Discussion Guide

Toronto Investment Board

Q4 2022

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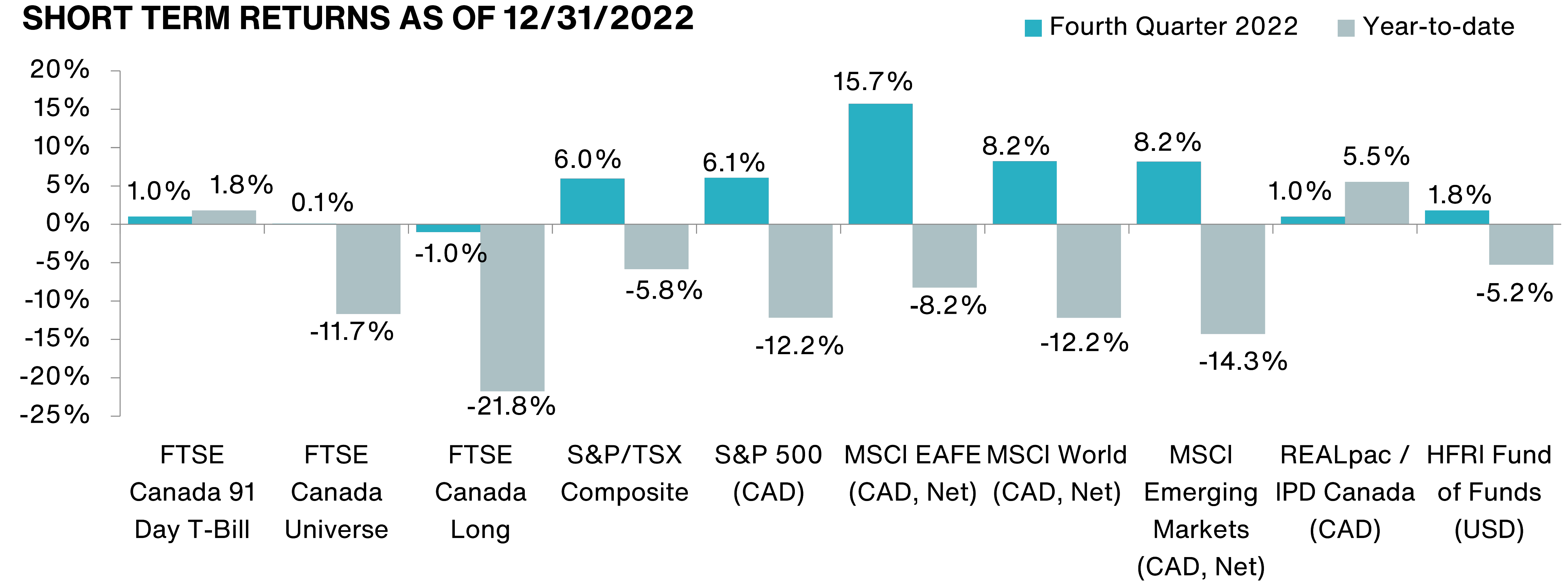
Capital Markets Overview

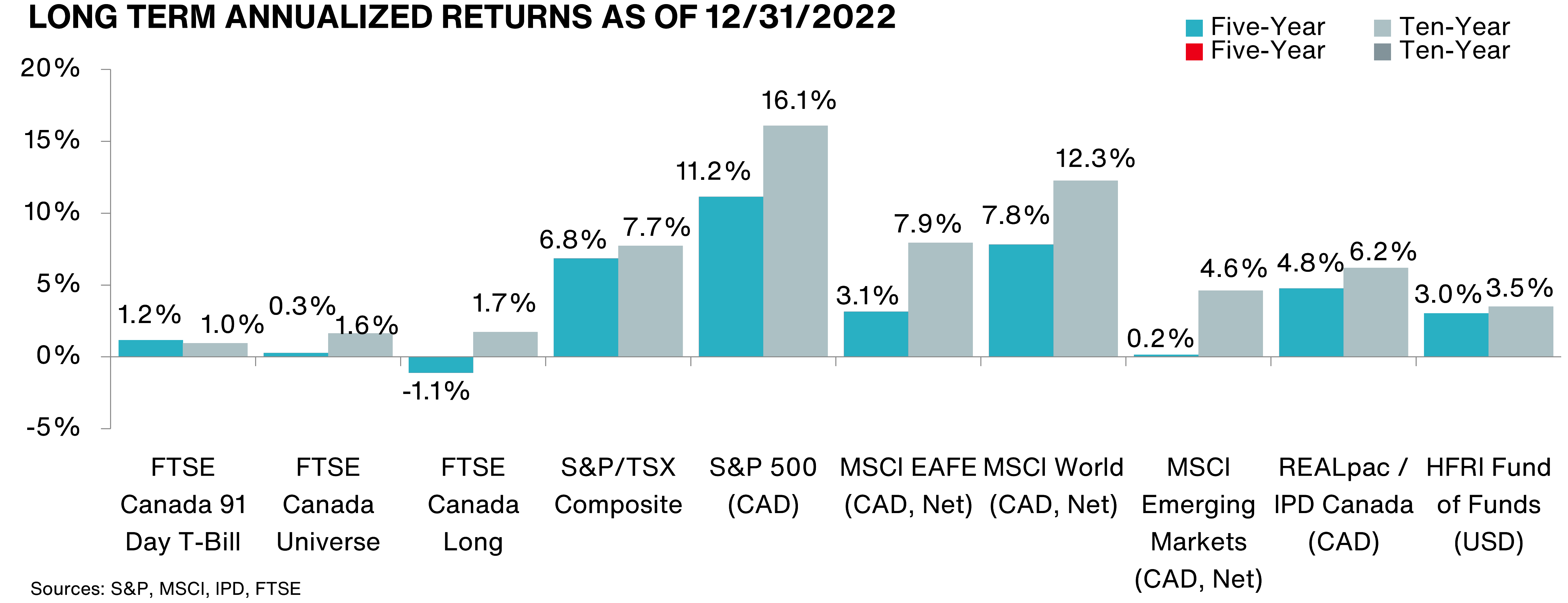
- The future path of inflation and resulting central bank policies continued as a dominant theme in capital markets throughout the fourth quarter. Short-term rates continued along an upward trajectory as central banks maintained efforts to dampen inflation, fueling the persistence of market volatility. Geopolitical tensions remained elevated as Russia's war in Ukraine continued. The MSCI World Index rose 7.5% in local currency terms and 8.2% in Canadian dollar (CAD) terms.
- The Bank of Canada (BoC) increased its benchmark overnight rate by 100 bps to 4.25%. Meanwhile, the Canadian economy expanded at an annualized rate of 2.9% in Q3 2022, almost double than the BoC's forecast of 1.5%.
- The U.S. Federal Reserve (Fed) increased its benchmark policy rate by 125 bps over the quarter to a range of 4.25%-4.50%. According to minutes from the Fed's November meeting, a "substantial majority" of officials supported easing the pace of interest rate hikes in future meetings. The median estimate on the Fed's December dot plot shows that officials expect the policy rate to reach 5.1% by the end of 2023, up from the 4.6% forecasted in September. The central bank downgraded its U.S. GDP growth forecast for 2023 from 1.2% to 0.5% and expects the Personal Consumption Expenditures Price Index (PCE), the Fed's preferred inflation measure, to fall from the current 5.5% to 3.1% in the final quarter of next year.
- The Bank of England (BoE) raised its benchmark interest rate by 125 bps to 3.50% over the quarter, its highest level since 2008. Meanwhile, the BoE became the first major central bank to actively start unwinding quantitative easing measures as it sold £750mn of government bonds in November. Elsewhere, the European Central Bank (ECB) raised its deposit rates by 125 bps to 2.00% over the quarter, its highest level in 14 years. The ECB president, Christine Lagarde, indicated further 0.50% rate increases in the next two meetings of the Governing Council. Meanwhile, the ECB announced plans to start shrinking the €5tn of bonds it purchased over the last eight years from March 2023.

SHORT TERM RETURNS AS OF 12/31/2022



Sources: S&P, MSCI, IPD, FTSE. Unless it's otherwise stated, gross CAD returns are shown in this report.

