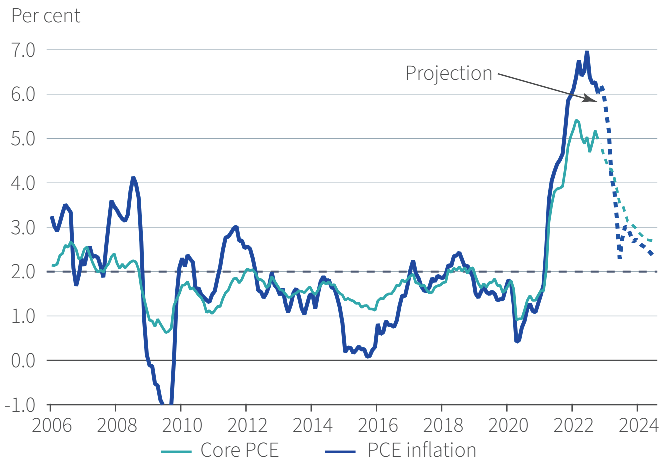
Figure 54. **US economic projections**



Source: Bloomberg, Aviva Investors as at 29 November 2022

Figure 55. **US inflation outlook**

Headline and core PCE expected to remain above target through to the end of 2023



Source: Aviva Investors, Macrobond as at 29 November 2022

Our growth and inflation outlook are predicated on the Federal Reserve tightening policy further in 2023, with the peak in rates expected to be around 5 per cent by Q2. The peak effect on activity of the tightening in monetary policy should be felt by the middle of 2023, with the maximum impact on inflation coming a little later in the year. We do not expect any subsequent cuts in the policy rate before the end of 2023. Indeed, we see the risks to both inflation and policy rates as skewed to the upside. The broad-based nature of the inflation impulse, as reflected in measures such as the trimmed-mean PCE, which has been rising at around 5-6 per cent throughout 2022, may make it more persistent than we expect. The reality is we have little historical evidence to rely on from the past 30 years (and certainly since the introduction of inflation targeting by central banks) to help inform us how this inflation episode will play out. While survey measures of inflation expectations do not look worryingly de-anchored, there remains potential for higher inflation and wage growth outcomes to persist, even if growth slows in the manner we expect.

We expect the Fed will raise policy rates to around 5 per cent, with risks tilted to the upside

A soft(ish) landing

Annual growth in the US economy likely slowed to around 1.8 per cent in 2022, down from the exceptionally strong 5.7 per cent increase in 2021 (as the economy rebounded from COVID). Despite continued strong growth in employment and nominal wages, the impact of higher energy prices, alongside the broader pick-up in inflation pushed real wage growth down to around 1.5 per cent in 2022, from close to 4 per cent in 2021. The broader measure of real disposable income (which includes the effect of taxes and transfers and non-labour income) declined, reflecting the reduced fiscal support for households compared to 2021. As a result, real personal spending slowed and rebalanced somewhat, away from goods and towards services. While spending growth slowed, it held up better than would normally have been the case given the decline in disposable income, as households drew down about half of the over £2 trillion in savings accumulated during the pandemic.

Real disposable income has fallen, but the savings buffer built during COVID has cushioned household spending

Looking at the range of indicators used by the NBER to assess whether the US is in recession or not, very few suggest that one is imminent (Figure 56). In past recessions, at least four of the six indictors were flashing deep red at the outset, before broadening to all indicators. That said, there are signs of slowdown seen in the manufacturing sector, as can also be seen in the latest ISM manufacturing survey. As noted above, while real income was notably impacted earlier in 2022 by the rapid increase in inflation, it has subsequently bounced back. Alongside the drawdown in savings, household spending has been able to be maintained reasonably well through the year. That is also reflected in the timely ISM services survey, which continues to show above trend expansion.

Latest indicators do not suggest recession has started yet

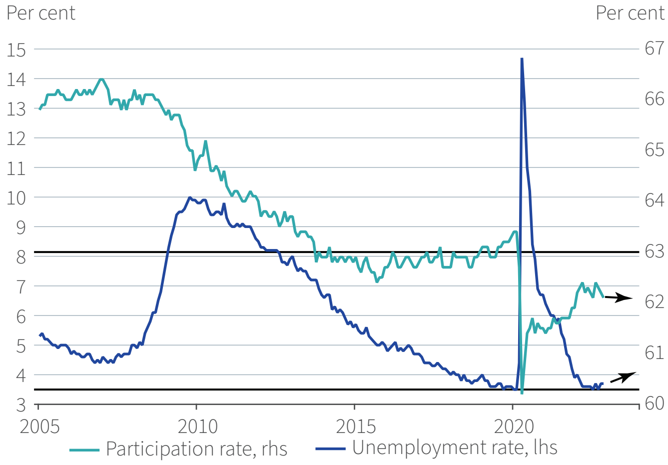
The unemployment rate fell to a historic low of 3.5 per cent during 2022, matching the low seen prior to COVID (Figure 57). While employment growth has been remarkably strong, at least part of the explanation for the decline in the unemployment rate to such low levels has

Figure 56. **Recession indicators**
Not yet flashing red

NBER business cycle indicators	Nov 22	Oct 22	Sep 22	Aug 22	Jul 22	Jun 22	May 22	Apr 22	Mar 22	Feb 22	Jan 22	Dec 21	Nov 21
Real personal consumption		4.8	2.4	2.0	0.8	1.7	2.1	2.3	4.5	0.2	-0.6	-0.7	4.2
Real personal income		1.9	4.0	1.5	0.7	-2.0	-1.5	-0.9	-2.7	-2.0	-2.0	1.7	3.5
Household employment	-0.7	0.8	2.1	0.8	0.5	-0.9	1.8	2.4	6.5	6.3	7.8	5.8	5.8
Nonfarm Payrolls	2.2	2.2	2.9	3.0	3.3	2.8	3.1	4.0	4.4	5.0	4.8	5.3	4.8
Real manufacturing & trade sales			10.5	8.1	-1.5	-4.5	-7.7	-8.3	-0.8	2.1	6.4	-0.1	3.7
Industrial Production		-0.3	2.8	1.9	1.9	2.0	5.0	8.6	7.3	3.7	3.1	7.8	4.6
Other indicators													
ISM (Manufacturing)	-1.0	0.2	0.9	2.8	2.8	3.0	6.1	5.4	7.1	8.6	7.6	8.8	10.6
ISM (Services)	6.5	4.4	6.7	6.9	6.7	5.3	5.9	7.1	8.3	6.5	9.9	12.3	18.4
GDP (Expenditure)			2.9	2.9	2.9	-0.6	-0.6	-0.6	-1.6	-1.6	-1.6	7.0	7.0
GDP (Income)			0.3	0.3	0.3	-0.8	-0.8	-0.8	0.8	0.8	0.8	6.7	6.7

NBER indicators use 3m ma; ISM reported as deviation from 50; GDP(E) first estimate
Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 57. **Labour market**
Unemployment rate expected to rise modestly



Source: Aviva Investors, Macrobond as at 29 November 2022

been the failure of participation to pick back up to pre-COVID rates. A combination of early retirements (both due to improved financial positions and poor health) and long-term illness (perhaps partly "long COVID", but also other conditions that were not properly treated during the pandemic) have weighed on participation. The excess demand for labour has showed up in record vacancies, which at the peak showed two vacancies for every unemployed person. That has eased a little in recent months, but still stands at a historically high 1.7 vacancies per unemployed person.

Labour market remains very tight, with reduced supply playing a part

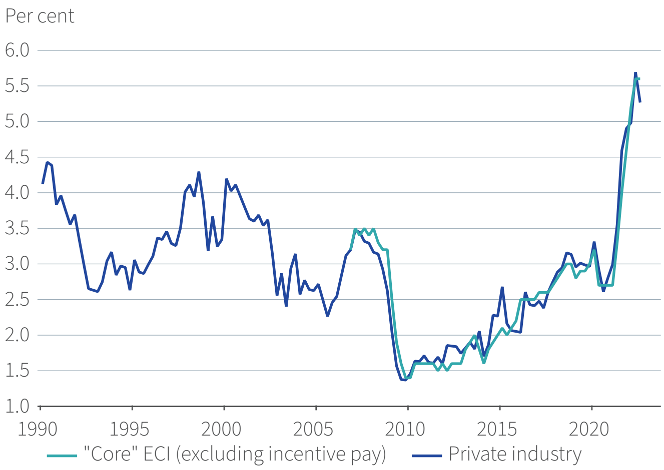
The tightness of the labour market, as seen from both the unemployment rate and vacancies, alongside the backdrop of higher inflation, has been reflected in the strongest wage growth in decades. The employment cost index (ECI) is widely regarded as the best measure of wages in the US, as it accounts for a range of compositional effects. At the end of Q3 it was running around 5½ per cent (Figure 58). Other measures that are more timely, such as the Atlanta Fed median wage are running at closer to 6½ per cent – with those who are changing jobs seeing wage increases of nearer to 8 per cent. Wage growth needs to fall back to around 3½ per cent to be consistent with the Fed bringing inflation back to target. A necessary, but perhaps not sufficient, condition for that to occur is a material decline in job vacancies and a rise in the unemployment rate above 4 per cent. We expect both of those things to happen through 2023, bringing a moderation in wage growth, but risks remain tilted to the upside as workers use their bargaining power to try to offset more of the hit to real wages that occurred in 2022.

Wage growth has shown no sign of slowing, and poses an upside risk to the inflation outlook

With the economy expected to experience just a mild recession and inflation expected to move back to be much closer to target by the end of 2023, one might argue that the Fed's job is largely done. But the path to achieving that outcome remains narrow and difficult. We expect the Fed will raise rates to around 5 per cent by Q2 and then pause for the remainder of the year. That is a little above current market pricing for the Fed Funds rate (Figure 59). But it may be that the economy proves to be more robust, and that inflation is more persistent (or actually moves up again after an initial decline). Of course, there is always potential for an exogenous negative growth shock and given the starting point of the policy rate being in restrictive territory, there is greater potential for it to be cut aggressively in that scenario.

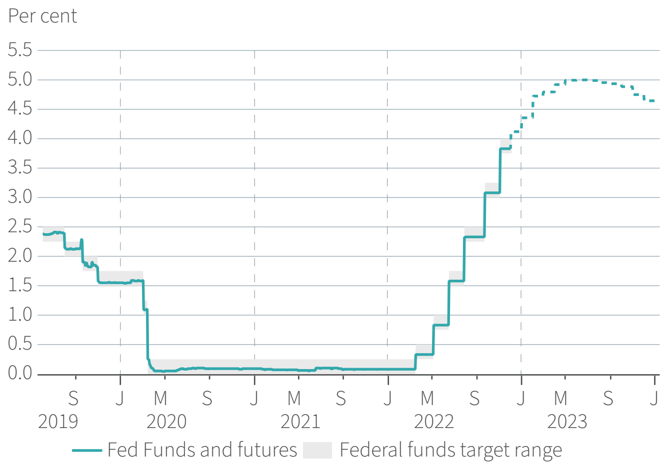
The Fed have a narrow path to achieve a soft landing for the economy and bring inflation back to target

Figure 58. **Wage growth**
A fall is necessary to ensure inflation declines



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 59. **Policy rates**
We disagree with the market that there will be cuts in late 2023



Source: Aviva Investors, Bloomberg, Macrobond as at 29 November 2022

Eurozone: recession, but how long and how deep?

- **Downturn set to begin in Q4, driven mainly by supply shock**
- **Inflation probably at peak; core set to stay too high for longer**
- **ECB tightening will continue for now**
- **Fiscal policy may ease pain modestly**

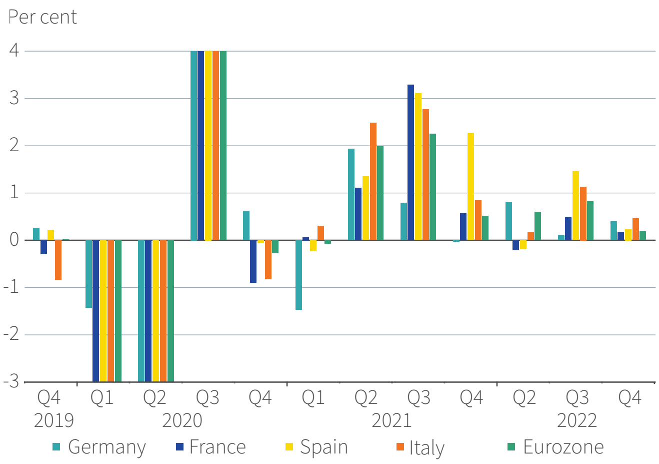
A year ago, the consensus forecast for GDP growth in the Eurozone in 2022 was a little over 4 per cent. Of course, this estimate was still heavily distorted by the rebounds anticipated as economies reopened after pandemic disruptions. Sadly, that shock has been replaced by the more sinister one resulting from Russia's invasion of Ukraine and the ensuing energy shockwave. The Eurozone economy has actually been quite resilient so far this year, despite the obvious change in mood, inflation backdrop and monetary policy stance (Figure 60 and Figure 61). GDP is above its pre-COVID level, helped most notably by exports. Investment has been subdued, and that is unlikely to pick up now. But annual GDP growth should comfortably exceed 3 per cent in 2022, well above the estimated trend pace of perhaps 1.25 per cent to 1.5 per cent. However, this is yesterday's news. While the belated catch-up is welcome, the outlook for 2023 has darkened substantially. We now expect a recession in the Eurozone, starting in Q4 this year, but continuing throughout at least the first quarter of next, and with downside risks. The main drivers of the downturn – at least initially – are on the supply-side and relate largely to the adverse consequences of the energy shock. Europe is already transitioning to a vastly reduced dependence on Russian energy supplies in what is expected to be a permanent shift. It has not been possible to do this instantaneously, but rapid substitution by much of the industrial sector, an equally impressive rebuilding of gas storage and, at least at the time of writing, a mild winter, have combined to mean that outright energy rationing is not expected over this winter (although it remains a tail risk, especially in some countries).

The energy shock has hit Europe hard, weakening growth and boosting inflation

That is not the end of the issue, however. Even if rationing is avoided, energy stocks will have been run down significantly by the spring and the normal pattern of rebuilding will not take them back to "safe" levels by the onset of winter 2023/24. Further major adaptations and changes will be required to ensure energy security (see themes section) for the future, and these take time. For obvious reasons, it is still in Russia's interests to continue to disrupt as much as possible. Meanwhile, the price (and, to a lesser extent, sentiment) element of the shock is having a major impact. It is this which is delivering declines in real incomes for consumers and huge cost increases for businesses. It is also boosting inflation to rates not seen for 40 years. The ECB has responded aggressively because of worries that the inflation impulse is in danger of becoming more ingrained and widespread. We continue to believe that

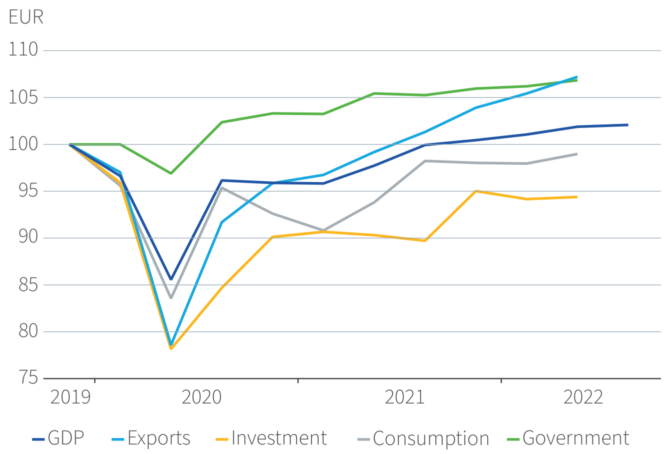
The ECB has felt compelled to react to higher inflation

Figure 60. **Growth has continued in Q2 and Q3...**
Eurozone GDP growth (q/q)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 61. **...led by trade and Government**
Eurozone GDP components, Q4 2019 = 100



Source: Aviva Investors, Macrobond as at 29 November 2022

this more demand-side driver of higher inflation is not as significant in the Eurozone as it is in the UK and US, for example, but it is far from absent, especially in the eyes of the inflation-targeting ECB. The combination of inflation hit and tighter monetary policy is already eroding demand growth and we now believe that the Eurozone economy will shrink modestly next year. As elsewhere, there are no glaring financial or economic imbalances or excesses to work through, so any downturn could be shallow and relatively short-lived. Providing that inflation does subside next year, as we expect, and that the energy shock does not return, then growth should be able to resume by the second half of next year. However, any recovery from then will be far more laboured than post-COVID rebounds.

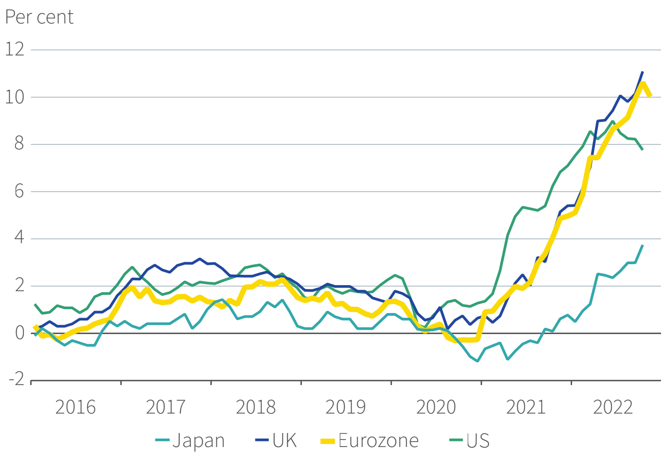
As in most places, 2022 was a year of steadily higher inflation in the Eurozone. The headline rate reached 10.6 per cent in October before dipping back to 10.0 per cent the following month. We believe that we have seen the peak, but it will take several months of lower readings before that becomes the accepted narrative. Markets are just starting to believe that story in the US, where the inflation "high" was in June, so it may not be until next spring before that view is shared in Europe (Figure 62). If energy prices only stabilised, that would be enough to reduce overall inflation by 4 per cent points or more by the end of 2023. But even if that were to be the case, the more worrying development is that inflation has become more broad-based and that may be a more difficult trend to reverse. Core inflation (definitions differ) ranges from 3.7 per cent in Japan to 6.5 per cent in the UK and there is, as of now, no indisputable sign that it has peaked anywhere, although we do believe that we are just about there in most places. Again, more evidence will be needed before that becomes established. It is this development which has spurred the ECB into a more aggressive stance, fuelling their fears that inflation expectations could become "de-anchored", resulting in a much nastier inflation problem. It remains to be seen whether their actions have been enough, but there are some signs that it may have helped: survey measures of expected inflation spiked higher but have fallen back to levels consistent with inflation that is merely high, as opposed to out of control (Figure 63).

Headline inflation has probably peaked and should fall in 2023...

One of the ECB's main concerns is that labour markets across the Eurozone are unquestionably tight: the unemployment rate fell to 6.5 per cent in October, comfortably the lowest in the single currency zone's existence (it has averaged well over 9 per cent). Surveys point to significant labour shortages in many sectors. On the plus side, and in contrast to the UK, participation in the post-pandemic period has picked up slightly in Europe. Nevertheless, the risks of an emergence of damaging wage-price spirals are still probably greatest because of more collective pay bargaining and a significant amount of automatic wage indexation in some countries. Neither is as widespread as in the fairly recent past, but both mechanically increase the chances of such an outcome. By their very nature, it will be difficult to identify, and respond to, the appearance of such dangers in a timely manner. The OECD highlighted in its latest report that wage demands have picked up in several countries, of which the high-

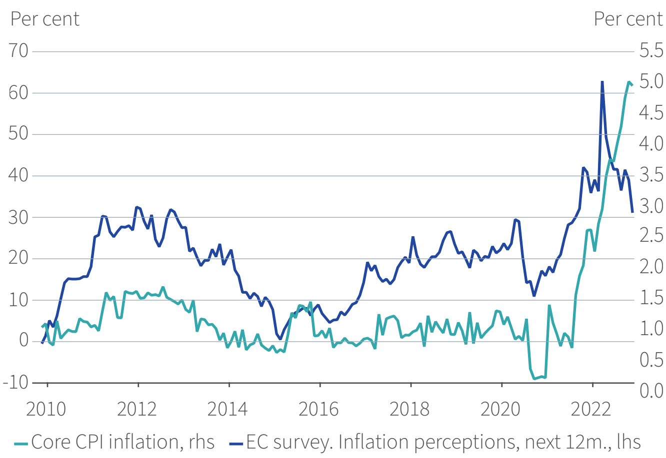
...but labour markets are tight and wage growth has moved higher

Figure 62. **Hopes for peak inflation**
Headline inflation, per cent



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 63. **Some comfort on expected inflation**
Eurozone: core inflation and inflation expectations



Source: Aviva Investors, Macrobond as at 29 November 2022

profile IG Metall agreement was probably the most notable. Benchmark increases of 5.2 per cent from June 2023 and 3.3 per cent from May 2024 may be below current inflation rates, but even in relatively high productivity Germany, they are at the upper end of what might be deemed consistent with the 2 per cent inflation target. As importantly, they set a prominent yardstick that other groups may aim for. Reliable wage data is notoriously poor across Europe, but some recent research in Ireland has used wage rates for new jobs postings in a number of countries to illustrate that earnings are trending higher (Figure 64). It has to be conceded that this data is for new jobs – underlying wage growth will be lower – and is experimental, but the trend is undeniable.

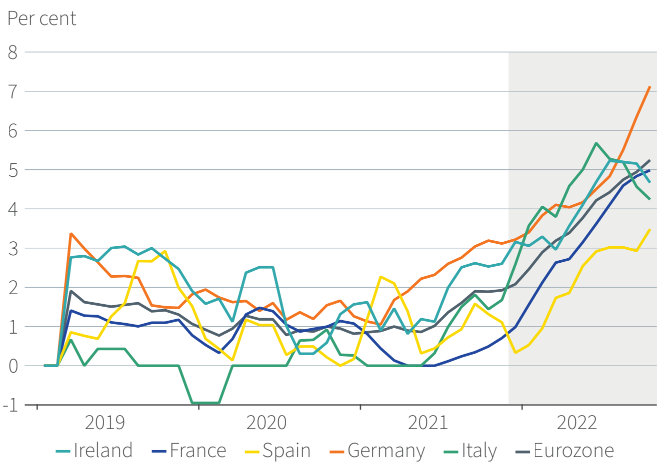
Fiscal policy is providing some support...

If the ECB is right that a restrictive policy stance is required to bring demand back into line with constrained supply in order to prevent a worse inflation problem, then there is risk that the fiscal stance in some countries might push in the opposite direction. The UK's disastrous experience in the Autumn should have alerted governments to the dangers of pushing things too far. But it remains true that even as COVID support packages are fading into memory, many countries have introduced wide-ranging measures to shield households and businesses from soaring food and energy prices. These are estimated to amount to as much as 3.5 per cent of GDP for the zone overall, with 2.5 per cent of that falling in 2022. Much of the remainder is attributable to Germany's generous plans for 2023/24. The conflict in Ukraine has also triggered rises in military spending in several countries.

...but will be impacted by politics as well as economics

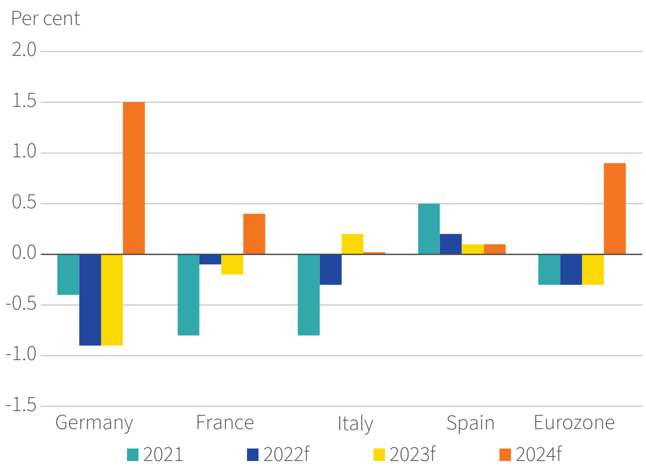
It is impossible to capture the fiscal stance (actual and planned) of 19 disparate nations accurately or concisely. The constraints of the Stability and Growth Pact (SGP) are suspended for 2023 but may return in some form in the future – fiscal "discipline" is still important for many. Recessions normally lead to wider budget deficits as automatic stabilisers kick in. We estimate that the underlying fiscal stance, as gauged by the change in the cyclically adjusted budget balance, will ease modestly next year, before fiscal consolidation begins in 2024 (Figure 65). But budget plans can and do change rapidly and that is even more likely in current circumstances. This being the Eurozone, there is the EU recovery (NGEU) fund to consider as well as national budgets. This should provide an additional estimated 0.2 per cent of stimulus this year and next, with Italy and Spain the likely main beneficiaries. Payouts from NGEU are scheduled to fall back from 2025, but that too could change. Finally, the current clash with Hungary and the new love of fiscal adopted by Germany are merely the latest examples of how politics will frame fiscal developments in Europe, ensuring it remains latently unpredictable.

