

RBC Global Asset Management

The Global Investment Outlook

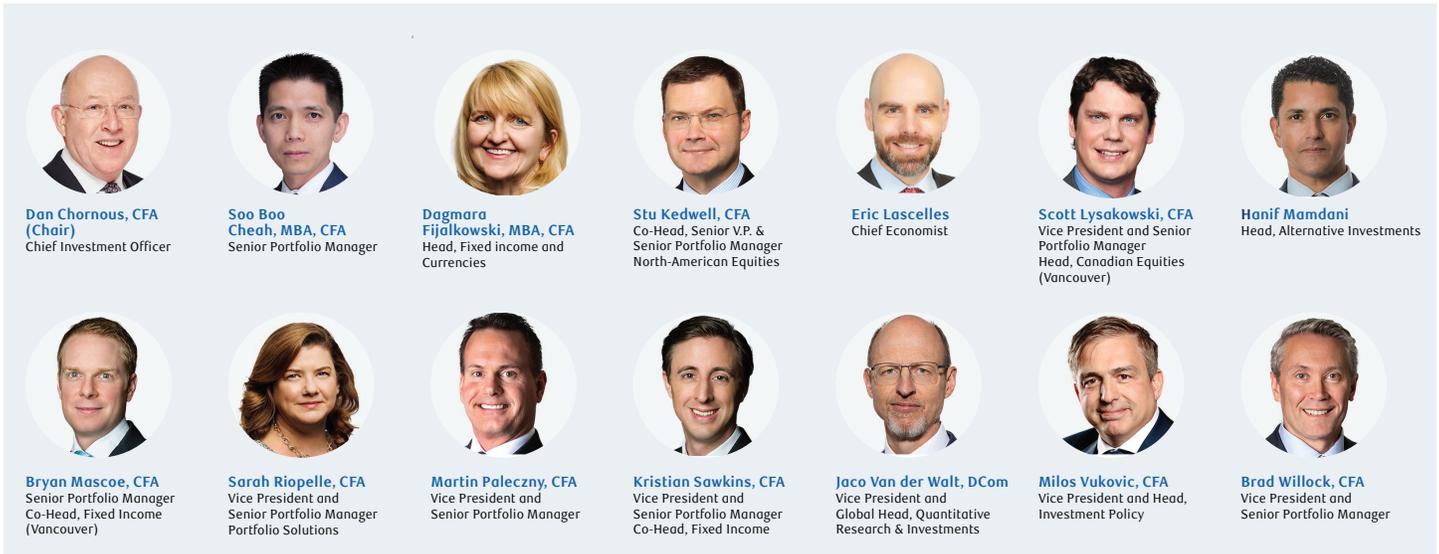
RBC GAM Investment Strategy Committee



NEW YEAR 2023



The RBC GAM Investment Strategy Committee



The RBC GAM Investment Strategy Committee consists of senior investment professionals drawn from all areas of RBC Global Asset Management. The Committee regularly receives economic and capital markets related input from internal and external sources. Important guidance is provided by the Committee’s regional equity advisors (North America, Europe, Asia, Emerging Markets) and from the Global Fixed Income & Currencies sub-committee. From this, the Committee builds a detailed global investment forecast looking one year forward.

The Committee’s view includes an assessment of global fiscal and monetary conditions, projected economic growth and inflation, as well as the expected course of interest rates, major currencies, corporate profits and stock prices.

From this global forecast, the RBC GAM Investment Strategy Committee develops specific guidelines that can be used to manage portfolios.

These include:

<p>The recommended mix of cash, fixed income instruments, and equities.</p>	<p>The recommended global exposure of fixed income and equity portfolios.</p>	<p>The optimal term structure for fixed income investments.</p>	<p>The suggested sector and geographic make-up within equity portfolios.</p>	<p>The preferred exposure to major currencies.</p>

Results of the Committee’s deliberations are published quarterly in *The Global Investment Outlook*.

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Executive summary



Eric Savoie, MBA, CFA
Investment Strategist
RBC Global Asset Management Inc.



Daniel E. Chornous, CFA
Chief Investment Officer
RBC Global Asset Management Inc.

Global growth faces a variety of challenges including rising interest rates, high inflation and a struggling Chinese economy. Uncertainty is elevated and financial markets have been extremely volatile, but the significant adjustment in asset prices this year has diminished valuation risk and boosted return potential for investors as we enter 2023.

Economic growth continues to slow, recession likely

A year ago, the impressive recovery from the pandemic-induced recession pushed the economy into a position of excess demand. But the backdrop is changing and headwinds have intensified as a result of tighter monetary policy and reduced fiscal stimulus. We continue to look for a deceleration in growth in 2023, with economies likely slipping into recession in the developed world. While emerging-market economies rarely contract, we expect most of them to slow in 2023. Taken together, our growth forecasts are mostly below consensus. We anticipate that

global GDP will expand by 2.1% in 2023, which is less than a third of the figure in 2021, and about half the expected 2022 rate. That said, economic indicators have shown more resilience in the past few months, suggesting that the probability and expected depth of recession might be lower than initially feared. Should a recession materialize, we expect it to be of middling depth in most regions. A 1.75% peak-to-trough decline in output persisting no more than three quarters is our presumption, with a moderate recovery likely taking hold toward the end of 2023.

Inflation has started to calm from extremely high levels

The four main drivers that pushed inflation to multi-decade highs are all reversing course. Supply-chain problems have faded, commodity prices have declined, monetary stimulus has turned to tightening and fiscal stimulus has been reduced. For these reasons, we expect inflation to continue to soften and have below-consensus inflation forecasts

for 2023. We recognize, however, that other factors may slow its descent. Labour markets remain especially tight, the breadth of the inflation shock may make high prices stickier, and the shelter component of CPI changes with long lags. It could take even longer for inflation in the eurozone and U.K. to come down given the region's unique challenges, mainly weaker currencies and energy shortages.

U.S. dollar may have peaked

The U.S. dollar extended its 12-year-old bull market through October as the allure of higher U.S. bond yields and economic challenges abroad continued to overshadow longer-term issues facing the greenback. However, the rise in the ever buoyant dollar came to an abrupt halt in early November, leading investors to question whether

the greenback's period of dominance is finally coming to an end. With valuations stretched, it's clear to us that the currency's bull market is mature and that a major turning point is near. Such peaks are tough to call, but we have greater conviction that a softening in the greenback is in store and that it will herald the start of a multi-year decline.

Central banks approach tightening finish line

The quantity of monetary tightening delivered to tame extremely high inflation has been massive across the world. North American policy rates are already around 4 percentage points higher after less than a year of increases. But the rate-hiking cycle is starting to slow outside North America and Europe as inflation begins to ease. Some emerging-market countries have ended their rate hikes and

the pace of tightening is mostly decelerating elsewhere. The U.S. fed funds rate is expected to peak near 5%, compared with a starting point of about 0% at the start of this year, and double the neutral policy rate – that which neither stimulates nor restricts growth. But most of the hard work has been done and there is a possibility that policy rates in developed markets start to decline over the second half of 2023 if inflation cooperates and growth slows.

Bond market finds support

As investors warm to the idea that inflation may have peaked and that the pace of tightening is slowing, yields on 10-year government bonds have fallen 50 to 130 basis points from their September/October highs. This rally in bonds started from a point where technical indicators signaled that the bond market had been oversold and our own valuation models suggested that yields had reached relatively appealing levels. Although real, or after-inflation, interest rates have room to move a little higher, we continue

to expect that they will be anchored at levels between 0.5% and 1.0%. Structural forces such as aging populations and an increased preference for saving versus spending should ultimately limit how high real interest rates can go. Over the near term, however, inflation will likely be the factor dominating the trajectory for bond yields. If inflation falls as we expect, our modelled estimate for the U.S. 10-year Treasury yield today of 5.3% falls to 4.5% a year from now and to 3.4% in five years' time.

Equity-market valuation risk diminished, but earnings remain vulnerable

Equity markets stabilized in the past quarter but, even with the recent bounce, are still sitting on significant losses for the year. The good news for investors is that stocks are now much more reasonably priced than they were at the start of the year. Our global composite of equity valuations peaked around 40% above fair value at the end of 2021, but the recent bear market pulled the composite slightly below fair value in September/October for the first time since March 2020. While valuation risk has diminished and return

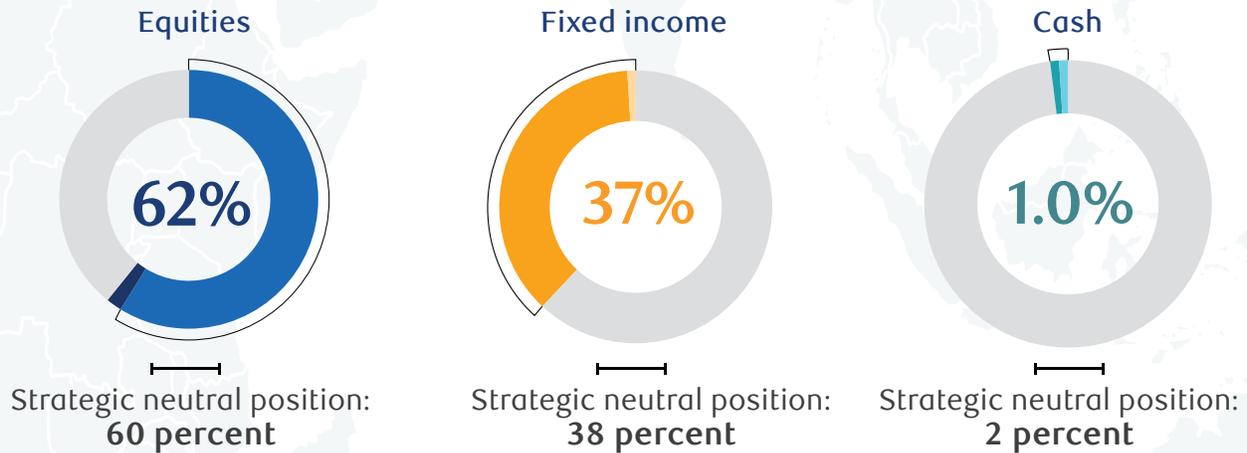
potential has increased, stock prices could fall in the event that we enter a recession and earnings decline. Analysts have already begun downgrading their profit forecasts for S&P 500 Index companies ahead of a potential recession, but the downward revisions have been small so far. We think these estimates are vulnerable to further downside given that earnings are still above their long-term trend and companies are facing headwinds from rising costs and slowing economic activity. In this environment, stock gains could be limited in the near term absent evidence that the economy is headed for a soft landing.

Asset mix – maintaining overweight stocks, underweight bonds

We recognize that uncertainty is elevated and that there is a wide range of potential outcomes for the economy and financial markets. That said, the 2022 bear market in both fixed income and equities has meaningfully improved return expectations across all asset classes. We note that bonds, at today’s higher yields, offer more ballast in a balanced portfolio should the economy enter a downturn. We believe a cautious approach to risk taking remains appropriate in this environment. Our asset mix is positioned with a small overweight in stocks and slight underweight in fixed income given our view that

stocks offer superior return potential over the longer term. But these allocations are closer to our strategic neutral position than they have been at previous points in the cycle, allowing us to take advantage of volatility and opportunities should they present themselves. For example, when stock prices were near their lows earlier in the quarter and technical indicators suggested equities were oversold, we added 50 basis points to our equity allocation, sourced from fixed income. For a balanced global investor, we currently recommend an asset mix of 62 percent equities (strategic neutral position: 60 percent) and 37 percent fixed income (strategic neutral position: 38 percent), with the balance in cash.

Recommended asset mix



Note: As of November 30, 2022. Source: RBC GAM

Economic & capital markets forecasts

Economic forecast (RBC GAM Investment Strategy Committee)

	United States		Canada		Europe		United Kingdom		Japan		China		Emerging markets*	
	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022	New Year 2023	Change from Fall 2022
Real GDP														
2021A	5.95%		4.54%		5.22%		7.50%		1.71%		8.42%		5.69%	
2022E	2.00%	0.20	3.30%	(0.10)	3.10%	0.60	4.30%	0.80	1.50%	0.20	3.10%	0.20	4.03%	1.24
2023E	(0.40%)	(0.70)	(0.70%)	(1.00)	(1.10%)	(0.60)	(1.40%)	(1.20)	0.90%	(0.10)	4.30%	(0.70)	3.95%	0.18
CPI														
2021A	4.69%		3.40%		2.60%		2.59%		(0.23%)		0.85%		5.49%	
2022E	8.10%	(0.20)	6.70%	(0.30)	8.30%	0.80	9.00%	(0.40)	2.40%	0.30	2.00%	(0.30)	6.71%	1.48
2023E	3.90%	0.40	3.20%	N/C	5.30%	2.00	6.50%	(0.20)	1.90%	0.30	1.90%	(0.50)	5.40%	2.02

A = Actual E = Estimate *GDP Weighted Average of China, India, South Korea, Brazil, Mexico and Russia.

Targets (RBC GAM Investment Strategy Committee)

	November 2022	Forecast November 2023	Change from Fall 2022	1-year total return estimate* (%)
Currency markets against USD				
CAD (USD-CAD)	1.34	1.23	0.04	9.3
EUR (EUR-USD)	1.04	1.10	(0.03)	3.6
JPY (USD-JPY)	138.06	130.00	12.00	2.2
GBP (GBP-USD)	1.21	1.20	(0.08)	(1.2)
Fixed income markets				
U.S. Fed Funds Rate	3.88	5.00	1.50	0.0
U.S. 10-Year Bond	3.61	3.70	0.70	2.9
Canada Overnight Rate	3.75	4.50	1.00	0.0
Canada 10-Year Bond	2.94	3.00	0.25	2.4
Eurozone Deposit Facility Rate	1.50	3.00	1.50	0.0
Germany 10-Year Bund	1.93	2.40	0.90	(2.2)
U.K. Base Rate	3.00	5.25	2.25	0.0
U.K. 10-Year Gilt	3.16	4.50	1.75	(7.5)
Japan Overnight Call Rate	(0.08)	(0.10)	N/C	0.0
Japan 10-Year Bond	0.25	0.25	N/C	0.3
Equity markets				
S&P 500	4080	4250	50	5.8
S&P/TSX Composite	20453	22025	2125	10.9
MSCI Europe	148	155	5	8.6
FTSE 100	7573	7900	150	8.6
Nikkei	27969	30350	600	10.7
MSCI Emerging Markets	972	1007	(43)	7.0

*Total returns are expressed in local currencies with the exception of MSCI Emerging Markets whose return is expressed in USD. Source: RBC GAM

Recommended asset mix

Asset mix – the allocation within portfolios to stocks, bonds and cash – should include both strategic and tactical elements. Strategic asset mix addresses the blend of the major asset classes offering the risk/return tradeoff best suited to an investor’s profile. It can be considered to be the benchmark investment plan that anchors a portfolio through many business and investment cycles, independent of a near-term view of the prospects for the economy and related expectations for capital markets. Tactical asset allocation refers to fine tuning around the strategic setting in an effort to add value by taking advantage of shorter-term fluctuations in markets.

Every individual has differing return expectations and tolerances for volatility, so there is no “one size fits all” strategic asset mix. Based on a 40-year study of historical returns¹ and the volatility² of returns (the range around the average return within which shorter-term results tend to fall), we have developed five broad profiles and assigned a benchmark strategic asset mix for each. These profiles range from very conservative through balanced to aggressive growth. It goes without saying that as investors accept increasing levels of volatility, and therefore greater risk that the actual experience will depart from the longer-term norm, the potential for returns rises. The five profiles presented below may assist investors in selecting a strategic asset mix best aligned to their investment goals.

Each quarter, the RBC GAM Investment Strategy Committee publishes a recommended asset mix based on our current view of the economy and return expectations for the major

asset classes. These weights are further divided into recommended exposures to the variety of global fixed income and equity markets. Our recommendation is targeted at the Balanced profile where the benchmark (strategic neutral) setting is 60% equities, 38% fixed income, and 2% cash.

A tactical range of +/- 15% around the benchmark position allows us to raise or lower exposure to specific asset classes with a goal of tilting portfolios toward those markets that offer comparatively attractive near-term prospects.

This tactical recommendation for the Balanced profile can serve as a guide for movement within the ranges allowed for all other profiles.

The value-added of tactical strategies is, of course, dependent on the degree to which the expected scenario unfolds.

Regular reviews of portfolio weights are essential to the ultimate success of an investment plan as they ensure current exposures are aligned with levels of long-term returns and risk tolerances best suited to individual investors.

Anchoring portfolios with a suitable strategic asset mix, and placing boundaries defining the allowed range for tactical positioning, imposes discipline that can limit damage caused by swings in emotion that inevitably accompany both bull and bear markets.

¹Average return: The average total return produced by the asset class over the period 1982 – 2022, based on monthly results.

²Volatility: The standard deviation of returns. Standard deviation is a statistical measure that indicates the range around the average return within which 2/3 of results will fall into, assuming a normal distribution around the long-term average.

Global asset mix							
	Benchmark policy	Allowable range	New Year 2022	Spring 2022	Summer 2022	Fall 2022	New Year 2023
Cash	2.0%	0.0% – 15.0%	3.0%	2.0%	1.5%	1.0%	1.0%
Bonds	38.0%	23.0% – 53.0%	33.5%	34.0%	36.0%	37.5%	37.0%
Stocks	60.0%	45.0% – 75.0%	63.5%	64.0%	62.5%	61.5%	62.0%

Note: Effective June 1, 2020, we reset our strategic neutral positions to reflect long-lasting changes in economy and capital markets' dynamics. Boosting strategic neutral equity exposure by 5% and reducing fixed income by same amount in our reference balanced portfolio.

Regional allocation							
Global bonds	WGBI* November 2022	Allowable range	New Year 2022	Spring 2022	Summer 2022	Fall 2022	New Year 2023
North America	49.3%	39.3% – 59.3%	46.1%	39.4%	48.7%	45.2%	51.8%
Europe	33.2%	23.2% – 43.2%	42.5%	41.7%	39.0%	40.2%	30.7%
Asia	17.6%	7.6% – 27.6%	11.5%	18.9%	12.4%	14.6%	17.6%
Global equities	MSCI** November 2022	Allowable range	New Year 2022	Spring 2022	Summer 2022	Fall 2022	New Year 2023
North America	71.0%	61.0% – 81.0%	67.8%	68.9%	68.8%	70.0%	71.0%
Europe	13.7%	3.7% – 23.7%	15.5%	14.9%	15.4%	14.0%	13.6%
Asia	7.0%	0.0% – 17.0%	8.2%	7.9%	7.9%	8.1%	7.4%
Emerging markets	8.3%	0.0% – 18.3%	8.6%	8.3%	7.9%	7.9%	8.1%

Our asset mix is reported as at the end of each quarter. The mix is fluid and may be adjusted within each quarter, although we do not always report on shifts as they occur. The weights in the table should be considered a snapshot of our asset mix at the date of release of the Global Investment Outlook.

Global equity sector allocation						
	MSCI** November 2022	RBC GAM ISC Fall 2022	RBC GAM ISC New Year 2023	Change from Fall 2022	Weight vs. benchmark	
Energy	5.78%	6.65%	6.78%	0.13	117.3%	
Materials	4.14%	2.77%	3.14%	0.36	75.8%	
Industrials	10.24%	10.85%	11.74%	0.88	114.7%	
Consumer discretionary	10.66%	11.41%	11.16%	(0.25)	104.7%	
Consumer staples	7.66%	8.49%	7.66%	(0.83)	100.0%	
Health care	14.19%	15.32%	16.19%	0.87	114.1%	
Financials	13.75%	11.78%	13.05%	1.27	94.9%	
Information technology	21.23%	23.54%	22.83%	(0.72)	107.5%	
Communication services	6.73%	5.81%	5.13%	(0.67)	76.2%	
Utilities	3.01%	2.11%	1.21%	(0.90)	40.3%	
Real estate	2.61%	1.26%	1.11%	(0.14)	42.6%	

*FTSE World Government Bond Index. **MSCI World Index. Source: RBC GAM Investment Strategy Committee

At RBC GAM, we have a team dedicated to setting and reviewing the strategic asset mix for all of our multi-asset solutions. With an emphasis on consistency of returns, risk management and capital preservation, we have developed a strategic asset allocation framework for five client risk profiles that correspond to broad investor objectives and risk preferences. These five profiles range from Very Conservative through Balanced to Aggressive Growth.

