ATTACHMENT 1A

Discussion Guide

Toronto Investment Board

Q2 2022

Prepared by Retirement & Investment

Aon Empower Results®

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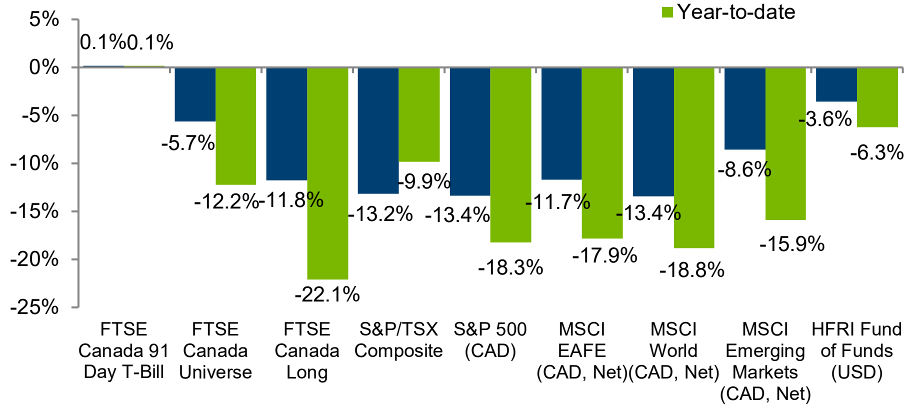
Capital Markets Overview

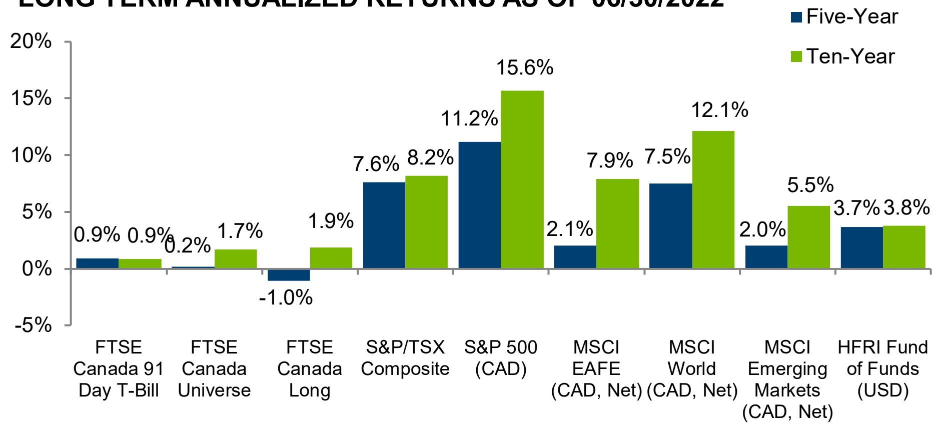
- Geopolitical risk remained in Q2, as the conflict in Ukraine entered its fifth month. At the latest G7 summit, members agreed to explore the possibilities of putting a price cap on Russian oil to impair Moscow's ability to finance the conflict and curb soaring inflation. The European Union agreed to implement a sixth package of sanctions on Russia, which includes removing Sberbank, Russia's largest bank, from the SWIFT-cross border payment system and a ban on sea-borne oil purchases from Russia, which is almost two-thirds of Europe's imports from Russia. The MSCI World Index fell 14.3% in local currency terms and 13.4% in Canadian dollar (CAD) terms.
- The Bank of Canada increased its benchmark overnight rate by 50bps in both April and May to end the quarter at 1.5%. Meanwhile, the Canadian economy expanded at an annualized rate of 3.1% in Q1, less than half of the 6.6% growth in Q4 2021 as exports fell.
- The U.S. Federal Reserve (Fed) increased its benchmark interest rate by 50 bps in May and 75bps in June (the largest rate increase since 1994) to end the quarter at a range of 1.50-1.75%. According to the median estimate on the Fed dot plot, officials expect the interest rate to reach 3.4% by the end of the year. The Fed announced its plans to shrink its $9 trillion balance sheet in a phased manner by stopping the reinvestment of proceeds from maturing securities from June.
- The Bank of England (BoE) increased the base rate to 1.25%, its highest level in 13 years. The BoE now expects inflation to rise above 11.0% by the end of 2022. Elsewhere, the European Central Bank (ECB) signaled that it may increase rates by 75 bps by the end of September, ending its negative interest rate policy. The ECB indicated that it would flexibly invest the proceeds from its €1.7tn asset purchase program to support peripheral countries with wider spreads.

SHORT TERM RETURNS AS OF 06/30/2022



Sources: S&P, MSCI, FTSE.

LONG TERM ANNUALIZED RETURNS AS OF 06/30/2022



Sources: S&P, MSCI, FTSE

Unless otherwise stated, gross CAD returns are shown in this report.

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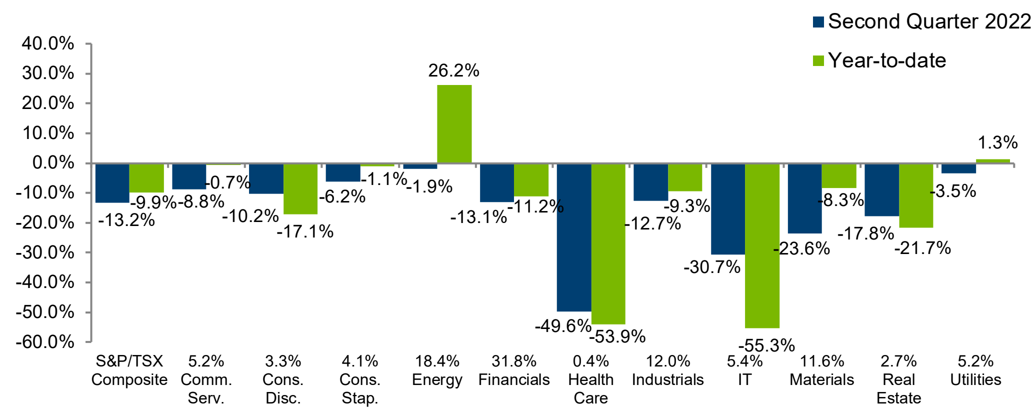
Capital Markets Overview – Regional View

