

Economic and market outlook 2023

Contents

Introduction

Increased market volatility, the aftermath of the COVID-19 pandemic, geopolitical discord and conflict, higher inflation, central bank tightening and supply chain disruptions have proved sizeable hurdles for the majority of asset classes in 2022. However, we head toward 2023 with more attractive valuations across the board.

What, then, should investors expect next year?

- **The global economy is bending, but not breaking.** A further slowdown in 2023 should be anticipated, but we do not expect this to culminate in a deep global recession. There is plenty of regional divergence, however, with some countries potentially seeing worse economic performance than others.
- **Inflation is peaking, but not disappearing.** We expect annual inflation rates to fall in 2023 but remain firmly above the 2% targeted by developed central banks.
- **Central banks can be expected to pause their tightening campaigns in early to mid-2023** to assess the impact of recent policy changes. Our base case sees rates staying at high levels in most countries before eventually being cut. That said, further inflation surprises may prompt additional and aggressive action that would weigh on equity and fixed income returns.
- **Numerous geopolitical worries are likely to remain,** with the conflict in Eastern Europe, China's position on Taiwan and ongoing tension with Iran continuing to impact economies and markets. There remains a large question mark over China due to its continuing economic slowdown (driven by the government's zero-Covid policy), regulatory crackdowns, a collapsed property sector and President Xi's tighter grip of political power following the recent National Party Congress.
- **Investors have had very few places to hide as they adjust to a world of higher inflation and tighter monetary policy.** Corporate bonds now look attractively priced and defaults and downgrades appear to be contained. Sovereign bonds offer better value than before, as do equities, where reasonable valuations must be balanced against optimistic earnings expectations and higher discount rates. The US dollar is significantly overvalued and should weaken longer term, although the near-term outlook remains unclear. Those investors with a longer investment time horizon could look to other currencies such as the euro and the yen, due to their cheap valuations.

1. Managing an overheated global economy

Key takeaways:

- Economies have become overheated as a result of rapid demand recovery and disrupted supply chains, exacerbated by stimulative monetary and fiscal policy – this has in turn created high inflation.
- Geopolitical events and rising energy prices have also contributed to high inflation.
- A number of economies may already be in recession.

The intensity of the recession following the Covid-19 pandemic has been matched by the demand recovery that ensued. It did not take long for economies to make up lost ground, as the manufacturing sector sprang back to life and consumers jumped at opportunities to spend their recently accumulated savings on goods and services. This is not to say that all economies reopened at the same time, nor did all sectors simultaneously roar back into action. In addition, global supply chains were not in full health, and in some cases, they were overwhelmed by high demand.

This combination of strong aggregate demand and constrained supply chains at a time of very stimulative monetary and fiscal policy created the perfect conditions for economies to overheat. This has been especially evident in labor markets, where nominal wage growth has risen and companies have faced difficulties in finding qualified workers. Labor force participation rates have struggled to recover to pre-Covid levels as many people retired, some sought alternative sources of income and some could not return to work for health reasons.

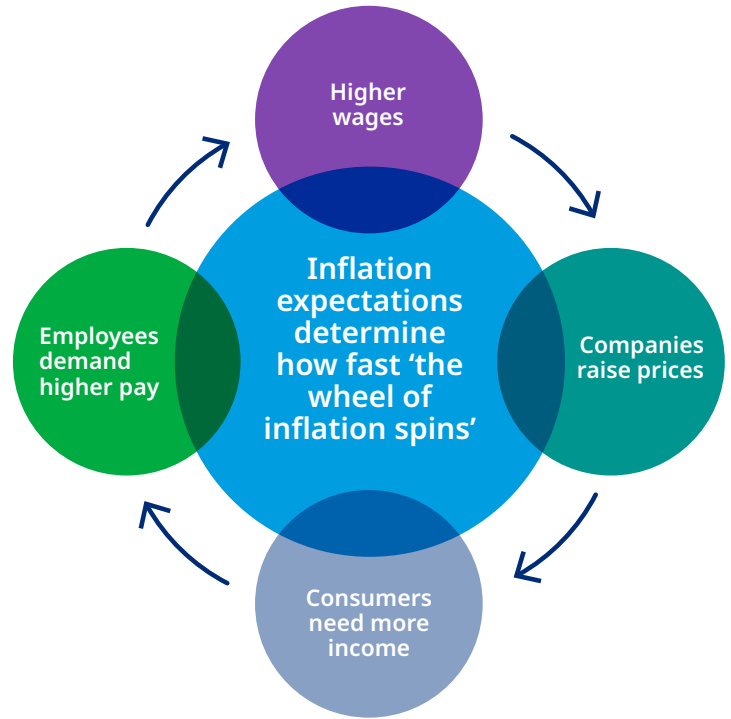
When an economy overheats, it inflates. It can, as we are seeing currently, become caught in a vicious circle: corporates struggling to find workers begin raising wages to entice new employees and incentivise their current staff to stay; prices of goods and services are hiked as companies seek to pass on these additional costs; and consumers faced with higher prices go back to their employers to bargain for higher wages.

If unchecked, this may spiral out of control and create even higher inflation. Policy makers respond to overheating economies by raising interest rates, which slows down consumption, business activity and hiring, ultimately reducing wage growth pressures. Fiscal policy makers can also step in with austerity measures to engineer a slowdown; however, this is seldom a popular political decision and ensuring price stability is largely the role of central banks, rather than of governments.

So, where do things stand as we near the end of 2022? Some economies such as the US have overheated on the back of higher interest rates, while European economies are also slowing on the back of the higher energy prices. Central banks have raised interest rates aggressively to slow economic growth and are signalling we are getting closer to the peak in rates.

Are we there yet? Will monetary tightening lead to a deep recession? The answers lie in inflation dynamics.

Figure 1. Inflation wheel



Source: Mercer. For illustrative purposes.



2. Inflation peaking, but not disappearing

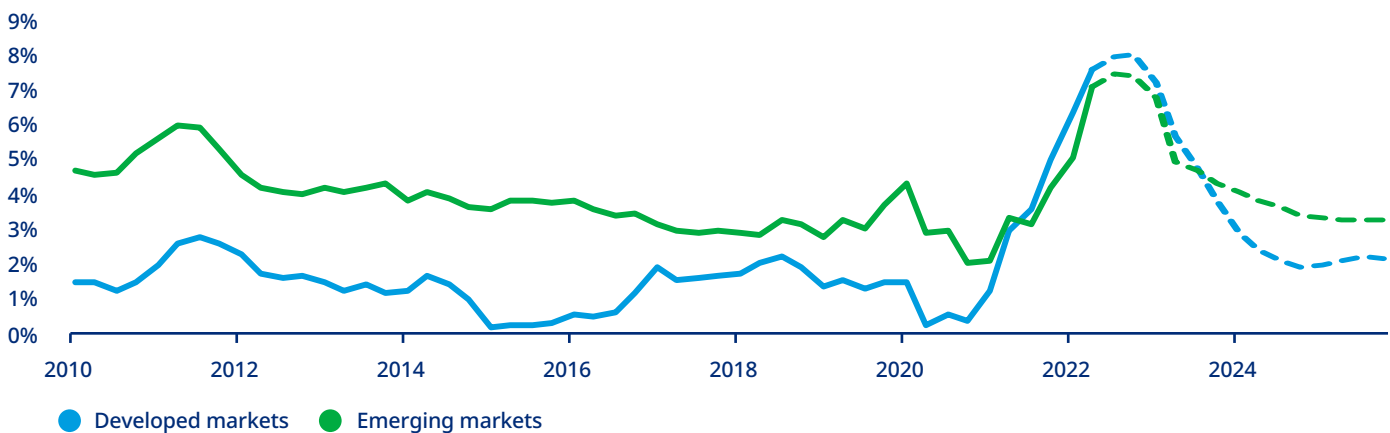
Key takeaways:

- While inflation has risen rapidly, there are indications that dynamics might be about to improve as temporary drivers lessen and more persistent factors do not spiral out of control.
- Drivers of inflation that could persist in 2023 appear more manageable, with wage growth momentum beginning to slow.
- Inflation expectations should remain broadly contained as a result.

No one who started investing within the last 30 years has seen meaningfully high inflation in the developed world. Today, however, inflation rates have been breaking into high single and even double digits. This is the result of a number of different drivers – some of which may be temporary with others potentially more persistent. We describe inflationary factors as temporary if they can't keep going ever higher and will likely pause or unwind at some point. Wage growth is considered more permanent as if it and prices go up at the same rate, there is little reason for either to unwind.

