

# The Big Picture

Global Asset Allocation 2023 Q3

Quarterly update from Invesco's Global Market Strategy Office  
**18 June 2023**



# The Big Picture

## Global Asset Allocation 2023 Q3

Our economic cycle analysis points to contraction, which favours caution. However, we think the economic rebound will come within our 12-month horizon, leading us to add a bit of risk to the Model Asset Allocation. We reduce government bonds to Underweight, while increasing investment grade (IG) to further Overweight and real estate (REITs) to Overweight. The “riskiness” of the Model Asset Allocation is enhanced by maintaining a bias towards emerging market (EM) assets. We introduce a partial hedge from US dollar into Japanese yen.

### Model asset allocation

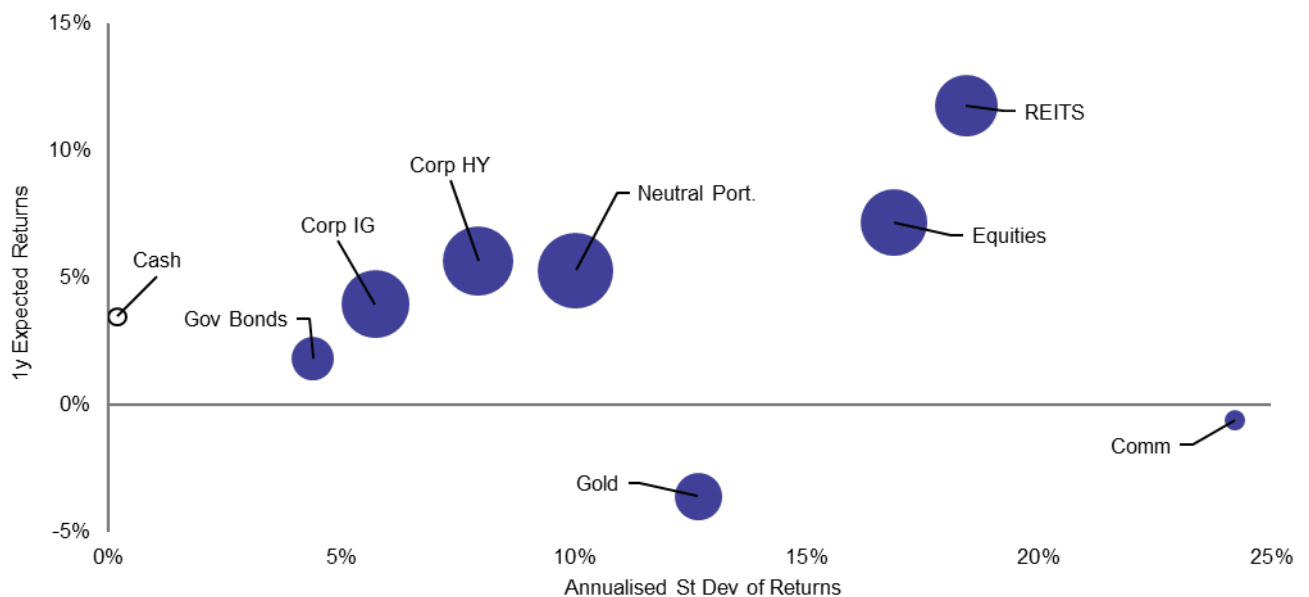
#### In our view:

- Cash rates are higher and offer diversification. We remain at the Maximum allocation.
- Government debt outlook dimmed by the recent fall in yields. We reduce to Underweight.
- Corporate investment-grade (IG) yields attractive but spreads may widen further. We go more Overweight.
- Corporate high-yield (HY) attractive despite risk of wider spreads/higher defaults. We remain Overweight.
- Real estate (REITs) offers the best returns but with risk. We increase to Overweight.
- Equities are handicapped by falling profits and we prefer other risky assets. We remain Underweight.
- Gold has been strong and now appears expensive. We remain at zero.
- Commodities are expensive and cyclical. We remain at zero.
- Regionally, we favour EM assets.
- We partially hedge from USD to JPY to capture valuation discrepancy

#### Our best-in-class assets (based on 12m projected returns)

- EM IG
- US real estate
- Chinese equities
- GBP cash

Figure 1 – Projected 1-year returns for global assets and neutral portfolio



Based on annualised local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets (hollow bubbles indicate negative correlation). Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in Figure 3. As of 31 May 2023. **There is no guarantee that these views will come to pass.** See Appendices for definitions, methodology and disclaimers.

Source: BAML, MSCI, GSCI, FTSE, Refinitiv Datastream and Invesco Global Market Strategy Office

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We add to IG and real estate, while reducing government bonds

### Summary and conclusions: a toe in the water

Our economic cycle analysis suggests we are in a contraction phase, which favours a cautious approach. However, we think the economic rebound will come within our 12-month horizon, which leads us to add a bit of risk to the Model Asset Allocation. We reduce government bonds to Underweight, while increasing investment grade credit (IG) to further Overweight and real estate (REITs) to Overweight (**Figure 2**). The “riskiness” of the Model Asset Allocation is enhanced by maintaining a bias towards emerging market (EM) assets. We introduce a partial hedge from US dollar into Japanese yen.

At a crossroads

We find ourselves at something of a crossroads. We believe the global economy continues to decelerate, in what we categorise as a contraction phase. This leads to a defensive bias within our Model Asset Allocation. However, we have a 12-month horizon and within that timeframe we expect some major central banks to pivot from tightening to easing and we foresee an economic rebound, which is likely to be anticipated by financial markets. This argues for more risk within our allocations. Inevitably, we choose a middle path: adding risk to what remains an overall defensive stance.

Underlying assumptions

Underpinning our projections for the next 12 months are the following assumptions:

- Global GDP growth will slow and then recover
- Global inflation will fall but remain above many central bank targets
- Major Western central banks are approaching the end of their tightening cycles
- Long-term government yields will be mixed; yield curves steepen during 2023 H2
- Credit spreads widen in the US but narrow in Europe and defaults rise
- Equity dividend growth moderates and equity yields fall in some markets
- Real estate (REIT) dividend growth moderates and yields fall
- Commodities struggle as the global economy slows (except agricultural products)
- USD weakens as Fed tightening ends

Western central banks may tighten a bit more, then ease

The full set of assumptions is shown in **Appendix 4**, while the resultant market targets are in **Figure 41** and returns for global assets are in **Figure 2**. Perhaps the most important feature of the forecasts is that we expect Fed rates to be lower in 12 months (even if they rise in the meantime). We suspect that ECB policy rates will be little changed in 12 months (after rising in the interim) and that major Asian policy rates could be marginally higher. The BOE seems likely to tighten the most aggressively among Western central banks. We expect further inversion of yield curves in the short term (as policy rates rise and long yields fall) but believe yield curves will be slightly steeper in 12 months. After some downward pressure in the near term, we suspect that 10-year yields will be higher in 12 months (but unchanged in the US).

With the prospect of economic recovery, we think risk will be rewarded (on balance)

Despite our concerns about the short-term economic outlook, the anticipated rebound later in the second part of our forecast horizon leads us to expect that any asset price weakness will be relatively short-lived. The 12-month projections shown in **Figures 1** and **2** suggest a belief that risk will be rewarded (except for gold and commodities). The optimisation results based on those projected returns (see **Figure 43**) express a preference for cash, IG, high yield credit (HY) and real estate. As shown in **Figure 1**, the projected return on equities is reasonable but not enough given the risk involved.

A toe in the water

In determining our Model Asset Allocation, we follow the optimisation results in direction, if not magnitude (we are wary of having too much exposure to HY and REITs at this moment, especially since the optimisation outcomes vary by currency base). Starting from a relatively defensive stance, we are adding a bit of risk to the allocations by reducing government bonds and adding to IG and real estate.

But cash allocation remains at the maximum

However, the overall stance remains relatively defensive, with **Cash** remaining at a 10% allocation (the highest we allow). Cash rates are the highest since before the Global Financial Crisis (GFC), and returns have little volatility or correlation to other assets (see **Figure 1**). This makes for a better risk-reward ratio than other assets (in our opinion).

Gold stays at zero after a strong run

**Gold** is another diversifying asset, but we think it has performed so well that sustained upside form here is unlikely. We remain zero allocated.



We go Underweight government bonds	<b>Government bond</b> yields are much higher than 18 months ago but they have fallen of late, which we think reduces the return potential, especially as we expect most long yields to be slightly higher in 12 months. We reduce the allocation from Neutral (25%) to Underweight (20%), preferring a combination of cash and credit. We prefer duration in the near term but that will change as curves start to steepen in the second half of 2023. We expect the lowest returns in the eurozone and Japan (and the best in EM). We reduce the US (still Overweight), Eurozone (further Underweight) and UK (Neutral). EM remains our favoured region, with relatively generous spreads versus the US. <b>Figure 3</b> shows the regional detail of the Model Asset Allocation.
IG increased to further Overweight	The reduction in government bonds allows an increase in <b>IG</b> (to a further Overweight 18%, from 15%). Though still a relatively defensive asset, it brings more risk than government bonds and a better risk-reward trade-off, in our opinion. We add to the allocations in the US, Eurozone and EM, all of which are Overweight (EM is preferred).
Real estate increased to Overweight	If IG is not particularly adventurous, the increase in our allocation to <b>real estate</b> brings more risk. In fact, the risks are so obvious that REIT yields are now quite generous, which is the attraction (we expect yields to fall). REIT dividends have started to grow again but we expect little growth over the next 12 months. We go to an Overweight 10% from the Neutral 8%, adding to allocations in the US and EM (both Overweight). Again, we expect the highest 12-month returns in EM.
Equities unchanged and Underweight	<b>Equities</b> will be handicapped by weakening profits in the short term (we think) and it looks as though falling bond yields will be no help (the correlation is changing again). Our projections suggest there are better alternatives among risky assets (such as HY and real estate). We maintain an Underweight 34% allocation (versus the Neutral 45%). <b>Figure 3</b> shows that we reduce the UK (to Neutral), while adding to Europe ex-UK (still Underweight). We continue to favour EM equities, in particular those of China (which we think are good value and that should benefit from better economic momentum).
We remain Overweight HY	We make no change to <b>HY</b> and remain Overweight. This is despite believing that HY spreads will widen in the US (though not Europe) and that default rates will rise (as economies slow). We find that current yields offer a reasonable cushion against risk.
Still wary of commodities	<b>Commodities</b> have recently generated losses and we expect weakening economies and normalising European natural gas markets to maintain downward pressure on prices. We maintain a zero allocation to the asset class.
EM remains the preferred region	From a regional perspective, we continue to prefer <b>EM</b> assets. This is partly because we find them to be relatively cheap (which boosts long-term potential, in our opinion) but also to balance the defensiveness of some of our other allocations.
Hedge from USD to JPY	We make a first step to trying to benefit from the perceived valuation discrepancy between USD and JPY by partially hedging our USD exposure into JPY (see <b>Figure 3</b> ).

**Figure 2 – Expected global total returns (annualised, local currency) and Model Asset Allocation\***

	Expected 1-year Total Return	Neutral Portfolio	Policy Range	Model Asset Allocation	Position Vs Neutral
<b>Cash &amp; Gold</b>	-0.1%	5%	0-10%		Overweight
Cash	3.5%	2.5%	0-10%		Overweight
Gold	-3.6%	2.5%	0-10%		Underweight
<b>Government Bonds</b>	1.8%	25%	10-40%	↓	Underweight
<b>Corporate IG</b>	3.9%	10%	0-20%	↑	Overweight
<b>Corporate HY</b>	5.6%	5%	0-10%		Overweight
<b>Equities</b>	7.1%	45%	25-65%		Underweight
<b>Real Estate (REITS)</b>	11.7%	8%	0-16%	↑	Overweight
<b>Commodities</b>	-0.6%	2%	0-4%		Underweight

\*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers. **There is no guarantee that these views will come to pass.** Source: Invesco Global Market Strategy Office

Model asset allocation\*

Figure 3 – Model asset allocation (18/06/2023)

	Neutral	Policy Range	Allocation	Position vs Neutral	Hedged	Currency
<b>Cash Equivalents</b>	<b>5%</b>	<b>0-10%</b>	<b>10%</b>			
Cash	2.5%		10%			
Gold	2.5%		0%			
<b>Bonds</b>	<b>40%</b>	<b>10-70%</b>	<b>46%</b>			
<b>Government</b>	<b>25%</b>	<b>10-40%</b>	<b>20%</b>			
US	8%		11%			
Europe ex-UK (Eurozone)	7%		2%			
UK	1%		1%			
Japan	7%		2%			
Emerging Markets	2%		4%			
China**	0.2%		0%			
<b>Corporate IG</b>	<b>10%</b>	<b>0-20%</b>	<b>18%</b>			
US Dollar	5%		10%			40% JPY
Euro	2%		3%			
Sterling	1%		2%			
Japanese Yen	1%		0%			
Emerging Markets	1%		3%			
China**	0.1%		0%			
<b>Corporate HY</b>	<b>5%</b>	<b>0-10%</b>	<b>8%</b>			
US Dollar	4%		6%			
Euro	1%		2%			
<b>Equities</b>	<b>45%</b>	<b>25-65%</b>	<b>34%</b>			
US	25%		12%			
Europe ex-UK	7%		6%			
UK	4%		4%			
Japan	4%		4%			
Emerging Markets	5%		8%			
China**	2%		4%			
<b>Real Estate</b>	<b>8%</b>	<b>0-16%</b>	<b>10%</b>			
US	2%		4%			
Europe ex-UK	2%		1%			
UK	1%		2%			
Japan	2%		1%			
Emerging Markets	1%		2%			
<b>Commodities</b>	<b>2%</b>	<b>0-4%</b>	<b>0%</b>			
Energy	1%		0%			
Industrial Metals	0.3%		0%			
Precious Metals	0.3%		0%			
Agriculture	0.3%		0%			
<b>Total</b>	<b>100%</b>		<b>100%</b>			
<b>Currency Exposure (including effect of hedging)</b>						
USD	50%		42%			
EUR	19%		17%			
GBP	7%		12%			
JPY	14%		14%			
EM	9%		17%			
<b>Total</b>	<b>100%</b>		<b>100%</b>			

\*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. \*\*China is included in Emerging Markets allocations. Cash is an equally weighted mix of USD, EUR, GBP and JPY. Currency exposure calculations exclude cash. Arrows show direction of change in allocations. See appendices for definitions, methodology and disclaimers. Source: Invesco Global Market Strategy Office

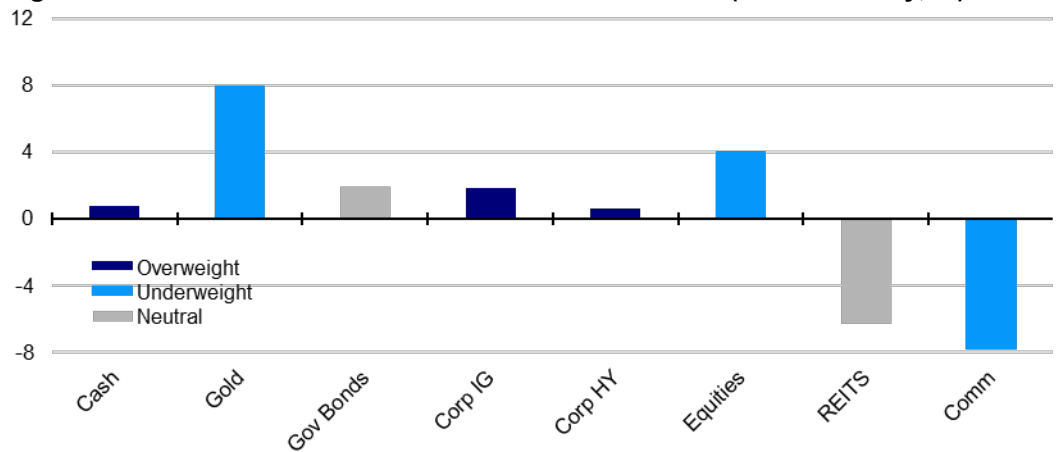
**Since we last wrote**

In the last Big Picture document we reduced gold to zero and boosted cash to Overweight within our Model Asset Allocation. We also reduced real estate to Neutral and equities to further Underweight (see [Big Picture 2023 Q2](#) published on 19 March 2023). From a regional perspective we favoured EM assets. **Figure 4** shows how global assets have performed since then (as of 31 May 2023). Full regional detail is shown in **Appendix 2**.

Most assets delivered positive returns with mixed results for us

Most assets generated positive returns, with the exceptions of real estate (REITS) and commodities (we were Neutral and zero-allocated, respectively). Appendix 2 shows the problem with commodities was in the industrial segments (energy and industrial metals), while the weakest REIT region was Europe ex-UK. Gold was the strongest asset shown and we had just reduced it to zero (though to be fair much of that 8% gain occurred before we eliminated it on 19 March 2023). Surprisingly, the best performing equity market was Japan (we were Neutral), followed by the US (Underweight), while China was weak (Overweight). In general, our Overweight EM stance worked against us.