S&P/TSX COMPOSITE SECTOR RETURNS (CAD) AS OF 06/30/2022

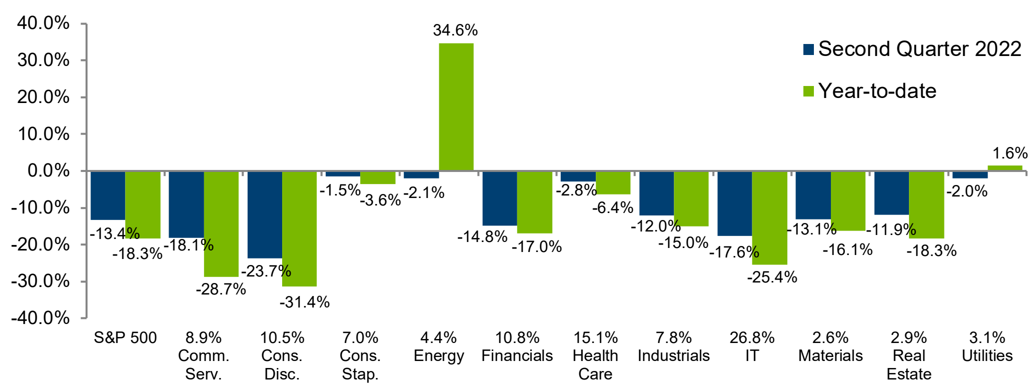


Source: S&P

Canadian Equity Market:

- The S&P/TSX Composite Total Return Index fell 13.2% during the quarter and 9.9% year-to-date.
- Performance was negative across all sectors in the quarter. Energy and Utilities were the best performers, falling the least at -1.9% and -3.5%, respectively, while Health Care and Technology were the worst performers at -49.6% and -30.7%, respectively. The Energy sector remains the strongest sector on a year-to-date basis with a +26.2% return.
- Growth underperformed value for the quarter (-17.4% vs. -9.0%) and also underperformed on a year-to-date basis (-20.4% versus +0.8%).
- Across market capitalization, small-cap equity (-20.8%) underperformed large-cap (-13.2%) for the second quarter and also on a year-to-date basis.

S&P 500 GICS SECTOR RETURNS (CAD) AS OF 06/30/2022



Source: S&P

U.S. Equity Market:

- U.S. equities had a weak quarter with the S&P 500 Index falling by 16.1% in USD terms. The depreciation of the Canadian dollar against the U.S. dollar limited the loss to -13.4% in CAD terms. Performance was negative across all sectors in the quarter. Consumer Staples and Utilities were the best performers (-1.5% and -2.0%) while the Consumer Discretionary and Communication Services sectors were the worst performers (-23.7% and 18.1%).
- Large-cap stocks outperformed medium-cap stocks over the quarter. On a style basis, value outperformed growth across market capitalizations over the quarter and on a year-to-date basis.
- The U.S. annual consumer price index (CPI) remained at a 40-year high as it rose 9.1% year-on-year in June.

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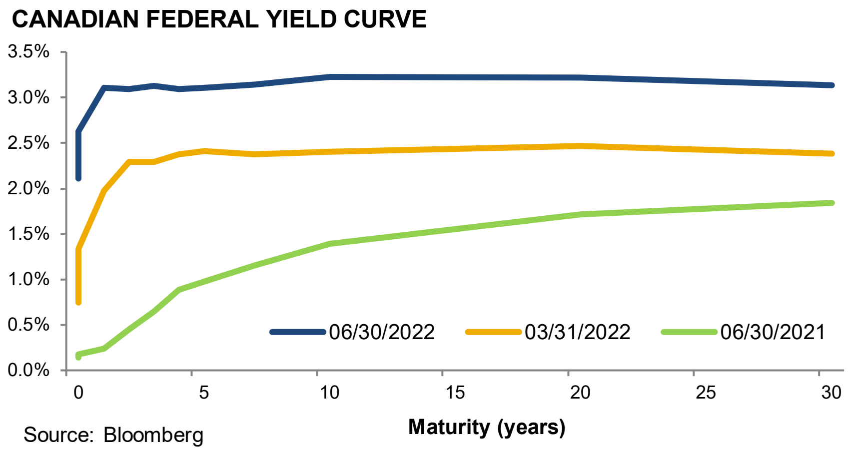
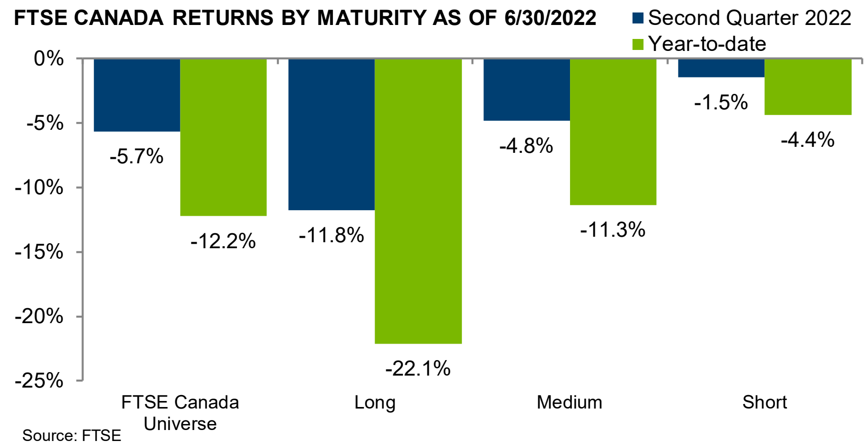
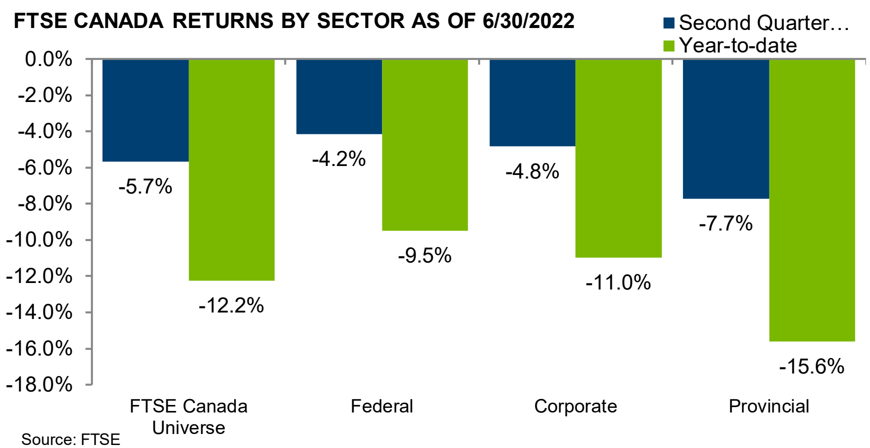
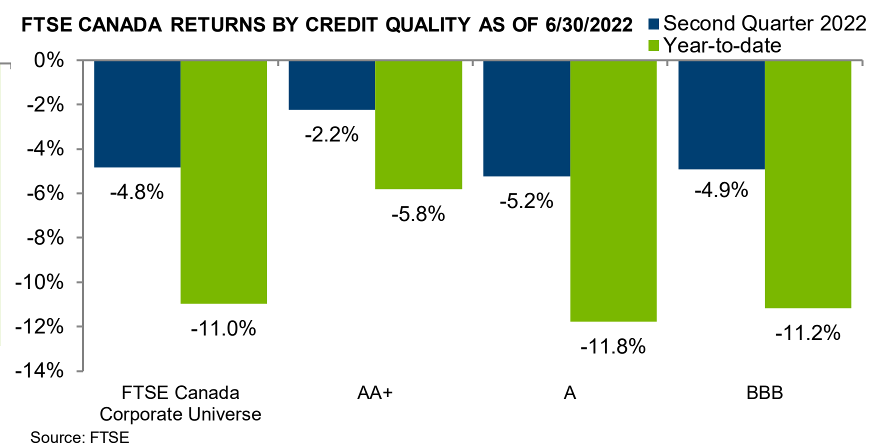
Capital Markets Overview – Fixed Income