The US is likely past the peak in headline inflation as temporary inflation drivers roll over. Also, it has been relatively insulated from the sharp increase in energy prices. Wage growth momentum is also beginning to moderate but remains an important driver of inflation. Europe is still feeling the full force of energy inflation but we expect these pressures to subside in 2023. The UK is witnessing both significant wage growth pressures and increased energy costs, which have culminated in double digit inflation. Japan is not experiencing the same level of inflationary pressures as some other regions globally, but with all pandemic restrictions now having been eased, a glut of demand may lead to an increase in inflationary pressures, albeit unlikely to the same extent as other developed markets.

Figure 2. Global year-on-year headline consumer price inflation



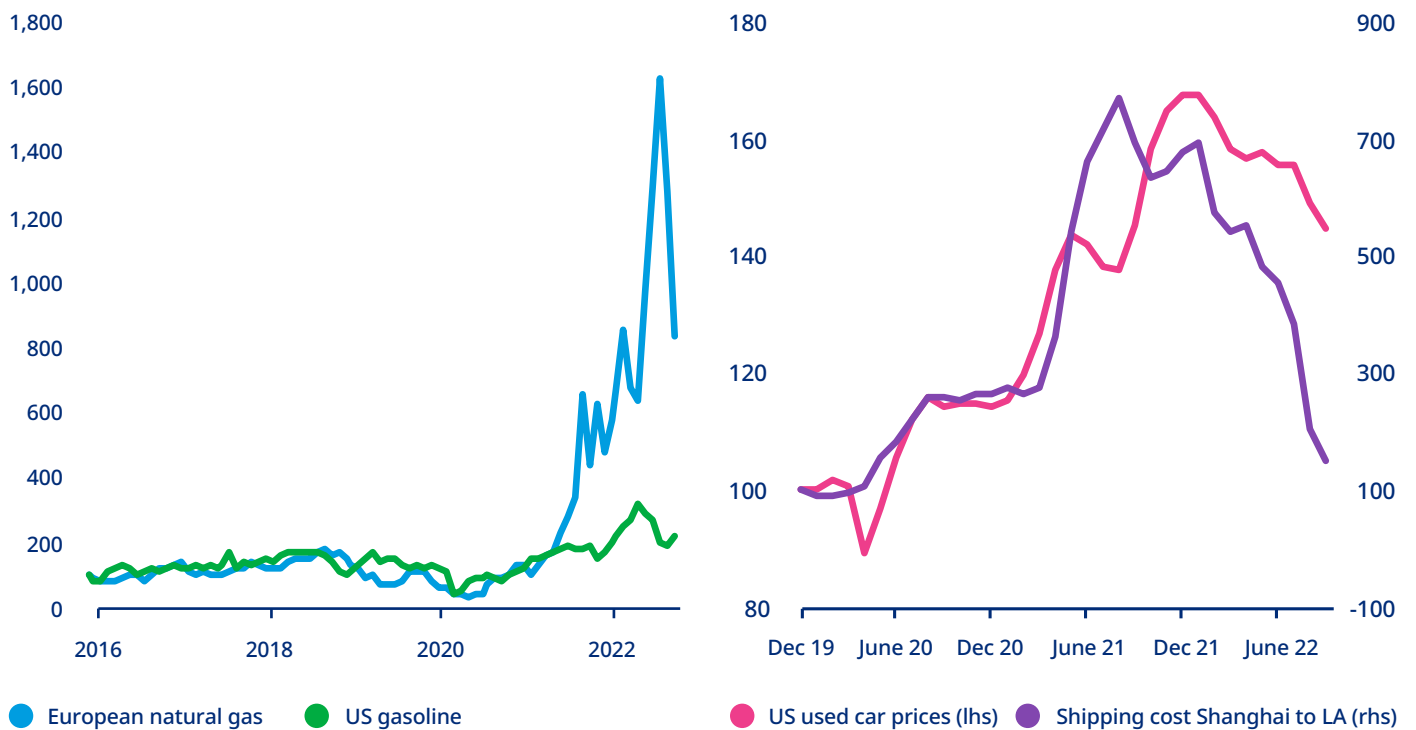
Source: Goldman Sachs, Mercer. Data as of October 31, 2022. Dashed lines indicate forecasts.

Certain inflation drivers have started to roll over:

1. **Commodity prices.** Oil prices were approximately \$20 per barrel during the initial shock of Covid-19, briefly falling into negative territory in April 2020 but then moving to as high as \$120 per barrel following Russia’s invasion of Ukraine. This has created a big one-off inflationary boost. The energy price shock has been particularly acute in Europe, which relies on imported natural gas from Russia. The US is in a better position because it is largely self-reliant in terms of energy supply.

- 2. **Post covid reopening price pressures.** Booming demand for goods was not met with an adequately strong response from the supply side. Intense competition for goods (as evidenced by record-low inventory-to-sales ratios) created a powerful one-off inflation impulse with, for example, the cost of buying a second-hand car almost doubling in some places.
- 3. **Supply chain disruptions.** Some economies re-opened, but some did not. This has resulted in disruption of the flow of goods, which have in turn become very expensive. For example, the cost to ship a container from Shanghai to Los Angeles soared to close to ten times the normal rate, reflecting a big one-off inflationary impulse.

Figure 3. Temporary price pressures rolling over



(Left hand chart) Source: Bloomberg, Mercer. Data as of October 31, 2022. Chart rebased to 100 as at December 31, 2015.

(Right hand chart) Source: Bloomberg, Mercer. Data as of October 31, 2022. Chart rebased to 100 as at December 31, 2019.

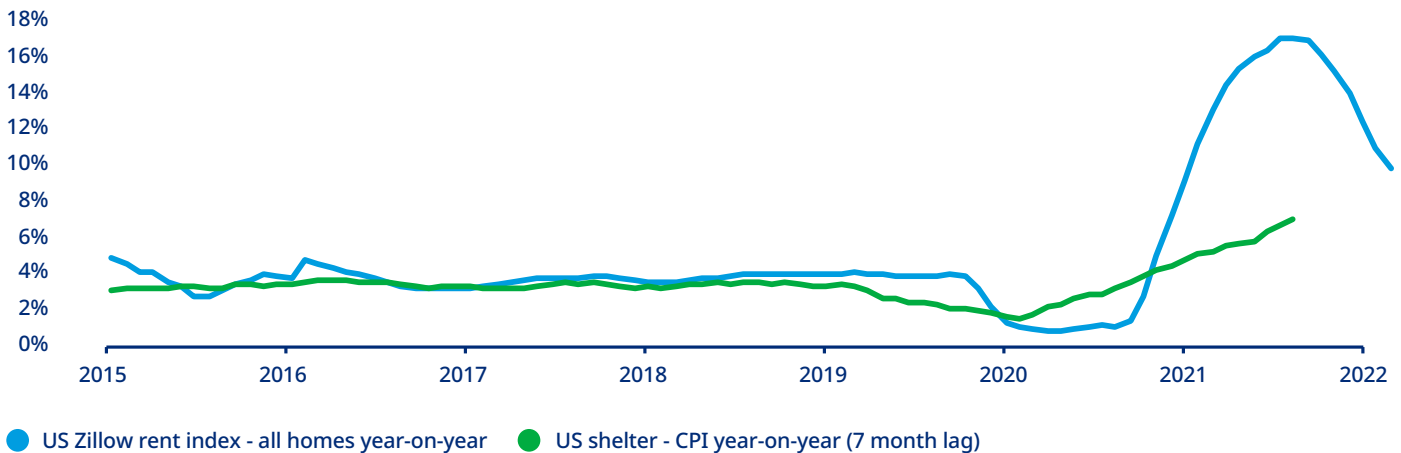
Persistent inflation drivers for 2023:

1. **Wages.** Low unemployment rates, high vacancy rates and subdued participation rates put pressures on wages to increase. Rising wages mean rising input costs, leading companies to boost prices to protect their margins. Consumers faced with higher prices demand more pay, and thus the impact of rising wages and inflation is recurrent and self-reinforcing.
2. **Housing.** Shelter or rental inflation is often thought as sticky as rents are slow to adjust. In addition there tends to a large lag between falls in rents as reported

by estate agents and rental inflation in inflation indices. Rental inflation is likely to remain high as we enter 2023, but could fall thereafter.