Figure 64. **Wage growth appears to be trending higher**
Job posting wage growth estimates, 3m mavg



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 65. **Fiscal stance easier until 2024**
Change in cyclically adjusted primary balance, per cent of GDP



Source: Aviva Investors, Macrobond as at 29 November 2022

UK: in the bleak mid-winter

- **Recession has begun – likely to last until at least middle of 2023**
- **Inflation has probably peaked and should fall next year...**
- **...but underlying pressures will keep Bank of England hiking until next spring**
- **Worries about trade post-Brexit and possibility of Austerity 2.0 cloud outlook**

Summary

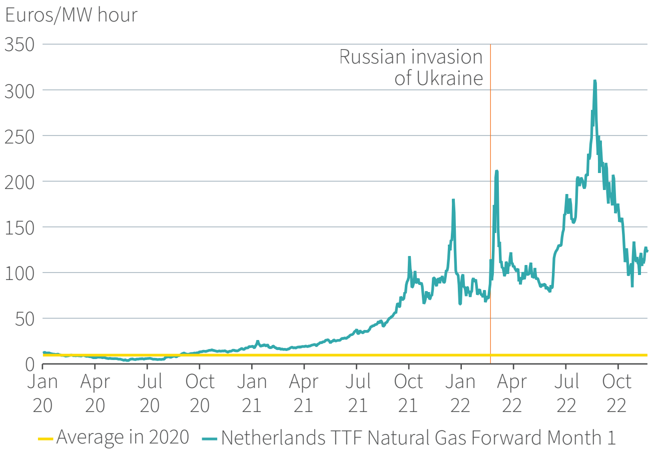
A year is a long time in economics. Twelve months ago, the outlook for the UK economy was reasonably constructive. At that time, the main concern related to the uncertain transition to a post-COVID world, which was being complicated by the Omicron variant. Today, such worries appear almost trivial. Economic prospects are far gloomier: it will be a very challenging winter and difficulties could extend well into 2023. The main reason for the change is the Russian invasion of Ukraine, which has resulted in another huge supply shock. As well as the direct impact to sentiment, spiralling energy prices (Figure 66) have caused a massive real income hit. Headline inflation rates have soared, but pressures has also become more broad-based (Figure 67), forcing central banks to raise policy interest rates more aggressively than had previously been expected. The Bank of England has been especially candid in presenting the view that a downturn or recession is effectively required: it is a price worth paying because the alternative, of letting inflation become more entrenched, would result in an even more painful subsequent tightening of policy. This change in the policy environment, which in itself will intentionally slow growth, is a global phenomenon. But the UK has added to its own negative outlook directly through a disastrous fiscal event and also as a consequence of Brexit.

Difficult times ahead

Growth prospects for 2023 have been dramatically reassessed over the last 12 months (Figure 68) and the debate has moved on to how long the recession – which has probably already begun – will last. There are a number of elements which must be considered, with the drivers of the present UK downturn a combination of supply and demand factors. The twin supply shocks of COVID and the energy crisis both had a massive impact: supply was constrained while demand was supported, driving prices upwards. The resulting squeeze on household real incomes this year and next is unprecedented in the post-war period. It is possible, but not inevitable (or imminent), that there will be some sort of resolution to the conflict in Ukraine, and alternative sources of energy are being explored. Energy prices should first stabilise and eventually fall back, although the timings of such changes are difficult to judge. Meanwhile, global supply chain shortages and are other frictions are easing which should help non-energy goods inflation fall back as well. Finally, the spike in food

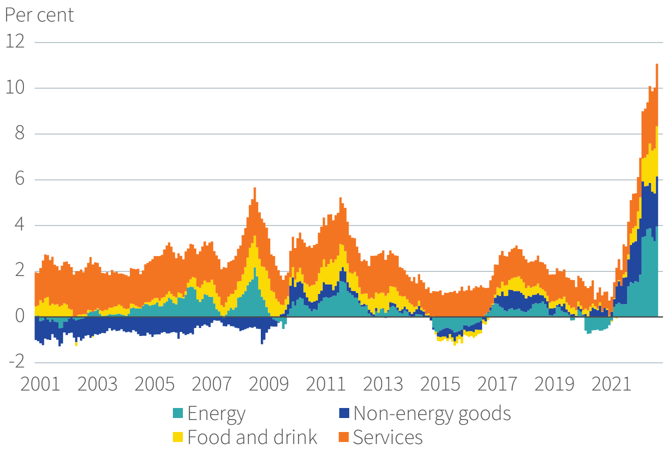
Growth prospects have been dramatically reassessed

Figure 66. **Natural gas prices have soared**
European natural gas price (one month forward)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 67. **It's not just energy prices**
UK contributions to CPI inflation, per cent



Source: Aviva Investors, Macrobond as at 29 November 2022

price inflation – also a global phenomenon – should also reverse. Much is also due to higher energy prices, because much of food production is very energy intensive. So, we may be close to – or even at – an inflation peak in the UK and these many base effects should help push it significantly lower next year.

Underlying inflation has risen alarmingly

However, another potentially much greater worry has emerged. Inflation has now been high enough, and around for long enough, to have lodged itself in people's minds. The increase in the services component of inflation has, so far, been the smallest, but it could be the part that central banks, including the Bank of England, are most worried about because it has historically been much less volatile and much more sticky. The long period of exceptionally loose monetary policy has eventually started to gain some traction in terms of stimulating demand, right at the point when supply has been severely restricted. The labour market in the UK is extremely tight, and wages have been bid up. Labour costs are generally the most important component for the services sector, so elevated wage inflation is now boosting services inflation significantly. It is this driver of overall inflation that the Bank of England, like many others, is now leaning heavily against. Wage growth of 6 per cent (Figure 69) is not consistent with the 2 per cent consumer price inflation target.

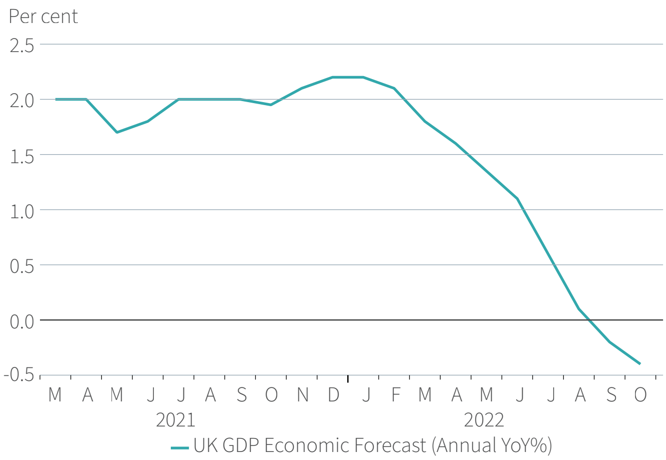
The UK labour market is tight and inactivity has risen sharply

In common with labour markets in many places around the world, disruptions related to COVID and its aftermath introduced many distortions to employment and unemployment in the UK. Furlough and other support packages, as well as major changes in working practices more generally, meant that previously stable patterns or trends altered dramatically. Many of these have not yet returned to "normal" and might never do so. In short, a lot of the people who left the UK labour market during the pandemic, have not returned (or have not returned yet). In terms of numbers and definitions, participation has fallen (Figure 70) and inactivity has risen. It is possible that it may eventually recover, just as it did after the Global Financial Crisis. But it is perhaps more plausible that it will not. Flows into and out of employment, unemployment and inactivity were especially large during the pandemic. But the fact remains that economic inactivity within the 16-64 age group totalled just over 8.5 million before COVID. Today it is about 9 million, meaning that there are effectively 500,000 "missing" workers or about 1.3 per cent of the total labour force. If this loss is permanent, it represents yet another large supply shock to the UK economy.

Unemployment is set to increase

The reason this matters so much is that while it was recognised that the UK labour market was tight, it had been hoped that labour supply would respond to the post-pandemic world, easing such strains. This has not happened: the unemployment rate has fallen to a new low of 3.7 per cent. Labour demand and vacancies are now easing modestly – but the Bank of England understandably believes that they need to ease significantly more if wage growth is not to get further out of control. It is possible – likely even – that the macroeconomic outcomes for the UK will not be quite as grim as the Bank of England predicts; after all, their

Figure 68. **UK economy now expected to contract**
Bloomberg 2023 UK GDP growth consensus



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 69. **Wage growth is worryingly high**
UK average earnings growth three-month average

Source: Aviva Investors, Macrobond as at 29 November 2022

forecasts were conditioned on the policy rate moving up to around 5.25 per cent. By contrast, we believe that a peak around 4per cent may be sufficient, which would result in a smaller downturn. However, that is entirely dependent on underlying inflation pressures easing considerably over the next year or so. The short-term outlook is undeniably bleak: GDP is almost certain to decline until at least the middle of next year.

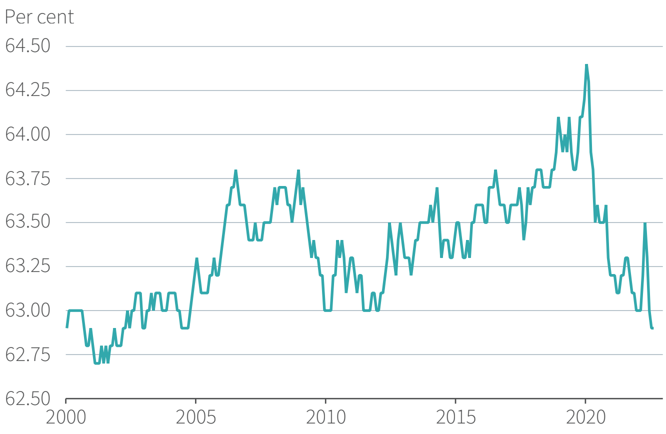
There are two other elements of UK prospects that are worthy of attention. First, moving away from the most unrestricted set of trading arrangements there could possibly be to a system which involves regulations, bureaucracy and controls – and which is also new and untested – has, unsurprisingly, led to difficulties for the UK's exporters (and importers). Global trade was severely impeded by the COVID pandemic and restarting world trade flows has not been easy or quick. Frictions, shortages and logjams are all now easing and global trade volumes have picked up nicely. But it has been abundantly clear that trade with the UK has been significantly disrupted by the change (still far from complete) to post-Brexit arrangements. Doubtless, the UK will find a way to manage in the new world, but it will not be a return to the old one. It is undeniable that Brexit has hurt the UK economy in reality, even if our politicians continue to deny it with their words. UK exports are lower and growing more slowly than before. Most obviously, the UK rebound has lagged the experience for almost all other comparable nations, the majority of which have already restored pre-pandemic levels of trade. UK exports are still well below that high water mark.

Some of the economic realities of Brexit are becoming more apparent

Finally, the mercifully short-lived Truss administration's plans to embark on a journey of fiscal folly was met with a violent financial market reaction and an almost-as-swift political one. Some permanent damage has probably been done to the UK's international reputation and there may still be a legacy in the form of higher bond yields and greater currency vulnerability. But some manner of fiscal discipline has returned. Most importantly, loose fiscal policy is now no longer pulling in the opposite direction to tight monetary policy. Public borrowing projections have changed significantly in recent years, partly as a result of the economic slowdown (Figure 71). The media has made much of the recent UK budget, with some characterising it as Austerity 2.0. The tax increases which it outlined, alongside the intention to squeeze public spending hard in future years make such a depiction understandable. But much of the fiscal tightening is backloaded and the spending pledges, in particular, may never materialise. Yes, the fiscal stance will not boost growth – there was never an intention that it should. The recession that is now underway does not need to be deep, but it does need to be long enough for the inflation impulse to fade in a sustained way.

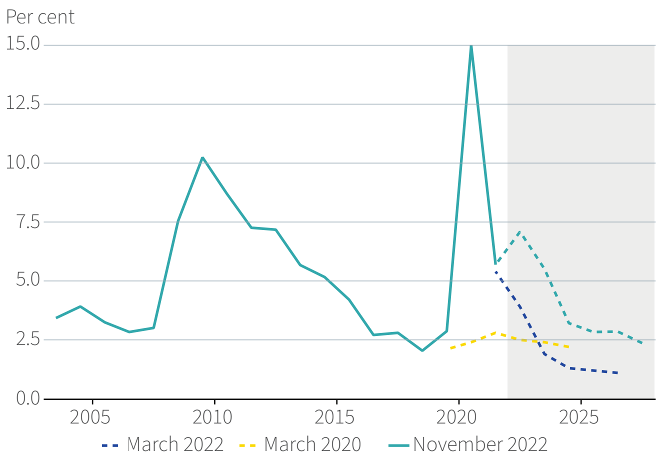
Disastrous UK fiscal experiment is a lesson for others

Figure 70. **Participation rate has not recovered**
UK labourforce participation rate



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 71. **Budget deficit expected to fall**
UK PSNB, per cent of GDP and OBR forecasts



Source: Aviva Investors, Macrobond as at 29 November 2022

Japan: will inflation allow for lift-off at last?

- **Fiscal stimulus and reopening have countered opposing external forces, resulting in a faltering recovery**
- **A dramatic deterioration in terms of trade has erased the current account surplus, and a weak yen has been the result of the BoJ's insistence on being an outlier**
- **Inflation dynamics have finally brought the BoJ to the cusp of success, but abandoning YCC and rate hikes must be done carefully, and Kuroda and his successors will not be rushed, keeping the FX vulnerable**

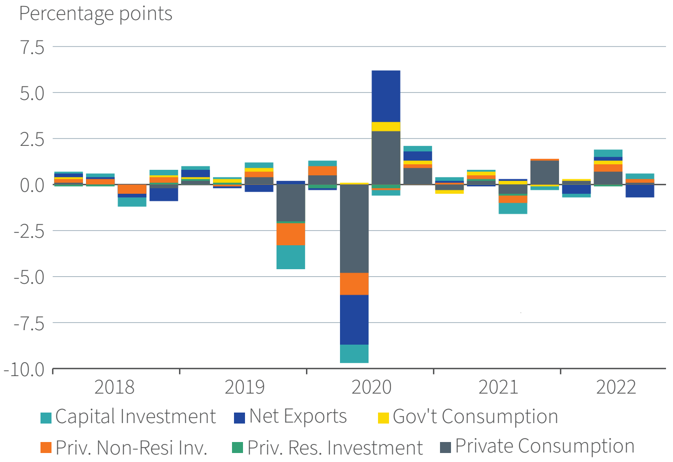
A slow reopening enabled Japan to minimise casualties during the 2020-2022 COVID period, but this meant there was no V-shaped recovery. The additional shock of Russia's invasion of Ukraine had indirect effects: high energy prices hurt demand, and a global slowdown caused the accelerating economy to sputter and flatline once again, and the erratic behaviour of GDP after the large 2020 declines (Figure 72) means the healing will remain incomplete, permanently. Worse pain is to come as utility prices will rise sharply in December and several following months, though this will partly be offset by fiscal transfers. Tourism has only been reopened recently to foreigners: foreign visitors were down 92 per cent from pre-pandemic levels, from 2.5-3.0 million visitors per month to a mere 200,000, and hotel occupancy was around 50 per cent at the peak of the season, compared to 70 per cent pre-COVID (Figure 73). Industry is mostly back to normal, but some disruptions are still noticeable, especially due to chip shortages in the auto sector and some supply difficulties due to the war or energy costs; industrial production is down around 6 per cent compared to 2019 levels. In aggregate, GDP contracted 5 per cent in 2020, and has recovered only about half of that loss as of Q3-2022. Growth should continue to decelerate towards 1 per cent in coming years: this is a combination of 'scarring', new exogenous shocks, and continued demographic decline.

GDP has failed to make a full recovery after the COVID and energy shock

Looking ahead, the outlook is not dire. There is still room for some rebound as business and leisure travel resume, especially if other Asian countries fully reopen (related to the China reopening upside risk) and travellers take advantage of a very cheap yen and government support for the sector. Domestically, supply chains should help production recover, and so spending on durable goods will also increase; pent-up demand and a need to replace fleets and transition to EVs should help the big automakers. Light vehicle sales in Japan are down

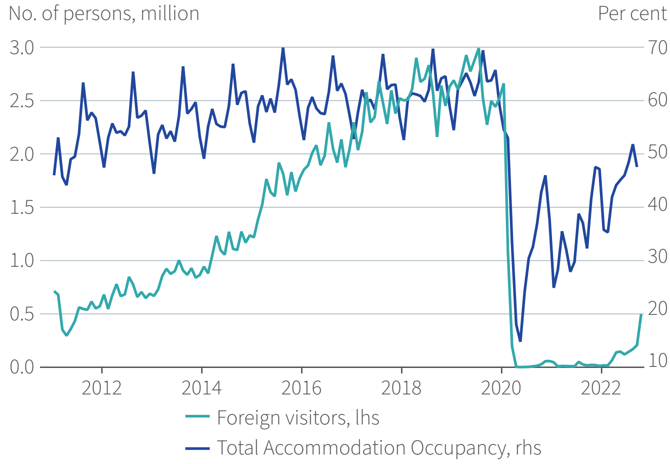
Japan's economy has modest upside as it makes a late exit from restrictive COVID policies

Figure 72. **Incomplete recovery, external drag**
Contributions to GDP



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 73. **Post-COVID reopening far from complete**



Source: Japan Ministry of Tourism; Japan National Tourism Org; Aviva Investors, Macrobond as at 29 November 2022

20 per cent y/y, so there is room for an upside surprise – if consumers can weather the downside shocks they are facing. Finally, investment should also stay solid, increasing from 2 per cent y/y to around 3 per cent y/y in 2023, helped by near-term fiscal spending and some of the longer-term initiatives for efficiency and investment, specifically pushes and incentives for digitisation, AI, 5G and mobile apps and payments. These productivity gains will, it is hoped, provide an offset from the demographic drag of an ageing population.

As we head into 2023, the latest GDP data (-0.3 q/q in Q3) exaggerated the slowdown in activity, partly because Q2 was revised higher to +1.1 per cent q/q, as the economy moved at long last into its fuller reopening phase. Domestic demand, which grew around 0.4 per cent, gives a better sense of growth, with inventory 'noise' similar to the US data in H1, and net exports subtracting from GDP because of the terms of trade shock and the cost of imports. Yet it is incontrovertible that the Japanese economy is struggling, with PMI surveys across manufacturing and services indicating stagnation (Figure 74). Looking forward, imports will remain expensive due to global inflation, energy prices, and the weak yen, while export strength is likely to wane as the slowdown sets in.

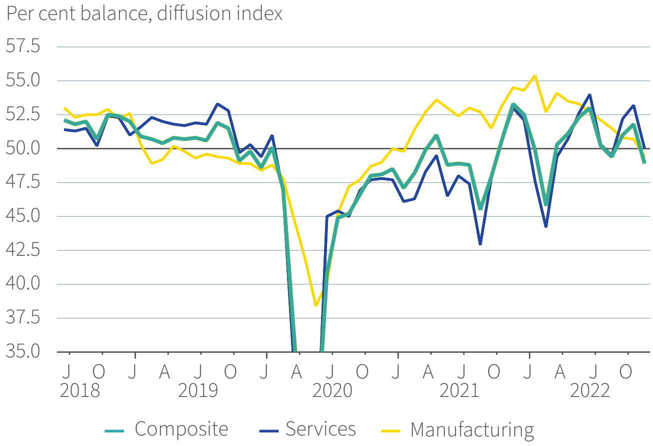
Inflation is rising fast, but BoJ has yet to declare victory

Unlike the rest of the world, but similar to many of its East Asian neighbours, Japan has experienced milder and later inflation pressures. For a country with decades of deflation followed by anaemic price pressures, the change is still dramatic. Nationwide CPI accelerated from below 1 per cent y/y at the start of 2022, to 3.7 per cent y/y in October, but this is partly on base effects, food and energy. Removing those distortions, headline inflation has actually been even higher in recent months, running at a 4-5 per cent annualised pace, while core inflation is well above the 2 per cent target (Figure 75). Because many important wage negotiations are conducted in the spring, the BoJ is unwilling to declare victory prematurely, and wants to ensure labour income grows enough to sustain inflation; their current projections are that they will fail to achieve 2 per cent yet again. It is true that headline CPI may decline somewhat, as energy price spikes and pass-through from yen weakness will fade, if not entirely disappear – but the supplementary budget has reduced costs of electricity and gas, extending the giveaway that started in January 2022; these are set to gradually unwind in H2-2023. Thus, we are more optimistic that monetary policy can become less accommodative, especially as Yield Curve Control (YCC) means that divergent monetary policy has caused rapid yen weakness, to such a degree that the BoJ unilaterally intervened and sold dollars to stabilise the yen. As the Fed continues to hike, and with real yields in Japan increasingly negative, pressure on USDJPY should persist (Figure 76), helping inflation and allowing an exit to the unconventional monetary policy that is now past its due date.

The BoJ should exit YCC, but will likely be late and careful in doing so

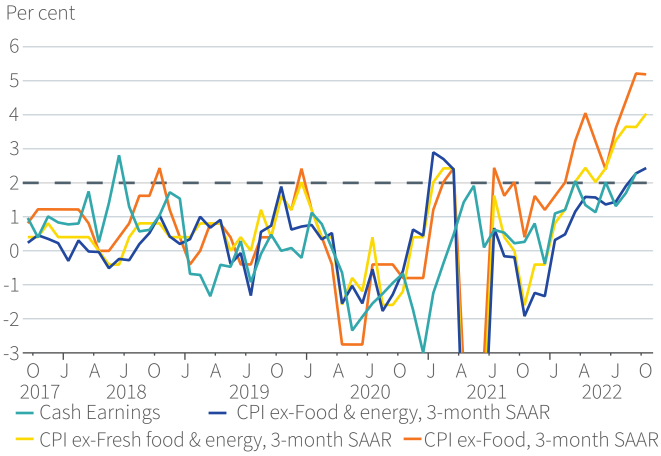
After the LDI debacle in the UK, the BoJ is undoubtedly worried about financial fragility risks should it allow yields to spike suddenly. Abandoning YCC completely in one go, as the RBA did, is an option, but so is shifting the target band for 10-year JGB yield higher or widening it, or moving the +/- 25bp target range to the 5-year bond. Even that may cause some market

Figure 74. **PMI surveys show renewed weakness**
Japan PMI surveys



Source: IHS Markit, Aviva Investors, Macrobond as at 29 November 2022

Figure 75. **Here comes inflation… can it be sustained?**



Source: JP Statistics Bureau, JP Ministry of Health, Labour & Welfare, BOJ; Aviva Investors, Macrobond as at 29 November 2022 vulnerabilities to be exposed, as discussed in our Themes and Risks, though Japanese commercial banks and many market participants appear to be short JGBs and underweight duration already. Swaps are already pricing in a move of some kind, and any move, small or large, will steepen the curve and cause at least temporary yen strength, though possibly from an even weaker level. For now, BoJ passivity means intervention neither caps nor necessarily reverses the trend – that will depend on Fed action and the broader dollar/G10 dynamic. For most of 2022 that was largely one way, with temporary yen strength in May and July proving ephemeral. The 10 per cent move since October's high of ¥150 is larger, but leaves the yen 18 per cent weaker this year.

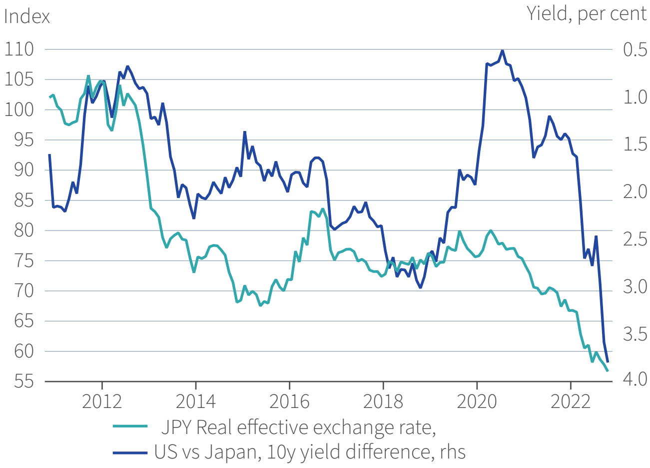
Fundamentals also point to yen weakness

Temporary strength caused by technical positioning or Fed repricing notwithstanding, a more durable change in trend seems likely only when the BoJ changes tack. Another important shift has happened in Japan's external balances (Figure 77): with energy costs soaring, and Europe determined to outbid Asia in order to import LNG this year and next, Japan has seen rapid terms-of-trade deterioration. Imports are up 19 per cent y/y while exports have grown a mere 1 per cent, and this yawning trade deficit significantly outweighs the silver lining of higher global interest rates and a weak yen: a notable rise in income on Japan's huge stock of foreign assets (Figure 77). These foreign assets are partly hedged, but with flat or inverted yield curves, and rising cost of hedging, many domestic investors will continue to let hedges roll off (selling yen), and outward portfolio flows will be unhedged (buying foreign currency). Much of the currency's weakness in real terms is, if not permanent, more than just cyclical.