- Canadian bond market performance was negative over the quarter. Canadian Provincial bonds underperformed all credit segments, including Federal and Corporate issues.
- Within credit, investment grade ‘A’ rated issues underperformed ‘BBB’ and ‘AA+’ issues.
- Long maturity bonds underperformed both medium and short maturity bonds over the quarter as yields rose.

Executive Summary – Sinking Fund and Long-Term Fund

	Performance (%)			Market Value ($000s)	Estimated Annual Fee (bps.)	Performance Objective Met	Action Required
	Quarter / YTD	1 Year	5 Year				
Sinking Fund Return	-10.1	-15.8	-	1,474,284	13.6	n/a	No
Benchmark Return [1]	-8.9	-13.1	-				
Total Fund Value Added	-1.2	-2.7	-				
Long Term Fund Return	-7.2	-11.4	-	3,047,009 [2]	15.8	n/a	No
Benchmark Return [1]	-6.2	-9.2	-				
Value Added	-1.0	-2.2	-				

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.
- The Committee has requested a scenario analysis of different economic outcomes in the context of the fund's asset mix. This is slated for discussion at the September 18th meeting.

Recommendations

- None.

[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

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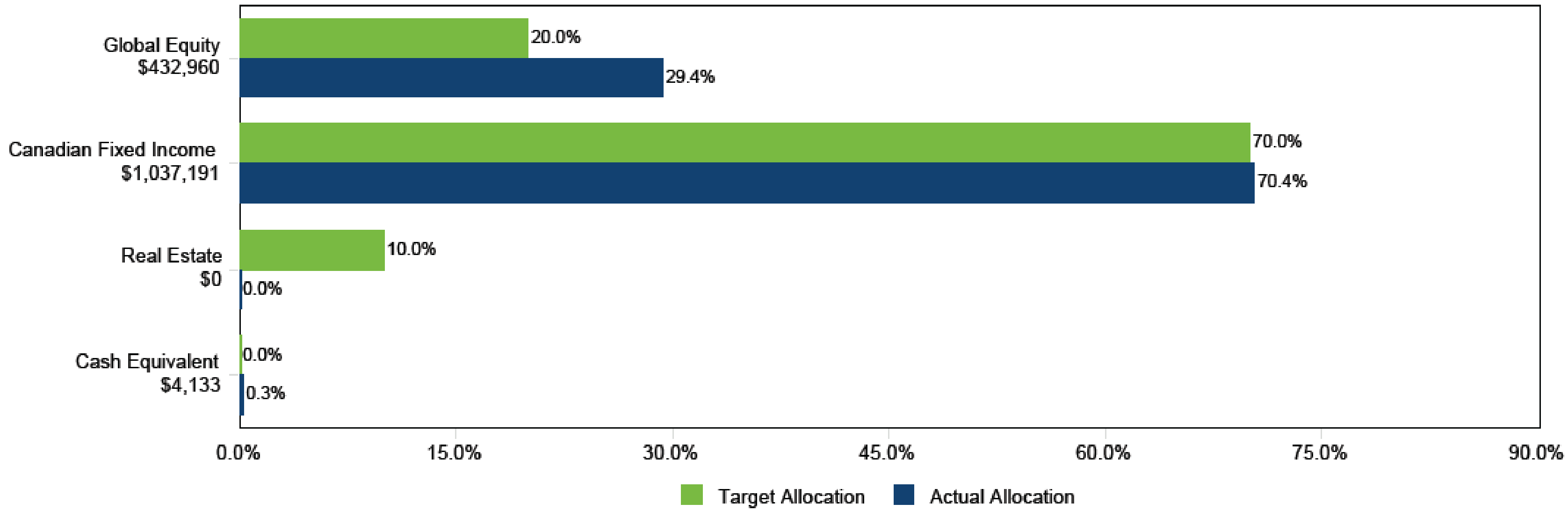
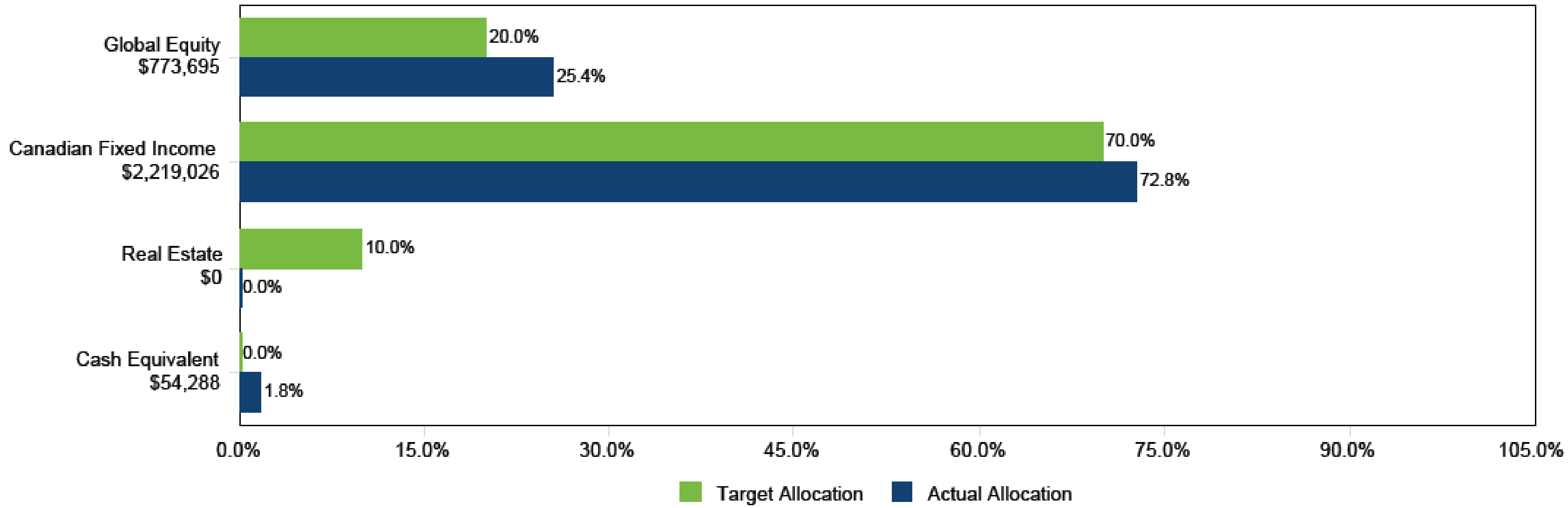
Asset Mix Compliance – Sinking Fund



