2022 Midyear Investment Outlook

Executive summary

Introduction

Much of the world continues to move past the COVID-19 pandemic, but its remarkable effects on economies and policies remain top of mind as a new set of uncertainties enters the picture. Historic pandemic-era moves by both fiscal and monetary policymakers had already reawakened inflation after a multi-decade slumber in most economies. Then Russia's invasion of Ukraine exacerbated these inflationary pressures while also exerting downward pressure on economic growth through a surge in commodity/energy prices. Markets are contending with all this, just as some major central banks are tightening policy. Our outlook seeks to assess the balance of geopolitical risks against a backdrop of elevated global inflation and diverging monetary policy.

Our base case

We assume in our base case that hostilities continue in the current vein without the escalation that might cause an abrupt disruption to Russian energy supplies to Europe (either because of an EU boycott or an embargo from Russia). With uninterrupted energy supplies but still high energy prices, Europe faces high inflation and slowing growth through 2022 and into 2023, a challenging combination that we expect to translate into only one or two ECB rate hikes in 2022. In the US, we expect continued momentum from the post-Omicron reopening to help sustain growth despite the Federal Reserve's (Fed) aims to achieve a neutral policy rate as quickly as possible during 2022, in addition to shrinking its balance sheet. In contrast with major developed Western economies, China continues to be in a substantially different cyclical position, largely driven by continuing challenges resulting from the pandemic. We expect a reacceleration of Chinese growth in the second half of 2022, largely driven by policy support. Average market volatility is likely to remain higher than in 2021 as markets digest tighter monetary conditions.

Russian Energy Cut-off Scenario

The world experiences an energy shock by a Russian embargo or European boycott of energy trade, resulting in significantly higher inflation, especially in Europe. We assume this results in stagflation in Europe and bites into real incomes throughout the globe, resulting in overall lower global growth.

Improved War Outlook Scenario

A surprise de-escalation of hostilities almost eliminates the risk of an embargo or boycott on Russian energy, in turn reducing the current geopolitical risk premium in energy prices and other key commodities. We expect this to yield overall higher growth and expand the leeway for central banks to tighten monetary policy globally.

Our base case anticipates higher inflation and slowing growth globally, but not recession.

Our Russian energy cutoff scenario anticipates higher inflation and lower growth globally, with a higher risk of recession.

Our improved war outlook scenario anticipates more growth and lower inflation globally but more policy tightening for most major developed economies.

Summary of our scenarios and related asset allocation guidance

	Russia energy cutoff	Base case	Russia-Ukraine de-escalation
	Global energy shock results in significantly higher inflation, resulting in stagflation and recession in Europe and accompanied by lower real incomes and growth globally.	Inflation peaks in mid-2022, cooling gradually into 2023. DM central banks maintain current tightening expectations. Economies glide into trend real growth rates.	A surprise de-escalation of hostilities reduces current geopolitical risk premia in commodities, resulting in higher growth, lower inflation, and tighter monetary policy globally.
Portfolio Stance	Underweight risk relative to benchmark. Yield curves to bear flatten in 1970s style. Underweight cyclical sectors except energy. Short duration stance, favoring inflation-linked bonds. Outperformance of more liquid/defensive parts of market.	Neutral risk stance relative to benchmark. Expect modest positive returns with narrow dispersion in performance between bonds, credit, and equities. Overweight equities relative to fixed income, tilted to defensives, quality and low volatility. Underweight risky credit.	Overweight risk relative to benchmark. Expect a reacceleration in growth, with higher bond yields, even tighter monetary policy, and rising global risk appetite. Overweight risk credit, sovereign bonds versus credit, value-oriented regions, and cyclical sectors. Underweight duration.
Equity Regions	**US** over DM ex-US; **DM** over EM	**US** over DM ex-US; **Neutral** DM vs. EM	**DM ex-US** over US; **EM** over DM
Equity Sectors/Factors	Energy; Real estate; Large caps; Low volatility	Info tech; Health care; Large caps; Quality	Industrials; Financials; Value; Small/Mid caps
Fixed Income	Government over credit; Quality credit over risky; Inflation-linked bonds over nominal	Quality credit over risky; Neutral duration; Nominal bonds over inflation-linked	Short duration; Risky credit over quality; Credit over government
Commodities / Alternatives	1st lien private credit; Core real estate	Value add real estate; Core+ infrastructure; Energy	2nd lien private credit; Large buyout
Currencies	USD; BRL; CAD	IDR; CAD; USD	EUR; AUD; ZAR

Source: Invesco. The asset choices are designed to show our favored assets within a diversified selection of asset categories. Diversification does not guarantee a profit or eliminate the risk of loss.

Where are we in the cycle?

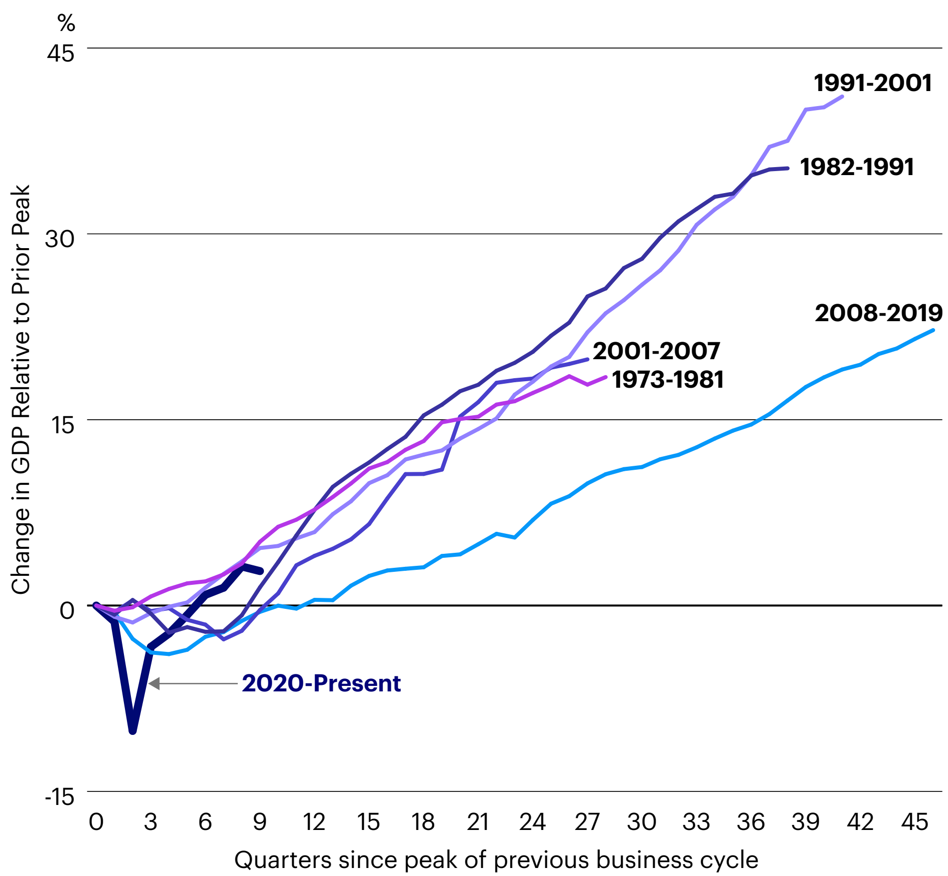
Inflation headwinds and slowing growth indicate many developed markets are in late cycle

While pandemic-driven factors continue to complicate cycle analysis, we nevertheless see higher inflation and slowing growth, indicating a late-cycle environment.

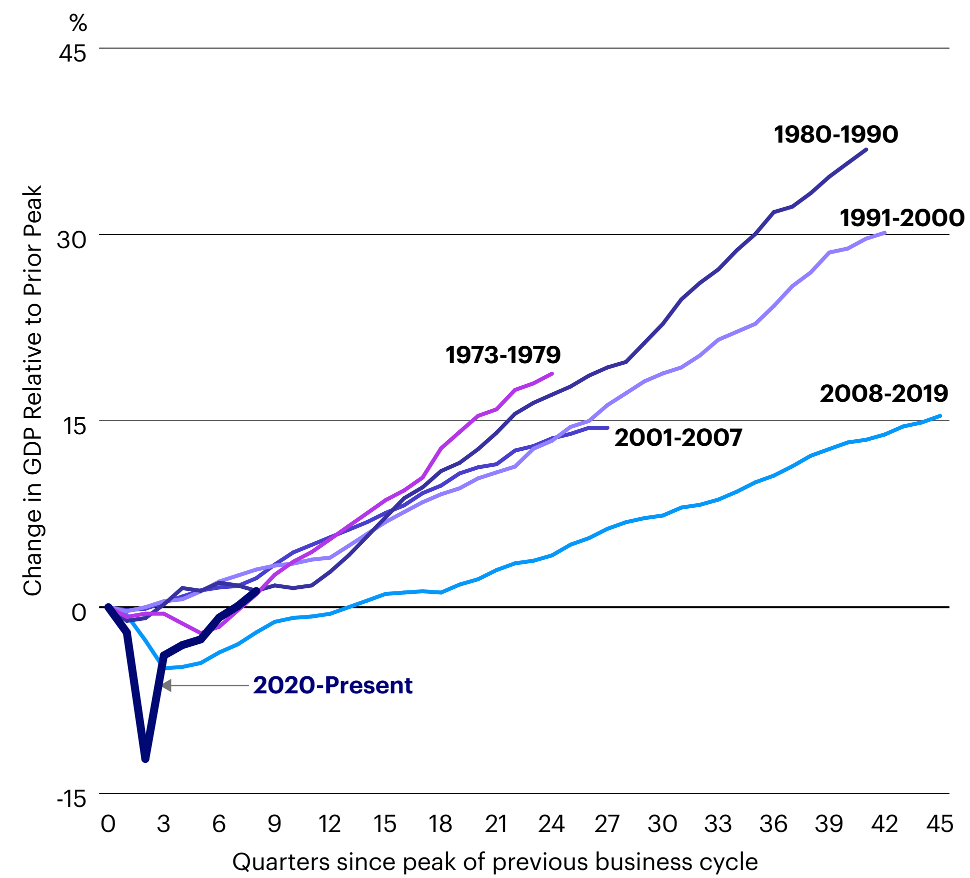
The remainder of 2022 is likely to bring a slowdown in growth for major developed economies, but we expect growth to pick up to trend rates as economies digest current geopolitical tensions.

Major Western central banks such as the Fed are in the midst of a delicate balancing act, trying to tighten monetary policy enough to cool the economy and lower inflation but not tightening so much as to send their respective economies into recession.

US GDP growth during business cycles



G7 GDP growth during business cycles



Sources: Macrobond, OECD and US Bureau of Economic analysis. As of March 31, 2022.