Personnel changes and an unpopular government make stimulus likely

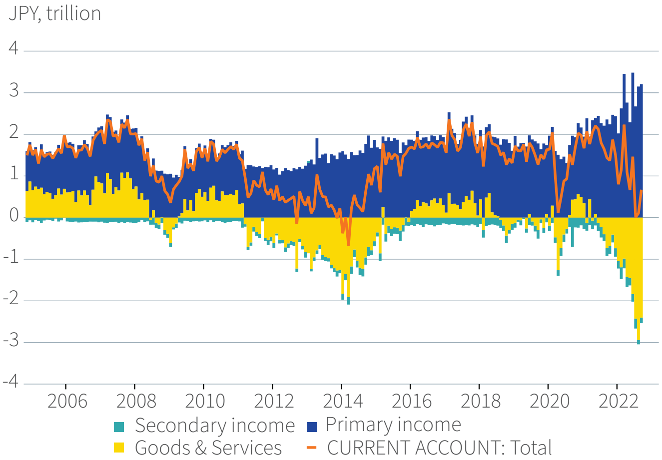
A series of funding scandals has led to resignations in Prime Minister Kishida's government, and made raising taxes or other fiscal consolidation more difficult; fiscal deficits are likely to persist around 7.5 per cent of GDP. Beyond the spending mentioned above to support the economy due to external shocks, Japan also wants to boost defence spending to 2 per cent of GDP – domestically popular, but acquiring offensive capabilities will cause friction with China, which is alleged to be violating Japan's sovereignty and escalating tensions in the region. As BoJ Governor Kuroda's term ends in early April, his reappointment and a chance for the government to influence the central bank's reaction function in a way that promotes the economy and the ruling party's popularity will be crucial for investors and the economy. This means balancing higher interest rates, which will be good for savers and the yen, with slower growth that may be needed to limit inflation going forward.

Figure 76. **BoJ's refusal to hike rates weakens yen**



Source: JPMorgan, Bloomberg, Aviva Investors, Macrobond as at 29 November 2022

Figure 77. **Dramatic deterioration in trade deficit**



Source: BoJ, Aviva Investors, Macrobond as at 29 November 2022

China: can optimism revive in hopping out of COVID and property slumps?

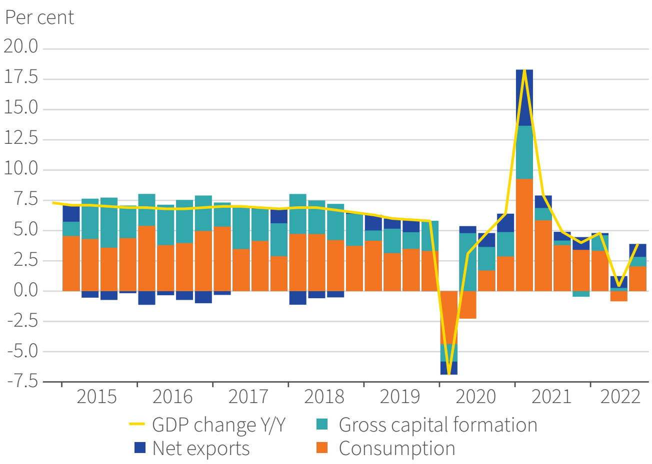
- **The path to ending China's strict zero COVID policy is unclear, but it seems very likely that after winter, the severe economic disruptions of 2022 will be a thing of the past, similar to the rest of Asia**
- **Weaker external demand and debt problems mean underlying GDP growth of 4-4.5 per cent in coming years. Reopening will help domestically and be important for leisure and hospitality, but property market retrenchment is permanent**
- **Private sector confidence, local investment and FDI will be weak. Xi's priorities are domestic resilience, the military and redistribution**
- **PBoC will supply liquidity, and portfolio outflows will weaken a strong CNY, in line with fundamentals**

Coming into 2022, our outlook for China was pessimistic: we expected lockdowns to continue to be disruptive, and the real estate slump to endure. The reality was worse. In Q2, severe shutdowns in Shanghai and other regions were as harsh as ever, in part since the Zero-COVID Policy (ZCP) was seen as necessary to ensure stability. Harmful restrictions continued ahead of the Party Congress in October, in which President Xi consolidated power to an unprecedented degree as he secured a third 5-year term. The rebound in Q3 looks to be followed by ZCP-driven weakness in Q4, even as output was less affected with many factories having employees in closed loops, and adjustments to heavy-handed restrictions allowing for better targeting. Local authorities, given the impossible task of reducing infections while maintaining output, have faced outrage and popular resistance, and so the path ahead is clear: a still bumpy, and potentially fraught exit from ZCP, probably for real this time, in Q2 of 2023.

With Q2 negative and Q4 weak, 2022's annual growth will be well below 4 per cent, and far away from the government's "around 5½ per cent" target (Figure 78). PMIs and other activity indicators have turned down to close the year (Figure 79), and we expect that lack of immunity will mean cautious reopening until winter is over. While local governments have been instructed to boost infrastructure investment through the year, despite being starved of revenue because of faltering land sales, private investment has been less robust, and the property sector continues to retrench: real estate is in a much deeper slump than during past downturns (Figure 80). Credit directed towards property is down 10 per cent y/y, and actual

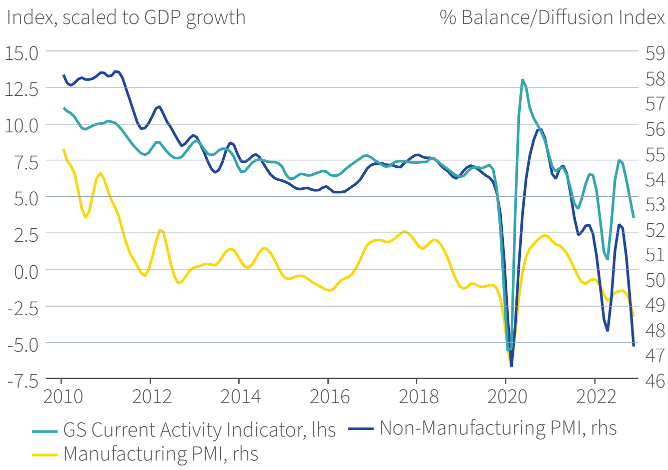
Continued lockdowns are untenable, and restrictions will slowly be lifted

Figure 78. **Investment, consumption slowing rapidly**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 79. **Growth momentum is erratic**



Source: Bloomberg, Markit, Goldman Sachs, Macrobond as at 29 November 2022 investment and new housing is down some 30 per cent from the peak; this made the total credit impulse barely positive, in spite of the aggressive policy push towards infrastructure. The overleveraged and overbuilt part of the economy was intentionally targeted, but policy has now done a 180 to prevent outright collapse and contagion, with liquidity support and consolidation intended to ensure completion of residential projects. Still, a rebound is unlikely: as in other countries with housing busts, a smaller housebuilding sector will emerge after the dust has settled, with debt reduction and loss allocation needed to bring things in line with demographics and demand.

Our central case is for annual GDP to come in around 5.4 per cent for the full year, but this exaggerates the health of the economy, benefitting from base effects from recent weakness. All that's needed to achieve this is trend growth of around 4-4½ per cent without more major accidents, be they self-imposed or exogenous. Beyond 2023 potential growth is lower still, as the working-age population peaks and then declines, and the quality of investment has deteriorated. In the medium term, there is still upside risk for growth depending on how fully and how quickly China is able to reopen; this in turn depends on fully vaccinating vulnerable populations, particularly the elderly, with good vaccines. A botched scrapping of ZCP would be chaotic, and the health system could fail for several months: the idea is to emulate Japan, New Zealand and Australia, rather than Hong Kong, or the other countries with even worse death tolls (Figure 81).

Growth in 2023 will be slower than ever, but flattered by base effects from 2022's weak outturn

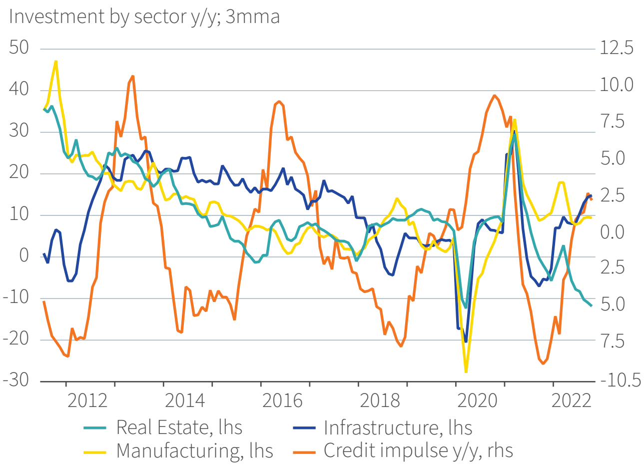
A second known upside risk is the more aggressive implementation of the economic agenda, after the 14th National People's Congress in late Q1 transforms intent into action. There was partial political paralysis in the run-up to the political promotion and reshuffling associated with the Party Congress. While the new guard is not particularly liberal or focused on the economy, and local authorities are cash starved due to falling land sales, there should be new urgency starting in Q2 to move forward with Dual Circulation, investment in technology and energy transition as well as conventional carbon-based coal and oil. With tourism and travel helping all of Asia, imports and capital investment might be important positives, though they may also make inflation pressures less likely to abate. While some of the government's initiatives can improve productivity and efficiency, others may be steered towards the military or unproductive directions.

Ending Zero-COVID Policy entails risks, but will benefit growth and reinforce public investment

Downside risks to growth include global demand reversing some of the strong gains in exports (Figure 82), which seems likely given the expected downturn. A very different menace is posed by the continued emphasis on common prosperity, regulatory rectification and alignment with nationalistic goals, and other Marxist-Leninist themes now embedded in the Constitution via Xi Jinping Thought. This may dampen private sector capex and FDI (Figure 80 and Figure 82), lowering potential growth as well as contemporaneous output. Finally, the ailing property sector still has downside risks and that part of the growth model is impaired, even if no financial contagion occurs. Infrastructure investment and credit easing will therefore have lower multipliers after pent-up consumption is satisfied.

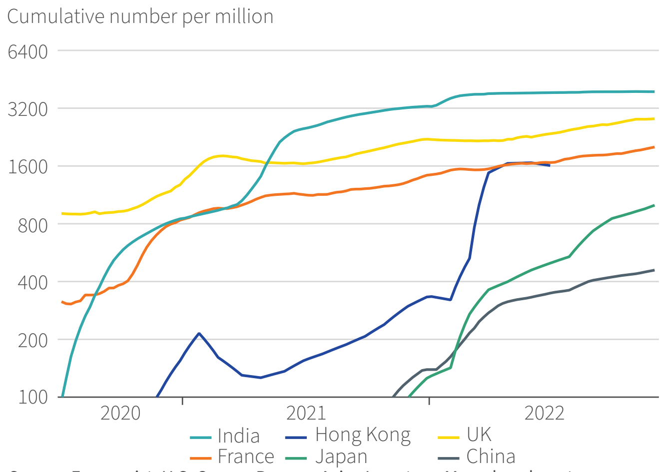
External trade and 'common prosperity' pose downside risks, and the property sector impairs sentiment

Figure 80. **Credit growth weak as investment falls**



Sources: Bloomberg, Aviva Investors, Macrobond as at 29 November 2022

Figure 81. **How to manage the trade-offs of ending ZCP?**
Excess deaths associated with COVID-19



Source: Economist, U.S. Census Bureau; Aviva Investors, Macrobond as at 29 November 2022

Despite the ongoing theme of Fragmentation, we don't expect full decoupling. Since 2020, China has grabbed market share, with imports rising to $2.75 trillion, and exports soaring even more to $3.6 trillion – up an astonishing 50 per cent from pre-COVID levels. Geopolitics is a tail risk (Taiwan policy, the costs of the alliance with Russia, and tensions with the U.S. and Japan), and the curbs on tech imports from the U.S. may hamper certain sectors, lowering FDI and damaging future growth. Foreign investors have, until recently, voted with their feet, with portfolio outflows offsetting export performance, and weakening the exchange rate at the margin (Figure 82).

China is too embedded in global supply chains for full decoupling, but after Russia's defenestration from benchmarks, investors are wary

Inflation has been hard to predict everywhere, but in China regulation of energy prices means headline inflation is dominated by food; as pork prices normalised this deflationary impulse kept headline CPI low in H1, and as they rebounded CPI went to above 2 per cent in H2. Aside from this volatility, underlying inflation has stayed weak to non-existent, with core CPI well below 1 per cent. Demand remains suppressed because of the property bubble's implosion and never-ending lockdowns; household formation and birth rates have plummeted for a third successive year. This could all change with reopening, depending on how flexible supply is, but the trend should be no different than in other countries: higher! The PBOC will use MLF and repo to supply liquidity to banks, but has been mindful of the expanding gap between moneymarket rates in China and the rest of the world as developed markets and emerging markets raise rates; recently it has de facto hiked rates by 30bps using the 7-day repo as a benchmark. Monetary authorities will also be mindful of letting real interest rates get too negative, as this could be punitive for savers, encourage speculation, and exacerbate pressure on the exchange rate to weaken.

Reopening will revive inflation domestically, and perhaps globally as well

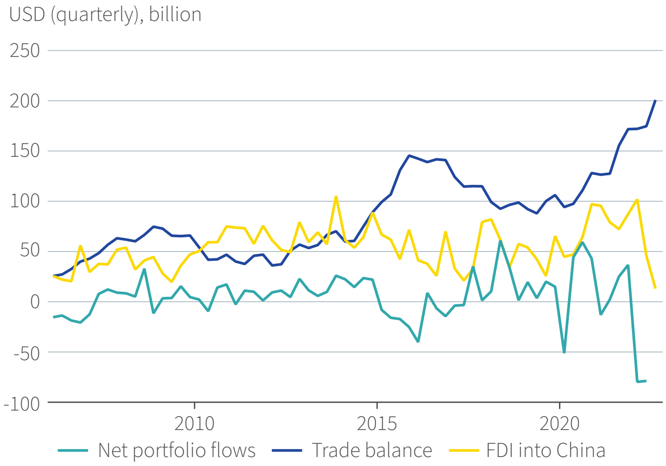
Despite the USDCNY cross breaking above 7.0, the Renminbi remains very highly valued, and has only recently managed to weaken slightly against the Euro, Yen, and some EM currencies. On a trade-weighted basis, it remains near 8-year highs (Figure 83), and looking forward, we expect 3-5 per cent weakness against a basket of currencies. The PBoC will manage several crosscurrents: relatively low interest rates make CGBs unattractive, unlike the QE era, and investors cognizant of geopolitical risks will be in no rush to increase exposure to bonds or equities. Domestically, FX stability could help quell inflation pressures – something which China's neighbours would welcome. Assuming China allows outbound travel, a large component of the current account outflow would resume – we would expect this in mid-2023 but it remains a question mark.

The balances of forces point to some more modest FX weakness, but not necessarily against the dollar

As for China's broader ambitions to dominate new technologies, get to Net Zero while doubling real incomes, reinvigorate flailing and debt-troubled belt-and-road exposures, and reunify Taiwan the way that Hong Kong has been: these longer-term objectives remain intact and will be opportunities and dangers for rest of the world. The next year will be a challenging transition: after three years of ZCP and a domestic real estate implosion, the rabbit will emerge from its isolation and find a more volatile and hostile world.

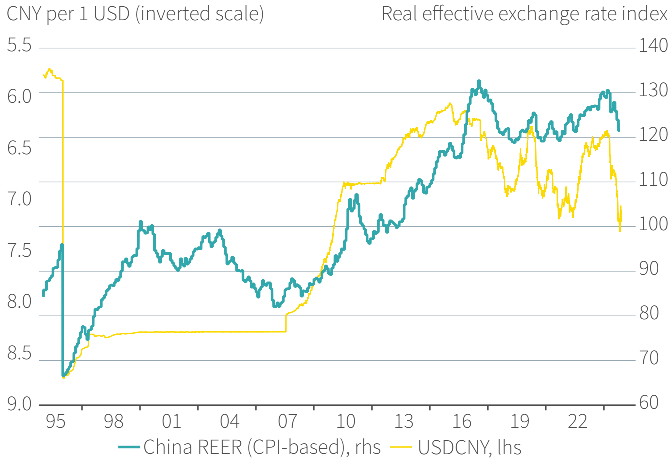
China's bigger ambitions take a backseat in The Year of the Rabbit

Figure 82. **Decline in FDI and portfolio flows offset export surge**



Source: CCS, SAFE; Aviva Investors, Macrobond as at 29 November 2022

Figure 83. **Strong in real, trade-weighted terms**



Source: IMF, Bloomberg, Aviva Investors, Macrobond, as at 29 November 2022

Australia: shaky foundations?

- **Growth set to slow on back of higher interest rates**
- **Household spending and housing investment the main drivers of slowdown, with risks of significant house price declines**
- **Rising wage growth and above-target inflation to keep the RBA in tightening mode in the first part of 2023**

Like most developed economies this year, Australia has experienced a rapid economic recovery from COVID, resulting in excess demand for goods and services – with a labour market that has not been able to respond to meet that demand – resulting in rising wage pressures and high inflation. That has led the RBA to raise rates rapidly to over 3 per cent, with further rate hikes expected in the coming months. The rapid recovery in activity was supported by the significant savings buffer built by households over the course of the pandemic, and further boosted by the significant positive terms of trade shock coming from higher energy and other commodity prices. The effect of the rapid tightening in monetary policy is already being felt through the economy. While businesses have seen good trading conditions through to Q4, they are more pessimistic about the outlook when viewed through their sentiment scores (Figure 84).

Economic conditions are strong currently, but are likely to slow materially in 2023

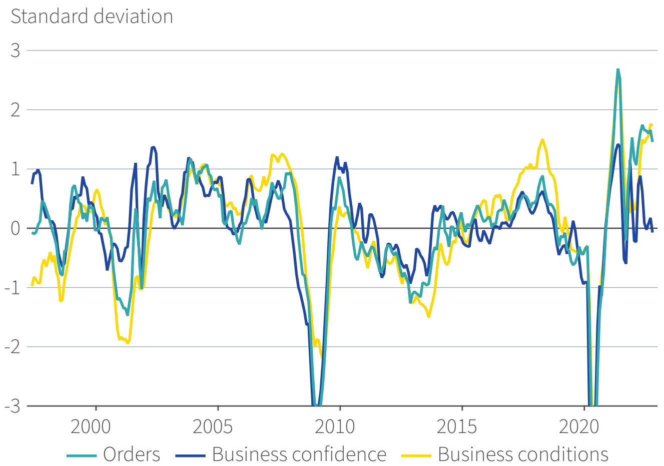
However, it is the highly leveraged housing market that is likely to feel the impact of higher rates the most. Australian households have one of the highest debt-to-income ratios in the world, reflecting a housing market that has exhibited an astonishing increase in prices over the years, financed by ever larger mortgages. Fixed rate mortgage products have become far more popular in recent years, but these are generally short-term and will largely reset to floating (or new fixed) rates over the next 18 months. That is likely to result in a significant increase in mortgage debt servicing costs, which are likely to rise to around 12-14 per cent of disposable income, up from around 5 per cent at the start of 2022. While that should not be sufficient to create a wave of defaults, it will no doubt dissuade the marginal (first-time) buyer and likely impact house prices. Prices have already fallen by around 7 per cent in the major capital cities and could fall another 10-15 per cent over the year ahead (Figure 85).

The housing market is a key downside risk to the outlook...

Looking ahead, we expect growth to slow through 2023 as the headwinds to household consumption and housing investment coming from higher interest rates and lower house prices weigh on growth. Consumer sentiment measures are as low as at any time since the 1990s recession. However, there are important mitigating factors that should limit the decline. First, there remains an extensive savings buffer in Australia that can be drawn down. Second,

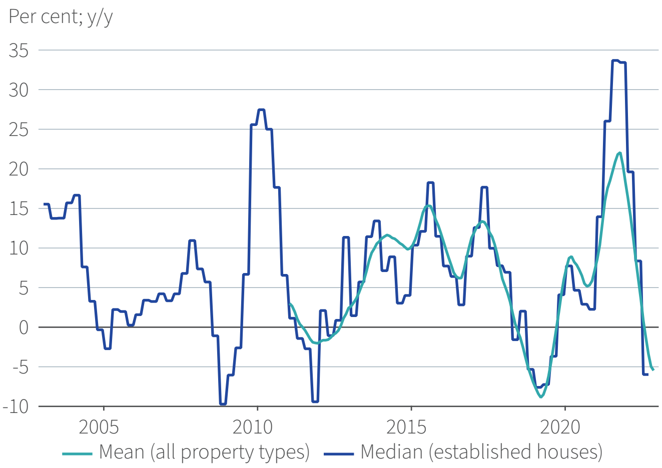
...but a tight labour market will likely put further upward pressures on wage growth

Figure 84. **Business conditions and confidence**
Activity is expected to slow in 2023



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 85. **House price inflation in major cities**
Sydney and Melbourne have already seen prices fall



Source: Aviva Investors, Macrobond as at 29 November 2022

the labour market remains tight, and we expect wage growth (which has lagged other major economies) to continue rising through 2023 (Figure 86). Unlike many other major economies, Australia has not seen a decline in participation. Indeed, it is currently at a record high. However, net migration (a key driver of growth in Australia) slowed to nothing in the pandemic and is only slowly rising again. It may take some of the pressure off the labour market, but we think the risks remain to the upside for wage growth. Recent legislative changes around the role of collective bargaining may add further upward pressure on wage growth, particularly for the service sector.

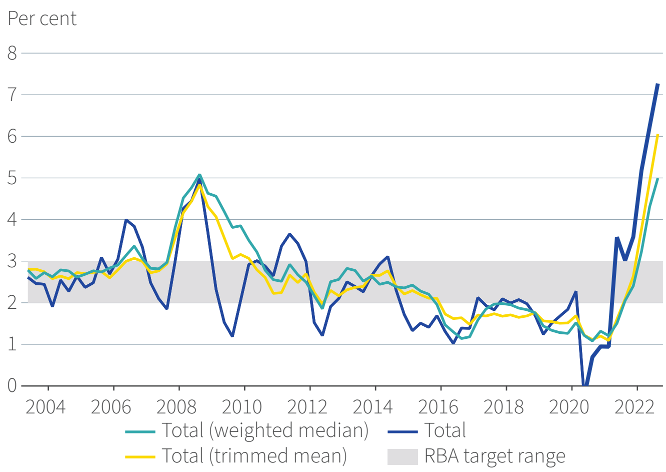
Inflation has risen to a multi-decade high (Figure 87), with core measures such as the trimmed-mean showing the breadth of increase. Timely business survey measures, such as the NAB survey, suggest that businesses continue to feel they have pricing power, while labour costs remain high. That said, we expect inflation will ease back through 2023 as tradeable goods price inflation slows, alongside energy and food. But we expect it to remain above the RBA's target band of 2-3 per cent throughout 2023. We think the RBA will raise rates further in Q1, with a likely peak of 3.6 per cent.

We anticipate more rate hikes from the RBA, but they are likely approaching the end of the hiking cycle

Figure 86. **Wage growth**
Likely to move up to 4 per cent during 2023

Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 87. **CPI inflation**
Inflation expected to peak in Q4, but only return to the target band slowly



Source: Aviva Investors, Macrobond as at 29 November 2022

Canada: close to policy rate peak

2022 saw the Bank of Canada (BoC) raise the policy rate from the zero lower bound to above neutral in a matter of months, the full impact of which will be most acutely felt throughout 2023. As elsewhere, inflation has broadened (Figure 88), and the tight labour market and elevated inflation expectations have heightened risks of inflation persistence and second round effects. Structural vulnerabilities within the housing market have also left the economy highly sensitive to interest rates and will be an important factor in determining the pace and magnitude of policy rate changes relative to other economies.

Excess savings (accumulated during COVID), tighter labour markets and an unsustainable housing boom have left the economy with excess demand. Despite some easing from its June 8.1 per cent high, mainly due to lower energy prices, headline CPI remains elevated at 6.9 per cent. The BoC's October trimmed mean (5.3 per cent) and median (4.8 per cent) measures are both still far above target, implying that strong domestic demand growth is an important part of the inflation story. Whilst headline inflation may have peaked, core measures have yet to show any meaningful decline. The last two monthly CPI prints for 2022 will be important in establishing whether there is a declining trend in core inflation.