	Market Value ($000)	Market Value (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)	Within Range
Global Equity	432,960	29.4	20.0	9.4	0.0	30.0	Yes
Canadian Fixed Income	1,037,191	70.4	70.0	0.4	50.0	100.0	Yes
Real Estate	-	0.0	10.0	-10.0	0.0	10.0	Yes
Cash Equivalent	4,133	0.3	0.0	0.3	0.0	5.0	Yes
Total Fund	**1,474,284**	**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	773,695	25.4	20.0	5.4	0.0	30.0	Yes
Canadian Fixed Income	2,219,026	72.8	70.0	2.8	50.0	100.0	Yes
Real Estate	-	0.0	10.0	-10.0	0.0	10.0	Yes
Cash Equivalent	54,288	1.8	0.0	1.8	0.0	5.0	Yes
Total Fund	**3,047,009**	**100.0**	**100.0**	**0.0**			

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Strategy Performance

Strategy	Rating	Value Added (%) Quarter	Value Added (%) SI*	Objective Met	Above Median 5 Year	Action Required
Addenda LDI	Buy	-0.2	-0.3	n/a	n/a	No
Fiera LDI	Buy	-0.1	0.0	n/a	n/a	No
CC&L Core Fixed Income	Buy	0.0	0.6	n/a	n/a	No
Leith Wheeler Core Fixed Income	Buy	0.1	0.4	n/a	n/a	No
Pier 21 Global Equity	Buy	0.6	0.2	n/a	n/a	No
Oakmark Global Equity	Buy	1.1	-2.8	n/a	n/a	No
Fiera Global Focused Equity	Buy	2.5	-2.1	n/a	n/a	No
LGIM Multi-Factor Global Equity	Buy	2.2	-0.6	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	No significant updates impacting City of Toronto	**Advanced**
CC&L	No significant updates impacting City of Toronto	**Integrated**
Fiera	On May 5, 2022 Fiera Capital announced the evolution of the company's organizational structure and changes to Public Markets, Total Portfolio Solutions and Sustainable Investment Teams.	**Advanced**
Oakmark	On 2 August 2022, it was announced that Clyde McGregor will relinquish portfolio management responsibility of the Global All Cap Strategies effective December 2023. Tony Coniaris, a current member of the Global All Cap strategy portfolio management team, will assume McGregor's portfolio management responsibilities. Refer to the Flash Report in the Q2 2022 performance monitoring report for further details.	**Integrated**
Leith Wheeler	Neil Watson, Senior Vice President and Portfolio Manager, retired in June 2022. Nadine Krenosky joined as Chief Compliance Officer in April 2022.	**Advanced**
Pier 21 (C. Worldwide)	No significant updates impacting City of Toronto	**Integrated**
LGIM	No significant updates impacting City of Toronto	**Integrated***

*The LGIM Multi-Factor Equity Fund is a passive strategy that tracks the SciBeta Developed Low-Carbon & ESG High-Factor-Intensity Multi-Beta Maximum Deconcentration Index provided by Scientific Beta. The LGIM Multi-Factor Equity Fund's investment universe is tilted to reduce exposure in companies that score poorly on various ESG and carbon intensity criteria. This fund does not have a formal ESG rating. The ESG score above applies to the LGIM's passive equity platform which has a broader target universe which does not take into consideration various ESG components.

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.

Appendix A: Asset Allocation Views

Medium Term Views

Total Return Cross Asset Class Views

---	--	-	=	+	++	+++
		Equities				
			Core fixed income			
		Return-Seeking Fixed Income				
				Alternatives		
				Cash		

Equities are challenged from a weakening economic picture, inflation and tightening policy. We prefer gaining return-seeking exposure through alternative asset classes

Maintaining a neutral duration view as the upside and downside risks to yields are more balanced now

Relative Asset Class Views

Equity Regions

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

Moving more defensive by upgrading U.S. view

Credit

---	--	-	=	+	++	+++
		USD EMD				
		Local EMD				
		Bank Loans				
				Selected ABS		
	US High Yield					

We prefer less credit sensitive, senior tranches in ABS

Equity Styles

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

Defensive stance on equity styles is strengthened with upgrades to low volatility and growth views

Core Fixed Income*

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

Corporate bond view downgraded

Alternatives

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

Non-correlated alternatives still generally preferred

Currencies versus CAD

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

Canadian dollar remains supported

The data and opinions referenced are as of 6/30/2022, and are subject to change due to client needs, suitability requirements and changes in the market or economic conditions that may not necessarily come to pass. Information contained herein is for informational purposes only and should not be considered investment advice.