LONG TERM ANNUALIZED RETURNS AS OF 12/31/2022

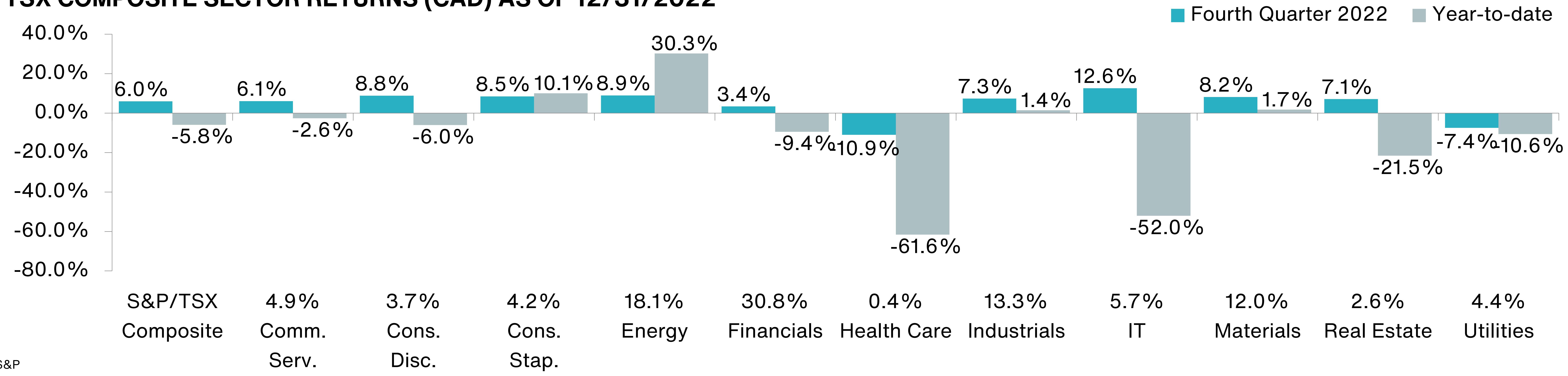


Sources: S&P, MSCI, IPD, FTSE

Capital Markets Overview

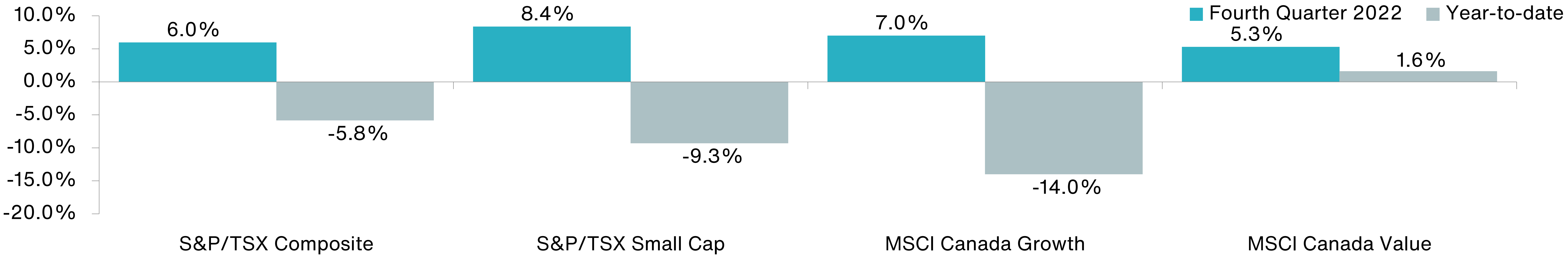
Canadian Equity

S&P/TSX COMPOSITE SECTOR RETURNS (CAD) AS OF 12/31/2022



Source: S&P

CANADIAN EQUITY STYLE/SIZE RETURNS (CAD) AS OF 12/31/2022

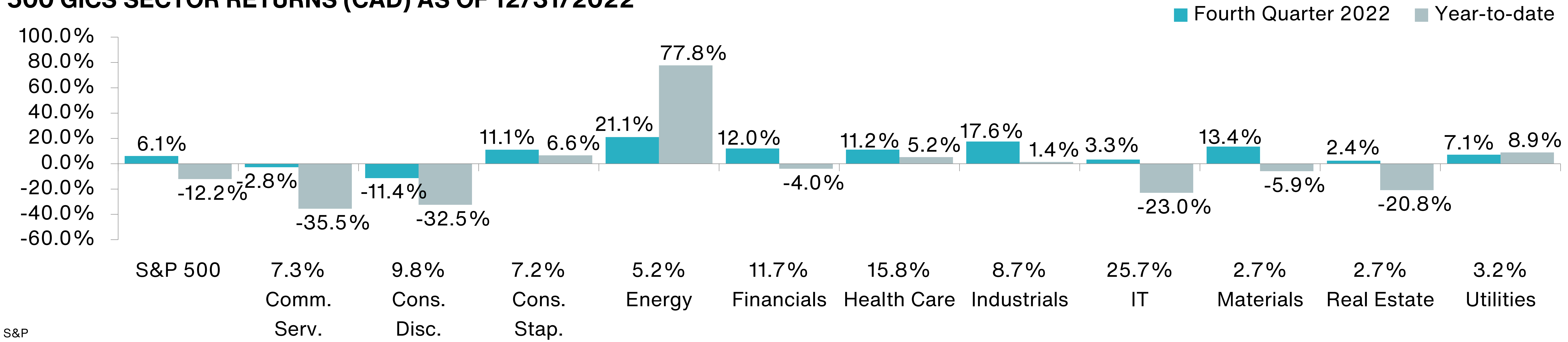


Source: S&P, MSCI

Capital Markets Overview

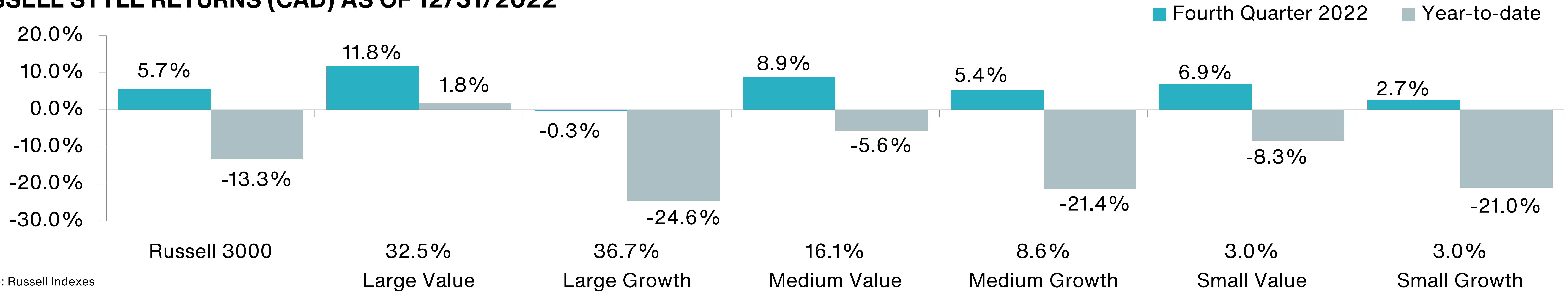
U.S. Equity

S&P 500 GICS SECTOR RETURNS (CAD) AS OF 12/31/2022



Source: S&P

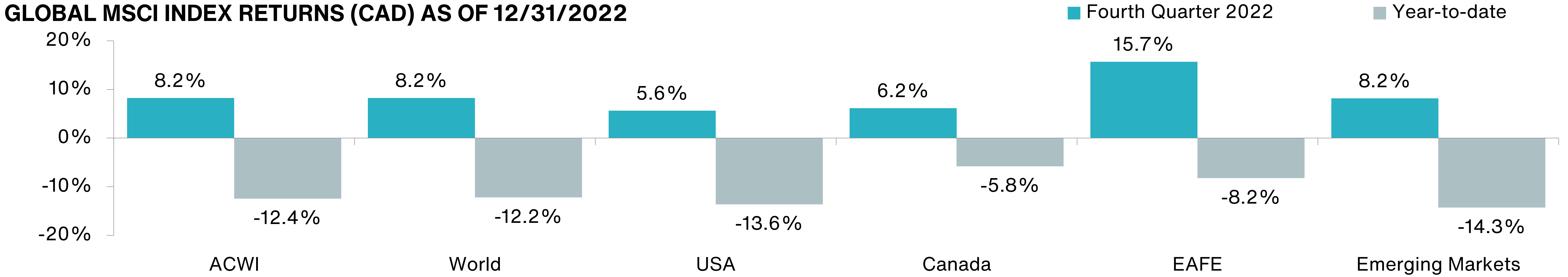
RUSSELL STYLE RETURNS (CAD) AS OF 12/31/2022



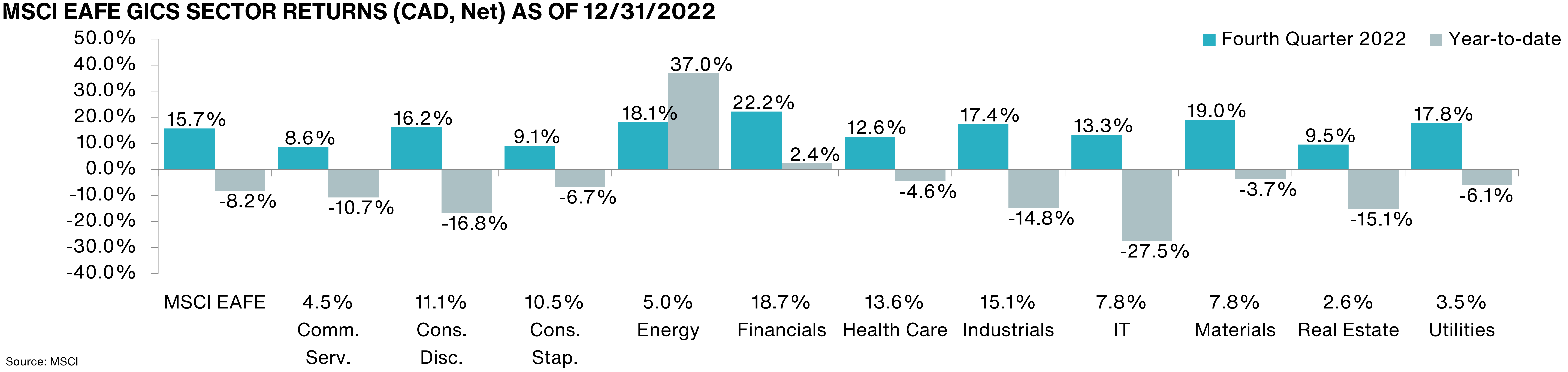
Source: Russell Indexes

Capital Markets Overview

Global Equity



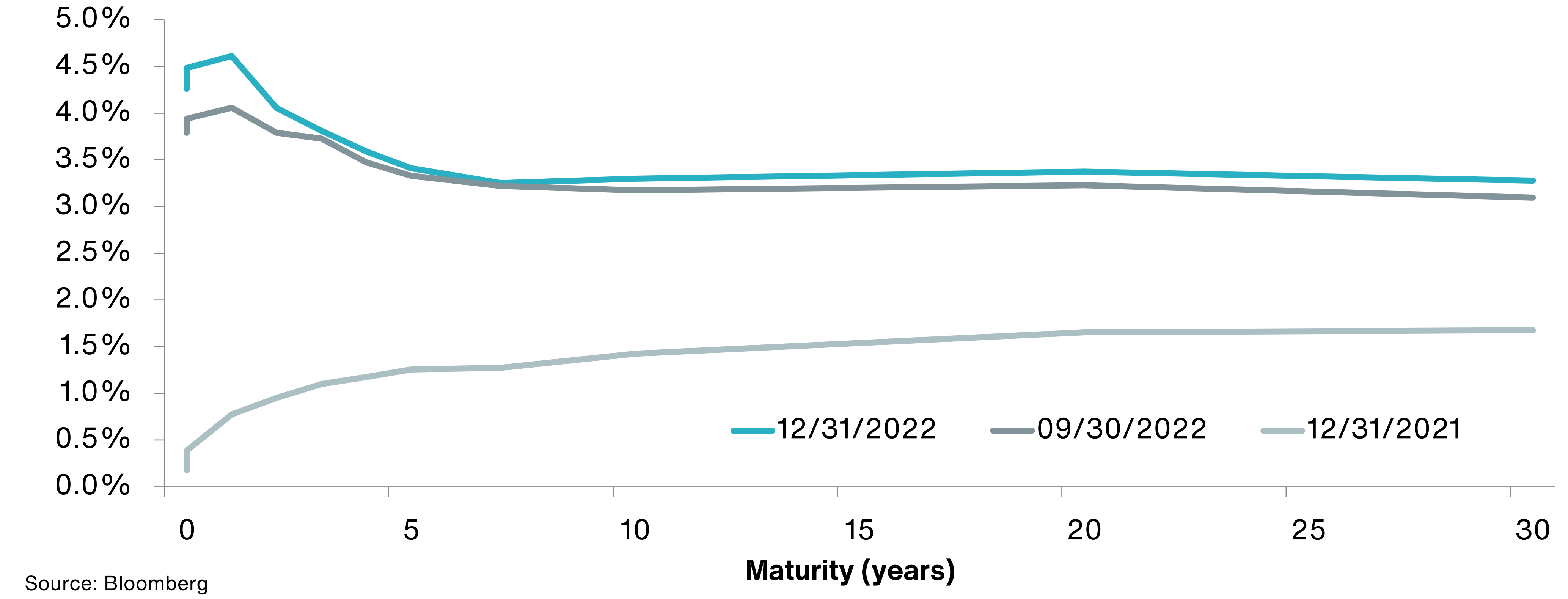
Source: MSCI. Gross returns shown for the MSCI Canada and USA indices, whilst net returns are shown for the other indices.