We see inflation peaking in mid-2022, accompanied by tighter monetary policy

Commodity prices and availability are key in determining effects on economies

More inflation less growth

Russian energy cutoff

Stagflation in Europe, and worse inflation across most economies

US and China to print weaker growth

Less monetary tightening in afflicted DMs and EMs

Base case

Inflation peaks in mid-2022, cooling gradually into 2023

Fed tightens toward neutral, ECB hikes marginally, and PBoC may ease

Growth lower due to elevated commodity prices but returning to trend rates in 2023

Higher probability

Less inflation more growth

Easing of tensions with Russia

Inflation impact less severe, along with higher growth

Greater growth helps enable monetary policy-makers to tighten more aggressively

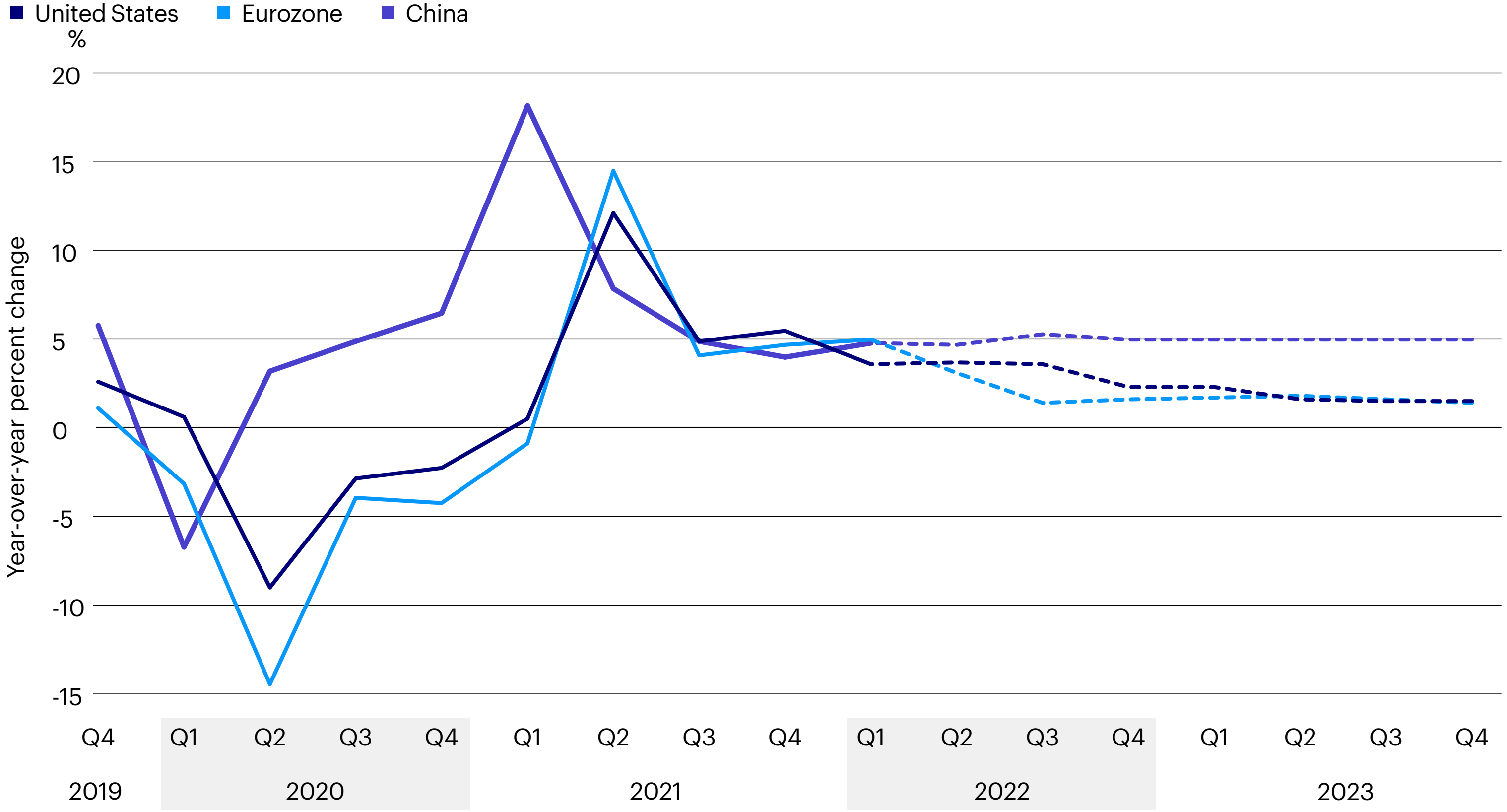
- While there are a variety of upside and downside risks, we view energy prices and their impacts on inflation as the distinguishing variable across our scenarios. That, in turn, means the outlook for the back half of 2022 is largely dependent on what happens vis-à-vis the Russia-Ukraine crisis.
- In our base case scenario, we believe inflation will peak mid-year 2022 and slowly moderate in the US and other major developed countries as squeezed real incomes and monetary tightening reduce demand.

Source: Invesco. For illustrative purposes only.

What's the direction of economies?

US, eurozone growth to continue slowing; China to slow temporarily before reaccelerating

GDP growth figures ahead
Invesco's assumptions for year-over-year GDP growth



- Following large fiscal programs and very accommodative monetary policy, we see economies continuing to slow from their elevated post-pandemic growth rates and converging to trend in 2023 – but with key challenges.
- We see the US and eurozone (EZ) benefiting from a post-Omicron reopening in the second half of 2022, gliding into trend growth rates as we move through 2022.
- The eurozone is challenged by higher energy prices (and potentially curtailed supply) as well as the loss of export markets due to the war in Ukraine. These effects are likely to be at their most significant in the middle of 2022 as markets assess geopolitical risk premia.
- Chinese growth is in what we see as a temporary period of slower growth driven by COVID-19-related factors. However, we expect a policy-induced reacceleration throughout the rest of 2022 and a return to potential thereafter.

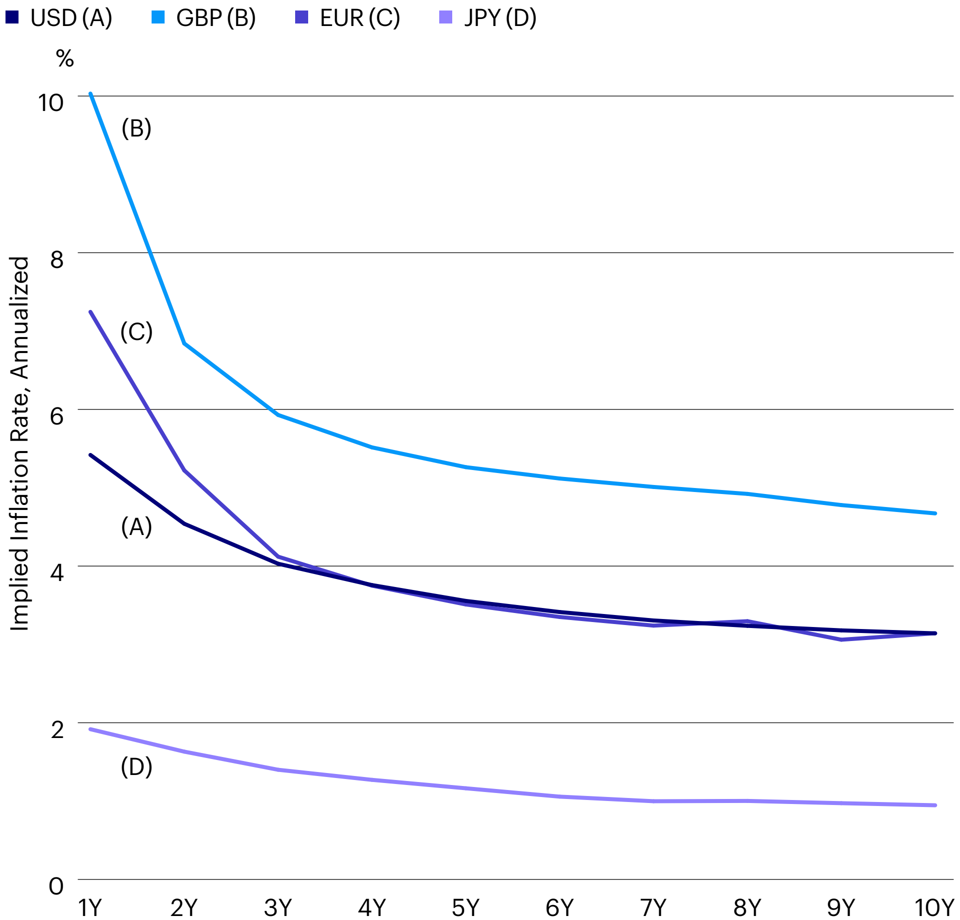
Sources: Bloomberg L.P. and Invesco, as of April 30, 2022. Dashed lines indicate expected growth path. There can be no assurance that stated figures for future dates will be realized.

Inflation expectations are up but concentrated in the near term

Longer-term inflation expectations remain reasonably anchored

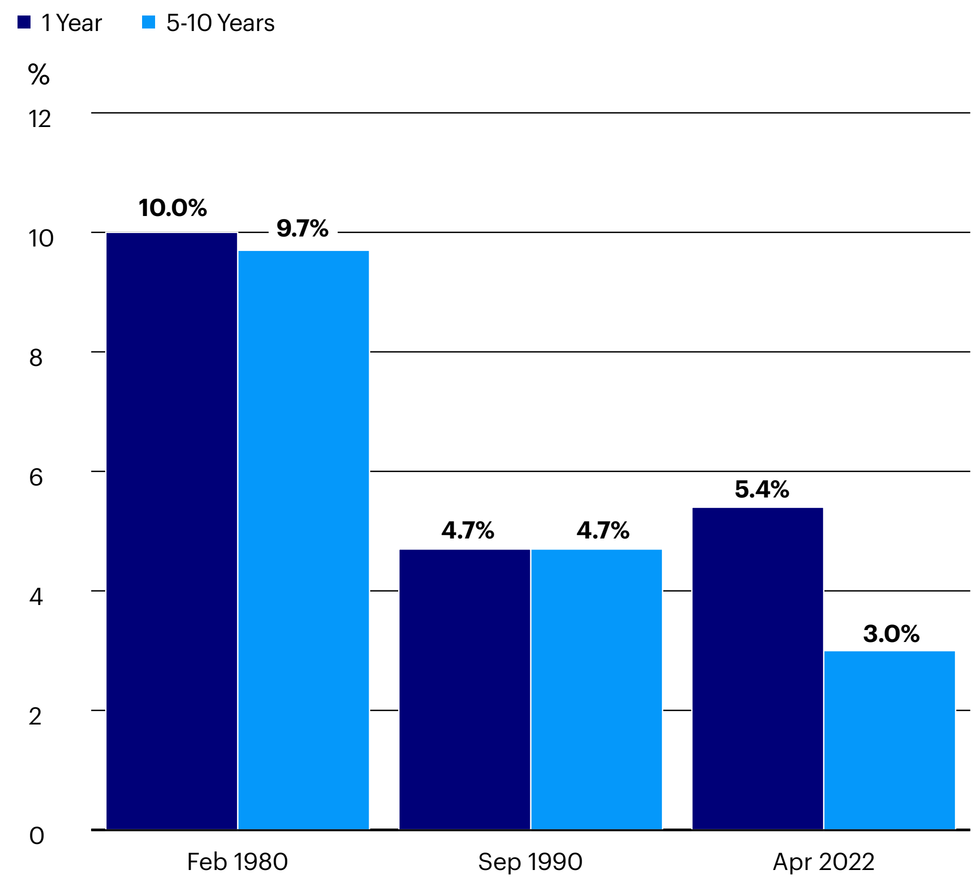
- Heightened inflation expectations hasten monetary policy tightening cycles, which in turn hasten the end of business cycles.
- Currently, inflation is well above the US Federal Reserve's (Fed's) "comfort zone," and 1-year inflation expectations for the US, UK, and the eurozone, both market-based and consumer survey-based, are high. However, longer-term inflation expectations appear relatively well-anchored.
- A historical perspective is also encouraging when we look at the US. Inflation expectations ahead of the 1980 and 1991 recessions were elevated for the 1-year ahead and 5-10 year ahead periods. That is not the case now, as longer-term inflation expectations are not nearly as high. This anchoring may provide the Fed with the cover to not tighten policy so significantly that a recession ensues.