Equities

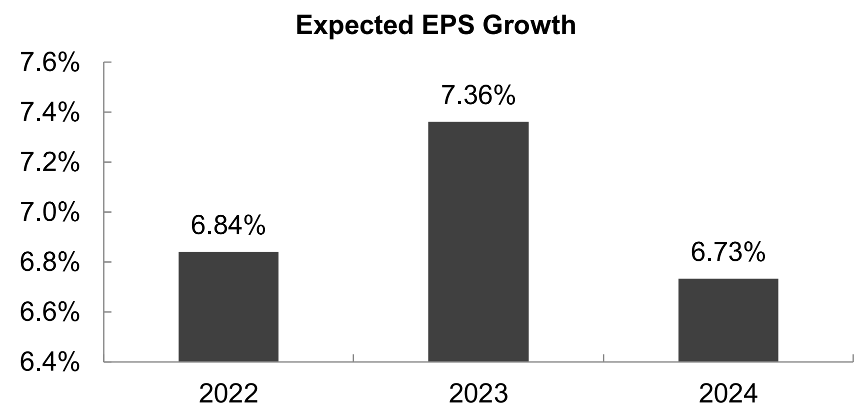
Rising recession risks are an important headwind to equity markets

- Global equity markets have fallen back sharply this year and Q2 continued this trend. However, while the falls in the first quarter were mainly about the start of monetary policy tightening and the start of war in Ukraine, the second quarter has been characterized by rising recession risk amid accelerating rate hikes by the central banks. We think that the odds of a global recession at some point over the next 18 months are high, which keeps us cautious on equities overall.
- Rising interest rates have knocked out one of the key supports for equities, but another key support – namely earnings – have not yet adjusted for a recessionary scenario in our view. Earnings revisions have slowed markedly this year but expected earnings growth for next year is still reflecting supportive conditions for company profits. We do not think these expectations will hold up as economic growth slows.
- From a valuation standpoint, global equities have clearly become much less expensive, with forward and trailing price-to-earnings ratios at levels not seen since before the pandemic. But these are based on those relatively healthy earnings estimates, so cheaper valuations are unlikely to be an adequate support in the coming year.
- Uncertainty remains significant and the degree of economic slowdown will matter, as will the trajectory of inflation and its impact on monetary policy. Overall, however, we remain cautious on equities.

Earnings revisions continue to lose momentum as markets plunge

Source: Factset, Aon

Profits improvement expected next year but these expectations are vulnerable



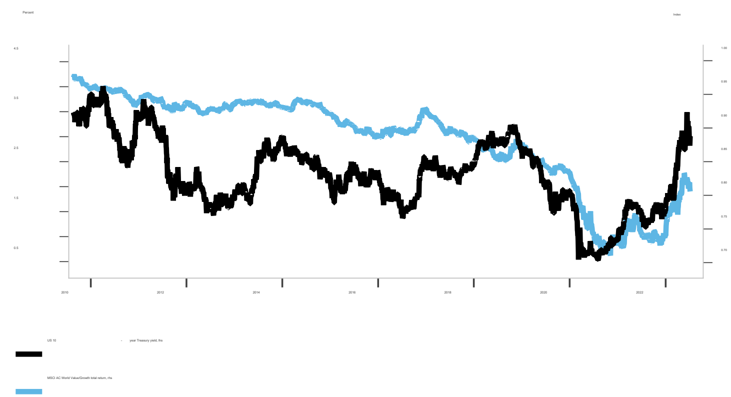
Source: Factset, Aon

Equities

Downgrading value view versus growth equities, upgrading the U.S. view

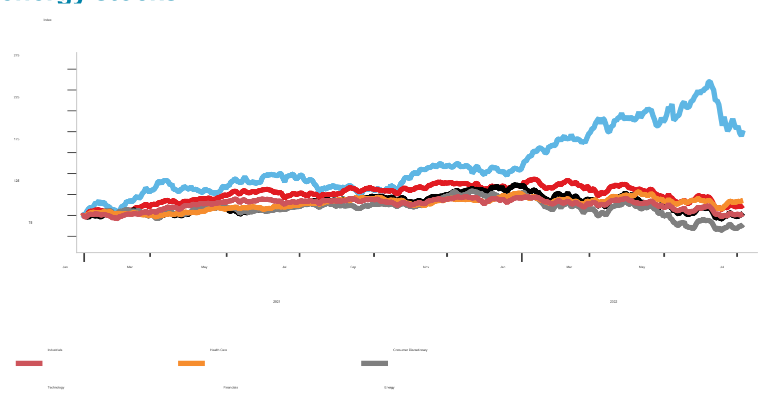
- After more than a decade of sharp underperformance, value stocks have been on a good run relative to growth stocks in the last 18 months. We think that this run may be coming to an end soon and we are now preferring growth to value equities.
- The primary reason for our decision to downgrade our view for value equities versus growth equities is the likelihood of a global recession in the next 18 months. Value equities tend to have more cyclical earnings patterns so weaker demand would impact profits for value companies more than growth companies. Equally, a recession would also mean that interest rates, which have been surging this year, may peak and fall back. This would start reducing the discount rate for the earnings of growth companies, which have been disproportionately affected as profits are projected further into the future than for value style equities.
- However, uncertainty is substantial and the nature of the value style rally matters. By far the biggest driver of value outperformance this year has been a huge rally in energy stocks as oil prices have responded to the conflict in Ukraine by moving significantly higher. Canadian equities have also been more resilient due to the direct and indirect impact of higher energy prices and this may continue for a while yet.
- We are reflecting our more defensive overall stance by upgrading our US equity view. The larger weighting to technology and growth style companies should mean that the market is more resilient in an economic downturn.