**Figure 4 – Global asset class total returns since 28/02/23 (local currency, %) \***

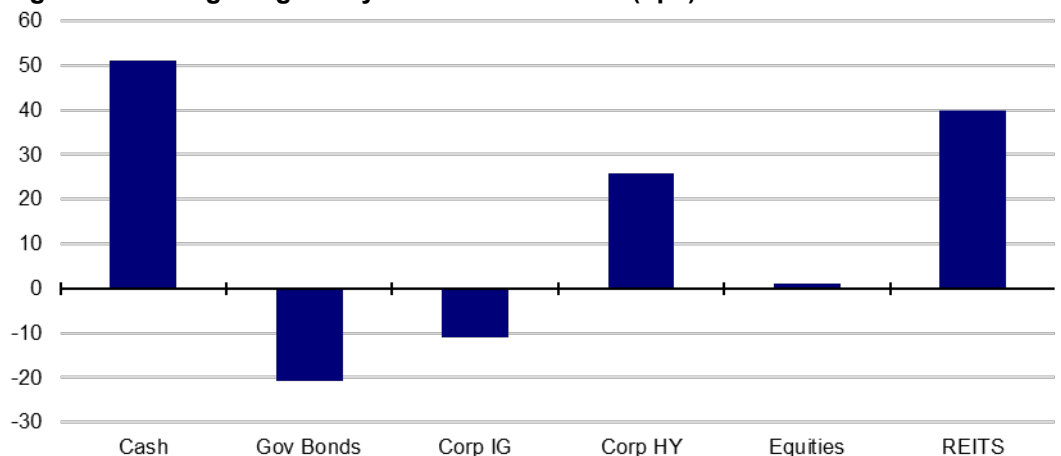


**Past performance is no guarantee of future results.** \*28/02/23 to 31/05/23. Colours represent model allocations during this period. See appendices for definitions and disclaimers. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Cash rates up but government bond yields are down

Cash rates again increased as central banks tightened (see **Figure 5**). Government bond and investment grade (IG) performance was helped by a decline in yields. There appears to have been a widening of credit spreads versus government bonds, especially high (HY). The question now is whether the rise in cash rates is coming to an end and whether we can look ahead to better performance from cyclical assets.

**Figure 5 – Change in global yields since 28/02/23 (bps)**



**Past performance is no guarantee of future results.** From 28/02/23 to 31/5/23. See appendices for definitions and disclaimers. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Invesco's 10-year CMAs have been published

### Taking a step back: focusing on the next decade using Invesco's CMAs

Before considering projections for the next year, it may be instructive to use longer term return projections as a guide. Invesco Investment Solutions have just published their 10-year capital market assumptions. **Figure 6** shows their projected returns for global asset classes in a range of currency bases (their framework differs from ours, so we have had to adapt some of their categories – for instance, we use their US Treasury Short category to represent cash and precious metals is used for gold). A more detailed version showing regional projections is contained in **Appendix 3**.

**Figure 6: Invesco 10-year capital market assumptions (global assets, % ann.)**

	USD	EUR	GBP	CHF
<b>Cash &amp; Gold</b>	5.2	4.0	5.2	3.0
Cash - US Treasury Short	4.2	3.0	4.2	1.9
Gold	6.3	5.1	6.3	4.0
<b>Government Bonds</b>	3.9	2.8	4.0	1.7
<b>Corporate IG</b>	4.6	3.4	4.6	2.3
<b>Corporate HY - US HY</b>	6.7	5.5	6.7	4.4
<b>Equities</b>	6.9	5.8	7.0	4.7
<b>Real Estate (REITS)</b>	7.1	6.0	7.2	4.9
<b>Commodities</b>	8.9	7.7	8.9	6.6

Note: Estimates as of 31 March 2023 and based on the 10-year capital market assumptions published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (June 2023). The USD version of the CMAs is reproduced in Appendix 3. The above table uses the geometric expected return version for global asset classes ("gold" is based on the projections for precious metals and the "Cash & Gold" category shows the average of those two assets). These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** Source: Invesco Investment Solutions

Commodities & HY dominate most 10-year CMA based optimal portfolios

Those projected returns are now higher than they were for gold and real estate, though largely lower for most other assets. Not surprisingly, the further we move along the risk spectrum, the higher the projected returns tend to be, except that cash returns are projected to be higher than for government bonds. The only hard-and-fast messages that come from the optimised solutions in **Figure 7** are the near consistent maximum allocations to HY and commodities (as in the previous edition). Results vary by currency base and depend on what is maximised (Sharpe Ratio or returns) and there is only one other broad theme: the at-best Neutral stance on IG. The messages are not clear for cash, gold, government bonds, equities or real estate. Let's see how shortening the time horizon and allowing for the cycle impacts the conclusions.

**Figure 7: Optimised global allocations based on Invesco's 10-year CMA projected returns**

	Neutral Portfolio	Policy Range	Maximise Sharpe Ratio				Maximise Return			
			USD	EUR	GBP	CHF	USD	EUR	GBP	CHF
<b>Cash &amp; Gold</b>	5%	0-10%	10%	10%	10%	10%	5%	10%	0%	10%
Cash	2.5%	0-10%	10%	10%	8%	0%	0%	0%	0%	0%
Gold	2.5%	0-10%	0%	0%	2%	10%	5%	10%	0%	10%
<b>Government Bonds</b>	25%	10-40%	40%	40%	40%	40%	10%	12%	10%	11%
<b>Corporate IG</b>	10%	0-20%	11%	11%	11%	5%	0%	0%	0%	0%
<b>Corporate HY</b>	5%	0-10%	10%	10%	10%	10%	10%	10%	8%	10%
<b>Equities</b>	45%	25-65%	25%	25%	25%	25%	55%	50%	62%	49%
<b>Real Estate (REITS)</b>	8%	0-16%	0%	0%	0%	6%	16%	14%	16%	16%
<b>Commodities</b>	2%	0-4%	4%	4%	4%	4%	4%	4%	4%	4%

Note: optimisations are based on the 10-year projected returns published by Invesco Investment Solutions in Long-Term Capital Market Assumptions (June 2023), as shown in **Figure 6** above. Optimisations are performed by the Asset Allocation Research team using our historical 10-year covariance matrices (for each currency). "Gold" is based on the projections for precious metals and the "Cash & Gold" category shows the sum of allocations for those two assets. "Maximise Sharpe Ratio" optimisations are performed by maximising the Sharpe Ratio subject to not violating the constraints implied by the policy ranges shown in the table. "Maximise Return" optimisations are performed by maximising return subject to the policy range constraints but also subject to the standard deviation of returns not exceeding that of the Neutral Portfolio (as shown in **Figure 3**). Though based on the projected returns provided by Invesco Investment Solutions, these optimal allocations do not represent their views, nor those of any other investment team at Invesco. See appendices for definitions, methodology and disclaimers. Source: Invesco Investment Solutions, Invesco Global Market Strategy Office



A business cycle framework

Contraction is signalled, which usually favours defensive assets but some cyclical assets are doing well

We are concerned about the short-term growth outlook

But think that inflation is coming under control

Hence, the focus on the growth cycle

### A cyclical view of asset class performance

Having considered the long-term outlook, we will now shorten the time horizon and introduce cyclical considerations. The business cycle framework developed by Alessio de Longis (Invesco Investment Solutions) is summarised in **Figure 8**. Not surprisingly, cyclical assets such as equities and HY tend to do better in the early stages of the economic cycle, with more defensive assets (government bonds and IG) outperforming during the contractionary phase.

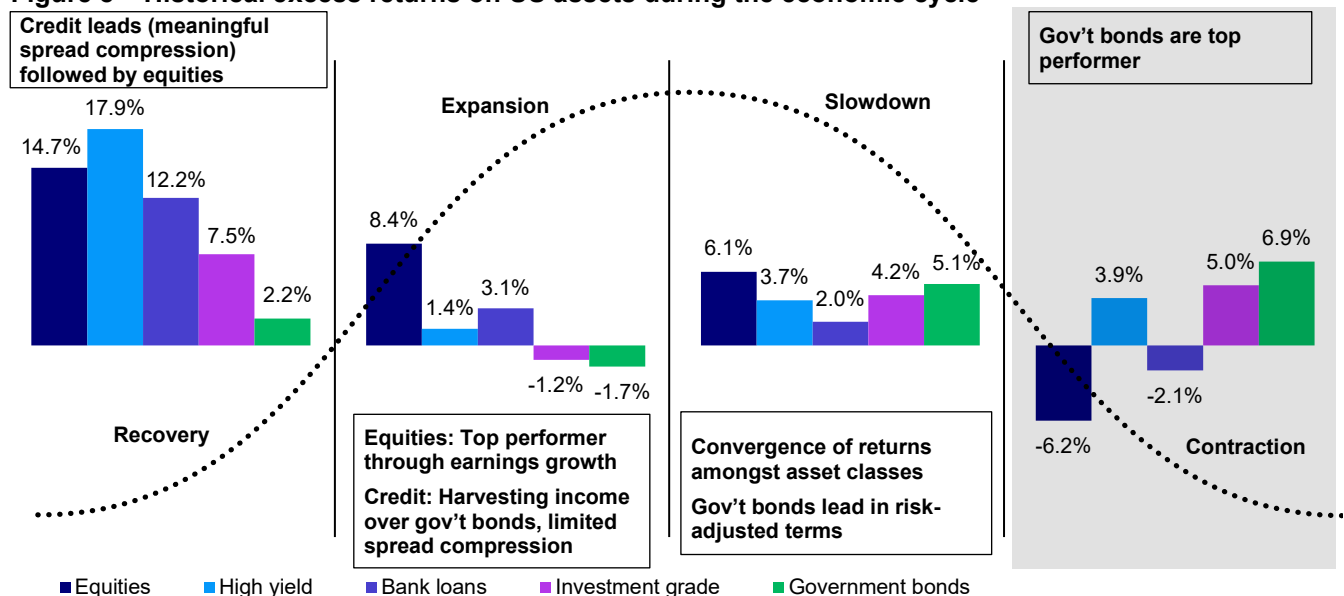
From an economic perspective, we would suggest that we are in the contraction phase, with global growth below trend and falling. However, recent asset market performance has not necessarily reflected the historical template, with most assets generating negative returns during 2022 but with strong positive returns since October 2022, more in line with what we would typically expect in the recovery phase. **Figure 4** shows that asset performance in the last three months is confusing, with cyclical assets such as equities and HY doing well (as **Figure 8** suggests is normally the case in the recovery phase), while others such as commodities (especially the industrial components) and real estate struggled.

It seems like markets have shrugged off the US regional banking crisis (for now) and it feels as though they are looking through any potential recession and ahead to the loosening of monetary policy and a reacceleration of economies. While it is natural for markets to look ahead, we are worried about getting dragged into a more aggressive stance while the risk of recession lingers.

Having always felt that inflation was transitory (and seeing enough signs that it is falling), our main preoccupation is to understand where we are within the economic cycle. That analysis is complicated by the fact that service sectors are holding up better than many had expected, given the decline in manufacturing activity. Hence, the macro part of our discussion will focus upon private sector spending power and the interplay between the various segments of the economy (services versus manufacturing, say).

That will offer guidance about the likely 12-month path of policy rates, yield curves, spreads, default rates and profits. As ever, the final ingredient will be valuations.

**Figure 8 – Historical excess returns on US assets during the economic cycle**



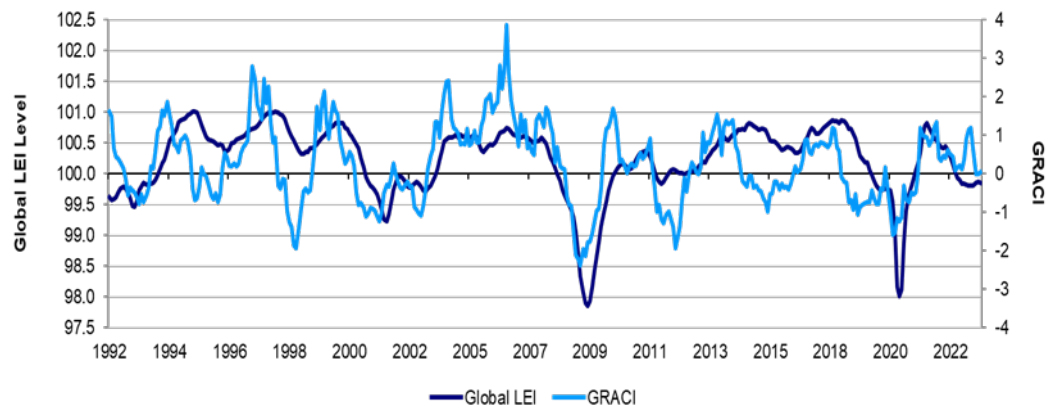
Notes: Index return information includes back-tested data. **Returns, whether actual or back tested, are no guarantee of future performance.** Annualised monthly returns from January 1970 – December 2021, or since asset class inception if a later date. Includes latest available data as of most recent analysis. Asset class 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 = FTSE GBI US Treasury 7-10y - US T-bills 3-Month. For illustrative purposes only. Please see appendices for further information.  
Sources: Invesco Investment Solutions' proprietary global business cycle framework and Bloomberg L.P.

Proprietary indicators suggest we are in a contraction regime

**Where are we in the cycle?**

**Figure 9** shows two proprietary indicators from Invesco Investment Solutions, designed to help decide where we are in economic and market cycles. The Global LEI (leading economic indicator) measure suggests that global growth is running below historical norms, while the GRACI (Global Risk Appetite Cycle Indicator) suggests that risk appetite has deteriorated, which together underline our contraction regime call.

**Figure 9 – Global risk appetite and the global business cycle**



Note: **past performance does not guarantee future results.** Monthly data from January 1992 to May 2023 (as of 31 May). Both Global LEI (Leading Economic Indicator) and GRACI (Global Risk Appetite Cycle Indicator) are proprietary tools provided by Invesco Investment Solutions (IIS). Global LEI is a weighted average of leading indicators for 23 countries (both developed and emerging). A reading above (below) 100 signals growth above (below) a long-term average. GRACI measures the average incremental return received per incremental unit of risk taken in global financial markets (i.e., incremental return received for moving from government bonds to credit, from credit to developed equities, from developed equities to emerging equities, etc.). It is calculated using country-level total return indices across fixed income and equity markets. A reading above (below) zero signals a positive (negative) compensation for risk taking in global capital markets in the recent past. A rising index signals improving market sentiment and vice-versa. Sources: Bloomberg L.P., Macrobond, MSCI, FTSE, JP Morgan and Invesco Investment Solutions

Economic data flows have deteriorated

**Figure 10** suggests that the positive economic surprises seen in the early part of 2023 didn't last, with Eurozone data flows recently disappointing expectations. China's economy now seems to be performing largely as expected (on balance), while that of the US is still providing some positive surprises. Of course, it is always difficult to know if positive surprises turn negative because the economy has deteriorated or because forecasts became too optimistic. Nevertheless, the Eurozone data now feels less confusing – it was difficult for us to rationalise the apparent rebound, even allowing for the decline in natural gas prices and the reopening of China's economy.

**Figure 10 – Citigroup Economic Surprise Indices**

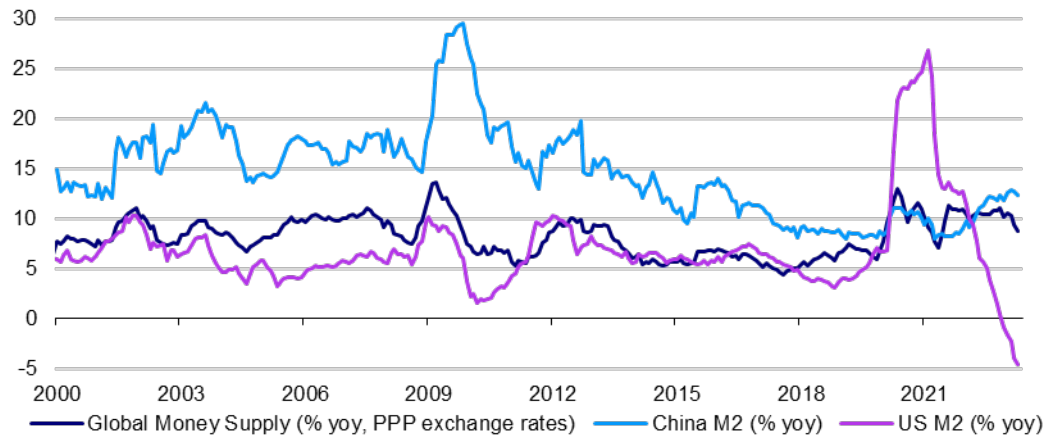


Note: based on daily data from 1 January 2019 to 5 June 2023.  
Source: Citigroup, Refinitiv Datastream and Invesco Global Market Strategy Office

Global money supply growth is easing but China offers a big contrast to the US

One reason for expecting continued slowdown in the global economy is the deceleration of monetary aggregates. **Figure 11** shows the growth in our own measure of global money supply and it has been easing in recent months. However, the chart also shows that it is not the same everywhere: money supply growth has collapsed in the US and is now negative, while in China it has increased and remains above 12%. Basically, the Fed has been tightening while the People’s Bank of China (PBOC) has been easing and normally we would expect that to result in better economic momentum in China.

**Figure 11 – Global money supply growth**

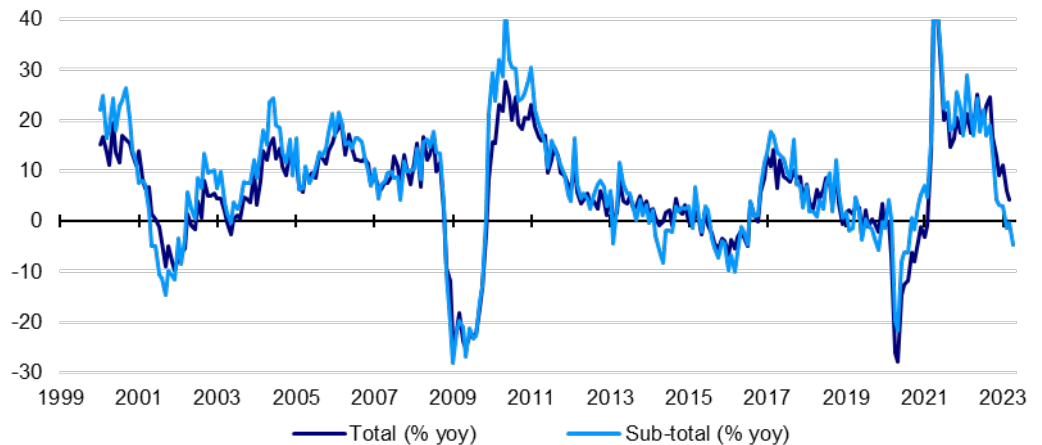


Note: monthly data from January 1980 to April 2023. “Global Money Supply” is based on an aggregation of broad money supply aggregates (usually M3) for the following countries: Australia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Czech Republic, Denmark, Eurozone, Hungary, Iceland, India, Indonesia, Israel, Japan, Mexico, New Zealand, Norway, Poland, Russia, South Africa, South Korea, Sweden, Switzerland, Turkey, United Kingdom and United States. The aggregation is based on national money supplies using purchasing power parity (PPP) exchange rates to convert to US dollars (PPP exchange rates are those which equalise spending power across countries and are usually more stable than market exchange rates). Source: MSCI, OECD, Oxford Economics, Refinitiv Datastream and Invesco Global Market Strategy Office

Global export growth is easing

Interestingly, the reopening of the Chinese economy during 2022 Q4 did not help global export growth (see **Figure 12**). Perhaps Chinese supply chains were little impacted towards the end of the zero-Covid policy, so that the beneficial effect of removing it was important for parts of the domestic economy (tourism, say) but not for trade flows. Nevertheless, that export data suggests the global economy continues to decelerate, with data from the Netherlands Bureau of Economic Policy Analysis also showing that year-on-year growth in export volumes had fallen to around zero by the start of 2023.