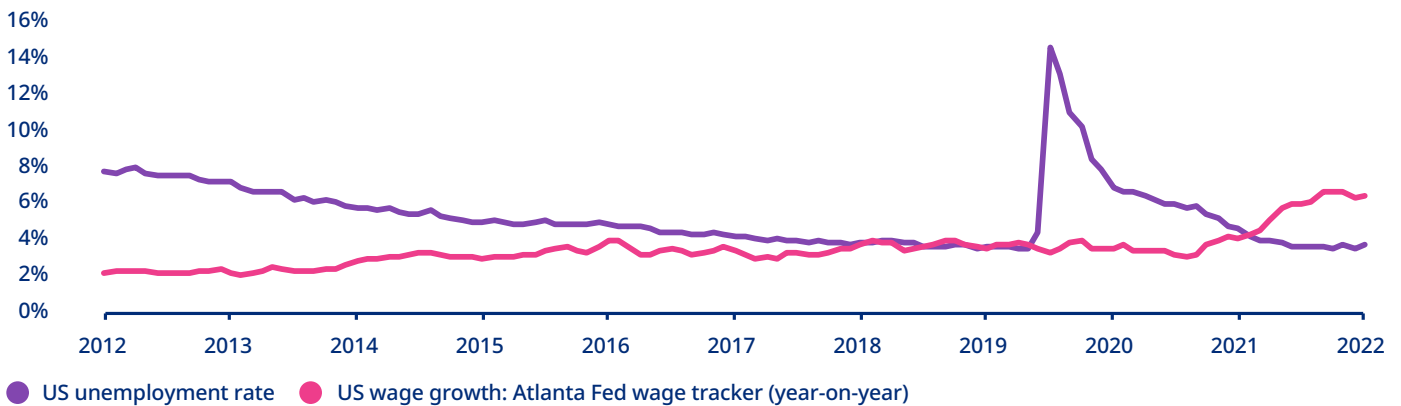
3. **Inflation expectations.** Experience also tells us that if people expect inflation, it is likely to occur. Such an expectation among employees will lead them to bargain for higher wages, while at the corporate level, businesses will adjust their prices accordingly. This creates a self-reinforcing cycle of higher inflation and wages. We note that longer-term expectations and consumer surveys have not yet become unanchored from targets.

Figure 4. Rental inflation may begin to decline as high frequency data tentatively shows a turn in rental prices



Source: Bloomberg, Mercer. Data as of October 31, 2022.

Figure 5. Labor markets remain tight



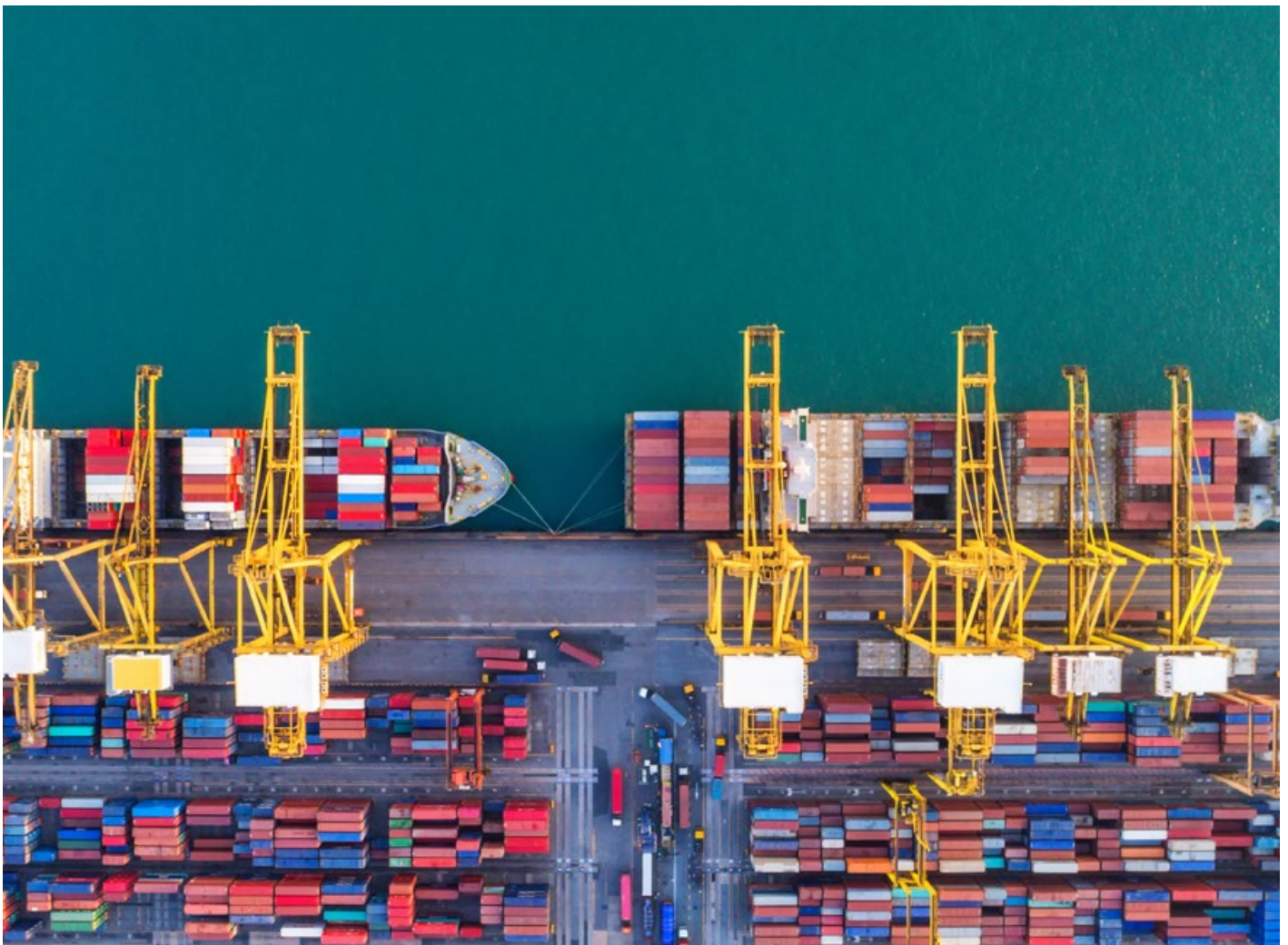
Source: Bloomberg, Mercer. Data as of October 31, 2022.

We believe inflation dynamics are about to improve as temporary drivers begin to lessen and permanent factors do not spiral out of control. We have already seen commodity prices roll over, and these should soon become a deflationary force, though European natural gas is likely to remain the exception as prices remain high (albeit not as high as in the summer of 2022) as a result of Russian supply cuts. Reopening price pressures have dissipated, with inventories being rebuilt and certain goods categories rolling over and becoming deflationary. We are also beginning to see the healing of supply chains, with the cost of shipping in particular dropping sharply since its peak in 2021.

Drivers of inflation that could persist in 2023 also appear manageable. Rising wages (approximately 5% year-on-year in the US) are likely to cause inflationary pressures from

labor markets to persist in 2023; however, we expect a lagged effect from monetary policy tightening that should lead to higher unemployment. We have begun to see some declines in certain rent measures within the housing market, which itself is broadly slowing as a result of higher interest rates reducing demand for mortgages. Although housing inflation may well continue to be a key driver of inflation in 2023 due to these lagged effects, the Federal Reserve is likely to look past this to more real-time measures of the state of the housing market when deciding on further tightening.

With headline inflation set to fall, inflation expectations should remain broadly contained – a key consideration given that, as we have noted, expectations of higher inflation can be self-fulfilling.