Market-based expectations are elevated in US and Europe – but focused in shorter term



US consumer inflation expectations are concentrated in near term – unlike past inflation episodes

University of Michigan Survey of Consumers:Median Inflation Expectations in...

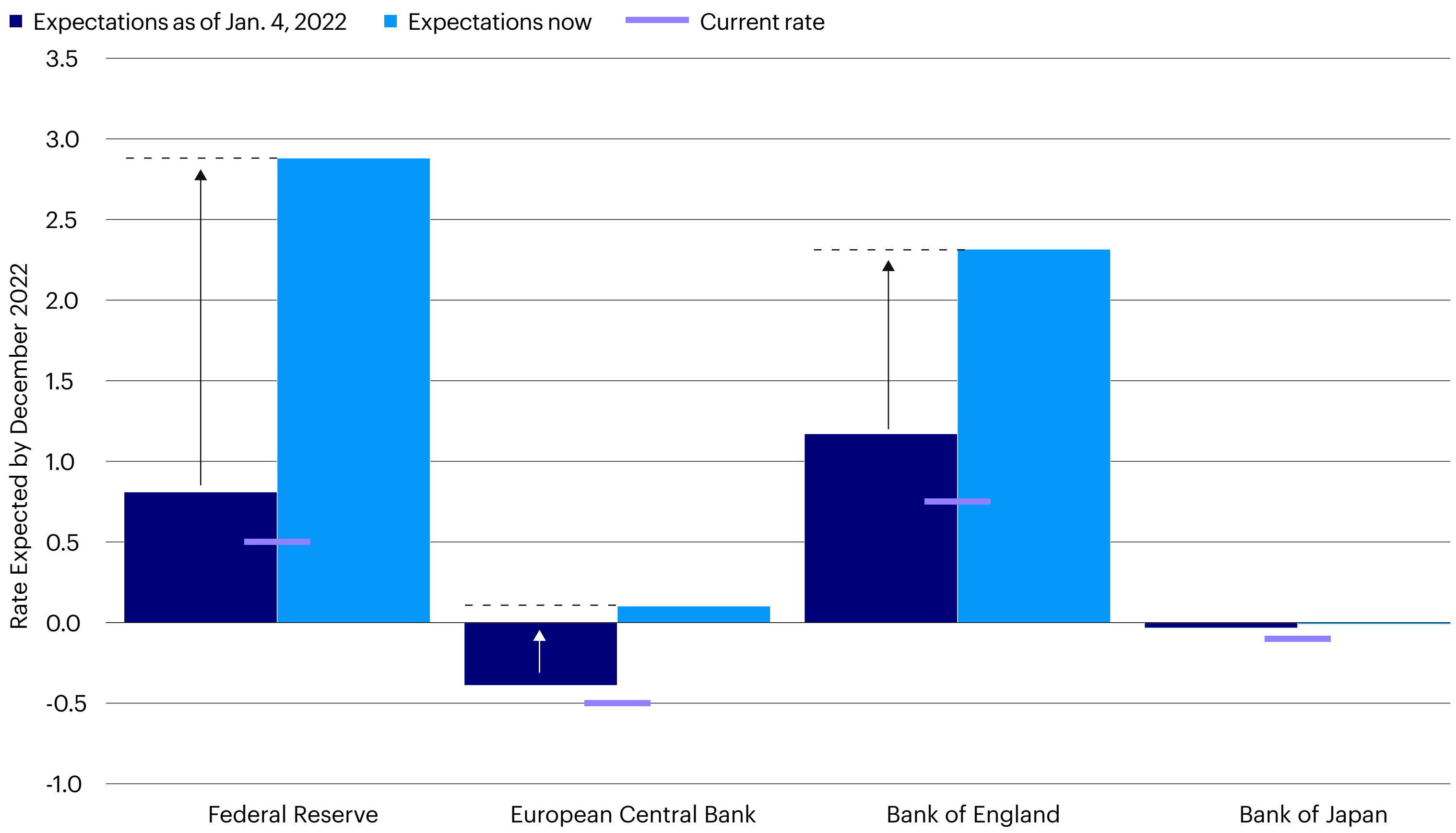


Sources: Bloomberg L.P., Macrobond, University of Michigan and Invesco, as of April 29, 2022.

A significant monetary policy pivot

Tightening expectations are up dramatically in 2022 on higher and sustained inflation

Amount of Tightening Expected in 2022



- In stark contrast with the end of 2021, expectations for monetary policy have evolved to indicate a rapid pace of tightening across the Federal Reserve, Bank of England, and even some expectation of ECB tightening.
- The degree of tightening possible is dictated in large part by the health of the underlying economy. Despite various global growth headwinds, policymakers are nevertheless focused on addressing inflation (though the BoE recently signaled concern about the UK economy).
- For the Fed, we see a tightening cycle in line with market pricing, with the policy rate ranging between 2.50-3.00 by Q1 2023, resulting in a neutral to slightly restrictive policy stance. As a result, we expect the entire yield curve to flatten by year-end.
- We have already seen a tightening of financial conditions (and a loss of spending power) in some major developed economies that should help to cool demand.

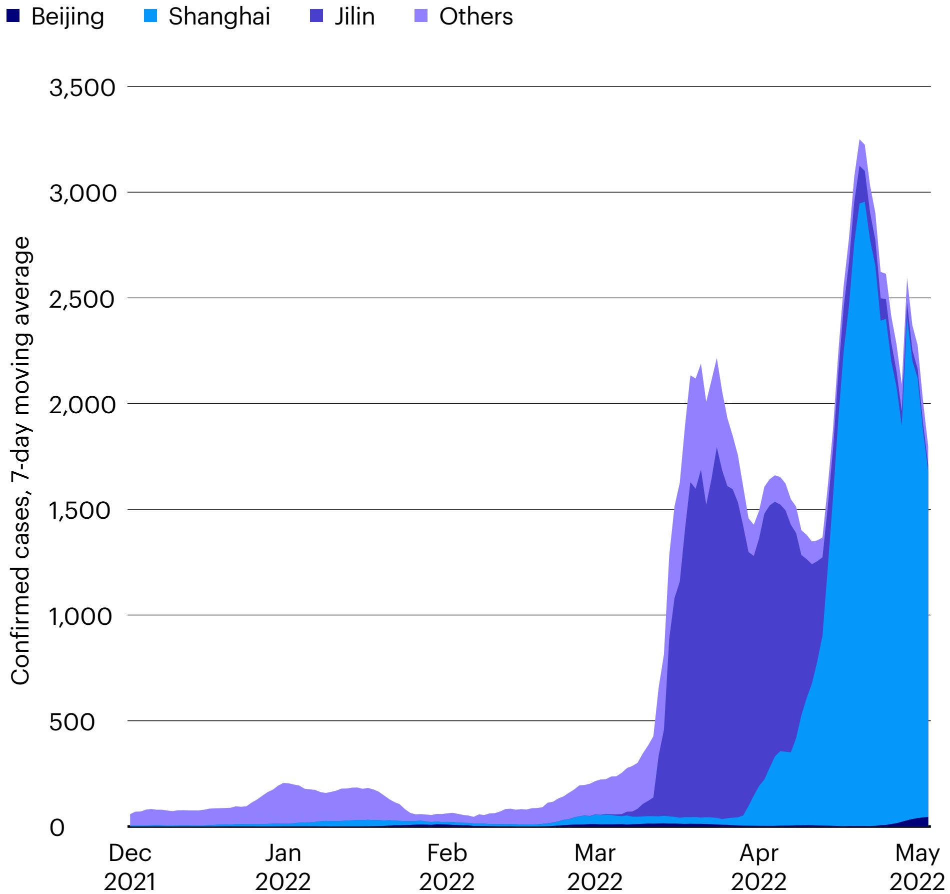
Sources: Bloomberg L.P. and Invesco, as of May 3, 2022. Expectations are based on the implied forward rate expressed in the appropriate overnight index swaps (OIS) curves.