Very Conservative

Asset class	Benchmark	Range	Last quarter	Current recommendation
Cash & Cash Equivalents	2%	0-15%	1.0%	1.0%
Fixed Income	73%	68-88%	72.5%	72.0%
Total Cash & Fixed Income	75%	60-90%	73.5%	73.0%
Canadian Equities	10%	0-20%	10.5%	10.8%
U.S. Equities	8%	0-18%	8.4%	8.7%
International Equities	7%	0-17%	7.6%	7.5%
Emerging Markets	0%	0%	0.0%	0.0%
Total Equities	25%	10-40%	26.5%	27.0%
			Return	Volatility
40-year average			7.7%	4.9%
Last 12 months			-6.8%	9.0%

Very Conservative investors will seek income with maximum capital preservation and the potential for modest capital growth, and be comfortable with small fluctuations in the value of their investments. This portfolio will invest primarily in fixed-income securities, and a small amount of equities, to generate income while providing some protection against inflation. Investors who fit this profile generally plan to hold their investment for the medium to long term.

Conservative

Asset class	Benchmark	Range	Last quarter	Current recommendation
Cash & Cash Equivalents	2%	0-15%	1.0%	1.0%
Fixed Income	58%	43-83%	57.5%	57.0%
Total Cash & Fixed Income	60%	45-75%	58.5%	58.0%
Canadian Equities	13%	3-23%	13.4%	13.7%
U.S. Equities	15%	5-25%	15.4%	15.7%
International Equities	12%	2-22%	12.7%	12.6%
Emerging Markets	0%	0%	0.0%	0.0%
Total Equities	40%	25-55%	41.5%	42.0%
			Return	Volatility
40-year average			8.2%	6.1%
Last 12 months			-6.1%	10.1%

Conservative investors will pursue modest income and capital growth with reasonable capital preservation, and be comfortable with moderate fluctuations in the value of their investments. The portfolio will invest primarily in fixed-income securities, with some equities, to achieve more consistent performance and provide a reasonable amount of safety. The profile is suitable for investors who plan to hold their investment over the medium to long term.

Balanced

Asset class	Benchmark	Range	Last quarter	Current recommendation
Cash & Cash Equivalents	2%	0-15%	1.0%	1.0%
Fixed Income	38%	23-53%	37.5%	37.0%
Total Cash & Fixed Income	40%	25-55%	38.5%	38.0%
Canadian Equities	15%	5-25%	15.3%	15.6%
U.S. Equities	25%	15-35%	25.5%	25.8%
International Equities	15%	5-25%	15.8%	15.6%
Emerging Markets	5%	0-15%	4.9%	5.0%
Total Equities	60%	45-75%	61.5%	62.0%
			Return	Volatility
40-year average			8.6%	7.7%
Last 12 months			-5.5%	11.5%

The **Balanced** portfolio is appropriate for investors seeking balance between long-term capital growth and capital preservation, with a secondary focus on modest income, and who are comfortable with moderate fluctuations in the value of their investments. More than half the portfolio will usually be invested in a diversified mix of Canadian, U.S. and global equities. This profile is suitable for investors who plan to hold their investment for the medium to long term.

Growth

Asset class	Bench- mark	Range	Last quarter	Current recommendation
Cash & Cash Equivalents	2%	0-15%	1.0%	1.0%
Fixed Income	23%	8-38%	22.5%	22.0%
Total Cash & Fixed Income	25%	10-40%	23.5%	23.0%
Canadian Equities	18%	8-28%	18.2%	18.5%
U.S. Equities	30%	20-40%	30.5%	30.8%
International Equities	19%	9-29%	19.9%	19.7%
Emerging Markets	8%	0-18%	7.9%	8.0%
Total Equities	75%	60-90%	76.5%	77.0%
			Return	Volatility
40-year average			8.9%	9.5%
Last 12 months			-5.0%	12.7%

Investors who fit the **Growth** profile will seek long-term growth over capital preservation and regular income, and be comfortable with considerable fluctuations in the value of their investments. This portfolio primarily holds a diversified mix of Canadian, U.S. and global equities and is suitable for investors who plan to invest for the long term.

Aggressive Growth

Asset class	Bench- mark	Range	Last quarter	Current recommendation
Cash & Cash Equivalents	2%	0-15%	1.5%	1.0%
Fixed Income	0%	0-15%	0.0%	0.0%
Total Cash & Fixed Income	2%	0-17%	1.5%	1.0%
Canadian Equities	29%	19-39%	29.0%	29.3%
U.S. Equities	38%	28-48%	37.9%	38.3%
International Equities	20%	10-30%	20.9%	20.4%
Emerging Markets	11%	1-21%	10.7%	11.0%
Total Equities	98%	83-100%	98.5%	99.0%
			Return	Volatility
40-year average			9.3%	12.0%
Last 12 months			-3.6%	14.7%

Aggressive Growth investors seek maximum long-term growth over capital preservation and regular income, and are comfortable with significant fluctuations in the value of their investments. The portfolio is almost entirely invested in stocks and emphasizes exposure to global equities. This investment profile is suitable only for investors with a high risk tolerance and who plan to hold their investments for the long term.



Capital markets performance



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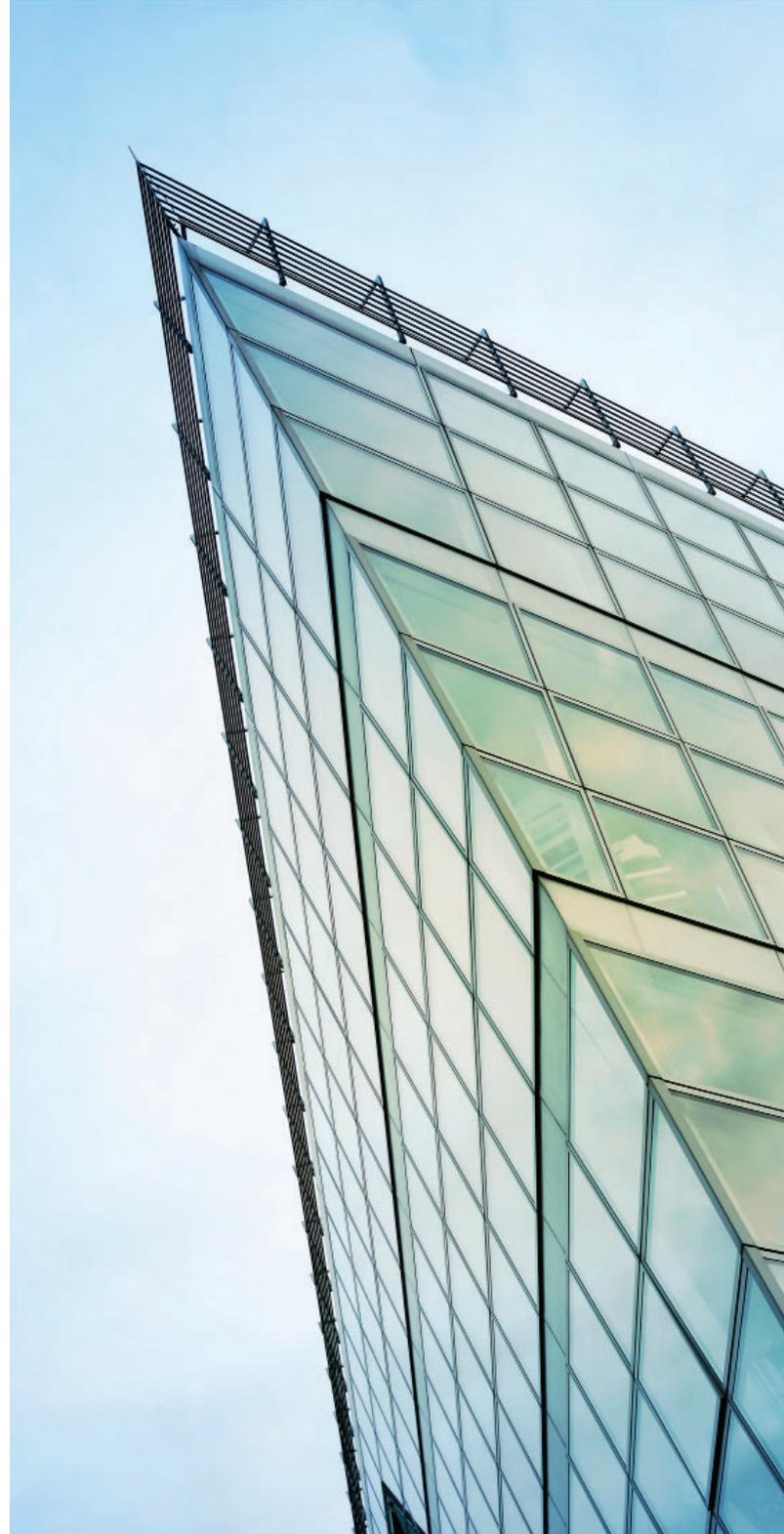
The U.S. dollar fell against all major currencies except the Canadian dollar in the quarter ended November 30, 2022. This year's rally in the greenback had continued through September and October but faltered in early November as the U.S. Federal Reserve (Fed) signaled that it was likely to slow the pace of interest-rate hikes. The U.S. dollar depreciated 3.6% against the British pound, 3.4% against the euro and 0.6% against the Japanese yen, but appreciated 2.4% versus the Canadian dollar. Sterling rallied powerfully beginning in late October, rebounding from multi-decade lows after the U.K. government abandoned a fiscal plan that unsettled financial markets. The euro strengthened as fears of a massive energy shortage were alleviated, improving the extremely negative sentiment toward the single currency. The yen was relatively flat versus the U.S. dollar as the Fed turned less hawkish. The loonie weakened against the greenback as commodity prices moderated in the latest quarter. Over the one-year period the U.S. dollar appreciated 22.2% against the yen, 10.3% against pound, 9.0% against the euro and 5.3% against the Canadian dollar.

Most global bond markets recorded losses in the latest quarter in U.S.-dollar terms. Bond yields rose as central banks continued hiking rates to combat uncomfortably high inflation, but yields ended the period down from the late-October peak on early evidence that inflation was abating. The yield on the 10-year Treasury bond ended the period

at 3.61%, up from 3.19% the previous quarter, after having reached as high as 4.33%. The FTSE Japanese Government Bond Index was the biggest loser with a 3.2% decline, while the best-performing index, the FTSE European Government Bond Index, eked out a 0.9% gain. Over the 12-month period, all major benchmark indexes recorded double-digit declines, with the FTSE European Government Bond Index's 24.3% plunge being the worst in U.S.-dollar terms. The Barclays Capital Aggregate Bond Index fared the best with a 12.8% fall.

Major developed-market equity indexes posted solid gains during the quarter after a powerful rebound from the mid-October low. The MSCI World Index had fallen 27% from its peak but has since retraced 40% of that decline. The better-than-expected September U.S. inflation data was the turning point, with lower expectations for Fed rate hikes buoying valuations and lifting investor confidence. The MSCI Germany Index led the major indexes with a 13.7% advance in U.S.-dollar terms, as mild fall weather allowed for natural gas inventories to be filled, assuaging fears of a disruptive winter energy shortage. The MSCI Emerging Markets Index was the worst-performing index, down 1.8%, as widespread COVID lockdowns depressed Chinese stocks during the period. Over the one-year period, U.S.-dollar performance ranged from a loss of 18.0% for the MSCI Germany to the 2.5% gain for the MSCI UK Index.

U.S. large-cap stocks trailed their mid- and small-cap counterparts in the latest quarter as the large-cap S&P 500 Index gained 3.6% while the mid-cap S&P 400 and the small-cap S&P 600 indexes were up 6.5% and 5.5%, respectively. Value stocks outperformed growth stocks with the Russell 3000 Value Index up 6.7% and the Russell 3000 Growth Index essentially flat as higher interest rates helped banks but hurt growth-stock valuations. This differential was even more pronounced over the one-year period, with the value index besting the growth index by over 23 percentage points. The Energy sector was the best performer in the quarter with a 12.2% gain as energy prices remain elevated. The Communication Services sector had the biggest decline at 5.4%. The best and worst sectors were the same over a one-year time frame with a 57.1% return for the Energy sector and a 31.3% loss for the Communication Services sector.



Exchange rates

Periods ending November 30, 2022

	Current USD	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)
USD–CAD	1.3452	2.42	6.38	5.30	0.42	0.84
USD–EUR	0.9610	(3.43)	9.33	8.99	1.92	2.72
USD–GBP	0.8297	(3.61)	12.25	10.35	2.38	2.33
USD–JPY	138.0900	(0.60)	19.98	22.17	8.05	4.18

Note: all changes above are expressed in US dollar terms

Canada fixed income markets

Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Fixed income markets: Total return</i>								
FTSE Canada Univ. Bond Index TR	(1.15)	(15.59)	(13.30)	(2.46)	(0.31)	1.25	(8.70)	(2.05)

U.S. fixed income markets

Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Fixed income markets: Total return</i>								
FTSE U.S. Government TR	(2.09)	(12.81)	(13.07)	(2.61)	0.22	0.28	(8.46)	(2.20)
BBG U.S. Agg. Bond Index TR ¹	(2.09)	(12.62)	(12.84)	(2.59)	0.21	0.28	(8.22)	(2.18)

Global fixed income markets

Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Fixed income markets: Total return</i>								
FTSE WGBI TR	(1.17)	(17.07)	(17.32)	(4.81)	(1.90)	1.22	(12.93)	(4.41)
FTSE European Government TR	0.85	(23.80)	(24.28)	(7.54)	(4.49)	(1.79)	(24.19)	(8.70)
FTSE Japanese Government TR	(3.22)	(22.64)	(24.23)	(10.21)	(5.03)	(4.45)	(23.09)	(10.92)

Canada equity markets

Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Equity markets: Total return</i>								
S&P/TSX Composite	4.15	(6.93)	(3.10)	9.06	7.28	6.68	2.04	9.52
S&P/TSX 60	4.70	(6.85)	(2.67)	9.75	7.92	7.23	2.49	10.21
S&P/TSX Small Cap	0.18	(13.13)	(11.18)	9.29	3.19	2.61	(6.47)	9.75

U.S. equity markets

Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Equity markets: Total return</i>								
S&P 500 TR	3.63	(13.10)	(9.21)	10.91	10.98	6.13	(4.40)	11.37
S&P 400 TR	6.50	(7.96)	(3.29)	10.30	7.98	9.08	1.84	10.76
S&P 600 TR	5.48	(10.06)	(5.99)	9.34	7.25	2.72	(5.88)	7.97
Russell 3000 Value TR	6.71	(3.96)	1.95	8.39	7.68	9.29	7.36	8.84
Russell 3000 Growth TR	(0.01)	(23.14)	(21.59)	11.26	12.36	2.41	(17.44)	11.72
NASDAQ Composite Index TR	(2.72)	(26.13)	(25.59)	10.66	11.78	(0.36)	(21.64)	11.13

Note: All rates of return presented for periods longer than 1 year are annualized. ¹ Bloomberg U.S. Agg. Bond Index TR. Source: RBC GAM

Global equity markets
Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Equity markets: Total return</i>								
MSCI World TR *	3.98	(14.51)	(10.86)	7.53	7.35	7.64	(5.79)	8.26
MSCI EAFE TR *	6.28	(14.52)	(10.14)	1.92	1.85	10.02	(5.04)	2.62
MSCI Europe TR *	8.95	(15.07)	(9.46)	2.65	2.17	12.79	(4.32)	3.35
MSCI Pacific TR *	1.86	(13.32)	(11.28)	0.59	1.22	5.45	(6.24)	1.28
MSCI UK TR *	7.06	(4.46)	2.51	2.15	2.03	10.83	8.33	2.85
MSCI France TR *	11.91	(13.19)	(7.05)	3.59	3.39	15.85	(1.76)	4.30
MSCI Germany TR *	13.68	(22.31)	(17.97)	(2.38)	(3.01)	17.68	(13.31)	(1.71)
MSCI Japan TR *	1.23	(16.87)	(15.29)	(0.40)	0.31	4.79	(10.48)	0.29
MSCI Emerging Markets TR *	(1.78)	(18.95)	(17.43)	0.14	(0.42)	1.68	(12.74)	0.82

Global equity sectors
Periods ending November 30, 2022

	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
<i>Sector: Total return</i>								
Energy TR *	12.19	51.22	57.07	15.22	7.35	16.14	66.00	16.01
Materials TR *	10.40	(8.34)	(1.75)	10.01	6.34	14.29	3.83	10.76
Industrials TR *	7.91	(11.40)	(6.59)	5.23	5.07	11.71	(1.28)	5.95
Consumer discretionary TR *	(2.93)	(27.12)	(26.75)	6.54	7.49	0.49	(22.59)	7.27
Consumer staples TR *	4.74	(4.54)	3.54	5.91	5.54	8.42	9.43	6.64
Health care TR *	9.99	(4.28)	2.77	10.41	10.45	13.86	8.61	11.17
Financials TR *	9.08	(7.85)	(3.91)	5.66	4.00	12.92	1.56	6.38
Information technology TR *	0.63	(24.76)	(22.81)	13.52	15.07	4.17	(18.42)	14.30
Communication services TR*	(5.40)	(32.64)	(31.34)	(1.15)	1.91	(2.07)	(27.44)	(0.47)
Utilities TR *	(1.94)	(4.81)	3.08	4.40	5.43	1.51	8.94	5.11
Real estate TR *	(4.83)	(22.57)	(16.50)	(1.43)	1.90	(1.48)	(11.76)	(0.76)

* Net of taxes. Note: all rates of return presented for periods longer than 1 year are annualized. Source: Bloomberg/MSCI



Economic outlook

Incremental positives in a challenged world



Eric Lascelles
 Chief Economist
 RBC Global Asset Management Inc.

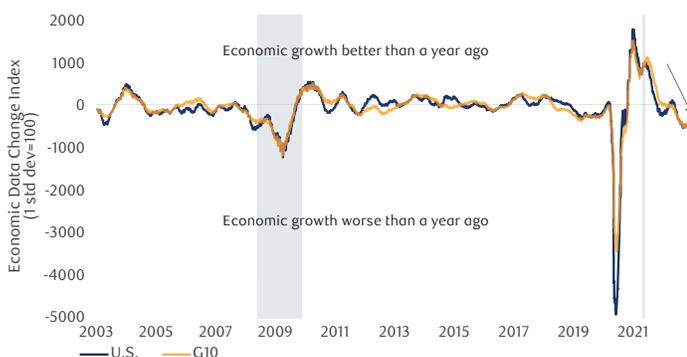
The main macroeconomic themes remain familiar: inflation is still much too high, central banks continue to drive interest rates upward, and the economy is not only slowing (Exhibit 1) but is likely to downshift into recession.

However, there have been several important if subtle shifts in the narrative. All are positive.

Of greatest significance, inflation appears to have peaked (Exhibit 2) as the forces that initially drove it higher now reverse course. Inflation is unlikely to decline rapidly or smoothly, but it should constitute a diminished threat in six

months and a significantly vanquished force in a year. Central banks, in turn, are feeling slightly less pressure to drive interest rates ever higher. There is still some distance left to travel, but the end is arguably in sight.