Rising yields spur value outperformance but interest rates are close to a peak now



Source: Macrobond

Sector performance this year has been very skewed towards energy stocks



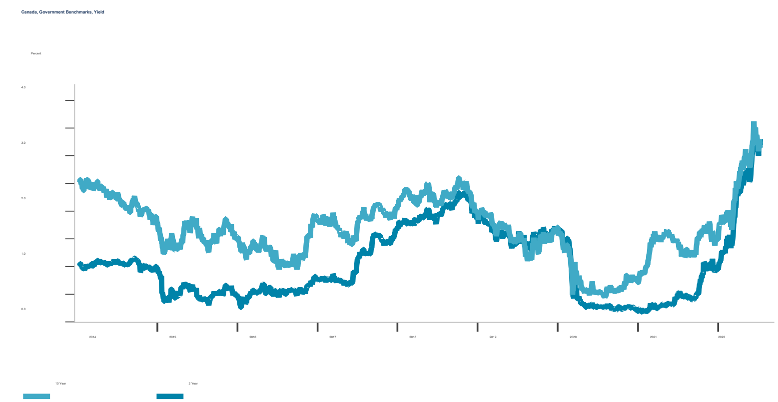
Source: Macrobond, MSCI World selected sector performance as at June 30 2022, reindexed, January 2021 = 100

Core fixed income

Neutral duration stance maintained whilst the corporate bond view is downgraded as recession risks rise

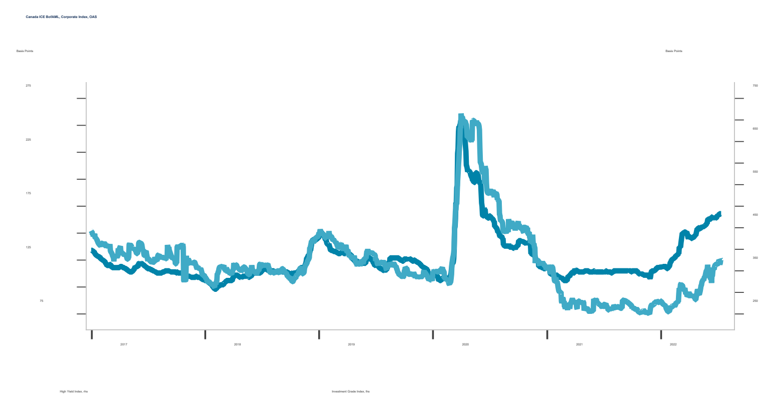
- 10-year Federal yields continued their breakneck rise between March and June by almost 190bps to 3.3%, whilst 2-year yields have more than doubled from 1.5% to 3.1%. However, the last two weeks of June have seen a sizable reversal in this trend, with yields falling back from their peaks. This is due to rising recession risks, especially with a very aggressive Bank of Canada. We think that the upside and downside risks for medium to long-term yields are balanced and that they may have peaked. Conditions are highly uncertain, however. **We maintain a neutral duration stance.**
- Corporate spreads have widened but are only back to levels experienced before the pandemic struck. Indeed, given our view of impending economic weakness and the fact that defaults have not risen substantially, spreads may have further scope to widen further from current levels. Federal yields may have peaked and any falls will see them outperform corporate bonds. **Therefore, we now prefer Federal bonds to corporate bonds.**
- Longer maturities and a significant widening of spreads at the start of the year have translated into underperformance for provincial bonds in 2022. However, Federal yields look like they may be peaking and spreads have stabilized in recent months, so Provincial bonds may perform better in the near-term. **We remain neutral relative to Federal bonds.**

Inflation continued to climb but yields look to have peaked



Source: Macrobond

Spreads have widened but do not yet reflect rising recession risks



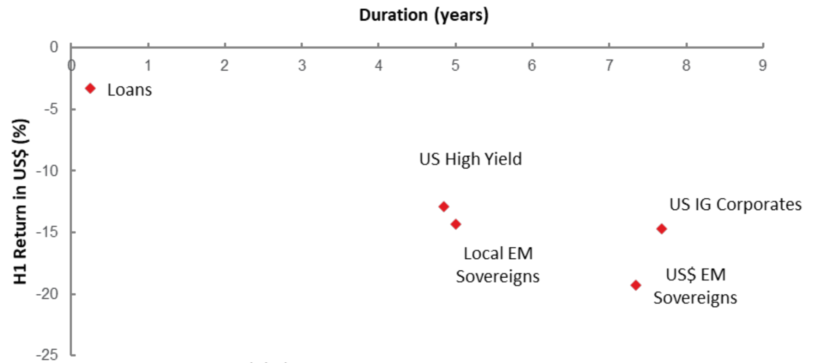
Source: Macrobond

Return-seeking credit

Credit spreads have further to rise

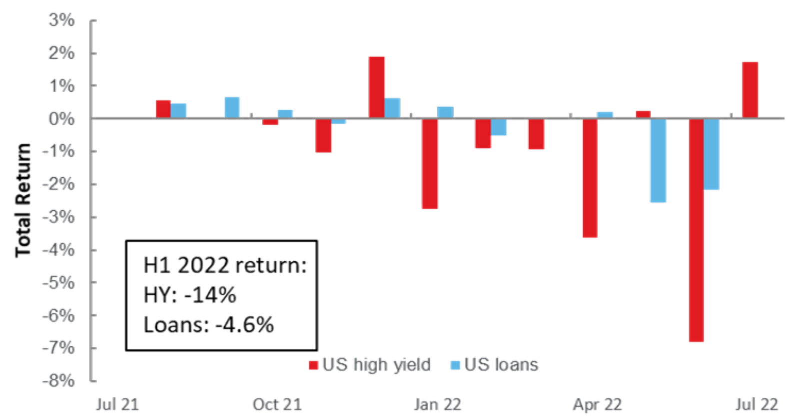
- Very poor returns this year have been much more about rising interest rates and the duration sensitivity of many credit segments rather than a large expansion in credit spreads.
- However, now that yields have moved sharply up and recessionary fears are building, we think that longer duration credit sectors will be at less of a disadvantage and lower quality credit sectors will underperform higher quality sectors as credit spreads continue to widen.
- Earnings estimates have remained fairly buoyant to date, but we expect earnings downgrades and a pick-up in default rates to keep credit under pressure.
- Leveraged loans have significantly outperformed high yield bonds this year. However, loans have performed less well in the last month or two as there have been profit-taking from retail investors and less CLO issuance. We have decided to maintain our preference for loans over high yield bonds given current spread levels and loans' floating rate characteristics.
- Emerging market debt remains vulnerable to the global economic environment, but it offers attractive real yields and signs of a Chinese economy recovery are supportive.
- Asset-backed securities have held up relatively well as we would expect, though not in all segments. We expect less credit-sensitive sectors to outperform.