China likely to reaccelerate in second half of 2022

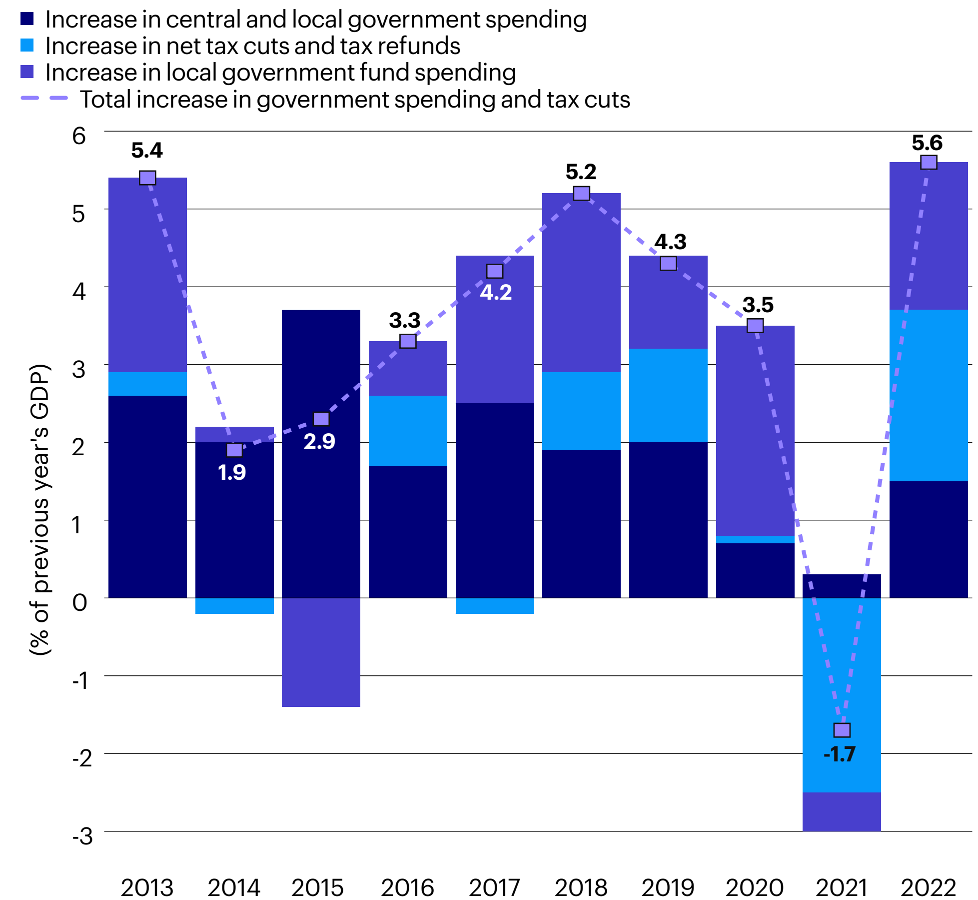
Slowdown is likely to moderate as COVID-19 fades and policy support takes effect

- A surge of COVID-19 cases in China has brought with it renewed challenges for growth.
- While we see growth challenged in the first half of 2022, we expect a rebound in the second half of the year driven by a combination of fiscal and monetary policy measures in contrast with many Western developed markets.
- As of early May, around 18% of China's GDP is impacted by COVID-19 restrictions – based on adding up the share of cities with high and medium risk designations coupled with cities that have entered into some partial or full lockdown (or what China calls "static management").

China COVID-19 daily confirmed cases



Relative size of China's fiscal policy stimulus

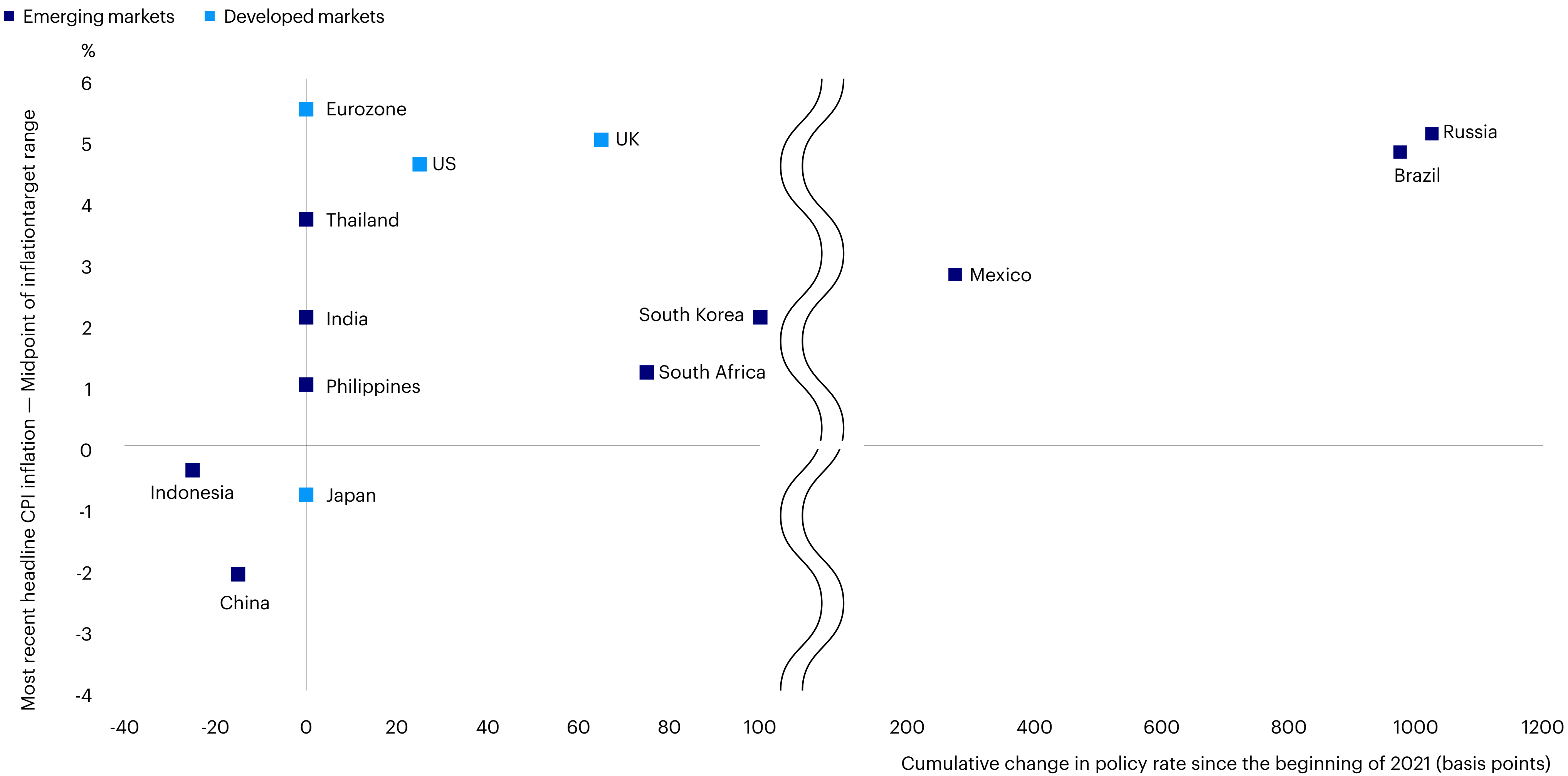


Sources: Left: China National Health Commission, Lilac Family Garden Clinics and Invesco. Right: Estimates by Invesco from Xinhua News Agency. As of May 3, 2022. Lockdown data: Wind, CITI Investment Research.

Some emerging markets are already battling inflation — and some complacent

Diverging inflation and monetary policy in emerging markets

Major emerging markets: Deviation from inflation target mid-point and change in policy rate since January 2021



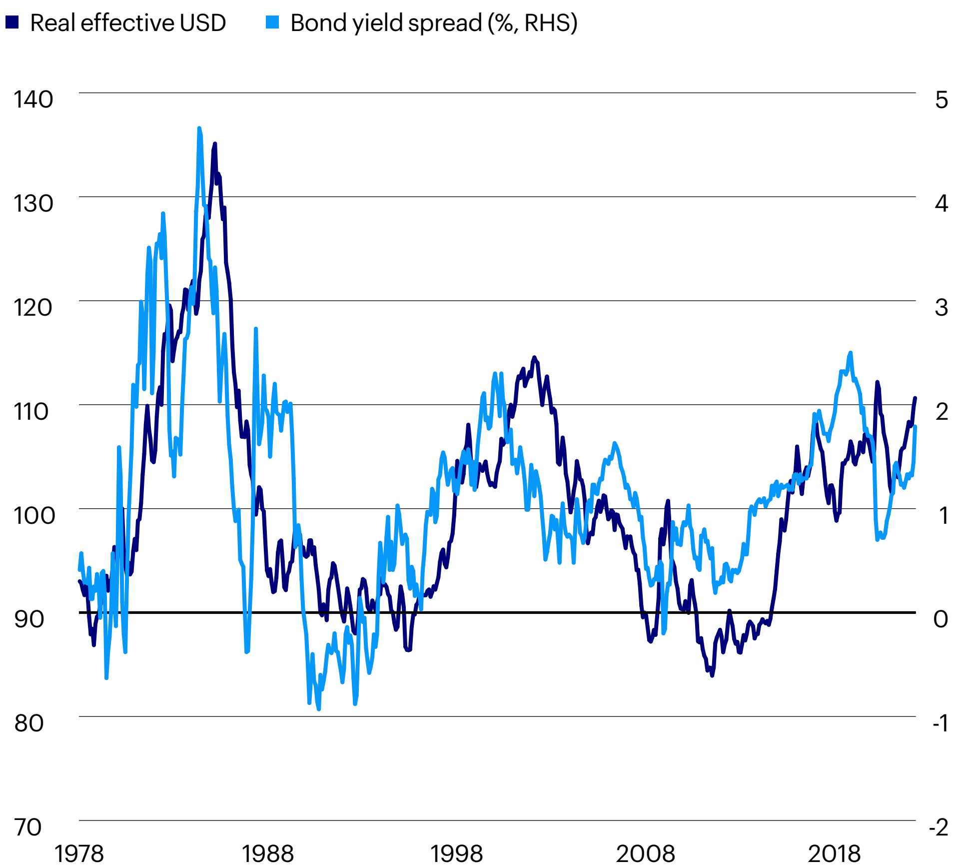
- Higher inflation led to aggressive policy rate hikes last year in some EMs (including Russia, Brazil and Mexico) where inflation expectations are not anchored. The Russia-Ukraine war is likely to force further rate hikes in those EMs, which should result in a considerable slowdown in economic growth.
- On the other hand, major EMs in Asia, where inflation has not been elevated, should continue to limit rate hikes this year, thus being able to maintain decent economic growth.

Note: Policy rate is 1-year base lending rate for China. For US inflation, PCE deflator is used instead of CPI. Inflation data are as of March 2022, except for eurozone, where April 2022 data is used.
Sources: Central bank documents, CEIC data and Invesco.