Exhibit 1: Global economic growth has been deteriorating



Note: As of 12/2/2022. Shaded area represents U.S. recession. Source: Citigroup, Bloomberg, RBC GAM

Exhibit 2: Inflation remains elevated in major economies



Note: Canada, U.K., and U.S. as of Oct 2022, Eurozone as of Nov 2022. Source: Bureau of Labor Statistics, Office for National Statistics, Statistics Canada, Statistical Office of the European Communities, Haver Analytics, RBC GAM

Finally, while a recession remains likely, there has been a smattering of recent good news. The U.S. economy has held up better than expected in recent quarters. In Europe, natural-gas prices have retreated sufficiently that the anticipated recession no longer has to be quite as deep. China's recent lightening of COVID restrictions should ease some of the extreme economic pain that country has been suffering.

Despite these incremental improvements to the economy, we retain below-consensus growth forecasts for the year ahead. It would be exceedingly unusual for a recession to be avoided given the headwinds imposed by rising borrowing costs, elevated inflation and myriad other forces.

Whether markets opt to dwell on slowing growth or declining inflation, the bond market is capable of delivering strong returns. The question is how the stock market fares. Declining inflation is a major positive, potentially aiding equity valuations. But a weak economy is clearly a negative, capable of damaging earnings.

Given the skewed risk-reward between bonds and stocks, we retain a greater weight toward fixed income than a year ago. But once central banks conclude their tightening cycle and economic growth begins to rebound, the stock market has a good chance of becoming the stronger performer. With a medium-term investment horizon, it is a rare treat that the outlook for stocks and bonds are both good given depressed starting points.

Peaking inflation

Inflation remains nearly four times higher than normal. This is problematic in two ways. First, inflation itself is doing serious damage to the economy through diminished purchasing power and via distorted spending and investment decisions.

Second, central banks, in their zeal to restore inflation to normal levels, have been tightening monetary policy at a frantic pace that is damaging short-term economic growth.

Why did inflation suddenly explode to such problematic readings after decades of slumber? There wasn't any one cause. Indeed, it is difficult to imagine a single force exerting enough pressure to create an inflation problem of this magnitude all by itself.

Instead, the catalyst was several forces all applying significant upward pressure at the same time. The four main factors that supercharged inflation were massive supply-chain problems, a commodity shock, too much monetary stimulus and too much fiscal stimulus.

Fortunately, all four of those drivers have since reversed course. In turn, inflation is beginning to recede and should continue to do so.

Supply-chain problems were the original inflation driver, as altered demand preferences and hobbled production capabilities combined to limit the availability and increase the cost of a wide range of goods. Fortunately, those forces have now mostly gone into reverse (Exhibit 3). The cost of shipping is plummeting; there are no longer such large backlogs of ships waiting to unload at port; warehouse utilization rates are falling; the ratio of demand-to-supply for trucks has greatly declined; and the cost of previously scarce computer chips is falling. A slowing economy should further resolve most lingering supply-chain issues.

The commodity shock had two points of origin. One part came from the rapidity of the economic recovery as pandemic restrictions eased – a revival that resource producers had not anticipated. The other part was Russia's attack on Ukraine, which hobbled Ukraine's resource-rich economy and prompted wide-ranging sanctions on Russia that supercharged a host of commodity prices, most prominently those of natural gas and oil.

Exhibit 3: Global supply-chain pressure has significantly eased



Note: As of Oct 2022. Shaded area represents U.S. recession. Source: Gianluca Benigno, Julian di Giovanni, Jan J. J. Groen, and Adam I. Noble, "A New Barometer of Global Supply Chain Pressures," Federal Reserve Bank of New York Liberty Street Economics; Macrobond, RBC GAM

Fortunately, commodity prices have since begun to retreat (Exhibit 4). This is partially as demand growth has cooled, partially as resource producers have had time to catch up, and partially as some Russian and Ukrainian resources have found their way to market despite initial fears. This decline should contribute to lower inflation.

Keep in mind that all that is needed for commodity prices to cease exerting an upward force on inflation is for them to remain roughly flat – it is not necessary that they fully unwind to pre-pandemic levels. Forecasting commodities is notoriously difficult, but the most likely scenario in the short run is that most commodity prices continue to decline as the economy softens.

Policymakers, both monetary and fiscal, are also partially to blame for high inflation. Central banks arguably kept interest rates too low and their balance sheets too large for too long, inflating the supply of money. While it took some time for central bankers to recognize this misstep, they have since responded with a level of determination unseen in a generation. North American policy rates have raced from near-zero levels to well above neutral, with the implication that monetary policy has gone from spurring inflation to suffocating it.

Meanwhile, fiscal policy also remained too generous for too long, with governments ploughing money into the economy even after the unemployment rate had largely normalized and the threat of widespread business failures had passed.

Although governments continue to spend significant sums in absolute terms, the more important fact is that fiscal deficits have shrunk massively over the past year, constituting a net drag on the economy (Exhibit 5). Given that fiscal impulses work with a lag, that drag should persist into 2023. In the U.S., the fiscal deficit has shrunk from an unprecedented US\$4 trillion during the worst of the pandemic to around US\$1 trillion today.

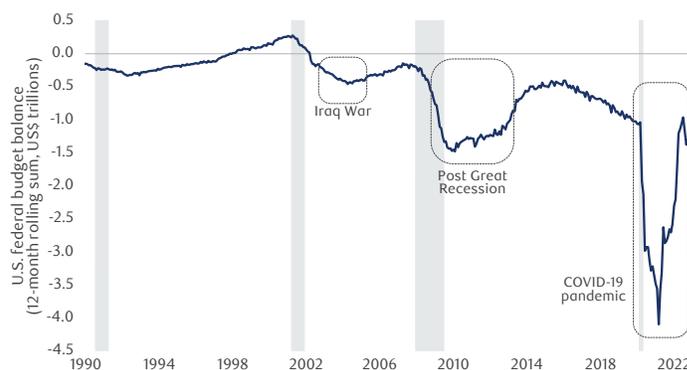
So why is inflation unlikely to snap back to 2% overnight, let alone descend into negative territory, even as the main drivers have reversed direction? The answer is that there are a handful of new inflationary pressures that may retard a decline in inflation.

Exhibit 4: Commodity prices weighed down by recession concerns



Note: As of 12/01/2022. Shaded area represents recession. Source: S&P, Macrobond, RBC GAM

Exhibit 5: U.S. fiscal deficit has shrunk significantly



Note: As of Oct 2022. Source: Macrobond, RBC GAM

“In short, inflation should fall from here, but the decline is unlikely to be complete in the short run.”

Nominal wage growth is now rising at a brisk pace due to exceptionally tight labour markets. While a full-blown wage-price spiral is unlikely, higher pay may keep inflation from descending quite as quickly as it would have.

The fact that inflationary pressures are no longer merely the result of a handful of expensive products is another complication. Inflation has now trickled into nearly every crevice of the consumer-spending basket as first-order impacts (such as higher energy prices) bring second-order consequences (such as more expensive transportation costs), and so on (Exhibit 6). It will take extra time for these cascading impacts to unwind.

Finally, the recent inflation spike was sufficiently large and traumatizing that some households and businesses will have been scarred by the experience and so assume that inflation remains high, making it harder for actual inflation to fully unwind.

Lags must also be considered. Even as home prices and rental costs have begun to decline, the famously lagged shelter component of U.S. CPI has remained red hot. This particular inflation pressure – and it has recently been responsible for as much as half of recent price increases – may not significantly turn until well into 2023.

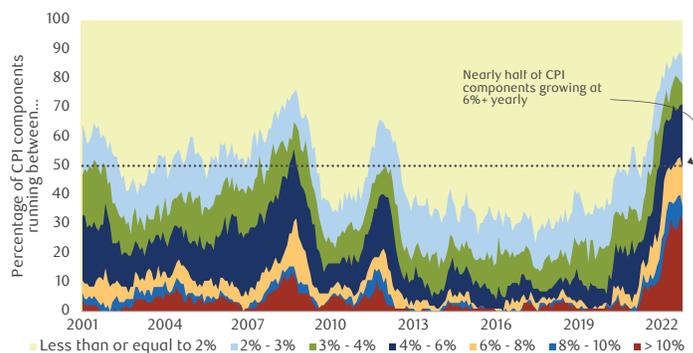
It is reassuring that, in addition to strong theoretical arguments that inflation should ease, there is also empirical evidence that businesses are altering their pricing behavior. The fraction of American firms planning to raise prices has plummeted in recent months (Exhibit 7).

Slightly over half of the variables tracked in our inflation turning scorecard are behaving in a manner consistent with declining inflation, with another 40% of the variables showing tentative evidence of a decline. Just 10% are refusing to cooperate altogether. This is a promising mix.

In short, inflation should fall from here, but the decline is unlikely to be complete in the short run. We possess below-consensus inflation forecasts for 2023, signaling that we are more optimistic than the market about this pivot (Exhibit 8).

It should take longer for inflation in the eurozone and U.K. to come down by virtue of the region’s unique challenges, mainly weaker currencies and energy shortages, but a peak may also now be forming.

Exhibit 6: Inflation in the U.S. is quite broad



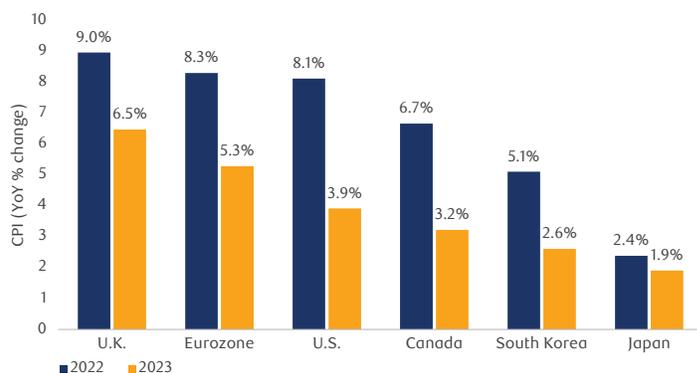
Note: As of Oct 2022. Share of CPI components with year-over-year % change falling within the ranges specified. Source: Haver Analytics, RBC GAM

Exhibit 7: Fraction of U.S. businesses planning to raise prices falling precipitously



Note: As of Oct 2022. Shaded area represents recession. Source: NFIB Small Business Economic Survey, Macrobond, RBC GAM

Exhibit 8: RBC GAM CPI forecast for developed markets



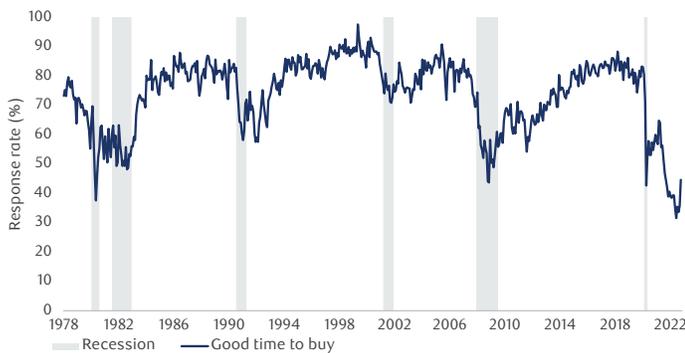
Note: As of 11/23/2022. Source: RBC GAM

Exhibit 9: U.S. personal-savings rate approaching record low



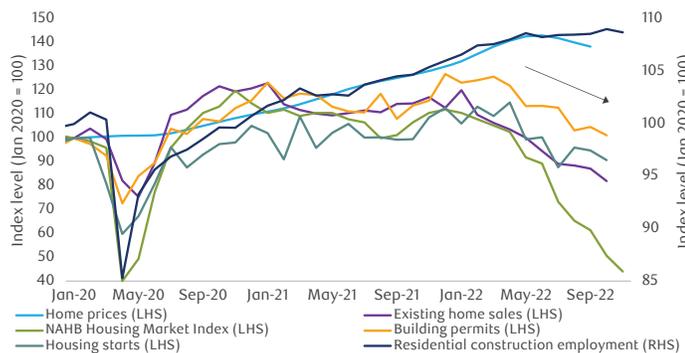
Note: As of Oct 2022. Shaded area represents recession. Source: BEA, Macrobond, RBC GAM

Exhibit 10: U.S. consumers don't think it's a good time to buy large durable household goods



Note: As of Oct 2022. Source: University of Michigan, Macrobond, RBC GAM

Exhibit 11: U.S. housing metrics reveal weakness



Note: Case-Shiller Home Price Index as of Sep 2022; building permits, housing starts, and existing home sales as of Oct 2022; employment and NAHB HMI as of Nov 2022. Source: BLS, Census Bureau, NAHB, NAR, S&P, Macrobond, RBC GAM

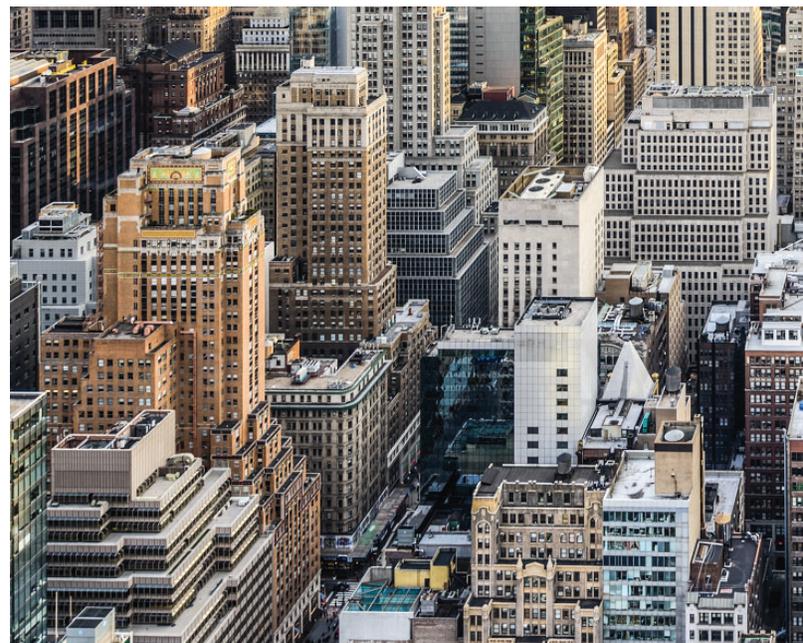
State of the economy

The fastest recovery from a recession in history culminated in the global economy boiling over into a position of excess demand a year ago. Economies remain similarly situated today as demonstrated by the persistence of some of the lowest unemployment rates in decades.

However, the economic backdrop is changing significantly. Economic headwinds have mounted as aggressive rate hikes, high prices, tightening financial conditions, a commodity shock, a struggling Chinese economy and fiscal drag join forces.

While the U.S. economy, in particular, is holding together better than initially expected, there are nevertheless hints of softness to come. As rising interest rates and high gasoline prices take a bite out of consumer wallets, the personal savings rate has fallen to within a hair of the lowest level on record (Exhibit 9). The drop in savings hints at diminished spending in the future, and indeed most consumers indicate they plan to spend less money in response to high inflation, with the appetite for discretionary and big-ticket items in particular decline (Exhibit 10).

Housing, the most interest-rate-sensitive area of the economy, has swooned across the world (Exhibit 11).



Moreover, business expectations have dimmed considerably, if not quite to levels consistent with a recession (Exhibit 12). The inventory cycle has clearly reversed – usually a signal of economic weakness to come (Exhibit 13).

In contrast, labour markets have been stubbornly resilient, with unemployment rates still plumbing the depths and hiring solid. But there are hints of softness to come. Layoffs are

rising (Exhibit 14), especially in technology. Job openings have also begun to decline, albeit from a high level (Exhibit 15). Fewer people are voluntarily quitting their jobs in a sign that workers are losing confidence in their ability to find another one. We believe that the jobs market will weaken in 2023, if not on the usual scale, as companies hang onto more workers than usual after having had to fight so hard to recruit them in recent years.

Exhibit 12: U.S. business expectations have fallen



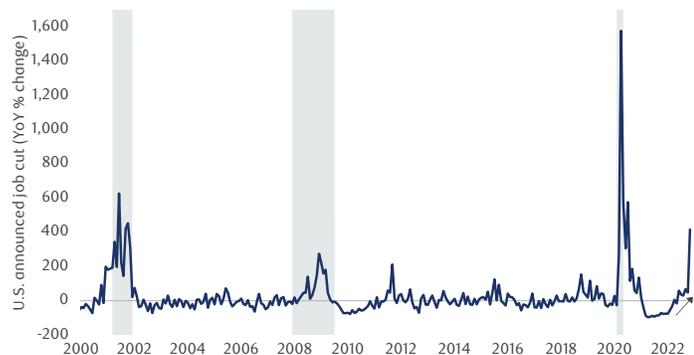
Note: As of Oct 2022. Principal component analysis using NFIB optimism and business conditions outlook, ISM Manufacturing and Services new orders, and The Conference Board CEO expectations for economy. Source: The Conference Board, ISM, NFIB, Macrobond, RBC GAM

Exhibit 13: U.S. inventory-to-sales ratio climbs as inventory builds and sales fall



Note: As of Sep 2022. Real inventory-to-sales ratio of all manufacturing and trade industries. Shaded area represents recession. Source: BEA, Haver Analytics, RBC GAM

Exhibit 14: Rise in U.S. job-cut announcements has picked up



Note: As of Nov 2022. Source: Challenger, Gray & Christmas, Inc., Macrobond, RBC GAM

Exhibit 15: U.S. job-openings rate falling from record highs but still elevated



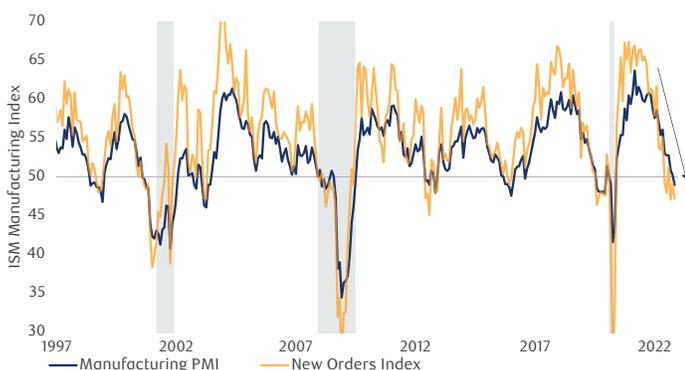
Note: As of Oct 2022. Estimates for all private nonfarm establishments. Shaded area represents recession. Source: BLS, Macrobond, RBC GAM

Overall, most economic indicators are now weakening, even if they remain shy of recessionary thresholds (Exhibit 16).

We continue to look for a further deceleration in growth in 2023, likely all the way into a recession for the developed world (Exhibit 17). While emerging-market economies rarely contract outright, we nevertheless look for most of them to slow in 2023 (Exhibit 18). Altogether, global GDP is on track for just 2.1% growth in 2023 – less than a third of what was managed in 2021 – and just over half the 2022 growth rate.

Our growth forecasts are mostly below the consensus, signaling that the economic slowdown will be incrementally worse than investors assume.

