Bond

Waiting for Dawn

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BEA Union Investment – Investment Teams

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It is imperative to maintain vigilance when investors are awaiting the break of dawn, as complacency often brings risks

The title of the "Bond" section in the fourth quarter of 2023 was 'Beware the Bear's Prowl'. We anticipated that the US Treasury Bond would continue to be influenced by escalating yields with the rare "Bear Steepening", a precursor to an onset of an economic recession. The Federal Reserve's persistent interest rate hikes have indirectly facilitated the new issuance of treasury bonds by the US Department of the Treasury, resulting in the increasing percentage of US treasury bonds held by private investors, and the corresponding decreasing percentage held in foreign exchange reserves of various countries — a pernicious cycle that entices capital through incentives. Furthermore, we projected that the 10-year US Treasury yield would hover around 4.8% to 5%. Our analysis suggested that positioning in US Treasuries prior to the interest rate peak, and exiting at the end of the interest rate hikes, historically resulted in a very high chance of positive returns. In parallel, we proposed a "short-duration-bonds first" investment strategy, as the third phase of "Bear Steepening" began to loom, evidenced by the narrowing spread of 16 basis points between the 2-year and 10-year Treasury yields. We also highlighted the potential risk of using non-dollar-denominated bonds to hedge against the substantial volatility in the US dollar bond market. Our overall forecast is broadly in line with today's results.

The title of the "Bond" section in the first quarter of 2024 is "Awaiting the Dawn". Despite Federal Reserve Chairman Powell's reticence regarding the official end of interest rate hikes, the 16-month rate hiking cycle came to an end at the FOMC meeting in December 2023, setting the stage for the market's anticipation of the first interest rate cut. As we are waiting for the dawn to break, investors should maintain vigilance as complacency often brings risks. We find ourselves at an extreme point in history. While safe-haven capital still favours the bond market, divergent opinions between public and private sectors regarding the timing and extent of interest rate cuts foreshadow the emergence of new risks. The recent volatility in US Treasury yields has been notable, but as this volatility diminishes, we anticipate the normalization of the yield curve. The inflection point in interest rates coupled with an improving financial state are favourable for corporate bonds, rendering investment-grade bonds particularly attractive after careful risk assessment. As we navigate the final phase of the "Bear Steepening", the duration distribution within a bond portfolio becomes particularly important. It turns out that a traditional investment portfolio with a balanced duration distribution and a diversified bias towards higher-rated bonds represents the best strategy before the first interest rate cut."

Fundamental analysis: Predicting the shift from peak to trough

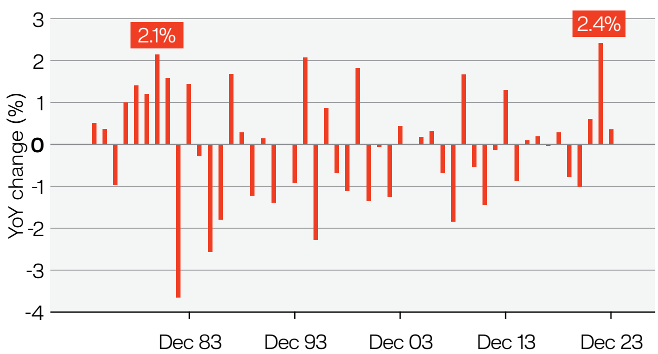
In the 16 months from March 2022 to July 2023, the Federal Reserve raised the federal funds rate a total of 11 times, with the federal funds rate ceiling rising sharply from 0.25% to 5.5%. Although Federal Reserve Chairman Powell is still playing coy after the FOMC meeting in December 2023, leaving room for further interest rate hikes, the market generally believes that this rate hiking cycle has come to an end. With reference to the last 50 years of data, and taking into account the extent and speed of interest rate hikes, this is the second most aggressive rate hiking cycle since 1979, when the then Chairman Paul Volcker was in charge. Violent interest rate hikes are already having a severe impact on the credit market, but Powell's official rhetoric has further confused the market, polarising the flow of capital and creating extreme conditions in the bond market.

Extremes to Flood Bond Market in 2023

As explored in the "Equity" section, anomalies have risen in stock markets everywhere in 2023. These anomalies will also add uncertainty to the bond market in 2024:

- In 2023, the 10-year US Treasury yield surged to nearly 5%, hitting a nearly 16-year high since July 2007. With reference to the year-on-year changes in yields over the past 50 years, the year 2023 was the third consecutive year of year-on-year increases since 2021, second only to the five-year streak between 1977 and 1981. In terms of the rate of increase, the increase of approximately 2.4% in 2022 was the most pronounced on record, reflecting not only that 2023 sustained the steep upward trend in 2022 but also that this momentum could potentially spill over into 2024. While the rate of increases in yields may be significantly reduced, investors are advised to maintain vigilance against complacency;

YoY changes in 10y US Treasury yield



Source: Bloomberg, Data as of 8 December 2023

- The 10-year US Treasury yield experienced sharp rise and fall in 2023. Yet, its standard deviation stood at a mere 0.47%, which is still low compared to the levels of over 0.60% in 1994, 1995, 2011 and 2022. However, when we analysed from the perspective of continuity, there have only been 4 occasions in the past 30 years where the standard deviation has been higher than 0.45% for 2 consecutive years. The most recent instance before 2023 was 13 years ago, highlighting the rarity of the volatility in 2023. The overall figures are as follows:

Year	Standard deviation (%)	Year	Standard deviation (%)
1994	0.69	2009	0.32
1995	0.63	2010	0.48
1996	0.40	2011	0.64
1997	0.39	2012	0.21
1998	0.48	2013	0.44
1999	0.49	2014	0.19
2000	0.42	2015	0.19
2001	0.34	2016	0.31
2002	0.59	2017	0.10
2003	0.36	2018	0.14
2004	0.26	2019	0.40
2005	0.21	2020	0.27
2006	0.24	2021	0.18
2007	0.32	2022	0.76
2008	0.53	2023	0.47

Source: Bloomberg, data as of 8 December 2023

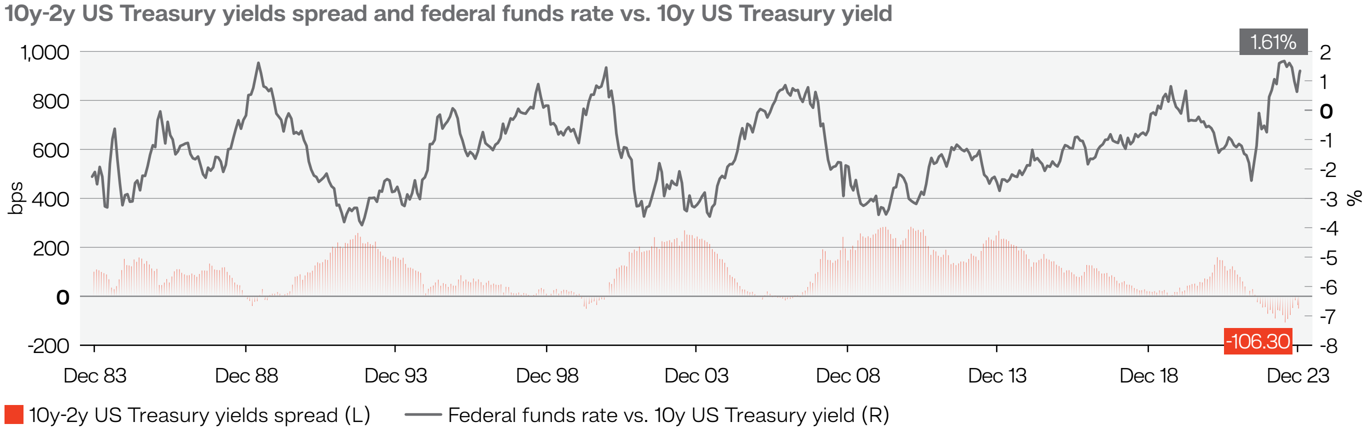
- Using the same dataset but calculating the annual standard deviation of the change in monthly bond yields, the results indicate that the respective figures for 2022 and 2023 are 0.36% and 0.35%, marking the first instance in three decades where this metric exceeded 0.35% consecutively. Compared with the peak of 0.40% in 2008, this data reflects that the volatility of the bond market in the past two years was similar to that during the financial crisis. The overall figures are set out below:

Year	Standard deviation (%)	Year	Standard deviation (%)
1994	0.25	2009	0.32
1995	0.24	2010	0.28
1996	0.28	2011	0.23
1997	0.24	2012	0.19
1998	0.24	2013	0.21
1999	0.19	2014	0.15
2000	0.22	2015	0.23
2001	0.29	2016	0.25
2002	0.33	2017	0.10
2003	0.37	2018	0.18
2004	0.27	2019	0.22
2005	0.23	2020	0.22
2006	0.17	2021	0.18
2007	0.23	2022	0.36
2008	0.40	2023	0.35

Source: Bloomberg, data as of 8 December 2023

- With reference to the past 50 years of data, the spread between the US federal funds rate and the 10-year Treasury yield reached a record high of 1.61% in 2023. Over the same period, the spread between the 10-year and 2-year Treasury yields (commonly known as the "inverted yield curve" has been negative for 18 consecutive months, the most protracted period on record. In June 2023, the spread reached its widest point on record at around 106.3bps, a clear indicator of the extreme conditions prevailing within the bond market at the time;

10y-2y US Treasury yields spread and federal funds rate vs. 10y US Treasury yield



Source: Bloomberg, Data as of 8 December 2023

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- The tension between China and the US in seldom seen in modern times, as evidenced by the widening spread in treasury yields between the two countries. In the past, China's inflation was significantly muted with subdued inflationary pressures and deflationary risks. Looking at the spread between the 10-year and 2-year treasury yields between China and the US, the 10-year spread hit a record high of 2.27% in 2023, slightly higher than the 2.20% in May 2006, while the 2-year spread was 2.96%, second only to the 3.08% in May 2006. These spreads, reminiscent of levels last seen 17 years ago, reflect the divergent interest rate policies of between China and the US, and the flow of capital into US dollar assets through interest rate arbitrage trades over the preceding two years.