3. Growth bending, but not breaking

Key takeaways:

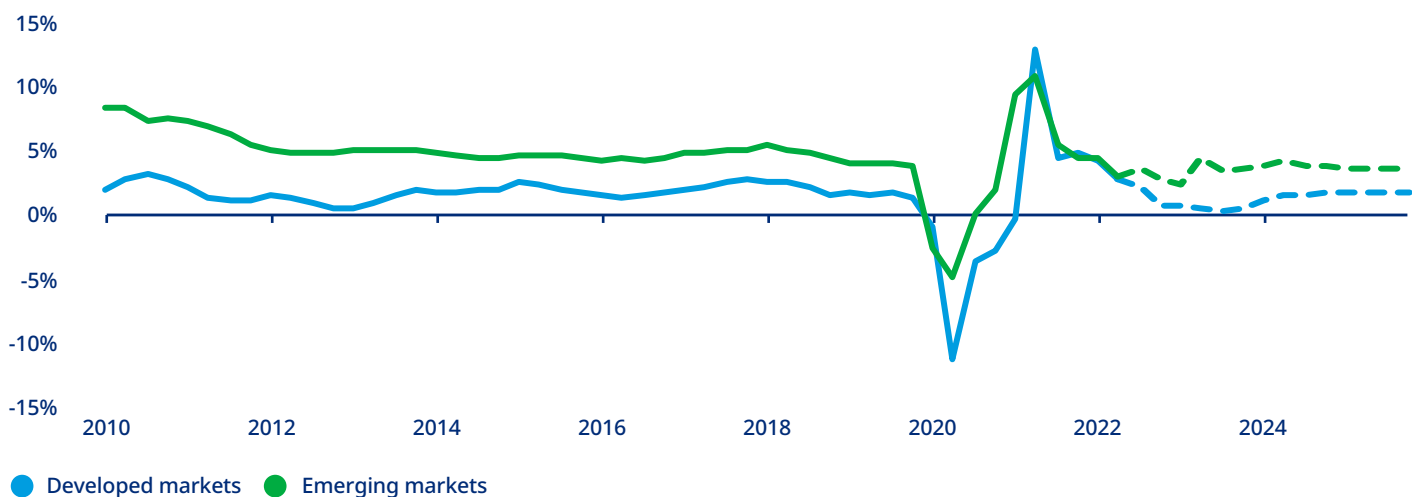
- Some economies are in worse shape and may already be in recession, while a general slowing globally appears likely.
- Economies are unlikely to break, with both consumers and businesses both having sufficient reserves to ensure resilience.

A continued slowing of the global economy looks likely. High inflation, particularly as energy costs reduce the real spending power of consumers, will exercise influence. That said, as previously noted, increases in energy costs in Europe are likely to be largely temporary in nature.

In addition, central banks are increasing the cost of borrowing, which reduces mortgage affordability. Those countries with more people on adjustable mortgages, such as the UK, Canada and Australia, will feel the effect of monetary policy more than the US, where mortgage rates

are usually fixed for up to 30 years. The increased cost of borrowing also affects the willingness of people to take out a loan to buy goods and services as the cost of servicing such financial commitments increases. Businesses should expect their financing costs to rise, and this could weaken investment. This leads us to believe that 2023 will be a year when many of these effects play out and economic activity flattens. Some economies are entering the year in worse shape than others, with the UK already likely in a recession as a result of the energy price shock.

Figure 6. Growth forecasts

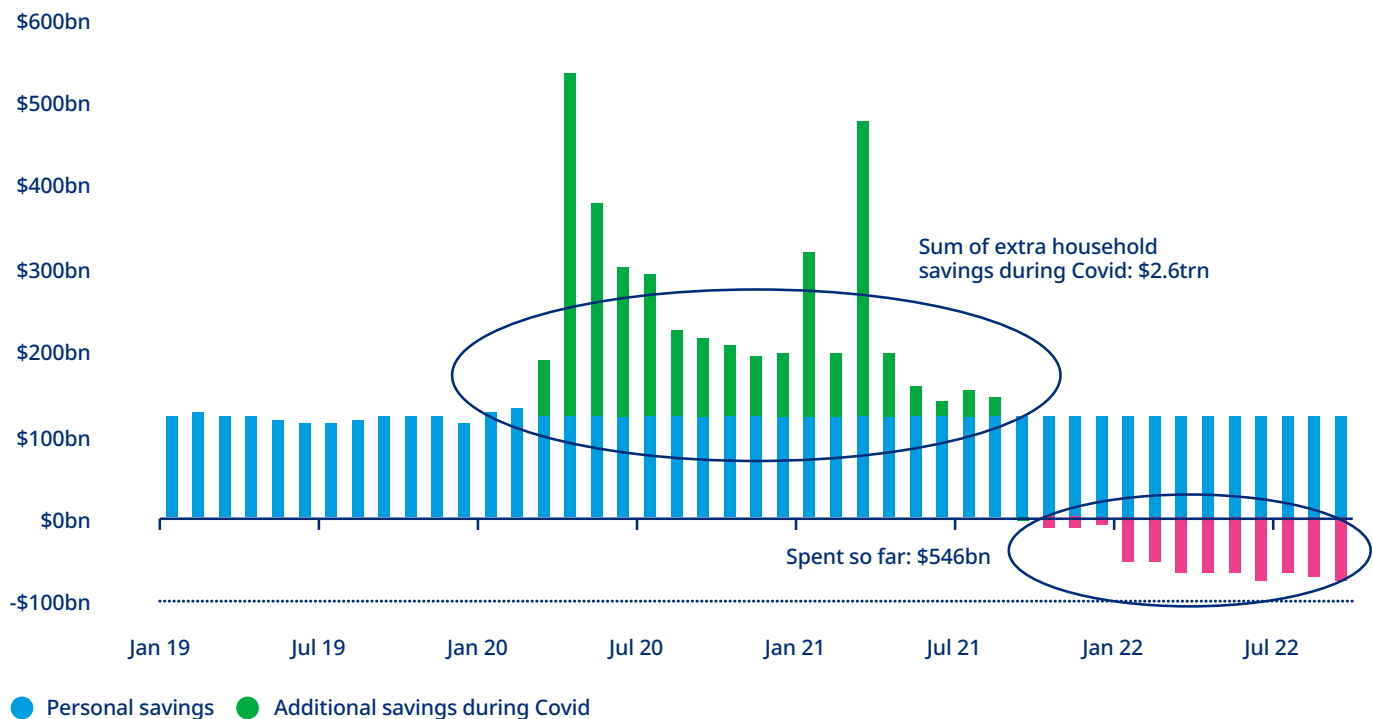


Source: Goldman Sachs, Mercer. Quarterly real year-on-year GDP. Data as of November 2022. Dashed lines indicate forecasts.

However, even as the global economy bends, it is unlikely to break. Consumers may have to cut back on discretionary items, but in aggregate they still have savings left from the last two years. Those savings can be utilised for essential items such as paying mortgages. The narrowing gap between the cost to borrow money and expected returns on investment has already led to a slowdown in capital spending, which is expected to persist. Businesses, however, have plenty of cash on their balance sheets and profit margins remain high, creating a resilience that should allow most to withstand ongoing macro headwinds. Longer term,

the transition to a green economy will drive sustainable infrastructure demand, leading to continued capital expenditure increases by corporates. Even if consumer spending and business investment slow, higher cash reserves and the absence of broad speculative excesses, as seen with the housing bubble prior to the global financial crisis, leave less room for a destructive deleveraging cycle. Of course, there are still pockets of excess that will be more affected, as evidenced by the crypto winter, sell-off in meme stocks and general slowdown in the tech sector.

Figure 7. Resilience in consumer balance sheets



Source: Bloomberg. Data as of October 31, 2022.

4. Central banks: keep fighting then pause

Key takeaways:

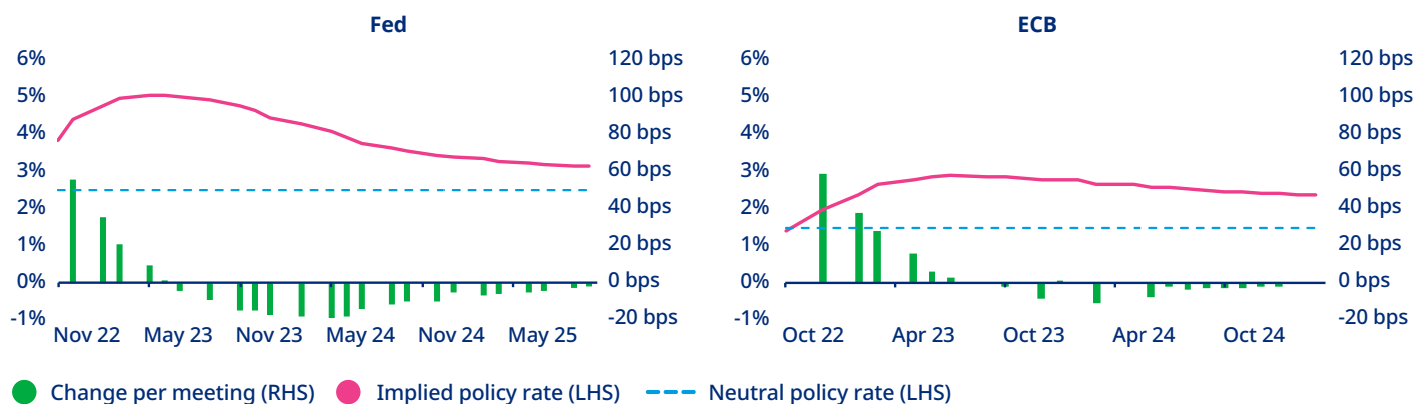
- Continued central bank action is likely in the immediate term, but at a more measured pace.
- Assessments of monetary policy impacts will be needed, likely necessitating a pause at some point in the first half of 2023.