**Figure 12 – Global export growth (based on trade value in SDRs)**

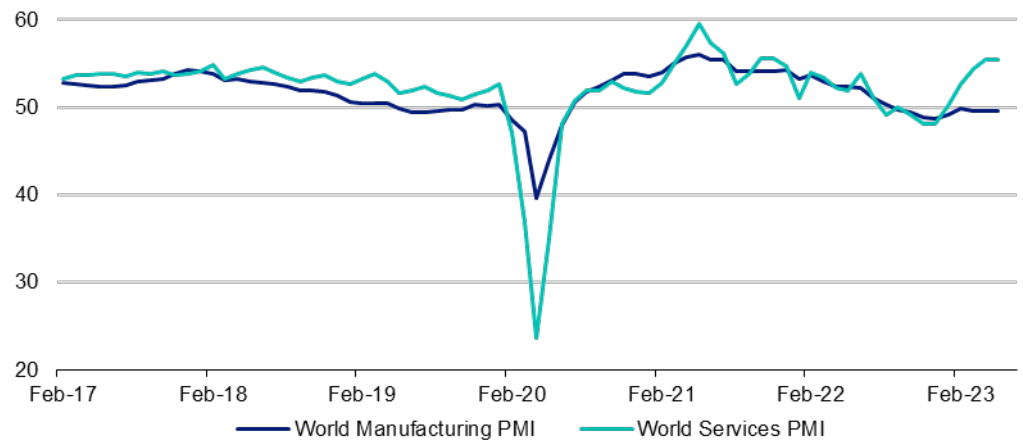


Notes: Monthly data from January 1999 to April 2023. Exports are aggregated across the following countries: Australia, Brazil, Canada, China, Eurozone, India, Japan, Mexico, South Korea, Sweden, Switzerland, Taiwan, UK and US. “Total” includes data from all countries. Because not all countries have yet reported the latest month, a subset of countries that have done so is created (“Sub-total”), with a full back-history created for that subset. Exports are measured in SDRs (Special Drawing Rights) to dampen the effect of exchange rate movements. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Services outperforming manufacturing

The global slowdown should come as no surprise, given the evidence from leading indicators shown in **Figure 9**. Similar evidence comes from business surveys such as PMIs. **Figure 13** shows that the global manufacturing PMI has been below 50 since September 2022. The same was true of the services PMI but it rebounded in January and has continued to climb.

**Figure 13 – Global Purchasing Manager Indices**



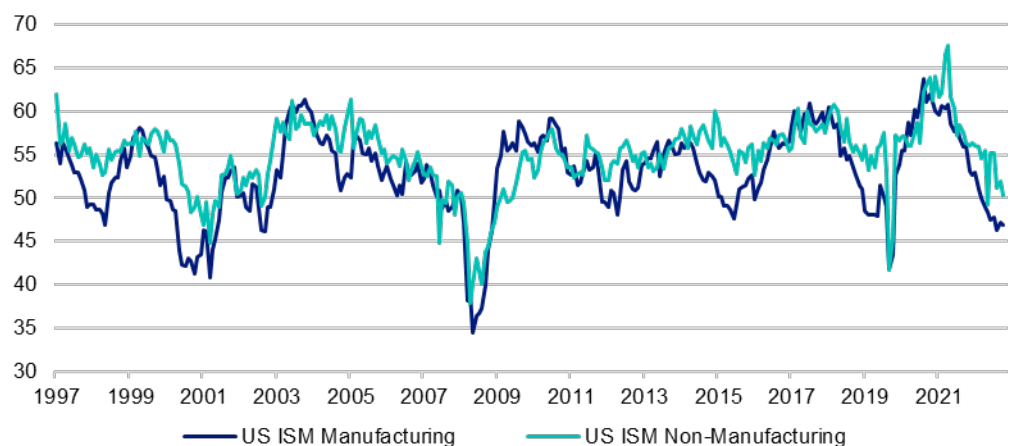
Note: monthly data from February 2017 to May 2023, showing JP Morgan PMIs, provided by S&P Global. Source: JP Morgan, S&P Global, Refinitiv Datastream and Invesco Global Market Strategy Office

The timing of that rebound in services seems to coincide with the reopening of the Chinese economy. However, it goes well beyond China with similar rebounds in other parts of Asia (Japan and Taiwan, for example), the Eurozone and the UK. There was also a rebound in the US, though **Figure 14** shows a relapse in the US ISM non-manufacturing PMI. That relapse started in March 2023 and may have been due to the problems in the US banking sector but has continued over recent months.

But that is not unusual, with services often following manufacturing down with a lag

A hot debate is raging at the moment about whether the manufacturing or service sector surveys are the most relevant when considering the economic cycle (the US manufacturing ISM was 46.9 in May 2023, below the 48.7 level that the ISM says is the border between expansion and shrinkage of the broad economy). There is no doubt that service sectors are much bigger than manufacturing sectors in most developed economies but **Figure 14** suggests a tendency for the manufacturing sector to lead the services sector, though the latter tends to be more stable. Indeed, this is not the first time there has been a divergence between the two and the gap seems to have been closed recently in the US by a worsening of conditions in services. We wouldn't be surprised to see similar convergence elsewhere, though perhaps with a delay.

**Figure 14 – US ISM PMI Surveys**

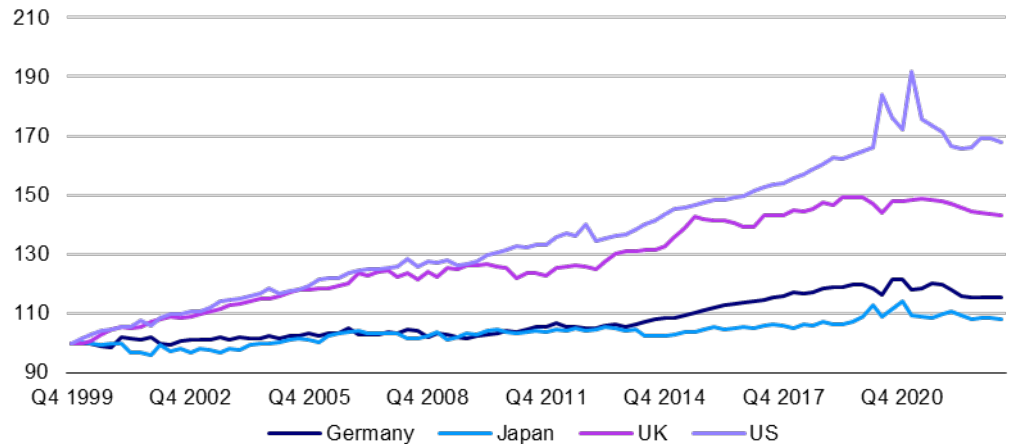


Notes: Monthly data from August 1997 to May 2023. Provided by the US Institute of Supply Management. Source: US ISM, Refinitiv Datastream and Invesco Global Market Strategy Office

Consumer resilience but real personal disposable income has stagnated

We have been impressed/surprised by the resilience of consumer spending despite the squeeze on real income coming from higher inflation. Further pressure has come from the rise in interest rates and financing costs, particularly mortgage financing. **Figure 15** shows that real personal disposable income has at best stagnated over recent years and is now below the trend that existed prior to the pandemic.

**Figure 15 – Real personal disposable income (1999 Q4 = 100)**



Note: quarterly data from 1999 Q4 to 2023 Q2 (the latter is a forecast provided by the OECD). All data rebased to 100 in 1999 Q4. As of 6 June 2023.  
Source: OECD, Refinitiv Datastream and Invesco Global Market Strategy Office

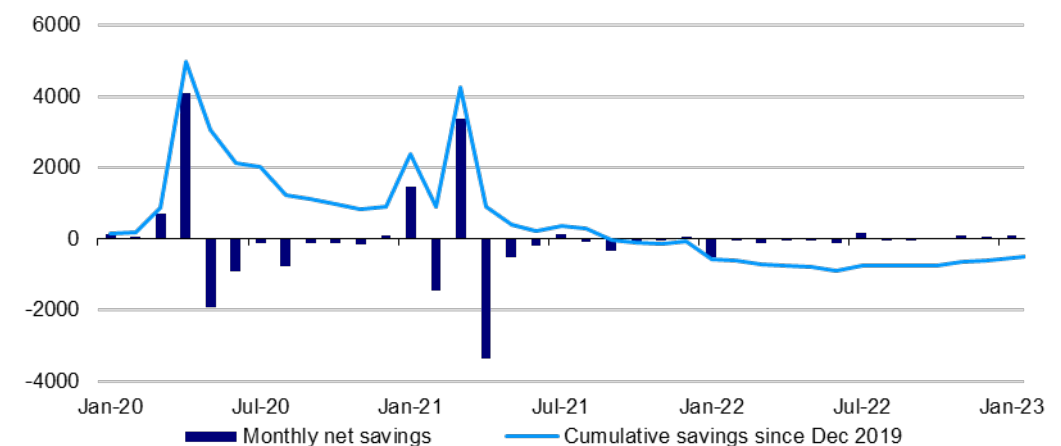
Fiscal support helped for a while, especially in the US

Of course, real personal disposable income would have fallen much further during the pandemic lockdowns if governments hadn't protected household cash flows. Even better, **Figure 15** shows the extent to which real personal disposable income was boosted in the US by tax credits and rebates in 2020 and 2021. If anything, the support provided by the US government appears to have been bigger than needed. The fiscal action in other countries seems to have been better calibrated. Those other governments didn't generate the economic growth that came in the US but nor did they boost fiscal deficits and debt to the same extent.

But that buffer has gone

That fiscal largesse at a time when it was difficult to spend, allowed US households to boost savings (see **Figure 16**). That savings buffer helped households to weather the early stages of inflation, without scaling back spending but that savings buffer was exhausted some time ago. Hence, consumer spending growth is now more likely to be limited by the growth in real disposable income, which is moderate. Of course, as inflation declines, there will be more scope for real incomes to grow.

**Figure 16 – US household net savings since December 2019 (US\$ bn)**



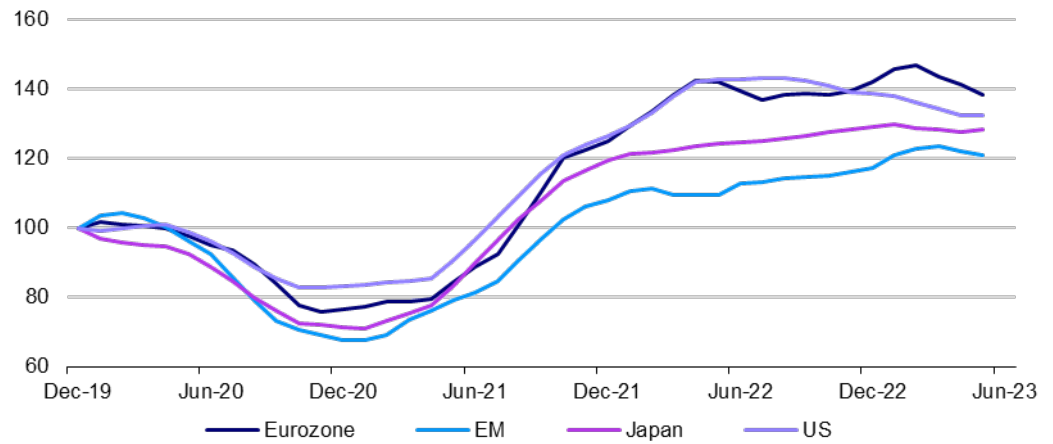
Notes: Monthly data from January 2020 to May 2023. Monthly net savings is the difference between aggregate personal income and aggregate personal spending. Cumulative savings shows the total over time of net savings since December 2019. Source: Refinitiv Datastream and Global Market Strategy Office



Profits are starting to weaken, even in nominal terms

It is not just consumers that have suffered a drop in income, with business profits now falling in a range of countries/regions. **Figure 17** shows that a trend that started in the US is now spreading. It should be noted that these profits are nominal and therefore do not allow for the negative effect of inflation on business spending power.

**Figure 17 – Earnings per share (December 2019 = 100)**



Note: Monthly data from December 2019 to May 2023, with earnings per share derived from Datastream Total Market Indices and Price-Earnings Ratios.  
Source: Refinitiv Datastream and Invesco Global Market Strategy Office

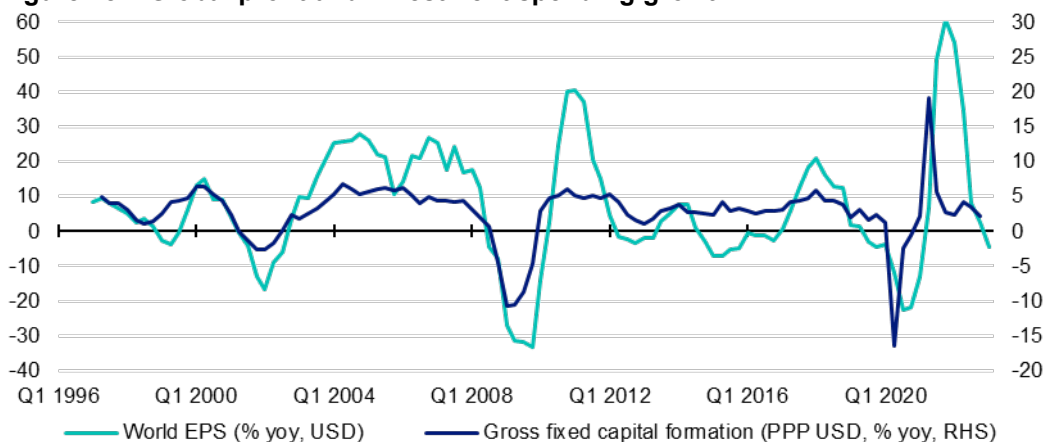
Which may explain weak investment spending

Profits matter because they are a determinant of business investment spending which is an important component of gross fixed capital formation, which often leads economies into and out of recession. It is notable in the US that private fixed investment spending has fallen in each of the last four quarters, which is consistent with the decline in profits.

The global economy is delicately poised

Globally, profits appear to be weakening and investment growth is easing. This is shown in **Figure 18** but the investment data is only up to 2022 Q4 and we suspect growth will turn negative over the coming quarters. Indeed, revised Eurozone data confirmed that 2023 Q1 was the second consecutive quarter of negative GDP growth, thus fulfilling the definition of recession (though shallow with growth of -0.1% in each of those two quarters). However, the picture is not uniform, with Japan, for example perhaps benefitting from the rebound in China, that started in 2022 Q4, though an increase in fixed investment spending was also important (both public and private). Nevertheless, we view the global economy as stumbling on the precipice of recession.

**Figure 18 – Global profit and investment spending growth**



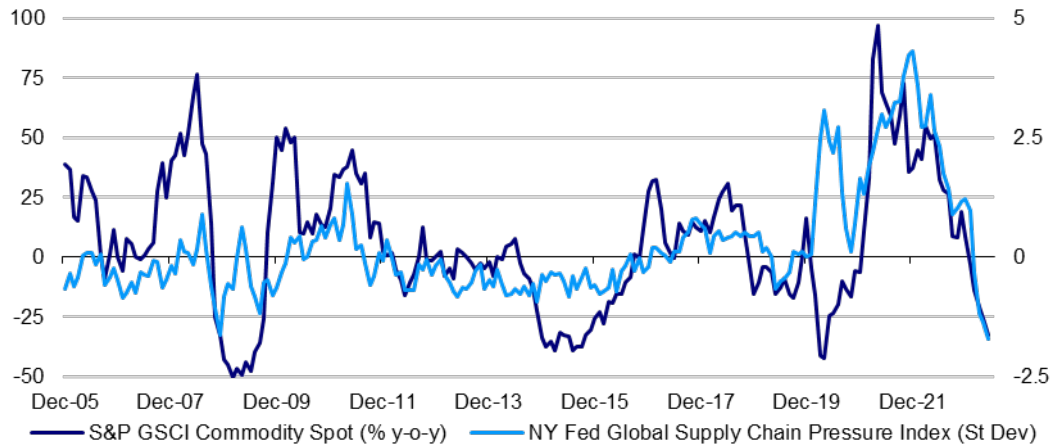
Notes: Quarterly data from 1996 Q1 to 2023 Q1. World EPS is earnings per share derived from the Datastream World Total Market Index and price/earnings ratio. Gross fixed capital formation is the aggregate of such spending (translated into US dollars using purchasing power parity exchange rates and based on constant price data using 2015 prices by the OECD) in the following countries: Australia, Brazil, Canada, Eurozone, India, Indonesia, Japan, Mexico, Poland, South Korea, Sweden, Switzerland, Turkey, United Kingdom, United States. Source: OECD, Refinitiv Datastream and Global Market Strategy Office

Short term inflation pressures are easing

**Inflation on a downward path**

Inflation has been a dominant theme over the last 18 months but we suspect its importance is fading, as inflation rates ease. **Figure 19** shows that commodity prices are now a depressing influence, with large declines over the last year. A weakening global economy is likely to maintain the downward pressure on commodity prices (especially energy and industrial metals), even allowing for short-term boosts coming from the announced cut in Saudi oil production and the destruction of the Kakhovka dam in Ukraine (which could impact global food supply).