Exhibit 16: U.S. manufacturing activity deteriorating



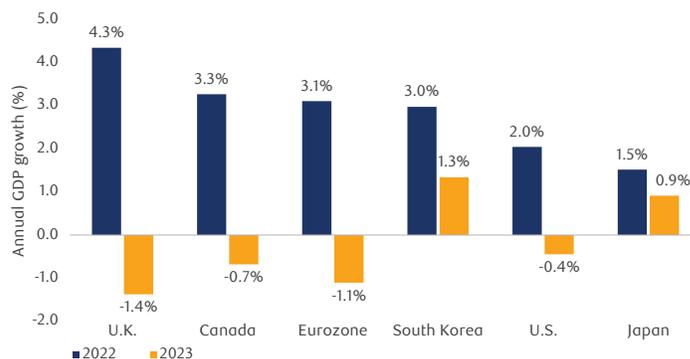
Note: As of Nov 2022. Shaded area represents recession. Source: ISM, Haver Analytics, RBC GAM

Recession expectations

We monitor a dozen simple recession rules of thumb that have historically been triggered in advance of recessions (Exhibit 19). Signals include the inversion of the yield curve, the commencement of a monetary-tightening cycle, and spiking inflation. None is perfect by itself, but collectively they convey useful information about the likelihood of a recession. At present, the majority of the indicators, and a rising share, indicate that a recession is likely coming.

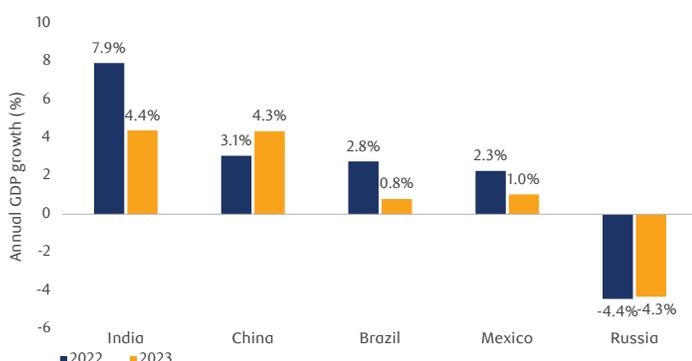
We can also approximate the likelihood of a recession by assessing the state of the business cycle. The idea behind the business cycle is that there are certain repeating patterns across economic expansions, and that an economy with a lot

Exhibit 17: RBC GAM GDP forecast for developed markets



Note: As of 11/23/2022. Source: RBC GAM

Exhibit 18: RBC GAM GDP forecast for emerging markets



Note: As of 11/23/2022. Source: RBC GAM

Exhibit 19: Recession signals point mostly to “yes”

Signal	Indicating U.S. recession?
2yr-10yr curve inverts	Yes
3m-10yr curve inverts	Yes
Fed short-term curve inverts	Yes
Inflation spike	Yes
Oil shock	Yes
Financial conditions tighten	Yes
Jobless claims jump	Yes
Monetary tightening cycle	Likely
Google “recession” news trend	Likely
RBC GAM recession model	Maybe
Duncan Leading Indicator falls	Maybe
Unemployment increase	No, but may be turning

Note: As at 11/15/2022. Analysis for U.S. economy. Source: RBC GAM

of room to expand usually looks quite different from one that is about to falter. Our business-cycle scorecard concludes that the U.S. economy is most likely at an “end of cycle” moment (Exhibit 20) – a position that usually precedes a recession by no more than several quarters.

In conclusion, a recession continues to appear significantly more likely than not. The likelihood is in the realm of 80% for the U.S. and Canada, and higher for the eurozone and the U.K. In fact, a recession may have already started in the U.K.

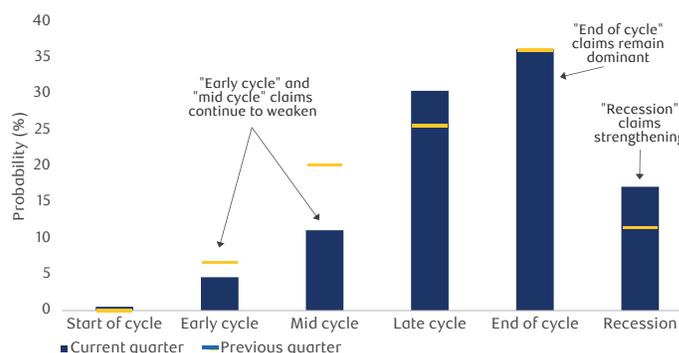
All of that said, the probability and depth of a recession has arguably shrunk slightly over the past few months as economic indicators have shown more resilience than anticipated. Economic surprises have actually been more positive than negative, though most of that shift reflects rock-bottom expectations more than strong economic outcomes (Exhibit 21).

Should a recession transpire, we continue to expect it to be of a middling depth in most jurisdictions – in the realm of a 1.75% peak-to-trough decline in output (Exhibit 22). In contrast, financial markets are pricing in no more than a mild recession. Note that while our forecast is in line with the average recession, it is milder than the past two downturns. While a lack of monetary-policy support argues for a deeper decline, the prospect of a more resilient labour market than usual makes the opposite case.

The period of declining output should persist for no more than three quarters, with a moderate recovery taking hold toward the end of 2023. It is unlikely that policymakers will opt to spur a galloping recovery akin to 2020-2021 given the distortions and excesses that ultimately resulted. But it is also unlikely that the recovery takes as long as it did across the anemic post-financial-crisis years.

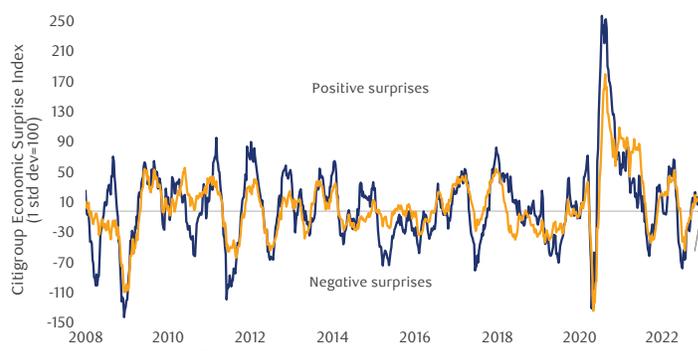
It is worth flagging that even if this recession charts a middling depth, it could feel rather milder. For one thing, if there are fewer job losses, there should be less acute suffering because it is job losses that trigger a cascade of problems such as bankruptcies and sharply curtailed spending. These problems simply don't manifest to the same degree if the same burden of diminished income is instead distributed more evenly.

Exhibit 20: U.S. business-cycle score



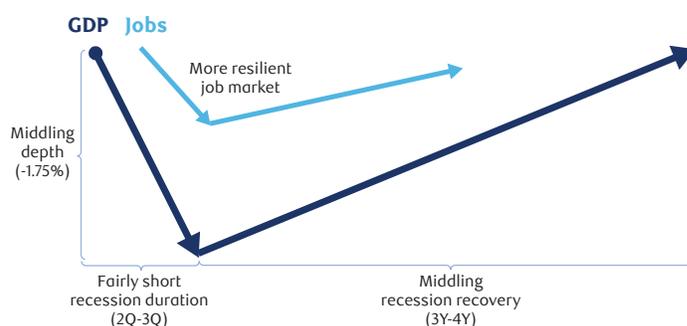
Note: As at 11/15/2022. Calculated via scorecard technique by RBC GAM. Source: RBC GAM

Exhibit 21: Global economic surprises bounce back, now positive



Note: As of 12/2/2022. Source: Citigroup, Bloomberg, RBC GAM

Exhibit 22: Recession scenario assumptions



Note: As at 08/30/2022. Source: RBC GAM

Second, even as real GDP declines, nominal GDP should continue to grow given the buffer of elevated inflation. That is to say, the quantity of things produced should decline, but the amount paid for them and earned from them shouldn't. Nominal wages, corporate earnings and government revenues may not fall as far as in a normal recession. While much of the benefit from this is psychological rather than real, that could nevertheless prevent a vicious circle of mounting pessimism and declining activity from forming to the usual extent.

National variations

While global forces such as rising interest rates and high fuel prices suggest that most countries should experience a broadly similar pattern of decelerating economic activity in 2023, there are important distinctions to make among nations. Consumer-confidence metrics highlight the divide, with U.S. confidence only moderately lower, whereas there have been severe declines in the eurozone and the U.K. (Exhibit 23).

The U.S. economy appears more resilient than most, for several reasons. The country is less interest-rate sensitive given lower household leverage and a mortgage market that shelters borrowers from interest rate swings via 30-year loan terms.

New infrastructure initiatives combined with “Buy American” rules and trepidation about China are encouraging some international manufacturers to expand into the U.S. The American mid-term election yielded a divided Congress, an outcome that financial markets have historically liked despite (or perhaps because of) the gridlock it creates.

Canada is somewhat more vulnerable economically than the U.S., due primarily to its greater household-debt burden (Exhibit 24). The country's home prices are now in clear decline, with the regions that experienced the greatest appreciation over the prior few years now showing the greatest retreat (Exhibit 25). Further depreciation is likely.

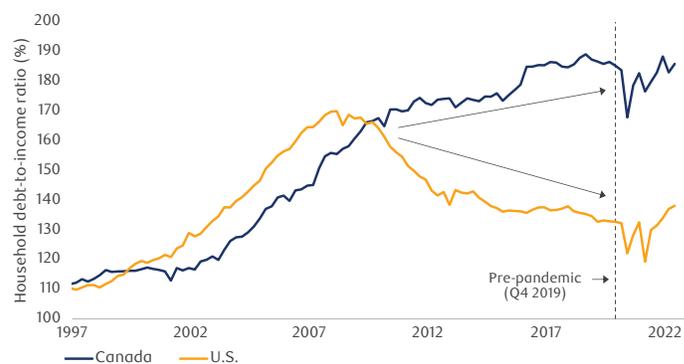
While high commodity prices benefit Canada's resource-intensive economy and the Bank of Canada appears set to alight at a slightly lower peak policy rate than the U.S. Federal Reserve (Exhibit 26), the net result is still for a larger economic decline in Canada.

Exhibit 23: Consumer confidence has fallen sharply



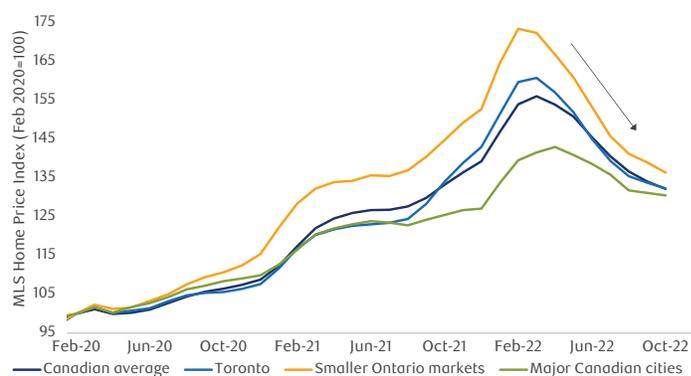
Note: As of Nov 2022. Shaded area represents U.S. recession. Source: The Conference Board, European Commission (DG ECFIN), GfK UK, University of Michigan, Macrobond, RBC GAM

Exhibit 24: Household leverage lower in U.S. than Canada



Note: As of Q2 2022. Source: Haver Analytics, RBC GAM

Exhibit 25: Home prices dropped across Canada



Note: As of Oct 2022. Source: CREA, Macrobond, RBC GAM

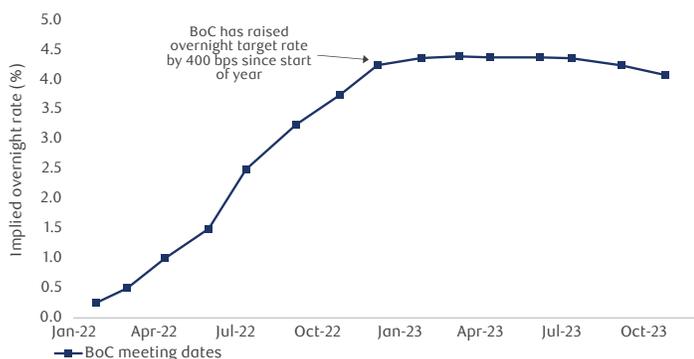
The eurozone and U.K. face more challenging economic conditions than the U.S., in large part due to the region's greater exposure to Russia – both through sanctions imposed on Russia, and Russia's decision to limit its export of natural gas to the continent. Ultra-high energy costs are a heavy burden for households, businesses and government finances (Exhibit 27). While Europe has enough gas in storage to survive this winter and natural-gas prices have retreated, the scramble is likely to resume next summer to secure supplies for the winter of 2023-2024.

The resulting spike in eurozone inflation has forced the European Central Bank to play catch-up after a long period of negative interest rates, further dampening growth (Exhibit 28).

The U.K. faces the same energy challenges, and an even trickier political backdrop than the eurozone. The country has gone through a revolving door of prime ministers, and the bond market almost collapsed in September after an ill-advised (and since shelved) tax-cut plan. The U.K. also continues to reel from the effects of Brexit, which now appear to be inflicting the economic damage that had been prophesied before the referendum. All of this has put the U.K. in the unsustainable position of consuming significantly more than the country produces (Exhibit 29), and so belt-tightening will be necessary.

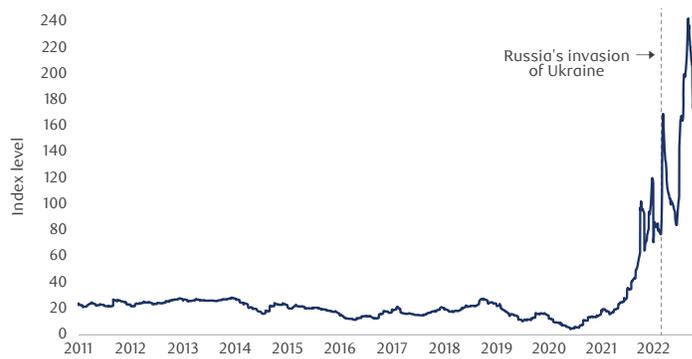
Despite the U.S. economy's relative resilience, the dollar should give up some of its gains over the coming year. The currency is overvalued by any standard, and has benefited

Exhibit 26: Bank of Canada tightened monetary policy aggressively



Note: As of 12/07/2022. Source: Bloomberg, RBC GAM

Exhibit 27: Natural-gas prices high but declined from their peak



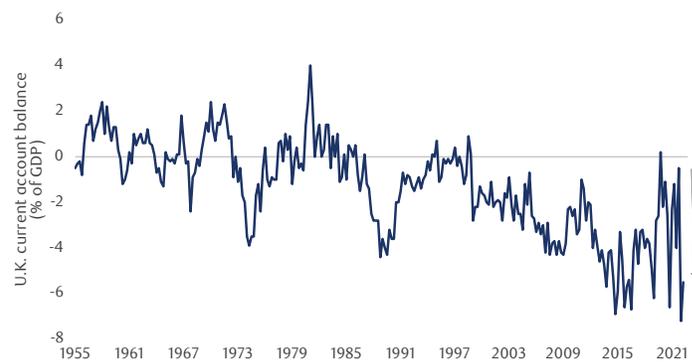
Note: As of 12/01/2022. Source: Intercontinental Exchange, Macrobond, RBC GAM

Exhibit 28: Eurozone economic activity depressed by Russia's invasion and high inflation



Note: As of Nov 2022. Index reflects the first principal component from PCA analysis on select indicators of eurozone economic activity. Shaded area reflects recession. Source: CEPR, ZEW, Deutsche Bundesbank, IHS Markit, Macrobond, RBC GAM

Exhibit 29: U.K. current-account deficit yawns wider



Note: As of Q2 2022. Source: ONS, Macrobond, RBC GAM

from a safe-haven bid that won't last as inflation ebbs. This should provide a currency-adjusted tailwind to non-U.S. markets.

Monetary tightening slows

Central banks continue to push interest rates higher as they attempt to remedy the explosion of inflation over the past 18 months. The breadth of policy-rate increases has no precedent in the 21st century (Exhibit 30). The quantity of tightening each country has delivered has also been outsized, with North American policy rates already around 4 percentage points higher after less than a year of increases.

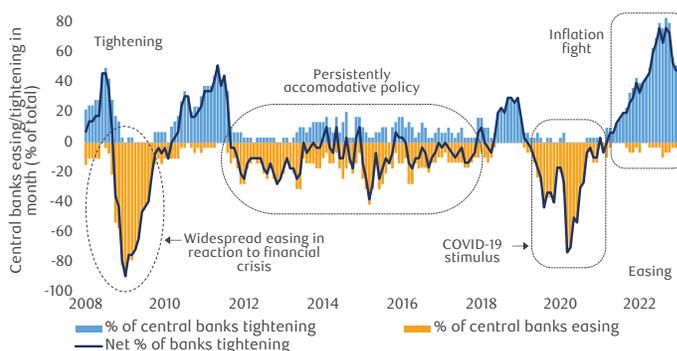
But this monetary tightening is now starting to slow as inflation begins to decline. Some emerging-market countries have already ended their rate hikes, and the pace of tightening is mostly decelerating elsewhere. Central bankers think they are nearing the finish line, with the U.S. fed funds rate now expected to peak at around 5% (Exhibit 31). That is a lofty rate relative to the starting point near 0%, and double the neutral policy rate of around 2.5%. But it is also only around a percentage point higher than the current setting. Most of the hard work has already been done, and there is even the possibility that policy rates start to decline over the second half of 2023 if inflation cooperates and growth slows.

Complicating the analysis, one can simultaneously argue that the present setting of nominal interest rates is extremely restrictive by the standards of the past 15 years, and yet interest rates adjusted for the present rate of inflation are the lowest on record despite all of the recent tightening.

Between high and rising public debt levels, quantitative tightening that is adding to the effective supply of government bonds, and interest rates that are no longer at rock-bottom levels, the cost of servicing public debt is set to rise materially. After decades of ignoring fiscal affairs, bond investors are again paying attention to government spending, as the U.K. discovered to its peril.

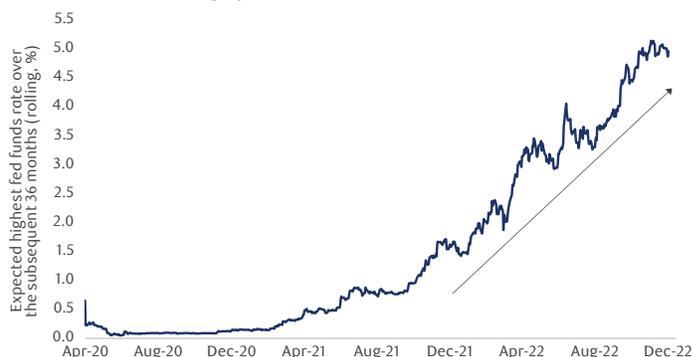
The potential problem isn't confined to a single country. The bulk of the world's large nations continue to run significant structural deficits even though their economies have mounted full recoveries from the pandemic (Exhibit 32). These countries will be under pressure to narrow these deficits over the next few years as debt-servicing costs climb. The timing is

Exhibit 30: Central banks lift rates to fight inflation



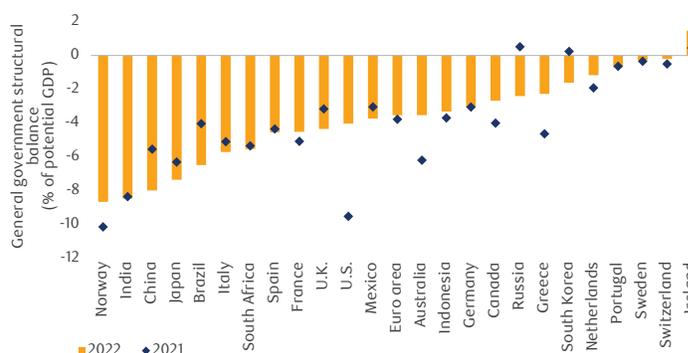
Note: As of 12/02/2022. Based on policy rates for 30 countries. Source: Haver Analytics, RBC GAM

Exhibit 31: Expected peak fed funds rate has increased sharply



Note: As of 12/02/2022. Source: Bloomberg, RBC GAM

Exhibit 32: Significant structural fiscal deficits persist



Note: IMF projections for year 2022. Source: IMF WEO, October 2022, Macrobond, RBC GAM

awkward since politicians will want to deliver fiscal stimulus during the next recession, and given rising energy subsidies, military spending, green investments, industrial policies, and expenses related to an aging population.