China 2y and 10y Government Bond Yield vs 2y and 10y US Treasury yields

Source: Bloomberg, Data as of 8 December 2023

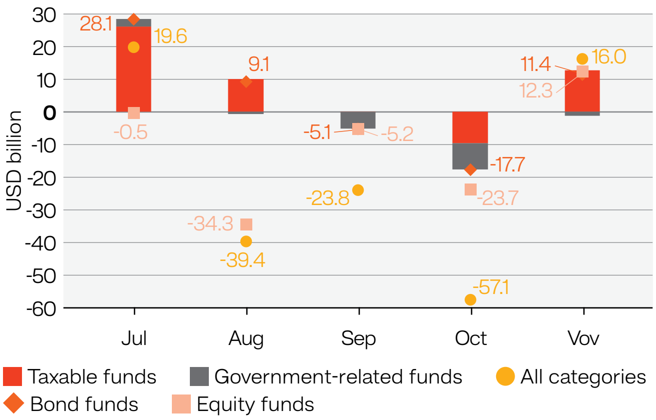
Capital Flows: Broad Advocacy

U.S. equities may have outshone their peers in 2023, yet capital flows may not fully embrace this narrative.

With reference to the capital flow data of US-registered funds provided by the Investment Company Institute. As of November 2023, the total net outflows in the second half of the year were nearly $84.6 billion (USD, the same applies below). The equity funds recorded a net outflow of $51.3bn, amounting to about 61% of the aggregate, while bond funds saw net inflows of nearly $25.7 billion, giving a clear picture of fund flows. The monthly flow discrepancy was even more striking. Except for November, when inflows to equity funds were $0.9bn higher than those to bond funds, inflows to bond funds were higher than those to equity funds in the remaning four months, and in the second half of the year there was a staggering difference of $77.1 billion, representing an overwhelming 91% of total capital flows across all asset classes. This supports our comments from the "Bond" section since the second quarter of 2023 that there has been capital inflows into the bond markets.

Within the bond market, a notable divergence in capital flows has emerged. Taxable bonds, predominantly corporate bonds, have seen a net inflow of $38.7 billion throughout the period. This trend was particularly pronounced in November 2023 with a net inflow of $12.6 billion in a single month, as the markets were increasingly coalescing around the expectation of an interest rate cut commencing from 2024. In contrast, government bond categories experienced a net outflow totalling $12.9 billion during the same period. Persistent outflows from August onwards signify an orderly shift in risk appetite from government bonds to corporate bonds among investors.

Monthly Long-Term Mutual Fund Flows in 2023



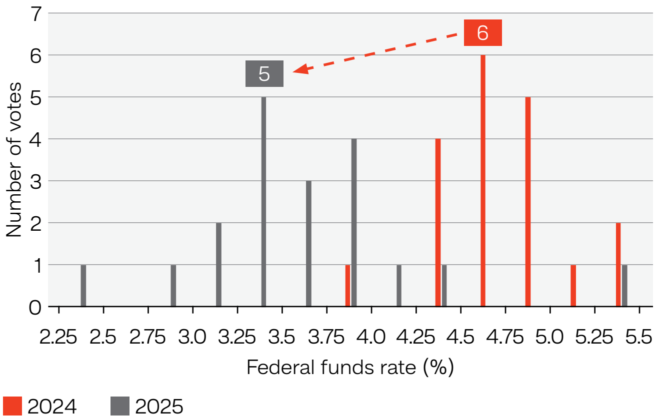
Source: Investment Company Institute, Data as of 10 December 2023

Federal Funds Rate: Interest Rate Cuts Led by Economy, not Inflation

The Federal Reserve concluded all FOMC meetings in 2023 on 13 December 2023, aligning with market anticipations by maintaining the prevailing interest rates unchanged. The dot plot in December 2023 suggests a median federal funds rate of 4.625% by the end of 2024, implying interest rate cuts of approximately 87 basis points in 2024[1], which represents a shortfall from the broader market expectation of 125 basis points cut. The expectations on changes in interest rates among the board members of the Federal Reserve were also more diverse than in the past, reflecting the lack of consensus among the members and adding uncertainty to the outlook of interest rate movements in 2024. As pointed out in the statement after the meeting, future interest rate movements are determined on economic data, and it is too early to reach conclusions. Yet, upon deeper reflection, the Federal Reserve's long-term rate projection of 2.5% presents a significant difference from the commonly cited "Natural rate"[2], i.e. the actual short-term interest rate when the economy is generally strong and inflation is stable, which is currently reported to be around 1%. This substantial gap lays bare the divergent views between the authority and the community on the economic outlook.

1 See Federal Reserve website, https://www.federalreserve.gov/newsevents/pressreleases/monetary20231213b.htm
2 See Federal Reserve Bank of New York website, https://www.newyorkfed.org/research/policy/rstar

The votes disribution among the board members in the Fed dot plot



Source: Bloomberg, Data as of 14 December 2023

This section has repeatedly cautioned investors about placing undue reliance on the Federal Reserve's communications. After all, since 2022, investors have become accustomed to the Federal Reserve's ever-changing policies and the individualistic narratives put forth by its members. Federal Reserve Chairman Powell himself has even publicly stated that "the dot plot isn't set in stone", casting doubts on the reliability of the dot plot[3]. Numerous instances where rhetoric has not aligned with subsequent policy outcomes have undermined the Federal Reserve's standing among market participants. Nonetheless, there is a consensus among the authority and community that we are currently at an interest rate inflection point[4], and that it is only a matter of debating the time and rationale for interest rates cuts.

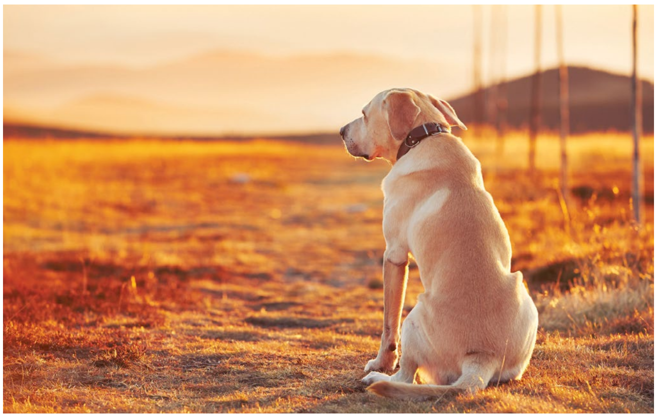
While definitive answers to the timing and rationale for interest rate cuts remain uncertain, a detailed examination of historical economic and inflation indicators can shed light on potential interest rate trends. Based on the quarterly federal funds rate, quarterly GDP and annual Core CPI data over the past 50 years, the onset of a rate hiking cycle is identified by at least four consecutive quarters of interest rate hikes, while the end of a rate cut cycle is identified with the last interest rate cut that remains unchanged or a single interest rate hike for the subsequent four quarters. This framework is designed to exclude the effect of sporadic interest rate changes in the dataset, so as to make the analysis results clearer and more reliable.

Over the past 50 years, there have been six instances that fit the previously mentioned criteria, and the following insights are drawn from them:

- Will interest rate hikes lead to a recession? Firstly, using negative quarterly GDP as a criterion for a recession, we found out that recessions occurred in five out of the six instances. On average, a recession occurred more than three quarters after the interest rate peak, and lasted for about three quarters. Excluding the extreme case of 1976, the average recession lasted nearly two quarters. Given the recent interest rate peak in July 2023, and taking the third quarter of the same year as the starting point, it is projected that a recession will occur in the first and second quarters of 2024, and last until the third and fourth quarters of the same year. The analytical data are presented below:

Year	The number of quarters from the interest rate peak to the occurrence of negative GDP	The number of quarters that negative GDP maintained
1976	1	10
1986	6	2
1994	0	0
1999	3	3
2004	7	4
2017	5	2

Source: Bloomberg, data as of 8 December 2023



[3] See Barron's website, https://www.barrons.com/articles/fed-meeting-rate-hikes-pause-6251ded0
[4] See Forbes website, https://www.forbes.com/sites/dereksaul/2022/11/30/jerome-powell-says-federal-reserves-rate-hikes-could-slow-as-soon-as- december/?sh=77e520da2d67

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- How significant must the decrease in GDP or Core CPI be to prompt the Federal Reserve to initiate the first interest rate cut? The analysis shows that, on average, a decrease of approximately 1.8% in GDP from the interest rate peak to the first interest rate cut has historically been sufficient to trigger the first interest rate cut, and GDP has dropped in five out of the six historical instances, confirming the paradox of "interest rate hike leads to GDP contraction". However, when applying the same analytical approach to Core CPI, there are different findings with an average of positive 0.1% GDP, reflecting that deflation is not a prerequisite for the first interest rate cut. In fact, only three out of six instances showed slight deflation, suggesting that the weak correlation between the Federal Reserve's decision for the first interest rate cut and the trend of CPI, and that economic performance may weigh more heavily than the changes in CPI in the Federal Reserve's decision-making. The analysed data are as follows:

Year	Change before the first interest rate cut (%)	
	GDP	CPI
1976	-10.5	1.09
1986	-0.13	-0.21
1994	2.10	-0.03
1999	-1.50	0.17
2004	-0.50	-0.50
2017	-0.50	0.18

Source: Bloomberg, data as of 8 December 2023

It is often rumoured in the market that Federal Reserve Chairman Powell carries with him a copy of the memoir of then Chairman Volcker from the 1970s, "Keeping At It: The Quest for Sound Money and Good Government", and has publicly and strongly recommended the book and intended to distribute it to all board members of the Federal Reserve for reference[5]. It is not difficult to notice that Powell's interest rate decisions have carried the presence of Volcker in those days, especially the renowned "Volcker Shock" which is characterised by aggressive interest rate hikes aimed at curbing inflation. This section's analysis, dating back to the fourth quarter of 2022, examined the aftermath of the "Volcker Shock": the surge of interest rates to 20%, was followed by the plunge of quarterly GDP from a positive growth of 1.3% to a negative contraction of 8.0% and the subsequent drastic volatility in quarterly GDP. This period also saw the tumble of the Core CPI to approximately 3% in 1983 from its peak at 13.6%[6]. It took more than 4 years to curb inflation, and the economy was throttled concurrently. The historical verdict on such a draconian strategy remains a subject of debate[7].