Source: MSCI

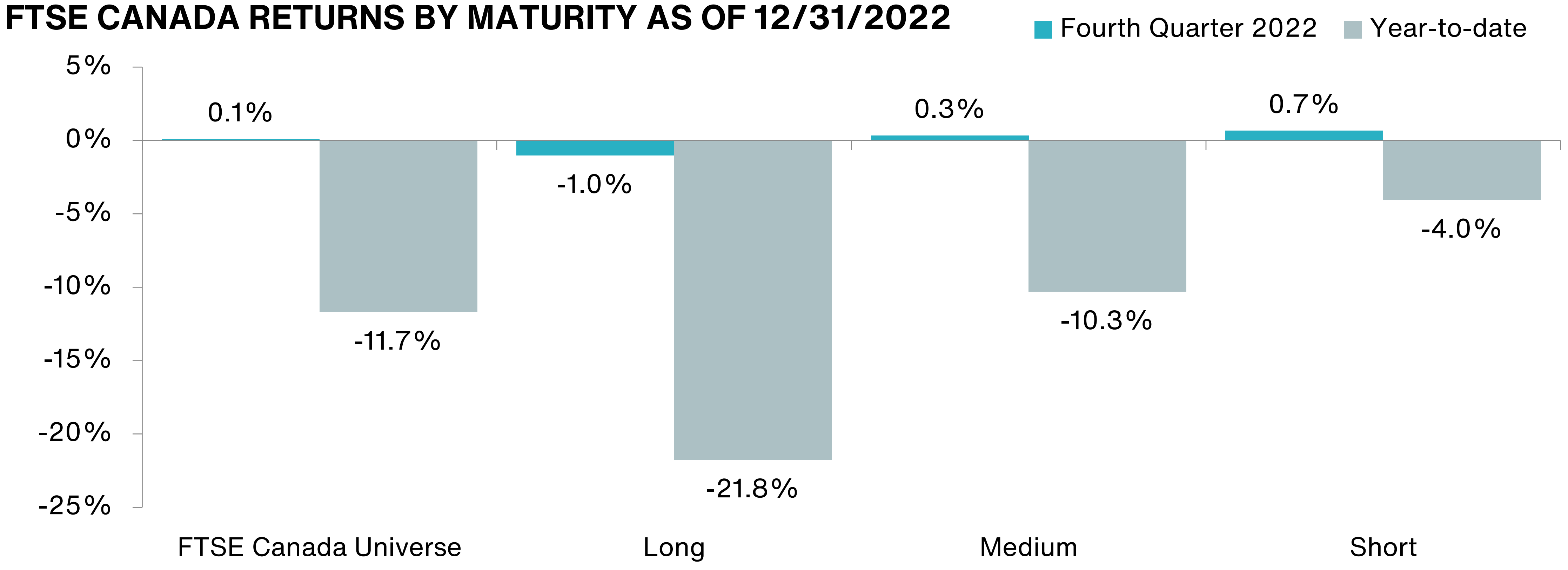
Capital Markets Overview
Fixed Income

CANADIAN FEDERAL YIELD CURVE



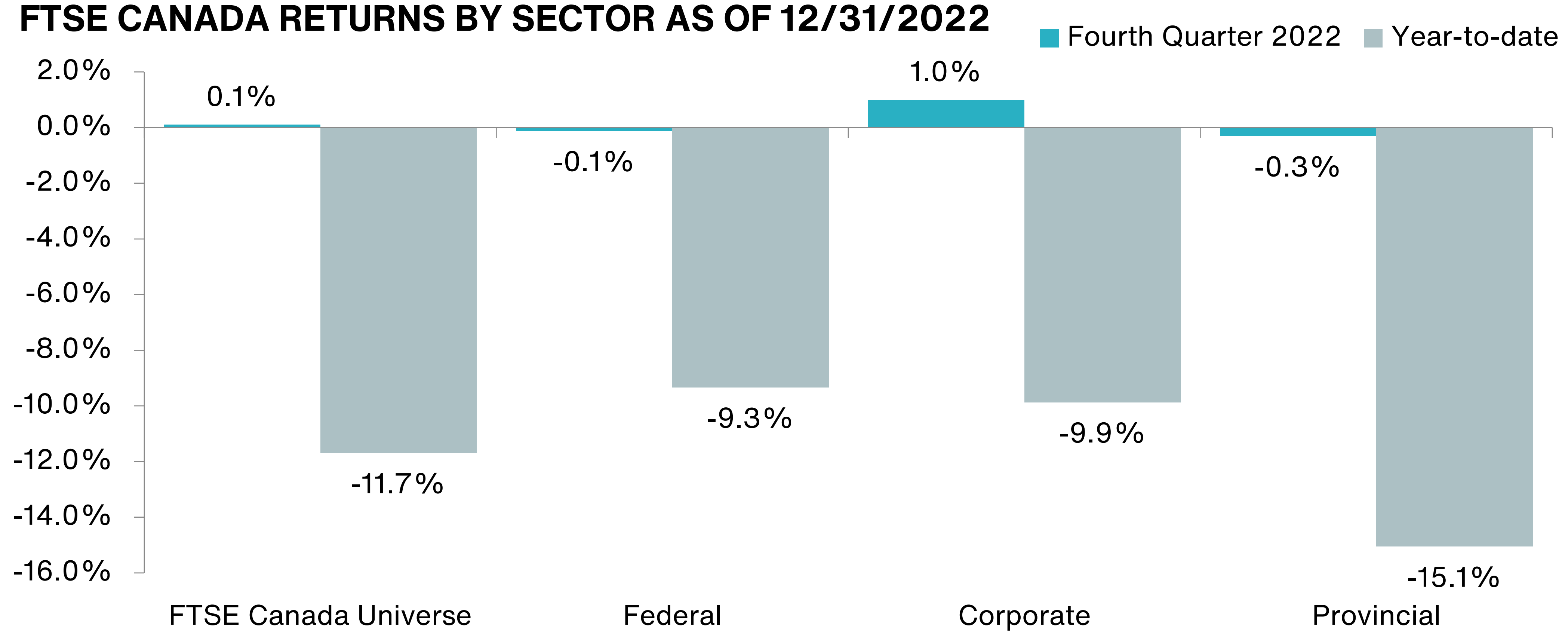
Source: Bloomberg

FTSE CANADA RETURNS BY MATURITY AS OF 12/31/2022



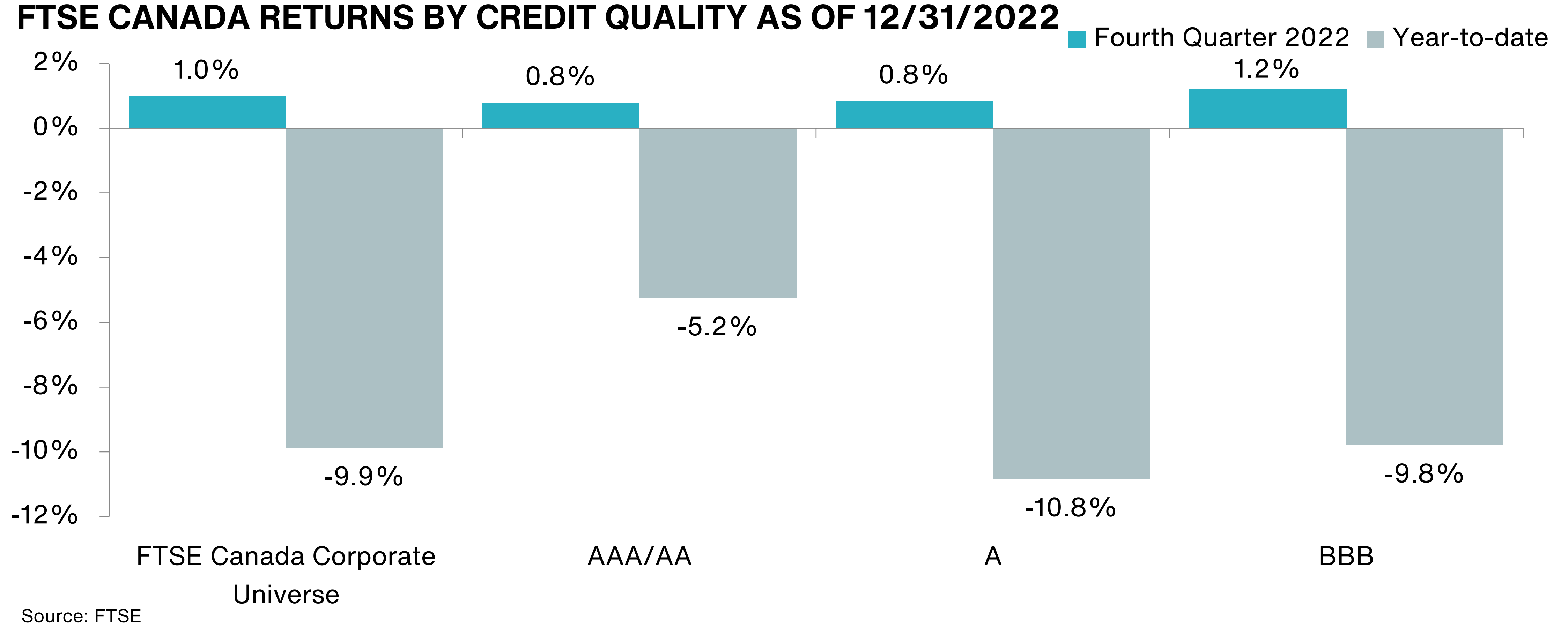
Source: FTSE

FTSE CANADA RETURNS BY SECTOR AS OF 12/31/2022



Source: FTSE

FTSE CANADA RETURNS BY CREDIT QUALITY AS OF 12/31/2022



Source: FTSE

Executive Summary – Sinking Fund and Long-Term Fund

	Performance (%)			Market value ($000)	Fees (bps)	Objective Met	Action Required
	Quarter/YTD	1 Year	5 Year				
Sinking Fund Return	2.3	-16.7	-				
Benchmark Return[1]	1.4	-14.4	-	1,793,686	12.8	n/a	No
Total Fund Value Added	0.9	-2.3	-				
Long Term Fund Return	3.0	-11.2	-				
Benchmark Return[1]	1.9	-9.5	-	3,182,509[2]	15.9	n/a	No
Value Added	1.1	-1.7	-				

Recommendations

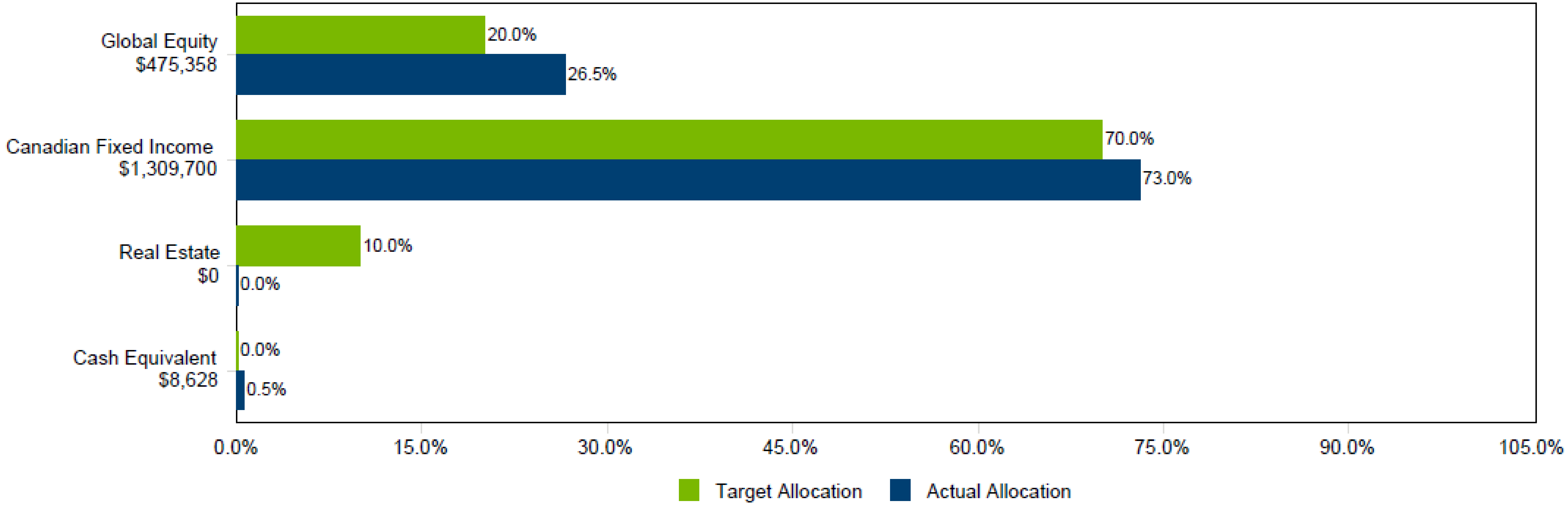
- Consider additional diversification through Infrastructure

Events

- The Board approved the City's recommendations on real estate providers for implementing towards the target real estate strategy for both Sinking Fund and Long Term Fund. The City is continuing to work with legal to complete the contracts.