Three-quarters of the CPI basket now has an inflation rate above 2 per cent

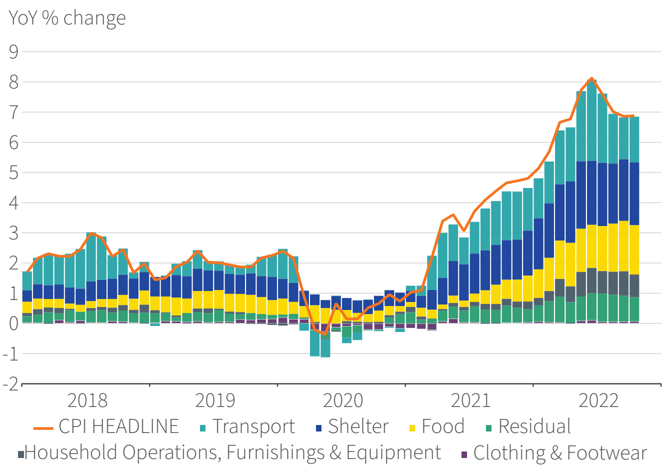
After the financial crisis of 2008, Canadian households and businesses did not experience a balance sheet recession to the same degree as other major economies. Avoiding such deleveraging has allowed Canada's household debt-to-GDP ratio to steadily build, uninterrupted, over the past two decades. Fiscal stimulus and low rates have seen household leverage rise even further in recent years. This increase has been concurrent with a sharp appreciation in house prices (Figure 89).

The housing market in Canada has become overheated

The COVID-19 pandemic resulted in an extremely large build-up of savings for Canada (Figure 90), with involuntary savings, fiscal stimulus measures, low rates and a financial market rebound all contributing. Greater wealth and depressed rates have helped finance a housing boom, which has encouraged many people to re-mortgage (predominantly at variable rates). The majority of those have tended to be less financially secure, for whom mortgage payments represent a large proportion of their disposable incomes.

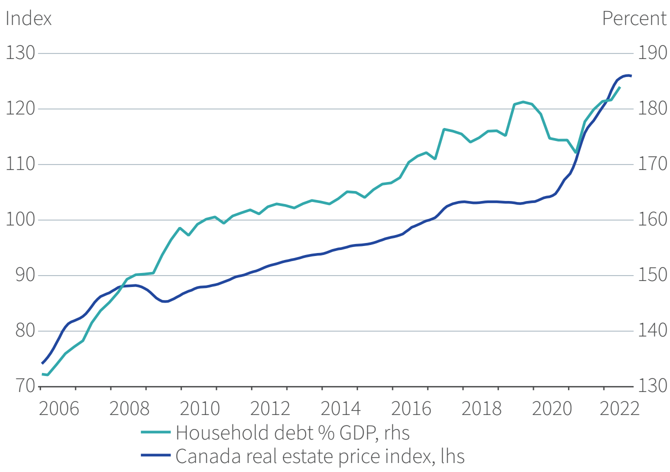
Approximately 40 per cent of mortgages are adjustable-rates (variable or renewed within the year). This high proportion and the balance sheet weakness of many borrowers, leave both the Canadian housing market and the wider economy vulnerable. A significant fall in house prices would have spill over effects that would significantly weigh on domestic demand. This high sensitivity to rates will likely result in a sharp decline in housing sector activity. Indeed, barely three months after moving into "restrictive" policy territory, this process has already begun; after rising by around 50 per cent between 2020 and early 2022, house prices have since declined by 10 per cent.

Figure 88. **Inflation has become more broad-based**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 89. **Household debt and real estate prices sharply accelerate**



Source: Aviva Investors, Macrobond as at 29 November 2022

There are now significant shortages of labour in Canada, with most of the BoC's labour market indicators at historic levels of tightness. Despite some softening in unemployment and participation rates, the labour market shows continued strength, with historic numbers of firms reporting intensive labour shortages. The tight labour market has boosted bargaining powers for workers, with annual wage growth now above 5 per cent for the past six months. If this is sustained, it will help protect the purchasing power of households, leading to more persistent, "stickier" inflation. In the October Business Outlook Survey, firms reported labour costs to be the single biggest source of pressure on their output price expectations, thus threatening second round inflationary effects.

Labour markets have become extremely tight

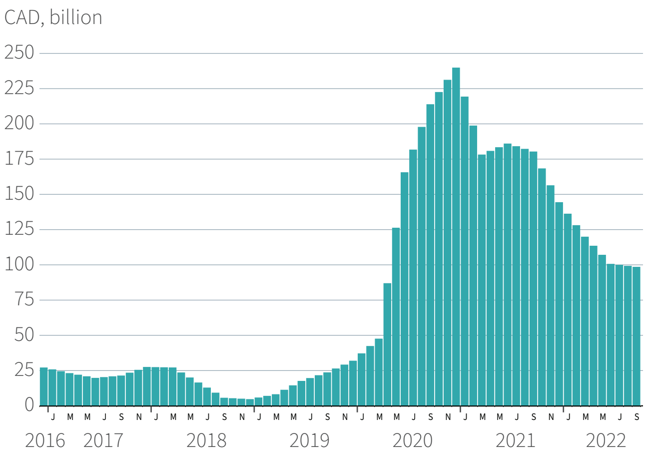
However, migration may provide a vital reprieve; the "2022-24 immigrations plan" is expected to add about 1 per cent to Canada's population, many of whom will be high skilled. This presents a positive impulse for both labour supply and may provide some spare capacity in the economy. Additionally, the large proportion of high skilled workers constitutes a positive demand impulse for residential real estate, softening the housing market downturn.

Has the BoC gone too far already?

The market appears to believe the BoC's credibility in the long term. However, given the illiquidity and small size of Canadian breakeven markets, more weight should be placed upon survey measures which are far less flattering (Figure 91). Elevated short-term expectations and persistently strong wage growth raise concerns about the de-anchoring of expectations and possible wage-price spirals. Such a reality has become a very material risk for the BoC with their most recent 50bp hike, which surprised markets to the upside, demonstrating their determination to prevent such an outcome.

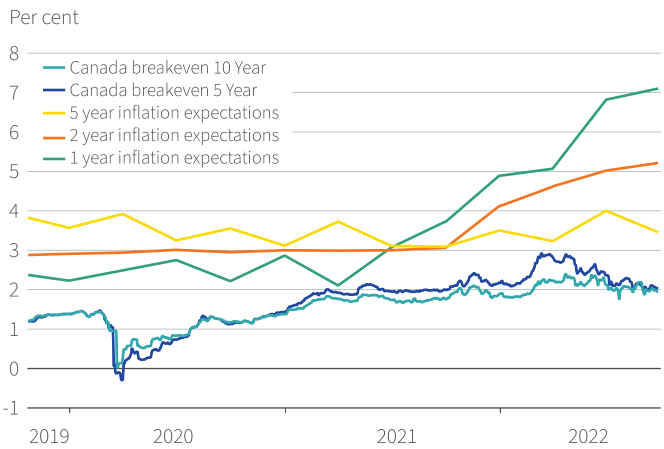
We believe that there will be a stronger slowdown and a higher probability of recession than the market predicts, with inflation back to target by the end of 2023. This view is primarily driven by the exposed housing market and aggressiveness of the BoC. Elevated commodity prices should continue to provide support to the currency. Domestic demand has already started to contract (-0.6 per cent qoq in Q3) as has the real estate sector. This implies that Canada is already feeling the effects of higher rates. However, one must always be cognisant that there are long and variable lags to full monetary transmission.

Figure 90. **Savings buffer is significant**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 91. **Consumers show less belief than market in the BoC's ability, especially in the near term**



Source: Aviva Investors, Macrobond as at 29 November 2022

Asia ex-Japan: thinner buffers, but a more balanced outlook

Going into 2023, Asian countries face an extension of the headwinds from 2022, albeit with less intensity. The region faced a triple whammy of shocks in 2022: higher inflation domestically, synchronised monetary tightening globally, and the spillovers from Russia's invasion of Ukraine, which, in Asia's case, were mostly felt through higher commodity and energy prices amid still-weak supply chains. And the persistence of China's zero-COVID policies throughout the year led to repeated lockdowns, sapping external demand. Asia will continue to face some of those headwinds in 2023. Recession in the US and in Europe are increasingly likely as tightening cycles mature, leaving Asia vulnerable as it is one of the EM regions most exposed to global growth and trade. But other risks are set to ease: China's reopening, a potential Fed pause and a maturing tech cycle could also give Asian economies (and central banks) some respite.

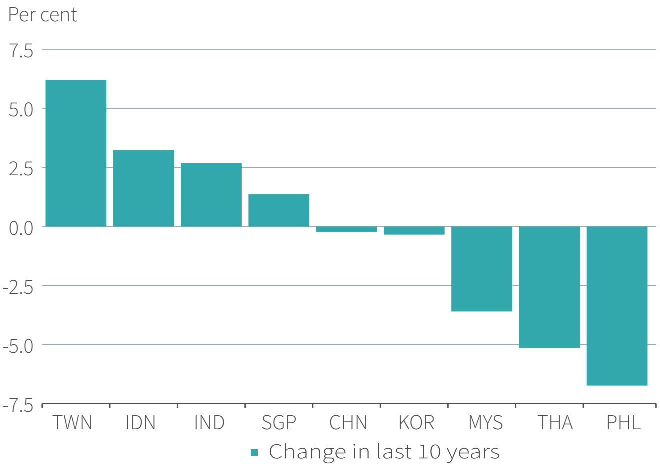
Asian economies head into 2023 with thinner buffers, but face a more balanced outlook than in 2022

Strong macro and financial buffers have helped insulate Asian economies, but tighter financial conditions globally will test them further. Having weathered the sharp rates of change in global interest rates, commodity prices and the dollar, Asia will still have to contend with key global macro variables staying at elevated levels in 2023. A widely expected pause in the Fed hiking cycle mid next year would still not ease financial conditions. A terminal Fed Funds rate at around 5 per cent, coupled with an aggressive unwinding of G3 central bank balance sheets would imply that 2023 could prove to be a challenging year for attracting capital flows not just for Asian low-yielders (Malaysia, Thailand), but also those with large twin deficits (India, Philippines). Oil prices have fallen sharply from their triple-digit highs earlier in the year, but they are still set to remain elevated in 2023, resulting in still-large import bills for Asia just as the region's current account deficits reach decade wides (Figure 92). This could make the continued use of foreign exchange reserves in defence of Asian currencies unsustainable, with most central banks likely to look to rebuild reserves (India, Philippines, Thailand).

A potential upside risk comes from a China reopening. Indications thus far are for a "two steps forward, one step backward" reopening in China, with the process set to be protracted and very gradual. Still, given the outsized impact China has on the region, even a back-loaded recovery in China can benefit Asian economies, as Chinese consumers unleash pent-up demand (mostly for services, but also some goods). Should China ease its border restrictions, an influx of Chinese tourists can prove beneficial to southeast Asian economies (Thailand, Malaysia, Philippines), helping to ease current account pressures. That said, there is a risk that China's reopening puts renewed pressures on commodity prices, delaying the envisioned disinflation across much of Asia next year.

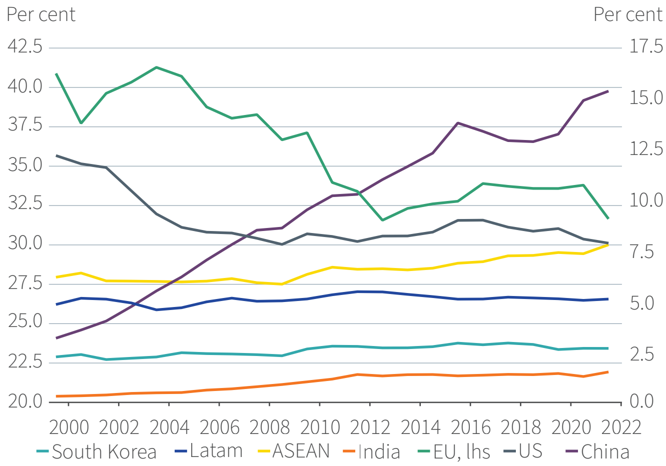
China's economic re-opening, while staggered and gradual, will still benefit Asian countries, especially should borders reopen and outbound tourism resume

Figure 92. **Asia: current account (per cent GDP)**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 93. **Asia: share of global trade (per cent of total)**



Source: Aviva Investors, Macrobond as at 29 November 2022

But slowing global growth and trade will likely dominate the outlook in H1 2023. The rotation away from goods towards services, coupled with tech's downcycle, led to a visible decline in Asian exports. China's reopening is unlikely to offset the impact from a slowing Eurozone economy (followed by the US), at least not in H1 2023. Moreover, the impact of slowing global growth on the electronics sector – which accounts for around 40 per cent of Asia's exports – will impact countries like Korea, Malaysia, Thailand and Taiwan. That said, even as Asian exports have declined, their share of global exports has continued to rise, suggesting some structural advantage over other exporting regions that could see a quick rebound when global conditions turn (Figure 93). Outside of electronics, exports have been more resilient, driven by a re-routing of supply chains away from China (ASEAN), robust FDI flows (Malaysia, Indonesia, Vietnam, India), and investments into export capacity and downstream processing of commodities (Indonesia, Malaysia).

A slowing Europe and a likely recession in the US will weigh on Asia's exports

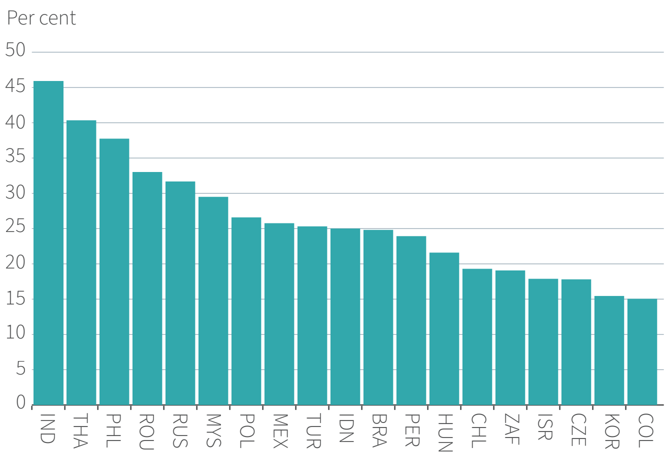
Inflation will remain a key theme in 2023, despite price pressures being less elevated than in other EM regions. Inflation dynamics have been largely driven by the impact of higher energy prices and weakening currencies, though this was mitigated in part by widespread energy subsidies. But as the fiscal cost of maintaining those subsidies mounts, countries have been relaxing regulated energy prices, especially electricity tariffs. As such, despite some signs that headline inflation is peaking, the disinflation process is likely to be slow as the lagged effects of higher tariffs and energy costs continue to be felt (Indonesia, Korea, Philippines). Meanwhile, food inflation remains concerning (Figure 94). Global food prices but also higher transport and storage costs along with logistics bottlenecks mean food inflation will continue making outsized contributions to overall inflation, especially in India, Philippines, Thailand and Malaysia. That said, the battle in some sense is an easier fight than in peers: core and headline inflation in Asia are closer to their targets than elsewhere in EM (Figure 95).

Inflation is close to peaking in the region, but the disinflation process is likely to be slow given higher fuel/electricity tariffs and still-high food prices

A Fed pivot could give Asian central banks some respite. Expectations are for the Fed's monetary cycle to peak by mid-2023, which will allow Asian central banks to prioritise the growth side of the growth-inflation trade-off, as some have already signalled. To a large extent, however, that will be conditional on the strength of the US dollar. While a stabilisation in the DXY could be enough to take the pressure off Asian currencies, there is a risk that the dollar remains strong so long as US growth continues to outpace growth in the rest of the world. That may very well be the case in H1 2023, which will prevent central banks from cutting rates before the Fed. Instead, they may opt to use interest rates to support currencies. Foreign exchange reserves have fallen significantly in Asia as many central banks opted to fight inflation by trying to ensure currency stability (Figure 96), but that is unlikely to be sustainable in 2023. Indeed, some central banks (Korea, Philippines) have explicitly tied rate hike decisions with the need to maintain interest rate differentials out of concern for currency weakness and for financial stability. But "higher-for-longer" interest rates could exacerbate financial vulnerabilities. Countries most at risk are those in which a rapid increase in domestic

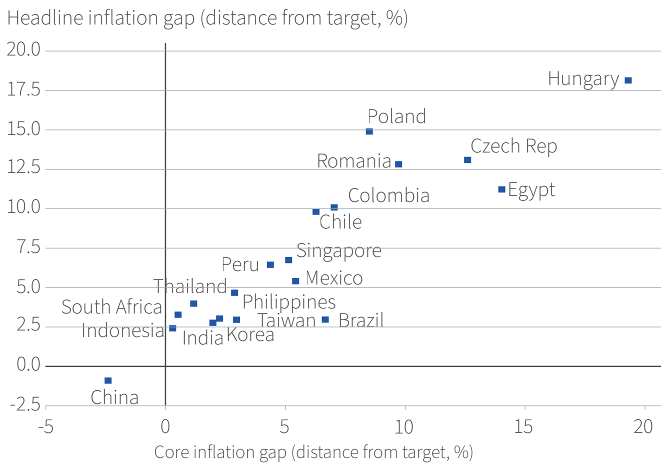
A pivot by the Fed would provide some respite to Asian central banks, though they are unlikely to cut before the Fed does given currency and reserve pressures

Figure 94. **EM: food weights in CPI (per cent of total)**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 95. **EM: Deviations of headline & core inflation from target (per cent)**



Source: Aviva Investors, Macrobond as at 29 November 2022

funding costs and tighter liquidity conditions have coincided with a sharp build-up of domestic leverage (Korea, China, and to a lesser extent, Thailand).

Despite facing common headwinds, the country-level outlook varies. Most exposed are South Korea and Taiwan, where weaker growth is expected as reduced external demand, especially for tech components, drags down manufacturing activity. In Korea, there is added pressure on domestic demand from tighter monetary policy, highly leveraged households, and a credit crunch in corporate lending markets that is yet to be fully resolved. Meanwhile, geopolitical risks will likely continue to weigh on Taiwan's economy and assets.

South Korea and Taiwan are most exposed to slowing global growth and trade

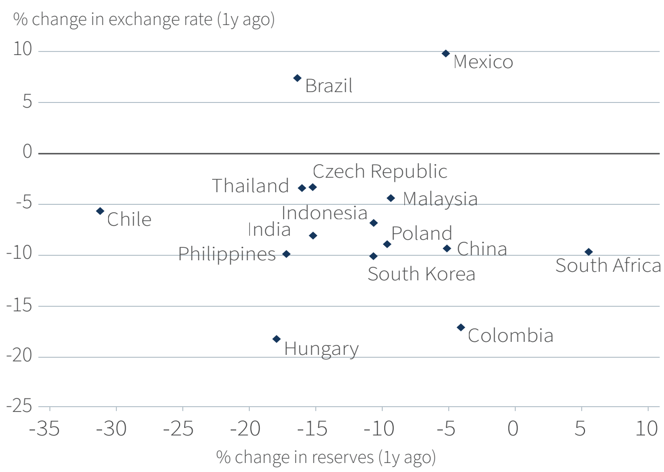
India and Indonesia have proved highly resilient and should post some of the fastest growth rates in EM next year (Figure 97). Both economies will face some drag from tighter monetary conditions, high inflation, weaker currencies and dampened external demand. In Indonesia, the surge in fuel prices as subsidies were relaxed will hold back domestic demand further. And in India, the economy's strong growth takes places against a backdrop of a wide current account deficit which tighter monetary policy has not managed to tame. Still, both economies are likely to outperform Asian peers in 2023. Indonesia's sound macro-fiscal framework will help bolster the large FDI flows into manufacturing capacity (e.g. EV batteries) and downstream commodity refining (copper, nickel, aluminium, tin). And in India, despite higher interest rates, a strong capex cycle is underway, driven by improved bank profitability and asset quality, increased FDI flows into the manufacturing sector (aided by government incentives), and higher capacity utilisation rates across industries.

India and Indonesia have been among the most resilient Asian economies and will likely post the fastest growth rates in EM

In southeast Asia, the economic recovery continues to be driven by resilient domestic demand, with the region particularly benefiting from a reopening of services. Countries like Thailand, Malaysia and Singapore were able to take advantage of the global easing of mobility constraints across borders and have enjoyed a strong rebound in tourism. A strong services sector performance has also been notable in the Philippines. Helping these economies is the fact that they loosened domestic COVID restrictions relatively later than other Asian peers, meaning the reopening dynamics will continue to drive growth into 2023 as well. That said, the sensitivity to commodity prices remains a risk (Thailand, Philippines), particularly for inflation and the balance of payments should oil prices surprise to the upside in 2023.

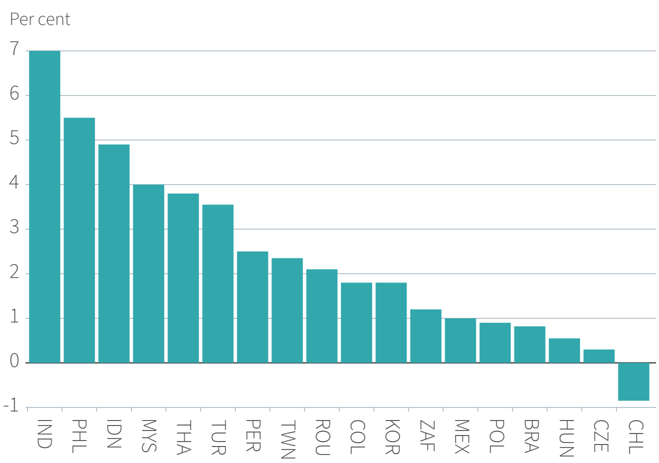
Southeast Asia will continue to enjoy a domestic demand-led recovery, but will remain sensitive to external conditions

Figure 96. **EM: International reserves vs currencies**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 97. **EM: Consensus growth forecasts 2023 (per cent)**



Source: Aviva Investors, Macrobond as at 29 November 2022

Latin America: resilience meets reality

Latin America remains vulnerable to external conditions. In 2022, that was a mixed blessing. Tightening global financial conditions were offset by supportive terms of trade, which lent more resilience to Latin American economies than was initially expected. Central banks across the board continued their fight against inflation, raising rates in many cases to restrictive levels. Despite that, growth outturns were impressive, with most countries in the region surpassing their pre-pandemic levels of GDP even as fiscal support was withdrawn (Figure 98).

However, 2023 will pose a different set of external challenges. While there are nascent signs that global inflation pressure may be abating, the length of the Fed's hiking cycle and the magnitude of a potential US recession will have an important bearing on the region. The region is relatively more advanced than other EM regions in its hiking cycle (Figure 99), with wider rate differentials – and, in some cases, relatively more sound macro fundamentals – allowing it to benefit from any improvement in global sentiment. Mexico and Brazil, with advanced monetary cycles and low external risks can do well in this environment (notwithstanding Brazil's higher fiscal risks). But the region remains exposed to the US economy (likely fall into recession), which, coupled with the lagged effects of tight monetary policy, means growth rates are set to slow across the board. And interest rates are likely to remain higher for longer, pushing the relief from monetary easing into the latter part of 2023. An economic recovery in China might offset some of those headwinds especially by helping boost Latam's terms of trade (Figure 100), but the reopening process is likely to be gradual and staggered.

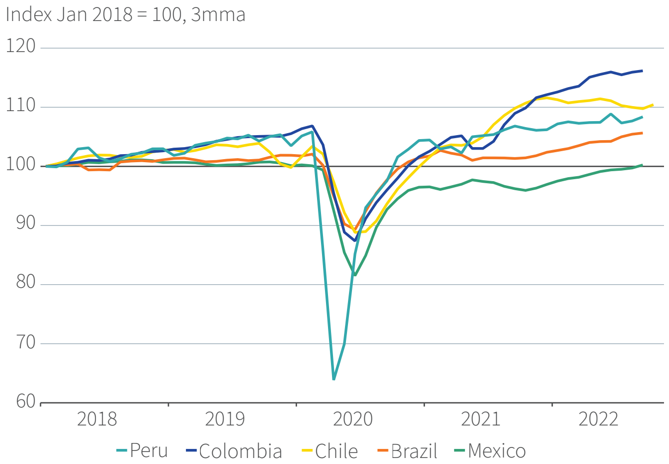
While fiscal policy has generally worked with monetary policy in 2022 to advance policy goals, fiscal risks need to be monitored closely in 2023. As growth slows and monetary policy stays tight, there may be an increasing temptation by governments in the region to use fiscal policy to support growth and fulfil campaign pledges. This could become problematic if the uncertain outlook over the Fed's tightening cycle and probable US recession may constrain the availability of traditional external funding sources for EM and Latam at a time when wider fiscal deficits are generally expected to lead to higher debt issuance, especially in countries with large current account deficits (Chile, Colombia). Weaker balance of payments positions will increase vulnerabilities to tighter financial conditions and still-fragile capital flows (Figure 101).