The efficacy of aggressive interest rate hikes as a measure to suppress inflation has been a subject of extensive debate over the past few decades, without a decisive consensus. Under Paul Volcker's leadership during the oil crisis era, inflation was largely driven by high energy prices and their subsequent ripple effects, rather than solely by the gap between the supply of goods and money or by intrinsic economic factors within the US. As such, the effectiveness of monetary policy in tempering inflation was limited. Certain studies even suggest that the drop in inflation during that period was attributable to the cessation of conflicts in the Middle East than to the aggressive interest rate hikes[8]. Contrasting this with the current context, the trade war initiated by former President Donald Trump has indirectly exacerbated inflation through heightened tariffs. This, together with the wave of anti-globalisation and geopolitical conflicts, has led to increased global production costs and affected all industries which is difficult to reverse in the short term. Despite these altered economic landscapes, the Federal Reserve persists in targeting a 2% inflation rate, adhering to the economic conditions in the past. The Federal Reserve's commitment to interest rate hikes has not achieved the desired substantial reduction in inflation. Instead, it has strangled the US real economy, evidenced by indicators such as a 30% jump over the past year alone and a record-breaking increase recorded in the first three quarters of 2023 in US bankruptcy filings, the highest in nearly 13 years[9]. Internationally renowned economists have projected the US will experience a recession in 2024[10].

Although US Treasury Secretary Yellen has repeatedly publicly expressed confidence in a soft landing for the US economy, a recession in 2024 and inflation above the target level are projected with reference to the outcomes of the Volcker era. As analysed above, historically, the Federal Reserve's rate-cutting decisions have been more attuned to the trend of GDP rather than the CPI trend. As of 10 December 2023, interest rate futures from the Chicago Mercantile Exchange (CME) suggest that the first interest rate cut will occur in May 2024, with some market participants taking a more aggressive view, expecting the Federal Reserve to start interest rate cuts as early as March 2023, with a minimum of five interest rate cuts within the

5 See Forbes website, https://www.forbes.com/sites/jonathanponciano/2022/11/02/fed-chair-jerome-powell-haunted-by-the-ghost-of-paul-volcker-could -tank-the-economy/?sh=2ffaa4b64e14

6 See Statista website, https://www.statista.com/statistics/1338105/volcker-shock-interest-rates-unemployment-inflation/

7 See Federal Reserve Bank of St. Louis website, https://www.stlouisfed.org/publications/regional-economist/january-2005/volckers-handling-of-the-great-inflation- taught-us-much

8 See Boston University website, https://www.bu.edu/econ/files/2011/01/GKcr2005.pdf

9 See Reuters website, https://www.reuters.com/legal/transactional/us-business-bankruptcies-rose-30-court-stats-show-2023-10-26/

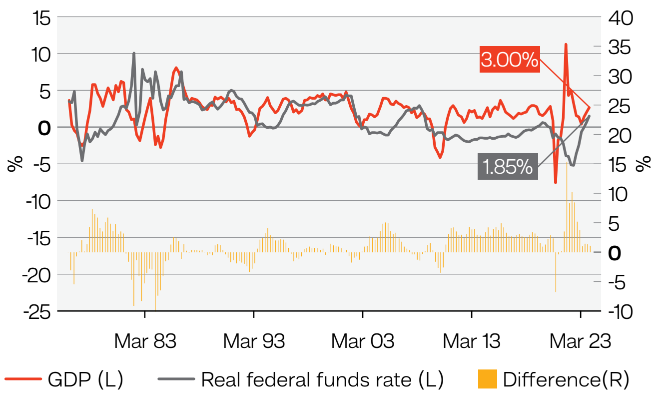
10 See Wall Street Journal website, https://www.wsj.com/podcasts/take-on-the-week/why-mohamed-el-erian-is-worried-about-a-2024-recession/7f730c91-51a2-4192- 82f4-4faded873561

year[11]. Certain individual investment banks are projecting the Federal Reserve will need interest rate cuts of 275 basis points to save the economy[12].

In terms of fundamental analysis, the timing of interest rate cuts is subject to the speed of the economic downturn, with the extent of interest rate cuts being inferable through real interest rates. Theoretically, GDP reflects a country's real productivity, and by deducting the real interest rate on core personal consumption expenditures (PCE), the country's strength can be more clearly reflected. Over the past 50 years, US GDP and real interest rates have moved in tandem, maintaining an average difference of 1.17%, except during extreme periods such as pandemics or financial crises. As of the third quarter of 2023, the difference stands at 1.15%, reflecting a near-equilibrium state between real GDP and interest rates, in other words, there are no inflationary pressures necessitating the Federal Reserve's interest rate hikes. In December 2023, the Federal Reserve forecasts the full-year economic growth in 2023 and 2024 to hit 2.6% and 1.4% respectively, while the core PCE to be 2.8% and 2.4%. Assuming the forecasts come true finally, and the difference remains at an average of 1.17%, the real interest rates for the two years are projected to be 4.23% and 2.63%, representing an interest rate cut of 160 basis points, which is higher than the market's general expectation of an interest rate cut of 125 basis points, suggesting that the Federal Reserve's ability for interest rate cuts may be substantially greater than it appears.

Of course, the economy and inflation are interactive. Based on the above analysis, it is likely that the US economy will start to decline in the first half of 2024, and inflation, due to external factors, will not be able to reach the target level in the short term. Theoretically, the rate of interest rate cuts will need to be raised orderly to achieve the equilibrium between the economy and inflation.

US GDP & real federal funds rate



Source: Bloomberg, Data as of 11 December 2023

Federal Reserve's GDP and Core PCE forecasts for 2023 and 2024:

Year	Percentage (%)			
	GDP	Core PCE	50-year average difference	Theoretical interest rate
2023	2.6	2.8	1.17	4.23
2024	1.4	2.4	1.17	2.83

Source: Bloomberg, data as of 8 December 2023

The last factor to consider is the forthcoming US presidential election. Among the six instances mentioned above, only 2004 was a presidential election year, suggesting a lower probability of an interest rate cut cycle in 2024. In addition, historical trends indicate that an economic downturn during a presidential election year would be more favourable to the incumbent's re-election. Therefore, a slight interest rate cut coupled with a moderate economic slowdown would be the most likely scenario for US interest rates and the economy preceding the presidential election on 5 November. For a detailed analysis of the impact of the US presidential election on the economy, please refer to the "Macro Strategy" section.

Yield: Speaking in Figures

From the second quarter of 2023 onwards, this section has repeatedly emphasised that the US 2-year Treasury yield of 5% should be the benchmark for buying short-term bonds; otherwise, high-yield bonds will be in a less favourable status. The forecast at that time suggested that yields would struggle to breach the 5% level. However, the outcome unfolded differently with yields temporarily retreating to nearly 4% before moving higher, until reaching a peak of 5.2% in October 2023, which subsequently slowed down again and finally rested at a year-end yield of about 4.4%. In the second half of 2023, it was predicted that the 10-year Treasury yield would cap at 5%, prompting investors to increase their positions of 10-year Treasuries in an orderly manner to enhance the average duration of their bond portfolios. The two yield forecasts are broadly in line with the actual outcomes, details of which can be found in this section of BEA Wise from the second quarter to the fourth quarter of 2023.

[11] See CNBC website, https://www.cnbc.com/2023/12/05/fed-should-cut-rates-at-least-5-times-next-year-portfolio-manager-says.html
[12] See Yahoo Finance website, https://finance.yahoo.com/news/recession-hit-us-2024-ndash-175051903.html?_guc_consent_skip=1702298005

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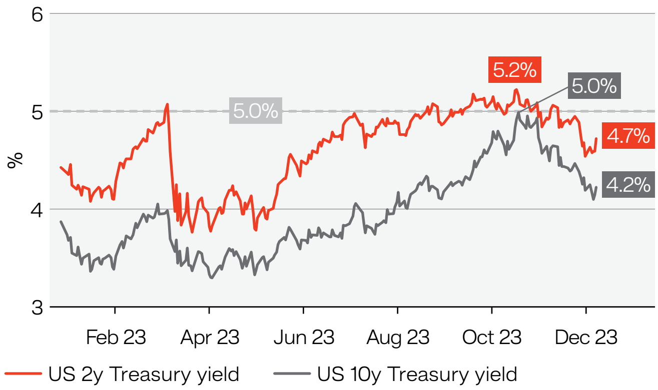
The 2y & 10y US Treasury yields



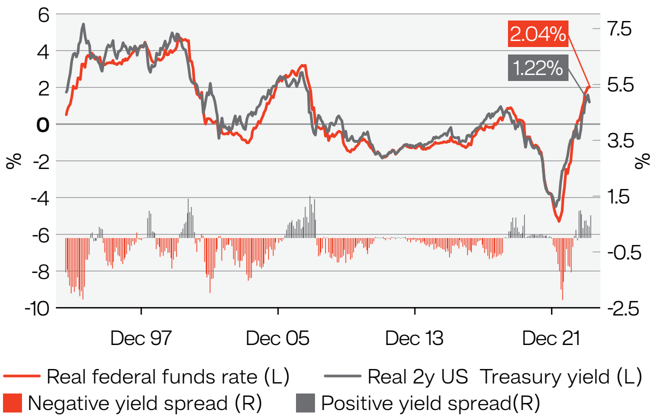
Source: Bloomberg, Data as of 8 December 2023

Today, the market focus has shifted from interest rate hikes to interest rate cuts, and the focus of future forecasts has shifted from interest rate peaks to interest rate troughs.

Market interest rates do have a certain degree of traction, and it is a basic bond market practice that arbitrage trades, after taking into account the cost of investment, will absorb excessive spreads and eventually reach equilibrium. The following is a comprehensive forecast of the yield level in 2024, based on different data and analytical perspectives.