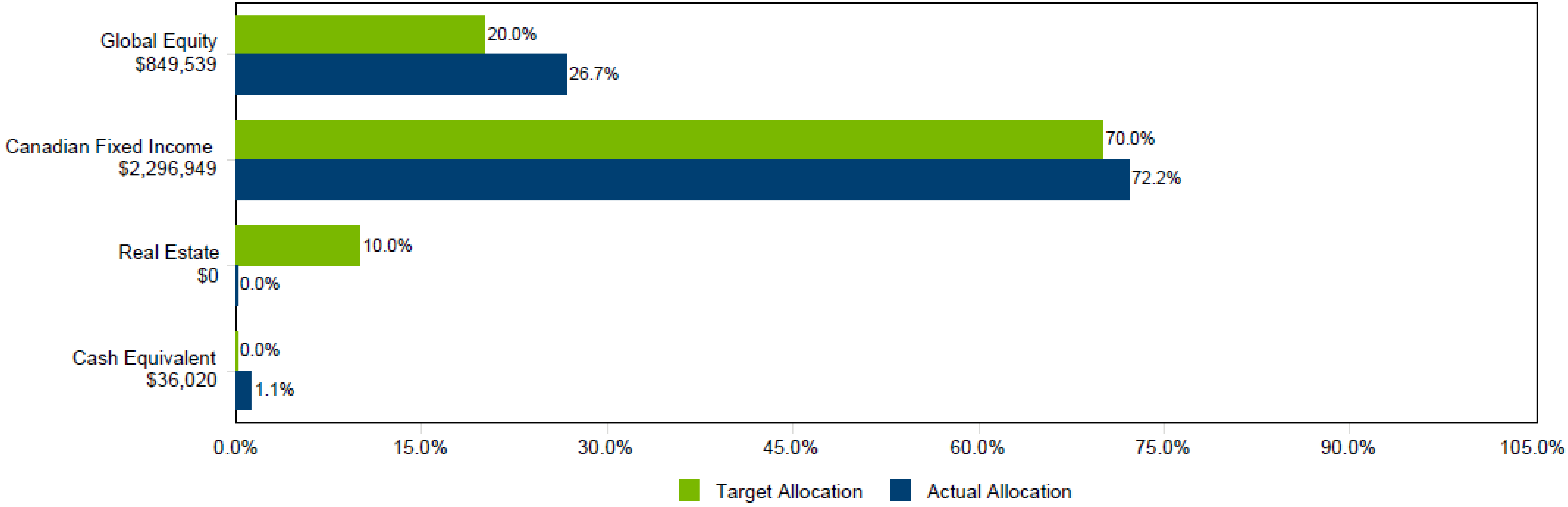
[1]The benchmark return is calculated based on the weighted average return of the target asset mix of respective Sinking and Long-Term Fund as specified in the SIPP. The plan is currently transitioning towards the target asset mix and is not fully allocated as per the target asset mix specified in the SIPP.
[2]Market Value of Long-Term Fund excludes inactive accounts with Leith Wheeler and CC&L for the fixed income component

Asset Mix Compliance – Sinking Fund



	Market Value ($000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Global Equity	475,358	26.5	20.0	6.5	0.0	30.0	Yes
Canadian Fixed Income	1,309,700	73.0	70.0	3.0	50.0	100.0	Yes
Real Estate	-	0.0	10.0	-10.0	0.0	10.0	Yes
Cash Equivalent	8,628	0.5	0.0	0.5	0.0	5.0	Yes
Total Fund	**1,793,686**	**100.0**	**100.0**	**0.0**			

Asset Mix Compliance – Long Term Fund



	Market Value ($000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Global Equity	849,539	26.7	20.0	6.7	0.0	30.0	Yes
Canadian Fixed Income	2,296,949	72.2	70.0	2.2	50.0	100.0	Yes
Real Estate	-	0.0	10.0	-10.0	0.0	10.0	Yes
Cash Equivalent	36,020	1.1	0.0	1.1	0.0	5.0	Yes
Total Fund	**3,182,509**	**100.0**	**100.0**	**0.0**			

Strategy Performance

Strategy	Rating	Value Added (%) Quarter	Value Added (%) SI*	Objective Met	Above Median 5 Years	Action Required
Addenda LDI	Buy	0.2	-0.2	n/a	n/a	No
Fiera LDI	Buy	0.0	0.1	n/a	n/a	No
CC&L Core Fixed Income	Buy	0.1	0.6	n/a	n/a	No
Leith Wheeler Core Fixed Income	Buy	0.3	0.6	n/a	n/a	No
Pier 21 Global Equity	Buy	1.3	0.7	n/a	n/a	No
Oakmark Global Equity	Buy	5.9	-2.2	n/a	n/a	No
Fiera Global Focused Equity	Buy	1.6	-1.1	n/a	n/a	No
LGIM Multi-Factor Global Equity	Buy	2.6	0.7	n/a	n/a	No

*Since Inception Dates:
- Addenda LDI: 7/1/2019
- Fiera LDI: 7/1/2019
- CC&L Core Fixed Income: 7/1/2019
- Leith Wheeler Core Fixed Income: 7/1/2019
- Pier 21 Global Equity: 11/1/2019
- Oakmark Global Equity: 11/1/2019
- Fiera Global Focused Equity: 2/19/2020
- LGIM Multi-Factor Global Equity: 12/14/2020

Manager Updates

Manager Name	Quarterly Update	ESG Rating
Addenda	• During the quarter, Andrea Moffat has joined the Sustainable Investment Team as Senior Director.	Integrated
Fiera	• In January 2023, Jean-Philippe Lemay, Global President and Chief Executive Officer left the company. Jean-Guy Dejardins, Executive Chairman at Fiera, had returned as Chief Executive Officer. • In December 2022, Hugo Sarkisian, Portfolio Manager left Fiera. Laurent-Oliver Villiard, joined LDI team as Assistant Portfolio Manager.	Integrated
CC&L	• No significant updates impacting City of Toronto	Integrated
Leith Wheeler	• No significant updates impacting City of Toronto	Advanced
Pier 21 (C. Worldwide)	• No significant updates impacting City of Toronto	Integrated
LGIM	• No significant updates impacting City of Toronto	Advanced

ESG Rating Scale

The rating assesses the integration of financially material ESG risk factors into the investment decision-making process.

The ESG factor is assigned a rating and can be interpreted as follows:

ESG Rating	Description
Advanced	The fund management team demonstrates an advanced awareness of potential ESG risks in the investment strategy. The fund management team can demonstrate advanced processes to identify, evaluate and potentially mitigate these risks across the entire portfolio.
Integrated	The fund management team has taken appropriate steps to identify, evaluate and mitigate potential financially material ESG risks within the portfolio.
Limited	The fund management team has taken limited steps to address ESG considerations in the portfolio.
Not Applicable (N/A)	ESG risks and considerations are not applicable to this strategy, for example, on the grounds of materiality or asset class relevance.

Our categories were renamed to Limited, Integrated, Advanced and Not Applicable, from a former numerical system of 1–4. This reduction in the number and naming of the categories was done in order to make the descriptions more meaningful and impactful. Funds can be clearly identified in terms of ESG integration and improves clarity for clients. All else being equal, we consider that ESG-integrated portfolios will outperform those portfolios which fail to integrate ESG factors into their decision-making over the longer term.

A

Appendix
Asset Allocation Views

Key Market Issues

Inflation

Will it fall sufficiently for central banks to stop tightening soon?

Recession

Are we already in a global recession? Can the world avoid one?

Interest Rates

Will any ‘turn’ in interest rates come in 2023 or do rates stay at high levels in 2023?

For more information on Aon’s Views

[Market outlook (aon.com)]

AON

Core Views

Central banks will win over markets keeping rates high

Even though there are signs that inflation is starting to peak and economic growth is slowing, the major central banks remain keenly focused on tightening monetary policy until inflation comes down closer to targets. The Fed chairman made clear recently that no one on the US FOMC saw rate cuts in 2023 but markets ignored this.

Bond yields are likely to trade in a range

Markets are looking for early relief on policy interest rates and bond yields. This is unlikely to come for much of 2023, leaving bond yields range bound. Even though some parts of the global economy are already entering recession, only a clear-cut U.S. recession will deliver the interest rate 'turn' lower that markets are looking for. This becomes more likely in the second half of 2023.

Risky assets face squeeze from both higher rates and recessionary trends

The problem for risky assets is that lower rates may only come once recession is confirmed, which will be bad for corporate profitability. This does suggest that pressure is unlikely to come-off any time soon. Bonds are therefore much more likely to have relief from a confirmed recessionary trend in the U.S. in 2023. Of course, if the U.S. economy escapes recession, this may keep interest rates higher for longer, which is not that constructive for risky assets.

A soft-landing outcome for the global economy is possible, but not especially likely

The key problem is that the possibility of a true soft landing (gentle growth slowdown, rapidly falling inflation towards targets and easing interest rate pressures), that markets need to have a good year, remains small.

Actions

Some value in credit but position-building should be gradual

- Higher total yields have brought back value in some areas of credit, although spread valuations have moved somewhat towards unattractive levels in recent months.
- Investors needing to build credit positions will find higher yields enticing, but the possible return of upward pressure on credit spreads and/or still higher government bond yields make immediate pay-offs uncertain.

Not yet time to raise equity allocations

- The coast is not clear on equities even after the large falls in 2022 and valuations do not look that attractive once earnings declines going into 2023 are allowed for.
- Allocations do not have to be substantially underweight targets, but some under-positioning should remain.

View Shifts

↑ Moved more positive on EAFE and EM equity markets and removed our preference for U.S. equities. At the same time, we have upgraded value to be in line with the growth factor.

↑ Upgraded emerging market debt and particularly locally-denominated debt.

↑ Upgraded the euro, yen and EM currency views relative to CAD, against a backdrop of a weaker U.S. dollar trend.

Cross Asset Views

---	--	-	=	+	++	+++
		Equities				
			Core fixed income			
		Return-seeking fixed income				
				Alternatives		
				Cash		

- The risk of a deep global recession has receded, but we think equity markets have still not priced in the extent of weaker corporate earnings as the global economy slows. Our view that policy rates could stay higher for longer than the market is generally expecting also presents a challenge to equities.
- We are remaining underweight return-seeking fixed income as we think credit spreads will widen again after having fallen significantly in H2 2022. We prefer less risky credit and government bonds.
- We are maintaining a neutral duration view as the upside and downside risks to government bond yields are more balanced now. Global inflation has started to fall but we expect U.S. treasury yields could remain range-bound.
- Cash rates have reached attractive levels relative to the uncertain outlook of traditional asset classes which means a small cash allocation makes sense. Many alternative diversifiers performed well over 2022 and we think they will continue to provide resilience to portfolios. Insurance-linked securities performed less well in 2022 but now offer notably attractive premiums and attractive risk-adjusted returns and therefore deserve a mention.

Relative Asset Class Views*

Regional Views

---	--	-	=	+	++	+++
			USA			
			Canada			
			EAFE			
				Emerging		

Core Fixed Income

---	--	-	=	+	++	+++
			Federal			
			Corporate			
			Provincial			

Alternatives

---	--	-	=	+	++	+++
			Commodities			
				Diversifying Hedge Funds		
				Global Infra.		
				Selected Private Credit		
		Real Estate				

Factor Views

---	--	-	=	+	++	+++
				Low Vol.		
			Quality			
			Value			
			Growth			

Credit

---	--	-	=	+	++	+++
			USD EMD			
				Local EMD		
		Bank Loans				
				Selected ABS		
		U.S. High Yield				

Currency Views vs. CAD

---	--	-	=	+	++	+++
				EUR		
				USD		
				JPY		
				EM		

*Asset class views are relative to others within the asset class and not relative to other asset types. There should be no read-across from equities to credit, for example.

Equities

Not yet time to turn positive on equities

A terrible year for equity markets has resulted in much improved valuations. The biggest moves down have occurred in earnings-based measures but most valuation metrics have become less prohibitive, such as price-to-sales or price-to-cashflow measures.