Favourable terms of trade in 2022 helped offset the impact of tightening financial conditions on Latin American economies…

…but a potential US recession, high levels of interest rates globally, and weaker commodity prices will pose a different set of challenges in 2023

Fiscal risks will need to be monitored in 2023 as the pressure to increase spending coincides with still-high domestic inflation and tighter financial conditions globally

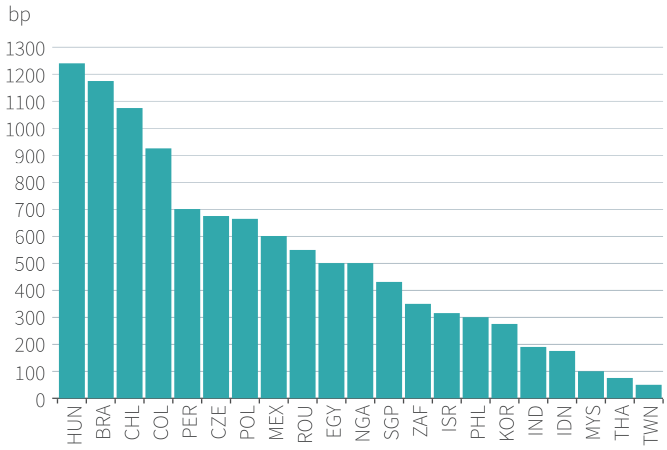
Figure 98. **Monthly indicators of activity**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 99. **EM policy rates**

Rate hikes since 2020 lows (bp)



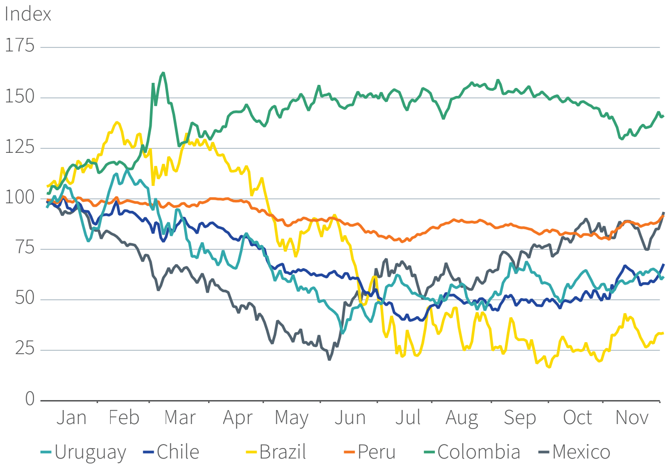
Source: Aviva Investors, Macrobond as at 29 November 2022

Meanwhile, politics will continue to be a key driver of the outlook for the region. We are still in the midst of a long political cycle in Latin America. Elections in 2021-22 in Colombia, Peru, Chile and Brazil delivered to power left-leaning candidates that were able to capitalise on a strong undercurrent expressing a desire for change on the back of perceived and real social grievances and economic inequalities. New administrations have pledged to spend more on social programmes and on much-needed public services like health, education and pensions which are at the core of public discontent. In a broader sense, social contracts in the region are under pressure, and the outcomes from what are likely to be long and complicated processes to redefine them will have important implications for growth models and fiscal policies. Investors will be keenly watching evolving debates on pensions reforms (Colombia, Chile), constitutional changes (Peru, Chile), and fiscal rules and anchors (Colombia, Brazil, Chile). Regional elections in Colombia, and general elections in Argentina and Mexico over the course of 2023-24 mean the shift in the political landscape that is underway is not yet over.

Latin America remains in the midst of a long political cycle where the desire for change is changing the political landscape and triggering debates over the trajectory of social contracts

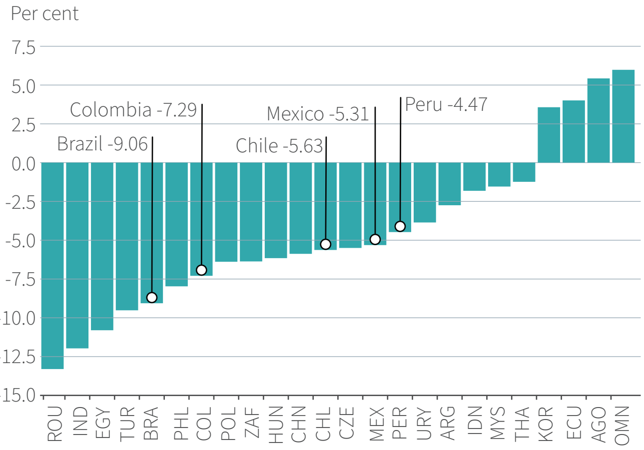
In Central America and the Caribbean, political stability and fiscal prudence have paid off. Market access will be critical next year, to limit further drawdown in external buffers. Costa Rica, Paraguay and Dominican Republic will be among the few high yielders that should be able to access the market, a reward for fiscal prudence. A sharper than anticipated recession in the US will leave these countries particularly exposed to a drop off in remittances and tourist flows. In contrast, in Ecuador windfall oil revenues have failed to translate into higher growth and political stability. President Lasso continues to wage a political battle against the leftist opposition, with extremely low levels of public support. While elections are still two years away, fears are growing that a left-leaning government may come into power and unwind Lasso's pro-market policies. Argentina's economic crisis continues to deepen, as political infighting and heterodox economic policies have compounded a precarious situation. Elections are due in late 2023 and could see a return to orthodoxy as frustration with populism appears to be growing.

Figure 100. **Terms of trade 2022**
(Rebased 1 Jan 2022 = 100)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 101. **Latam vs EM: Twin deficits**
(Current Account + Fiscal Balance, 2023 forecast, per cent of GDP)



Source: Aviva Investors, Macrobond as at 29 November 2022

Central Europe, Middle East, and Africa: at the mercy (and benefit) of geopolitics

CEEMEA stands out as one of the EM regions that has been most affected by Russia's invasion of Ukraine in 2022. The split of countries in this region between oil importers and exporters and along lines of physical proximity to the front lines means they have experienced the ramifications of the conflict differently, and the outlook for the region therefore varies widely (Figure 102).

Russia's invasion of Ukraine has bifurcated the outlook for CEEMEA with commodity exporters and importers faring differently in 2023

In Central and Eastern Europe (CEE), the conflict has hit economies hard, and the outlook for 2023 entails large policy challenges. The most direct impact has come through energy prices, which have pushed current account balances into large deficits, putting pressure on currencies and reserves and aggravating inflation (Figure 103). Growth is set to slow in 2023, as domestic demand is dragged lower from tighter monetary policy while external demand sees headwinds from slowing global (and especially Eurozone) growth and trade. More broadly, however, CEE countries are in the unenviable position of potentially having to rethink their growth models, largely centred on access to cheap Russian energy, to plug into European supply chains. Macroeconomic fundamentals are under pressure, but not at breaking point, which will give some breathing room, but the macro and geopolitical risks leave CEE looking like one of the most vulnerable blocks in EM.

The CEE region is one of the most impacted among EM given that it faces large domestic and external imbalances just as its traditional growth model comes under scrutiny

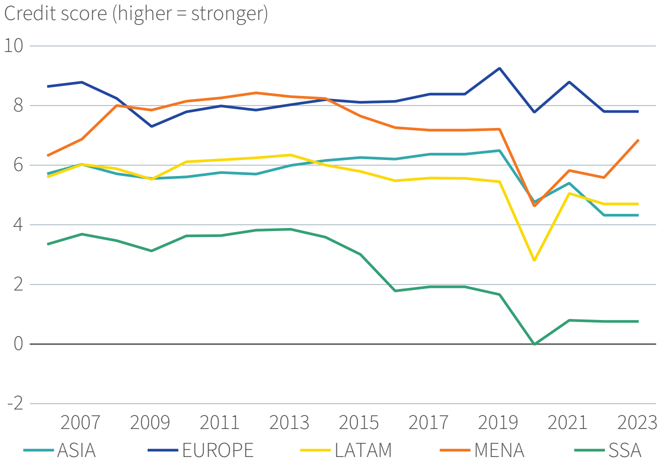
In contrast, the Gulf Corporation Council (GCC's) fortunes have improved dramatically on the back of higher oil prices, running sizeable twin surpluses in 2022. While growth is expected to slow next year, as oil production likely falls on weaker demand, twin surpluses should support a further reduction in debt and a build-up of foreign exchange reserves. However, not all oil producers have benefitted. In Sub-Saharan Africa (SSA), production challenges, oil theft and subsidies have left Nigeria in a worse position.

The GCC has seen significant improvement in credit metrics as a result of higher oil prices

The fight against inflation in CEE is not over. Imported energy and food inflation have coincided with tight labour markets and robust domestic demand, pushing inflation into double-digit territory across the board. Monetary policy has been reactive, though with varying degrees of efficacy. Despite core inflation remaining high and expectations of convergence to target being pushed out into 2024, central banks in CEE-4 have signalled that they are at or near the end of their hiking cycles, as policy makers especially in Poland and Czech Republic turn their attention to slowing growth. In Hungary, acute FX weakness driven in part by idiosyncratic risks has forced a tighter and more flexible policy stance. And Romania is likely to keep hiking into 2023, though it is also near the end of its cycle.

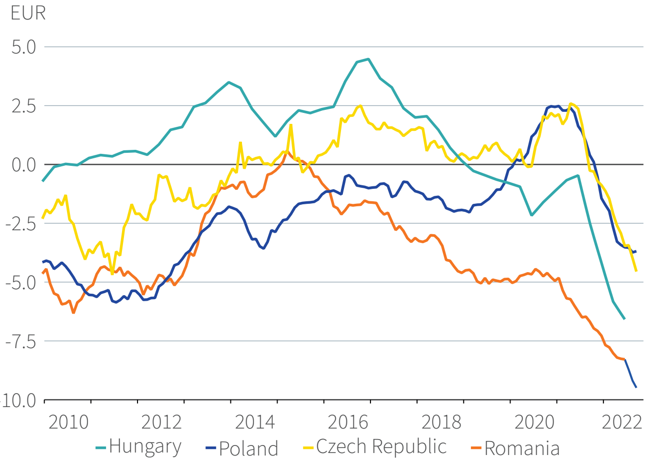
High real rates will be required in CEE to correct large domestic and external imbalances. Continued access to EU funds will be important during the adjustment phase

Figure 102. **Credit trends**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 103. **CEE 4: current account balances**
(per cent GDP, 12m rolling)



Source: Aviva Investors, Macrobond as at 29 November 2022

Still, CEE real policy rates remain among the lowest in EM on a forward-looking basis, and too low relative to the wide twin fiscal and current account deficits expected in 2023 (Figure 104). There is some scope, however, for policy divergence. In the Czech Republic, Hungary and Romania, monetary and fiscal policies are set to work together in 2023 to reduce domestic and external imbalances. This is in contrast to Poland, where monetary policy still seems too loose, especially with the fiscal deficit set to widen in a pre-election year. In that context, access to EU funding will remain a key factor to watch. This is less of a risk for Romania and Czech Republic, but increasingly of concern in Poland and Hungary.

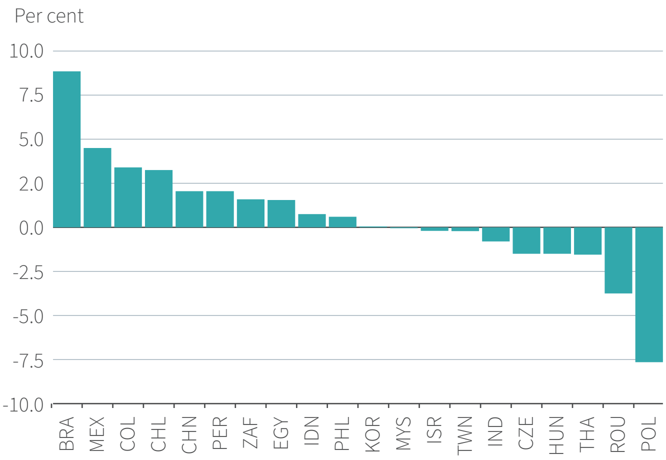
South Africa's fundamental outlook has improved, but near-term political risks have increased as President Ramaphosa's political future hangs in the balance. At risk is South Africa's reform agenda, which underpins a more benign outlook. Judicious use of revenue over-runs, hawkish monetary policy and relatively benign inflation have meant that South Africa has managed to avoid some of the difficulties its EM peers faced. But growth remains very weak and constrained by load shedding and social unrest.

An improved fundamental outlook in South Africa is increasingly coming up against volatile politics, putting the reform agenda at risk

More broadly on the continent, Africa will face another deeply challenging year in 2023. What happens to FX reserves will be a key theme again next year to determine which countries are potential default candidates in 2024 (Figure 105). We will be closely monitoring Egypt and Kenya, both of which have large funding requirements and would normally rely heavily on market access. At this stage, we are not convinced that IMF programmes are sufficient to restore market access, and both countries will need to do more work to consolidate public finances and rein in current account deficits, if market access is to be restored. Having defaulted on local-currency debt, Ghana is expected to default on external debt in coming weeks, with reserves having fallen to critical levels and debt-to-GDP likely above 100 per cent. How quickly Ghana's debt is restructured, and the type of haircut inflicted on investors, will set the tone for future restructurings. Nigeria's election in February 2023 will be the most closely watched on the continent. The victory of Bola Tinubu, of the ruling APC, would bring continuity at a time when Nigeria needs proactive economic policies to boost stagnant growth. The West African states of Ivory Coast, Senegal and Benin should remain among SSA's fastest growing countries, and best placed to weather the global slowdown.

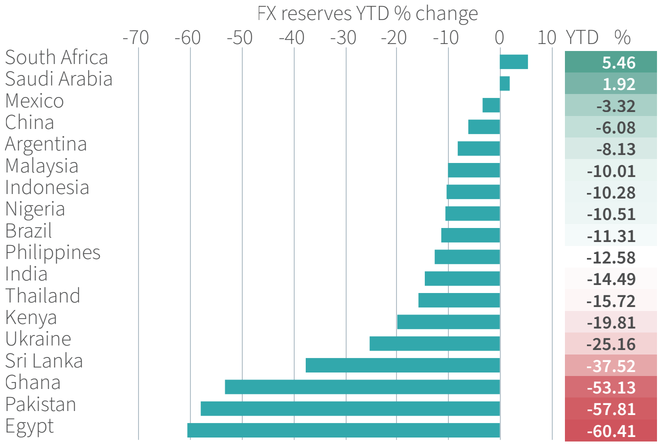
Restoring market access for non-distressed HY will be key to maintaining FX reserves

Figure 104. **EM: Real (ex-ante) policy rates**
(using 2023 CPI consensus expectations)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 105. **FX reserves**
Reserves in USD



Source: National Central Banks as at 29 November 2022

Market Outlook

DM equity: the tail wagging the dog

While 2020 and 2021 were centred around the tail risk event of the COVID-19 pandemic, in 2022 the focus shifted to the second order effects of those unprecedented fiscal and monetary policies. Supply chain bottlenecks, rampant inflation and major tightening across central banks were compounded by rising energy costs and threats of shortages as result of the ongoing war between Russia and Ukraine.

Second order effects of the pandemic reverberated through global equity markets

In that context, within equities most regions (Figure 106) and sectors (Figure 107) struggled from a returns perspective, with the energy sector being the standout performer due to surging oil prices. Consumer discretionary names suffered as the sector grappled with major shifts in spending habits from consumers as a result of rising living costs as well as bloated inventory levels. The tech sector also faced headwinds with multiples coming under pressure from increased interest rate expectations.

In many ways however, the significant de-rating we saw in valuations was a case of the tail wagging the dog. Corporate fundamentals in aggregate remain strong, and we see a light at the end of the tunnel for many of the issues which weighed so heavily on valuations this year.

Corporate fundamentals remain resilient while valuation multiples contracted

The biggest difficulty we encountered in formulating our House View for Global Equities, is not if we will see a path to positive returns, but when. For now, our working assumption is borrowed from sage wisdom: “It will all be alright in the end, and if it's not alright, well then, it’s not the end.”

Supply chain challenges easing but unlikely to normalise soon

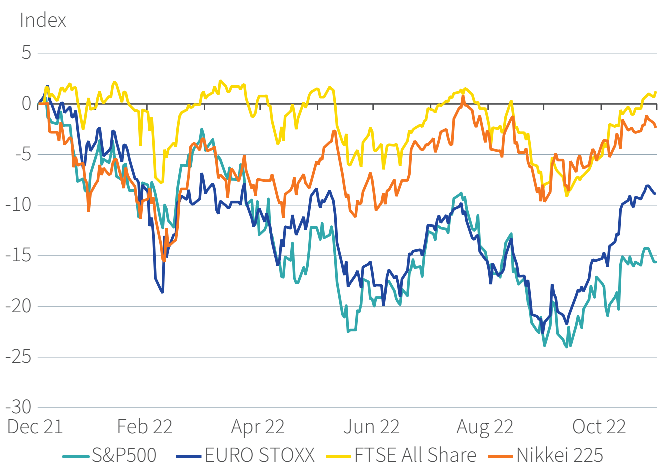
Supply shortages have been particularly acute in some industries, notably semiconductors (where demand for auto and industrial chips has surged with demand for electric vehicles and automation of industrial processes). Notably some companies have flagged some recent easing here but it’s clear these will still take time to normalise. Indeed, we don’t expect any significant normalisation until well into 2023. There are reasons for optimism though; in particular, recent announcements from China (such as easing of some COVID restrictions) will help and we are seeing factories ramp up production again which is welcome news for many global companies with significant manufacturing footprint in the region.

China reopening will alleviate pressure on supply chains

Reshoring a key element for future resilience

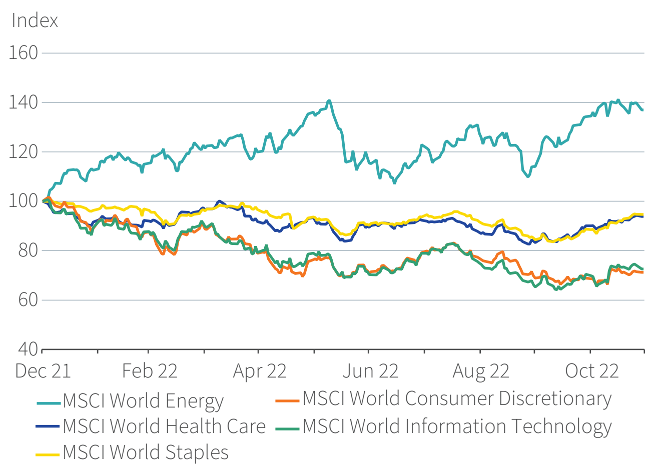
We think there are wider implications as a result of this unprecedented supply chain shortage. We are likely to see more industries look to reshore production facilities so they are able to better meet local demand (the recently announced CHIPS Act in the US has been a key driver for the semis industry). This will take time however and is likely to be inflationary in the longer term given higher production costs but will also mean these companies are better insulated against future external shocks.

Figure 106. **UK and Japan the most resilient in domestic currency**



Source: Bloomberg as at 29 November 2022

Figure 107. **Energy once again the outlier in 2022**



Source: Bloomberg as at 29 November 2022

Lessons learnt from prior crises

From a balance sheet perspective, companies are far better placed to deal with the current uncertain backdrop compared to the lead-up to the Global Financial Crisis (Figure 108). Corporate buyback activity has remained strong following a resurgence in 2021, which should continue to provide some cushion in terms of earnings. On the other hand, we have seen much more muted levels of M&A activity, which reflects some conservatism when it comes to deal-making. Given the rising cost of capital, business with lower capital intensity should be better placed to weather the storm and investors we think should focus on those where there is inherent resilience in the business model both from an underlying volume and pricing power standpoint.

Corporate balance sheets are well prepared to weather a downturn

Profitability likely to moderate before re-accelerating

Looking ahead, we expect earnings growth in 2023 to moderate from record profits in 2021 and 2022, before re-accelerating in 2024.

Margin normalisation will weigh on profitability

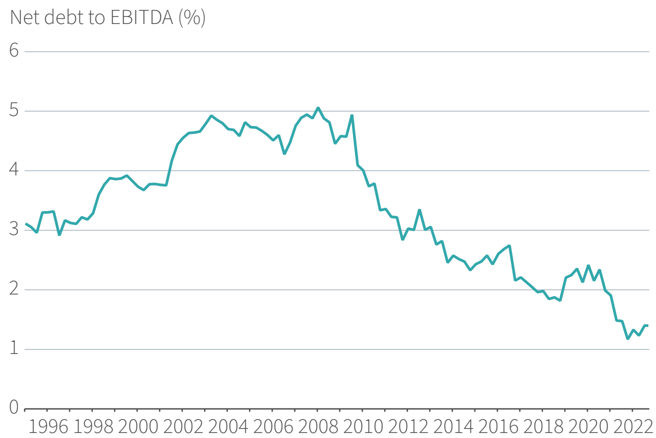
In a high inflationary environment, revenue growth is likely to stay strong (in nominal terms at least). Price growth rather than volume growth will support sales across most sectors continuing the trend we saw in 2022, although pricing fatigue will begin to test elasticities in demand going forward.

Corporate profitability will be more constrained as we see cost inflation, particularly wages and increasingly interest expenses, putting pressure on next year's earnings. From the starting point of record operating margins (Figure 109), companies will increasingly need to turn to cost-cutting measures to protect the bottom line. We've already seen numerous technology firms announce such measures, and we expect a broadening out of corporate austerity. As was the case in 2022, we expect companies with structurally higher margins and lower indebtedness to outperform, *ceteris paribus.*

So-called COVID beneficiaries faced a slowdown this year as the world (ex-China) reopened following successful roll-out of vaccines, and many companies wrote down their Russian assets when Vladimir Putin ordered troops into Ukraine. These "one-off" events have lowered the bar somewhat for earnings already, although their unpredictability means we are no more or less likely to see other tail risks emerge next year. As things stand, FX cross-currents will be a headwind to US-based businesses and a tailwind to their European and Japanese counterparts, especially the exporters of goods and services.

"One-off" events have lowered the bar somewhat already for earnings

Figure 108. **Balance sheets on much firmer footing since the GFC**



Source: Bloomberg as at 29 November 2022

Figure 109. **Operating margins above prior peaks**

Source: Bloomberg as at 29 November 2022

Diverging expectations bring opportunity

Consensus earnings expectations, as determined by aggregate sell-side analysts, are in our view too high. We believe the reasons are twofold; 1) analysts are anchoring expectations to current operating conditions and companies are still reporting robust results, even if many management teams are reluctant to give guidance for next year citing macro uncertainty, and 2) since the mid-1980s EPS expectations have been on average 6 per cent too optimistic, making our current scepticism the norm rather than the exception.

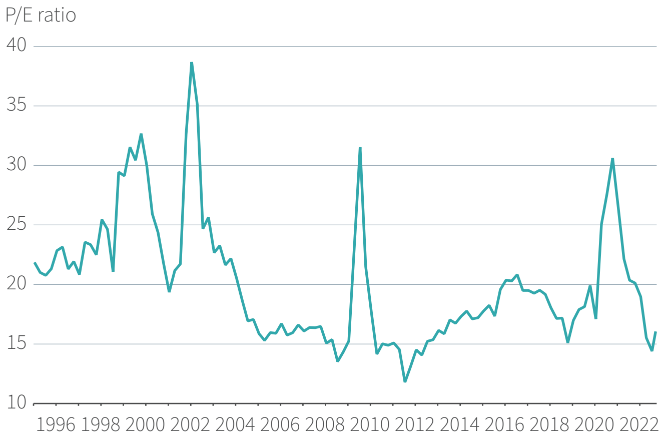
Expectations need to be adjusted, but not by how much current prices are implying

On the contrary, market expectations, as implied by valuations, are in our view too low. Since the peak in December 2021, Global Equity P/E multiples have de-rated 31 per cent to its low point in 2022 (Figure 110). Untangling causality between rising interest rates and deteriorating future earnings is difficult. However, compared to historic recessions, such a significant de-rating implies capitulation in profitability akin to the Great Financial Crisis and COVID-19 (Figure 111). While hawkish central banks are tightening financial conditions for consumers and corporates, in general both have shown more prudence in aggregate compared to previous cycles and should be better equipped to weather the storm.

Investors currently sitting on the side-lines (evidently a high percentage by historic standards) or waiting for more clarity on the trajectory of earnings, should consider both downside and upside risks. Continued hawkish central banks may yet prove to be too great a burden for markets too bear. However, we believe at current prices risks are skewed to the upside.