**Figure 19 – Global inflation pressures are easing**



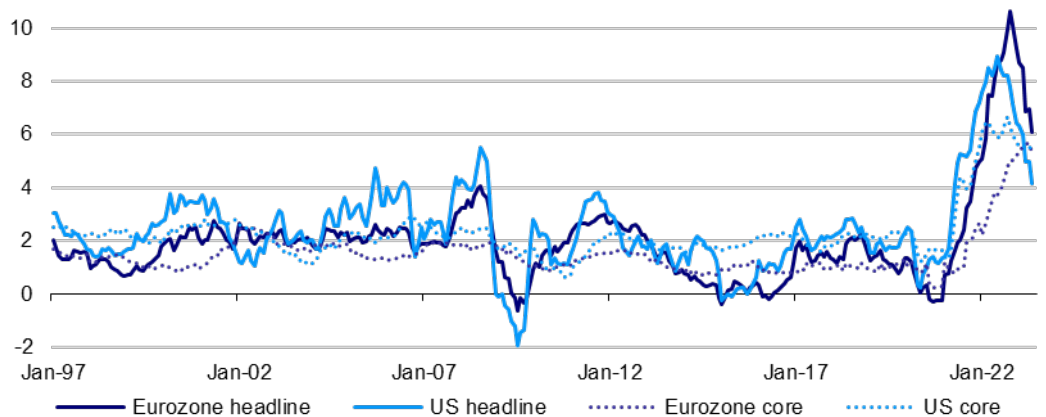
**Past performance is no guarantee of future results.** Monthly data from December 2005 to May 2023. NY Fed Global Supply Chain Pressure Index tracks the state of global supply chains using data from the transportation and manufacturing sectors, as constructed by the Federal Reserve Bank of New York. It is shown as standard deviations from the historical mean. Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index, S&P GSCI, Refinitiv Datastream and Invesco Global Market Strategy Office.

Further, supply chain pressures that were believed to cause some of the inflation seen in 2021/22 are no longer present. In fact, **Figure 19** suggests supply chains are working very well (the May 2023 reading was the lowest since inception in January 1998).

We expect inflation to continue falling

US headline consumer price inflation peaked in June 2022, with the peak in core arriving three months later (see **Figure 20**). Eurozone inflation has lagged that of the US, with the peak in the headline rate not coming until October 2022 and the peak in core coming in March 2023. This assumes we have already seen the peak in core inflation in the Eurozone, which is not obvious from **Figure 20**. However, we are confident that the economic slowdown already seen, along with the depressing effect of ongoing central bank tightening, will bring inflation rates much lower.

**Figure 20 – Eurozone inflation following US path with a lag (% y-o-y)**



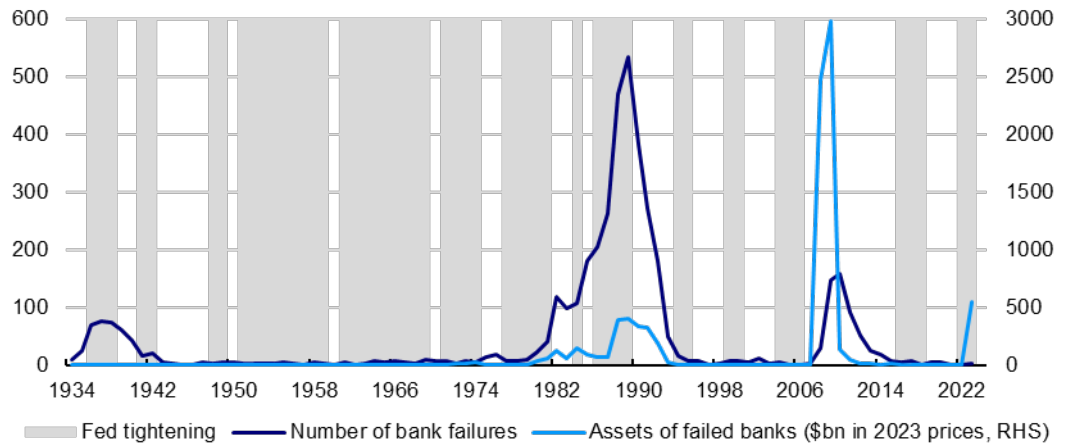
Note: Based on monthly data from January 1997 to May 2023. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Crisis averted?

### Central bank policy returning to the pre-regional banking crisis path

The previous edition of this document (March 2023) was written as the US regional banking crisis was unfolding. Those bank failures created volatility in financial markets but rapid action from governments, central banks and regulators seems to have limited the crisis. **Figure 21** shows what was at stake, with the three banks that failed in the US accounting for assets of around \$550bn. The potential existed for contagion.

**Figure 21 – US bank failures and Fed tightening**



Note: Based on annual data from 1934 to 2023 (as of 8 June 2023). Total assets are expressed in 2023 prices by deflating with the US consumer price index. Fed tightening shows periods when the US Federal Reserve is tightening policy. Source: Federal Deposit Insurance Corporation, Global Financial Data, Refinitiv Datastream and Invesco Global Market Strategy Office

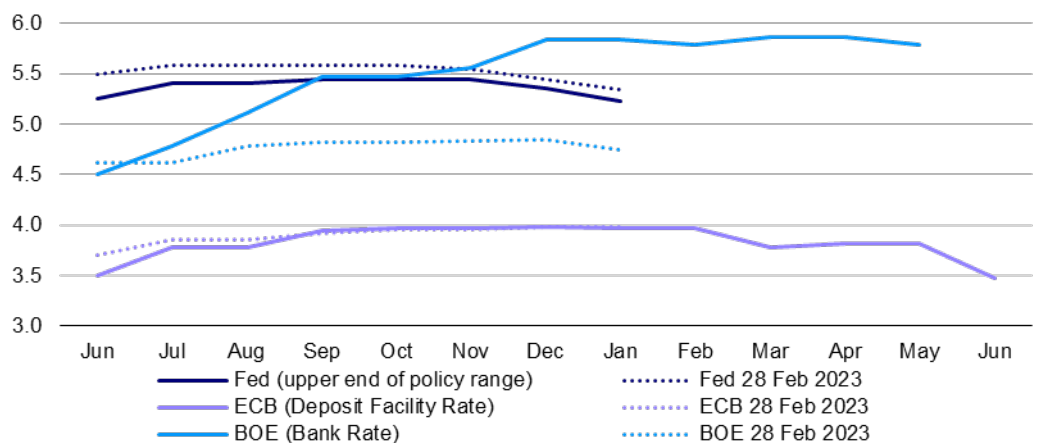
Central have returned to pre-banking crisis language

Central banks started to sound less hawkish and markets believed them, especially in the US where the end-2023 rate implied by Fed Funds Futures fell by around 100 basis points between 28 February and 14 March. However, as concerns about the banking sector eased and inflation remained higher than expected in some countries (including the US), central bank language toughened again and market expectations of policy rates readjusted upwards.

With the BOE now expected to be very aggressive

Most central banks are still tightening and there have been recent surprise interest rate hikes in Canada and Australia and a “hawkish pause” in the US. Though the market implied path of Fed rates remains below where it was on 28 February (just prior to the banking crisis), the divergence is no longer so great even though the Fed is expected to be easing by the end of 2023 (see **Figure 22**). The most striking change concerns the BOE, with recent inflation surprises causing a large upward revision to rate expectations.

**Figure 22 – Market implied path of central bank policy rates (%)**

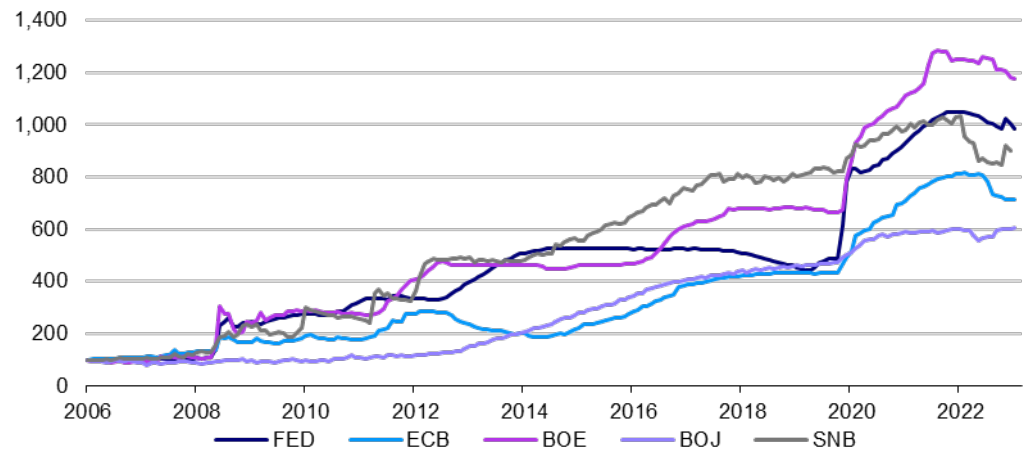


From June 2023 to June 2024. Based on Fed Funds Futures (for the Fed) and Overnight Index Swaps (for the BOE and ECB) as calculated by Bloomberg. Rates are calculated for central bank policy meeting dates. For months where there is no meeting, we show the same rate as the month before. As of 16 June 2023. Source: Bloomberg and Invesco Global Market Strategy Office

From quantitative easing to quantitative tightening (after a break)

The other way in which central banks adjusted their behaviour in the aftermath of the US regional banking crisis (and the collapse of Credit Suisse) was to provide more liquidity. This had the effect of frustrating the Fed's attempt to reduce the size of its balance sheet via asset releases. It also led to an increase in the balance sheet of the Swiss National Bank (SNB) due to its operations concerning Credit Suisse. However, **Figure 23** shows that the boost to the Fed's balance sheet was temporary and that the SNB's balance sheet expansion may now be over.

**Figure 23 – Central bank balance sheets (rebased to 100 as of 31/5/2006)**



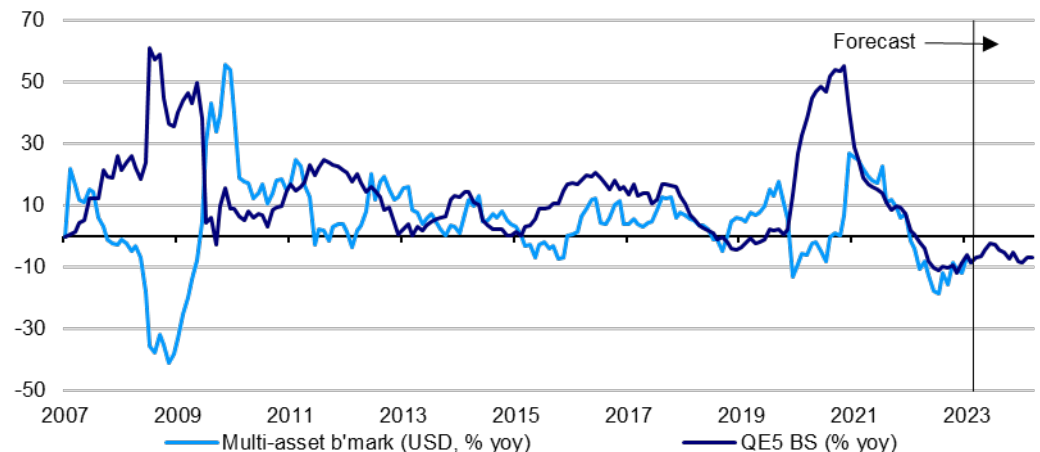
Monthly data from May 2006 to May 2023. Based on local currency data.  
Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Assuming that the Fed, ECB and BOE continue with their plans to reduce asset holdings (and accepting that deep recession could change those plans), while the BOJ and SNB are forecast to keep their holdings stable, **Figure 24** shows the projected path for the aggregate balance sheet of those five central banks to June 2024.

And that could depress asset returns if the plans are executed

Just as we believe that central bank asset purchases have in the past boosted asset valuations and returns, we suppose that reduced central bank asset holdings will depress asset returns over the coming years. This is one reason for erring on the conservative side in our asset projections.

**Figure 24 – QE5 balance sheet and asset returns (%)**



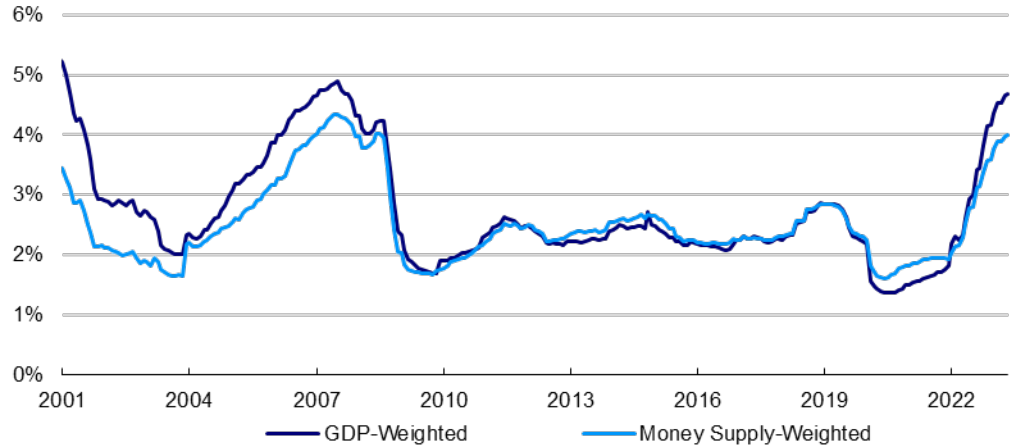
Notes: **Past performance is no guarantee of future results.** Monthly data from May 2007 to June 2024. QE5 BS is the aggregate balance sheet of Fed, ECB, BOE, BOJ and SNB in USD. Forecast considers asset purchase plans of the central banks but ignores other sources of growth. The Fed has announced an asset holding reduction plan of \$95bn per month (we assume it stays at that rate to June 2024). The ECB has started to reduce its asset holdings by €15bn per month and we assume the monthly reduction increases to €30bn in July 2023 and stays at that level to June 2024. The BOE has started to reduce its asset holdings and we assume a pace of £10bn per month during the period to June 2024. We assume no change in BOJ and SNB asset holdings over the forecast horizon. The multi-asset benchmark is a fixed weighted index based on the Neutral asset allocation of Invesco's Asset Allocation Research team. As of 31 May 2023. Source: BOE, Refinitiv Datastream and Invesco Global Market Strategy Office

Policy rates approaching pre-GFC peaks

**From economic to market cycles**

Central banks have continued to raise policy rates taking them to the peaks seen just before the GFC (see **Figure 25**). Given the ongoing economic deceleration and peaking-out of inflation, we suspect the peak in policy rates is not far away (though China and Japan are exceptions, with no tightening so far).

**Figure 25 – Weighted average central bank policy rate (%)**



Based on monthly data from February 2001 to May 2023 (as of 31 May 2023). Based on the 20 largest economies during each calendar year, according to nominal GDP in US dollars (based on data from the IMF World Economic Outlook October 2022). Source: IMF, Refinitiv Datastream and Invesco Global Market Strategy Office

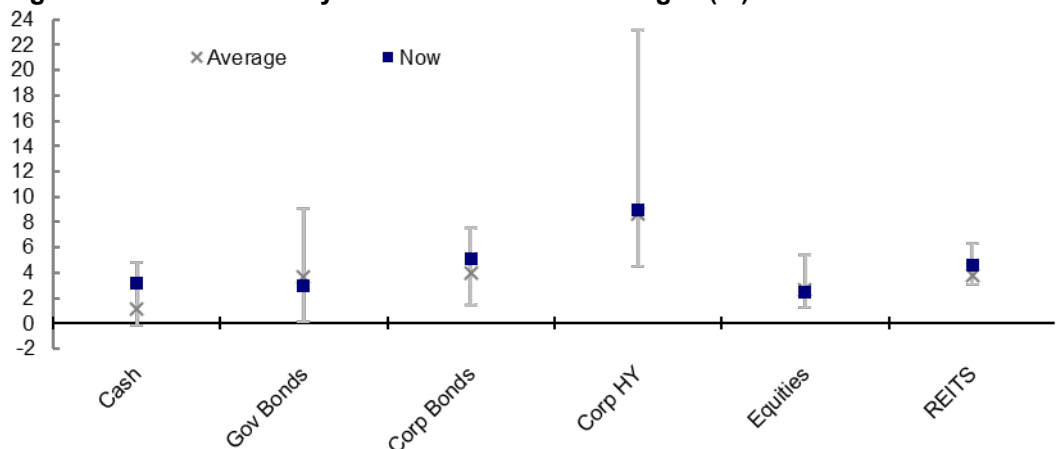
Cash rates higher than normal; yields on other assets close to norms

That rise in policy rates has had a knock-on effect on asset yields (see **Figure 26**). Not surprisingly, cash rates are now above historical norms (though the comparison period only started in 2001). Yields on most other assets are close to historical norms, which in the case of fixed income groups is a big improvement from what was available 18 months ago, when rates were at or near historical lows.

Judgements about the cycle are key

A peaking of central bank rates could help drive asset yields lower in the short term, though cyclical assets may experience a rise in yields if recession occurs and spreads widen. Under such a scenario, we would normally expect defensive assets such as cash, government bonds and IG to be among the best performers (see **Figure 8**) and the yields now offered by those assets are no longer a handicap. The big question is not valuations but judgements about the economic cycle and what has already been discounted about the expected slowdown.