Central banks are likely to keep hiking rates in the first half of 2023, but at a more moderate pace than we have seen over 2022. At some point in early to mid-2023, they will likely then pause. Monetary policy acts with a lag on growth, inflation and labor markets, so central banks will want to assess what impact past rate increases have had on the economy. In our central case (section 2), inflation levels out within 18 months without causing a major recession.

Some central banks are further along their tightening path than others; however, the theme across most developed market central banks in 2023 will be to pause and assess the impact of previous tightening. The Federal Reserve (Fed) has increased its policy rate by 375 basis points in 2022 to

4% and market-implied measures of future rate hikes are indicating a slowing pace of increases with rates peaking at close to 5%. Other central banks such as the European Central Bank (ECB) and the Bank of England (BOE) have also increased rates significantly in 2022. Whether the Fed and other central banks decide to cut rates in 2023 may drive sentiment in H2 2023. Our guess is that the Fed does not cut rates in 2023, although as we have seen, things can turn quickly. The Bank of Japan (BOJ) is the standout developed market central bank to not have increased rates through 2022. The Reserve Bank of Australia (RBA) has already begun to slow the speed of rate hikes in 2022, increasing rates by only 25 basis points at its November meeting.

Figure 8. Central bank pricing for 2023 for the US and Euro area



Source: Goldman Sachs, Mercer. Data as of November 21, 2022. The neutral policy rate is an assumed rate where monetary policy is deemed to be neither contractionary nor expansionary.

5. Key risks

Key takeaways:

- Inflation remains a key risk to economies.
- Further aggressive action by central banks – albeit not a central case – would likely increase the risk of a major recession.
- Significant questions remain over China and the European energy crisis.

High and sticky inflation that prompts further aggressive central bank actions is a key risk. As annual inflation rates decline in 2023, there is a risk that they will not fall far enough and instead remain entrenched at higher rates than central bank policy makers would appreciate. Very tight labor markets certainly point to this, unemployment rates remaining close to historic lows and vacancies close to historic highs. If inflation does not fall enough, further aggressive action by central banks would significantly increase the risk of a major recession. We do not view this as part of our central case, but see it as a significant downside scenario and one that would continue to negatively impact equities and bonds. There is also a risk that central banks have already tightened too much, and with the long lags before monetary policy takes effect, economies are already heading for a deep recession.

The other major risk relates to China, where the recent power consolidation by Xi Jinping and the announcement that China will be more inward-looking and prioritize

national security raise sizeable questions about the country's growth priorities.

Geopolitical shocks tend to be short-lived in markets. That said, some have longer-term influence in terms of their impact on the world order and economies. Geopolitical risk should be seen as a key tail risk going into 2023 given the tense environment after Russia's incursion into Ukraine. A nuclear escalation between Russia and Ukraine, a US-China military or trade escalation over Taiwan and a US-Iran escalation are all possibilities that should be causes for concern.

The European energy crisis is a major two-way risk with a range of outcomes. If Europe has a mild winter and there are no major events on the supply side, it should easily have enough gas over the winter months. However, if it has a very cold winter or some event further damages supply, natural gas and thus electricity prices could see further upward pressure.

6. Markets

Equities

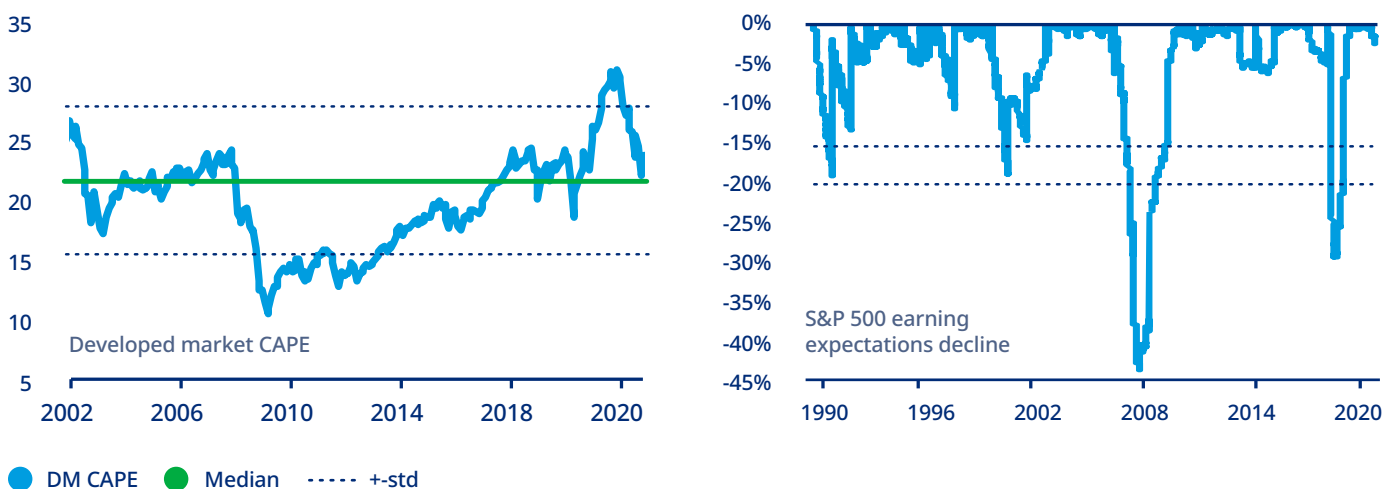
Developed market equities had a difficult time in 2022. They declined 16%¹ to November 22, 2022, putting them firmly in bear market territory. Turning to emerging markets, equities fell by 23%² as China's weakness led emerging markets downwards, despite a strong performance from commodity-producing countries such as Brazil. The strong US dollar helped undermine emerging economies and markets. Small cap equities suffered due to their cyclical sensitivity, while defensive equities were also weak. Equity performance was driven somewhat by a strong US dollar, which mitigated the portfolio impact for unhedged non-US dollar investors.

As we move towards 2023, our positioning in equities is neutral. Valuations have improved markedly over 2022 across all sub-asset classes. Still, global equities by some valuation measures are only back to their long-term averages. Investors appear to be heavily underweight global equities and are fearful of the future. The famous Warren Buffet quote – “we simply attempt to be fearful when others are greedy, and greedy when others are fearful”³ – suggests that now could be an attractive opportunity to invest more in equities. However, our overall

view is neutral given the likelihood of low or negative corporate profit growth and remaining concerns over interest rates and inflation. The more aggressive repricing in fixed income means that, in some cases, bonds offer a better risk-to-reward trade-off.

Our base case is that central banks will soon pause monetary tightening and that inflation will fall back to target levels in the coming years. However, there is a chance that this scenario will not play out and that inflation will become more entrenched, which would certainly be a difficult environment for equities. We also believe that current earnings estimates are optimistic given the ongoing slowdown in economic activity. Earnings growth has begun to slow but we have not seen a sharp downturn in estimates just yet. We are neutral between developed and emerging market equities; for the latter, macro headwinds and elevated political risks still offset their valuation advantage over developed markets. Nonetheless, if the US dollar were to fall – which we expect at some point, although not necessarily in 2023 – emerging markets could outperform, perhaps materially.

Figure 9. Equity valuations (below left) have decreased but the earnings outlook is yet to significantly de-rate (below right).



(Left-hand chart) Source: Bloomberg, Mercer. Data as of October 31, 2022.

(Right-hand chart) Source: Ninety One, Bloomberg, November 2022.

¹ Source: Bloomberg. MSCI World Net Total Return USD Index. Year-to-date performance to 22 November 2022.

² Source: Bloomberg. MSCI Emerging Markets Net Total Return USD Index. Year-to-date performance to 22 November 2022.