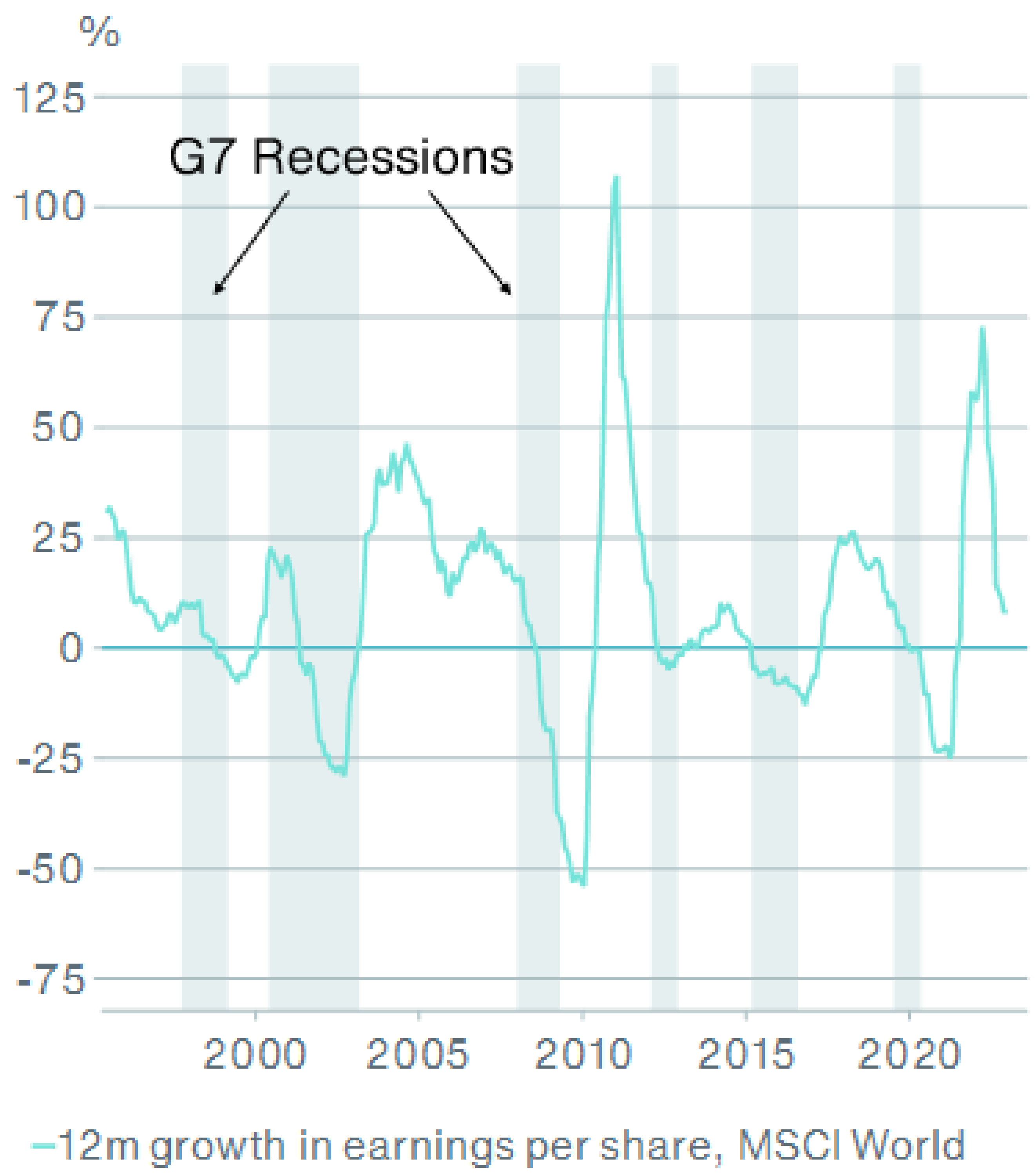
Delving deeper, only the energy, materials and financials sectors have moved to a significant discount compared with their 15-year medians, based on 12m forward price-to-earnings ratios. We conclude that valuations are no longer expensive rather than outright "cheap".

We think corporate earnings growth estimates are still too optimistic if there is a global recession next year. Earnings tend to fall substantially in recessionary periods and positive growth is still expected by markets for the next two years.

Our global recession view hinges on the U.S. moving into a negative growth period too, but it has so far been resilient. Our view is that a U.S. recession will occur but may be shallow and short-lived. Should a U.S. recession be avoided, this could provide a good foundation for consistently better returns, but this is not our core view currently.

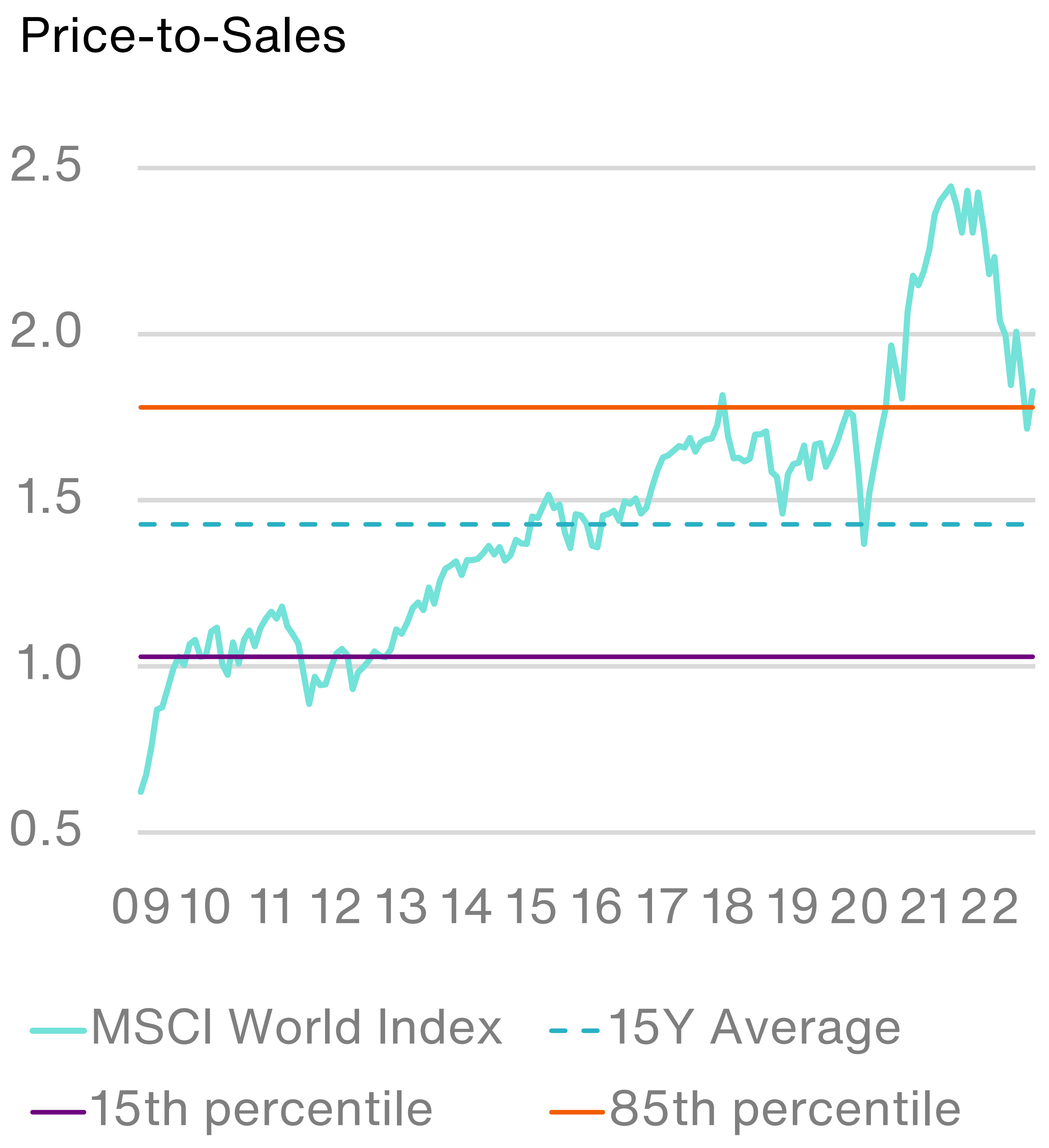
Until we see the bottom of the current economic cycle, we remain cautious on global equities. However, we acknowledge better valuations and see merit in rebalancing towards targets, especially if we see another down leg in markets.

Earnings growth usually contracts in a recession



Source: Macrobond

Non-earnings based valuations have also improved, but not as significantly



Source: FactSet

Equities

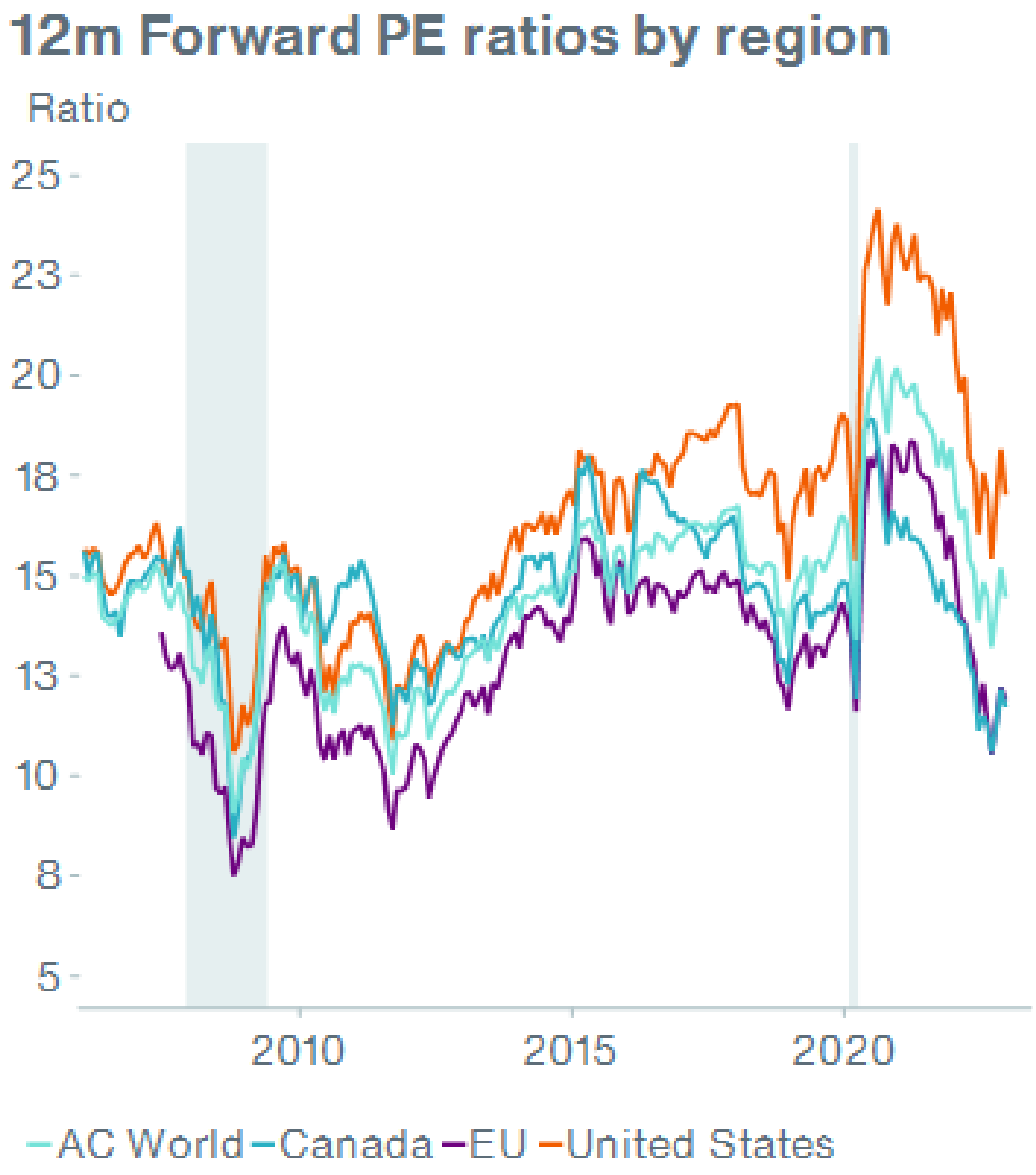
Relative valuation changes and the possibility of milder global recession prompt us to upgrade our Europe and EM views, downgrade U.S. Value back in line with growth.