**Figure 26 – Global asset yields within historical ranges (%)**



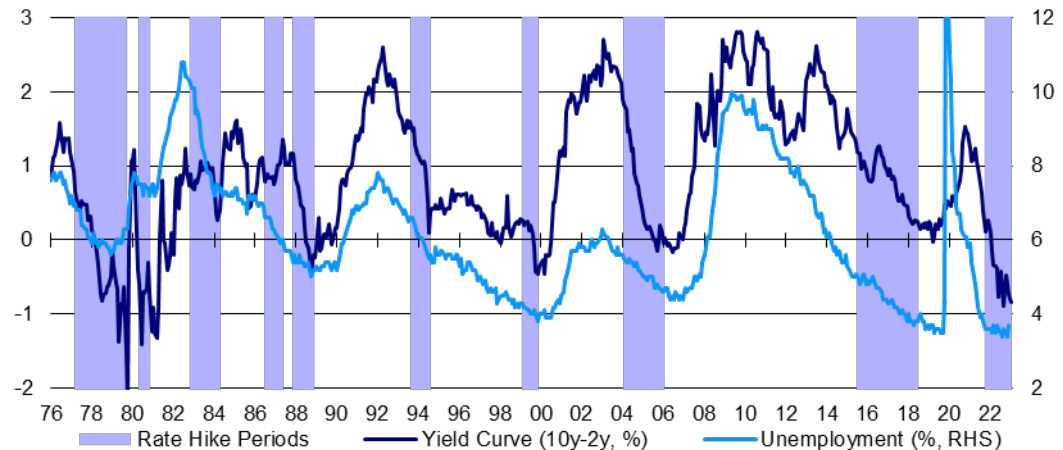
Start dates for historical ranges are cash 1/1/01; govt bonds 31/12/85; corp bonds 31/12/96; corp HY 31/12/97; equities 1/1/73; REITs 18/2/05. See appendices for definitions, methodology and disclaimers. As of 31 May 2023. Source: Refinitiv Datastream and Invesco Global Market Strategy Office



Yield curves are very inverted

Turning to government bond markets, the inversion of yield curves tends not to last for very long, especially when the inversion is as steep as it is today. **Figure 27** shows the case of the US 10y-2y spread and it is as inverted as at any time since the early 1980s. The chart also shows that inversion tends to occur when the Fed has been tightening and also coincides with low unemployment rates (none of which is surprising). The one surprise (error?) this time was that the Fed (and other central banks) waited so long to tighten when unemployment was already so low.

**Figure 27 – US unemployment, the yield curve and Fed tightening cycles**



Notes: **past performance is no guarantee of future results.** Based on monthly data from June 1976 to June 2023 (as of 9 June 2023). The shaded areas show periods when the US Federal Reserve was raising interest rates (from first to last rate hike). Source: Refinitiv Datastream and Invesco

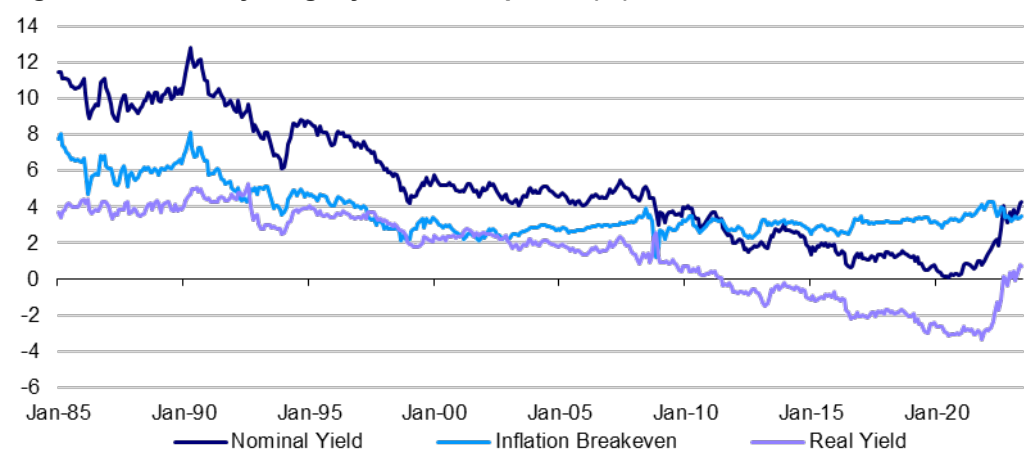
US long treasury yields may have peaked in October 2022

Yield curve inversion is often the result of bear flattening in the early stages, with rates rising along the yield curve but with the biggest gains at the short end. However, towards the end of a central bank tightening cycle, we would normally expect inversion to be the result of a pivot, with short rates continuing to rise (with policy rates) while long rates fall (in anticipation of economic slowdown and eventual policy easing). We suspect this may have already happened in the US, with the 10-year yield peaking at around 4.25% in October 2022 (the 30-year yield peaked at 4.38%).

But UK yields may have yet to do so

However, it is not the same everywhere. **Figure 28** suggests that 10-year UK gilt yields are yet to peak. Having appeared to peak during the market turmoil that followed the mini budget of the Liz Truss government, they have recently increased again on the back of higher-than-expected inflation and a more hawkish tone from the BOE. Interestingly, it is the real yield that accounts for most of the rise in the 10-year gilt yield over the last 18 months but at 0.72%, we suspect it could go higher.

**Figure 28 – UK 10-year gilt yield decomposed (%)**

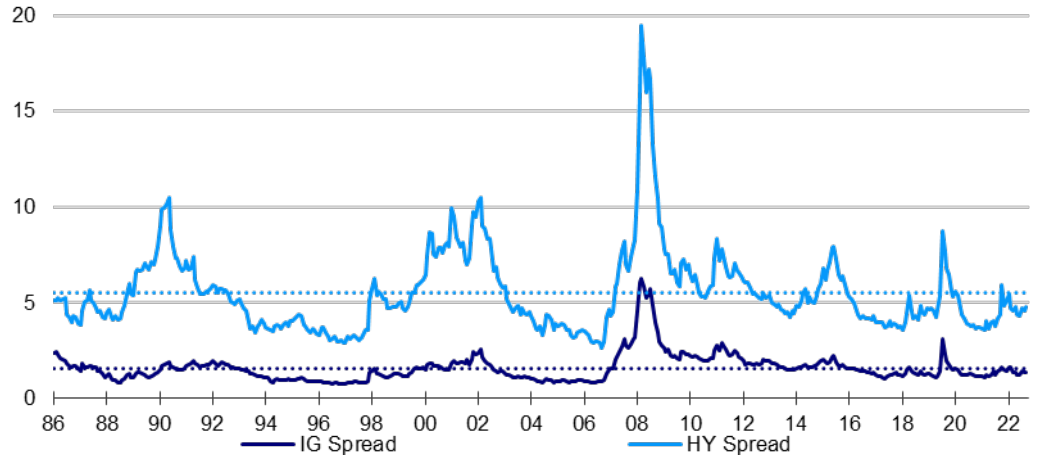


Note: **past performance is no guarantee of future results.** Monthly data from January 1985 to June 2023 (as of 9 June 2023). "Real yield" is the 10-year UK inflation-protected gilt yield. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

Credit yields look attractive but US spreads are narrow

Though both IG and HY credit yields appear relatively attractive compared to historical norms (see **Figure 26**), we find that the spreads versus government yields remain narrower in the US than we would expect given the slowing of the economy (spreads are normally at their widest during periods of economic weakness – see **Figure 29**). HY default rates usually increase (and recovery rates fall) during slowdowns and we are seeing signs of that happening now (admittedly from low (high) levels).

**Figure 29 – US credit spreads versus treasury yields (%)**

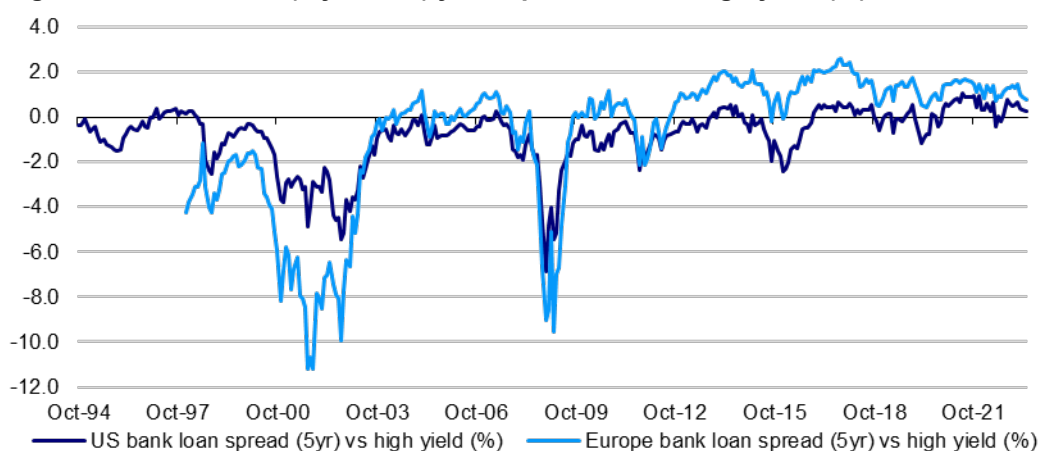


Note: **Past performance is no guarantee of future results.** Monthly data from September 1986 to May 2023. IG and HY spreads are calculated by subtracting the redemption yield on the ICE BofA US Treasury Index, from the redemption yields on the ICE BofA US Corporate Index and the ICE BofA US High Yield Index, respectively. The dotted lines show the average spreads over the full period shown. Source: ICE BofA, Refinitiv Datastream and Invesco Global Market Strategy Office

We think bank loans are relatively attractive but are not yet included in our framework

Bank loans is an asset class that we haven't yet included in the Big Picture framework but we intend to do so. As outlined in a recent [white paper](#) we view the asset class as being somewhere between cash and HY, based on its characteristics and historical performance. Based on market capitalisation, the markets for bank loans in the US and Europe are about the same size as those for HY. **Figure 30** suggests that the bank loans spread versus HY is towards the upper end of the full historical range but around the middle of the most recent 10-year range (in both Europe and the US). Also, as outlined in the white paper, bank loan default rates are rising but even so we found that the asset class has the potential to produce a total return of 7%-8% over the next 12 months in both Europe and the US (as of 30 April 2023).

**Figure 30 – Bank loan (5-year life) yield spread versus high yield (%)**

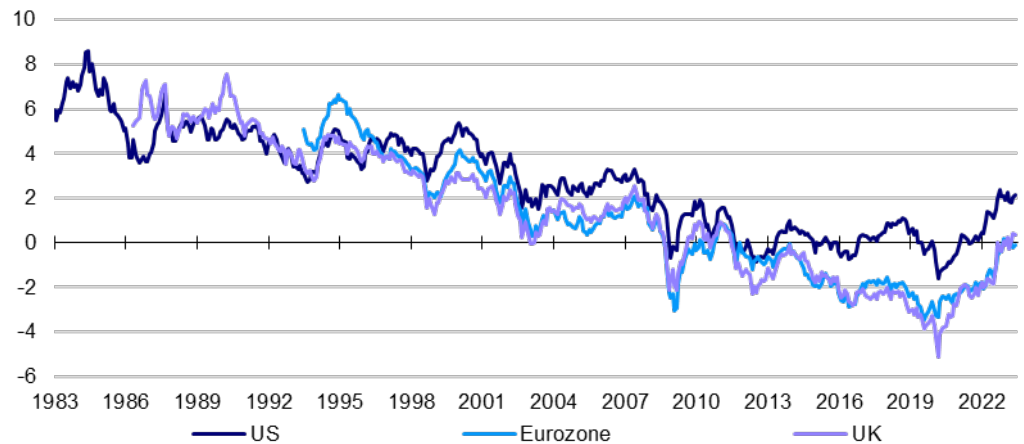


Notes: **Past performance is no guarantee of future results.** Based on monthly data from October 1994 to May 2023. Spreads are calculated as the difference between the yield (5-year life) on the bank loan index and the yield-to-worst (YTW) on the respective high yield index. Bank loan yield is the discount factor that equates cash flows (coupon plus redemption at par) to current price. The coupon rate is the 5-year interest rate swap rate plus the stated margin. Bank loan indices are Credit Suisse Leveraged Loan indices for the US and Western Europe. High yield indices are ICE BofA US High Yield Index and ICE BofA Euro High Yield Index. Source: Credit Suisse, ICE BofA, Refinitiv Datastream and Invesco Global Market Strategy Office

Yield gaps have moved in favour of government bonds, bringing them back into the investment equation

Over the last 18 months, dividend yield gaps have moved in favour of government bonds and away from equities (see **Figure 31**). This has changed our view about the role of government bonds within our Model Asset Allocation, having previously shunned the asset class. Further, the feeling that the global economy is decelerating could also shift the pendulum towards government debt (in our opinion) due to the possibility of a near-term fall in both long-term yields and corporate profits. However, we expect yields to be higher in 12 months in most regions, as recovery takes hold and yield curves steepen.

**Figure 31 – Yield gaps are stabilising (%)**



Note: **past performance is no guarantee of future results.** Monthly data from January 1983 to June 2023 (as of 12 June 2023). Yield gap is 10-year government bond yield minus equity dividend yield (based on Datastream equity indices). Source: Refinitiv Datastream and Invesco

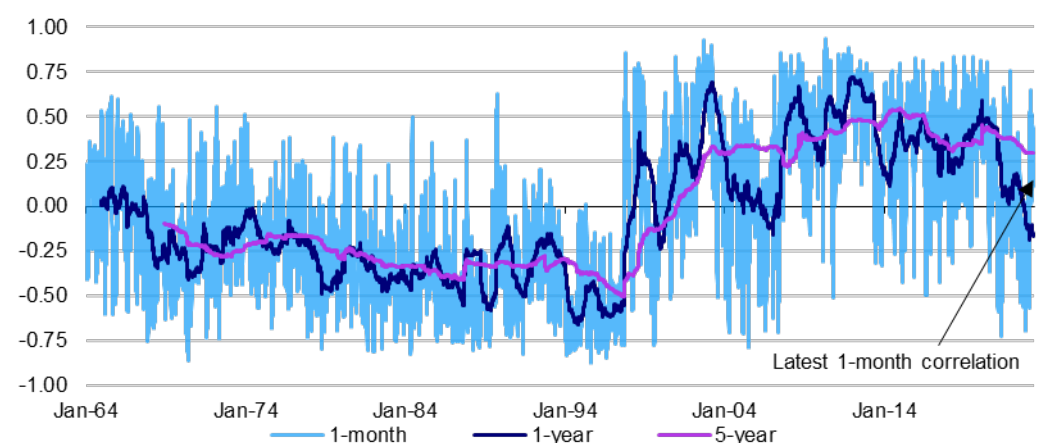
Any fall in bond yields could offset the effect of falling profits on equities but the correlation is changing

Of course, the near-term decline in long-term yields could help to offset the effect of falling profits (via expanding valuation multiples), so long as equity-bond correlations remain as they were during 2022 (when rising bond yields were associated with falling equity prices). However, that correlation regime was the opposite of what had existed for most of this century (see **Figure 32**) and there is evidence it is reverting to the pre-2022 norm (with bond yields and equity prices rising together).

We remain cautious about equities in the near term, with the improving outlook later

Hence, falling bond yields may not provide the offset to falling profits that we had hoped. On this basis, recession could be the worst outcome for equities (as we would normally expect) and the most favourable equity scenario would be a reacceleration in the global economy. Based on the earlier sections, this seems some way off, which makes us cautious about global equity markets in the early part of our 12-month forecast horizon).

**Figure 32 – Correlation between daily changes in S&P 500 and US 10-year yield**

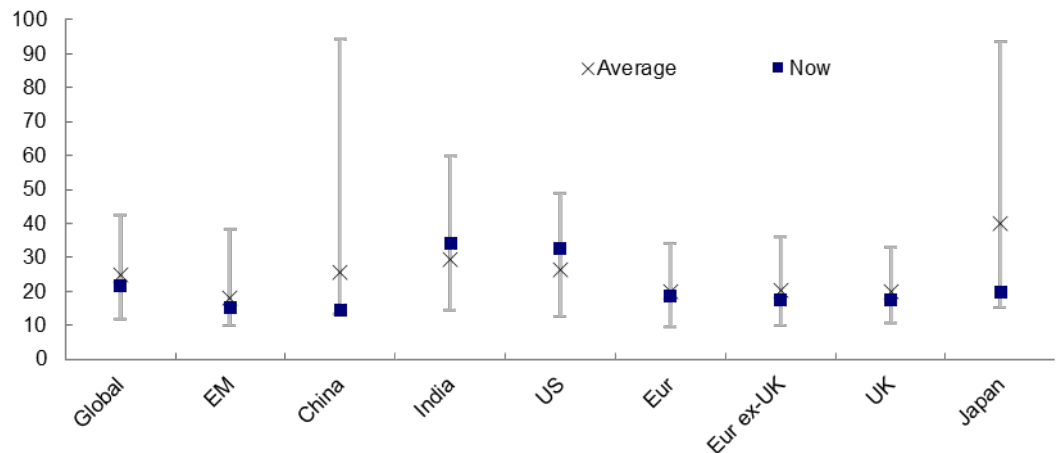


Note: **past performance is no guarantee of future results.** Based on daily data from 31 December 1963 to 12 June 2023. Correlations are calculated based on the percentage daily changes in the S&P 500 and 10-year US treasury yield. The correlations are measured over 1-month, 1-year and 5-year periods. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

China remains the cheapest major equity market

Among major equity markets, we still believe that China represents good value, based upon the cyclically adjusted PE ratios (CAPEs) shown in **Figure 33**. Not only are Chinese equities cheap within their own historical context but they are also cheaper than other major markets (with what we believe is better economic momentum and a central bank that is still easing). The biggest contrast is with the US and India, both of which are more expensive than usual, suggesting there is a lot of good news in the price. Though Japanese equities appear to be better value than normal, it has to be remembered that the historical average is distorted by the 1980s bubble. Overall, we think Japanese and European equities are in the valuation middle ground.