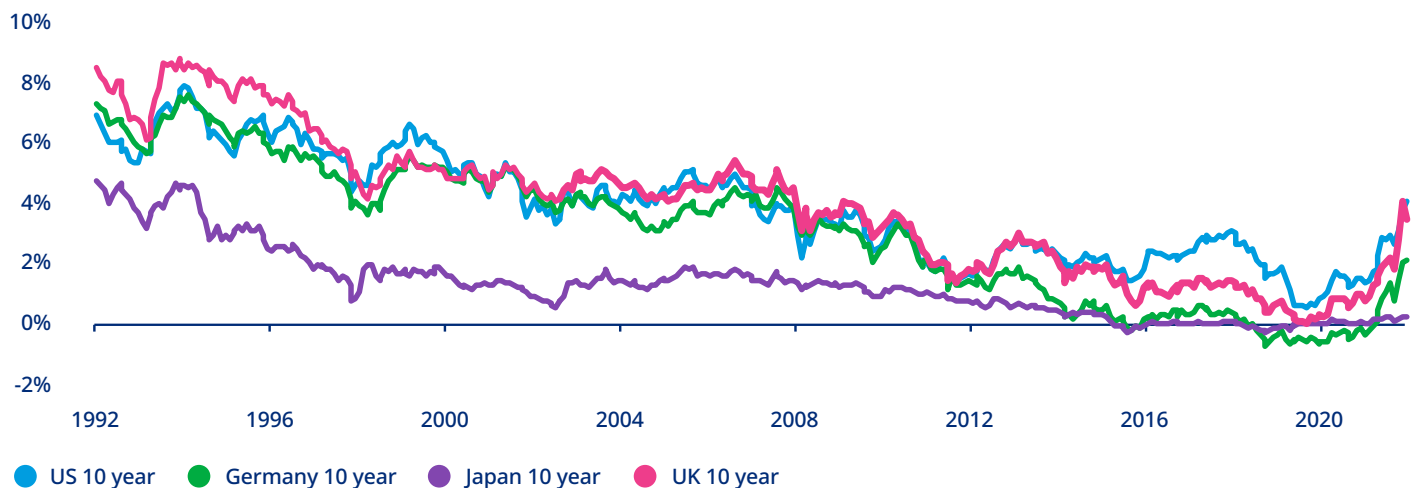
³ Berkshire Hathaway – Chairman's Letter 1986 - <https://www.berkshirehathaway.com/letters/1986.html>

Bonds

2022 saw the first global bear market in government bonds for over 70 years⁴, with prices adjusting to an environment of high inflation and sharply rising interest rates. Nominal bond yields rose broadly across all maturities, outside China. Inflation-linked or 'real' bond yields also rose sharply, returning to positive territory as central banks unwound their post-global-financial-crisis easing. Yield curves flattened and even inverted in some regions, as yields at the shorter-dated maturities increased to price in the tightening of central bank policies. US 2-year and 10-year yields rose by 378 and 225 basis points, respectively, over the year to November.⁵

We moved our duration positioning from underweight to neutral earlier this year as bond yields have come a long way, reflecting a significant increase in central bank policy rates. We are hesitant to go overweight at this stage due to the tail risk posed by inflation becoming entrenched, which would put further upward pressure on bond yields. We do retain a slight preference for inflation-linked bonds relative to sovereign bonds, however, due to their inflation linkage with realised inflation remaining well above expectations.

Figure 10. Government bond yields have surged



Source: Bloomberg. Data as of October 31, 2022.



⁴ Deutsche Bank – Long Term Asset Return Study – September 2022

⁵ Source Bloomberg. December 31, 2021 to November 22, 2022.

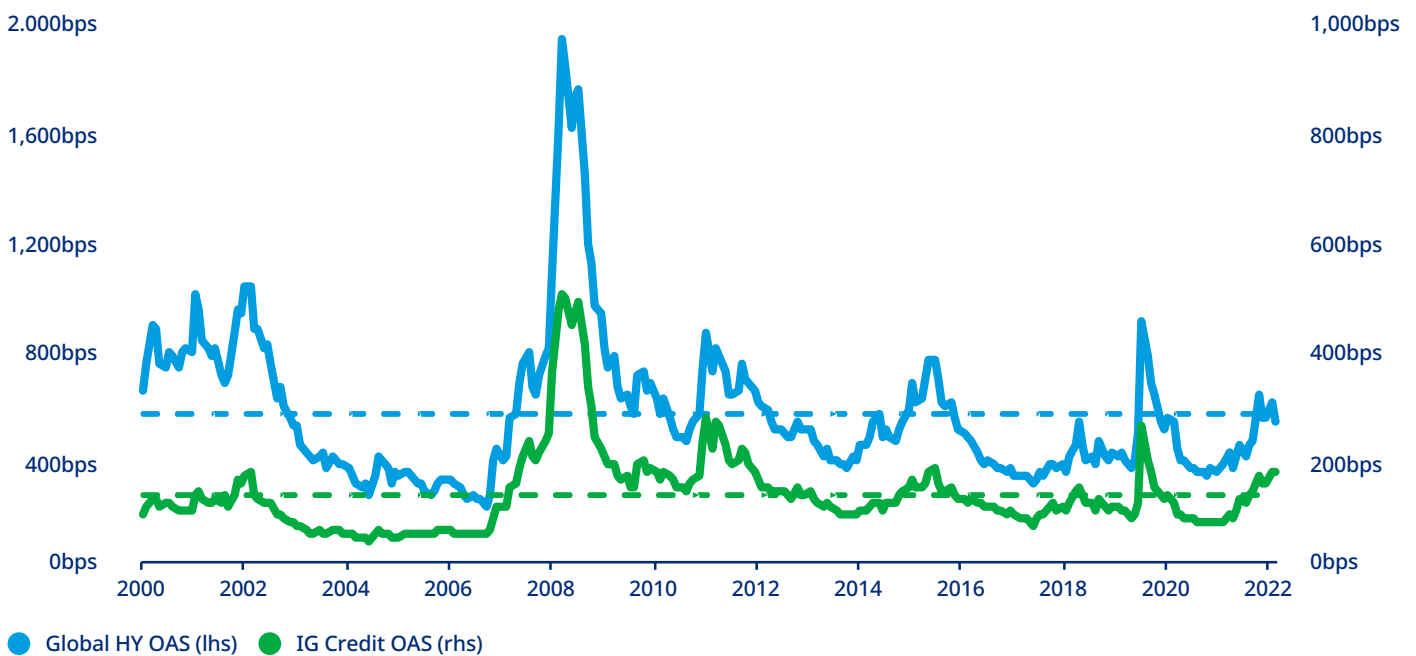
Credit

Both investment grade and high-yield bond yields increased over the year, with total returns reaching -15% and -18%, respectively⁶. Although corporate fundamentals had remained robust, a big sell-off in duration-linked assets, coupled with concerns about global economic growth and high inflation, meant that corporate bond pricing adjusted aggressively.

Our view on investment grade and high-yield credit is constructive. A close to 9 percent all-in yield for

global high yield, alongside rising but still low default activity, make the asset class an attractive opportunity. Although spreads are only slightly wider than their longer-term averages, defaults are unlikely to pick up significantly due to the limited upcoming maturities, stronger corporate balance sheets and our expectation that the US will avoid a deep recession. The case for investment grade is similar, with low downgrade and default expectations, but we have a slight preference for high-yield corporate bonds.

Figure 11. Global high-yield spreads



Source: Bloomberg, ICE, Mercer. Data as of October 31, 2022. Dashed line indicates the median OAS for the respective asset class over the period.

⁶ Source: Bloomberg. Investment grade credit (ICE BofAML Global Broad Markets Corporates) & Global High Yield (ICE BofAML Global High Yield Constrained). Data as of November 22, 2022.