Lingering pandemic

The COVID-19 virus continues to circulate, but at a diminished intensity relative to 2020 and 2021. Crucially for investors, the pandemic's economic impact has now shrunk considerably, exerting only a small effect outside of China.

New variants continue to emerge, with BQ.1 and BQ.1.1 the latest strains to gain prominence. Although each new generation of the COVID-19 virus is more contagious than the last, the virus is not becoming any more deadly. Recent variants may even be slightly milder than prior iterations, though this claim is difficult to disentangle from the fact that so many people now have some measure of protection via vaccine or prior infection.

It is a considerable consolation that there has not been a surge in global infections even as these new strains have emerged. Still, it remains prudent to assume there will continue to be additional COVID-19 waves in the future, though of limited economic consequence as governments are unlikely to significantly reverse their easing of mobility restrictions (Exhibit 33).

Exhibit 33: COVID-19 restrictions mostly lifted, except in China



Note: As of 12/2/2022. Global Stringency Index measuring the strictness of lockdown policies that restrict mobility, calculated as stringency index of 50 largest economies. Sources: University of Oxford, IMF, Macrobond, RBC GAM

The major exception to this happy narrative is that China is now suffering its greatest outbreak of COVID-19 infections since the pandemic first arose in the central city of Wuhan three years ago (Exhibit 34).

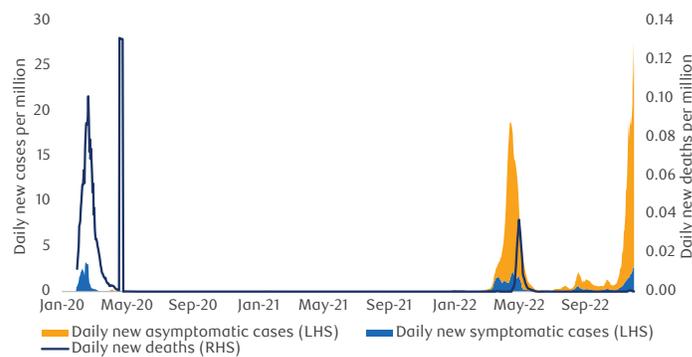
Chinese challenges

The Chinese economy is suffering acutely after the country again locked down a significant swath of its population in response to surging infections.

But the population has reached a breaking point after three years of heavy restrictions, as demonstrated by intense public protests that have prodded the government to significantly change course in recent weeks. Policymakers have abruptly scaled back the most heavy-handed pandemic restrictions, greatly reducing the use of quarantining facilities, abandoning the contact-tracing app, scaling back PCR testing requirements and limiting the scope of lockdowns when outbreaks are detected.

The problem is that China is now likely to be overwhelmed by infections due to its underperforming homegrown vaccine, insufficient vaccination of vulnerable seniors, and a lack of natural immunity in the population. This is quite bad from a public health perspective, though it should allow the economy to revive more quickly than would otherwise be possible.

Exhibit 34: China hit hard by Omicron wave



Note: As of 12/1/2022. 7-day moving average of daily new cases and deaths. Source: Johns Hopkins University, Macrobond, RBC GAM

This helping hand for the economy couldn't come at a better time given the horrible state of consumer confidence (Exhibit 35), higher than normal unemployment and crimped retail sales (Exhibit 36).

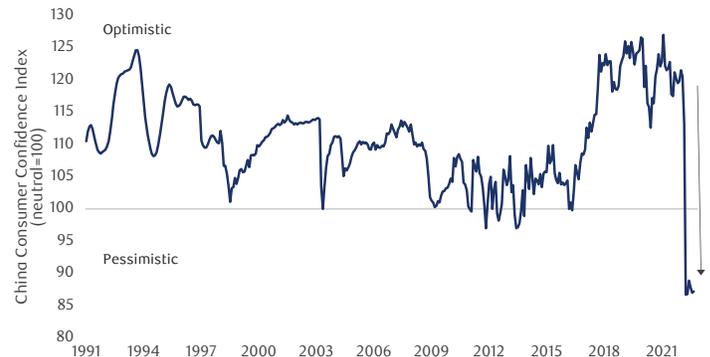
Nevertheless, the Chinese economy still grapples with structural challenges. The property market continues to weaken after decades of excess (Exhibit 37). This is largely by design as the government seeks to reduce the reliance on housing to drive the economy forward. But the scale of the weakness has given policymakers second thoughts about their approach, and so a number of new measures were recently introduced to soften the blow to builders in particular. Still, we do not expect housing to resume its torrid growth.

Challenging demographics will persist, with the country's fertility rate tentatively plummeting even further during the pandemic.

President Xi's recent reappointment to an unprecedented third five-year term is also arguably a growth-negative development, in part because political administrations tend to become stale when they retain power for too long, and in part because the government's priorities are not growth-friendly. The administration's three key goals are political control over the society, pursuing a more assertive foreign policy and returning power from corporations back to the state. The last of these is a particularly significant reversal from the strategy that allowed China's economy to grow so impressively over recent decades. The "animal spirits" that might normally drive productivity growth have been greatly diminished after several crackdowns on technology entrepreneurs.

Whereas the Chinese economy once rollicked along at 10%+ annual growth and was still capable of sustaining a 6% rate prior to the pandemic, it is now on track for no more than 3% growth this year and may well have suffered a permanent decline in its potential growth rate to no more than 3% to 4% even after the pandemic restrictions have faded. This clip is not bad in an absolute sense, but will greatly slow the rate at which China approaches developed-world living standards, and also suppress the rate at which the global economy can expand.

Exhibit 35: Chinese consumer sentiment nosedived since Shanghai lockdown



Note: As of Sep 2022. Source: China National Bureau Statistics, Macrobond, RBC GAM

Exhibit 36: Chinese retail sales beaten down by zero-COVID



Note: As of Oct 2022. Source: China National Bureau Statistics, Macrobond, RBC GAM

Exhibit 37: China's property sector hit hard by government crackdown



Note: As of Oct 2022. Home price change is an average of price changes in primary and secondary markets. Source: China National Bureau of Statistics, Macrobond, RBC GAM

Elevated uncertainty

It is undoubtedly a time of elevated uncertainty. Market volatility is an acknowledgement of the large number of powerful economic forces currently playing a vigorous game of tug of war.

There are a number of downside risks that loom large over global markets. We believe the world can avoid returning to a 1970s-esque decade of high inflation, but there is a small chance that a reprise materializes. It seems unlikely and certainly ill-advised that China would attack or lay siege to Taiwan in the short run, but this could happen. We believe the world can avoid a financial crisis, but the recent sharp increase in borrowing costs has already exposed points of vulnerability in a range of leveraged institutions including British pension funds. It is not impossible that further problems could be in store, whether from unravelling cryptocurrency empires, opaque private markets, or somewhere else.

But there are also problems that could work out better than we expect. It is hard to fathom the economic situation in China getting much worse for long, whereas it could get much better if pandemic and economic policies continue to change. A cease-fire between Russia and Ukraine is unlikely but conceivable given the damage being wrought to both parties.

While we have informed opinions on where inflation, the economy and central banks should go, none of these outcomes are assured. There are risks that extend in both positive and negative directions around these key variables. Of particular note, we highlight the chance that inflation declines more quickly than the consensus assumes. While not our base-case forecast, it is distinctly possible that

economies continue to hold up better than expected, much as the U.S. has over the second half of 2022. This combination would be catnip for both stocks and bonds.

Bottom line

The global economy remains in a challenging place. Inflation is too high, borrowing costs are rising and growth is slowing. Things are worse in Europe and the U.K. than in North America.

But there is evidence of incremental improvement. Inflation has begun to decline, and we believe the trend can continue. Accordingly, central banks may not have to tighten quite as much, and could even be in a position to partially unwind monetary tightening by the second half of 2023.

We continue to believe a recession is coming, but with slightly less conviction than a few months ago, and with the recognition that a recession with fewer job losses than normal and without a decline in nominal GDP may not feel quite so bad, even if the shrinkage in real output ends up being significant.

While one could be excused for focusing exclusively on the next several quarters given the key developments anticipated, it is also worth gazing out over the next few years with the recognition that economic prospects should improve over that time horizon. Inflation is likely to be significantly lower, an economic recovery should take hold by late 2023 or 2024 – permitting robust growth for several years thereafter, and investment asset classes of almost every description promise superior returns over a multi-year horizon given today's depressed valuations.



Market outlook

Entering 2023 with higher interest rates, lower valuations



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Daniel E. Chornous, CFA
Chief Investment Officer
RBC Global Asset Management Inc.

A look back at 2022 reminds us that financial markets experienced extreme turbulence as the macroeconomic environment shifted far beyond what most experts had expected. Many forecasters began the year thinking inflation would be transitory, that central banks would tighten monetary policy at a gradual pace and that the post-pandemic economic recovery would persist, albeit at a moderating pace. But inflation proved to be much more persistent and problematic than initially feared, in part due to the relentless pick-up in demand on the back of unprecedented stimulus, and also due to Russia's invasion of Ukraine, which further exacerbated supply-chain challenges and led to a spike in energy prices. The investing landscape was severely altered as inflation surged to its highest levels in 40 years.

In an effort to maintain the inflation-fighting credibility they've built over the past four decades, central banks abandoned their prior plans for a gradual removal of stimulus and instead embarked on the most aggressive tightening course we've seen since the 1970s. In nearly synchronized fashion, the world's major central banks delivered jumbo-sized interest-rate hikes in quick succession to temper economic activity and restore balance between supply and demand.

So far it appears that policymakers' attempts to reduce inflation are working. A variety of indicators suggest that inflation has peaked and could be on a trajectory back toward the 2% level targeted by many central banks. While it will take time to get there, pressure on central banks has likely been alleviated and the need for further significant tightening reduced. Furthermore, the extent of the massive

tightening that has already occurred will almost certainly slow the economy in the months and quarters ahead as the full impact of higher interest rates on economic activity tends to materialize with a considerable lag.

From a financial-market perspective, this year's abrupt adjustment to the path of central-bank policy has resulted in the largest losses for fixed-income investors since the 1980s. At this point, the bulk of central-bank rate hikes have been priced in and we could even see rate cuts next year if the economy deteriorates and inflation falls precipitously. The bond market's re-pricing has been especially large, with the U.S. 10-year yield having risen above 4.3% in the past quarter from just 1.5% at the start of the year (Exhibit 1). At these levels, the outlook for fixed-income returns has improved meaningfully and the risk of significant further losses from here has greatly diminished.

Equities also experienced heightened volatility in 2022 as valuations were adjusted to reflect higher inflation and interest rates. The MSCI World Index entered a bear market and, at its low, had lost 27% since the start of the year (Exhibit 2). The past year was a particularly painful period for high-growth and highly-priced technology stocks that tend to be more sensitive to changes in interest rates. At this point, we think the bulk of the valuation damage has worked its way through equity markets, but questions remain about the potential impact on earnings. Weaker economic growth will likely not be supportive for profits and, while stocks rallied toward the end of the fourth quarter, we think clarity on earnings is needed before stocks can rally meaningfully higher from here.

In this environment, we recognize that significant uncertainty remains with respect to the outlook for interest rates, inflation and the economy. However, valuations have meaningfully declined in both fixed-income and equity markets, boosting return potential for all asset classes. Importantly, higher bond yields mean that sovereign fixed income offers more ballast against a downturn in equity markets in balanced portfolios. Our asset mix remains closer to RBC GAM’s strategic neutral position than we’ve held at earlier stages of the expansion. This asset mix reflects our somewhat cautious view, but it remains tilted slightly in favour of stocks and away from bonds given our expectation that stocks offer superior upside potential over the longer term, especially if inflation calms and the economy progresses in a favourable direction. In fact, we opted to add 50 basis points to our equity allocation earlier in the quarter when stocks slipped to cycle lows, sourcing the funds from fixed income. For a balanced global investor, we currently recommend an asset mix of 62 percent equities (strategic neutral position: 60 percent) and 37 percent fixed income (strategic neutral position: 38 percent), with the balance in cash.

Inflation pressures are cooling

A variety of indicators suggest that inflation is calming and likely to trend lower. A good leading indicator of inflation tends to be growth in money supply. Exhibit 3 plots money-supply growth with a 16-month lead alongside U.S. CPI inflation. Notice that the surge in money supply (yellow line on the chart) following the pandemic correctly predicted the surge in inflation (blue line on the chart). The subsequent

Exhibit 1: U.S. 10-year government-bond yield



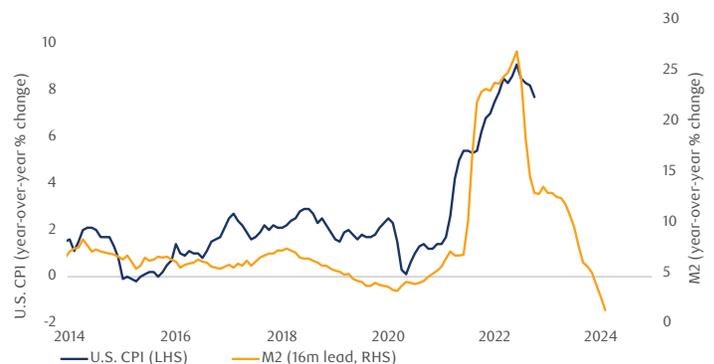
Note: as of November 30, 2022. Source : Bloomberg, RBC GAM

Exhibit 2: MSCI World Index
U.S. dollars



Note: MSCI World Index in U.S. dollars. As of November 30, 2022. Source: Bloomberg, RBC GAM

Exhibit 3: U.S. inflation and money supply
Year-over-year changes in CPI and M2



Note: as of October 31, 2022. Source: Bloomberg, RBC GAM

peak in money-supply growth also appears to have coincided with the peak in inflation 16 months afterward. This year's significant rate increases and quantitative tightening have coincided with a collapse in money-supply growth, hinting that inflation could be on a rapid downward trajectory for the next 16 months. Other popular metrics that feed into inflation readings have also come off the boil. Used-car prices, which had surged during the pandemic, are now decreasing on a year-over-year basis and increases in residential rents have slowed meaningfully from their peak (exhibits 4 and 5). Although inflation remains elevated, these indicators suggest that the problem of surprisingly high inflation we experienced in 2022 is likely to recede.

Pace of tightening likely to slow

Central banks have done a good job of raising rates to levels needed to cool inflation, but at this point the need for further significant tightening is ebbing. The gap between where interest rates are and where models suggest they should be has narrowed a great deal from the start of the year (exhibits 6 and 7). Our GAM model, which combines inflation and real interest rates, suggests a 5.1% fed funds rate is appropriate. The Koenig-Taylor rule, which incorporates inflation, GDP growth and the unemployment rate, deems a rate of about 6% to be more appropriate. Although the fed funds rate, which was at 4% at the end of November, is still below the level considered necessary by the models, the U.S. Federal

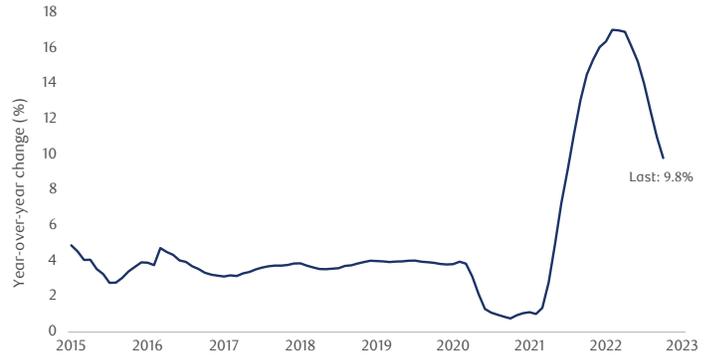
Exhibit 4: Manheim Used Vehicle Value YoY Index



Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

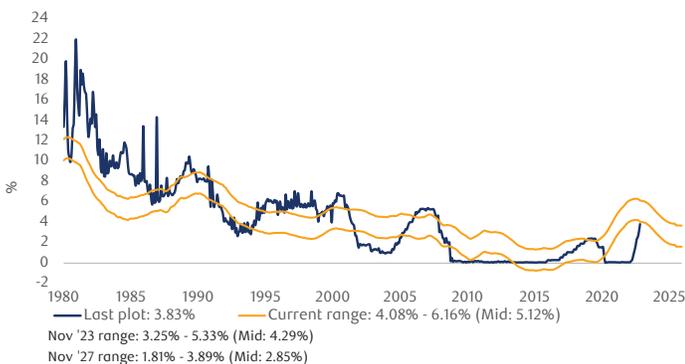
Exhibit 5: U.S. Zillow Rent Index

All homes year-over-year % change



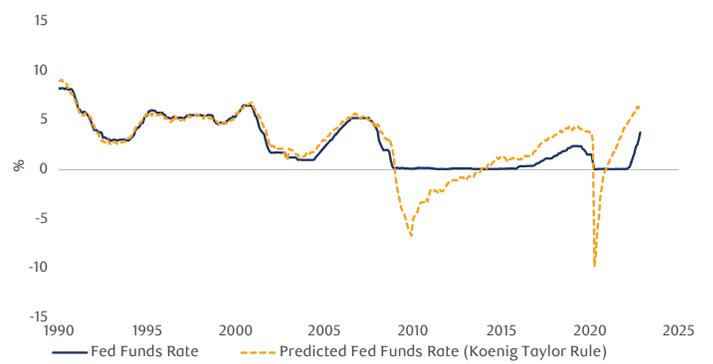
Note: as of October 31, 2022. Source: Zillow Inc., Bloomberg, RBC GAM

Exhibit 6: U.S. fed funds rate
Equilibrium range



Note: As of November 30, 2022. Source: Federal Reserve, RBC GAM

Exhibit 7: Koenig Taylor rule and fed funds rate



Note: As of November 2022. Source: Federal Reserve Bank of Dallas, RBC GAM

Reserve (Fed)’s outsized rate hikes this year appear to have started dampening inflation. Our GAM model incorporates an expectation that inflation will continue to fall over the year ahead, which could bring on rate cuts as suggested by the declining equilibrium band going forward. Pricing in the futures market confirms this view, indicating that the fed funds rate is expected to peak near 5% by early 2023 and then start to come down by mid- to late 2023 (Exhibit 8).

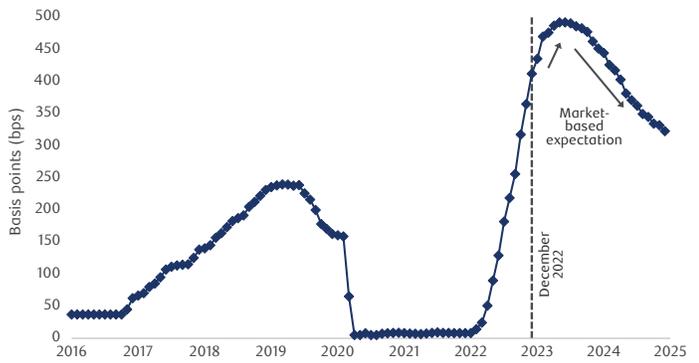
Bond market stabilizes after epic sell-off

After soaring since the start of the year, bond yields stopped rising in the past quarter as investors welcomed the idea that inflation may have peaked and that the pace of tightening is likely to slow. Yields on 10-year government bonds across the major regions that we track have fallen anywhere from

50 basis points to 130 basis points from their September/October peaks (exhibit 9). One exception to these trends is the 10-year Japanese bond yield, which continues to be suppressed by yield-curve-control. Aside from Japan, this decline in sovereign-bond yields came at a point where bond-market indicators moved to extremely oversold readings. The year-over-year change in the U.S. 10-year Treasury yield reached its highest level on record in percentage terms, and the proportion of investors that had a bullish outlook on 10-year Treasury prices fell to its lowest level in over 20 years (exhibits 10 and 11). Moreover, from a valuation standpoint, our own models suggested that yields had climbed to especially appealing levels, assuming that we are correct in our view that inflation is likely to decline meaningfully over the year ahead (page 40).