**Figure 33 – Historical ranges for equity market CAPEs**

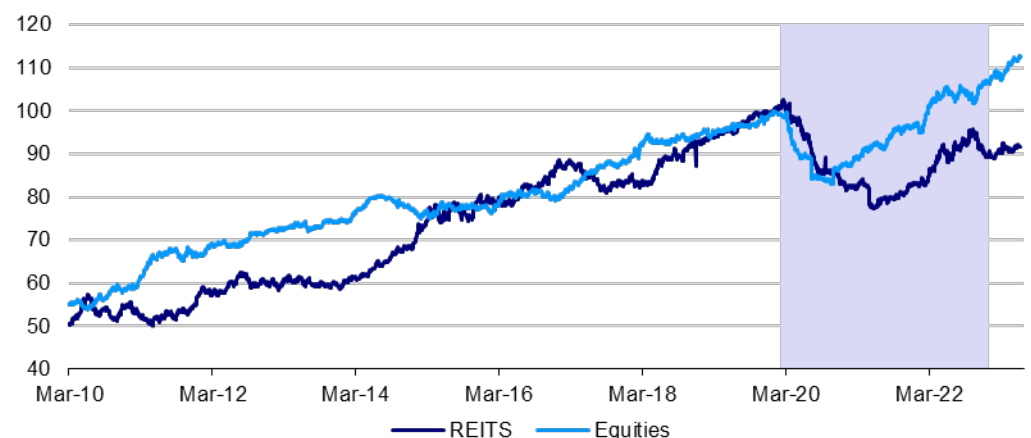


Note: CAPE = Cyclically Adjusted Price/Earnings and uses a 10-year moving average of earnings. Based on daily data from 3 January 1983 (except for China from 1 April 2004, India from 31 December 1999 and EM from 3 January 2005), using Datastream indices. As of 31 May 2023.

US equity market boosted by AI (a potential bubble once credit is more easily available)

Of course, the US equity market has been helped this year by the interest in stocks associated with artificial intelligence, of which there are more in the US than elsewhere. We think AI has the potential to become the next investment bubble but for now the critical ingredient of an abundant supply of credit is missing. Among other sectors, real estate has continued to suffer. **Figure 34** shows that dividends paid by REITs have started to grow again but not as rapidly as broad market dividends and are far from making up the pandemic era deficit. The fundamental problems of the sector and the resultant lacklustre dividend performance are reducing the advantage that comes from generous yields (see **Figure 26**).

**Figure 34 – Global real estate (REIT) and equity dividends (31/12/19 = 100)**



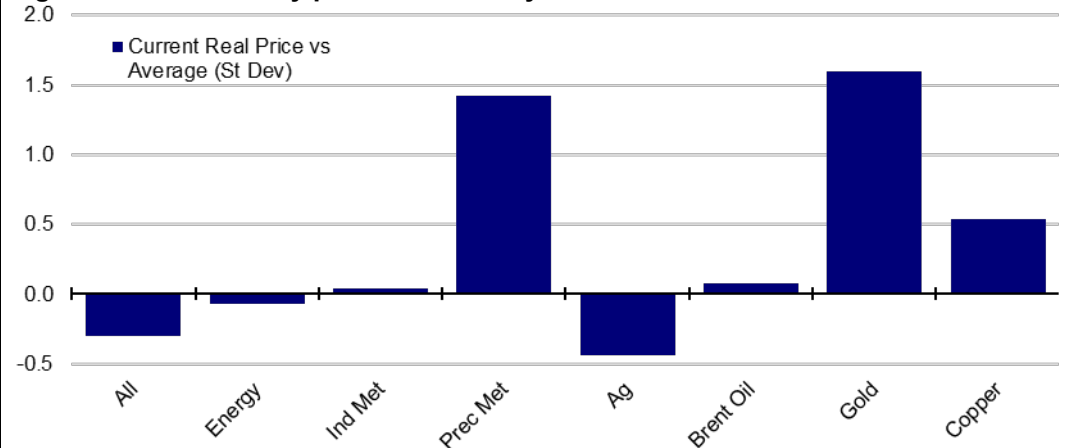
Note: daily data from 2 March 2010 to 12 June 2023. For both REITs and Equities, the level of dividends is calculated from the reported dividend yield and index levels (and indexed to 100 on 31 December 2019). REIT dividends are based on FTSE EPRA/NAREIT Global Index. Equity dividends are based on the Datastream World Index. Shaded area shows the Covid-19 pandemic period (from 1 February 2020 to end-2022). Source: FTSE EPRA/NAREIT, Refinitiv Datastream and Invesco Global Market Strategy Office

Commodity prices have fallen except precious metals

### Commodities and currencies

Commodity prices fell over the last three months, with the exception of precious metals (see **Appendix 2**). **Figure 35** shows that most commodity prices are now better aligned with historical norms, in real terms, except for precious metals.

**Figure 35 – Commodity prices deflated by US CPI versus historical norms**



Abbreviations: “Ind Met” is industrial metals, “Prec Met” is precious metals and “Ag” is agriculture. Historical ranges start on: All and Ag 31/12/69; Energy 31/12/82; Ind Met 3/1/77; Prec Met 2/1/73; Brent 1/6/87; gold 1/1/74; copper 1/1/74. As of 31 May 2023. See appendices for definitions, methodology and disclaimers. Source: GSCI, Refinitiv Datastream, Invesco

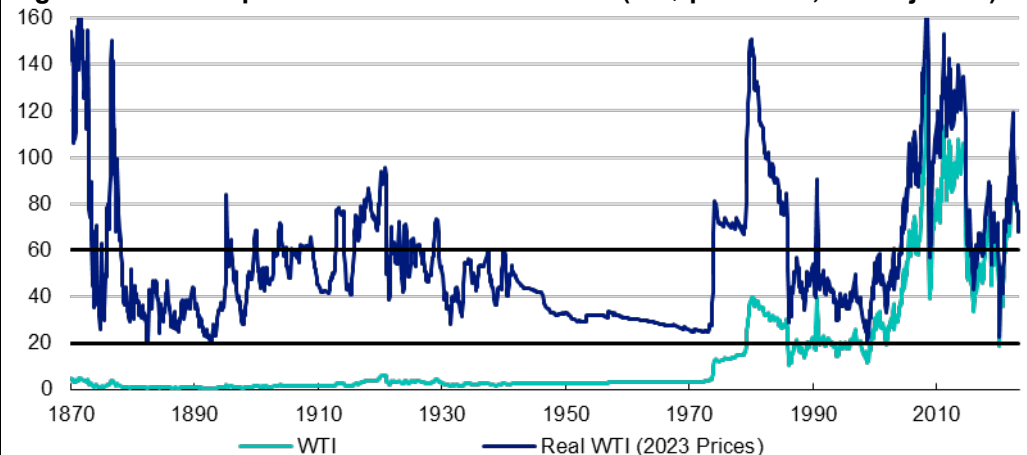
Oil may not be as cheap as it appears

Energy is the largest component of most broad commodity indices and would appear to have normalised, according to **Figure 35**. However, the energy data in that chart starts in 1982 and may not give a balanced view of what is normal (the Brent price history in that chart started in 1987). **Figure 36** shows a longer time history for US WTI oil, and the current price remains above the \$20-\$60 range (in today’s prices) that has prevailed for most of the period since 1870. Even allowing for the recent additional production controls announced by Saudi Arabia, we doubt that current global growth is enough to propel oil sustainably higher.

And natural gas prices are yet to fully normalise

Further, we suspect that European natural gas prices remain distorted by the situation in Ukraine and the desire to move away from Russian supply and we expect further weakness as those prices normalise downward. Finally, we believe that climate change mitigation will require large quantities of hydrocarbons to remain in the ground and we doubt this is compatible with rising real prices. We expect real prices to trend lower over the coming decades as demand wanes.

**Figure 36 – US oil price in real terms since 1870 (US\$ per barrel, CPI adjusted)**



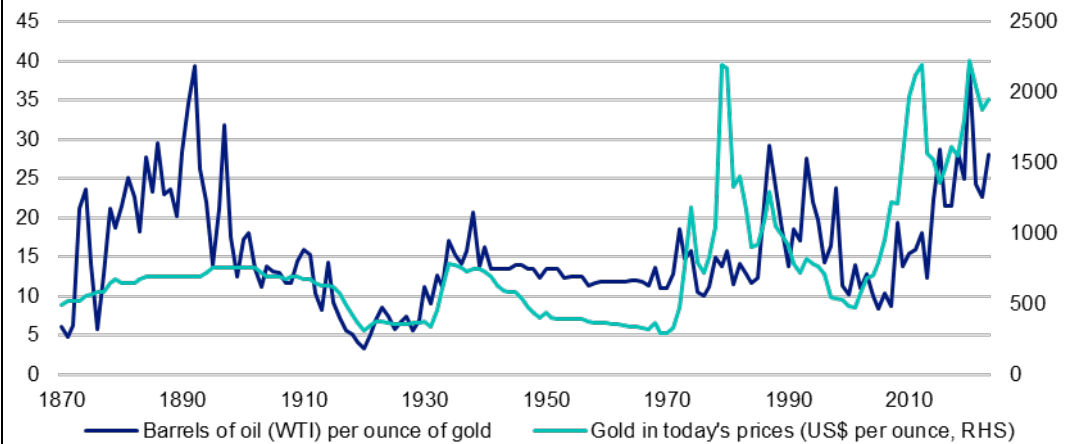
Note: **Past performance is no guarantee of future results.** Monthly data from January 1870 to May 2023 (as of 31 May 2023). WTI is West Texas Intermediate. Real WTI is calculated by dividing the price of WTI by an index of US consumer prices. Source: Global Financial Data, Refinitiv Datastream and Invesco



Gold could benefit from a weakening dollar but we think it is expensive

Precious metals have continued to perform well, with gold being no exception. A weakening US dollar has helped so far this year, in our opinion, and we suspect this will continue to be a supportive factor. However, that recent strength leaves gold looking expensive (in our opinion), with **Figure 37** showing it to be at the upper end of its historical range (since 1870) when measured in real terms (either when comparing to the price of oil or the broader US consumer price index). Further, we suspect that the factors that may have supported gold during 2022 (inflation and geo-politically inspired central bank purchases) may now be fading. Hence, despite the tailwind from a weakening dollar, we doubt that gold can move sustainably higher.

**Figure 37 – The real price of gold (1870-2023)**

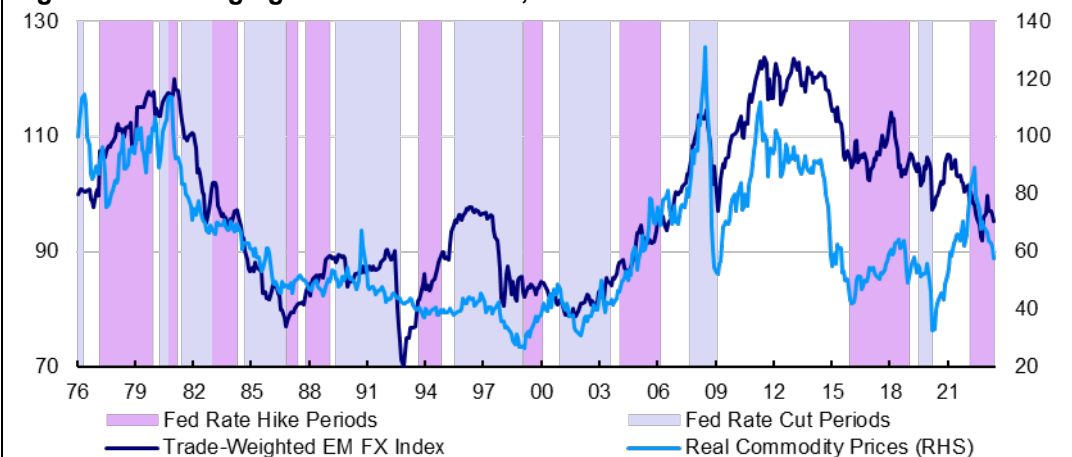


Note: **Past performance is no guarantee of future returns.** Annual data from 1870 to 2023 (as of 13 June 2023). "Gold in today's prices" rebases the price of gold into 2023 prices using US consumer prices (as of May 2023). Source: Global Financial Data, Refinitiv Datastream and Invesco Global Market Strategy Office

We don't expect a big EM FX trend over the next 12 months

**Figure 38** suggests a good historical relationship between our EM FX index and commodity prices, though the relationship is less obvious than it was. Given that our EM FX index is in line with historical norms, we suspect that commodity price movements could be decisive (the chart suggests the impact of the Fed is less than generally reckoned). Though we expect some downward movement in energy prices, we do not view valuations or the commodity influence to be enough to generate broad EM FX losses or gains.

**Figure 38 – Emerging market currencies, commodities and the Fed**

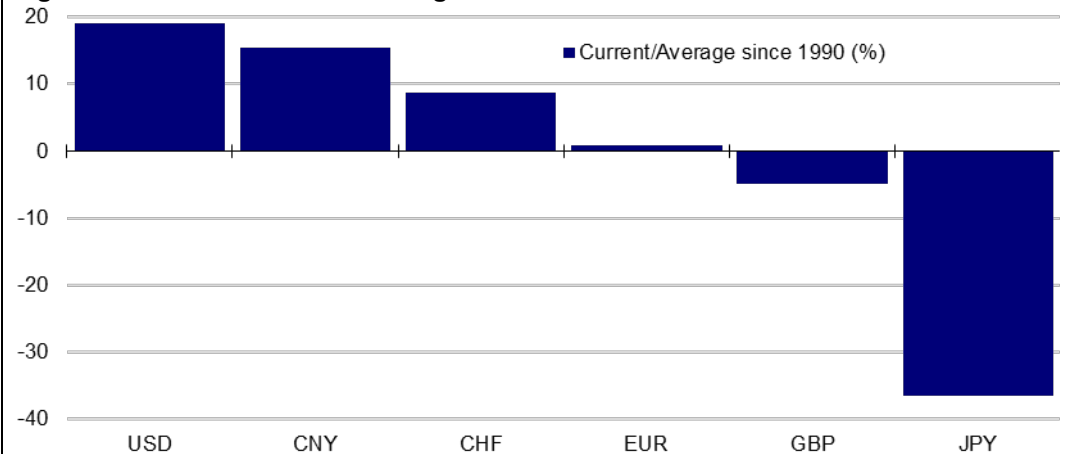


Note: **Past performance is no guarantee of future results.** Monthly data from January 1976 to May 2023. Real trade-weighted EM FX index is a trade weighted average of national currencies versus US dollar (trade weights are based on total trade flows for each country). There are 18 currencies in the 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 31 May 2023. Source: IMF, OECD, Oxford Economics, S&P GSCI, Bloomberg L.P., Refinitiv Datastream, Invesco Global Market Strategy Office.

USD more expensive than usual in real trade-weighted terms and JPY looks cheap

When it comes to major currencies, the big valuation contrast remains that between USD and JPY (see **Figure 39**). The Japanese currency continues to look cheap in real terms (compared to historical norms) and we expect it to be among the better performing currencies over the medium term but lack of policy tightening is penalising it right now.

**Figure 39 – Real effective exchange rates\***



\*Currency indices measured against a trade-weighted basket of currencies and adjusted for inflation differentials. As of 30 April 2023. Source: OECD, Datastream and Invesco Global Market Strategy Office

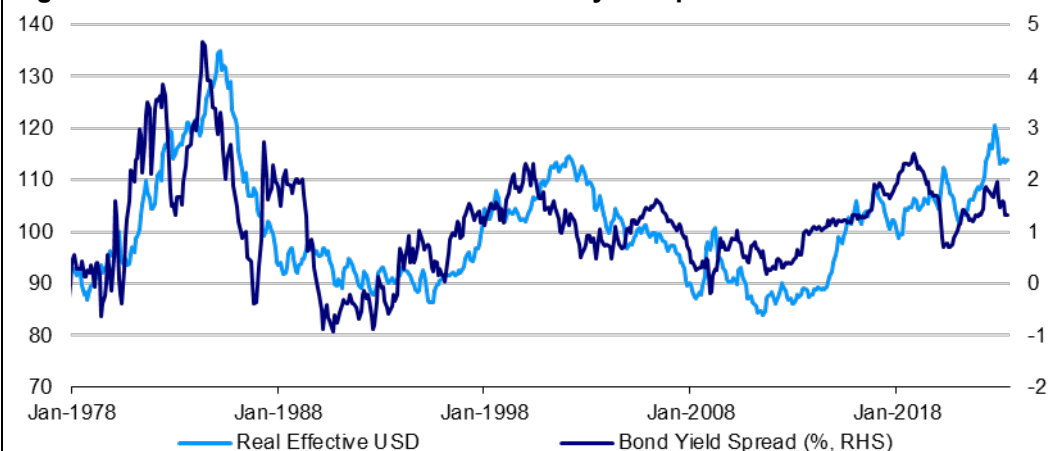
When the BOJ finally starts tightening, it could provide a big boost to the yen

We were surprised that the change of governor at the BOJ led to a 12–18-month policy review, rather than an immediate shift towards normalisation, especially given that CPI inflation is now above 4% when excluding food & energy. With the BOJ now owning more than 50% of outstanding Japanese government bonds and more than 100% of some issues (according to Nikkei.com), we think the time has come for a change. Any move in a tightening direction could provide a large boost to the yen, in our opinion.

Yield spreads moving against the dollar

As for the US dollar, not only is the greenback more expensive than usual but we also find that the long-term fundamentals such as current account and net international investment position are negatives. However, we believe that financial flows are more important short-term drivers and the narrowing of yield spreads probably explains the recent weakness of the dollar (see **Figure 40**). Given that we expect the Fed to start reducing interest rates before European counterparts (and, of course, the BOJ), we suspect the yield spread (US v elsewhere) will continue to narrow, which could bring further weakness of the dollar (in our opinion).

**Figure 40 – Real effective US dollar and bond yield spread**



Note: **Past performance is no guarantee of future results.** Monthly data from January 1980 to May 2023. Real effective US dollar is an index calculated by the OECD as the trade weighted value of the US dollar versus a basket of currencies and adjusted for CPI inflation differentials. Bond yield spread is the US 10-year treasury yield minus the average of the 10-year government yields of: Germany, Japan and the UK. As of 31 May 2023. Source: OECD, Refinitiv Datastream and Invesco Global Market Strategy Office.

Economies to slow and then recover

We assume lower growth and inflation will allow central banks to soften their approach and bring eventual recovery

We expect Fed rates to be lower in 12 months and yield curves to steepen

Equity and REIT yields to face conflicting influences

### Projections for the next year

We think the global economy is decelerating, which brings short-term risk for the more cyclical assets. However, we have a 12-month forecast horizon, within which we expect some major central banks to stop tightening and then start easing, which should help most asset categories, in our view. Our asset class projections are predicated upon the idea that markets will transition from a contraction to a recovery regime.