Investors need to be mindful of upside and downside risks

Figure 110. **Significant de-rating in equity multiples**



Source: Bloomberg as at 29 November 2022

Figure 111. **US Fwd EPS during past recessions**

	MSCI US 12m Fwd EPS		
Recession year	**Peak date**	**Trough date**	**Peak to trough move**
1990	Jan-91	May-91	-14%
2001	Aug-00	Nov-01	-23%
2008	Oct-08	Apr-09	-40%
2020	Mar-20	Sep-20	-15%
Average			-23%
Median			-19%
Current	At peak		

Source: JPMorgan, IBES as at 29 November 2022

EM equity: the China conundrum

More of the same in 2023?

2022 was another difficult year for Asia/EM equities, struggling again versus developed markets (Figure 112), and looking into 2023, many of the key drivers that weighed, such as higher rates, slower growth and the strong dollar, are persisting. Ongoing inflationary pressures, spurring further tightening will inevitably weigh on growth, sparing few economies, even if Asia/EM may end up faring mildly better thanks to an expectant recovery from China. But a key overarching macro question for Asia/EM is when might markets price a change in Fed policy and a corresponding peak in the dollar. Although a pivot was prematurely anticipated several times in 2H22, the Fed has clearly signalled its intentions. But the market will always try to pre-empt the inflection, given the influence US monetary policy has on Asia/EM, both directly and through its impact on domestic policy. Against this though is the impact from weaker growth in Asia/EM's trade partners, and the earnings headwinds this creates for local corporates.

Geopolitics too was a huge theme last year, with Asia/EM in the thick of it. The tragic Ukraine conflict has inflicted such a localised toll, while indirect consequences are being felt on food and energy globally. For the aggressor, Putin's actions have served to completely isolate corporate Russia, rendering holdings here to Western investors practically worthless – decent well-managed companies crippled, possibly terminally. And the conflict looks set to continue into 2023, with no better clarity now on a likely endgame. But the geopolitical gaze is now shared and shifting to the South China Sea, as Pelosi's visit to Taipei incited Beijing and questioned US's 'deliberate ambiguity' to foreign policy over Taiwan, the island over which China has long-claimed sovereignty. While any form of conflict here would genuinely be of global significance, further escalation will elevate the risk premia of localised financial assets.

To be bullish on Asia/EM, one needs to be bullish on China

It has been hard to keep China out of the headlines and rarely in a positive light: US trade wrangling pre-COVID rolled into the global pandemic, the subsequent divergent approaches to dealing with the disease (zero-COVID policy), and most recently the hardening of the PRC leadership and ideology. Add to this the spectre of a new cold war as the US approach to its 'strategic competition' with China broadens in scope, representing a step-up in the geopolitical tensions, with the future of Taiwan in the eye of the storm. Consequently, China has weighed heavily on Asian/EM equity performance (Figure 113).

China needs to end Zero-COVID...

The most prominent near-term consideration is when and how China's policymakers exit their 'zero-COVID' policy, an approach that has taken a significant toll; youth unemployment is at an alarming level, and the already distressed property sector teeters on the edge. Few doubt that the end of Zero-COVID is just a matter of timing – the status quo is simply not an option from both an economic or social perspective. China's leadership though has championed the policy citing low mortality rates, with President Xi at the forefront, particularly as the West

Figure 112. **EM equities vs DM equities**

Source: Bloomberg as at 29 November 2022

Figure 113. **China equities vs EM equities**

Source: Bloomberg as at 29 November 2022

succumbed at the early stages of the pandemic, but more latterly domestic support for the 'whack-a-mole' response to repeated and ever more transmissible COVID outbreaks is waning. Reputational aspects aside, there are challenges to any immediate wholesale shift: The winter flu season together with the peak Lunar New Year travel period would not be a sensible time to reopen, but of greater significance is the low vaccination and booster rates of the elderly (Figure 114) and the efficacy of domestic vaccines, which lag the more successful western mRNA equivalents. There are several domestic mRNA vaccines under development, but it will still take time to deploy. And finally, from President Xi's perspective, his head of state title will only be affirmed at the NPC in March 2023 (he was reappointed as General Secretary of the CCP and chair of the CCP Central Military Commission at the Party Congress). This is the third of the three key leadership positions of the party, military and state, so it seems unlikely policymakers will take significant risk prior to this event. Encouragingly there are signs that preparations for reopening are starting, and messaging of the disease has softened. Should the staged reopening come through at a quicker rate, the benefits to the economy, corporate earnings and the market would be tangible, especially given the extent of its decline and the investor de-risking that has occurred. But expect a bumpy journey.

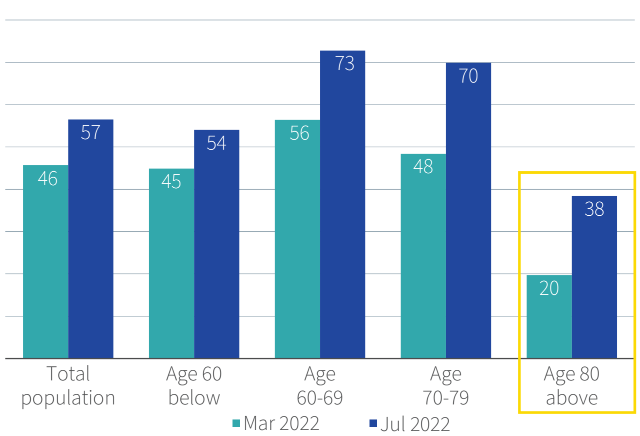
...but is China under Xi structurally less attractive now?

Beyond, the strategic outlook for China equities has though been complicated by the policy shift towards a more socially focused and less market-oriented agenda and a more forceful stance on foreign affairs. This has several implications. Firstly, earnings prospects risk becoming less certain, as evidenced by last year's widespread regulatory tightening coupled with continuing emphasis on socially focused themes, where (the more profitable) private sector has become subject of increased scrutiny (e.g. education, housing, communication/internet (Figure 115). Secondly, with the fear of increased tensions with the West, foreign capital into China may be less forthcoming; indeed there appears to be a growing trend of foreign (especially US) investors treating China separately. And thirdly, by-products of policy uncertainty, geopolitical risk and potential investor de-weighting point to higher risk premiums and lower China valuations.

India's divergent valuation suggest an expectation of divergent prospects

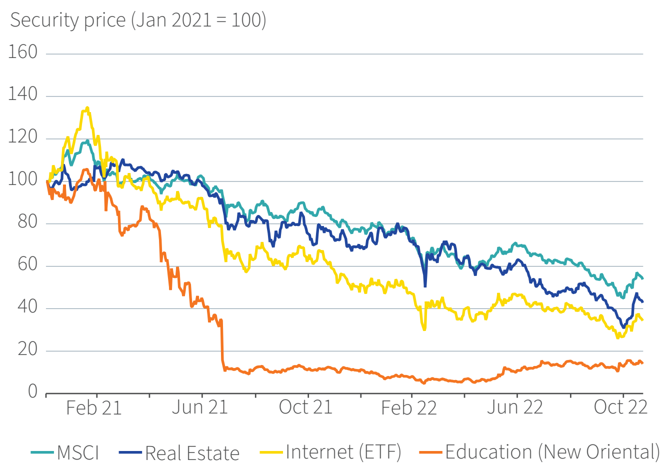
Suffice it to say, investor sentiment towards China is at an all-time low. The China market is, however, far from devoid of opportunity; the key is to focus more on sectors that appear either (1) aligned to the China policy agenda of national security, growth sustainability and common prosperity, and/or (2) partake in thematic growth areas such as tech self-sufficiency, supply chain security and in particular the green economy – many areas where China has industry leadership. Indeed, decarbonisation efforts in China will require trillions of dollars over the coming decades.

Figure 114. **China's Elderly – Vaccination/booster rates**



Source: China's National Health Commission, UBS

Figure 115. **China industries under regulatory scrutiny**

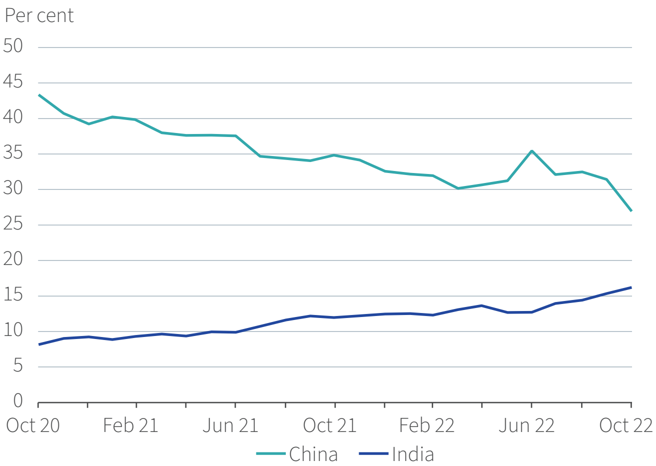


Source: Bloomberg as at 29 November 2022

China's struggles and the collapse of Russia have played favourably for many other Asia/EM markets during 2022, leading to a wide dispersion in terms of market performance. Amongst the major markets, the biggest beneficiary of the China risk-off movement and the elimination of Russia from EM indices has been India, largely insulated from the geopolitical tensions. Indeed, India's rise relative to China has been a notable feature over the last 18 months (Figure 116).

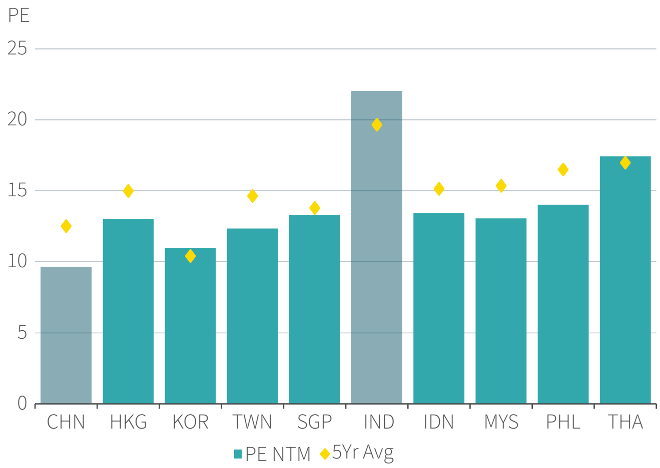
The flow of capital into India, galvanised by a compelling top-down domestic growth narrative that is not in full lockstep with the global economy, has triggered significant gains in many share prices and proven an excellent hiding place through the recent turmoil. A question for 2023 is whether the stocks can hold and build on their lofty valuations (Figure 117), which contrast significantly to their Asian counterparts, notably the more pro-cycle economies and, of course, China. An end to China's Zero-COVID, and/or a less pessimistic perspective on the global economic cycle may catalyse a mean reversion trade.

Figure 116. **China and India as per cent of MSCI Emerging Markets Index**



Source: Aviva Investors, Aladdin as at 29 November 2022

Figure 117. **Asia market valuations – India v China**



Source: Bloomberg as at 29 November 2022

Rates: a better environment in 2023

- **Higher terminal, but slower pace of tightening appropriate**
- **Inflation has probably peaked and should gradually moderate**
- **Curves to remain flat until rate cuts are imminent**

Overview

Global bond markets suffered unprecedented losses in 2022. But there is a silver lining: there is now finally some income to be earned and by historical standards we could be nearing a point where yields can help cushion some of the volatility. So, as we move into 2023, at the margin there is scope for the tide to begin to turn. The recovery will however be complicated and depend on the depth of growth and inflation slowdowns. Price pressures remain elevated, broad-based and the downslope is highly uncertain. This should see a higher dispersion in total returns among sovereigns as central banks and financial markets remain on heightened alert for continued signs of persistently high inflation. Fiscal policy, issuance plans and Quantitative Tightening (QT) will also be in focus meaning the fall in yields could be somewhat more challenged, and especially so in an environment of heightened volatility.

Yields should provide some cushion

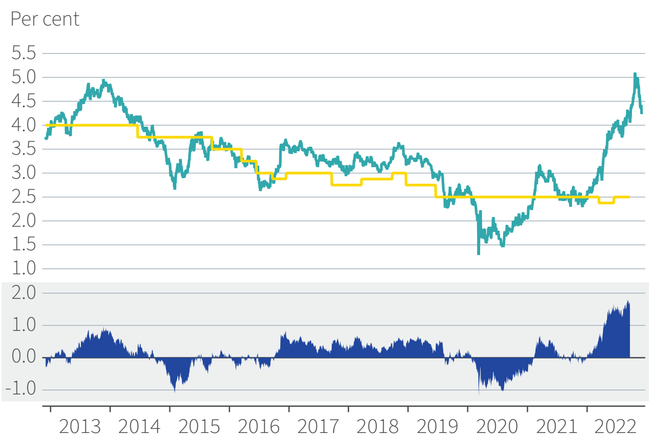
Regional breakdown

2022 was a complicated year for duration-linked assets in a world dominated by hawkish central banks and one-sided risks. Long-end yields have been closely linked to terminal rate pricing (Figure 118) and, at least for the first part of 2023, we believe that long-end yields will move lower versus that of front-end yields given the expected weakening in activity that underlines the unsustainability of a restrictive policy rate (Figure 119). However, the risk is that a higher terminal rate will flow through more than it "should" to long-term yields as well, especially if the inflation risk premium does begin to re-emerge.

For the moment, survey and market-based inflation expectations alike are still too high through the lens of the revised inflation mandate. The timing of any "dovish pivot" will need to be predicated on more convincing evidence that the path forward for inflation is lower. As such, considering what macro developments would trigger the FOMC to at least entertain the idea of cutting rates in 2023, one clear avenue to easing later in the year would be a significant overshoot on the unemployment rate. For now, the yield curve should stay flat, or even flatted further amid the dual impact of front-end yields staying elevated and the long end being dragged lower from policy and macro forces. However, as we see more sustained signs for an easing cycle to develop (Figure 120), holding steepeners (dependent on the probability of rate cuts escalating) would be a preferred investment strategy. Europe must grapple with a challenging policy environment as it faces high inflation and declining growth amid the

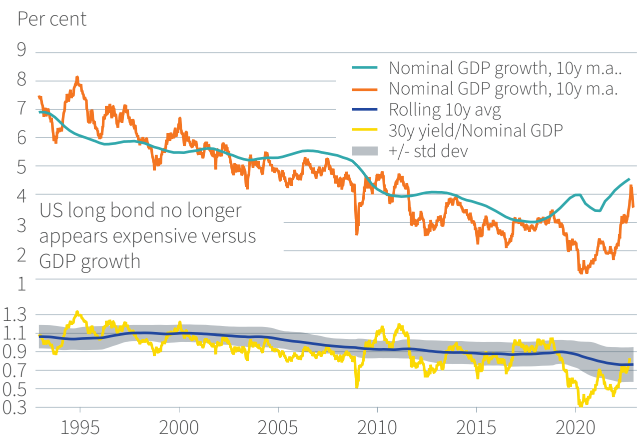
The bar to cutting rates is high

Figure 118. **US, long-run equilibrium policy rate and 10y10y rate expectations**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 119. **US, "Golden Rule" 30y yields**



Source: Aviva Investors, Macrobond as at 29 November 2022

ongoing impact of Russia's invasion of Ukraine. The war in Ukraine is a major risk for any European outlook. If we see any major escalation or, as we hope, a peaceful resolution, then our view would need to adjust accordingly, with much of the net impact dictated by energy prices.

Despite consensus forecasts calling for recession next year, we believe economic damage will be somewhat mitigated by fiscal support. Combined with signs of an uptick in nominal wage growth, we think the persistence of inflation will force the ECB to tighten by more than markets currently expect. QT is expected to begin in 2023 meaning that net bond supply should reach record levels. Overall, we think the ECB remains behind the US in terms of its policy cycle and consequently positioning for a strategic UST-Bund tightener remains attractive (Figure 121).

Europe faces a challenging policy environment

We expect European sovereign spreads to offer opportunities in 2023. They should be prevented from tightening significantly given structural drivers; potential for any hawkish surprise on QT parameters and EGB supply returning in size in the early new year. On the other hand, we expect the ECB will be cautious around the implementation of QT and the subsequent impact on periphery yields. However, as QT comes into focus next year and rate hikes maintain pressure on peripheral yields, tools such as the Transmission Protection Instrument (TPI) could become necessary at some point to avoid any unprecedented aggregate tightening in European financial conditions.

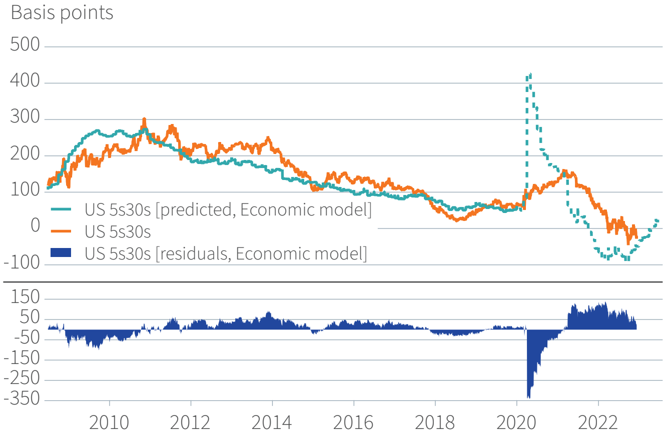
European sovereign spreads should offer opportunities in 2023

After a tumultuous year for UK rates, the focus for the market and the Bank of England (BOE) alike remains firmly on inflation. With inflation at levels not seen since the early 1980s (Figure 122), when interest rates were in double-digit territory, the move back to the BoE target is likely to be long and arduous and especially so with the backdrop of an exceptionally tight labour market.

Consequently, interest rates may have to stay above what is perceived as neutral for longer than markets currently expect. Meanwhile, the outlook for gilt supply in the UK points to much steeper curves and particularly so in the long and ultra-long end of the yield curve which remain historically expensive (Figure 123). With net issuance forecast to be the highest since the turn of the century, the demand for UK Gilts – especially from foreign investors – is likely to be subdued. Further to this, the BoE is also likely to continue unwinding its gilt portfolio via QT which could add further pressure to the upside in yields. Elsewhere, questions remain around the rich nature of shorter-dated gilts against their equivalents in swaps space, which has been driven largely by the need of many institutions to post gilts as collateral. Going forward, this could well see a change in dynamic in 2023.

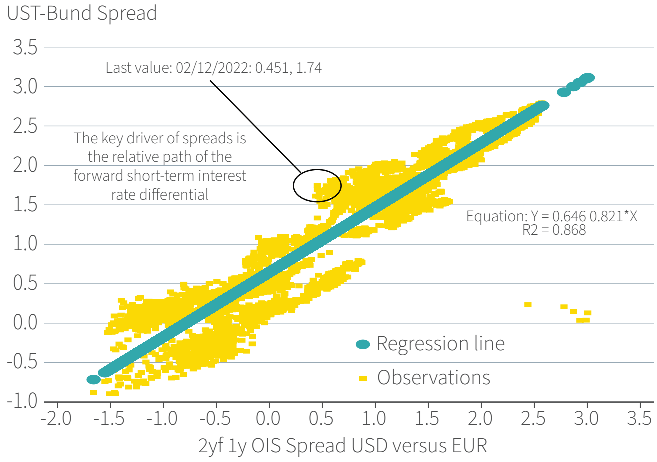
Net issuance forecast to be the highest since the turn of the century

Figure 120. **Easing cycle points to yield curve steepening in 2023**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 121. **US, UST-Bund and Forward Short Interest Rates**



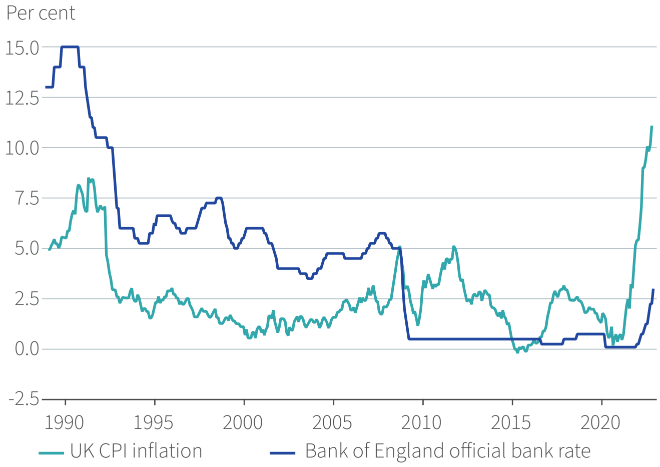
Source: Aviva Investors, Macrobond as at 29 November 2022

Summary: a different set of trials in 2023

With inflation beginning to peak amid weaker growth levels, yet with stubborn price pressures remaining, we expect central banks to keep monetary policy tighter for longer. A downshift to lower yields in 2023 will not come without its challenges. Further into the year, with prices easing and anaemic growth, the demand for sovereign bond yields could well increase. In the face of persistent inflation unnerving both central banks and financial markets, however, the path to arrive there is far from clear.

A downshift to lower yields in 2023 will not come without its challenges

Figure 122. **UK inflation at highest rate since the early 1990s**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 123. **UK, 30s50s yield spread**

Source: Aviva Investors, Macrobond as at 29 November 2022

Credit: cautious but cushioned by carry

Introduction

Rounding off a tumultuous year, we remain cautious into 2023 given the macroeconomic environment will continue deteriorating in terms of growth, unemployment and housing as the year progresses.

US inflation certainly shows signs of peaking, but we are wary of the market pricing an overly optimistic return to target. Despite energy prices rolling over and supply chain pressures easing, resilient labour markets and rising wages will prop up core and services inflation. Meanwhile, ongoing geopolitical uncertainty from the Russia/Ukraine war and China's potential COVID reopening leave risks on inflation skewed to the upside.

Resilient labour markets and rising wages will prop up core and services inflation

Credit markets have again embraced the narrative of the central bank put, which certainly carries more credence than July's episode. However, whilst the pace of hikes may slow, we see a 'higher for longer' regime as central banks seek to quell inflation for good and protect their credibility. We remain watchful for the consequences of the overwhelming scale of synchronised monetary tightening globally, which will materially impact growth.

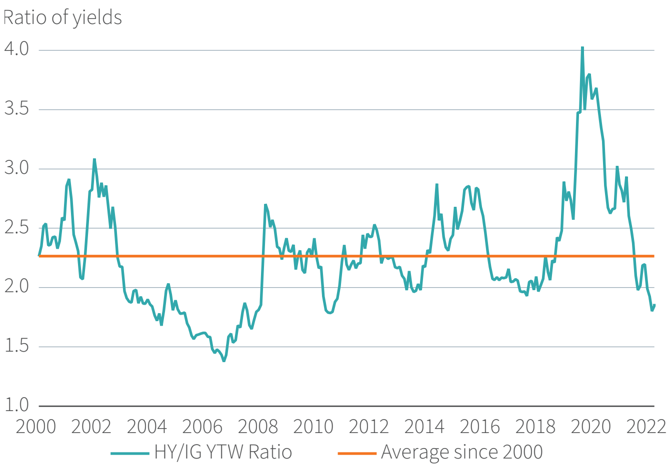
The pivot narrative alongside lower rates volatility has seen risk assets rally since mid-October. Whilst this has made valuations less compelling, we still think there is value in credit in the medium term. US IG yields are at 5 per cent versus an estimated S&P dividend yield of 1.76 per cent for 2023, a stark difference that should see renewed interest in the asset class. Having locked in higher yields throughout 2H22, we expect to benefit on a total return basis from materially higher breakevens even with significant spread widening. As the market's focus turns to slowing growth over rampant inflation, we also believe that IG looks more attractive versus HY, especially given the latter has benefitted greatly from a virtual lack of supply. Figure 124 shows that relative all-in yields between IG and HY are back to levels not seen since 2011.

US IG yields are at 5 per cent versus an estimated S&P dividend yield of 1.76 per cent for 2023

Fundamentally, we prefer financials over corporates into 2023. Against an uncertain macroeconomic backdrop, global banks are well positioned for upcoming pressures, which we feel is not reflected in relative spreads, shown in Figure 125. Revenues are supported by higher rates and volatility. Currently, this allows banks to control earnings allocation – retention to support regulatory capital requirements, provision build against future expected loan losses, and stakeholder distributions. This elicits an overweight allocation in credit. Risks are twofold. Firstly, pre-rate-rise stress testing of new lending may no longer apply in a higher rate regime. Secondly, unemployment, the historic driver of losses in recessions, may be more problematic in this downturn coming from a lower baseline.