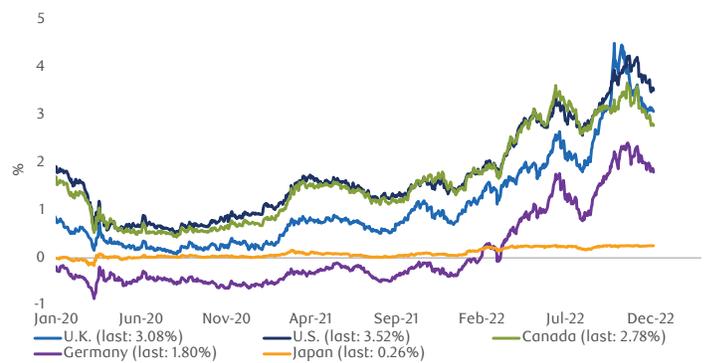
Exhibit 8: Implied fed funds rate

12-months futures contracts as of December 1, 2022



Source: Bloomberg, U.S. Federal Reserve, RBC GAM

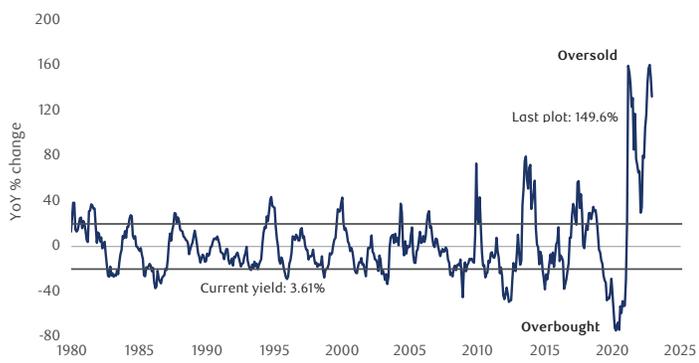
Exhibit 9: 10-year government-bond yields



Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

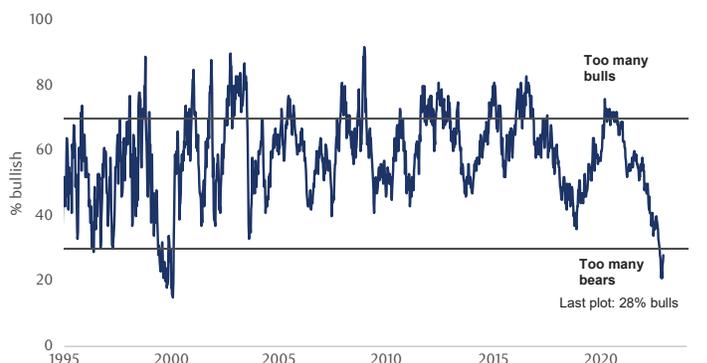
Exhibit 10: U.S. 10-year T-bond yields

Rate of change



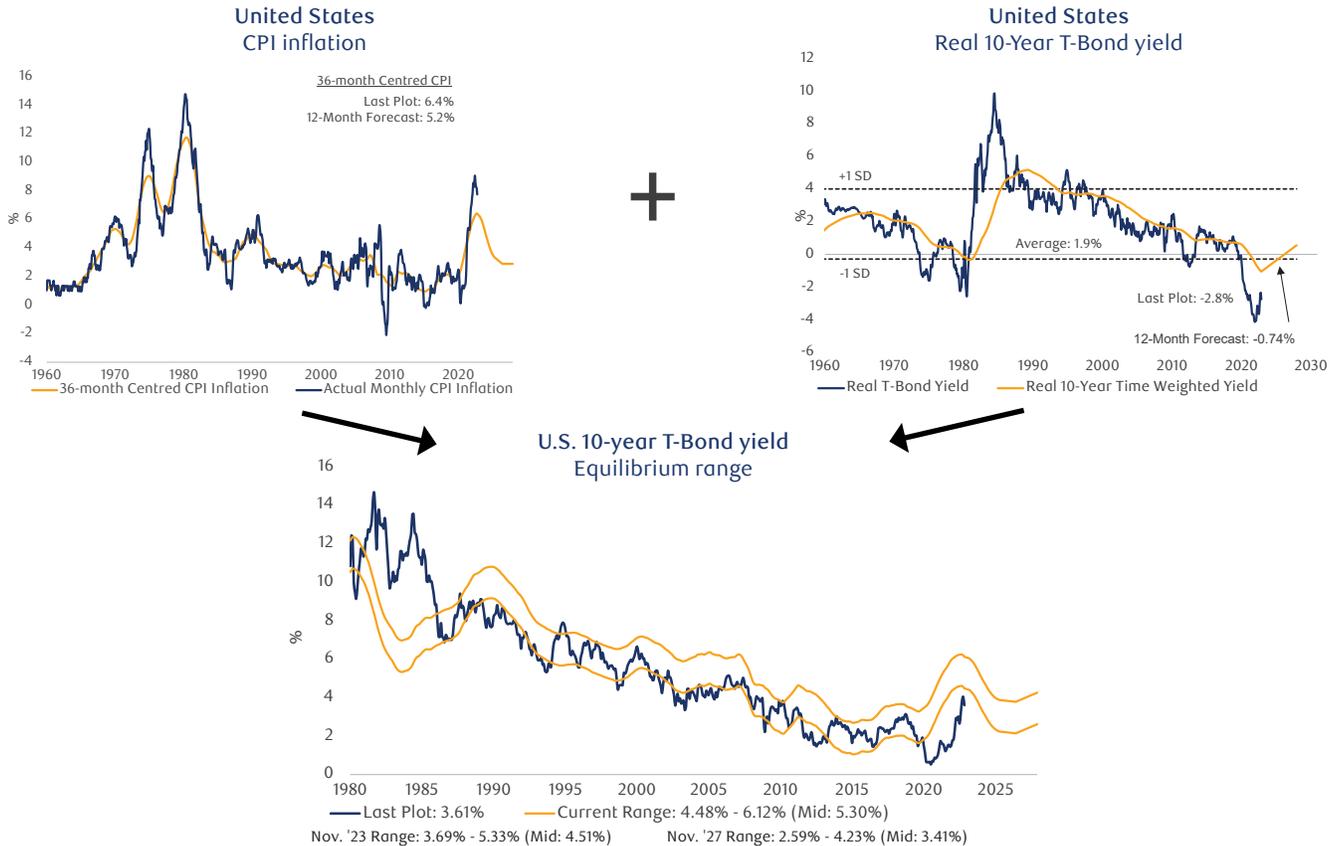
Note: as of November 30, 2022. Source: RBC GAM

Exhibit 11: U.S. 10-year T-bond bullish consensus



Note: as of November 27, 2022. Source: Market Vane, RBC GAM

Exhibit 12: U.S. 10-year bond yield Fair-value estimate composition



Note: as of November 30, 2022. Source: RBC GAM, RBC CM

A closer look at our model for 10-year Treasuries reveals why we think further upside in yields may be limited. Exhibit 12 plots the components of our bond model, which combines an inflation premium with a real (or after inflation) interest rate to arrive at a nominal bond yield. The kink in the equilibrium channel is mostly due to the inflation premium embedded in the model, which spiked in 2022 but is expected to moderate over the course of the next year and beyond as inflation likely calms to the more normal levels targeted by central banks. Real rates have room to move a little higher, but we continue to expect that real rates will be anchored around 0.5% to 1.0% over the longer term as structural forces such as aging populations and an increased preference for saving versus spending limit how high real interest rates can go. Overall, the model's path over the short to medium term is dominated by

the recent large increase in inflation and expectation that it drops meaningfully. Our model suggests that the equilibrium level for the U.S. 10-year Treasury yield today is 5.3%, but that level falls to 4.5% a year from now and to 3.4% in five years' time. As a result, the model suggests valuation risk in bonds has greatly diminished.

Equity bear market takes a breather

Like bonds, stocks stabilized in the fall, bouncing from extremely oversold conditions on hopes that the global tightening cycle could be nearing its end and on positive developments in China surrounding the loosening zero-COVID-19 restrictions. From their respective lows in October, the S&P 500 Index and S&P/TSX Composite Index each rose 14%, while the MSCI Emerging Markets Index was up 16% and

EAFE gained 18%, all figures in U.S. dollars as of November 30, 2022 (Exhibit 13). But even with these impressive gains, stocks are sitting on significant losses since the start of the year. Most major equity markets are still down double digits since January 1, with the tech-heavy NASDAQ especially hard hit, down nearly 30%.

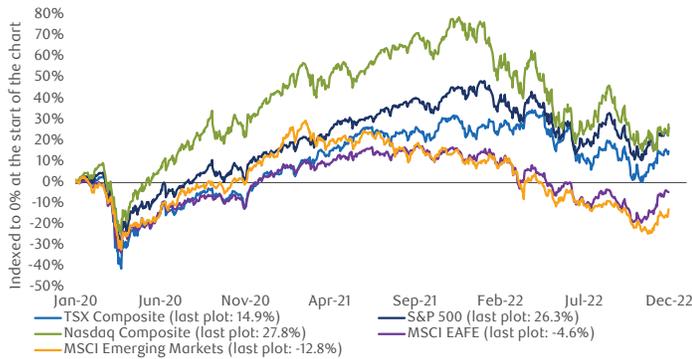
The good news for investors is that at today's reduced levels, stocks are now much more reasonably priced. Our global composite of equity valuations peaked around 40% above fair value at the beginning of the year, and the bear market wiped out the entirety of that overvaluation, bringing the composite slightly below fair value in September/October for the first time since March 2020 (Exhibit 14). Despite the significant sell-off, the U.S. equity market remains slightly above its own

fair value while non-U.S. markets have fallen to particularly attractive distances below their fair values, especially in emerging markets (page 41). Overall, the bear market in stocks has reduced valuation risk and boosted their return potential going forward.

Modelled relationships between inflation, interest rates and valuations

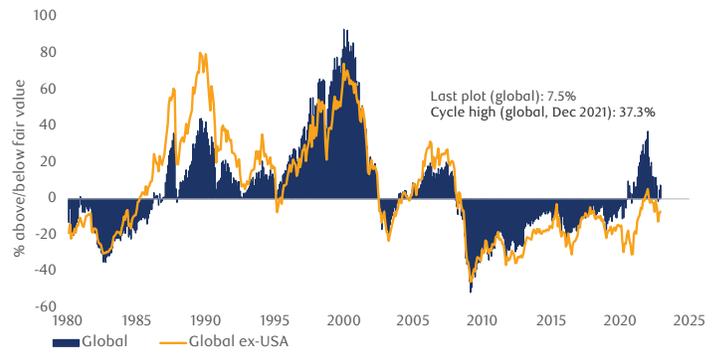
Our multi-factor model captures the mathematical relationships between valuations and a variety of variables, which can provide a sense to how sensitive price-to-earnings ratios (P/Es) can be to changes in macro conditions. Inflation and interest rates make up the biggest weights in the calculation and their respective relationships with S&P 500 valuations are plotted in exhibits 15 and 16. Notice how both

Exhibit 13: Major equity-market indices
Cumulative price returns indices in USD



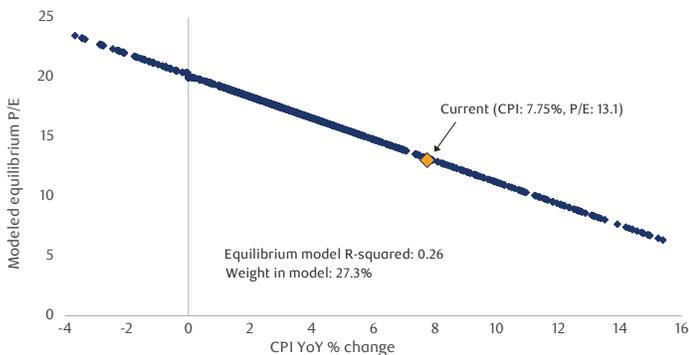
Note: as of November 30, 2022. Price returns computed in USD. Source: Bloomberg, RBC GAM

Exhibit 14: Global stock-market composite
Equity-market indexes relative to equilibrium



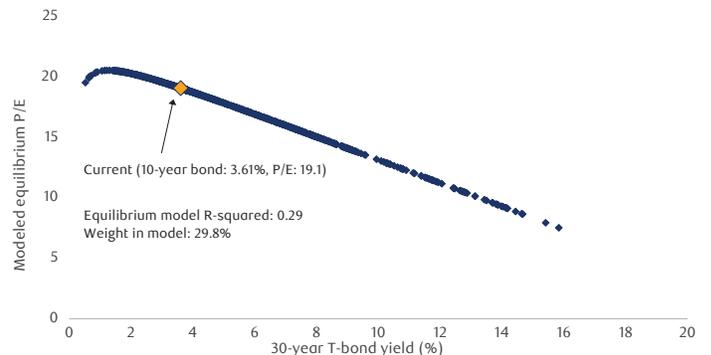
Note: as of November 30, 2022. Source: RBC GAM

Exhibit 15: S&P 500 equilibrium model
P/E factor as a function of CPI



Note: as of November 30, 2022. Source: RBC GAM

Exhibit 16: S&P 500 equilibrium model
P/E factor as a function of 10-year bond yield



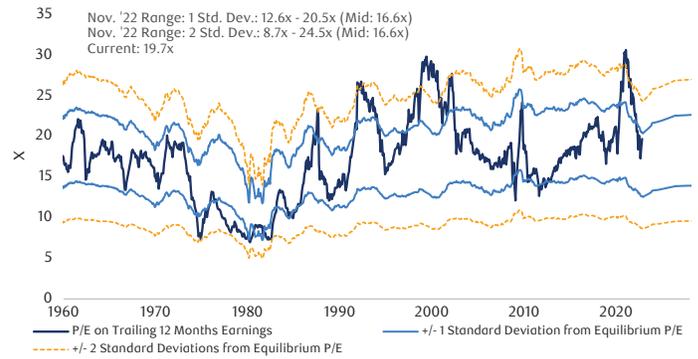
Note: as of November 30, 2022. Source: RBC GAM

graphs have downward sloping lines, suggesting that this year’s rise in inflation and interest rates has resulted in lower P/Es. The scale of the change is noteworthy: both inflation near 2% and interest rates near zero would have been consistent with an S&P 500 P/E closer to 20, whereas an 8% inflation rate and 4% interest rate is consistent with P/E of 13 and 17, respectively. Averaging these together, we get a P/E of 15, which represents a 25% haircut to the modelled P/E from these changes alone. The S&P 500 P/E has indeed declined significantly from its actual peak P/E of nearly 30 to below 20 and is now at a much more reasonable level according to our equilibrium model (Exhibit 17). Although high interest rates and inflation, if sustained, could continue to weigh on valuations, any indication that inflation is decidedly headed downward would alleviate pressure from the Fed and could even result in a boost to P/Es from here.

Earnings still pose vulnerability for stocks

While valuations are now less of a concern, earnings declines could pull stock prices lower if a recession were to materialize. Exhibit 18 lists earnings statistics during the past 11 recessions and they indicate that profits fall an average of 24% from peak to trough, bottoming at 16% below their

Exhibit 17: S&P 500 Index
Normalized (Equilibrium) Price/Earnings Ratio



Note: as of November 30, 2022. Source: RBC GAM

long-term trend. Analysts have already begun downgrading their profit forecasts for S&P 500 companies ahead of a potential recession, but so far the downward revisions have been small (Exhibit 19). The current estimates still anticipate a 6% increase in earnings this year and another 6% gain in 2023. We think these estimates are fairly optimistic given that earnings are above their long-term trend and companies are

Exhibit 18: S&P 500 earnings per share
Recession statistics

Recession start date	Earnings peak date	Earnings trough date	Earnings reclaim prior peak date	Earnings decline duration (months)	Earnings peak (\$)	Earnings trough (\$)	EPS change peak to trough (%)	Earnings reclaim duration (months)	Trendline earnings (exponential trend)	Difference between actual EPS and trendline EPS at earnings trough
July 1953	Dec-50	Dec-53	Dec-54	36	2.8	2.5	-11.6%	48	2.3	10.6%
August 1957	Feb-56	Mar-59	Jul-60	37	3.6	2.8	-23.4%	53	3.2	-11.1%
April 1960	Jun-60	Jun-61	Jun-62	12	3.6	3.0	-14.6%	24	3.6	-17.4%
December 1969	Apr-69	Jun-70	Oct-72	14	6.1	5.1	-16.2%	42	6.4	-20.2%
November 1973	Jan-75	Feb-76	Dec-76	13	9.6	7.6	-21.6%	23	9.1	-16.8%
January 1980	Jul-80	Aug-81	Jan-82	13	15.6	13.7	-11.9%	18	12.9	6.0%
July 1981	Aug-82	Jul-83	Oct-84	11	16.3	12.1	-25.8%	26	14.6	-17.0%
July 1990	Aug-89	May-92	Sep-94	33	25.7	15.5	-39.7%	61	25.4	-39.0%
March 2001	Sep-00	Mar-02	Mar-04	18	55.8	41.3	-25.9%	42	47.2	-12.6%
December 2007	Aug-07	Oct-09	Nov-11	26	89.8	45.1	-49.8%	50	76.2	-40.8%
February 2020	Jan-20	Feb-21	Jun-21	12	152.5	122.8	-19.5%	16	155.6	-21.1%
Aggregate statistics										
Average				20	35	25	-23.6%	37	32	-16.3%
Median				14	16	12	-21.6%	42	13	-17.0%
Max				37	153	123	-11.6%	61	156	10.6%
Min				11	3	3	-49.8%	16	2	-40.8%

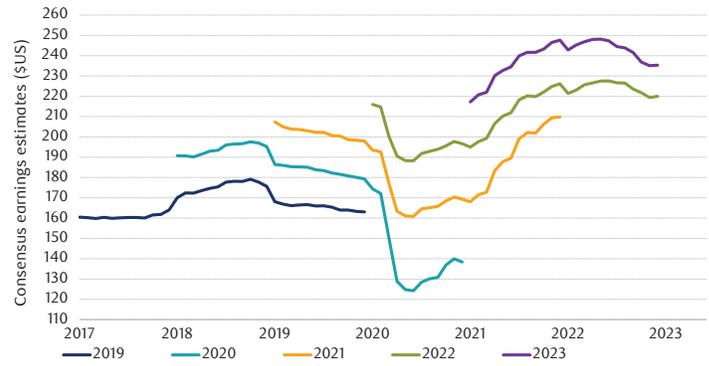
Note: as of December 2, 2022. Source: Bloomberg, RBC GAM

facing headwinds from rising costs and slowing economic activity (Exhibit 20). Even if we were to assume a benign scenario in which the anticipated recession is relatively mild and that profits drop back to their long-term trend rather than falling below that trend, stocks would still drop 10% from current levels. For these reasons, we think earnings are likely to lag analysts' estimates. At the very least, we think it is unlikely that earnings will be strong enough to lift stocks unless a recession is avoided.