Underpinning our projections for the next 12 months are the following assumptions:

- Global GDP growth will slow and then recover
- Global inflation will fall but remain above many central bank targets
- Major Western central banks are approaching the end of their tightening cycles
- Long-term government yields will be mixed; yield curves steepen during 2023 H2
- Credit spreads widen in the US but narrow in Europe and defaults rise
- Equity dividend growth moderates and equity yields fall in some markets
- Real estate (REIT) dividend growth moderates and yields fall
- Commodities struggle as the global economy slows (except agricultural products)
- USD weakens as Fed tightening ends

The assumptions behind our projections are laid out in **Appendix 4**, while **Figure 41** shows the implied market targets. Perhaps the single most important forecast is that Fed policy rates will be significantly lower in 12 months (even if they rise in the meantime). Elsewhere, we think that ECB rates will be little changed in 12 months (up first, then down), while we look for tightening from the BOE, BOJ and PBOC. We expect yield curves to begin steepening later in 2023, with short rates eventually falling (we foresee a rise in 10-year yields, after initial declines in some markets).

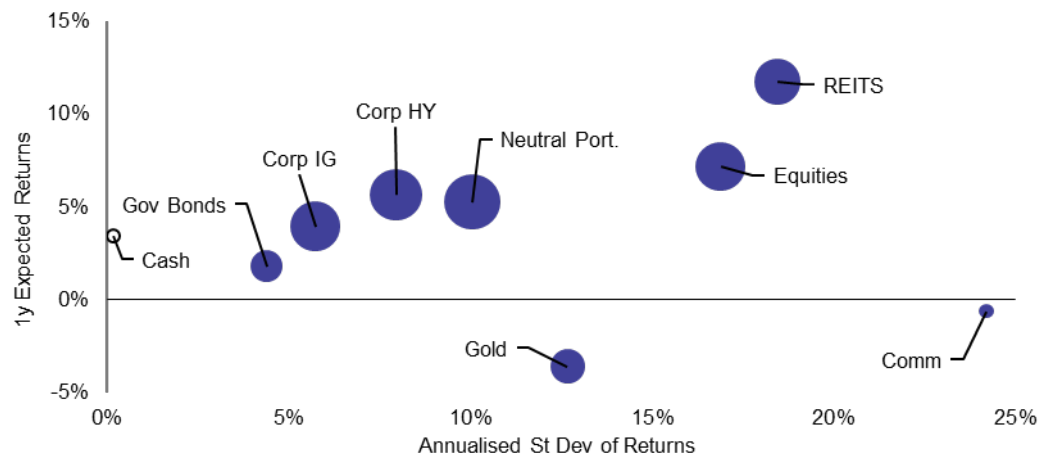
Yields on equities and real estate will face competing forces: slowing economies could push them to the upside (perhaps balanced by falling bond yields) but they could then fall as economies recover. Overall, we expect them to be flat to down, except for US equities where they are already low. We expect less dividend growth in the short term.

**Figure 41 – Market forecasts**

		Current (31/05/23*)	Forecast 12-month
<b>Central Bank Rates</b>	US	5.25	4.25
	Eurozone	3.50	3.25
	China	3.65	4.00
	Japan	-0.10	0.00
	UK	4.50	5.00
<b>10yr Bond Yields</b>	US	3.65	3.65
	Eurozone	2.27	3.00
	China	2.71	3.00
	Japan	0.43	0.70
	UK	4.18	4.30
<b>Exchange Rates/US\$</b>	EUR/USD	1.07	1.15
	USD/CNY	7.11	6.70
	USD/JPY	139.35	120.00
	GBP/USD	1.24	1.30
	USD/CHF	0.91	0.86
<b>Equity Indices</b>	S&P 500	4180	4250
	Euro Stoxx 50	4218	4575
	FTSE A50	12333	14750
	Nikkei 225	30888	34500
	FTSE 100	7446	7650
<b>Commodities (US\$)</b>	Brent/barrel	73	70
	Gold/ounce	1971	1900
	Copper/tonne	8070	8050

Notes: \* except for central bank rates which take account of subsequent changes. **There is no guarantee that these views will come to pass.** See Appendices for definitions, methodology and disclaimers. Source: Refinitiv Datastream and Invesco Global Market Strategy Office

**Figure 42 – Projected 12m return versus risk for global assets**



Based on local currency returns. Returns are projected but standard deviation of returns is based on 5-year historical data. Size of bubbles is in proportion to average pairwise correlation with other assets (hollow bubbles indicate negative correlation). Cash is an equally weighted mix of USD, EUR, GBP and JPY. Neutral portfolio weights shown in **Figure 3**. As of 31 May 2023. **There is no guarantee that these views will come to pass.** See Appendices for definitions, methodology and disclaimers. Source: BAML, MSCI, GSCI, FTSE, Refinitiv Datastream and Invesco Global Market Strategy Office

Our return projections are mainly higher than they were as we look ahead to recovery

The return projections shown in **Figure 42** are nearly all higher than when we published the last edition in March 2023 (except for government bonds and gold). The reasons for the improvements are varied: yields are higher on some assets (cash, HY and REITs), while the passage of time means that our 12-month forecast horizon now includes the period of economic recovery (we think), which boosts the target price of cyclical assets. Gold has been very strong, which explains why we think it has limited potential, while the assumption of rising government bond yields dampens the projected returns on sovereign debt.

Optimisation favours cash, IG, HY...and real estate

Trying to construct a diversified multi-asset portfolio on the back of our projections requires more than simply choosing our favourite assets: after all, we may be wrong! We use an optimisation process to help us balance risk and reward and **Figure 43** shows the results. The outcome favours cash, credit (both IG and HY) and real estate, while shunning commodities, gold, government bonds and equities.

IG and real estate boosted; government bonds reduced

Within our Model Asset Allocation, we follow the output of the optimiser, in direction if not magnitude. We reduce government bonds to Underweight, while increasing IG to further Overweight and real estate (REITs) to Overweight. Otherwise, we make no changes, sticking to Overweight in HY and Underweight in equities, gold and commodities.

**Figure 43 – Optimised allocations for global assets (using local currency returns)**

	Neutral Portfolio	Policy Range	Projected Returns	Optimisations Sharpe Ratio	Max Return	Model Asset Allocation*
<b>Cash &amp; Gold</b>	5%	0-10%	-0.1%	10%	10%	10%
Cash	2.5%	0-10%	3.5%	10%	10%	10%
Gold	2.5%	0-10%	-3.6%	0%	0%	0%
<b>Govt Bonds</b>	25%	10-40%	1.8%	20%	10%	↓ 20%
<b>Corporate IG</b>	10%	0-20%	3.9%	20%	19%	↑ 18%
<b>Corporate HY</b>	5%	0-10%	5.6%	10%	10%	8%
<b>Equities</b>	45%	25-65%	7.1%	25%	35%	34%
<b>Real Estate</b>	8%	0-16%	11.7%	15%	16%	↑ 10%
<b>Commodities</b>	2%	0-4%	-0.6%	0%	0%	0%

Notes: Based on local currency returns (for both the one-year projected returns and five-year historical covariance matrix). Cash is an equally weighted mix of USD, EUR, GBP and JPY. "Sharpe Ratio" shows the results of maximising the Sharpe Ratio. "Max Return" maximises returns while not exceeding the volatility of the Neutral Portfolio. \*This is a theoretical portfolio and is for illustrative purposes only. It does not represent an actual portfolio and is not a recommendation of any investment or trading strategy. See appendices for definitions, methodology and disclaimers. Source: Invesco Global Market Strategy Office

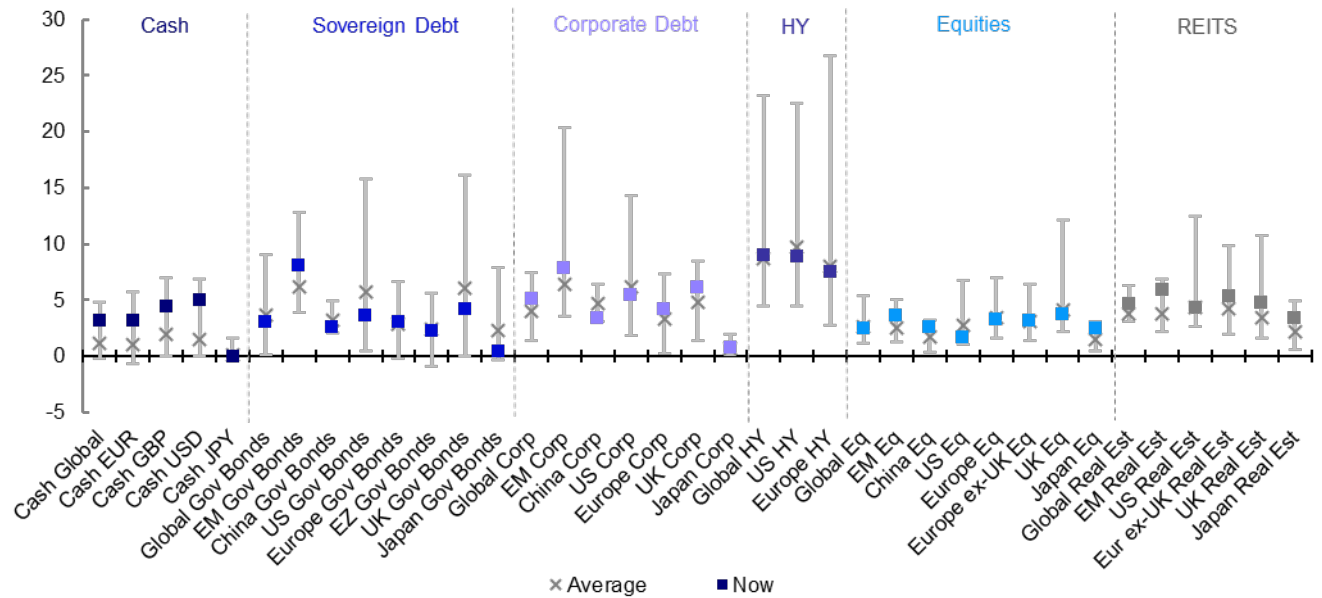
<p>We add a bit of risk by reducing government bonds in favour of IG and real estate</p>	<p><b>Model Asset Allocation: a toe in the water</b> Our economic cycle analysis suggests we are in a contraction phase, which favours a cautious approach. However, we suspect the economic rebound will come within our 12-month timeframe, which leads us to add some risk to the Model Asset Allocation, while remaining overall defensive. We reduce government bonds to Underweight, while increasing investment grade credit (IG) to further Overweight and real estate (REITs) to Overweight (see <b>Figure 43</b>). The “riskiness” of the Model Asset Allocation is enhanced by maintaining a regional bias towards EM assets.</p>
<p>We keep cash at the maximum allocation</p>	<p>The clearest illustration of our defensive stance is the Maximum allocation to <b>cash</b>. Central bank policy rates have continued to rise and we think cash now offers an attractive return potential (see <b>Figure 42</b>). Further, we find the diversification qualities of cash appealing in a time of uncertainty. We expect cash to outperform other assets on a risk-adjusted basis and maintain it at the Maximum allowed 10% (versus Neutral 2.5%).</p>
<p>Gold stays at zero</p>	<p>The other diversifying asset that we consider is <b>gold</b>. However, it has performed so well that we doubt that it can sustain a much higher price. We therefore keep it at zero.</p>
<p>Government bonds reduced to Underweight after fall in yields</p>	<p>Among other defensive assets, we are reducing <b>government bonds</b> to an Underweight 20% allocation (from a Neutral 25%). Yields have fallen a bit over the last three months, which we think reduces return potential. Though yields may fall in the short term as the global economy weakens, we suspect they may be higher in 12 months as the global economy recovers and yield curves steepen (we are starting to shorten duration). We reduce allocations to the US (but remain Overweight), Eurozone (to further Underweight) and UK (to Neutral). We remain Overweight EM government bonds (attractive spreads).</p>
<p>IG increased to further Overweight</p>	<p>To balance the reduction in government bonds, we boost <b>IG</b> from 15% to 18%, taking it to further Overweight versus the Neutral 10%. Though relatively defensive, IG is riskier than government bonds and we think it will be more rewarding (see <b>Figure 42</b>). We add to IG allocations in the US, Eurozone and EM, all of which are Overweight (as is the UK). As with government bonds, EM is our favourite region.</p>
<p>Adding to real estate: high yields balance risks</p>	<p><b>Real estate (REITs)</b> is the other asset class that is boosted, from a Neutral 8% to an Overweight 10%, which adds risk to the Model Asset Allocation. The risks are so obvious that the asset class offers higher than usual yields (we expect them to fall as the global economy recovers). Also, REIT dividends have proven more resilient than expected (except in EM), though we assume less growth over the next 12 months. We add to positions in the US and EM (both of which are Overweight, as is the UK).</p>
<p>We remain Underweight equities, especially in the US; China is our favourite market</p>	<p>We have not changed the <b>equity</b> allocation and remain Underweight with an unchanged 34% allocation (<b>Figure 42</b> suggests that the risk-reward trade-off is worse than for many other assets, according to our forecasts). Profits were already falling in the US and now appear to be doing so in the Eurozone and we expect profits to fall in many markets over the rest of this year before recovering in 2024. We were already at the maximum allocation to Chinese equities and Overweight EM equities, which we believe are good value (see <b>Figure 3</b> for regional detail). The big Underweight is the US (12% versus Neutral 25%), a market which we find to be expensive with falling profits. We reduce the UK to Neutral and boost the Eurozone, though it remains Underweight.</p>
<p>We remain Overweight HY and zero allocated to commodities</p>	<p>We make no change to the Overweight <b>HY</b> allocation (8% versus Neutral 5%). Though we expect some spread widening in the US and more defaults (in the US and Europe), our return projections suggest the risk-reward trade-off is attractive. We also leave the <b>commodities</b> allocation unchanged at zero, the consequence of expected cyclical weakening and prices that we find too high in many cases.</p>
<p>EM favoured</p>	<p>Regionally, we favour EM assets, largely because we think they are cheap but also as a hedge in case the global economy does better than we expect.</p>
<p>We partially hedge from USD into yen</p>	<p>Finally, we think the USD will weaken, while we expect yen strength. Hence, we have hedged a portion of our USD exposure into yen, bringing yen exposure up to Neutral.</p>



## Appendices

### Appendix 1: Global valuations vs history

#### Regional yields within historical ranges (%)



Notes: **Past performance is no guarantee of future results.** As of 31 May 2023. See appendices for definitions, methodology and disclaimers. Source: Bloomberg Barclays, BofAML, FTSE, Refinitiv Datastream and Invesco

## Appendix 2: Asset class total returns

Data as at 31/05/2023	Index	Current Level/Ry	Total Return (USD, %)				Total Return (Local Currency, %)			
			3m	YTD	12m	5y*	3m	YTD	12m	5y*
<b>Equities</b>										
World	MSCI	663	3.6	7.9	1.4	7.3	3.7	8.4	2.8	8.3
Emerging Markets	MSCI	984	0.2	1.2	-8.1	-0.3	0.5	2.1	-4.3	2.2
China	MSCI	61	-9.2	-9.0	-14.6	-6.9	-9.0	-8.4	-13.8	-6.7
US	MSCI	4069	5.5	9.8	2.8	10.9	5.5	9.8	2.8	10.9
Europe	MSCI	1895	0.9	9.0	5.3	4.7	-0.1	8.5	6.1	6.2
Europe ex-UK	MSCI	2343	1.8	10.3	7.1	5.7	1.3	10.7	7.5	7.1
UK	MSCI	1132	-2.2	4.4	-0.4	1.9	-4.5	1.3	1.3	3.3
Japan	MSCI	3458	6.5	8.8	5.0	2.2	9.2	15.2	14.0	7.4
<b>Government Bonds</b>										
World	BofA-ML	3.03	1.5	0.8	-6.1	-2.4	1.9	2.1	-3.7	-0.6
Emerging Markets (USD)	BBloom	7.98	0.9	2.1	-2.3	-0.6	0.9	2.1	-2.3	-0.6
China	BofA-ML	2.54	-0.4	0.0	-2.8	2.4	1.9	2.2	3.8	4.6
US (10y)	Datastream	3.69	3.1	3.5	-3.1	1.2	3.1	3.5	-3.1	1.2
Europe	BofA-ML	3.03	3.2	2.2	-6.8	-3.4	2.7	2.3	-6.4	-1.6
Europe ex-UK (EMU, 10y)	Datastream	2.31	4.4	3.8	-7.7	-4.2	3.9	3.9	-7.3	-2.4
UK (10y)	Datastream	4.16	0.2	1.1	-15.2	-4.7	-2.1	-1.9	-13.8	-3.3
Japan (10y)	Datastream	0.42	-1.3	-2.7	-6.0	-4.6	1.2	3.0	2.1	0.3
<b>IG Corporate Bonds</b>										
Global	BofA-ML	5.16	2.0	2.7	-2.3	0.2	1.8	2.7	-1.8	0.9
Emerging Markets (USD)	BBloom	7.79	1.4	2.9	-0.5	1.2	1.4	2.9	-0.5	1.2
China	BofA-ML	3.33	-0.5	0.1	-3.6	2.4	1.9	2.3	2.9	4.5
US	BofA-ML	5.50	2.1	2.9	-1.3	1.6	2.1	2.9	-1.3	1.6
Europe	BofA-ML	4.22	2.4	2.4	-3.5	-2.9	1.9	2.5	-3.0	-1.1
UK	BofA-ML	6.12	1.1	3.3	-10.5	-2.7	-1.3	0.2	-9.0	-1.4
Japan	BofA-ML	0.73	-1.5	-4.2	-8.2	-4.8	1.0	1.4	-0.3	0.2
<b>HY Corporate Bonds</b>										
Global	BofA-ML	8.82	0.8	3.2	-0.3	1.8	0.6	3.2	-0.1	2.2
US	BofA-ML	8.66	1.1	3.7	-0.2	2.9	1.1	3.7	-0.2	2.9
Europe	BofA-ML	7.45	1.3	3.7	0.2	-0.6	0.8	3.8	0.7	1.2
<b>Cash (Overnight LIBOR)</b>										
US		5.06	1.2	1.8	3.4	1.5	1.2	1.8	3.4	1.5
Euro Area		3.22	1.7	1.9	3.3	-1.9	0.7	1.0	1.2	-0.2
UK		4.47	4.5	4.5	2.7	-0.7	1.0	1.5	2.8	0.9
Japan		-0.03	-2.8	-5.0	-7.5	-4.4	0.0	-0.1	-0.1	-0.1
<b>Real Estate (REITs)</b>										
Global	FTSE	1534	-5.8	-2.2	-14.8	-0.4	-6.3	-2.1	-14.4	1.4
Emerging Markets	FTSE	1245	-8.2	-9.6	-17.6	-8.4	-8.6	-9.5	-17.2	-6.7
US	FTSE	2860	-4.8	0.2	-12.2	3.6	-4.8	0.2	-12.2	3.6
Europe ex-UK	FTSE	1972	-16.1	-10.5	-33.5	-8.6	-16.5	-10.4	-33.2	-7.0
UK	FTSE	711	-5.7	1.8	-26.8	-5.1	-7.9	-1.2	-25.6	-3.8
Japan	FTSE	2104	0.3	-2.1	-9.6	-1.5	2.9	3.7	-1.9	3.5
<b>Commodities</b>										
All	GSCI	3096	-7.8	-11.4	-24.1	2.2	-	-	-	-
Energy	GSCI	510	-11.9	-16.6	-32.2	-0.6	-	-	-	-
Industrial Metals	GSCI	1527	-9.3	-8.9	-17.5	1.3	-	-	-	-
Precious Metals	GSCI	2220	7.7	6.8	6.6	7.4	-	-	-	-
Agricultural Goods	GSCI	529	-1.8	-5.4	-16.6	5.3	-	-	-	-
<b>Currencies (vs USD)**</b>										
EUR		1.07	1.1	-0.1	-0.4	-1.8	-	-	-	-
JPY		139.34	-2.2	-5.9	-7.6	-4.8	-	-	-	-
GBP		1.24	2.4	3.0	-1.7	-1.4	-	-	-	-
CHF		1.10	3.5	1.5	5.3	1.6	-	-	-	-
CNY		7.11	-2.5	-3.0	-6.2	-2.1	-	-	-	-