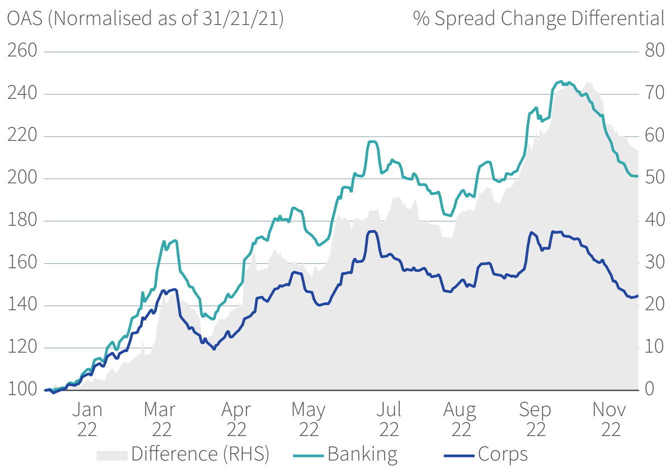
Against an uncertain macroeconomic backdrop, global banks are well positioned for upcoming pressures

Figure 124. **Global HY/IG Yield to Worst Ratio**



Source: Aviva Investors, Aladdin as at 29 November 2022

Figure 125. **Global Agg. Corps (ex Financial Institutions) versus Banking Sector**



Source: Aviva Investors, Aladdin as at 29 November 2022

Within corporates, we prefer higher quality names in more defensive sectors like Telecoms and Healthcare rather than Retail or Media. We expect corporates to come under both earnings and margin pressure, though higher borrowing costs and weaker macro should see prudent balance sheet management with companies already guiding for lower capex. Figure 126 shows not only wider spreads, but much greater dispersion, leaving us as sector allocators and stock selectors with a host of opportunities.

We expect corporates to come under both earnings and margin pressure

Looking at technicals, we expect more positive flows into the asset class in 2023 as spreads and all-in yields remain relatively attractive and risk-off sentiment should see flight to quality. An offsetting technical is quantitative tightening from major central banks, which has only really started to pick up pace into 4Q22. This should act as another catalyst for decompression as years of QE-influence is unwound.

High yield

We expect a volatile 2023 for global high yield. While 2022 has been focused on inflation and recession fears impacting valuations, we believe that focus will shift back to fundamentals.

Credit quality has peaked in 2022 with strong earnings from high yield issuers resulting in leverage ratios back to pre-COVID levels, strong interest coverage ratios and ample liquidity. However, issuers have been guiding for more challenging outlooks. As in IG, we expect slower EBITDA growth, margin pressures and higher funding costs to impact issuers' balance sheets next year.

In a more challenging fundamental environment, the default rate should start to pick up. However, we do not expect a very sharp increase in default rates, rather an upward reversion to reach the long-term average of 4.0 per cent in the US and 3.1 per cent in Europe, displayed in Figure 127.

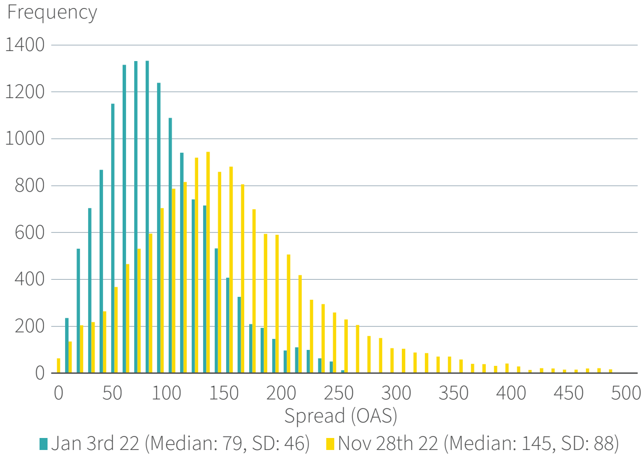
We do not expect a material increase in default rates, rather an upward revision towards the long-term average

As alluded to previously, 2022 saw historically low gross issuance, €25.3bn in Europe and $100bn in the US. Moreover, debt buybacks and tenders have seen a 9.2 per cent decrease in the size of the global high yield market. In 2023, issuance should increase if market conditions allow it. Bond exchange offers to extend maturities have been well received by investors and rating agencies. Use of proceeds should be concentrated in refinancing, and elevated borrowing costs will limit private equity funds to finance their LBOs in the current market conditions.

Issuers have been proactive in addressing their maturity profile in the last few years and disciplined regarding their financial policy, resulting in a high amount of liquidity, and a maturity wall pushed out to 2025. Less than $40bn and €10bn of single-B and CCC rated debt needs to be refinanced in the US and Europe in the next two years. Only 7.5 per cent of the distressed market matures before November 2024 (Figure 128).

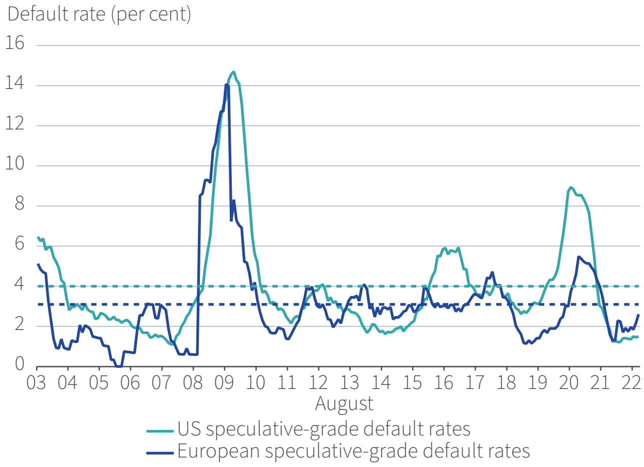
Issuers have been proactive in addressing their maturity profile…and disciplined regarding their financial policy

Figure 126. **Spread dispersion in Bloomberg Global Aggregate Index**



Note: Top and bottom 1% of spreads are clipped to remove outliers
Source: Aviva Investors, Aladdin as at 29 November 2022

Figure 127. **Speculative-grade default history**



Source: Aviva Investors, Moody's as at 31 October 2022

From a regional standpoint, we believe there are more exogenous risks in Europe such as geopolitical conflicts, sovereign risk, the energy crisis and inflation second round effects, that could continue to push spreads wider versus the US.

We expect spreads to widen from current levels in 2023 supporting the performance of higher rated issuers and non-cyclical sectors. Reverse Yankees (bonds issued by U.S. corporations in euros and sterling) continue to provide relative value opportunities. With asymmetric risk profile and higher default rates, we expect security selection to be the main driver of outperformance.

We expect spreads to widen from current levels in 2023 supporting the performance of higher rated issuers and non-cyclical sectors

ABS & covered bonds

In the context of higher interest rates and cost-of-living squeeze, UK asset-backed securities (ABS) arrears are expected to increase while house prices are likely to correct, retracing part of their post-pandemic appreciation.

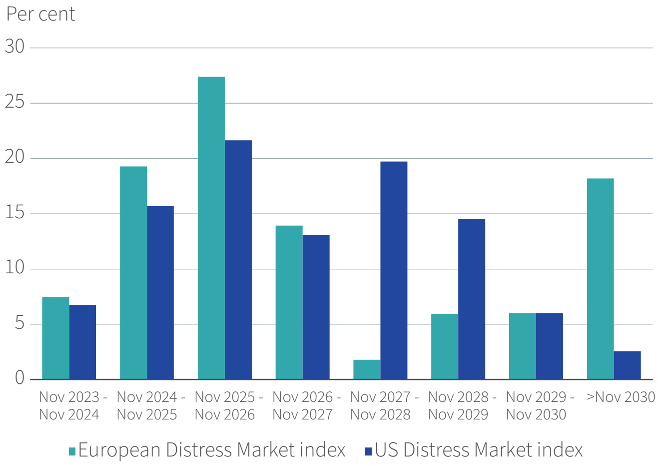
Borrowers in Prime Residential mortgage-backed securities are expected to stay resilient given the level of income and strong underwriting quality. We expect more weakness in the non-conforming space given the quality of the underlying and the low-income nature of borrowers. Buy-to-let landlords are expected to be more vulnerable as higher rates put pressure on interest coverage ratios.

Auto ABS metrics are resilient for now given car price appreciation over the past two years. However, the cost-of-living pressure is likely to weigh on demand for automobiles next year.

The spread repricing within ABS in 2022 already largely reflects the worsening fundamentals, although Prime RMBS and covered bonds are expected to perform best due to their higher quality relative to lower quality ABS.

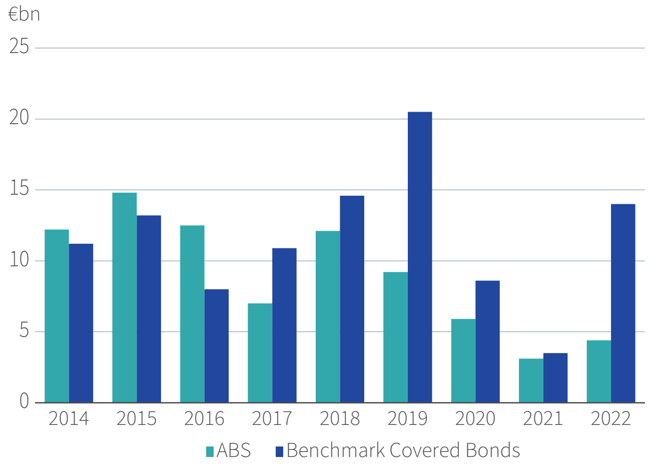
With the Term Funding Scheme for Small and Medium Enterprises (TFSME) funding ending, we expect banks to fund from their ABS and covered bond programmes more often than 2021/22 (Figure 129). Conversely, we expect non-bank issuance lower than the 2021/22 average given higher refinancing spread levels.

Figure 128. **Distressed Market Maturity Wall**



Source: Aviva Investors, Aladdin BRS as at 30 November 2022

Figure 129. **Distributed UK secured funding supply from TFSME-eligible issuers; €bn**



Note: Incudes privately placed securitisation issuance
Source: J.P. Morgan, Concept ABS, Dealogic

Emerging market debt: awake, you make; snooze, you lose

Local currency

Our relative optimism follows a challenging year for emerging market (EM) local currency debt, with value to be found both on the rates side and in EM currencies into 2023. We expect the local currency space to be supported by a return to more synchronised policymaking, reflecting easier financial conditions, with three main themes driving returns in 2023 – inflation, central bank policy and FX movements. The income potential should help to stabilise returns with local bonds already providing historically attractive nominal and real yields and relative to the volatility of the market (Figure 130).

EM inflation rose from around 4.3 per cent to 6.7 per cent over 2022 and central banks reacted by raising interest rates, which hit local currency markets (Figure 131). Emerging market currencies also suffered as the increase in inflation outpaced the EM rate hikes and the US dollar continued to appreciate. We expect this to reverse in 2023. In our base case we see EM inflation close to its peak, and while we continue to believe investors will remain apprehensive about inflation, and EM central banks may continue raising interest rates early in the year, from there they will have scope to hold and ultimately cut rates when inflation starts falling. As inflation falls, real interest rates should continue to rise and could be a trigger for emerging market currencies to perform well later in the year as prospective real yields, adjusting for credit risk, are much higher than those in developed markets (Figure 132).

> Real yields adjusting for credit risk are much higher than those in developed markets

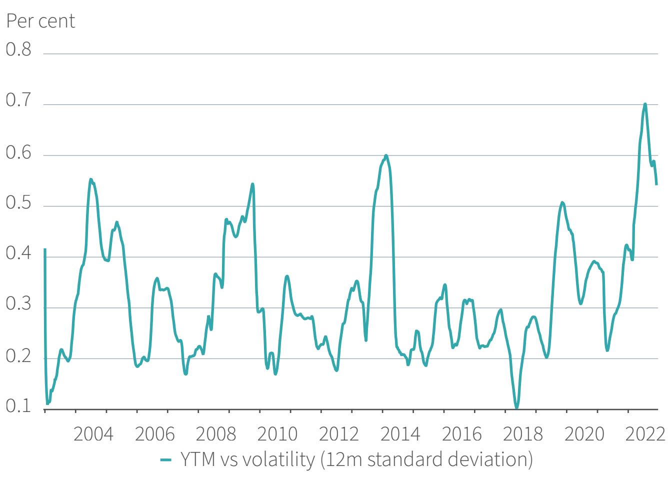
Furthermore, EM currencies are fundamentally attractive on a medium-term basis with valuations cheaper in real terms than during the financial crisis of 2008 (Figure 133) while current account imbalances are far smaller, and in many cases, they are in a surplus. For this reason, we believe that, unless the US Federal Reserve (Fed) needs to hike by more than that which is reflected by the Feds recent dot plot estimates, EM local markets should fare better in 2023. We also expect the growth cycle to move in the favour of EM versus DM in the early part of 2023, which should create a better backdrop for EM fixed income markets. However, EM potential growth remains constrained on a structural basis which looks unlikely to improve in the coming years, limiting the extent of the growth outperformance we should expect relative to DM.

> Currency valuations cheaper in real terms than during the financial crisis of 2008

Country selections remains important, as economic and political risks vary. Policy divergence means that there is also opportunity in relative value as some assets may continue to struggle if inflation caused the Fed to reduce asset purchases and raise rates more rapidly than expected. But improved current account balances mean many EM countries are better

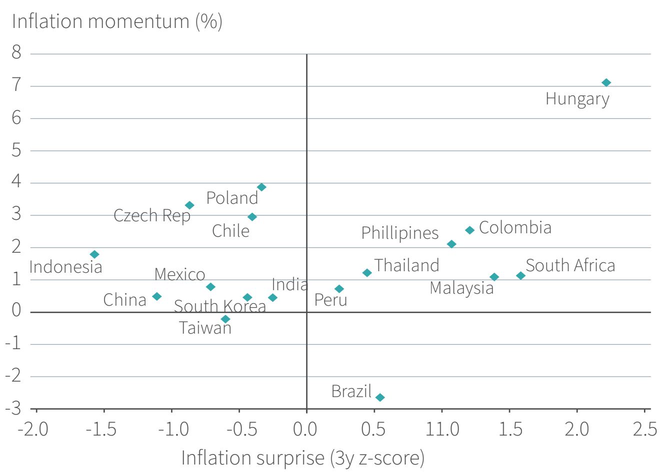
> Country selections remains important, as economic and political risks vary

Figure 130. **EM local yields normalised to volatility**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 131. **EM inflation: surprises vs momentum**



Source: Aviva Investors, Macrobond as at 29 November 2022

prepared to withstand modest capital flight than they were in the past, and the good news is that we see only a small number of emerging economies next year with challenging external financing needs. On that basis we expect countries with strong credit metrics whose central banks have managed to remain ahead of the curve (Mexico, Brazil, Peru, Czech Republic) along with countries with strong recovery potential (Indonesia) to outperform those that continue to exhibit vulnerabilities driven by fiscal and political risks (Colombia, Poland).

Hard currency

After a challenging 2022, we think there are reasons to be optimistic for investors looking at EMD Hard Currency as we approach 2023. In contrast to the experience of 2022, we believe that external or broader themes, such as inflation, growth and the impact of rates on returns will offer an improved backdrop for the total return performance of the asset class. Recent inflation data supports a more benign outlook for interest rates. Whilst growth concerns remain, they have become less pronounced and an improving outlook for China is supportive for the relative growth differential in favour of emerging economies. Expectations for net negative financing for both sovereign and corporate universes in 2023 plus the potential for the reversal of the outflows experienced in 2022 could provide a strong technical tailwind for the asset class.

After a challenging 2022, we think there are reasons to be optimistic for investors looking at EMD Hard Currency as we approach 2023

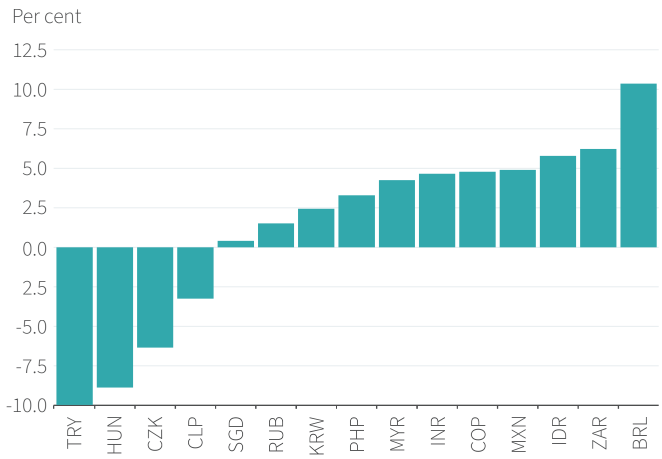
The sovereign universe has the ability to more strongly recover in an improving backdrop but this likely comes with higher volatility and more pronounced fundamental dispersion. The blended nature of investment grade and high yield ratings in EMD hard currency indices is unusual in a global credit context but offers an appealing proposition in the current environment. We believe the outlook is one that supports a balance of exposure across IG and HY. While fundamental concerns remain elevated a selective approach to HY will be important in 2023 to unlock the value that has been created (Figure 134).

The sovereign universe has the ability to strongly recover in an improving backdrop, but this likely comes with higher volatility and more pronounced dispersion

In a universe of around 70 countries that includes both sovereign and quasi-sovereign issuers, there will be plenty of scope to identify opportunities supported by fundamentally driven investment rationales that limit exposure to vulnerabilities and mitigate sensitivity to the external environment. While challenges have grown in the post-COVID world and resulted in a greater number of distressed situations, we believe the majority of countries in the universe have proven their resilience and have relatively strong credit metrics (compared to the developed world), which, although weakened in recent years, could stand to benefit in an improving backdrop.

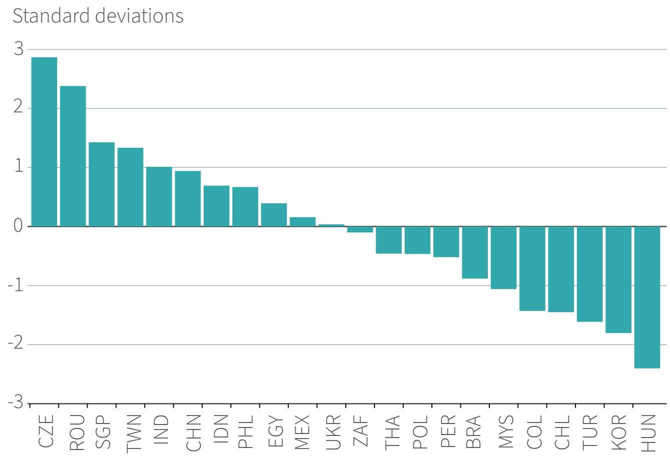
In the HY space, we like countries where current economic policies are consistent with an improving or stable economic outlook

Figure 132. **Real rate spread to the US (10yr)**



Source: Aviva Investors, Macrobond as at 29 November 2022

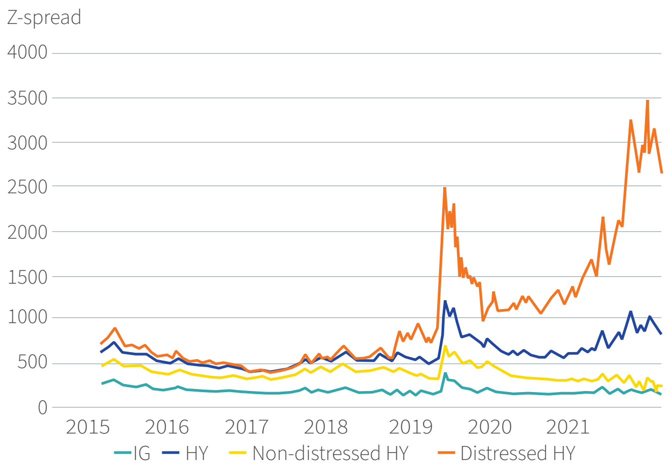
Figure 133. **Real effective exchange rates**
Deviations from 10yr mean, standardised



Source: Aviva Investors, Macrobond as at 29 November 2022

In the HY space, we like countries where current economic policies are consistent with an improving or stable economic outlook. Particularly, those with limited social and near-term liquidity risks or material economic imbalances that risk significant downgrade risk or pushing a credit into distress. Diversified funding sources, when market access is challenged, is also key. In this category, we like Ivory Coast, Angola, Senegal, Dominican Republic and Paraguay. We also see select opportunities in the distressed space, particularly where current prices are below likely recovery values, and the institutional framework remains sound. Among the distressed names, Ghana is the most interesting currently. However, regime change in Argentina could provide another interesting opportunity.

Figure 134. **Breaking down the EMBIG**



Source: Aviva Investors, Macrobond as at 29 November 2022

Currencies: USD – the only game in town?

2022 has been an exceptional year across many asset classes. As the majority of the global economy emerged from COVID restrictions the growth outlook improved. However the outbreak of war and ongoing supply constraints led to a significant inflation shock. Energy commodities rose 100 per cent in the first half of the year and while they have declined in the latter half, will still finish the year up nearly 50 per cent. The impact on global inflation and subsequent monetary policy tightening to control second round inflationary effects have been dramatic. In FX the most significant moves have been driven in large part by divergent monetary policy. Figure 135 shows year-to-date performance of currencies in major developed economies in real effective exchange rate terms. The USD stands out having appreciated nearly 13 per cent through to the last Fed meeting in the beginning of November, over which period the FOMC increased the policy rate by 3.75 per cent. Conversely, JPY depreciated a little over 15 per cent over the same period as the BoJ kept rates at zero and maintained yield curve control.

Monetary policy has been a key driver of FX in 2022

While the moves in JPY have been significant in many ways it is simply the mirror image of the move seen in the USD. Our measure of USD dominance (Figure 136) shows that we have been in a USD dominant environment for much of 2022, with a large majority of co-movement in G10 crosses being driven by trends in the USD. Even in the most recent period where the USD has weakened significantly, reversing the trend seen throughout most of the year, USD dominance has remained high, though CAD, AUD had more limited losses, as did BRL and MXN – all benefiting from more orthodox central bank reactions and commodities.

The USD has been the dominant driver of crosses

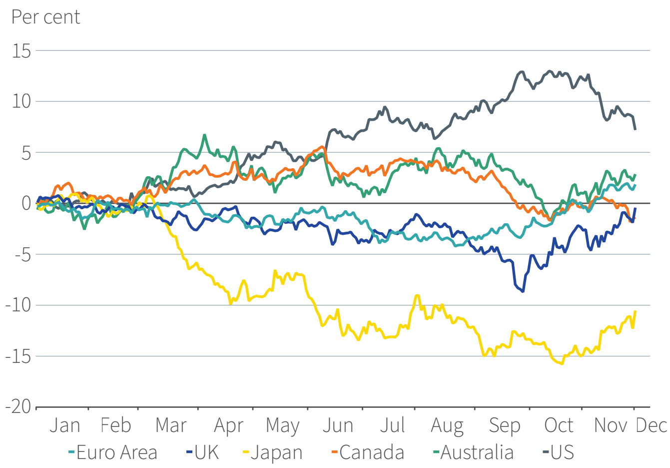
Will the USD be the only game in town in 2023 and are we likely to see the USD trend strongly as we did through 2022? While the BoJ stood out for their dovish stance, most central banks around the world tightened policy in 2022 and the only remaining question was to what degree. Looking forward to 2023, divergence in economic outlooks, inflationary persistence and financial vulnerabilities are likely to lead to greater policy separation. In such an environment relative value trades become increasingly attractive and in FX we would expect USD dominance to decline, with a broader number of opportunities in other G10 & EM crosses. In EM monetary policy tightening has been more aggressive and with an ongoing hawkish bias, even as inflation falls, could generate high real rates that become an increasingly attractive pull for investors. Particularly where attractive valuations are backed by better external fundamentals improved current accounts imbalances and high levels of FX reserves.

We expect a broader number of opportunities in non-USD crosses in 2023

As to the fate of the USD, a look at the supporting factors of 2022 may help discern to what extent trends of 2022 may be taken forward to 2023. The USD has long had a strong relationship to the global growth cycle and therefore USD strengthening over the last year of

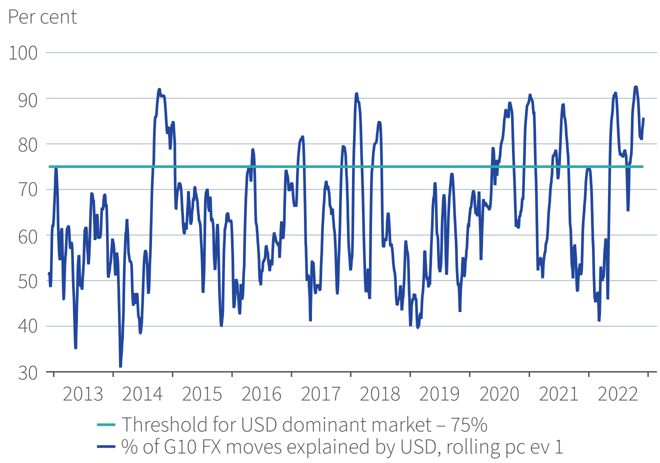
The USD has long had a strong relationship to the global growth cycle

Figure 135. **Real Broad Effective Exchange Rate (CPI-based)**
Ytd per cent performance 2022



Source: J.P. Morgan, Aviva Investors, Macrobond as at 29 November 2022

Figure 136. **Proportion of G10 FX trend attributed to broad USD trend**



Source: Aviva Investors, Macrobond as at 29 November 2022

slowing economic growth, is to some degree, to be expected. In 2022 however this attribute became particularly attractive, given an environment where bonds became not only an unreliable hedge, but added to risk, the USD offered portfolios a carry-positive risk reducer. More recently the scarcity (of other risk reducers) premium that had been added to USD was evident as USD positions were cut in line with risk reductions towards year end, generating depreciation in the USD that appears to have been driven primarily by position rebalancing and limited liquidity. Figure 137 shows the correlation between G10 FX and global equities; the correlation of the USD to risk assets has been remarkably negative and stable this year, and with many of the factors driving FX also driving more risky assets, this is likely to remain the case. What may change as we move further into 2023 however is the lack of alternative risk reducers. As central banks move further into restrictive territory, the probability of attractive opportunities within fixed income increases.