First, we apply the concept of real interest rate. We derive two real interest rates by subtracting the Core PCE, an inflation indicator used by the Federal Reserve, from the federal funds rate and 2-year Treasury yields. By comparing the two real interest rates and taking into account the federal funds rate ceiling of 5.5%, the Core PCE is forecasted to be 2.4% in 2024. Based on the Federal Reserve's dot pot suggesting a 75 basis points of interest rate cuts during the year, the real federal funds rate should be 2.35% in 2024. Historically, over the past three decades, the real federal funds rate has averaged around 0.57% lower than the real 2-year Treasury yield. Notably, spreads between these rates are positive during periods of interest rate cuts. Therefore, assuming a positive spread of about 0.82% as of 30 November 2023, we extrapolate a real 2-year Treasury yield to be 1.53%, which, when normalised, corresponds to an anticipated yield of 3.93%. This represents a downward adjustment of approximately 77 basis points from the approximate 4.7% yield at the end of 2023. Applying the same analytical framework to the 10-year Treasury yield, we estimate a real yield of 1.18%, which, when normalised, corresponds to an anticipated yield of 3.58%. This implies a potential downward adjustment of about 62 basis points in the 10-year Treasury yield from the approximately 4.2% yield at the end of the prior year.

US real federal funds rate and 2y US Treasury yield and their difference



Source: Bloomberg, Data as of 11 December 2023

Secondly, we can examine the six instances from the above analysis of federal funds rates to find out the changes in both 10-year and 2-year Treasury yields from the interest rate peak to the first interest rate cut for projecting the future trend of yields. Data is as follows:

Year	Interest rate cut throughout the period (%)	Changes in interest rates from the peak to the first interest rate cut (%)		Percentage of interest rate cuts throughout the period (%)	
		10-year Treasury yield	2-year Treasury yield	10-year Treasury yield	2-year Treasury yield
1976	-10.5	-2.6	-5.7	24.3	53.9
1986	-6.8	-1.2	-1.6	17.6	24.1
1994	-0.8	-1.0	-0.9	136.0	124.0
1999	-4.8	-1.1	-2.2	23.4	45.9
2004	-5.0	-0.6	-1.2	11.0	23.4
2017	-2.3	-1.0	-0.9	45.3	38.7
Overall average	-5.0	-1.2	-2.1	42.9	51.7
The average of all instances (excluding 1976)	-3.9	-1.0	-1.4	46.7	51.2

Source: Bloomberg, data as of 8 December 2023

Both 10-year and 2-year Treasury yields fell in all instances, reflecting the fact that Treasury yields preemptively moved downward ahead of the interest rate cut of the federal funds rate between the interest rate peak and the first interest rate cut. In addition, both 10-year and 2-year Treasury yields decreased by 1.2% and 2.1%, respectively, over the period. Based on the two yields peaking at 5% and 5.2% in 2023, the above analysis suggests that each yield will fall to 3.8% and 3.1% respectively. Excluding the outlier year of 1976, the projected yields are adjusted to 4.0% and 3.8% respectively. Furthermore, prior to the commencement of interest rate cuts, the decrease in both 10-year and 2-year Treasury yields accounted for approximately 43% and 52% respectively, of the total interest rate cuts of federal funds rates at that time. Based on the general market expectation of an aggregate interest rate cut of 125 basis points in 2024, and using 5% and 5.2% as the initial markers of the decline in both the 10-year and 2-year Treasury yields, it is extrapolated that by the onset of the first interest rate cut, both 10-year and 2-year Treasury yields would likely decrease to 4.5% and 4.6% respectively. Excluding the outlier year of 1976, the projected yields are adjusted to 4.4% and 4.6% respectively.

Finally, the theoretical levels of the two yields are projected by a multinomial linear regression model, which accurately forecasts the 10-year Treasury yield to settle within the range of 4.8% and 5% in the fourth quarter of 2023. Based on the quarterly data over the past 50 years, the composite forecast is derived from a 3-dimensional matrix that incorporates a spectrum of risk factors and applies the federal funds rate, taking the annualised CPI and annualised GDP as independent variables, and the 10-year US Treasury yield as a dependent variable. The scope of the matrix encompasses the following dimensions:

- Based on the market expectation of 125 basis points of interest rate cuts, the federal funds rate is adjusted downward from 5.5% by every 25 basis points to 3.75%;
- Taking the 3.5% annualised CPI reported as of 30 September 2023 as the baseline, annualised CPI is adjusted downward by every 25 basis points to 2.0%;
- Taking the 3.0% annualised GDP reported as of 30 September 2023 as the baseline, annualised GDP is adjusted downward by every 50 basis points to 1.5%.

Projected matrix of 10y US Treasury yield

		Year-over-Year CPI (%)								Year-over-Year CPI (%)						
	GDP=3.0%	3.50	3.25	3.00	2.75	2.50	2.25	2.00	GDP=2.0%	3.50	3.25	3.00	2.75	2.50	2.25	2.00
Federal funds rate (%)	5.50	4.91	4.93	4.95	4.97	4.99	5.01	5.03	5.50	4.86	4.88	4.90	4.91	4.93	4.95	4.97
	5.25	4.76	4.78	4.80	4.82	4.84	4.86	4.88	5.25	4.70	4.72	4.74	4.76	4.78	4.80	4.82
	5.00	4.61	4.63	4.65	4.67	4.69	4.71	4.73	5.00	4.55	4.57	4.59	4.61	4.63	4.65	4.67
	4.75	4.46	4.48	4.50	4.52	4.54	4.56	4.58	4.75	4.40	4.42	4.44	4.46	4.48	4.50	4.52
	4.50	4.31	4.33	4.35	4.37	4.39	4.41	4.43	4.50	4.25	4.27	4.29	4.31	4.33	4.35	4.37
	4.25	4.16	4.18	4.20	4.22	4.24	4.25	4.27	4.25	4.10	4.12	4.14	4.16	4.18	4.20	4.22
	4.00	4.00	4.02	4.04	4.06	4.08	4.10	4.12	4.00	3.95	3.97	3.99	4.01	4.03	4.05	4.07
	3.75	3.85	3.87	3.89	3.91	3.93	3.95	3.97	3.75	3.80	3.82	3.84	3.86	3.88	3.90	3.92
	GDP=2.5%	3.50	3.25	3.00	2.75	2.50	2.25	2.00	GDP=1.5%	3.50	3.25	3.00	2.75	2.50	2.25	2.00
Federal funds rate (%)	5.50	4.88	4.90	4.92	4.94	4.96	4.98	5.00	5.50	4.83	4.85	4.87	4.89	4.91	4.93	4.95
	5.25	4.73	4.75	4.77	4.79	4.81	4.83	4.85	5.25	4.68	4.70	4.72	4.74	4.75	4.77	4.79
	5.00	4.58	4.60	4.62	4.64	4.66	4.68	4.70	5.00	4.52	4.54	4.56	4.58	4.60	4.62	4.64
	4.75	4.43	4.45	4.47	4.49	4.51	4.53	4.55	4.75	4.37	4.39	4.41	4.43	4.45	4.47	4.49
	4.50	4.28	4.30	4.32	4.34	4.36	4.38	4.40	4.50	4.22	4.24	4.26	4.28	4.30	4.32	4.34
	4.25	4.13	4.15	4.17	4.19	4.21	4.23	4.25	4.25	4.07	4.09	4.11	4.13	4.15	4.17	4.19
	4.00	3.98	4.00	4.02	4.04	4.06	4.08	4.09	4.00	3.92	3.94	3.96	3.98	4.00	4.02	4.04
	3.75	3.83	3.84	3.86	3.88	3.90	3.92	3.94	3.75	3.77	3.79	3.81	3.83	3.85	3.87	3.89

Source: Bloomberg, Data as of 11 December 2023

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Projected matrix of 2y US Treasury yield

		Year-over-Year CPI (%)								Year-over-Year CPI (%)						
	GDP=3.0%	3.50	3.25	3.00	2.75	2.50	2.25	2.00	GDP=2.0%	3.50	3.25	3.00	2.75	2.50	2.25	2.00
Federal funds rate (%)	5.50	4.34	4.36	4.37	4.39	4.41	4.42	4.44	5.50	4.27	4.29	4.31	4.32	4.34	4.35	4.37
	5.25	4.16	4.18	4.20	4.21	4.23	4.24	4.26	5.25	4.09	4.11	4.13	4.14	4.16	4.17	4.19
	5.00	3.98	4.00	4.02	4.03	4.05	4.06	4.08	5.00	3.92	3.93	3.95	3.96	3.98	3.99	4.01
	4.75	3.80	3.82	3.84	3.85	3.87	3.88	3.90	4.75	3.74	3.75	3.77	3.78	3.80	3.81	3.83
	4.50	3.63	3.64	3.66	3.67	3.69	3.70	3.72	4.50	3.56	3.57	3.59	3.60	3.62	3.63	3.65
	4.25	3.45	3.46	3.48	3.49	3.51	3.52	3.54	4.25	3.38	3.39	3.41	3.42	3.44	3.46	3.47
	4.00	3.27	3.28	3.30	3.31	3.33	3.34	3.36	4.00	3.20	3.21	3.23	3.24	3.26	3.28	3.29
	3.75	3.09	3.10	3.12	3.13	3.15	3.17	3.18	3.75	3.02	3.03	3.05	3.06	3.08	3.10	3.11
	GDP=2.5%	3.50	3.25	3.00	2.75	2.50	2.25	2.00	GDP=1.5%	3.50	3.25	3.00	2.75	2.50	2.25	2.00
Federal funds rate (%)	5.50	4.31	4.32	4.34	4.36	4.37	4.39	4.40	5.50	4.24	4.26	4.27	4.29	4.30	4.32	4.33
	5.25	4.13	4.15	4.16	4.18	4.19	4.21	4.22	5.25	4.06	4.08	4.09	4.11	4.12	4.14	4.15
	5.00	3.95	3.97	3.98	4.00	4.01	4.03	4.04	5.00	3.88	3.90	3.91	3.93	3.94	3.96	3.97
	4.75	3.77	3.79	3.80	3.82	3.83	3.85	3.86	4.75	3.70	3.72	3.73	3.75	3.76	3.78	3.80
	4.50	3.59	3.61	3.62	3.64	3.65	3.67	3.68	4.50	3.52	3.54	3.55	3.57	3.58	3.60	3.62
	4.25	3.41	3.43	3.44	3.46	3.47	3.49	3.51	4.25	3.34	3.36	3.37	3.39	3.40	3.42	3.44
	4.00	3.23	3.25	3.26	3.28	3.29	3.31	3.33	4.00	3.16	3.18	3.19	3.21	3.23	3.24	3.26
	3.75	3.05	3.07	3.08	3.10	3.11	3.13	3.15	3.75	2.98	3.00	3.01	3.03	3.05	3.06	3.08

Source: Bloomberg, Data as of 11 December 2023

Within each matrix, we determine the mean, standard deviation, and the peak and trough values, to forecast averages for both the 10-year and 2-year Treasury yields. The overall results are shown below:

GDP	Matrix (10-year period)			Matrix (2-year period)		
	Average	Standard deviation	The peak and trough values	Average	Standard deviation	The peak and trough values
3.00	4.44	0.35	1.18	3.76	0.42	1.35
2.50	4.41	0.35	1.18	3.73	0.42	1.35
2.00	4.39	0.35	1.18	3.69	0.42	1.35
1.50	4.36	0.35	1.18	3.66	0.42	1.35
Average	4.40	0.35	1.18	3.71	0.42	1.35

Source: Bloomberg, data as of 8 December 2023

The analysis of the 10-year and 2-year Treasury yields establishes a confidence interval at 95%, with the coefficient of determination (R-squared) notably high at 84% and 95% respectively reflecting a high degree of reliability of the analysis results, unless the three economic indicators in the future are outside the analytical scope.