The dataflow from the U.S. (crucial to our global economic view) has remained resilient and inflation has been decelerating in recent months as well. Past monetary policy tightening means we still expect a recession, but it is possible that this is delayed to later in the year and is mild. This would keep yields relatively high and would persuade the Federal Reserve to maintain tight monetary policy.

In terms of styles, higher interest rates are a headwind for growth, while better economic activity (relative to expectations) could provide some support for value stocks. We have seen this change of tone reflected in the comeback in performance in value stocks relative to growth stocks since last summer. Looking ahead, we think that the drivers are more balanced now, hence our move to neutral between the two styles. We still expect market volatility, however, and continue to prefer low volatility stocks this year.

In terms of regional views, we have decided to neutralise our U.S. and European views in recognition of better valuations for the latter and the continued threat to the growth-heavy U.S. market. Meanwhile, peaking yields and a weakening U.S. dollar, coupled with the re-opening of China, may be setting the stage for better Emerging Market performance at some point, hence our upgrade to our EM view. We remain neutral with regards to Canadian equities as easing commodity prices and a strong Canadian dollar present headwinds to further outperformance.

Canadian valuations remain supported by lofty earnings expectations



Source: Macrobond

Growth stocks will struggle if interest rates remain elevated

Source: Macrobond

Core fixed income
Remaining neutral on duration

Canadian Federal yields peaked in October and have fallen back some 70 bps in the months since then. The key change has been the peak in inflation measures, especially in the U.S., as well as signs that the much-anticipated global economic slowdown may not be very deep or long-lived. Nonetheless, we think that yields will not fall all the way back to pre-pandemic levels this year. This is because inflation may remain stubbornly above the Bank of Canada's target, making it difficult for monetary policy to be eased. We continue to think that the risks to both long and shorter duration yields is balanced over the medium-term and thus maintain **a neutral duration stance**.

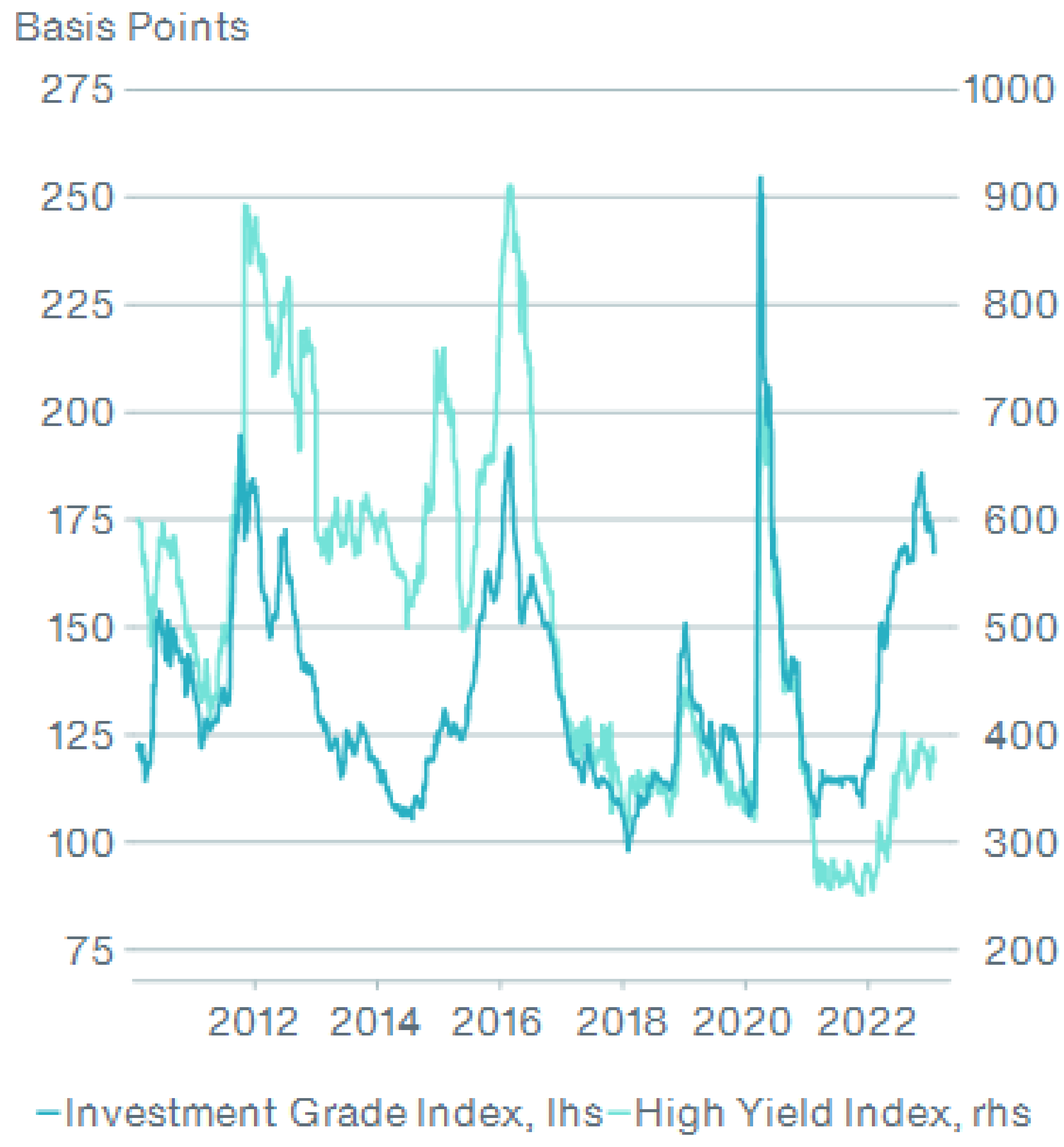
Corporate spread widening, meanwhile, has been halted in recent months. However, we think there is still some scope for further widening as the economy slows and company earnings are affected. We upgraded our corporate view last quarter in recognition of more attractive all-in yields and maintain our **neutral position relative to Federal bonds** this quarter.

In provincial bonds, yields have peaked as we expected but, similar to Federal bonds, any fallback may be limited. We maintain our **neutral stance relative to Federal bonds** here too.

Canadian yields have peaked but the yield curve remains deeply negative

Source: Macrobond

Corporate spreads have risen significantly but the impending economic slowdown keeps us cautious



Source: Macrobond

Return-Seeking Credit
Upgrading Emerging market debt

Emerging market debt performed poorly last year up until November 2022 as a result of the strong rise in U.S. treasury yields, a strong U.S. dollar and a deterioration in the global context. However, an improvement across the board in these drivers caused EM debt to rally towards the end of the year. China's expected cyclical recovery, is supportive of EM growth and debt markets too. Inflation is also falling in an increasing number of EM countries.

We are therefore upgrading our EM debt outlook (on the assumption of a shallow global downturn). We have a preference for locally-denominated debt markets due to relatively high real yields and attractive currencies.

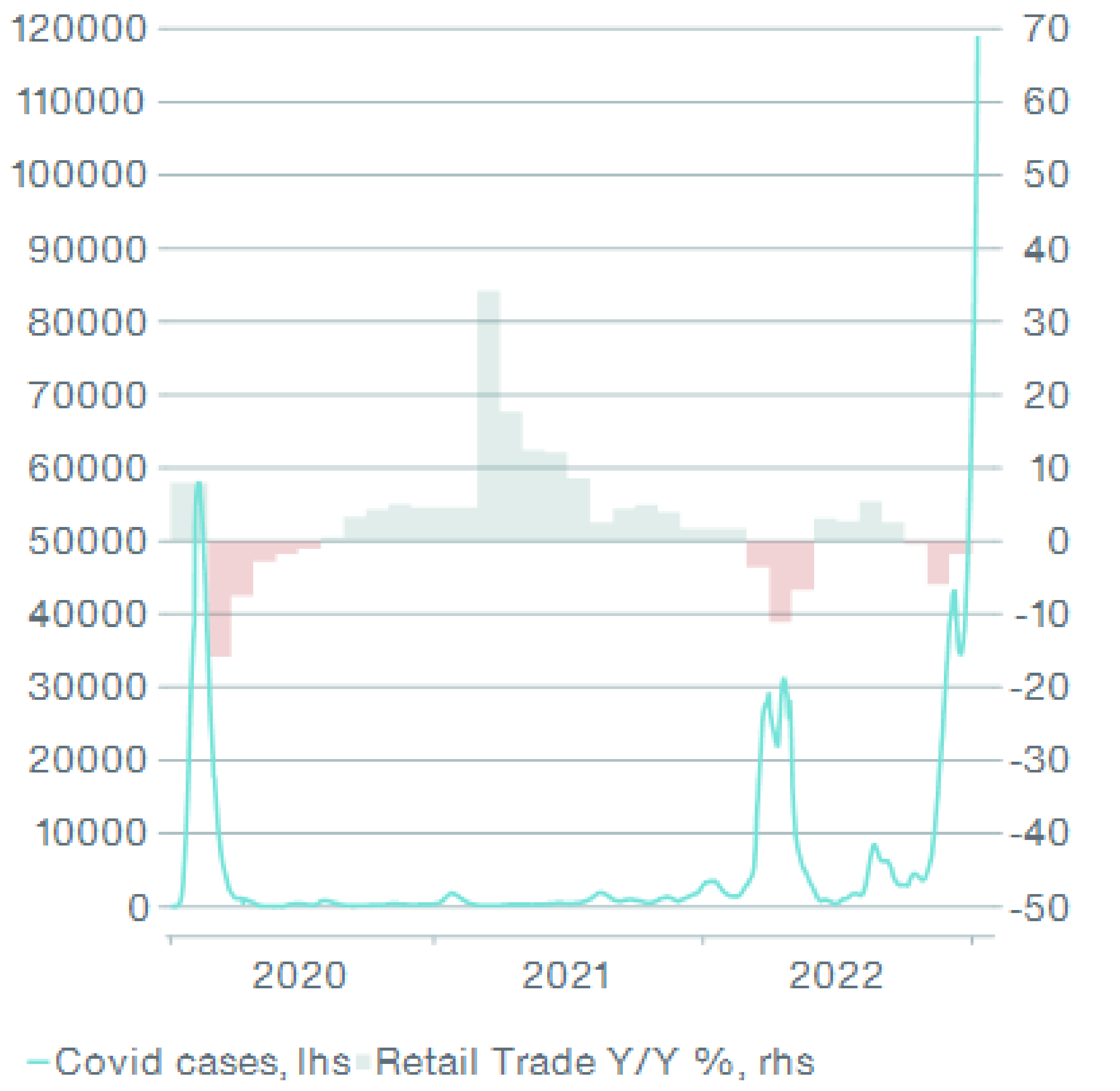
We do not recommend moving back to target weights yet in U.S. high yield bonds and loans. HY credit spreads have contracted to below 450 bps and this is a long way below the 600 bps peak reached in the summer. As we expect corporate pricing power and profits to erode on weakening economic growth and rising wages, we think credit spreads will widen once more.

Leveraged loans underperformed high yield bonds in Q4, after strong outperformance earlier in the year and after we downgraded them last quarter on concerns over credit quality going into an economic slowdown.

Larger increase in US$-denominated EM debt yields and longer duration caused U.S. EM debt to underperform local EM debt last year

Source: Macrobond

The end of lockdowns will be positive for Chinese growth in spite of the impact on Covid cases



Source: Macrobond, China National Bureau of Statistics

Alternatives

Private markets remain attractive but manager expertise will come into the spotlight

Private markets such as core and renewable infrastructure and direct lending to sectors supported by strong secular trends such as green technology and digitalisation remain amongst our preferred asset classes. Defensive strategies that are less impacted by a global economic slowdown and strategies that provide some interest rate and inflation protection hold attractions as we expect inflation and market volatility to remain somewhat more elevated than in the recent past.