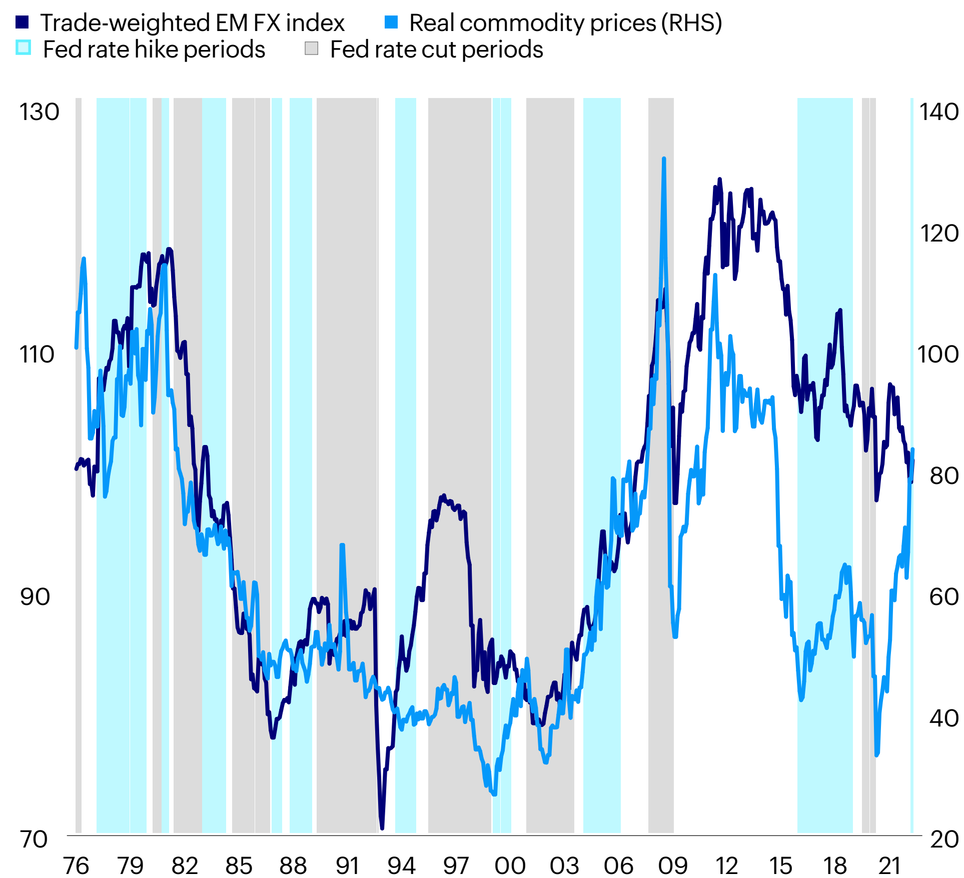
Dollar strength likely to continue, except against commodity EM currencies

Elevated commodity prices and diverging monetary policy paint mixed picture

Dollar versus yield spread



EM currencies, commodities, and the Fed



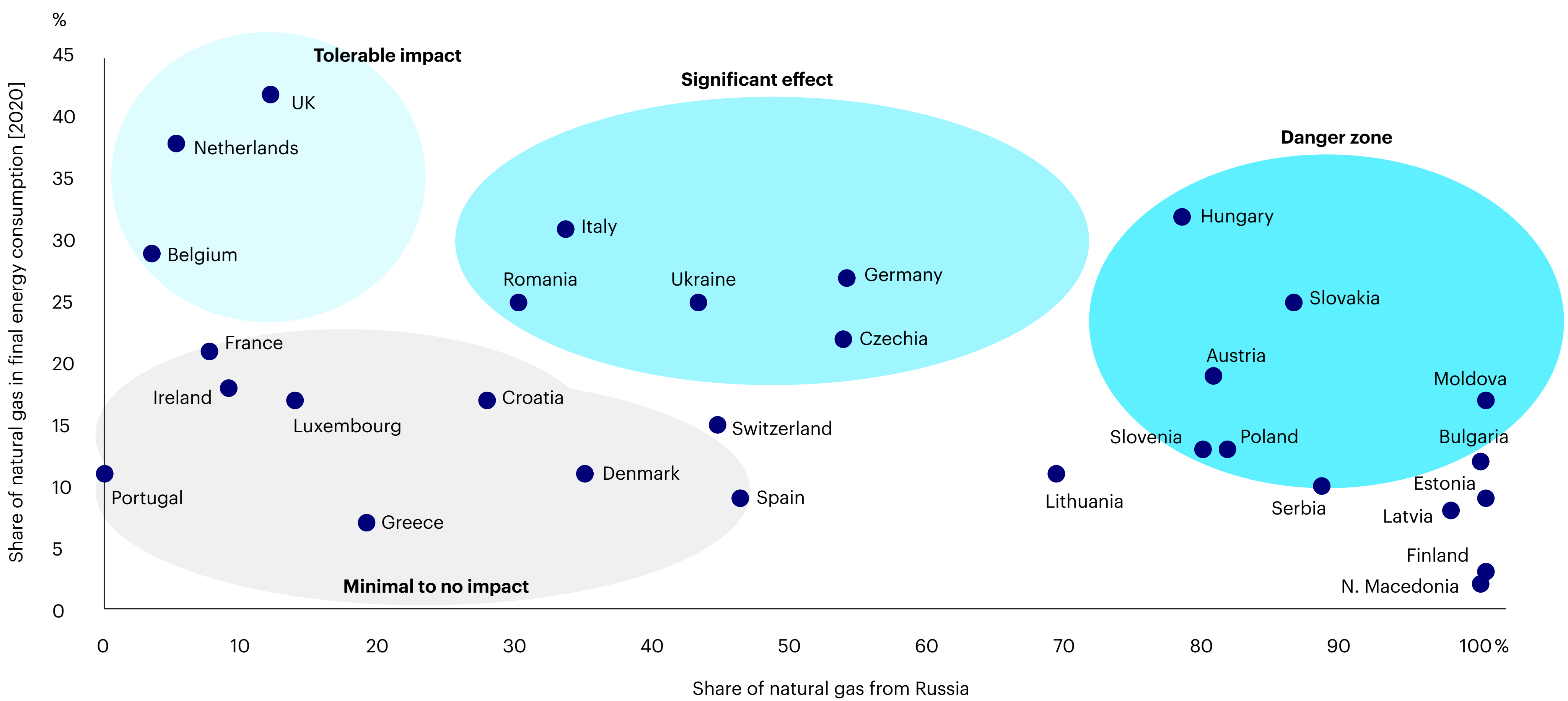
- The US dollar has strengthened towards the peaks of recent decades (in real effective terms). There may be a risk-premium effect due to the war in Ukraine, but the appreciation was also likely in anticipation of a tighter Fed (Bond spreads have now moved in favor of the dollar).
- EM currencies (as a group) have historically been closely correlated with commodity prices (more so than to Fed policy), and we would expect that to continue.
- However, commodity exporters and commodity consumers are likely to see diverging performance, which we expect to continue to be reflected in their currency performance.

Left: Sources: Refinitiv Datastream and Invesco, as of May 3, 2022. Monthly data from January 1978 to April 2022. Bond yield spread is US 10-year yield minus average 10-year yield of Germany, Japan and UK.
Right: Monthly data from January 1976 to April 2022. Real trade-weighted EM FX index is a trade-weighted average of national currencies versus US dollar (trade weights are based on total trade flows for each country). There are 18 currencies in the EM basket – those of China, Brazil, South Korea, Mexico, Singapore, India, Russia, Poland, Thailand, Turkey, Czech Republic, Malaysia, Indonesia, Hungary, Philippines, South Africa, Chile and Nigeria. Real adjustments use national CPI indices versus that of the US. Real commodity price index is based on the S&P GSCI Commodity Spot Price Index, adjusted by the US CPI index. All indices rebased to 100 as of January 1976. As of April 29, 2022.
Sources: IMF, OECD, Oxford Economics, S&P GSCI, Refinitiv Datastream, Invesco. **Past performance is no guarantee of future returns.**

Risk scenario: A complete cutoff of Russian energy

Greater tensions may spell stagflation in Europe and higher inflation globally

Russian energy in Europe



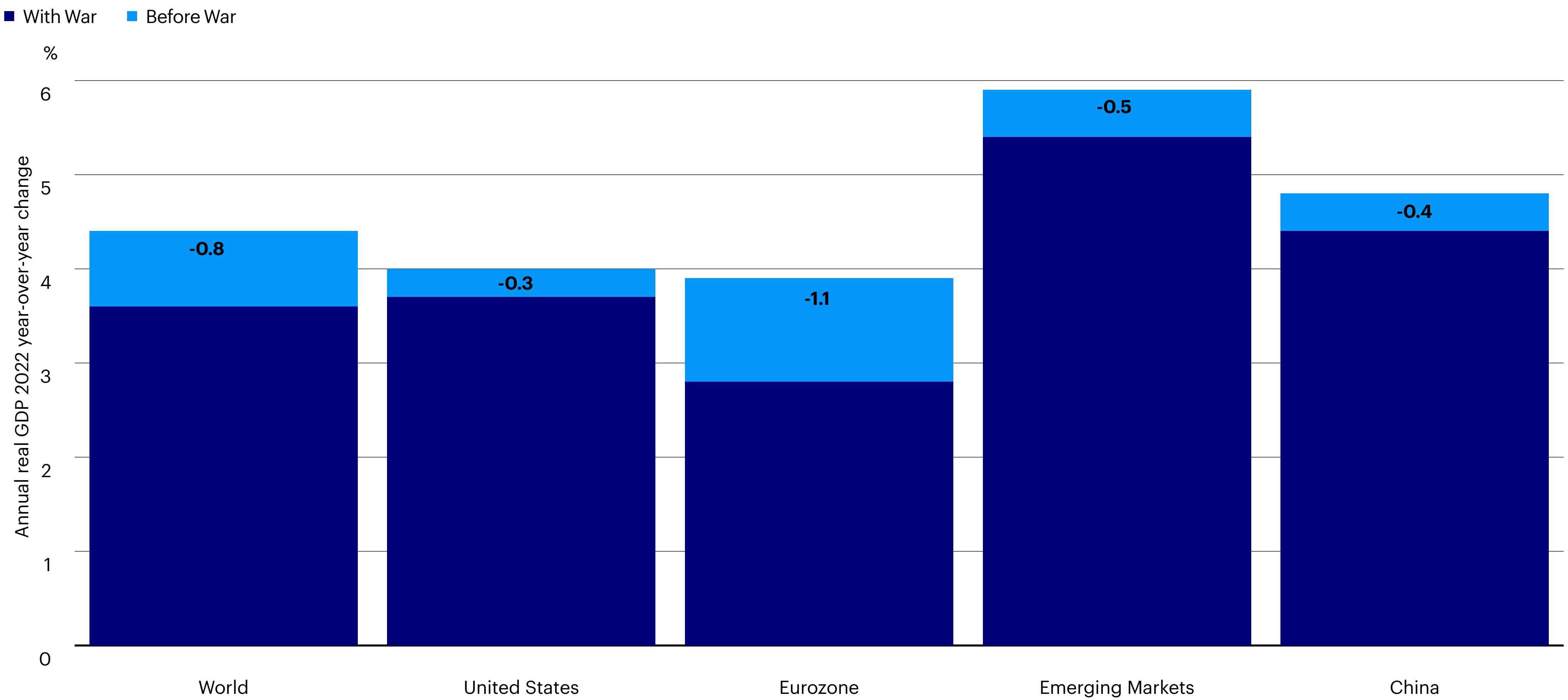
- Among our concerns for the outlook is the future of Russian energy supply to Europe. Indeed, the EU and other countries have already sanctioned Russian coal.
- Europe is heavily dependent on Russian energy, especially gas. Russia was the source of 22.5% of Europe's primary energy in 2020 and 34.2% of its natural gas.
- Despite the importance of Russian energy, a cut-off of these supplies may be possible if tensions were to ramp up significantly. Already, the EU has announced plans to end purchases of oil by the end of 2022.
- A sudden complete loss of Russian energy in the European market would likely result in stagflation in Europe, as well as higher commodity prices globally. In this environment, we would expect weaker global growth and higher inflation.