Summarising the results of the above analyses, the projections of all the conditions are set out and the final projected values of the yields are summarised as follows:

Analytical Indicators	US Treasury yields (%)	
	10-year	2-year
Real Interest Rate	3.58	3.93
The reductions from the interest rate peak to before the first interest rate cut (in full)	3.80	3.10
The reductions from the interest rate peak to before the first interest rate cut (excluding the outliner year of 1976)	4.00	3.80
Percentage of interest rate reductions over the full period (full)	4.50	4.60
Percentage of interest rate reductions over the full period (excluding the outliner year of 1976)	4.40	4.60
Regression analysis results (mean)	4.40	3.71
Average	4.11	3.96

Source: Bloomberg, data as of 8 December 2023

Unless there are significant fluctuations in future economic data or market forecasts that deviate from the above established ranges, the reasonable levels for the 10-year and 2-year Treasury yields are projected to be approximately 4.11% and 3.96% respectively. Additionally, there is an approximate 68% probability (equivalent to one standard deviation) that the 10-year Treasury yields will fluctuate in the range of 3.76% to 4.46%, and that the 2-year Treasury yield will range from 3.54% to 4.38%.

Market Analysis: Ascending Amidst Volatility

Once the forecasts of federal funds rates and Treasury yields have been established, the next step is to analyse the credit spreads on corporate bond default rates' changes at interest rate inflection points and the financial conditions, and from there to predict the trend of investment-grade and high-yield corporate bonds.

Interest Rate Inflection Points: Heightened Volatility in High-Yield Corporate Bonds

With reference to Bloomberg USD Aggregate Corporate Bond Index and Bloomberg USD High Yield Corporate Bond Credit Spread Index as risk premium indices for the default risks of investment-grade corporate bonds and high yield corporate bonds, with higher spreads representing higher default risk and higher premiums representing weaker bond prices.

With reference to an extensive dataset spanning 30 years up to 14 December 2023, excluding the latest rate hiking cycle commencing in 2022, there have been four cycles of interest rate peak followed by interest rate cuts (referred to as "interest rate inflection points"), in 1995, 2000, 2006 and 2018 respectively. The two indices, along with the changes in the federal funds rate, are extracted and analysed. The overall data are as follows:

Year	Credit spread (%)		Changes in interest rates (%)
	Investment- grade corporate bonds	High-yield corporate Bonds	
1995	-0.07	-0.13	-0.75
2000	0.06	0.80	-1.50
2006	0.51	0.85	-0.75
2018	-0.45	-1.55	-0.5
Average	0.01	-0.01	-0.88
Median	0.00	0.34	-0.75
Standard deviation	0.40	1.12	0.43

Source: Bloomberg, data as of 14 December 2023

During the interest rate inflection points, the average change in credit spreads for investment-grade corporate bonds and high-yield corporate bonds was a slight increase of 0.01% and a marginal decrease of 0.01% respectively, while the average interest rate fell by 0.88% over the same period. At first glance, the interest rate cuts did not seem to increase the overall corporate bond default risk. However, in terms of median, high-yield corporate bonds were distinctly more sensitive, with a median credit spread of 0.34% and a standard deviation of 1.12%, which is 2.8 times higher than that of investment-grade corporate bonds. The above figures reflect that the interest rate cuts did not have a significant impact on the default risk of investment-grade corporate bonds, but notably had a more pronounced effect on high-yield corporate bonds. Furthermore, the relatively high volatility in their credit spreads suggests greater price fluctuation.

During this interest rate hiking cycle, the rates peaked in July 2023. As of 14 December 2023, credit spreads for investment-grade corporate bonds and high-yield corporate bonds have fallen by approximately 0.13% and 0.33% respectively, reflecting that the reduced default risks on these two types of corporate bonds following the interest rate peak, and that investors' optimism has spurred a rise in the prices of these bonds. As the current situation does not match the above analysis, it is important to note that after the market cools down, the two spreads may rebound, causing a correction in bond prices.

Financial Conditions: Accommodative Environment Bolsters Corporate Bond Market

What underpins the current wave of investor optimism? The Bloomberg US Financial Conditions Index reflects the state of liquidity within the US financial system, with negative values suggesting tightness and vice versa. For example, during the period from March to April 2023, the index recorded negative

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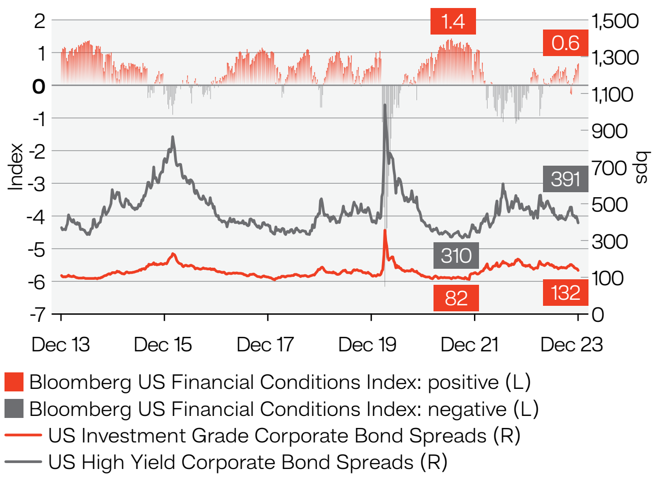
values for four consecutive weeks. Notably, during the weeks of 17 March and 24 March, the index was negative 1 and negative 0.8 respectively, which were higher than the 10-year average of negative 0.6, indicating an exceptionally tight financial liquidity. This period coincided precisely with the outbreak of a regional banking crisis within the US.

Comparing the financial conditions with USD credit spreads, both investment-grade corporate bonds and high-yield corporate bonds show an inverse correlation, i.e. the tighter the liquidity, the wider the spreads, which in turn suggests the increasing default risks. Notable historical precedents include the rate hiking cycles in 2015 and the 2020 pandemic. A closer analysis of the 24-week dataset spanning from 7 July to 15 December 2023 reveals that following the end of interest rate hikes by the Federal Reserve, the average value of the financial condition index stabilised at 0.6, aligning with the average value in the past 10 years. The only negative value recorded in one of the weeks was negative 0.3, reflecting the lukewarm financial condition. Credit spreads on investment-grade corporate bonds and high-yield corporate bonds fell by 17 and 42 points, or 11.3 and 9.61%, respectively, which was favourable to bond price during the period.

After the FOMC meeting in December 2023, it hinted that it would start interest rate cuts in 2024. Regardless of the final rate of cut, easing financial conditions are expected going forward. Referring to the week of 2 July 2021 when the Bloomberg US Financial Conditions Index peaked at 1.4, credit spreads on investment-grade corporate bonds and high-yield corporate bonds were quoted at 82 and 310 basis points respectively, suggesting potential room for reductions of 38.9% and 20.7% respectively as compared to the figures reported in the week of 15 December 2023. This analysis reflects the near-term upside potential for investment-grade corporate bonds or high-yield corporate bonds.

US Finanical Conditions Index and USD credit spreads



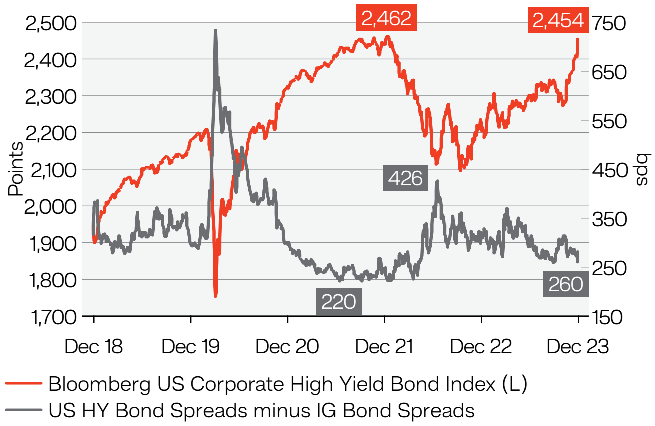
Source: Bloomberg, Data as of 15 December 2023

Corporate Bonds: Attractive Investment Grade after Risk Assessment

While interest rate inflection points and financial conditions are both favourable for corporate bonds, which one, investment-grade or high-yield corporate bonds, represents the more attractive investment? Simply subtracting the credit spread on high-yield corporate bonds from that on investment-grade corporate bonds, the result suggests that there is a chance that either the risk premium on high-yield corporate bonds will fall or that the risk premium on investment-grade corporate bonds will rise, both of which are favourable for high-yield corporate bonds. The spread rose to 426 basis points on 5 July 2022 and then declined to 260 basis points as of 14 December 2023, marking a retreat of nearly 39%. Compared with the lowest of 220 basis points in the past five years, the current spread represents only about 40 basis points, or less than 15% room for decline.

The Bloomberg US High Yield Corporate Bond Index has traded at a level of 2,454 on 14 December 2023, just 8 points or 0.33% from its peak of 2,462 over the past five years. The results suggest that high-yield corporate bonds are approaching their peak, while investment-grade corporate bonds may demonstrate a robust rebound, with comparatively greater room for upward movement.