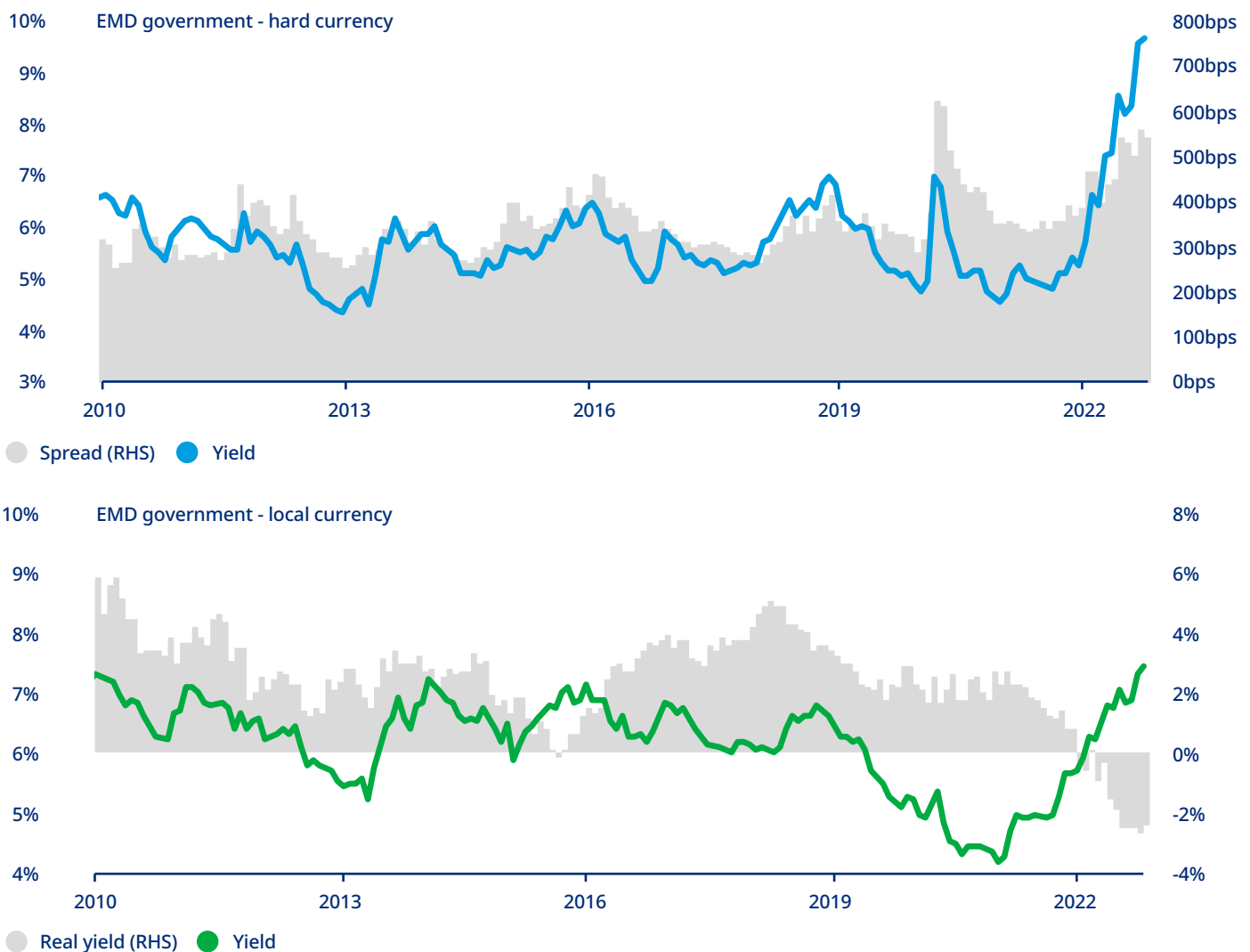
Emerging market debt

Emerging market debt (EMD) for both local currency (LC) and hard currency (HC) did not escape the broad sell-off in growth assets, with the local index witnessing a return of -15% and the hard index down slightly more, at -20%⁷; the expulsion of Russia from the EMD indices and its assets being marked to zero weighed on performance, although there was weakness elsewhere as well. While central banks in emerging markets reacted earlier to rising inflation pressures, which created a layer of resilience for their economies, tightening financial conditions from the US coupled with a very strong dollar ultimately drove the asset

class lower. Geopolitical shocks such as Russia’s incursion into Ukraine and a number of high-profile sovereign defaults in frontier markets (amounting to 12% of EMD HC indices⁸) did not help these assets.

As our growth fixed income view is dominated by our preference for global high yield, we remain neutral on emerging market debt (within growth fixed income) but with a slight tilt towards local currency relative to hard currency, a view that is driven by historically cheap emerging market currencies.

Figure 12. EMD valuations



Source: JP Morgan Indices, Refinitiv, Mercer. Data as of October 31, 2022.

⁷ Source: Refinitiv. JP Morgan GBI EM Global Diversified Composite (Local Currency), JP Morgan EMBI Global Diversified Composite (Hard Currency). Data as of November 22, 2022.

⁸ Source: JP Morgan. Data as of October 11, 2022.

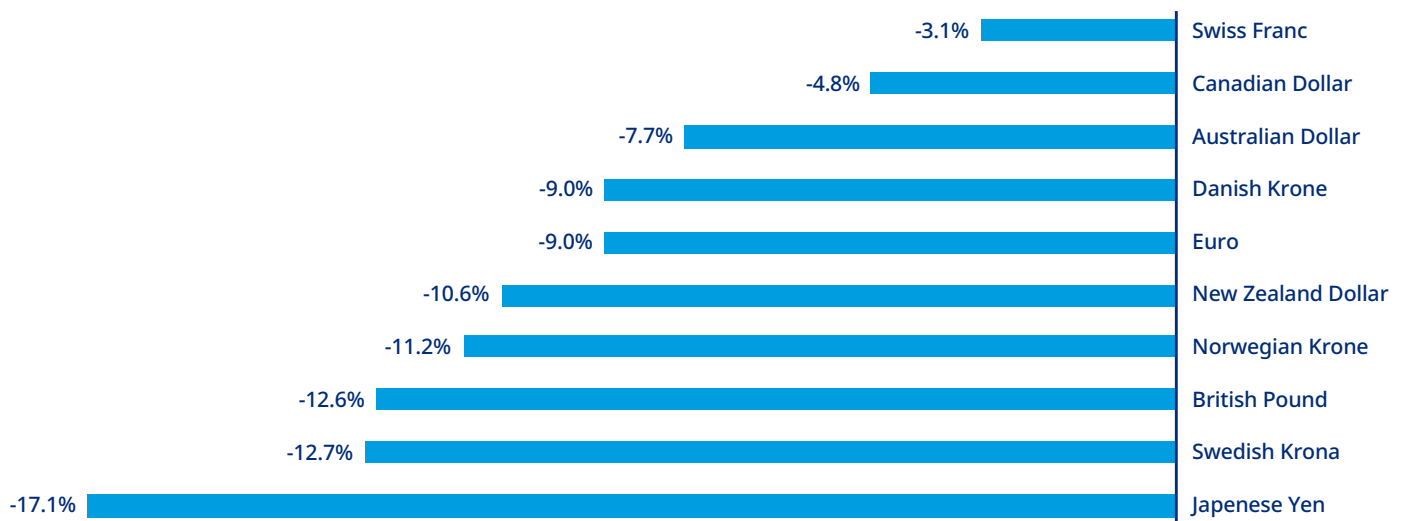
FX

The US dollar has gone from strength to strength this year, boosted by many tailwinds. US energy resilience, the carry advantage of US interest rates versus currencies such as the euro and the yen, and safe-haven demand have all helped the dollar to become one of the best performing currencies this year. The yen's weakness versus the dollar was intense enough to force the Bank of Japan to begin intervening in currency markets.

Following the rally in 2022, the US dollar has become notably overvalued against most developed and emerging market currencies. On a real effective exchange rate basis, the yen is now at a valuation level last seen in the 1970s⁹. Over the long term, we would expect the dollar to depreciate against its developed and emerging market

counterparts. The factors that have supported the US dollar in 2022, including higher rates and energy security and problems elsewhere are likely to remain in place as we enter 2023 and we thus retain a neutral view. However, the dollar's supports may start to fade over time, especially if the risks to the dollar are beginning to be skewed to the downside, especially if the European energy crisis is resolved (meaning a large rally in the euro) or if the Bank of Japan moves away from its aggressive monetary easing policy (meaning a large rally in the yen). For those clients with a longer-term investment horizon, valuations of most major currencies are approaching multi-decade lows versus the US dollar and this may be a good time to position for a weaker dollar in the longer term.

Figure 13. Major currencies vs. US dollar



Source: Bloomberg. Data as of November 11, 2022.