Source: Bruegel: McWilliams, B., Sgaravatti, G., Tagliapietra, S. and G. Zachmann (2022) 'Preparing for the first winter without Russian gas,' Bruegel Blog, Feb. 28, 2022.

Risk scenario: A surprise easing of Russia-Ukraine tensions

If the world registers a peak in tensions, prices and growth are likely to improve

International Monetary Fund 2022 growth forecasts, before and with Russia-Ukraine war



- A significant easing of tensions would likely result in a rebound in global GDP as geopolitical risk premia on key commodities fades more quickly.
- Regardless, the impacts of lost harvests, destruction of infrastructure, sanctions, and change of energy strategy are likely to have lasting implications that will not fade, so we would not expect growth forecasts to immediately return to pre-invasion levels. We would also expect a continuation of some (but less) inflationary pressures.
- Therefore, we believe an easing of tensions is likely to result in more aggressive monetary policy tightening for most major developed central banks.

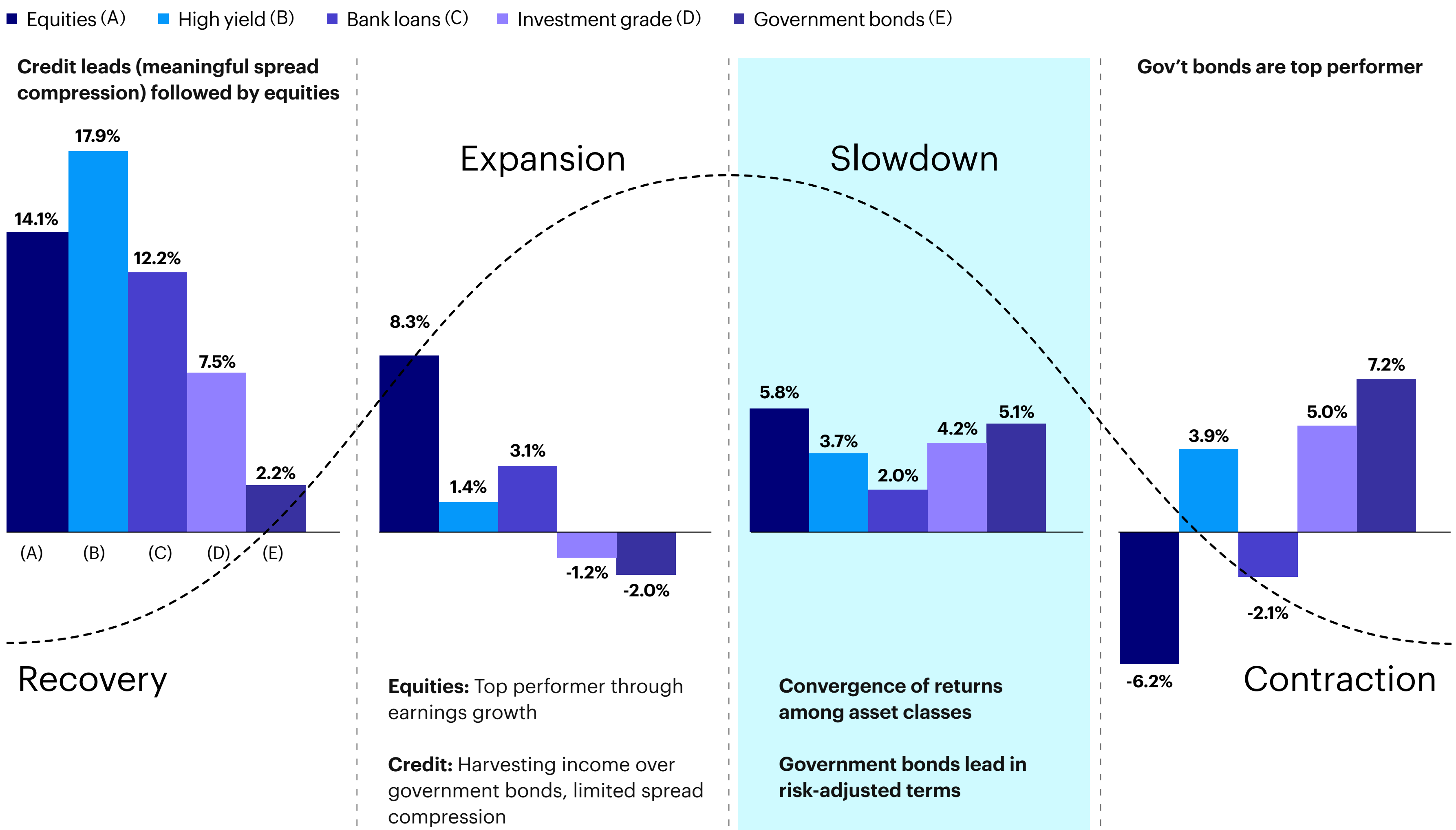
Sources: IMF World Economic Outlooks, January 2022 update and April 2022 edition.

Returns among asset classes tend to converge during slowdown regimes

Declining compensation for growth risk, with gradual rotation towards defensives

- Risky credit tends to lead in **recoveries**, while equities lead in **expansions** as growth moves above trend and earnings improve.
- Returns across asset classes converge in **slowdown** regimes, when growth is above trend but decelerating.
- Government bonds and safe assets outperform in **contractions**.

Global cycle: Historical excess returns across asset classes



Sources: Invesco Investment Solutions' proprietary global business cycle framework and Bloomberg L.P.
Notes: Index return information includes back-tested data. Returns, whether actual or back-tested, are no guarantee of future performance. Annualized monthly returns of the defined risk premia from January 1973 – December 2021, or since asset class inception if at later date. Includes latest available data as of most recent analysis. Asset classes excess returns defined as follows: Equities = MSCI ACWI - US T-bills 3-Month, High Yield = Bloomberg Barclays HY - US T-bills 3-Month, Bank loans = Credit Suisse Leveraged Loan Index – US T-bills 3-Month, Investment Grade = Bloomberg Barclays US Corporate - US T-bills 3-Month, Government bonds = US Treasuries 7-10y - US T-bills 3-Month. For illustrative purposes only. See the appendix for asset class premium definitions and additional information on page 20.

Relative tactical asset allocation positioning

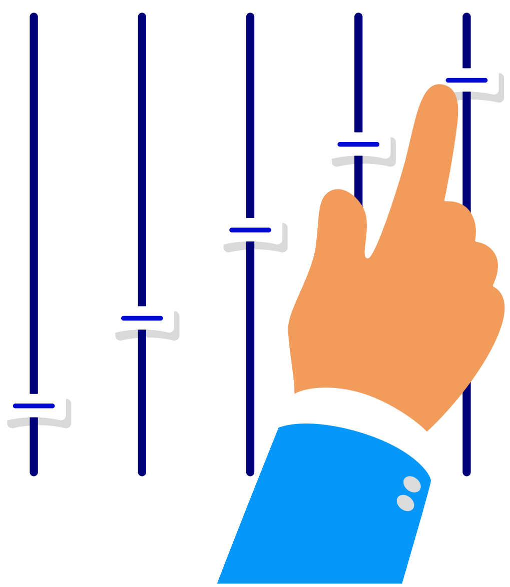
Neutral risk stance, with modest overweight to defensive equities

Neutral risk stance, with modest overweight to equities, titled toward US and defensive sectors. Neutral duration risk and underweight credit, expecting rates to peak. Expect higher volatility and narrow dispersion in returns across asset classes.

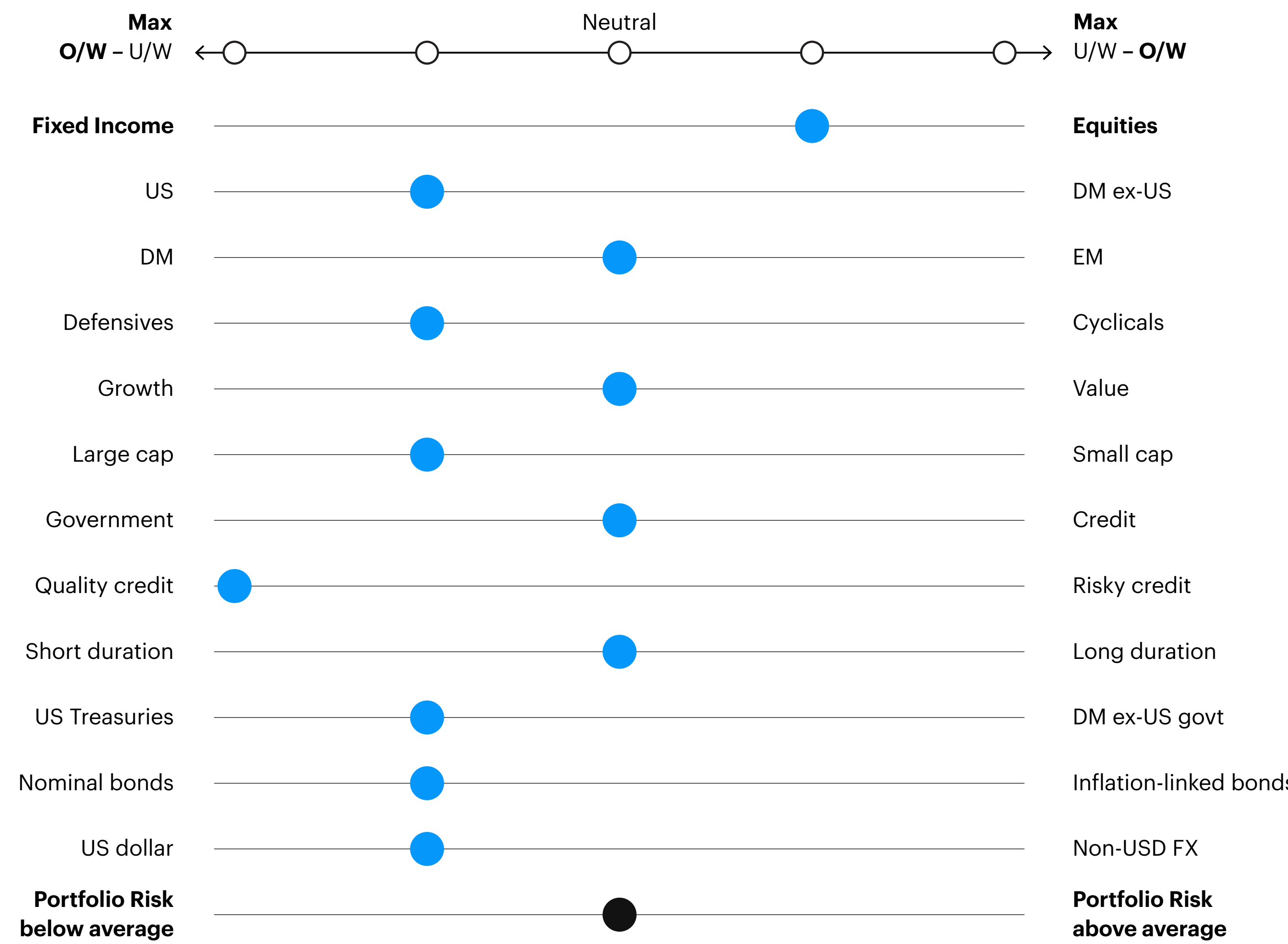
Equities: Favor US equities with a bias towards quality and larger capitalization. Peaking rates and slower growth to favor a more defensive posture in factor/style exposures.