The slow pace of valuing private assets mean that market valuations appear to have held up better than public markets over the last year but investors should not be fooled into thinking that private investments are immune from an economic slowdown. The currently challenging economic conditions provide opportunities for managers to make new private investments in secondary markets and their greater visibility and control over struggling investments provide some performance resilience, however.

We anticipate that there will be greater performance differences between private market funds as the global economy slows and managers' skill becomes more apparent. Managers with strong origination skills, access to the most attractive deal flow and the ability to intervene in struggling businesses will still be able to perform well.

Subject to these manager considerations and liquidity priorities, we suggest that any portfolio overweights to private assets that appear to be in place remain although returns may disappoint in the short-term.

Listed infrastructure outperformed other equity sectors last year given its more defensive nature (total return, USD, unhedged)

Source: Macrobond

Currencies

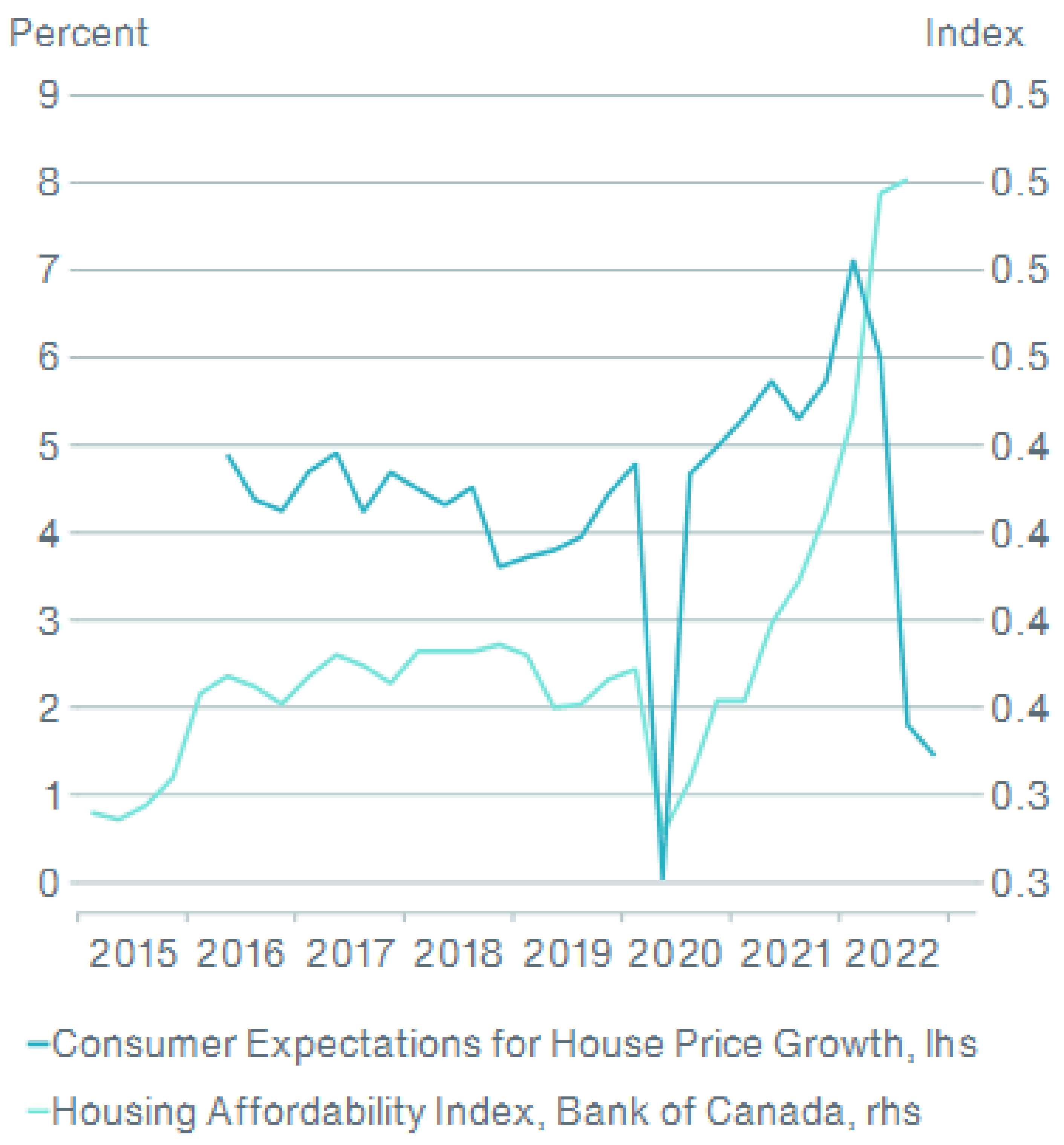
Better economic news in Europe and Asia has led us to upgrade the euro, yen and EM currencies

The U.S. dollar has weakened against a broad range of currencies since Q4 after peaking U.S. inflation led to expectations that the U.S. Fed would cut policy rates faster than previously anticipated. At the same time better economic news out of the Eurozone and China, along with a relaxation in the Bank of Japan's yield curve control, have supported other currencies. This has caused the Canadian dollar, which had been appreciating against the euro and yen since 2020 but weakening against the U.S. dollar since mid-2021, to reverse these trends from September.

We had turned less positive on the Canadian dollar vs. U.S. dollar last quarter as higher interest rate sensitivities led us to believe that monetary policy would no longer keep pace with the U.S. This may have already materialised as the Bank of Canada has now announced a pause in its rate hikes.

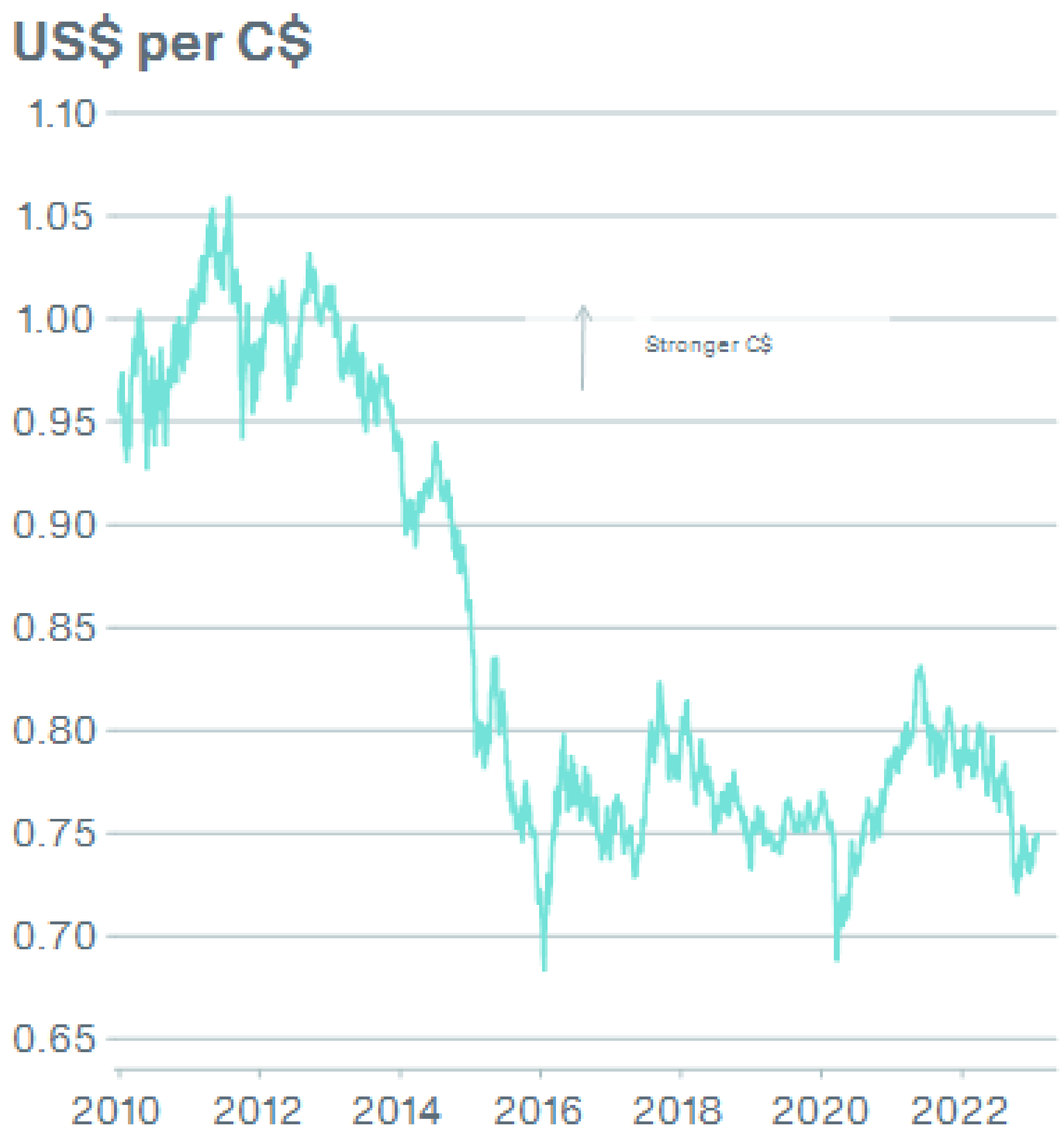
Whilst the Canadian dollar has remained firm against the U.S. dollar so far, we do think that it will struggle more as the global economy and investor sentiment weakens. We also think that the Fed is likely to keep rates higher than is generally expected. We are upgrading our view on other currencies as we believe Canadian growth and rate advantages have now been fully priced in.