Figure 138 looks at historical average USD returns (up to 2019) broken down by both the rate regime (relative to the 1y average) and where you are in the growth cycle (based on our proprietary growth quadrant model). It highlights that the US dollar generally appreciates in a below-trend and declining environment such as we find ourselves in now, unless rates are moving materially lower relative to the prior 1-year average. Similarly, as the recovery begins and growth improves, the USD generally depreciates unless rates are moving materially higher relative to the prior 1-year average. In 2022 growth was weak and declining while rates were trending higher: the perfect backdrop for USD appreciation. The outlook for USD in 2023 can be broken down using this framework into the phase of the growth cycle and the balance of risks in terms of rate changes. This will likely make 2023 a year of two sides for the USD. The immediate outlook for growth is that we remain in the below trend and declining environment, and we believe changes in rates remain biased to the upside, yet little doubt that incremental positive change is likely to diminish from here. Any signs that inflationary pressures are abating in the US would likely be a significant tailwind for USD depreciation, as would a move towards a recovery in global growth.

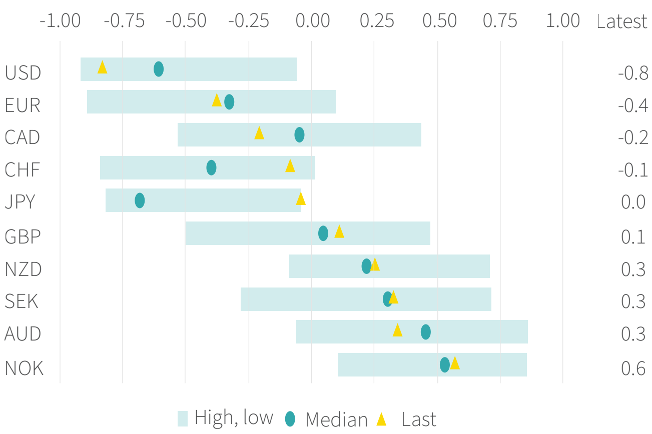
Some of the factors supporting USD appreciation could fade through 2023...

It is not just global growth that has been a driver of USD historically but also US growth relative to the rest of the world. US exceptionalism has often been used to explain USD strength, while long-term trends in the USD have moved in line with broader US equity or growth outperformance. It may be a little premature yet, but 2023 may see a turning point for the US growth differential, particularly the EM–DM growth differential and this too could shift USD towards deprecation later in the year.

...while the economic and rate environment remain key drivers of the USD in 2023

Overall, the USD is no longer the only game in town. 2023 is likely to see more significant divergence in currency pairs both in EM and DM and outlook for the USD seems less clear cut than it was in 2022.

Figure 137. **G10 correlation to global equity**
(rolling 26 weeks, 5y window)



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 138. **USD excess returns through the economic cycle split by rate environment**

Global Growth	Rate chg	USD
Below trend & declining	+ve rate chg	3.8
	flat rate chg	2.2
	-ve rate chg	-1.3
Below trend & accelerating	+ve rate chg	5.3
	flat rate chg	-2.8
	-ve rate chg	-4.7
Above trend & accelerating	+ve rate chg	-1.0
	flat rate chg	1.5
	-ve rate chg	0.5
Above trend & declining	+ve rate chg	-1.2
	flat rate chg	1.3
	-ve rate chg	0.7

Source: Aviva Investors, Macrobond as at 29 November 2022

Real assets: opportunities despite difficult backdrop

The European Real Assets market saw a strong start to 2022 as most asset classes continued their journey to recovery from the COVID pandemic. However, the deteriorating economic and political environment within Europe has dented the short-term outlook for most sectors. Elevated inflation, rising interest rates and slowing economic growth provide a challenging backdrop.

Notably, spreads between property yields and government bond yields have narrowed drastically (Figure 139). We anticipate some further repricing for most equity asset classes. Therefore, within Real Asset investment markets, we expect private debt will generally deliver higher risk-adjusted returns over a five-year time horizon than real asset equity. From an equity perspective, our view is that infrastructure will outperform real estate, with the latter experiencing greater value declines. However, real estate is repricing rapidly and once that feeds through, opportunities will emerge. Nonetheless, investing in Real Assets continue to provide a compelling solution for investors to positively contribute to the climate transition and build a sustainable future.

On an absolute basis, private debt returns have benefitted from rising interest rates and margins. In the current high-rate environment, debt is offering a higher yield than equity (Figure 140); this is especially true across prime real estate, but also for some of the more aggressively priced infrastructure sectors. Although there is likely to be increasing default risk as capital values fall and recession pressures bite, debt is nonetheless set to outperform equity on a risk-adjusted basis. Large discounts will be required for real estate equity to provide a comparable level of risk-adjusted returns and, as we wait for the valuations to catch-up, debt will remain more attractive. There is an opportunity in whole loans and mezzanine real estate debt, driven by borrowers needing to refinance, which can offer slightly lower risk and meaningfully higher returns than equity at this point in the cycle.

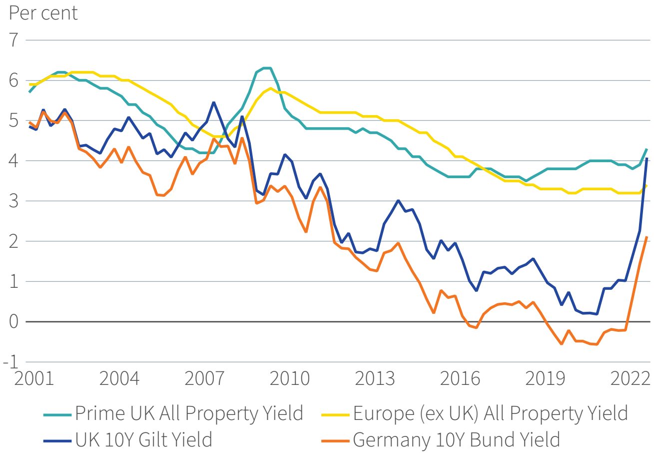
Real asset debt appears more attractive than equity

Cash flow matching solutions

The need for refinancing will ensure continued activity within private debt, especially amongst corporate borrowers who tend to have shorter financing requirements. Typical longer-dated fixed-rate structures may lack demand as borrowers attempt to avoid locking in higher interest rates. Although shorter-term products may seem more appealing whilst rates are elevated, this could expose corporates to greater levels of uncertainty and refinancing risk. Some borrowers such as financial institutions are more actively attempting to raise capital now, due to expectations of further tightening of monetary policy. There is also still appetite for long-term debt from some real estate borrowers who are willing to look through current market volatility and believe in strong rental growth prospects of their assets.

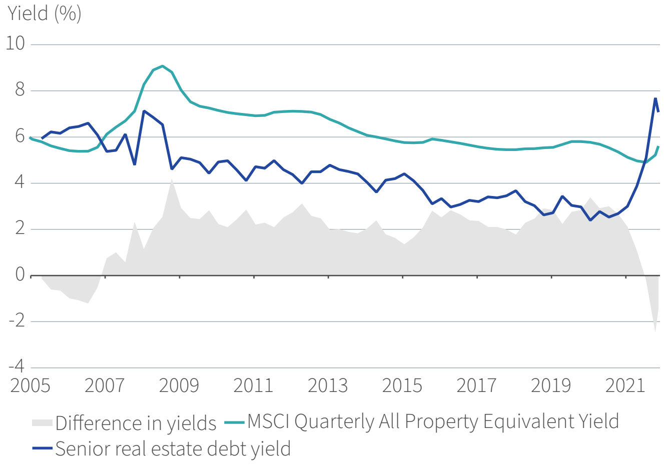
Private debt will provide varied opportunities amongst greater market uncertainty

Figure 139. **Real estate yields vs government bond yields**



Source: Aviva Investors, PMA as at 30 September 2022

Figure 140. **Real Estate Debt Yield vs All Property Yield**



Source: Aviva Investors, Bloomberg, MSCI, as at 31 October 2022

The focus for borrowers has been pushed further onto sustainability where debt can still offer disproportionate benefit to otherwise capital-constrained equity investors. Within real estate debt, sustainability-linked loans provide opportunities for borrowers to transition assets, future-proofing their buildings and creating longer-term value. In the infrastructure debt space, there has been a tendency towards shorter-term debt in the current volatile interest rate environment. However, greenfield deals within renewables and fibre continue to go ahead, despite higher debt and construction costs. There are considerable demand tailwinds and governments remain committed to deliver progress in these areas.

As government bonds and corporate credit margins rose throughout 2022, illiquidity premia were significantly compressed across long income real estate. A lack of transactional activity over the summer led valuations to be slow to react for reversionary long lease assets, whereas income strips tend to behave in a more debt-like manner, so repriced more quickly. The fall in values towards the end of 2022 has partially restored illiquidity premia, albeit below historic average levels (Figure 141). The rise in build costs, higher yields and required returns has made it more challenging to make long income developments feasible recently.

Income strips are quickest to reprice within long income real estate

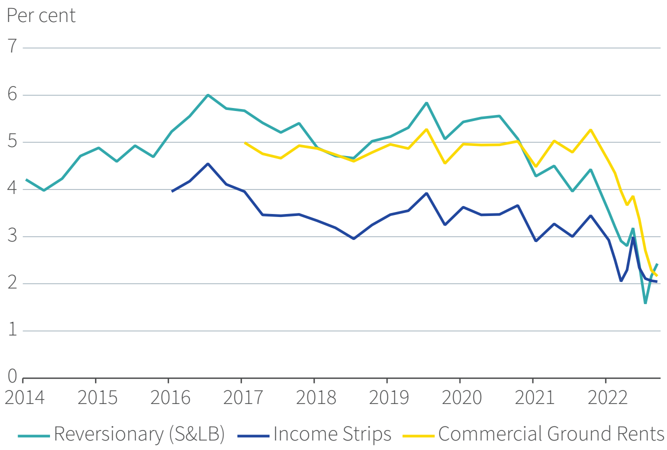
Defined benefit pension schemes have dominated the long income real estate market over the last decade, and their funding status has significantly improved this year, reducing their appetite for the asset class going forwards. The capital base will shift towards insurance investors with differing preferences, this could have interesting ramifications for pricing within the asset class.

Active equity solutions

The infrastructure asset class has proven resilient through 2022, both from a valuation and income generation perspective. This has been driven by several factors; first, infrastructure assets tend to have more direct contractual or regulatory linkage of revenue to inflation. Second, renewables, an increasingly large part of the infrastructure universe, have benefitted from the elevated power price environment. Finally, the essential nature of infrastructure assets tends to make them defensive in during periods of economic weakness. The asset class continued to experience strong capital flows, with H1 2022 setting a record for global infrastructure fundraising (Figure 142). The opportunity set across Europe continues to be driven by energy transition and digital infrastructure. The war in Ukraine has focused governments on accelerating the energy transition for the purpose of increasing energy security as well as to combat climate change.

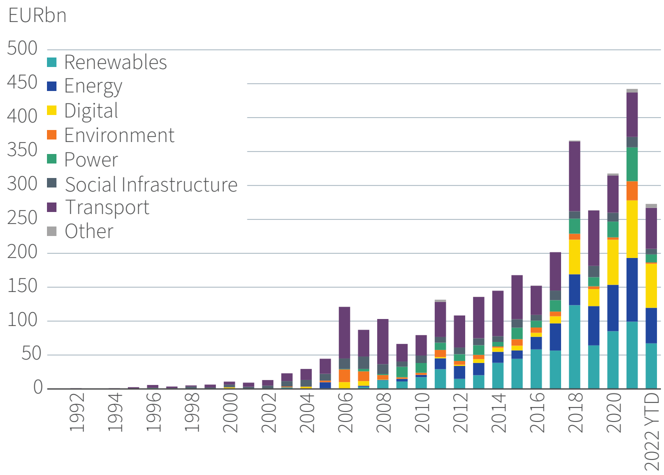
High power prices and inflation supporting infrastructure performance

Figure 141. **Long income real estate expected return spread over government bonds**



Source: Aviva Investors, CBRE as at 30 November

Figure 142. **European infrastructure transaction volumes (EURbn)**



Source: Inframation, as at 29 November 2022

Going forward there will be challenges. Higher bond yields have made the asset class less attractive on a relative basis and increased the cost of debt for an asset class that typically uses high amounts of leverage. Moreover, as household income is squeezed by high inflation and the slowing economy, affordability of essential infrastructure services is likely to come under more scrutiny, increasing regulatory risk.

The logistics sector continues to see exceptional demand from an occupational perspective, with 2022 take-up in close alignment with the record levels seen in 2021. Given the increasing preference for e-commerce and consequential occupier demand, the sector is supported by strong underlying fundamentals. Additionally, a supply and demand imbalance persists across most European countries, which will continue to facilitate strong rental growth in the coming years. Our view is that the logistics sector will see the highest rental growth of all major sectors on a 5-year basis (Figure 143). Whilst the fundamentals and platform for growth is strong, the current economic environment implies that in the short term, the sector will likely continue navigating a period of repricing. Due to the inefficiencies in the pricing of risk, we believe that attractive opportunities will likely present themselves in the first half of 2023.

Attractive industrial opportunities looming as sector undergoes rapid repricing

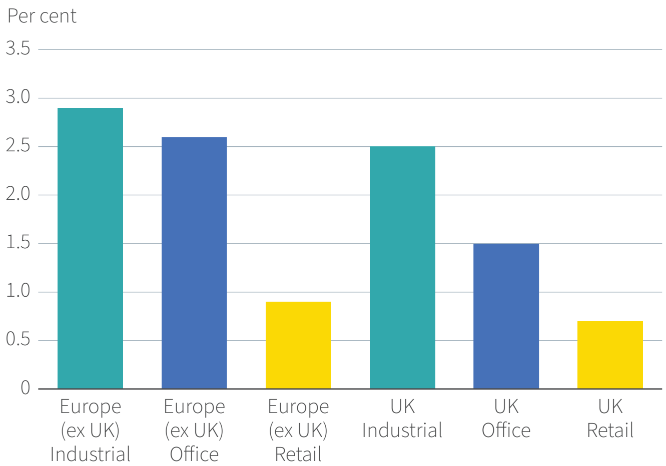
The office sector has recovered well since the pandemic, demonstrating robust demand from an occupier perspective. Given the risks and uncertainty that hybrid working has brought to the sector, the office is showing signs of reasserting itself as an important destination for fostering collaboration and attracting the best talent. What hybrid working has exposed is the increased desire from occupiers to be based in the most central, high-quality locations. The ‘flight to quality’ continues to be the most dominant trend as the gap widens between prime and secondary assets. Newly built prime space is seeing strong demand, whilst secondary assets in inferior locations are falling out of favour with occupiers. Offices with strong ESG credentials remain pivotal, as attempts to minimise carbon footprints continue.

Flight to quality continues, increasing polarisation between prime and secondary space

The residential sector enjoyed strong investor demand in 2021 and into Q1 2022 as competition for income-producing assets became heightened. However, a tightening in credit conditions has led to a decrease in investment activity, especially as residential prices remain elevated. Whilst this is the case, we still believe there are pockets of value to be found in certain markets. We particularly find that the UK single family housing and Spanish multi-family housing offer attractive investment opportunities as they mature. However, pricing in general is stretched. From a structural standpoint, the key is providing a rental solution in cities that are experiencing affordability issues and are expected to benefit from strong population growth.

House prices remain elevated, but we still see value in the UK single family housing and Spanish multi-family sectors

Figure 143. **ERV growth forecast (2022-2027 pa end)**



Source: Aviva Investors, PMA as at 30 September 2022

Cross-asset volatility: normalisation from old norms

With global rates closer to a turning point and the step-change of rate hikes slowing, we feel that overall cross-asset volatility will gradually succumb to increased downwards pressure.

This said, we have a strong view that the "Volatility Risk Premia", i.e. the difference between the volatility forecasted and implied by the market and the volatility finally experienced, will remain elevated for longer and that long phases of calm will be interrupted by bouts of very high uncertainty and market volatility, yet the trend of both the implied and realised should be going lower. This increased "Risk Premia" is consistent with the higher rates regime. Higher rates will give investors an alternative to selling volatility or other risk premia for yield.

Lower volatilities, but higher volatility risk premia

We feel that interest rates and commodity volatilities will remain the most stubborn across asset classes, while we feel that equity and FX volatilities should start behaving more normally and should revert to a lower state. We do not see them retracing to pre-COVID levels, but we assume them to head lower than current levels.

Rates volatility

While the 10Y10Y USD rates volatility is still elevated compared to levels pre Fed lift-off. The uncertainty of the timing for a Fed pivot and the level at which this pivoting would occur will continue to support this higher volatility regime.

Volatility term structure to normalise

On the other hand we feel that the slower pace of rate hikes indicated by Fed Chairman Powell should remove some of the more extreme moves and thus lead to a lower long-term base for volatility, while remaining well above the lows over the last five years.

Commodity volatility

Commodity volatility and especially the volatility of energy commodities, have been a main driver of the increase in global asset volatility (Figure 144).

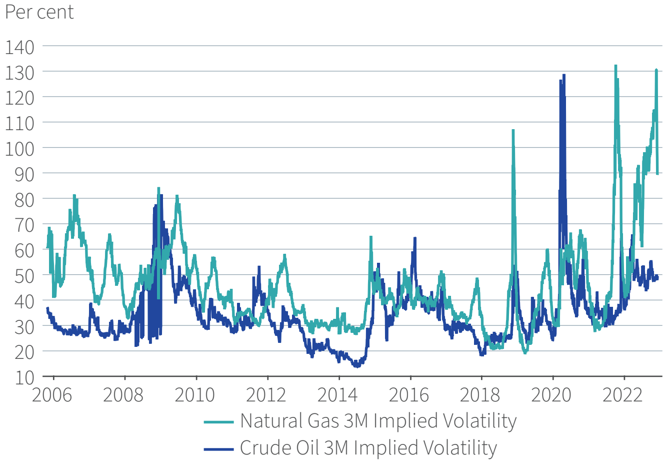
With the war in the Ukraine continuing and without an end in sight, we should assume the uncertainty with regards to energy supplies and security will remain high and the pass-through to European assets will remain relevant. This will likely intensify in Q4 2023 when another winter looms.

Energy and industrial metals to remain in focus: expect more shocks

This indicates to us that we should assume the energy part of the commodity space will remain volatile.

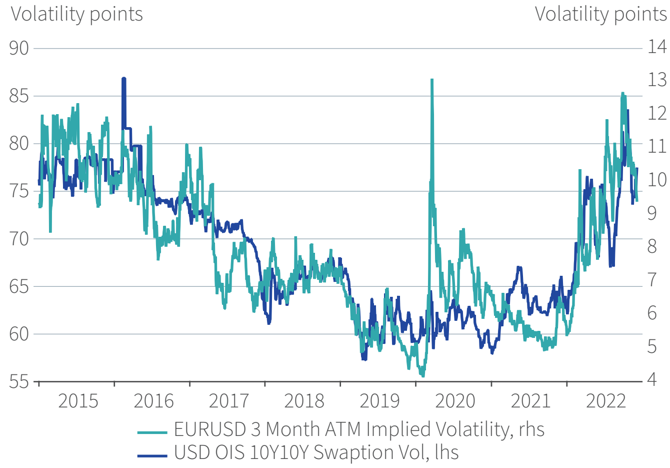
On the metal front we should assume a continuation of the differentiation made by the market between industrial metals and precious metals.

Figure 144. **3m implied volatilities of crude oil and natural gas**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 145. **10Y10Y Swaption Vol and the EURUSD 3m ATM Vol**



Source: Aviva Investors, Macrobond as at 29 November 2022

While palladium and copper trade near 12y highs, gold volatility is trading near the long-term average. We expect this to potentially accelerate further as China eventually comes out of its self-imposed COVID hibernation and starts to ramp up internal and external productivity.

FX volatility

Historically the relationship between interest rate volatility and foreign exchange volatility has been very strong for most of the time (Figure 145).

We should therefore assume that the FX volatility will remain elevated as long as rates volatility remains elevated. We see no pressing reason to see this correlation shift significantly.

Expect idiosyncratic dispersion of FX volatilities

Equity volatility

Equity volatilities have been very resilient and stable in the post-COVID time. Using the 3rd maturity VIX future as a benchmark, the UX3 has traded in a range of 32 vol to 20 vol for the last two and a half years. The average risk premia post COVID has been significantly higher than before the outbreak.

VIX to decline but staying above historic lows

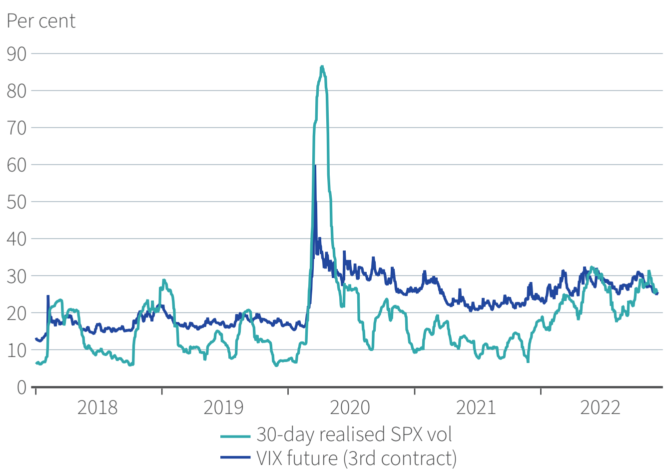
Even when realised volatility spiked at the beginning of the Ukraine war, we saw implied volatilities react mutedly. This was partly caused by cautious positioning overall and thus a lack of panic put buying in falling markets and partly by the fact that the absolute volatility level was already high and thus had less room to go higher (Figure 146). Another strong indicator of that is looking at the relationship of volatility vs HY Credit. This relationship was stable before and after the COVID period, but broke down when the ECB and Fed committed to buying corporate bonds and thus CDX spreads collapsed while volatilities stayed high. This has “normalised back” with the lift off-in rates and the increase in credit spreads (Figure 147).

Skews to remain under pressure until equities are back in vogue

One of the big anomalies was the shift in skew regime in the S&P 500. The skew (differential between volatility levels of out-of-the money calls and puts with the same maturity) in the S&P has fallen from year all-time highs to 14-year lows during 2022 while the market had a significant downwards correction. This is historically to be regarded as an oddity.

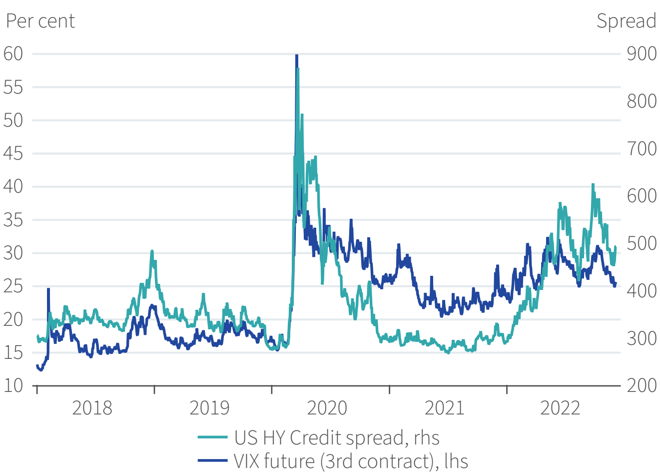
We should assume skew levels normalise somewhat, but the overall trend in supply and demand of volatility does point to skew levels to remain subdued.

Figure 146. **Implied and realised equity volatility**



Source: Aviva Investors, Macrobond as at 29 November 2022

Figure 147. **High yield credit spread and implied equity volatility**



Source: Aviva Investors, Macrobond as at 29 November 2022

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