Fixed Income: Neutral duration risk and underweight credit risk. As the cycle matures, expect credit spreads to widen, especially in lower-quality segments.

FX: Overweight the USD vs majors (EUR, GBP, JPY).



Relative Tactical Asset Allocation Positioning: Base Case



Source: Invesco Investment Solutions, April 2022. Note: For illustrative purposes only. Asset allocation does not guarantee a profit or eliminate the risk of loss.

Relative tactical asset allocation positioning

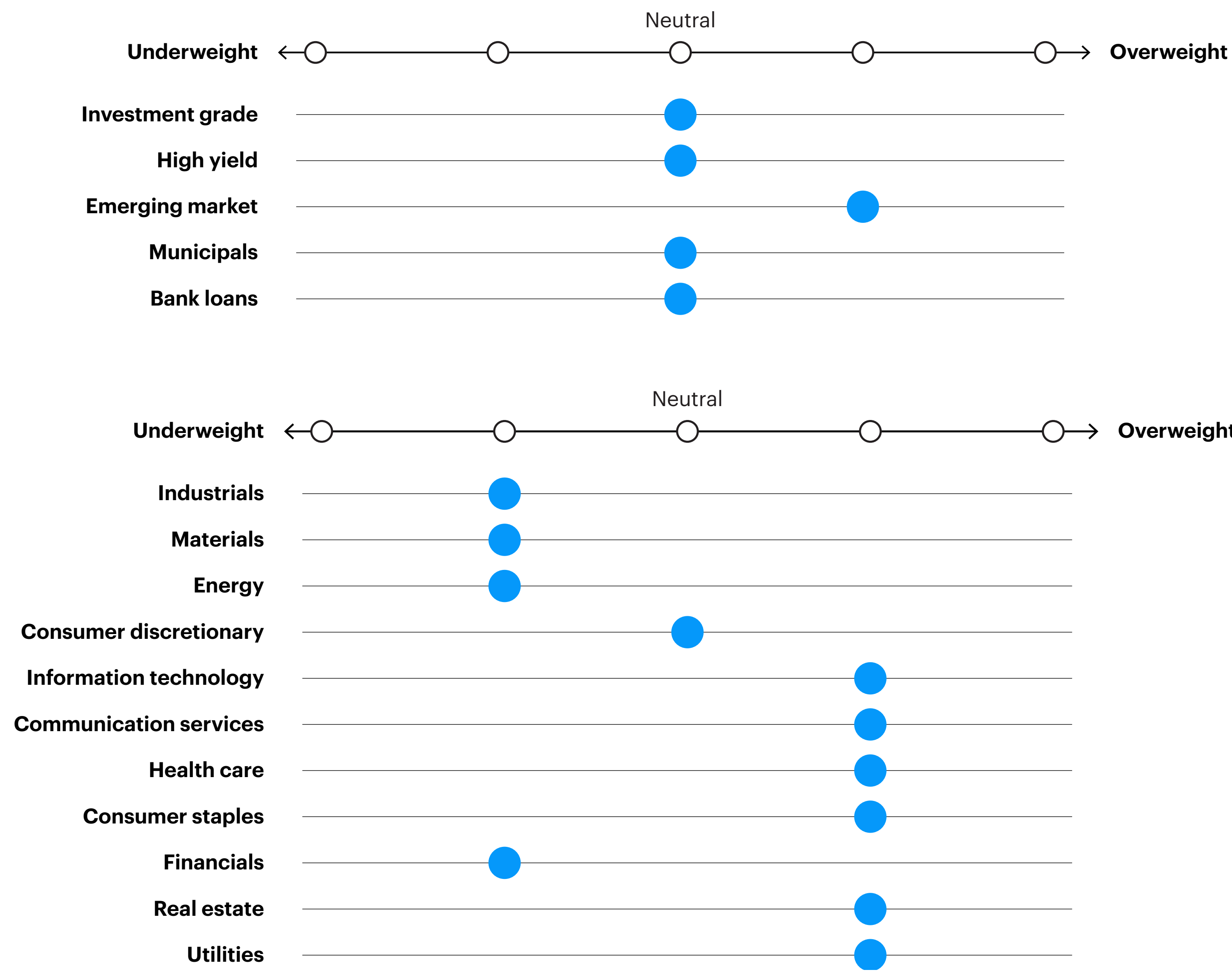
Investing in Fixed Income*

- The macro backdrop of tightening financial conditions in sequentially slowing growth is negative for credit asset classes, but valuations have dramatically improved in the recent quarter.
- We are neutral on investment grade and high yield credit. However, we favor getting yield by increasing duration rather than taking more credit risk. Emerging market credit bonds also scored highly from a valuation perspective and are attractive, in our view.
- Bank Loans are supported by strong credit fundamentals, but now that much of the Federal Reserve's near-term rate hikes are priced in, floating rate assets are less attractive.

Investing in Equities**

- Across scenarios, our sector allocations are a by-product of our factor/style allocations.
- In our base case scenario, we expect slowing growth and peaking inflation to support moderate outperformance of defensive sectors with quality characteristics (IT, communication services, health care, real estate, and consumer staples).
- Favor quality and large caps, given slowing growth expectations and peaking long-term bond yields.
- Favor US equities over developed markets ex-US, as the global slowdown favors regions with lower cyclical exposure and lower operating leverage.

Absolute Tactical Asset Allocation Positioning: Base Case



* Source: Invesco Fixed Income.
** Source: Invesco Investment Solutions.

2022 Investment outlook: Tactical asset allocation

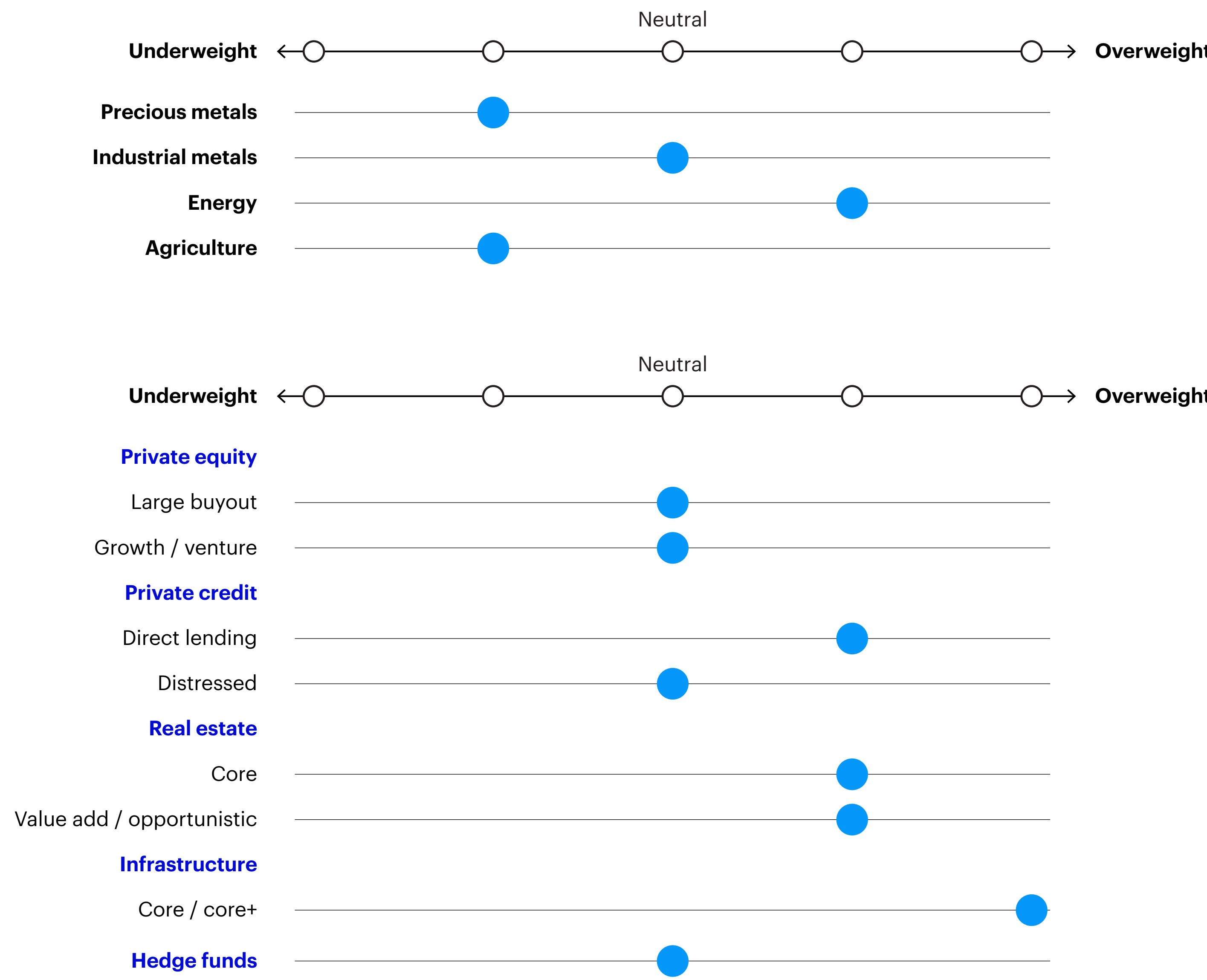
Investing in Commodities*

- Energy and grain supplies remain tight due to Russian/Ukraine conflict, while significant embedded premium increases downside vulnerability.
- Weather is a critical swing factor in agriculture, especially as we enter the US growing season.
- The Federal Reserve is embarking on an aggressive and delayed response to inflation. A meaningful slowdown in economic growth may see a transition in leadership from energy to precious metals.
- Industrial metals face the dual headwinds of the ongoing slowdown in China and Federal Reserve tightening.

Investing in Alternatives**

- Within the private equity space, buyout and venture strategies may face headwinds driven by relatively high valuations and an increasing supply of dry powder competing for deals.
- Direct lending strategies should continue to benefit from strong credit fundamentals and have the potential to benefit from increasing interest rates given their floating rate structure.
- Real assets respond favorably to inflation, both as a result of increasing revenue as well as physical asset appreciation. The potential for a continued rebound in global trade, passenger travel and office occupancy, coupled with relatively attractive valuations and inflation protection, results in a favorable outlook. We have upgraded infrastructure as it has a slightly lower beta to GDP growth.
- We establish a neutral stance on hedge funds as active management may prove valuable in a difficult investing environment of slowing growth and rising rates.