Vulnerable housing market is helping to put a brake on Canadian rate hikes



Source: Macrobond

We expect rate differences to act against the Canadian dollar vs. U.S. dollar



Source: Macrobond

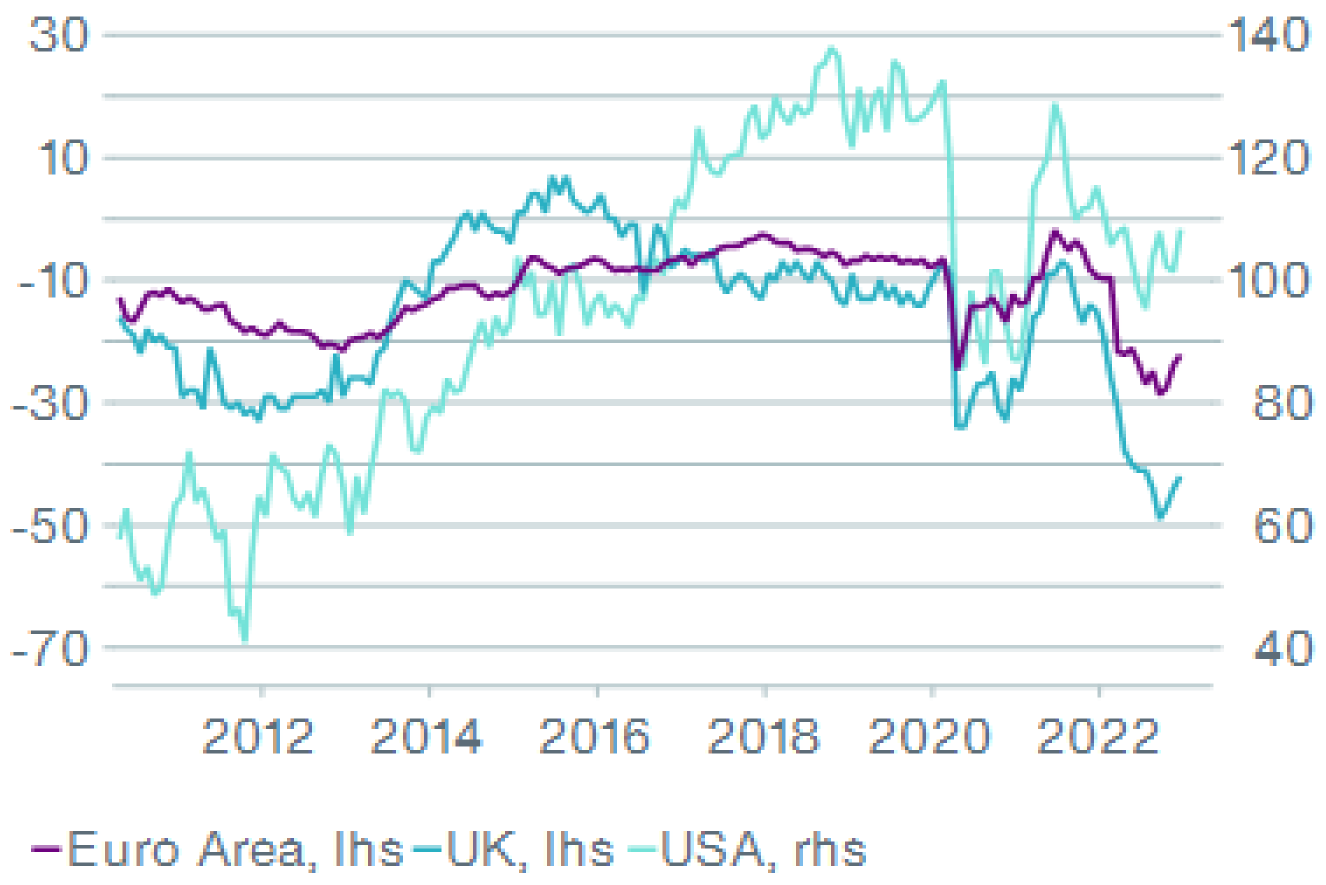
Economic Highlights

In Q4 2022, the major development was the clear peak in inflation around the world and the slowdown in monetary policy tightening by major central banks. This is not to say, however, that the process of policy tightening is over quite yet and further rate hikes are still likely in the early months of 2023. This is because inflation may remain uncomfortably high this year and it is possible that U.S. economic growth may remain resilient with only a mild slowdown. Indeed, major central banks have reiterated their keen focus on bringing inflation down to target.

By the end of the quarter, there were also signs that China was relaxing its tough Covid policies and reopening its economy. An increase in its demand for key commodities will support its trading partners and Emerging economies in general.

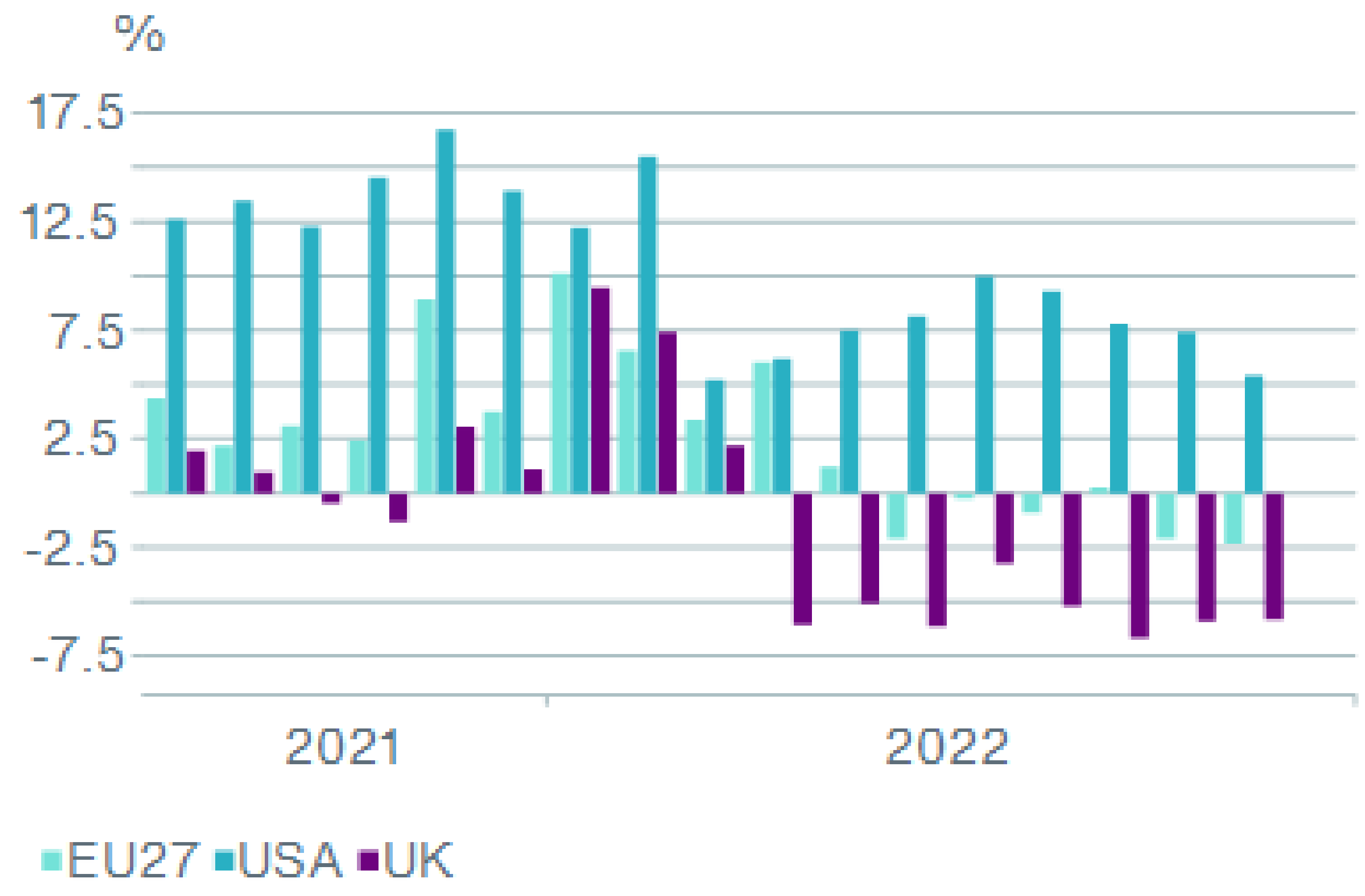
We still think that a global recession is likely at some point over the coming year, although it may be relatively shallow and short-lived. Meanwhile, inflation will likely fall over the coming year. Extreme uncertainty due to the war in Ukraine is making predictions especially difficult, however.

Weaker consumer optimism, especially in Europe - Consumer confidence surveys



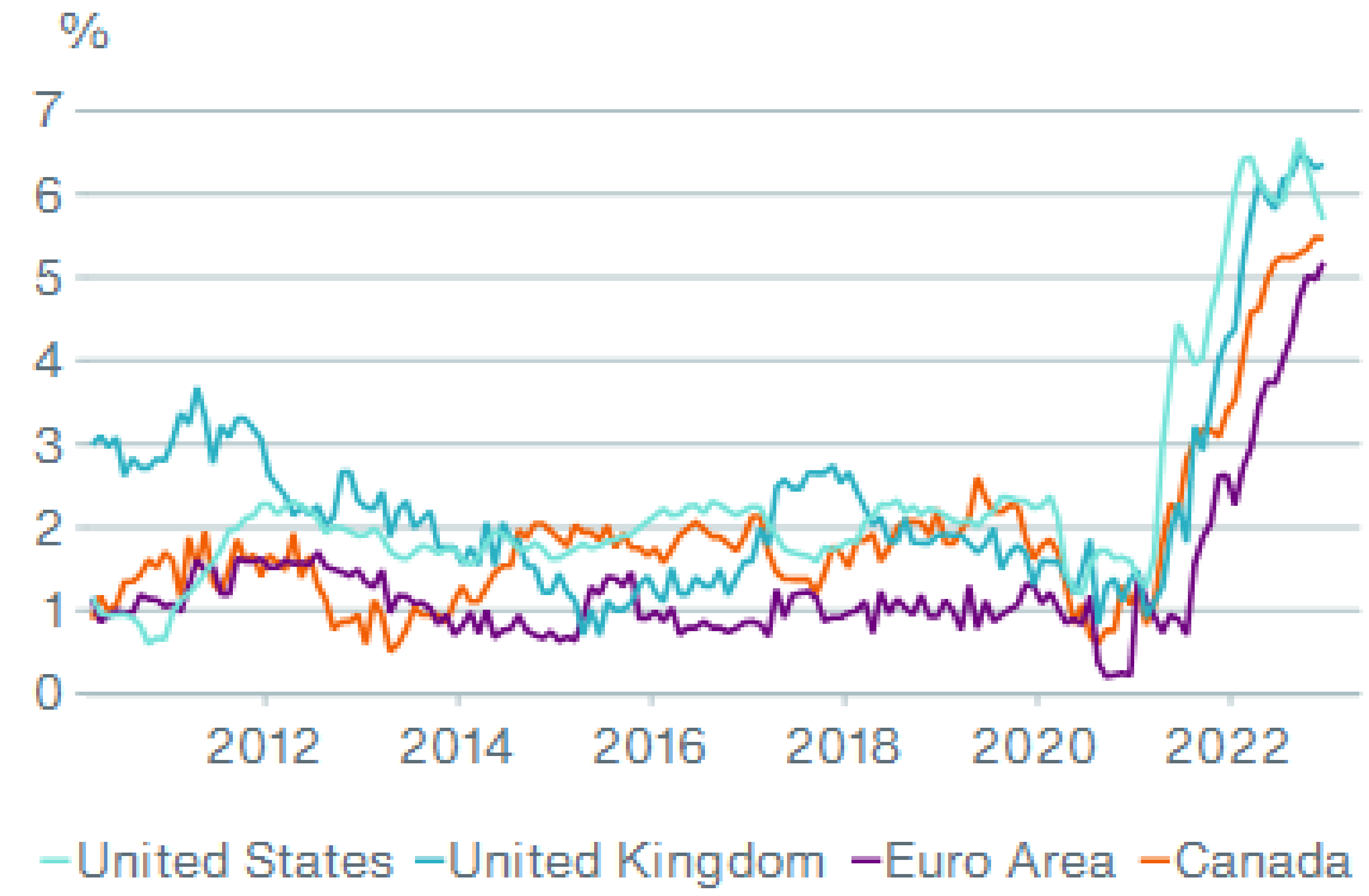
Source: Macrobond

U.S. consumer strength stands in contrast to other developed economies - Retail Sales YoY



Source: Macrobond

Inflation has peaked - Core CPI YoY



Source: Macrobond

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Appendix
Thought Leadership

Thought Leadership Papers

Click the icon to read the associated paper

Market Outlook

access code

aon!

AA View
Global Equity

A terrible year for equity markets has resulted in much improved valuations. The biggest moves have occurred in earnings-based measures, but most valuation metrics have become less prohibitive.

In this paper Aon's Global Asset Allocation team provides detailed view and stance on global equities.

Conviction in Equity Investing Revisited

This short research brief provides an update of the analysis from our 2012 published article, Conviction in Equity Investing.

It is still believed that majority of the investors should consider a strategy that combines indexing with high-conviction active strategies and avoid the expensive diversification of low active risk strategies to get to the level of active risk they desire.

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Private Credit Today
A Diverse Opportunity Set in a Growing Market

The private credit market continues to grow and offer a range of opportunities to investors. After averaging 13.5% annually over the past decade, assets in private credit were $1.1 trillion.

In this paper, Aon's Global Asset Allocation Team provides detail about investment types, primary benefits and risks associated with each, and key criteria Aon applies when evaluating and selecting managers

AA View
The good run-in value stocks may be coming to an end

The most important driver of value stock performance has been energy companies and this source of support may persist for the coming year. However, a global recession is now our central view, which should reduce fossil fuel demand at the margin. Financial stocks, the other major value sector, are also unlikely to benefit in a recessionary scenario.

In this paper, Aon's Global Asset Allocation Team provides their thoughts on the likelihood of an end to the run-in value stocks.

About Aon

Aon plc (NYSE: AON) exists to shape decisions for the better — to protect and enrich the lives of people around the world. Our colleagues provide our clients in over 120 countries and sovereignties with advice and solutions that give them the clarity and confidence to make better decisions to protect and grow their business.

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