Notes: **Past performance is no guarantee of future results.** \*Five-year returns are annualised. \*\*The currency section is organised so that in all cases the numbers show the movement in the mentioned currency versus USD (+ve indicates appreciation, -ve indicates depreciation). Please see appendix for definitions, methodology and disclaimers. Source: Refinitiv Datastream and Invesco.

Appendix 3: Invesco 10-year Capital Market Assumptions (USD version)

	Asset Class	Index	Expected geometric return	Expected arithmetic return	Expected Risk	Arithmetic return to risk ratio
			%	%	%	
Fixed Income	US Treasury Short	BBG BARC US Treasury Short	4.2	4.2	1.5	2.77
	US Treasury Intermediate	BBG BARC US Treasury Intermediate	3.7	3.8	4.6	0.82
	US Treasury Long	BBG BARC US Treasury Long	3.1	3.8	12.0	0.32
	US TIPS	BBG BARC US TIPS	3.9	4.1	5.7	0.71
	US Bank Loans	CSFB Leverage Loan Index	9.2	9.5	8.3	1.15
	US Aggregate	BBG BARC US Aggregate	4.1	4.3	6.1	0.71
	US Inv Grd Corps	BBG BARC US Investment Grade	4.4	4.7	7.8	0.60
	US MBS	BBG BARC US MBS	4.5	4.7	6.6	0.71
	US Preferred Stocks	BOA ML Fixed Rate Pref Securities	5.1	5.9	12.3	0.48
	US High-Yield Corps	BBG BARC US High Yield	6.7	7.1	10.2	0.70
	US Muni	BOA ML US Muni	3.3	3.5	7.0	0.50
	US Muni (Taxable)	ICE BOA US Taxable Muni Securities Plus	4.3	4.6	8.0	0.57
	US HY Muni	BBG US Muni Bond HY	4.5	4.8	8.7	0.55
	Global Aggregate	BBG BARC Global Aggregate	4.0	4.3	7.2	0.59
	Global Aggregate-Ex US	BBG BARC Global Aggregate- Ex US	4.0	4.5	10.5	0.43
	Global Treasury	BBG BARC Global Treasuries	3.9	4.3	8.6	0.50
	Global Sovereign	BBG BARC Global Sovereign	4.1	4.4	8.1	0.55
	Global Corporate	BBG BARC Global Corporate	4.6	4.9	8.0	0.60
	Global Inv Grd	BBG BARC Global Corporate Inv Grd	4.6	4.9	8.2	0.59
	Eurozone Corporate	BBG BARC Euro Aggregate Credit - Corporate	4.5	5.4	13.6	0.40
Eurozone Treasury	BBG BARC Euro Aggregate Government - Treasury	4.2	5.0	12.8	0.39	
Asian Dollar Inv Grd	BOA Merrill Lynch ACIG	4.7	5.1	8.2	0.61	
EM Aggregate	BBG BARC EM Aggregate	5.9	6.7	13.1	0.51	
EM Agg IG	BBG BARC EM USD Agg IG	4.4	4.7	8.9	0.53	
China Policy Bk & Tsy	BBG BARC China PB Tsy TR	3.9	4.0	4.3	0.94	
China RMB Credit	BBG BARC China Corporate	4.1	4.1	3.8	1.10	
Equities	World Equity	MSCI ACWI	6.9	8.3	17.1	0.48
	World Ex-US Equity	MSCI ACWI Ex-US	6.9	8.5	18.9	0.45
	US Broad	Russell 3000	7.1	8.5	17.6	0.49
	US Large Cap	S&P 500	7.0	8.2	16.8	0.49
	US Mid Cap	Russell Midcap	7.5	9.2	19.6	0.47
	US Small Cap	Russell 2000	9.0	11.3	22.9	0.49
	MSCI EAFE	MSCI EAFE	6.2	7.8	18.8	0.42
	MSCI Europe	MSCI Europe	6.3	7.9	18.9	0.42
	Eurozone	MSCI Euro X UK	6.1	7.9	19.9	0.40
	UK Large Cap	FTSE 100	6.3	8.1	20.1	0.40
	UK Small Cap	FTSE Small Cap UK	8.1	11.0	25.7	0.43
	Canada	S&P TSX	6.0	7.9	20.4	0.39
	Japan	MSCI JP	5.4	7.7	22.5	0.34
	Emerging Market	MSCI EM	8.8	11.5	24.9	0.46
	Asia Pacific Ex JP	MSCI APXJ	8.1	10.8	25.1	0.43
China Large Cap	CSI 300	9.3	14.1	34.4	0.41	
Alternatives	Global Infra	DJ Brookfield Global Infra	8.7	9.6	14.7	0.66
	Global REITs	FTSE EPRA/NAREIT Developed Index	7.1	8.7	18.7	0.46
	Hedge Funds	HFRI HF Index	4.9	5.2	8.7	0.60
	Commodities	S&P GSCI	8.9	11.3	23.8	0.48
	Agriculture	S&P GSCI Agriculture	4.5	6.6	21.4	0.31
	Energy	S&P GSCI Energy	11.5	16.9	37.0	0.46
	Industrial Metals	S&P GSCI Industrial Metals	8.3	10.9	24.1	0.45
Precious Metals	S&P GSCI Precious Metals	6.3	7.8	18.5	0.42	

Notes: Estimates as of 31 March 2023, as published in Long-Term Capital Market Assumptions (June 2023). These estimates reflect the views of Invesco Investment Solutions, the views of other investment teams at Invesco may differ from those presented here. **There is no guarantee that these views will come to pass.** TIPS = treasury inflation protected securities, MBS = mortgage-backed securities.

Source: Invesco Investment Solutions

Appendix 4: Key assumptions

Key assumptions for 1-year projected returns

	US	Eurozone/ Europe ex-UK	UK	Japan	EM	China
Central bank rates (%)	4.25	3.25	5.00	0.00	-	4.00
Sovereign spreads vs rates (bps)	0	50	-50	75	-	-
Corporate IG spreads vs sovereign (bps)	160	100	250	25	-	-
Corporate HY spreads vs sovereign (bps)	525	450	-	-	-	-
Corporate HY default rates (%)	3.0	3.0	-	-	-	-
Corporate HY recovery rates (%)	40	40	-	-	-	-
Equities dividend growth (%)*	5.0	5.0	0.0	7.0	5.0	5.0
Equities dividend yield (%)*	1.7	3.1	3.7	2.3	3.3	2.5
Real estate (REITS) dividend growth (%)*	5.0	-2.0	2.0	3.0	0.0	-
Real estate (REITS) dividend yield (%)*	4.2	5.2	4.6	3.3	5.5	-

Notes: \*assumptions for Europe ex-UK. One-year assumptions are based on our analysis of how current values compare to historical norms (assuming some degree of reversion to the mean, except where our analysis suggests historical norms are unlikely to be a guide to the future), adjusted for our view about the development of the economic and financial market cycles over the next year in each region.

**There is no guarantee that these views will come to pass.**

Source: Invesco Global Market Strategy Office

## **Appendix 5: Methodology for asset allocation, expected returns and optimal portfolios**

### **Portfolio construction process**

The optimal portfolios are theoretical and not real. We use optimisation processes to guide our allocations around “neutral” and within prescribed policy ranges based on our estimations of expected returns and using historical covariance information. This guides the allocation to global asset groups (equities, government bonds etc.), which is the most important level of decision. For the purposes of this document the optimal portfolios are constructed with a one-year horizon.

### **Which asset classes?**

We look for investibility, size and liquidity. We have chosen to include equities, bonds (government, corporate investment grade and corporate high-yield), REITs to represent real estate, commodities and cash (all across a range of geographies). We use cross-asset correlations to determine which decisions are the most important.

### **Neutral allocations and policy ranges**

We use market capitalisation in USD for major benchmark indices to calculate neutral allocations. For commodities, we use industry estimates for total ETP market cap + assets under management in hedge funds + direct investments. We use an arbitrary 5% for the combination of cash and gold. We impose diversification by using policy ranges for each asset category (the range is usually symmetric around neutral).

### **Expected/projected returns**

The process for estimating expected returns is based upon yield (except commodities, of course). After analysing how yields vary with the economic cycle, and where they are situated within historical ranges, we forecast the direction and amplitude of moves over the next year. Cash returns are calculated assuming a straight-line move in short term rates towards our targets (with, of course, no capital gain or loss). Bond returns assume a straight-line progression in yields, with capital gains/losses predicated upon constant maturity (effectively supposing constant turnover to achieve that). Forecasts of corporate investment-grade and high-yield spreads are based upon our view of the economic cycle (as are forecasts of credit losses). Coupon payments are added to give total returns. Equity and REIT returns are based on dividend growth assumptions. We calculate total returns by applying those growth assumptions and adding the forecast dividend yield. No such metrics exist for commodities; therefore, we base our projections on US CPI-adjusted real prices relative to their long-term averages and views on the economic cycle. All expected returns are first calculated in local currency and then, where necessary, converted into other currency bases using our exchange rate forecasts.

### **Optimising the portfolio**

Using a covariance matrix based on monthly local currency total returns for the last 5 years and we run an optimisation process that maximises the Sharpe Ratio. Another version maximises Return subject to volatility not exceeding that of our Neutral Portfolio. The optimiser is based on the Markowitz model.

### **Currency hedging**

We adopt a cautious approach when it comes to currency hedging as currency movements are notoriously difficult to accurately predict and sometimes hedging can be costly. Also, some of our asset allocation choices are based on currency forecasts. We use an amalgam of central bank rate forecasts, policy expectations and real exchange rates relative to their historical averages to predict the direction and amplitude of currency moves.



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## Appendix 6: Definitions of data and benchmarks

**Sources:** we source data from Refinitiv Datastream unless otherwise indicated.

**Cash:** returns are based on a proprietary index calculated using the Intercontinental Exchange Benchmark Administration overnight LIBOR (London Interbank Offer Rate). From 1<sup>st</sup> January 2022, we use the Refinitiv overnight deposit rate for the euro, the British pound and the Japanese yen. The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1 January 2001 with a value of 100.

**Gold:** London bullion market spot price in USD/troy ounce.

**Government bonds:** Current values in the market forecast table (**Figure 41**) use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK and the Thomson Reuters China benchmark 10-year yield for China. Historical and projected yields and returns (**Figures 1, 2, 4, 5, 26, 41, 42**) are based on Bank of America Merrill Lynch government bond indices with historical ranges starting on 31 December 1985 for the Global, Europe ex-UK, UK and Japanese indices, 30 January 1978 for the US and 31 December 2004 for China. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index with the historical range starting on 28 February 2003. The same indices are used to construct Appendix 1.

**Corporate investment grade (IG) bonds:** Bank of America Merrill Lynch investment grade corporate bond indices with historical ranges starting on 31 December 1996 for the Global, 31 January 1973 for the US dollar, 1 January 1996 for the euro, 31 December 1996 for the British pound, 6 September 2001 for the Japanese yen and 31 December 2004 for the China indices. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets corporate US dollar bond index with the historical range starting on 28 February 2003.

**Corporate high yield (HY) bonds:** Bank of America Merrill Lynch high yield indices with historical ranges starting on 29 August 1986 for the US dollar, and 31 December 1997 for the Global and euro indices.

**Equities:** We use MSCI benchmark indices to calculate projected returns and calculate long-term total returns with historical ranges starting on 31 December 1969 for the Global, US, Europe ex-UK, UK and Japanese indices, 31 December 1987 for the emerging markets index and 31 December 1992 for the China index (**Figures 1, 2, 42 & 43**). Equity index valuations (**Figures 4, 5, 26, 33 and Appendix 1**) are based on dividend yields and price-earnings ratios using Datastream benchmark indices with historical ranges starting on 1 January 1973 for the Global, US, Europe ex-UK and Japanese indices, 31 December 1969 for the UK index, 2 January 1995 for the Emerging Markets index, 26 August 1991 for the China A-Shares index and 1 January 1990 for the India index.

**Real estate:** We use FTSE EPRA/NAREIT indices with historical ranges starting on 29 December 1989 for the US, Europe ex-UK, UK and Japanese indices, 18 February 2005 for the Global index, and 31 October 2008 for the Emerging Markets index.

**Commodities:** Goldman Sachs Commodity Index with historical ranges starting on 31 December 1969 for the All Commodities and Agriculture indices, 31 December 1982 for the Energy index, 3 January 1977 for the Industrial Metals index, and 2 January 1973 for the Precious Metals index. "Industrial commodities" is oil & gas and industrial metals.

## Definitions of data and benchmarks for Appendix 2

**Sources:** we source data from Datastream unless otherwise indicated.

**Cash:** returns are based on a proprietary index calculated using the Intercontinental Exchange Benchmark Administration overnight LIBOR (London Interbank Offer Rate). From 1<sup>st</sup> January 2022, we use the Refinitiv overnight deposit rate for the euro, the British pound and the Japanese yen. The global rate is the average of the euro, British pound, US dollar and Japanese yen rates. The series started on 1 January 2001 with a value of 100.

**Gold:** London bullion market spot price in USD/troy ounce.

**Government bonds:** Current levels, yields and total returns use Datastream benchmark 10-year yields for the US, Eurozone, Japan and the UK, and the Bank of America Merrill Lynch government bond total return index for China, the World and Europe. The emerging markets yields and returns are based on the Barclays Bloomberg emerging markets sovereign US dollar bond index.

**Corporate investment grade (IG) bonds:** Bank of America Merrill Lynch investment grade corporate bond total return indices and the Barclays Bloomberg emerging markets corporate US dollar bond total return index for emerging markets.

**Corporate high yield (HY) bonds:** Bank of America Merrill Lynch high yield total return indices

**Equities:** We use MSCI benchmark gross total return indices for all regions.

**Commodities:** Goldman Sachs Commodity total return indices

**Real estate:** FTSE EPRA/NAREIT total return indices

**Currencies:** Global Trade Information Services spot rates

## Appendix 7: IIS Capital Market Assumptions methodology (Figure 6 & Appendix 3)

We show a summary of the Capital Market Assumptions produced by Invesco's Investment Solutions team (IIS) and this is a summary of their methodology.

Invesco Investment Solutions (IIS) employ a fundamentally based "building block" approach to estimating asset class returns. Estimates for income and capital gain components of returns for each asset class are informed by fundamental and historical data. Components are then combined to establish estimated returns. This is a summary of key elements of the methodology used to produce long-term (10-year) and medium term (5-year) estimates.

**Fixed income** returns are composed of the average of the starting (initial) yield and expected yield for bonds, estimated changes in valuation given changes in the Treasury yield curve, roll return which reflects the impact on the price of bonds that are held over time, and a credit adjustment which estimates the potential impact on returns from credit rating downgrades and defaults.

**Equity** returns are composed of: a dividend yield, calculated using dividend per share divided by price per share, buyback yield, calculated as the percentage change in shares outstanding resulting from companies buying back or issuing shares, valuation change, the expected change in value given the current Price/Earnings (P/E) ratio and the assumption of reversion to the long-term average P/E ratio, and the estimated growth of earnings based on the long-term average real GDP per capita and inflation.

**Alternative** returns are composed of a variety of public versus private assets with heterogeneous drivers of return given their distinct nature. They range from a beta driven proxy to public markets or a bottom up, building block methodology like that of fixed income or equities, depending on whether they are more bond like or stock like.

**Volatility** estimates for the different asset classes are derived using rolling historical quarterly returns of various market benchmarks. Given that benchmarks have differing histories within and across asset classes, volatility estimates of shorter-lived benchmarks are normalised to ensure that all are measured over similar time periods.

For the full Capital Market Assumptions methodology, please contact the IIS team.

### Important information

**Your capital is at risk. You may not get back the amount you invested.**

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