Scenario analysis reveals wide range of potential outcomes

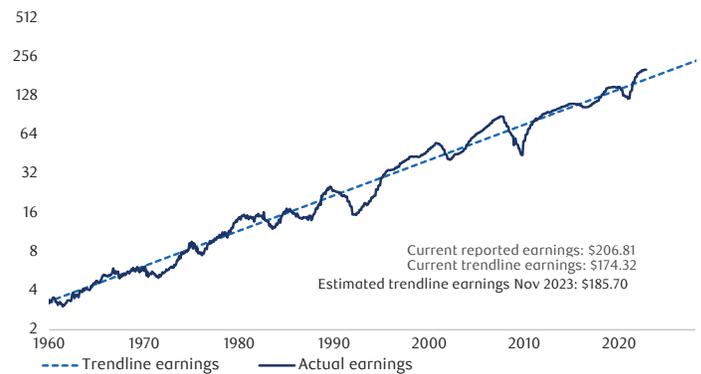
The lack of clarity on corporate profits presents a challenge to forecasting the S&P 500 over the year ahead as the range of potential outcomes spans an especially large range. We have run a variety of scenarios using different S&P 500 profit estimates, from as low as US\$155 per share for an average recessionary scenario to as high as US\$230 which is the current consensus of analysts' estimates. Exhibit 21 lists S&P 500 values a year from now using various earnings figures combined with different price-to-earnings multiples. Using our model's equilibrium P/E of 17.3 – the level consistent with inflation, interest rates and corporate profitability – as a base line, the S&P 500 could range from 2676 in a full-blown recessionary scenario to 3974 in the most optimistic earnings setting. This set of outcomes leaves no upside for stocks while exposing investors to significant downside risk given that the S&P 500 is trading at the upper end of that range at the time of this writing. That said, there is still a possibility that risks diminish and stocks resolve higher. In the event that

Exhibit 19: S&P 500 Index
Consensus earnings estimates



Note: as of December 8, 2022. Source: Thomson Reuters, Bloomberg

Exhibit 20: S&P 500 earnings comparison



Note: as of November 30, 2022. Source: RBC GAM

Exhibit 21: Earnings estimates & alternative scenarios for valuations and outcomes for the S&P 500

		November 30, 2023			
		Consensus EPS	Flat 0% EPS growth	Trendline earnings	Recessionary*
	P/E	\$230.3	\$206.8	\$185.7	\$155.1
+1 Standard Deviation	21.4	4920.0	4417.4	3965.9	3313.0
+0.5 Standard Deviation	19.3	4447.0	3992.7	3584.7	2994.5
Equilibrium	17.3	3974.0	3568.0	3203.4	2676.0
-0.5 Standard Deviation	15.2	3501.0	3143.4	2822.1	2357.5
-1 Standard Deviation	13.1	3028.0	2718.7	2440.9	2039.0

Note: as of November 30, 2022. *Trailing 12-month earnings to October 2022 less 25%. (i.e. average decline in earnings through recession). Source: Bloomberg, RBC GAM

a soft landing is achieved, where inflation calms, rate hikes come to an end and recession is avoided, investors could be willing to pay half or even a full standard deviation above the equilibrium P/E for stocks. Should all of these factors move in the right direction and investor confidence is restored, significant further upside toward the 5000 level on the S&P 500 would not be unreasonable.

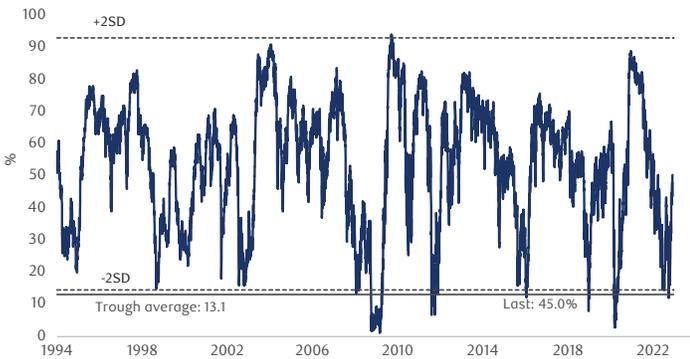
Some signs a meaningful bottom may be behind

While more downside in stocks is always a possibility and the macro backdrop is facing a variety of crosswinds, several indicators indicate that a sustained bottom may have been established in October. The percentage of stocks above their 200-day moving average, the percentage of stocks experiencing rising price momentum and investor bullish

sentiment all sank to historic lows at the same time during October (exhibits 22 to 24). While each of these indicators are now off their recent lows as a result of the latest rally in equity markets, the nadir reached in these indicators earlier in the quarter were consistent with readings typical of sustained market bottoms in the past.

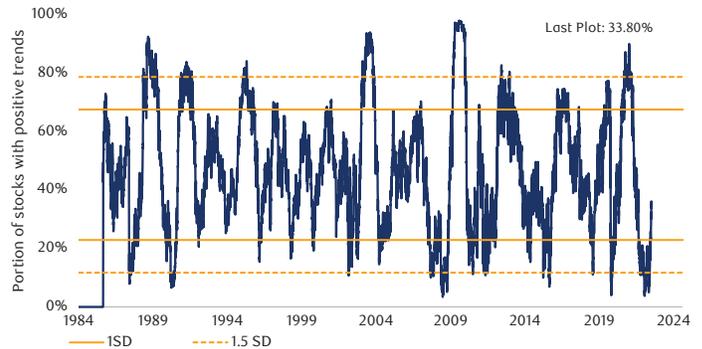
Moreover, the rotation within investment styles, sectors and regions is consistent with trends that are expected during the early stages of an economic expansion rather than recession. Value stocks have led growth stocks for most of the year, helped by the fact that rising interest rates have weighed on high-priced mega-cap technology stocks in particular (Exhibit 25). But the persistence of value outperformance, even during the recent equity-market rally as yields retraced,

Exhibit 22: New York Stock Exchange Composite Index
% of stocks above their 200-day moving average



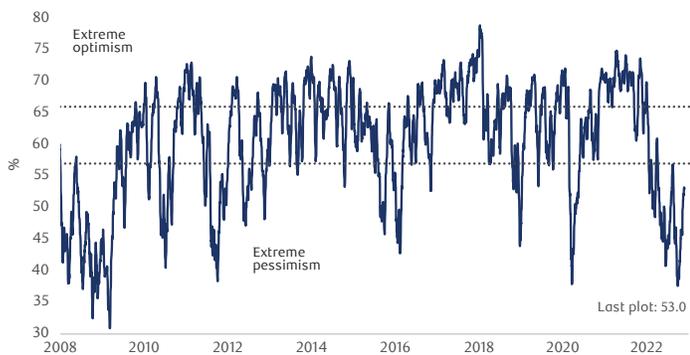
Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

Exhibit 23: S&P 500 Index
Monthly price momentum



Note: as of December 1, 2022. Source: RBC GAM

Exhibit 24: Ned Davis Research Crowd Sentiment
Poll – Percent bulls



Note: as of November 29, 2022. Source: Ned Davis Research, RBC GAM

Exhibit 25: Value to growth relative performance
S&P 500 Value Index / S&P 500 Growth Index



Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

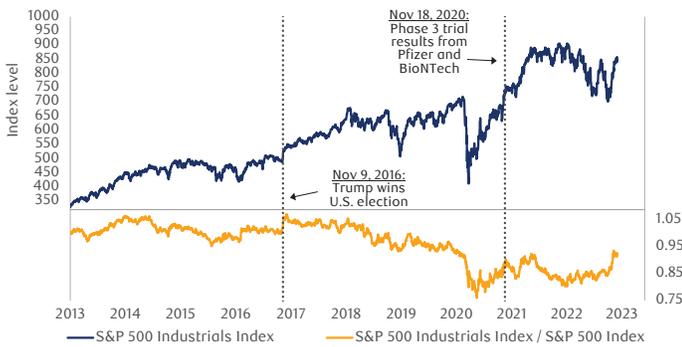
suggests there could be more to the story. Value stocks tend to outperform when economic prospects are improving because investors are able to access earnings growth for a cheaper price through value stocks. Moreover, we have seen economically sensitive sectors such as Industrials and Financials outperform from recent market lows, as have equities in Canada and Europe relative to the U.S (exhibits 26 to 29). We recognize that the economy is facing a long list of challenges and that the likely course is for the economy to enter recession over the year ahead, but these moves within the stock market seem to contradict that view or, perhaps, suggest that investors have moved beyond the idea of recession and have already started to price in the subsequent recovery.

Asset mix – maintaining slight overweight stocks underweight bonds

The global economy continues to slow and we think that recession is more likely than not at some point over our one-year forecast horizon. The energy crisis in Europe, geopolitical tensions, slowing growth in China and the lagged impact of aggressive global monetary tightening are all acting as critical headwinds to economic activity. In this environment, we think the macro environment remains highly uncertain and that the range of possible outcomes spans an unusually wide range.

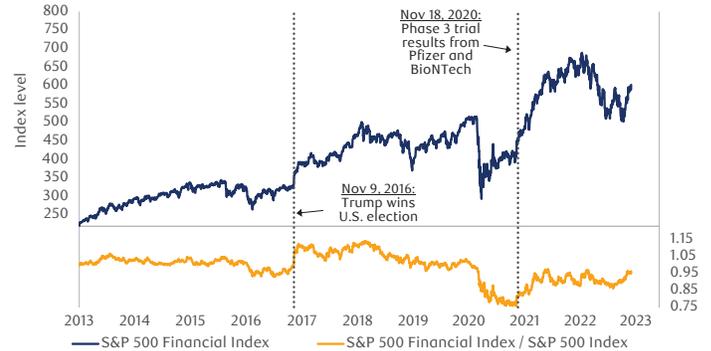
Strictly from an investor’s standpoint, however, the 2022 bear market in both bonds and stocks has meaningfully improved

Exhibit 26: S&P 500 Industrials Index
Index level and relative strength



Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

Exhibit 27: S&P 500 Financials Index
Index level and relative strength



Note: as of November 30, 2022. Source: Bloomberg, RBC GAM

Exhibit 28: TSX relative to S&P 500
In Canadian dollars



Note: as of November 30, 2022. Source: RBC GAM

Exhibit 29: Relative Performance
MSCI Europe USD vs MSCI U.S. USD



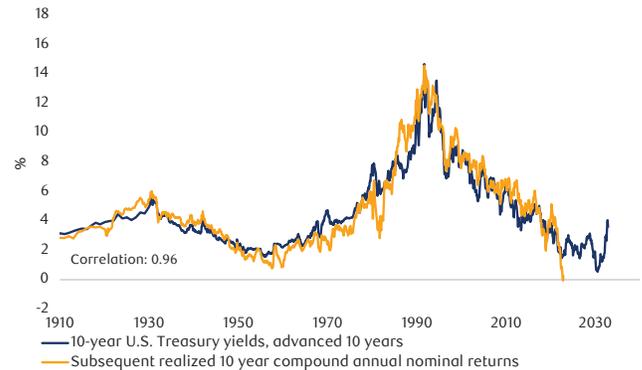
Note: as of November 29, 2022. Source: RIMES, RBC GAM

return expectations across all asset classes. A simple, yet reliable, way to forecast returns on sovereign bonds over the next decade is to take the current yield to maturity on 10-year bonds (Exhibit 30). That number is now 3.6% for 10-year Treasuries, up from 1.5% at the beginning of the year. As a result, bonds offer higher return potential today than they have for some time and, crucially, at these higher yields bonds offer more of a ballast against equities in a balanced portfolio should the economy enter a downturn.

For stocks, Shiller’s cyclically adjusted P/E ratio (CAPE) has had a good track record of predicting S&P 500 returns over the subsequent decade (Exhibit 31). At the start of the year, the expectation was for around 3% annualized returns for the S&P 500 for the next 10 years. With the significant decline in equity valuations this year, that number has increased to between 7% and 8%. Today’s more attractive starting point for valuations means a typical 60% equity/40% fixed income balanced investor could expect closer to 6.0% annualized returns over the next decade, up from 2.4% at the start of this year.

Balancing the risks and rewards as well as near-term challenges versus long-term opportunities, we believe a cautious approach to risk taking remains appropriate. Our asset mix for balanced portfolios is positioned with a small overweight in stocks and slight underweight in fixed income given our view that stocks offer superior return potential over the longer term. But our allocations are closer to our strategic neutral than they have been at previous points in the cycle, allowing us to take advantage of volatility and opportunities should they present themselves. For example, when stock prices were near their lows earlier in the quarter and technical indicators suggested equities were oversold, we added 50 basis points to our equity allocation, sourced from fixed income. For a balanced global investor, we currently recommend an asset mix of 62 percent equities (strategic neutral position: 60 percent) and 37 percent fixed income (strategic neutral position: 38 percent), with the balance in cash.

Exhibit 30: U.S. 10-year Treasury note and returns



Note: As of November 30, 2022. Source: Deutsche Bank, Haver Analytics, RBC CM, RBC GAM

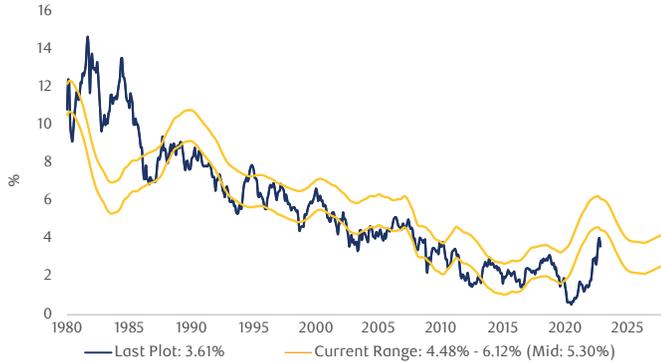
Exhibit 31: Shiller’s CAPE
Real S&P 500 Index / 10-year average of real EPS



Note: as of November 30, 2022. Source: Macrobond, Bloomberg, RBC GAM

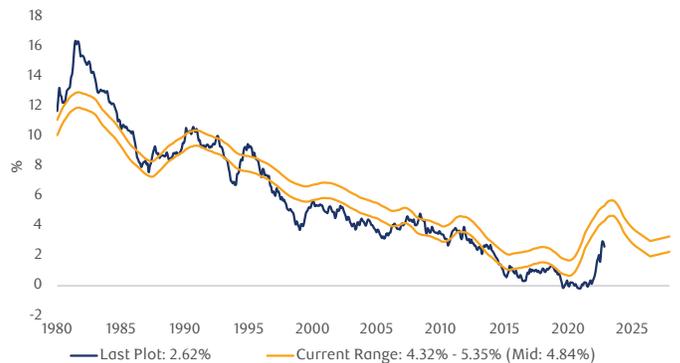
Global fixed income markets

U.S. 10-Year T-Bond Yield
Equilibrium range



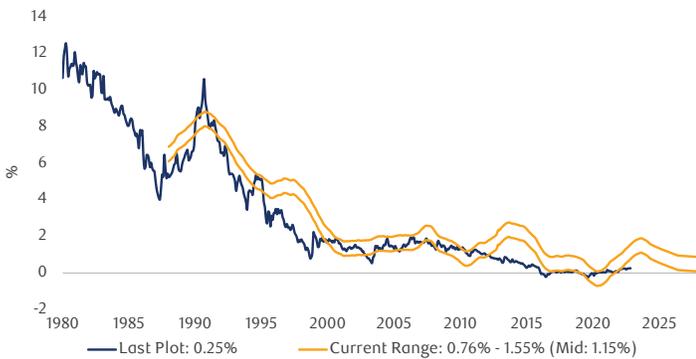
Note: As of November 30, 2022. Source: RBC GAM, RBC CM

Eurozone 10-Year Bond Yield
Equilibrium range



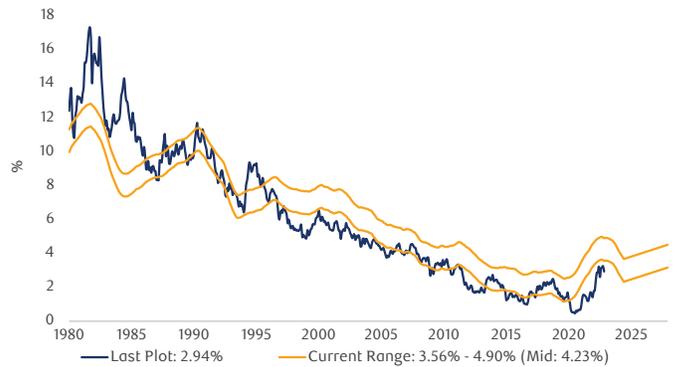
Note: As of November 30, 2022. Source: RBC GAM, RBC CM

Japan 10-Year Bond Yield
Equilibrium range



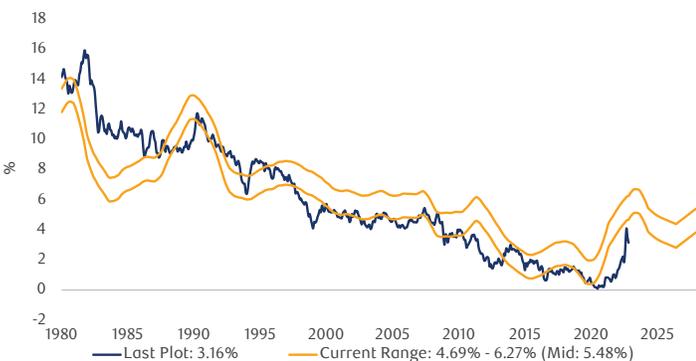
Note: As of November 30, 2022. Source: RBC GAM, RBC CM

Canada 10-Year Bond Yield
Equilibrium range



Note: As of November 30, 2022. Source: RBC GAM, RBC CM

U.K. 10-Year Gilt
Equilibrium range

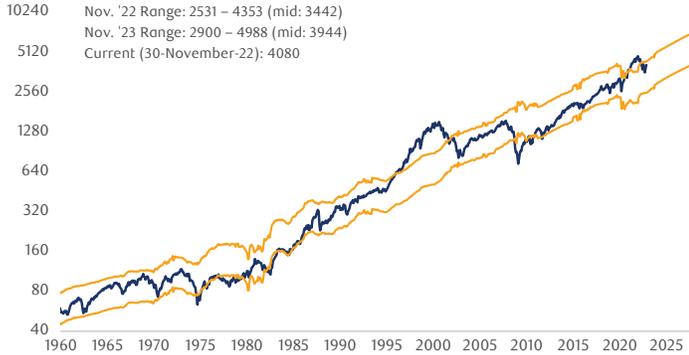


Note: As of November 30, 2022. Source: RBC GAM, RBC CM

“Our own models suggested that yields have climbed to especially appealing levels, assuming that we are correct in our view that inflation is likely to decline meaningfully over the year ahead.”

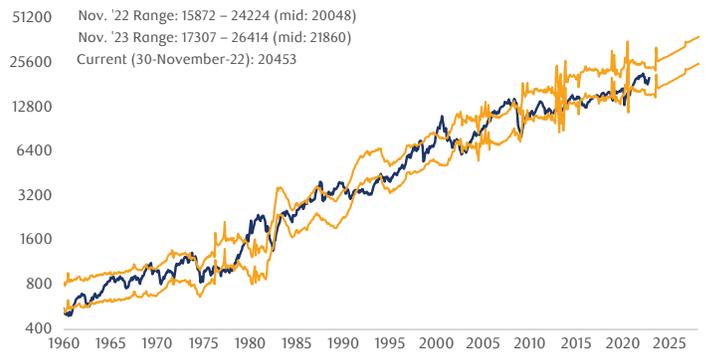
Global equity markets

S&P 500 Equilibrium Normalized earnings and valuations



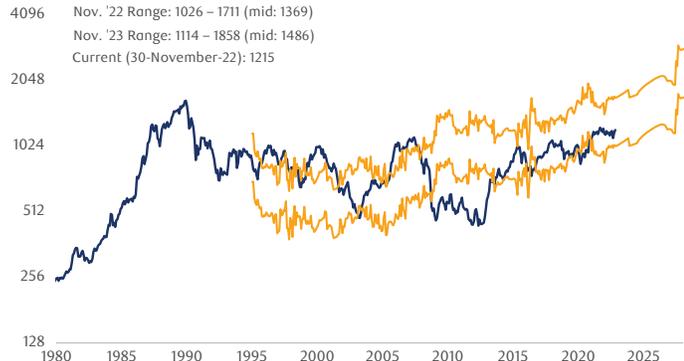
Source: RBC GAM

S&P/TSX Composite Equilibrium Normalized earnings and valuations



Source: RBC GAM

MSCI Japan Index Normalized earnings and valuations



Source: RBC GAM

MSCI Europe Index Normalized earnings and valuations



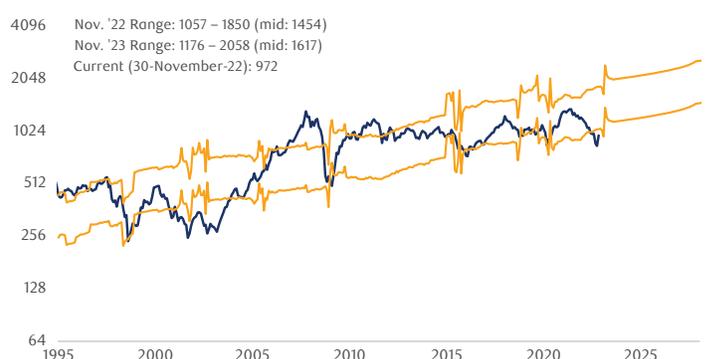
Source: RBC GAM

MSCI U.K. Index Normalized earnings and valuations



Source: RBC GAM

MSCI Emerging Markets Index Normalized earnings and valuations



Source: RBC GAM

Note: The fair value estimates are for illustrative purposes only. Corrections are always a possibility and valuations will not limit the risk of damage from systemic shocks. It is not possible to invest directly in an unmanaged index.