US HY Corporate Bond Index and IG Bond Spreads vs. Investment grade credit spreads

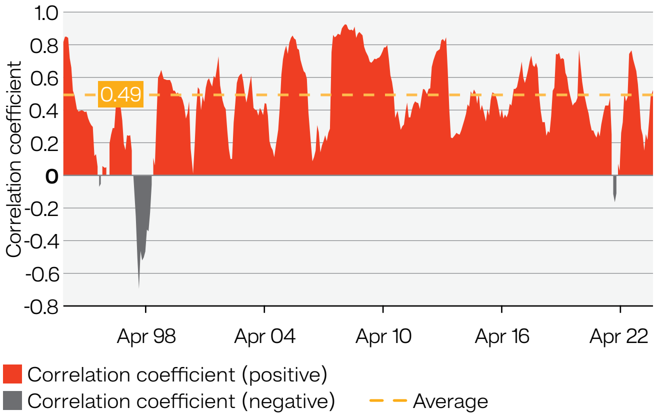


Source: Bloomberg, Data as of 15 December 2023

Equities vs. Bonds: Industry Dynamics Trump Index Movements

Bonds are often used by investors to hedge against equity market volatility. However, if we use the ICE MOVE Index (MOVE) to represent bond market volatility and the S&P 500 Volatility (VIX) index to represent the volatility in US equities, it is found that the positive correlation coefficients between these two indices has been nearly 95% over the past 30 years, with the negative correlation coefficients recorded in 1997 and 2021, suggesting that the theory of hedging equities with bonds fails to hold up.

The correlation coefficient between the MOVE Index and the VIX Index

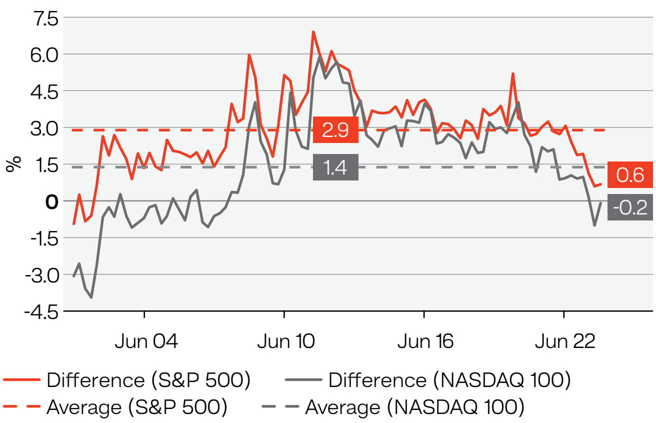


Source: Bloomberg, Data as of 15 December 2023

From the perspective of return, the return rate on bonds is represented by the 10-year US Treasury yield, while the return rate on equities is represented by earnings yields from the S&P 500 and the Nasdaq 100 indices ("Nasdaq 100"), a comparative analysis is performed by deducting bond yields from the respective equity yields.

Given the limited availability of Nasdaq 100 data, the below analysis commences from the year 2001. Comparing the average of both yield spreads, both equity indices are below the average of the dataset, reflecting the fact that bonds are now a more attractive investment in the long term. As of 15 December 2023, the yield spreads between the 10-year US Treasury yield and the S&P 500 and Nasdaq 100 stand at positive 0.6% and negative 0.2% respectively. These figures suggest that, when measured solely on return rates, the S&P 500 presents a more attractive investment than the Nasdaq 100.

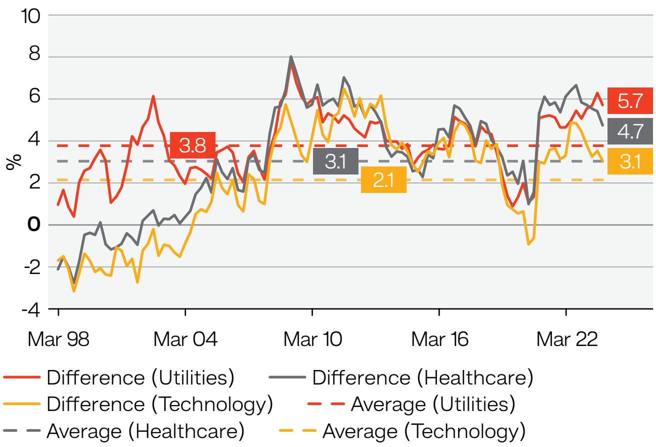
S&P 500 and NASDAQ100 earning yields vs. 10y US Treasury yield



Source: Bloomberg, Data as of 15 December 2023

Applying the same analytical framework to the three S&P sector indices, the earning yields of Utilities and Healthcare sector indices are 1.9% and 1.6% higher than the average respectively, which represent more attractive investment opportunities than the Technology sector, which has an earning yield of 1.0% above the average. The results are in line with the analysis mentioned in the "Equity" section, which suggests that defensive, value and high-dividend equities are more attractive.

S&P sector indices (Utilities, Heathcare and Technology) earning yields vs 10y US Treasury yield



Source: Bloomberg, Data as of 15 December 2023

For detailed analyses of other US equities and related sectors, please refer to the "Equity" section.

Investment Strategy: Proactive Implementation

Yield Curve Normalisation: The Last Tango

In 2023, I have shared the typical four-phase progression during the normalisation of the US Treasury yield curve (meaning shifting towards a positive slope). The initial phase sees the curve shifting in tandem with interest rate hikes while remaining inverted. Investors are advised to reduce bond positions to minimise the portfolio's duration risk during this phase. The second phase is characterised by a pivot at a specific duration, where long and short-term yields twist in opposite directions, with high volatility at both ends of the curve. Investors may adopt a 'Duration-neutral' strategy to balance risk by taking short and long positions at the same time and earn returns from yield curve fluctuations. In the third stage, as the rate hiking cycle approaches an end, short-term yields, being more sensitive to interest rate changes, tend to stabilise and anchor near the projected peak in interest rates, while the long-term yields are more susceptible to the ripple effects of rate expectation adjustments, leading to "bear steepening" where the long-term yields are more volatile than the short-term yields. Investors are encouraged to extend the average duration progressively within their portfolio through this phase to enhance the aggregate portfolio yield.

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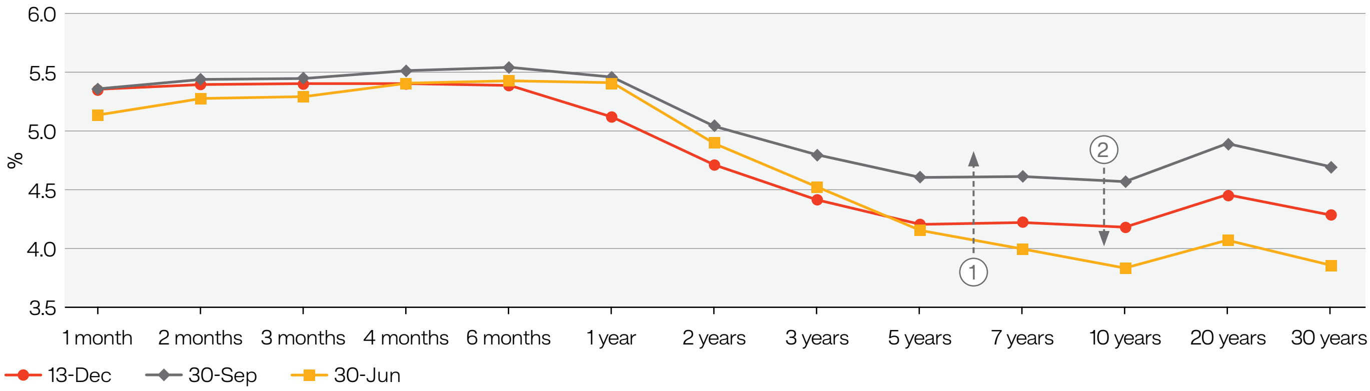
The trend of US Treasury yield curves



Source: Bloomberg, Data as of 13 December 2023

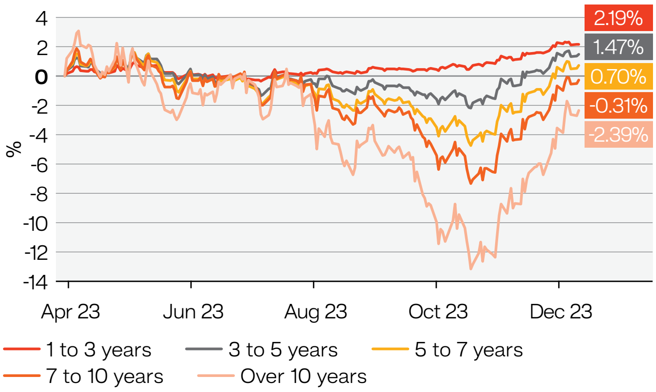
With reference to the performance of the series of Bloomberg US Aggregate Bond Index by duration from 30 March to 12 December 2023, the bonds with 1-3 year duration is not only the best performer over the period, but also the least volatile. The ratio of return to annualised standard deviation shows that it is the highest among all duration, reflecting the effectiveness of the strategy of "Short-term over long-term bonds" which we have advocated in the past three quarters. The overall figures are shown below:

Indicator	1-3 year bond index	3-5 year bond index	5-7 year bond index	7- 10 year bond index	10-year plus bond index
Return of the full period (%)	2.19	1.47	0.70	-0.31	-2.39
Annualised standard deviation	2.07	4.62	6.47	8.36	13.38
Ratio	1.06	0.32	0.11	-0.04	-0.18

Source: Bloomberg, data as of 12 December 2023

In addition, it is recommended to extend the duration within bond portfolios in an orderly manner in the fourth quarter of 2023 in a bid to achieve a better return. Despite the negative return rate of 2.39% of the 10-year-plus bond index over the same period, the index rebounded from the bottom by nearly 12.7% in the fourth quarter, the best performance among all duration, highlighting the effectiveness of the "bear steepening" strategy.