Credit sectors with longer durations have underperformed in H1 due to the sharp rise in yields



Source: JP Morgan, SPGlobal

US leveraged loans have outperformed high yield bonds this year



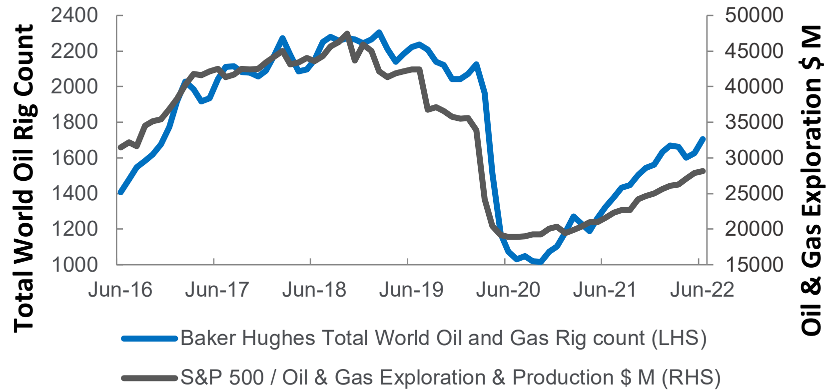
Source: ICE BofA, SPGlobal, data as at Jul 11 2022

Alternatives

Commodities look set to remain highly volatile

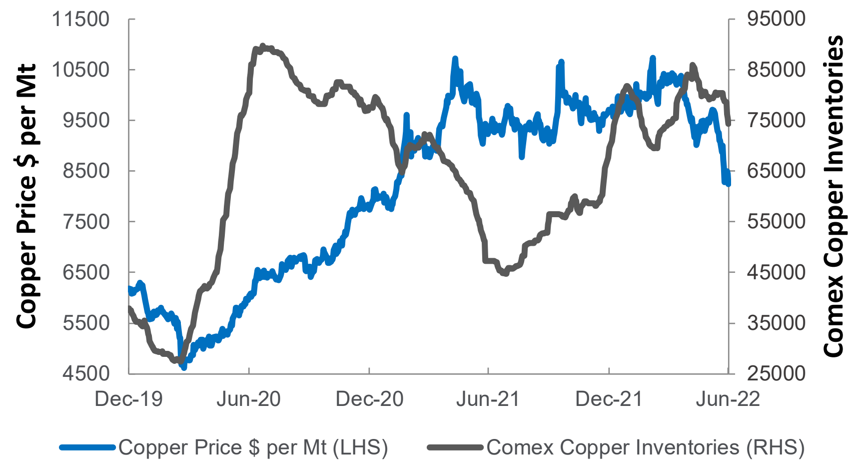
- Commodity prices have risen sharply over the last two years driven by surging demand after the relaxation of pandemic-related lockdowns, global inflation reaching multi-decade highs and raw material prices being pushed up by the ongoing conflict in Ukraine.
- Energy prices have been pushed up due to weak production and fears over natural gas supplies exported from Russia. We expect spot energy prices to remain above the levels priced by forward markets, and we believe that natural gas prices may rise further owing to the conflict in Ukraine. In the event of a recession, we expect oil prices to fall but proportionally less than previous economic slowdowns as the sector remains structurally tight, inventories are low and the impending transition to greener technologies will likely cause supply-side disruption to energy markets.
- Industrial metals have faired poorly in the short term, as fears over an economic slowdown have mounted. The sector could perform well over the medium term but remain very sensitive to short-term economic conditions and the success and speed of an energy transition.
- We continue to believe passive strategic commodity exposure does not offer much value given the strong run-up in prices and the sensitivity of metals to economic conditions but investment through active vehicles may provide diversification and benefit from potential supply and demand shocks within commodity markets.

The supply-side picture for energy markets remains tight



Source: Bloomberg. As at 30 June 2022

Copper prices have fallen despite low levels of inventories



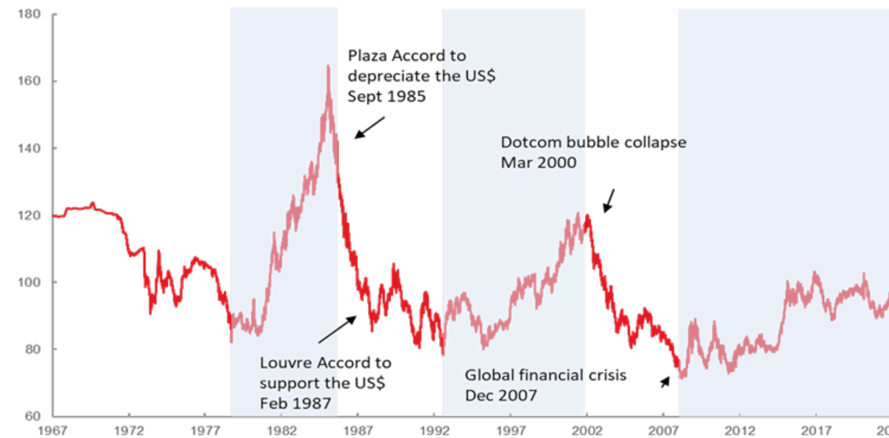
Source: Bloomberg. As at 30 June 2022

Currencies

We maintain our positive Canadian dollar bias

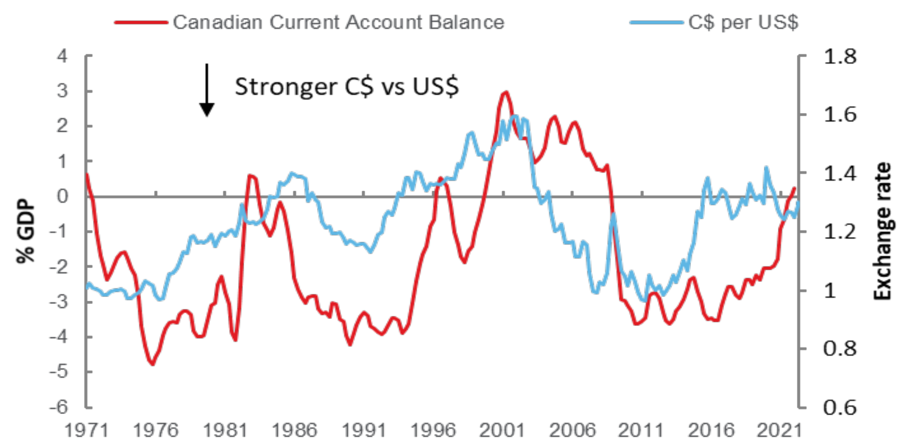
- Since the start of the year the Canadian dollar has weakened by a couple of percentage points against the U.S. dollar. However, it has appreciated strongly against other major currencies, rising by 10% against the euro and sterling and 15% against the yen.
- The Canadian dollar was broadly flat against the U.S. dollar this year until the BoC failed to keep pace with U.S. rate hikes in June. It is possible for the BoC to catch up with the Fed by the end of the year and the latest 100bps rate hike implies this may be the case. Having said that, it remains fairly risky to oppose dollar strength as risks remain supportive of the U.S. dollar.
- The U.S. Dollar Index (a widely followed measure of the U.S. Dollar against major currencies) has rallied by 50% since 2008 and has extended its rally beyond previous cycle lengths (see top chart) - most recently as a result of the Fed's aggressive rate hikes to fight inflation. The U.S. dollar is now close to parity against the euro, a level last reached in 2002.
- We can see that loonie strength may be limited against the U.S. dollar to small gains from current lows to the highs in its recent trading range. However, over a medium-term horizon, the Canadian current account's move into surplus on rising oil prices stands in contrast with the U.S.'s worsening deficit and supports the C$. WTI crude oil may now be 20% below its June peak but we expect energy prices to remain fairly elevated.
- Compared with other major currencies, the Canadian dollar has a better growth/inflation mix against the backdrop of a global economic slowdown and we are therefore maintaining the positive bias in our Canadian dollar outlook.