Absolute Tactical Asset Allocation Positioning: Base Case



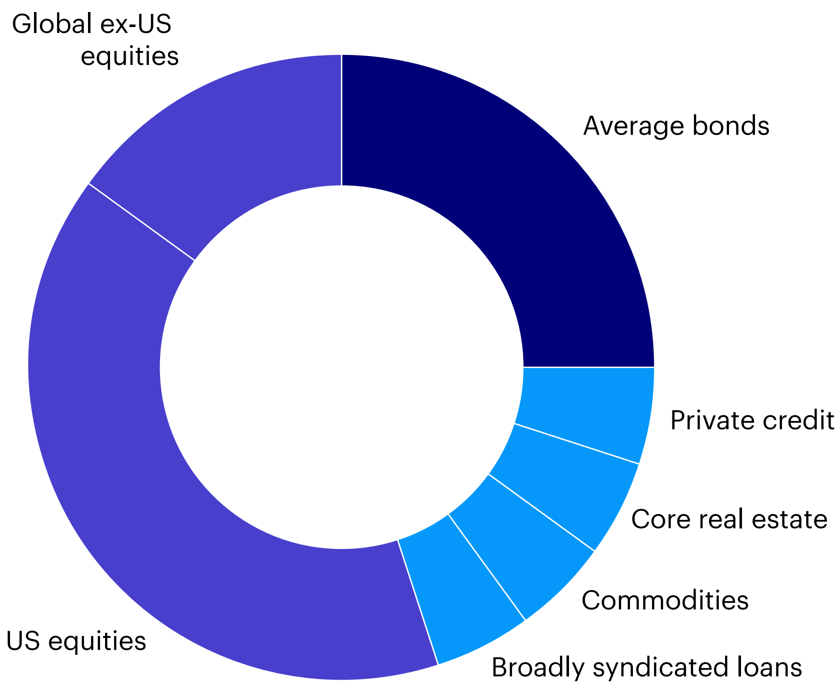
* Source: Invesco Systemic & Factor Investing, ETF and Indexing teams.
** Source: Invesco Investment Solutions. Alternatives tactical asset valuations represent our view of which asset classes are likely poised to outperform over an approximate 3- to 5-year timeframe.

Elevated inflation and rising rates expected in the coming year

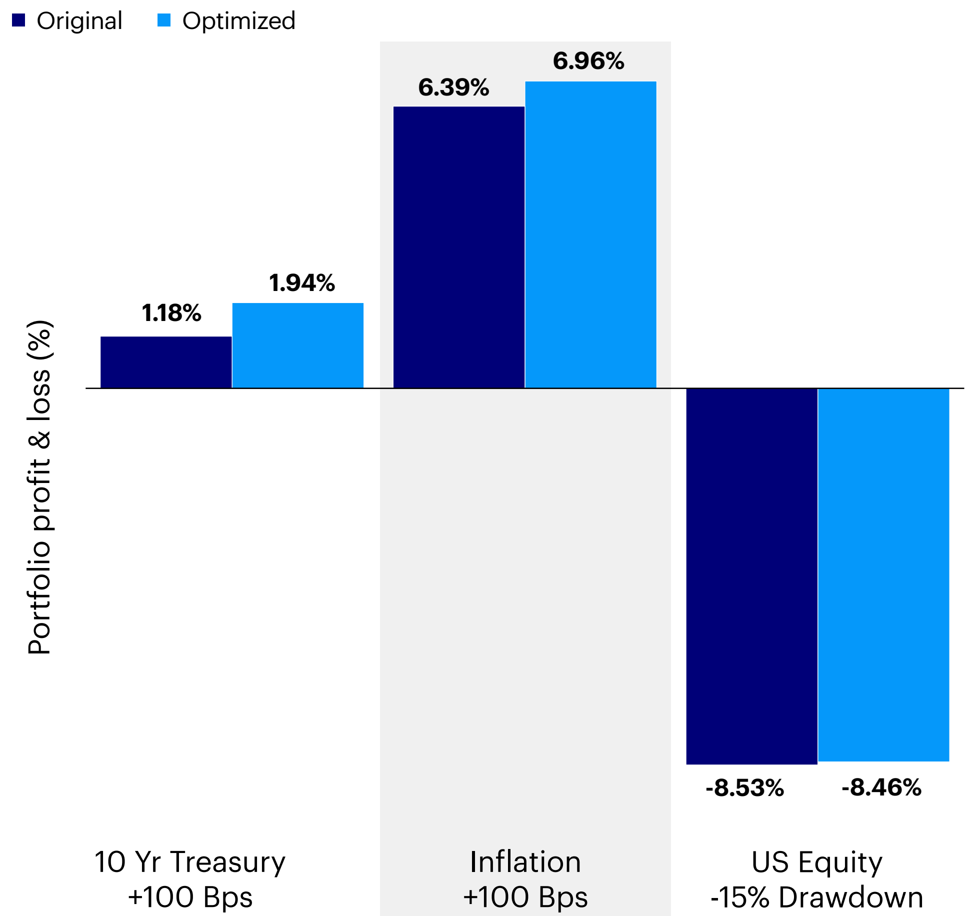
Alternatives may help traditional 60/40 portfolios weather shocks to inflation, rates, and equities

- In our base case, the presence of higher-than-average inflation and a series of interest rate hikes warrants building a portfolio that can sustain nominal returns in a challenging and unfamiliar regime. By optimizing a traditional 60/40 portfolio with inflation-sensitive assets like real estate and commodities and substituting aggregate fixed income for higher yielding credit with lower duration, our forward-looking risk model anticipates improved performance across a variety of macro and market scenarios.
- In a more defensive, inflation-driven scenarios like the "European Stagflation," improved outcomes for core real estate and commodities may offset exposure to riskier credit.
- In a higher growth scenario like the "Silver Lining Playbook," the expected outperformance of private credit and loans, combined with the lower portfolio-level tilts to fixed income may prove valuable as risk appetite increases.

Optimizing a traditional 60/40 (EQ/FI) portfolio with alternatives results in a 55/25/20 (EQ/FI/Alts) blend



Forward-looking risk scenarios are improved compared to the original portfolio



Source: Invesco Vision. Hypothetical scenarios produced by MSCI Barra as of Dec. 31, 2021. Performance, whether actual or hypothetical, is no guarantee of future performance. Please see additional information about the Optimized Portfolio Analysis and Invesco Vision on page 20.

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Investment risks

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. Past performance is not a guide to future returns.

Back-tested index data (Page 14)

Pre-inception performance (i.e., back-tested) is not an indication of or guarantee of future results. Actual performance may vary significantly from any hypothetical or historical performance shown for the index. Charts and graphs herein may reflect hypothetical historical performance. All information prior to the inception date is back-tested, and is provided for informational purposes to illustrate the effects of a strategy during a specific period. Back-tested performance is not actual performance, but is hypothetical and based on criteria applied retroactively with the benefit of hindsight and knowledge of factors that may have positively affected its performance, and cannot account for all financial risks that may affect the actual performance. Back-tested data calculations are based on the same methodology that was in effect when the index(es) was officially incepted. Back-tested performance results have certain limitations. Such results do not represent the impact of material economic and market factors might have on an investment advisor's decision-making process if the advisor were actually managing client money. There is no assurance that the future performance of any specific investment strategy presented herein will be profitable or equal to past hypothetical performance levels. It is not possible to invest directly in an index.

Returns among asset classes tend to converge during slowdown regimes

- **Equities** = MSCI All World Index minus Bloomberg US Generic Government 3 Month Yield Index.
- **High Yield** = Bloomberg High Yield Index minus Bloomberg US Generic Government 3 Month Yield Index.
- **Bank Loans** = Credit Suisse Leveraged Loan Index minus Bloomberg US Generic Government 3 Month Yield Index
- **Investment Grade** = Bloomberg US Corporate Bond Index minus Bloomberg US Generic Government 3 Month Yield Index
- **Government Bonds** = FTSE US Global Bond Index 7-10 Yr. Index minus Bloomberg US Generic Government 3 Month Yield Index. For the 10-Yr Treasuries, FTSE US 10-Year Treasury On-the-Run Total Return Index is used from 1985 onward.

Prior to 1985, history is back-filled with estimated total returns using 10-Yr yields from Bloomberg between 1970 and 1985.

All information presented prior to the inception dates is back-tested.

Back-tested performance is not actual performance, but is hypothetical.

Although back-tested data may be prepared with the benefit of hindsight, these calculations are based on the same methodology that was in effect when the index was officially launched.

Index returns do not reflect payment of any sales charges or fees.

Performance, actual or hypothetical, is not a guarantee of future results.

An investment cannot be made in an index.

Optimized portfolio analysis and Invesco Vision (Page 18)

To develop the portfolios the following portfolio optimization parameters were applied: Equity allocation minimum set to 50%. Traditional Fixed Income allocation minimum set to 25%. Alternatives allocation maximum set to 25% for the portfolio, capped at 5% for each individual allocation in the Alts space.

The scenario analysis uses hypothetical profit and loss metrics based on MSCI Barra's factor risk model within Invesco Vision for the purposes of stress testing asset classes and portfolios through various economic and market shocks.

Asset class proxies for US Equities, Global ex US Equities, Aggregate Bonds, Private Credit, Core Real Estate, Commodities, and Broadly Syndicated Loans are as follows: Russell 3000 Index, MSCI ACWI ex-US Index, Bloomberg US Aggregate Index, Cliffwater Senior Direct Lending Index, ODCE Value Weighted Index, Bloomberg Commodity Index, and the Credit Suisse Leveraged Loan Index, respectively. Performance, whether actual or hypothetical, is no guarantee of future performance. An investment cannot be made directly into an index.

Designed by Invesco Investment Solutions (IIS), Invesco Vision is a decision support system that combines analytical and diagnostic capabilities to foster better portfolio management decision-making. Invesco Vision incorporates capital market assumptions (CMAs) developed by IIS, proprietary risk forecasts, and robust optimization techniques to help guide our portfolio construction and rebalancing processes. Advanced risk management approaches have been incorporated into the system such as de-smoothing of alternative risk factors, multi-asset factor decompositions, in addition to stress test analyses (both historical and hypothetical) to understand the drivers of volatility within our portfolios. By helping investors and researchers better understand portfolio risks and trade-offs, it helps to identify potential solutions best aligned with their specific preferences and objectives.

Invesco Vision can be used in practice to develop solutions across a range of challenges encountered in the marketplace. The analysis output and insights shown here from Invesco Vision do not take into account any individual investor's investment objectives, financial situation or particular needs. The insights are not intended as recommendations to invest in a specific asset class or strategy, or as a promise of future performance. For additional information on our methodology, please refer to the comprehensive white paper, Invesco Vision: Portfolio Management Decision Support System.

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