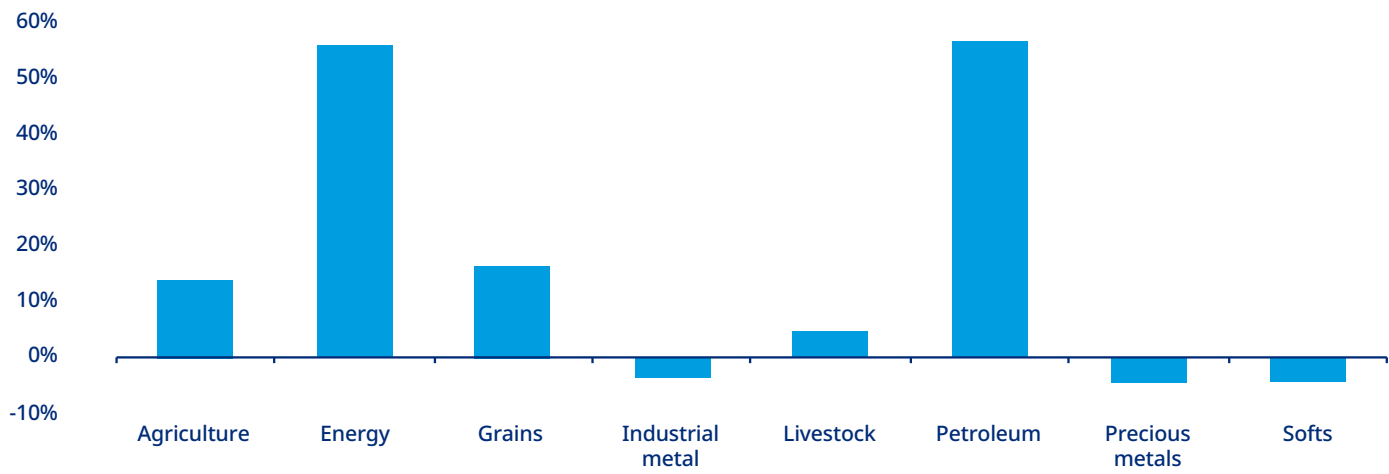
⁹ Source: Bloomberg. Data as of October 27, 2022.

Commodities

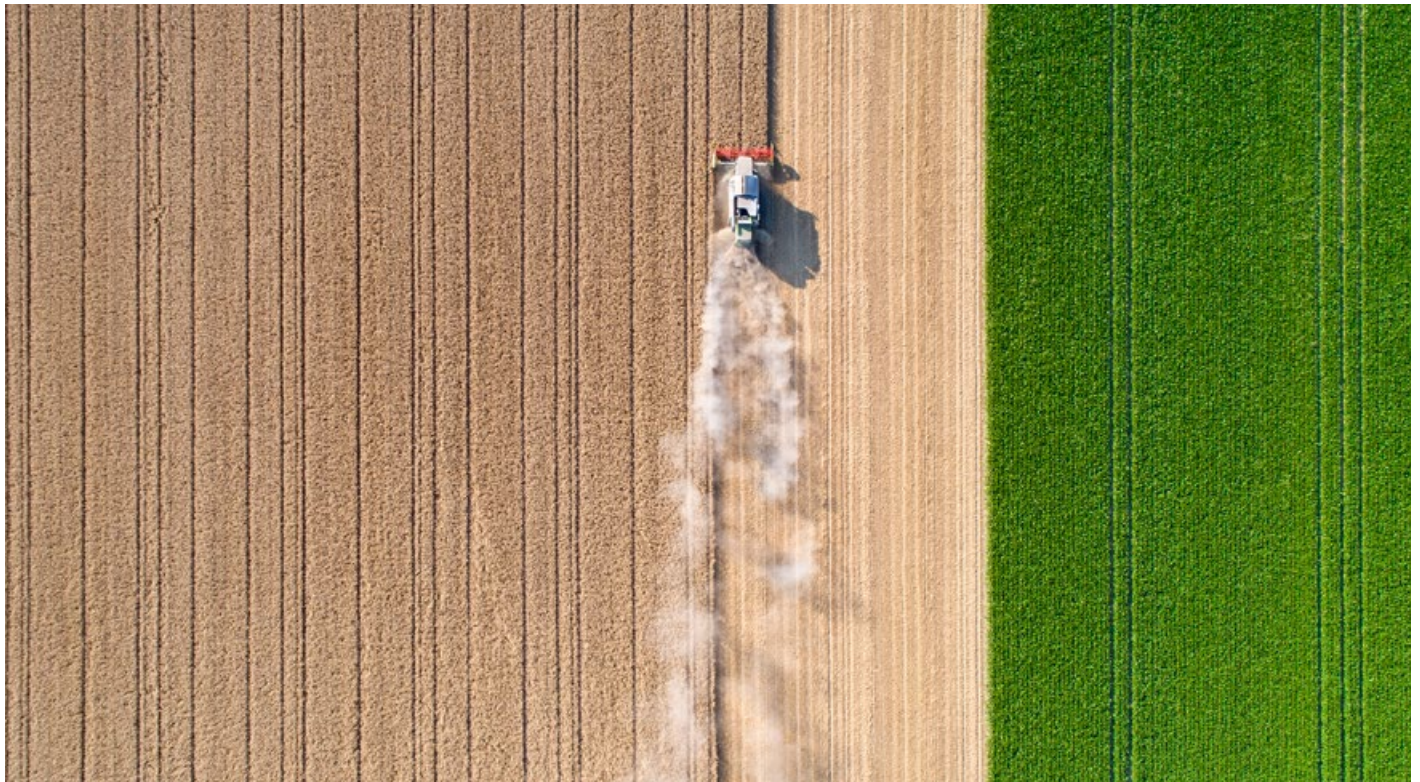
One of the few asset classes to produce positive returns was commodities, rallying 19% due to strong demand and the Russia-Ukraine conflict.¹⁰ The rally cooled somewhat later in the year amidst recession fears and China's slowdown. The main reason for the strong upwards impulse for commodities was Russia's invasion of Ukraine and the

subsequent political gesticulation, which culminated in Russia cutting supply of natural gas to Europe. The invasion also impacted industrial metals prices and soft commodities such as wheat. Gold and precious metals more broadly underperformed relative to other commodities, struggling in an environment of rising real yields.

Figure 14. Commodity total returns 2022 YTD



Source: Bloomberg. Data as of November 11, 2022.



¹⁰ Source: Bloomberg. Bloomberg Commodity Total Return Index. December 31, 2021 to November 22, 2022.

Summary

The aftermath of the pandemic, geopolitical volatility, rising inflation and supply chain deficiencies provided significant headwinds to economies in 2022. Developed market economies will likely continue to weaken over the coming year; however, we believe the outlook is not quite as gloomy as it might first appear. Price pressures that have plagued markets and economies over the past year are beginning to fade, although inflation is unlikely to fall back to central bank targets over the coming year.

Following the fastest monetary tightening cycle in two decades, a meaningful slowdown in inflation should allow central banks to pause and then end tightening in 2023. Whether central banks go one step further and pivot towards looser monetary policy will be a key driver of market sentiment in 2023. Numerous geopolitical events are likely to remain, but perceived resolutions of one or

more of the current problems could provide significant tailwinds to markets.

We believe short-duration corporate credit and high-yield bonds look appealing as a result of attractive yields and the prospect of possible defaults and downgrades rising only moderately. For sovereign bonds, equally attractive yields must be weighed against the risk of rates not peaking early next year as currently implied by markets. Questions remain over equities, where improved valuations must be balanced against possibly optimistic earnings expectations and ongoing interest rate and inflation worries. In spite of a high valuation, momentum for the US dollar could continue in the short term as long as the rest of the world faces a less favorable outlook than the US, but we view a depreciation from current levels as increasingly likely over a medium- to long-term horizon.



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Portfolio expectations are forward looking and reflective of Mercer's Capital Market Assumptions, as defined by asset class and incorporating return, standard deviation, and correlations. Our process for setting asset class expected returns begins with developing an estimate of the long term normal level of economic growth and inflation. From these two key assumptions, we develop an estimate for corporate earnings growth and the natural level of interest rates. From these values, we can then determine the expected long term return of the core asset classes, equity and government bonds. We combine current valuations with our expectations for long term normal valuations and incorporate a reversion to normal valuations over a period of up to five years. Volatility and correlation assumptions are based more directly on historical experience except in cases in which the market environment has clearly changed. Manager impact on performance is not incorporated into expectations. The views expressed are provided for discussion purposes and do not provide any assurance or guarantee of future returns.

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