The unassailable rise of the US dollar since 2008
US Dollar Index



Source: Bloomberg. Shaded areas depict periods of US dollar rallies

The Canadian trade surplus augurs well for the C$

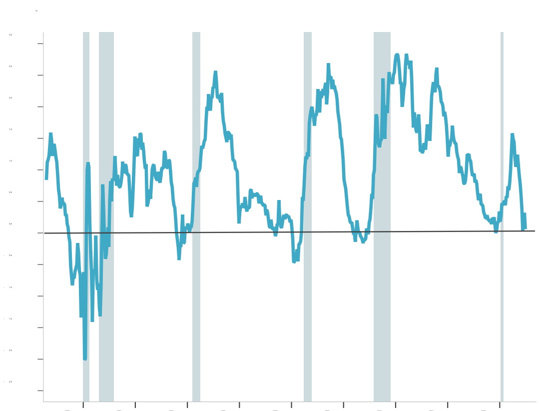


Source: Bloomberg

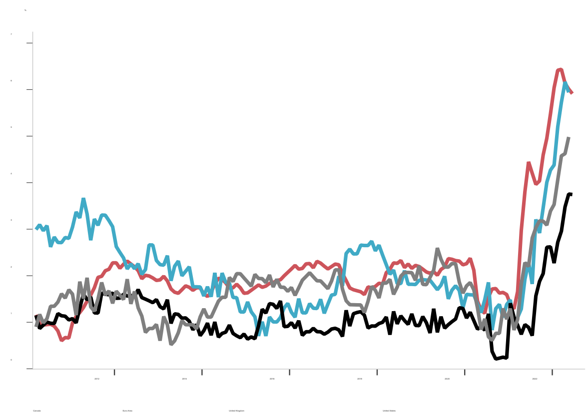
Economic highlights

- In Q2 2022 capital markets were dominated by geopolitical uncertainty and higher interest rates amidst soaring inflation. U.S. CPI inflation remained at a 40-year high as it rose by 8.6% in May, whilst inflation hit multi-decade highs across the G7. Globally, major central banks continued to move forward with normalizing easy monetary policy. The U.S. Federal Reserve (Fed) increased its benchmark interest rate by 75bps to a range of 1.50-1.75%, the largest rate increase since 1994. Fed chair Jay Powell indicated that a rate hike of 50bps or 75bps is also imminent at the July meeting.
- The Bank of England increased its benchmark interest rate for the second time this quarter, with the policy rate sitting at 1.25%, its highest level in 13 years. The ECB has moved closer to beginning monetary policy tightening as well.
- We now think that a global recession is probable at some point over the coming year. Meanwhile, we believe that inflation will peak this year in the developed world but will remain uncomfortably high for a period, gradually trending down towards 3% by the end of next year. The U.S. looks to be a little ahead in this peaking process than other countries at the moment.

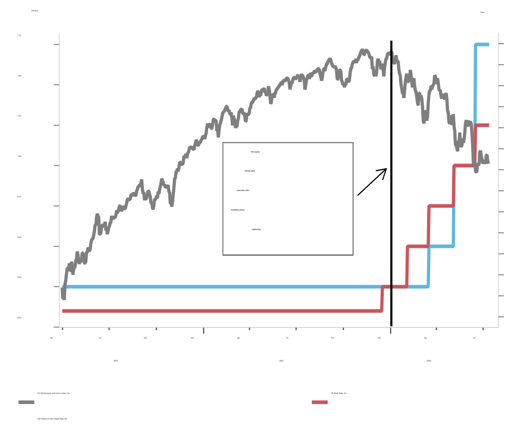
US yield curve flattening pointing to a significant slowdown in the economy
10y -2y US Treasury yields



Headline inflation is still accelerating but some peaking in US core rates
Core CPI YoY



Expectations of monetary tightening have accelerated as markets have fallen sharply



Source: Macrobond

Appendix B: Thought Leadership

Thought Leadership Papers

Market outlook

access code: **aon!**

During the last quarter, we produced papers on the following topics. Although these topics may not be directly applicable to your fund, they may be of general interest and provide some insight into Aon's global research. For more details, please contact your Aon Investment Consultant.

- **Canadian Commercial Mortgages** – Commercial Mortgages have increased in popularity as investors are seeking ways to generate higher yields and diversify away from the traditional Canadian bond market.
  - This paper, written by Aon's Fixed Income Manager Research team, provides an overview of Canadian Commercial Mortgages and answers the following questions: What are commercial mortgages? What are the risks? What are the benefits? How can we access the asset class?
- **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 – Will Commodities Continue to Burn Bright?** – Commodities have experienced a surge in price as global inflation has reached multi-decade highs and raw material prices have been pushed up by the ongoing conflict in Ukraine.
  - In this paper, Aon's Global Asset Allocation Team provides their thoughts on the outlook for commodities and the investment case for commodities today.
- **AA View – A Global Recession is Now Much More Likely** – The sudden stepping up of US monetary tightening, signaled by the latest rise of 0.75% in US policy interest rates, alters the macroeconomic and market landscape. Until as recently as a week ago, such large interest rate moves were deemed highly unlikely.
  - In this paper, Aon's Global Asset Allocation Team provides their thoughts on the likelihood of a recession occurring and the potential market impact.

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