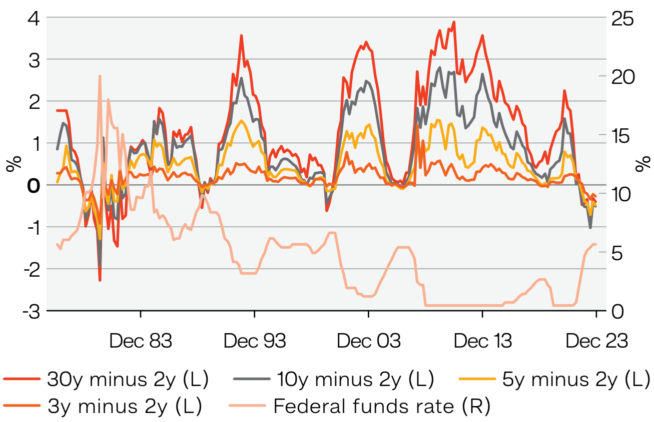
Performance of Bloomberg US Aggregate Bond Index in 2023



Source: Bloomberg, Data as of 12 December 2023

By examining the above forecasts for the future 10-year and 2-year Treasury yields, it is not difficult to see that the yield curves have gradually completed normalisation in the 3-dimensional interactions among the economy, interest rates and inflation. Facing the final stage of the process, how should investors plan ahead?

US federal funds rate vs Treasury yields



Source: Bloomberg, Data as of 13 December 2023

Referring to the yield spreads between the US federal funds rate and the 2-year Treasury yield as well as the yield spreads between the yields of major duration and the 2-year Treasury yield over the past 50 years, the results show that these spreads move inversely to the trend of the federal funds rate. Notably, the 30-year yield being the most volatile, demonstrates a duration risk associated with interest rate changes, i.e. the longer the duration, the more volatile the yield. The correlation coefficients between these yield spreads and the federal funds rate amid interest rate cuts were extracted, and the results are as follows:

Yield spread	Related Coefficients
30-year minus 2-year Treasury yields	-0.77
10-year minus 2-year Treasury yields	-0.83
5-year minus 2-year Treasury yields	-0.81
3-year minus 2-year Treasury yields	-0.57

Source: Bloomberg, data as of 12 December 2023

It is worth noting that the sensitivity of the 5-year minus 2-year Treasury yield spread is higher than that of the 30-year minus 2-year Treasury yield spread, aligning closely with the coefficient of the 10-year minus 2-year Treasury yield spread, which suggests that the downward pressure on the prices of 5-year US Treasuries during curve normalisation at the time of interest rate cuts is comparable to that of 10-year US Treasuries. Examining the yield curve movements of US Treasuries in the second half of 2023 further, it is observed that volatility is concentrated in the treasuries of duration over 10 years. It is anticipated that when the normalisation of the long end of the yield curve is in progress, volatility will shift to the mid-range of the 5-year yield curve, where higher correlation coefficients are observed. Figuratively speaking, the trough of the 'U'-shaped curve is poised to rebound more rapidly than other segments in the final stage in completing the yield curve normalization.

In terms of investment strategy, we should first wait for the 10-year Treasury yield to rebound in an orderly manner to parity with the 2-year Treasury yield. At that intersection, the 10-year minus 2-year yield spread is expected to narrow again, the same pattern as observed in the second half of 2023. Even if it is not yet flattened, it is believed that as it is on the verge of being flat, the middle segment of the yield curve, dominated by the 5-year Treasuries, will rebound, shifting the risk from the long-end to the middle segment. Therefore, the duration distribution within the bond portfolio should focus on both the long and short ends, forming a barbell pattern while maintaining a bias towards shorter duration. Considering the changes in the shape of the yield curve in 2023, it is believed that 3-year duration would be a better choice.

Finally, there are three key points to note:

- Future changes in the yield curve will be characterized by a dynamic and downward trend, indicating a downward adjustment in the whole curve in an orderly manner during the twisting process. Based on the above expectations of 10-year and 2-year Treasury yields of around 4.11% and 3.96% respectively, it is implied that the normalisation of the curve will be completed during the downward movement of the yield curve;

- Subsequent to the Federal Reserve's commencement of the rate hiking cycle in 2022, the yield spreads between the treasury yields of various duration and the 2-year Treasury yield have consistently been negative from December 2022 onwards. This duration of negative spreads is only second to the seven-quarter period during the 1978 "Volcker Shock", illustrating the bond market's current extremity. The rate of yield spreads increase among various yields following the shift from interest rate hikes to interest rate cuts were the highest on record, signalling to investors the imperative of vigilance towards potential sharp reversals in yield spreads that could lead to substantial volatility in the bond market.

- The above analysis is based on quarterly data, reflecting the fact that the historical duration required for curve normalisation has been typically measured on a quarterly or even annual basis, and the same basis is equally application to strategy positioning. The market generally expects the Federal Reserve to start interest rate cuts only in May or June this year, implying that the curve normalisation will not be completed until the end of 2024 at the earliest. Investors should exercise patience in deploying portfolio positioning following the changes in yield curve. Referencing the bond strategy outcomes outlined for 2023, one may anticipate impressive returns.

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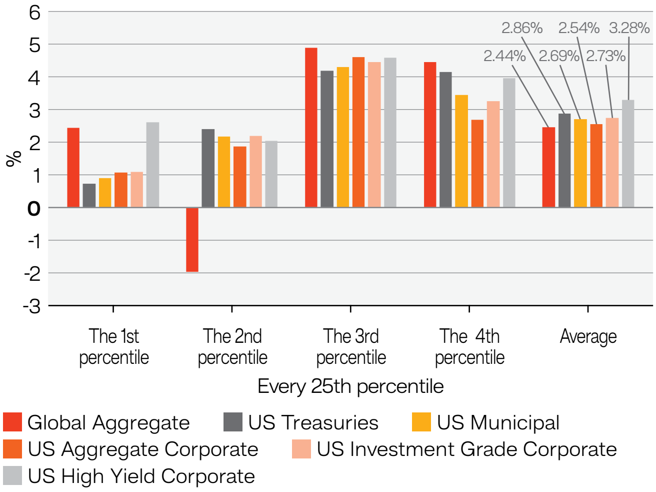
Interest Rates Inflection Point: Simplicity is the Beauty

Another more direct strategy is to seize the opportunities that arise at interest rate inflection points. Based on the six interest rate cycles identified in the preceding federal funds rate analysis, and using the Bloomberg's bond index family to represent 15 different types of bonds, we analyse the performance of each index between the interest rates peak and the first interest rate cut (termed as the "interest rate inflection point"):

Initially, it's essential to note that the six major interest rate cycles occurred in the years 1976, 1986, 1994, 1999, 2004 and 2017 respectively. The indices' overall performance during these periods was positive. On average, the 15 bond indices yielded a return of 2.86%, with a standard deviation of approximately 1.89%, resulting in a ratio of 1.51 across the four phases. Out of the 60 data sets, a remarkable 95% have positive gains. The highest and lowest returns were 9.09% (The Bloomberg Emerging Markets USD Aggregate Bond Index) and -1.97% (The Bloomberg Global Aggregate Index) respectively, indicating a ratio of 4.6 times. This suggests that it is a value bet for bond investment at the interest rate inflection points, with lucrative returns.

Due to the varying durations of interest rate inflection points, we employ the statistical concept of the 25th percentile to segment the analysis into four distinct phases to standardise periods across the analysis. When we consider US regional bonds, including government and corporate bonds, the average overall return is an impressive 2.82%, which is better than the 2.44% return of the global aggregate bond market. Moreover, all US bond indices reported positive return of 100% across all phases. The overall distribution of returns was concentrated in the third and fourth phases, illustrating the closer to an interest rate cut, the better performance, with returns nearly doubling compared to the first and second phases. The best-performing index was the Bloomberg US High Yield Corporate Bond Index.

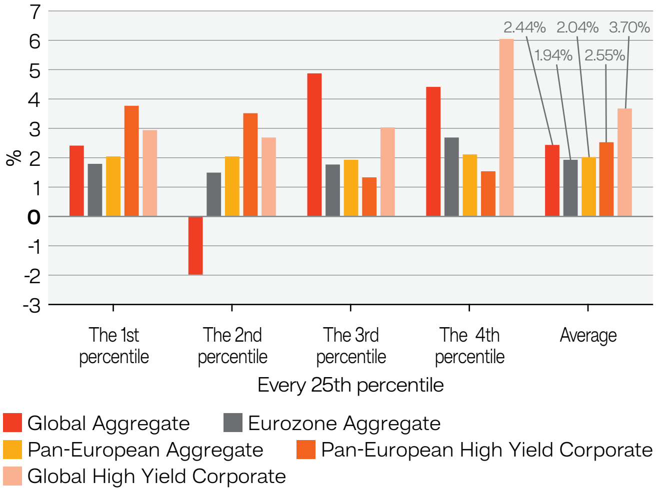
Perfromance of global and US bond indices from interest rate peak to the first interest rate cut



Source: Bloomberg, Data as of 11 December 2023

For Europe, this includes both Eurozone and pan-European bonds. The overall average return was 2.56%, outperforming the global aggregate bond yield of 2.44%. European bonds have achieved a commendable 100% rate of positive returns, same as the US bond indices. The overall distribution of returns was relatively even, with no particular phase of performance standing out, reflecting the fact that duration of investment does not have a significant impact on the final return. Pan-European high-yield corporate bonds have demonstrated more robust performance relative to treasuries, albeit not quite reaching the high returns achieved by global high-yield corporate bonds. In addition, the returns in the initial two stages exceeded those in the latter stages by nearly 1.5 times, indicating a higher volatility within the region's indices.

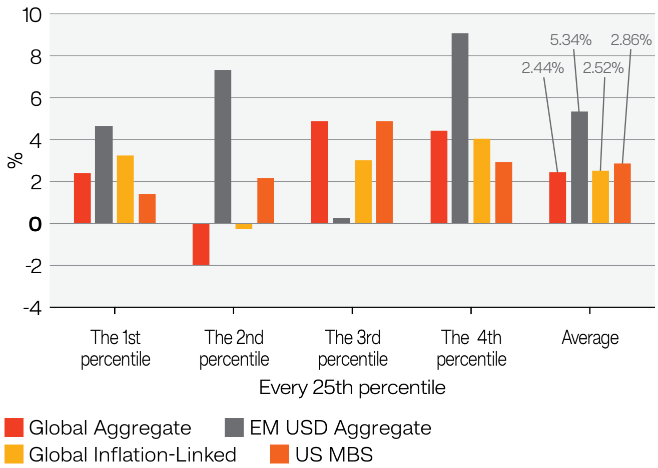
Perfromance of global and European bond indices from interest rate peak to the first interest rate cut



Source: Bloomberg, Data as of 11 December 2023

Of the other categories, the Bloomberg Emerging Markets USD Aggregate Bond Index have been the best performer and top of all the indices. However, volatility associated with these bonds is pronounced, suggesting it is desirable strategy to buy and hold these bonds until the first interest rate cut. The Global Inflation-Linked Bond Index and US Mortgage-Backed Securities Index have not exhibited any notable trends, nor have they offered compelling returns. This highlights the simplest investing approach in conventional bond indices will suffice at interest rate inflection points.

Perfromance of bond indices from the peak in interest rates to the first rate cut : global and other



Source: Bloomberg, Data as of 11 December 2023

Upon a comprehensive review, the aggregate performance of bond indices is attractive in terms of both returns and value bets. US bonds, in particular, have outshone their counterparts, with a more robust performance observed in the latter half of the analysis period. European bonds represent more balanced investment options, with the duration of investment proving to be of lesser impact, especially for local cooperate bonds that have higher returns. The Bloomberg Emerging Markets USD Aggregate Bond Index is the performance leader among other indices, which is suitable for investors with a higher risk tolerance.

Chapter Summary:

- The abnormalities in the 2023 bond market is the aftermath of violent interest rate hikes, yet capital flows reflect that investor confidence remains
- With a recession expected in 2024 and inflation still above target, the Federal Reserve has prioritised GDP growth over inflation trends in its rate-cut decision-marking
- Current market conditions are favourable for corporate bonds, with attractive return offering from investment-grade bonds
- The forecasted 2-year and 10-year Treasury yields are 3.96% and 4.11% respectively, with expected fluctuations ranging from 3.54% to 4.38% for the former and 3.76% to 4.46% for the latter
- Normalisation of the Treasury yield curve is in its final stages, and interest rate risk will be concentrated in the middle segment of the curve. Strategic patience in this environment could yield outcomes that surpass expectations
- When an interest rate inflection point occurs, the overall bond performance is poised to benefit, no matter the risk level, the traditional and simplest deployment will offer impressive returns

Bond

BEA Union Investment – Investment Teams

China and Asia Bond Market Outlook

Significant strides have been made across various fundamentals, including economy, inflation, monetary policy and financial market. However, a definitive trajectory is likely to emerge only by mid-2024. That said, investors are cautioned against adopting a passive stance in response to this uncertainty

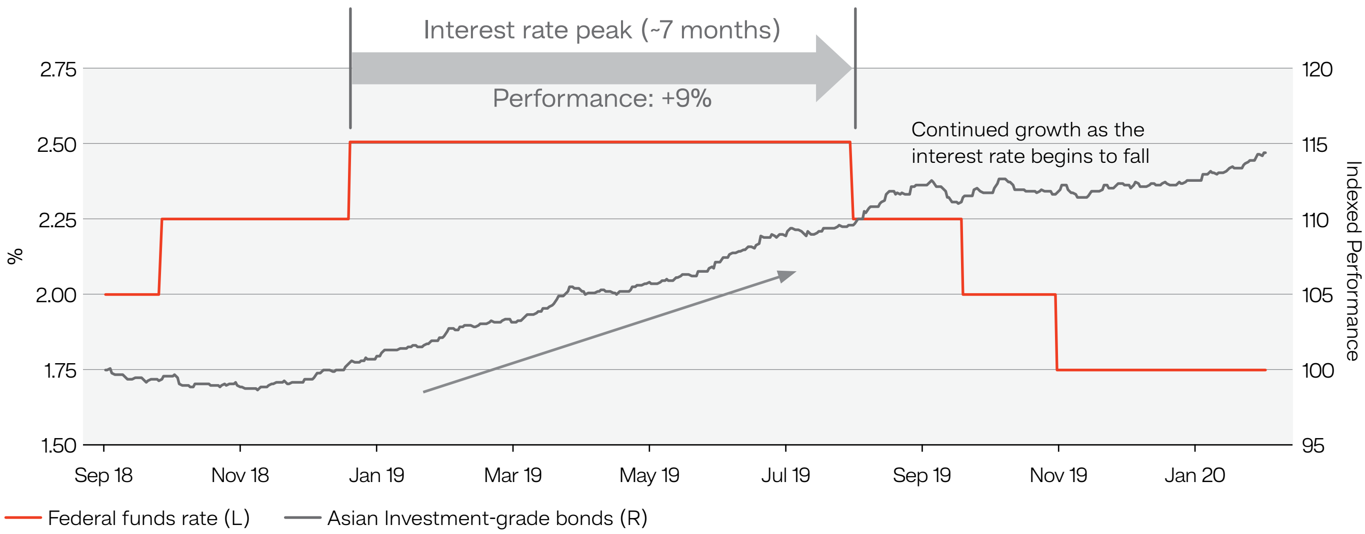
Asian investment-grade and high-yield bond performances are poised to surpass the average in 2024

Declining oil prices continued to drive down core inflation in the US, with the Consumer Price Index ("CPI") not yet fully reflecting the softening local housing market. As investors ramp up their expectations for an interest rate cut by the Federal Reserve in 2024, US Treasury yields experienced a precipitous decline in November 2023. Asian bond yields remain compelling, bolstered by favourable macroeconomic and credit fundamentals. Additionally, the volume of US dollar-denominated bond issuances is projected to be substantially lower than the bond redemptions at maturity and coupon payments, providing a technical tailwind. Asian investment-grade bonds substantially outperformed high-yield bonds in 2023 due to the high interest rate environment. With declining inflation and market anticipation of interest rate cuts, our investment team predicts a more balanced performance between high-yield and investment-grade bonds in 2024. Beyond macroeconomic factors lending support to high-yield bonds, our team is optimistic about the prospects for Asian high-yield bonds in 2024, given the ongoing improvements in credit quality and the extensive selection of sectors and markets available.

Remain bullish on the technology, media and telecommunications sectors in South Korea and China, as well as investment-grade bonds in financial sector

Despite a weaker-than-expected economic recovery in China, certain quality individual investment-grade bonds offer yields ranging from approximately 5.3% to 13%, reflecting the investment value of such bonds. Selected BBB-rated banks and asset managers are attractively valued. Certain issuers within this cohort are expanding their investor base, which offers an edge in terms of technical factors. Others are poised for a credit rating upgrade as benefitted from growth forecasts for China. We are also bullish on technology, media and telecommunications (TMT) sectors, where regulatory risk has eased and valuations are attractive. Some A-rated investment-grade bonds in these sectors are yielding around 7%, which is comparable to BBB-rated bonds in the same sectors. For diversification, we also favour individual oil and leasing companies with attractive yields.

South Korea's investment-grade bonds continue to demonstrate a robust technical balance in supply and demand. In contrast, some countries including China exhibit a marked preference for onshore bond issuance in local currencies due to significantly lower costs compared to offshore markets. South Korean businesses, by comparison, face less disparity in issuance costs in both markets and greater volatility in the onshore bond market relative to US dollar-denominated bonds, which led to willingness among South Korean companies to issue US dollar-denominated bonds.



Source: Bloomberg, 1 September 2018 to 31 January 2020. The representative index for Asian investment-grade bonds is the ICE BofA Asian Currency Investment Grade Corporate Index

Diverse high-yield bond options in Indonesia and India, with Macau gaming bonds proving attractive

Our investment team harbours a positive outlook for Asian high-yield bonds in 2024, buoyed not only by high yields but also because of the quality and the diverse range of investment opportunities across various markets and sectors. Excluding China, the region boasts impressive yields up to 9%. The team is particularly bullish on Indian and Indonesian high-yield bonds due to the extensive selection of durations and sectors available.

India will account for 30% of the Asia's high-yield bond market in 2023, up from 13% in 2020, overtaking China as the largest bond issuance market in Asia. The team is bullish on India's high-yield bonds across several sectors, including airports, steel, non-bank financials and renewable energy. Renewable energy bonds, in particular, continue to exhibit robust performance as supported by limited supply and the easy access to onshore financing. Additionally, airport operator bonds are looking increasingly attractive as airport passenger volumes return to pre-pandemic levels and profitability rises. Some individual airport operators have even enjoyed credit rating upgrades from credit agencies due to their improved financial conditions.

Indonesian enterprises, including energy companies that benefited from high commodity prices earlier, have also been able to raise funds from the onshore markets. With substantial cash reserves, these enterprises are able to early redeem their US dollar-denominated bonds to effectively manage their balance sheets. Beyond commodities and energy sectors, the property sector's bonds are also attractive. To stimulate the local property market, the government will waive the 11% capital gains tax on housing until June 2024.

Among Chinese Mainland's high-yield bonds, our team will focus on consumer and oil & natural gas sectors, while adopting a cautious stance on domestic real-estate debts. We are keeping a strategic eye on selected bonds of some state-owned property developers. Currently, general housing sales come from the secondary market and property developers are yet to fully recover. The property policies rolled out in August and September 2023 only brought a short-term rebound to the property market, lacking sustainability. The effectiveness of Chinese authorities' efforts to encourage banks to extend unsecured short-term loans to property developers remains to be seen, as it is not the usual practice of banks. Ultimately, investor confidence, economic recovery and the job market are the keys to a rebound in the property market. As for Macau, our team continues to be bullish on the outlook for the local gaming industry. Benefiting from the rebound in visitor arrivals, gaming operators' business performance and cash flow will continue to improve.

In summary, capital markets will continue to face a number of potential challenges in 2024, including geopolitical risks and the US presidential election. Nonetheless, progress has been made on a number of fundamentals, including the economy, inflation, monetary policy and financial markets. A clearer market trajectory is anticipated to emerge by mid-2024. However, this does not mean that investors should be pessimistic. As consumer prices slowdown, central banks will shift their focus from controlling inflation to stimulating economic growth, potentially unlocking more investment opportunities within capital markets as a result.

Chapter Summary:

- Bullish on China's technology, media and telecommunications sectors, alongside investment-grade bonds in financial sectors
- Asian high-yield bonds bolstered by macro factors and continued improvement in credit quality
- Asian high-yield bonds bullish on Indian airports, steel, non-banking financial companies and renewable energy sectors, as well as Indonesia energy and property sectors
- For Chinese high-yield bonds, watch for consumer, oil & natural gas and Macau's gaming sectors

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