Global fixed income markets



Soo Boo Cheah, MBA, CFA
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Management Inc.

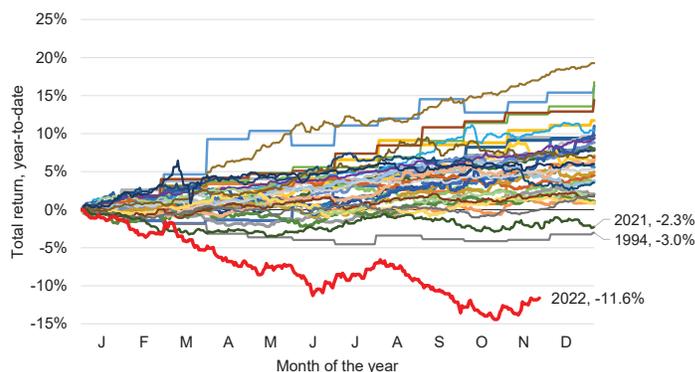


Taylor Self, MBA, CFA
Portfolio Manager,
RBC Global Asset
Management Inc.

Bonds are having by far their worst year in four decades, with currency-hedged global government bonds declining by close to 12% through November (Exhibit 1), after central banks relentlessly raised interest rates to fight surging inflation. The only other times that government bonds had calendar-year losses since the mid-1980s were in 1994 and last year, and in both cases the losses were in the low single digits. Will 2023 bring a third straight year of bond declines? We don't believe so. Bond yields are now higher than they have been since 2008. To our mind, bonds now offer their most compelling return potential since the onset of the global financial crisis, especially as inflation cools and economic activity slows. We think bonds should post returns somewhere in the mid-single digits over the next 12 months and forecast the U.S. 10-year bond yield to be 3.70% in a year's time, around the same level as now.

Losses over the past year have been spurred primarily by aggressive monetary tightening that we think is unlikely to be repeated. Policy rates are much more restrictive now, in stark contrast with the end of 2021, when they sat firmly near zero and were expected to remain low for some time. Energy prices have also declined meaningfully from their peaks, and as the one-year anniversary of Russia's invasion of Ukraine approaches in February, the boost to price pressures from energy should abate – easing pressure on central bankers.

Exhibit 1: There is no historical parallel for 2022
Year-to-date returns for currency-hedged global government bonds



Note: As of November 30, 2022. Source: FTSE Russell World Government Bond Index Total Returns (Canadian-dollar hedged). Returns since 1985.

“Over the next year, the full effect of policy-rate hikes from the past 12 months is going to be felt and bond returns are likely to be bolstered by the likelihood that most developed-market economies will fall into recession.”

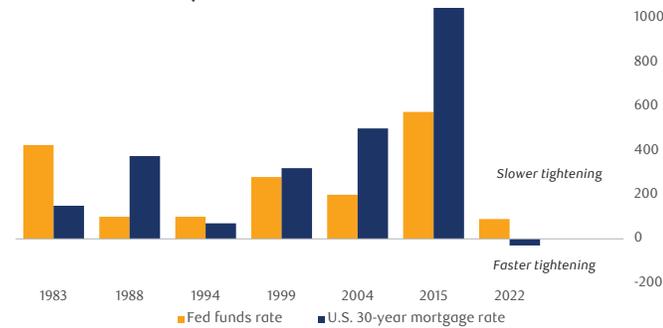
Judging by the speed and scale of the rise in both the fed funds rate and the benchmark 30-year U.S. fixed-rate mortgage, the past 12 months have seen the most aggressive policy tightening of the past 40 years (Exhibit 2). Moreover, investor expectations for policy rates, adjusted for inflation, are as high as they have been since the global financial crisis (Exhibit 3). Almost all central banks have hiked policy rates by hundreds of basis points since earlier this year and guided investor expectations towards continued policy tightening.

Importantly for policymakers, economic growth and inflation in some regions are showing signs of falling in response to much tighter monetary policy, and we expect the impact of higher interest rates in 2022 to become more forceful over the next year. While we do expect further interest-rate hikes

in 2023 in most markets, their pace and size should be much smaller than during the past year (Exhibit 4). Overall, the tightening cycle is much closer to the end than the beginning.

Over the next year, the full effect of policy-rate hikes from the past 12 months is going to be felt and bond returns are likely to be bolstered by the likelihood that most developed-market economies will fall into recession. At current yields, bonds offer the potential for significant price gains. A quick decline in yields back to zero, a level that they very nearly reached in March 2020 during the depths of the COVID-19 panic, would provide a 26% return based on yields prevailing near the end of November. At the beginning of 2022, the same decline in yields would have offered investors an 8% return (Exhibit 5).

Exhibit 2: U.S. policy rates and mortgage rates have risen at a record pace – Number of days for interest rates to increase by one percentage point, after the first rate rise by the Federal Reserve



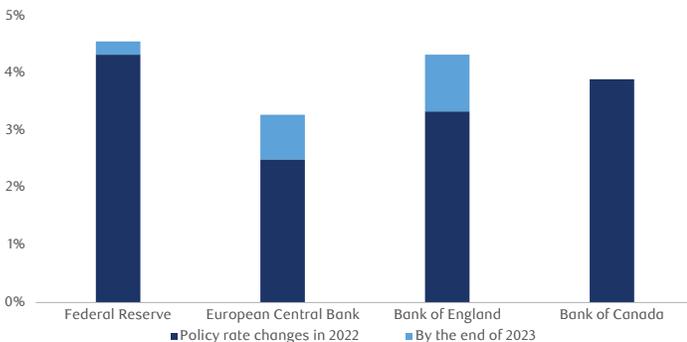
Source: The Economist, Federal Reserve, Federal Reserve Bank of St. Louis, Freddie Mac

Exhibit 3: Expected real interest rates are the highest in over a decade – Expected peak of fed funds rate over five years, less consumer inflation expectations



Note: Data as of November 22, 2022. Source: Bloomberg, University of Michigan

Exhibit 4: Central banks are expected to be much less aggressive in the year ahead – Expected changes to policy rates for select central banks



Note: Data as of November 30, 2022. Source: Bloomberg

Exhibit 5: U.S. Treasuries offer vastly improved potential for returns – Return to U.S. government bond index if yields declined to 0%



Note: As at August 26, 2022. Source: Bloomberg, RBC GAM

The increase in potential returns for bonds coincides with our belief that the beneficial relationship between stock and bond returns should make a comeback. Our research suggests that the positive correlation between stocks and bonds over the past year is very much the result of the exceptionally fast pace of monetary-policy tightening in response to an inflation surprise (Exhibit 6). As investors scale back their expectations of rate hikes to a range of two to three hikes per year, or even fewer, the historical relationship should reassert itself.

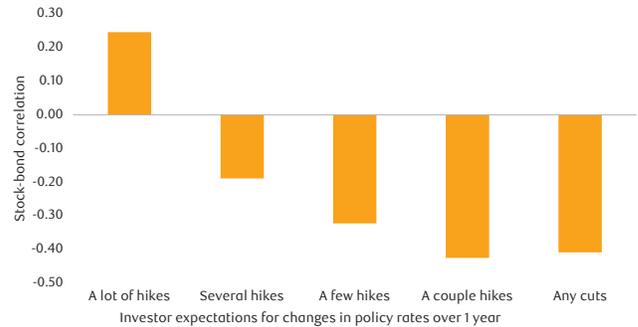
In so far as the rise in yields has hurt bondholders, it also has the potential to be particularly impactful for governments, by meaningfully raising the costs of issuing debt. Governments have enjoyed a three-decade run during which their debts and budget deficits ballooned but debt-servicing burdens did not as interest rates fell (Exhibit 7). In the U.S., for example, government debt has more than tripled since 1990, but debt-servicing costs have fallen by half over the same period.

Yields on government bonds in most major markets are now significantly higher than the coupons that governments currently pay (Exhibit 8). If governments reissued their debt at current market rates, the cost of debt would increase by more than 50% for Australia and the U.K. In the U.S. and Canada, it would more than double.

Of course, government debt-servicing costs won't change overnight, but will over time as existing debt matures and new bonds are issued in their stead – like the renewal of a mortgage at a higher rate. In some cases, governments have issued long-term debt and locked in low borrowing costs. For the U.K., the average government bond matures over 15 years from now. In the U.S., by contrast, more than a quarter of Treasury bonds will mature before the end of 2024 (Exhibit 9).

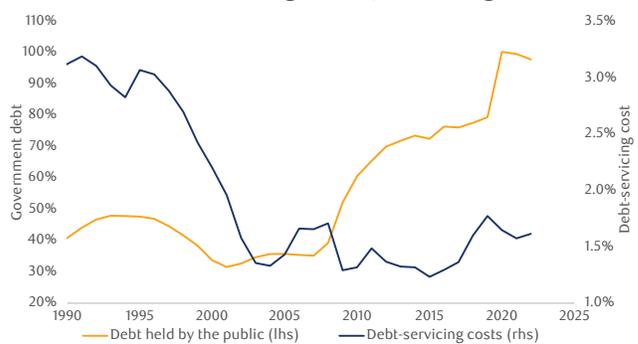
However, as the U.K bond market's recent experience demonstrates, while a long-maturity debt profile can shield a government from investor skepticism, it is no guarantee. In October, the government of then-Prime Minister Elizabeth Truss floated a poorly conceived economic plan that would have led to significant deterioration in an already poor fiscal outlook. Bond investors responded swiftly, driving government bond prices sharply lower – the U.K. gilt maturing in 2073 lost 35% over the course of a week – and forcing a U-turn from the government. Truss lasted 44 days in office, the shortest tenure ever for a U.K. leader.

Exhibit 6: When investors expect a lot of hikes, stocks and bonds move together – Stock-bond return correlation based on the number of hikes expected by investors over the subsequent year



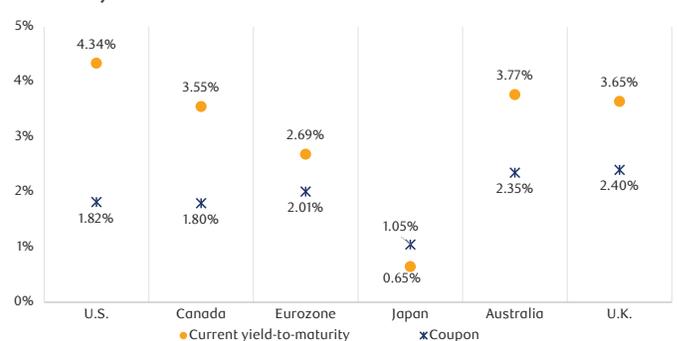
Note: Data from January 1990 to October 2022. Source: Bloomberg, RBC GAM calculations, Bloomberg Barclays Indices, Standard & Poor's

Exhibit 7: Since 1990, debt costs fell by 50%, even as debt rose by 200% – U.S., publicly-held government debt and debt-servicing cost, percentage of GDP



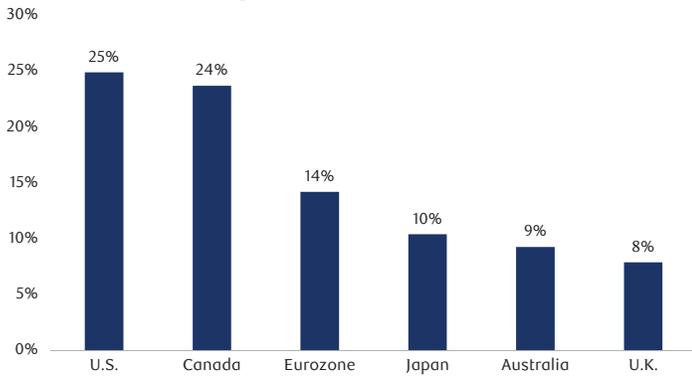
Note: Data as of September 2022. Source: Congressional Budget Office (CBO)

Exhibit 8: Government-bond yields are much higher than coupons – Current coupon rate versus prevailing market yields



Note: Data as of November 2022. Source: Bloomberg, RBC GAM calculations

Exhibit 9: Governments face very different realities when it comes to maturing debt – Share of publicly-held debt maturing before the end of 2024



Note: Data as of November 2022. Source: Bloomberg

The U.K. experience is unlikely to repeat elsewhere in the G10, but it does highlight that most developed-market governments possess unflattering debt-to-GDP profiles. Over the long term, high government-debt loads will likely act as a drag on growth and necessitate a fiscal adjustment through tax rises, spending cuts, or both. Central banks may find themselves called upon to backstop government credibility in order to ensure financial stability. The combination of sluggish growth and central-bank intervention will likely keep government-bond yields relatively low over the long term, as has been our view for several years now. With this in mind, the current set of high yields, driven by central banks focused on tamping down inflation, look particularly attractive.



Direction of interest rates



We are expecting the Fed to hike all the way to 5.00% next year, from the 3.75% level reached in November.

United States

Since reaching as high as 4.30% in October, the U.S. 10-year bond yield has declined to around 3.70%. At the same time, investor expectations for how high the U.S. Federal Reserve (Fed) will need to hike rate to tame inflation have declined by around 40 basis points. We are likely to be entering a stage of the economic cycle where concerns about flagging economic activity will need to be more keenly weighed in the year ahead against the necessity of hiking interest rates to tame currently high inflation.

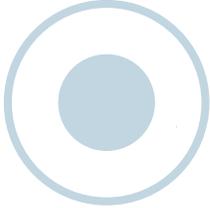
The U.S. labour market remains quite strong, bolstering demands from workers that employers more fully offset losses in purchasing power. The Fed is very motivated to stop this inflation-wage growth feedback loop from becoming entrenched, justifying the aggressive pace of tightening thus far. It also means that the Fed is likely to be slow to shift its attention from fighting inflation to supporting growth. We are expecting the Fed to hike all the way to 5.00% next year, from the 3.75% level reached in November. We do see encouraging signs that some of the main drivers of inflation during the pandemic – snarled supply chains and goods prices – are abating. Softening economic growth and slowing inflation mean that the yield on the 10-year Treasury bond will likely be around 3.70% in a year's time – putting the yield curve into a deep inversion, with long-term yields well below short-term ones.



We now see the policy rate in Europe rising as high as 3.00%. Meanwhile, the yield on 10-year German government bonds will stretch to 2.40% from around 2.00% at the time of writing.

Eurozone

Policymakers at the European Central Bank (ECB) face a difficult 12 months. Double-digit inflation, a land war in Europe and the question of how to unwind its massive balance sheet even as governments ramp up issuance to support economic activity pose particularly prickly problems. Inflation has continued to rocket higher, with prices in Germany rising by 11.3% in November from a year ago. The vast majority of price pressures in the eurozone are related to soaring energy costs, as the continent's major supplier, Russia, restricts supplies. Normally, the ECB would prefer to view price pressures related to energy as temporary, but the size of the shock makes that approach all but impossible this time. What's more, the strength of the labour market means that there is a greater-than-usual chance that the current bout of high inflation will become embedded in wage agreements for years to come. Governments, meanwhile, are buttressing consumer pocket books via direct transfers – making the ECB's attempts to curtail economic activity via rate hikes that much more difficult. The result of these various economic factors is that the ECB will need to be more aggressive than previously expected in its efforts to slow activity and keep inflation expectations anchored. We now see the policy rate in Europe rising as high as 3.00%. Meanwhile, the yield on 10-year German government bonds is expected to stretch to 2.40% from around 2.00% at the time of writing.



Our base case remains no change to the policy rate at -0.10% and no change to the target range for the 10-year government bond yield between -0.25% and +0.25%.

Japan

Like most places in the world, inflation in Japan continues to run hot – the price of a basket of consumer goods rose by nearly 4% in October from a year ago. Even though these inflation figures are modest compared with the double-digit inflation in the U.K. and the eurozone, they represent a multi-decade high for the island nation. Unlike most other central banks, the Bank of Japan (BOJ) has held firm to its extremely easy stance on monetary policy, citing a lackluster economic recovery and little evidence of rising wage demands. The chances of policy tightening in the near term remain about as low as they have been for the past several years: little to none. However, the odds over the next year that the BOJ will tighten policy are as high as they have been for at least half a decade. Indeed, both foreign and domestic bondholders have been raising bets that a shift in policy is in the offing. For foreign investors, selling pressure on 10-year government bond futures has pushed yields on these instruments as high as 0.75% – far above the top of the BOJ’s target range at 0.25%. The Japanese yield curve has steepened dramatically, with the gap between the 10-year and 20-year yields widening to 100 basis points – a level rarely seen.

Over our forecast horizon, the odds of a policy shift are rising and will probably be highest sometime in the early summer of 2023. The change would coincide with the end of Haruhiko Kuroda’s term as BOJ governor. Recall that Kuroda himself is the architect and most ardent proponent of the current policy framework. Nevertheless, it is still more likely than not that policy in Japan remains unchanged because economic growth is likely to stay lacklustre. Our base case remains no change to the policy rate at -0.10% and no change to the target range for the 10-year government bond yield between -0.25% and +0.25%.





We forecast that the policy rate will reach 4.50% within the next year and that the Canadian 10-year government bond yield will be at 3.00% in that time frame.

Canada

In October, the Bank of Canada (BOC) surprised financial markets with a smaller-than-expected 0.50% rate hike that raised the policy rate to 3.75%. BOC Governor Tiff Macklem emphasized that central bank was likely approaching the end of its hiking cycle but reiterated that interest rates would rise further in the months ahead and the BOC's commitment to bring inflation down remained as firm as ever. We expect policymakers to hike several more times over the coming months, and that the policy rate will eventually reach 4.50%.

Strong employment data and stubborn inflation should prevent the BOC from pausing rate hikes before the middle of next year. The BOC's own economic forecasts suggest that the bank expects economic growth to slow over the coming year, leading the central bank to slash its 2023 growth forecast by nearly half to 1.0% from 1.8% in inflation-adjusted terms. The central bank also forecasts that inflation will decline from around 7% to within the target band of 1% to 3% by the end of next year. The marked slowdown in price pressures raises the possibility that the BOC could start cutting rates by next fall. We forecast that the policy rate will reach 4.50% within the next year and that the Canadian 10-year government-bond yield will be at 3.00% in that time frame.



Our forecast is for the bank rate to rise all the way to 5.25% sometime over the next 12 months from 3.00% at the end of November.

United Kingdom

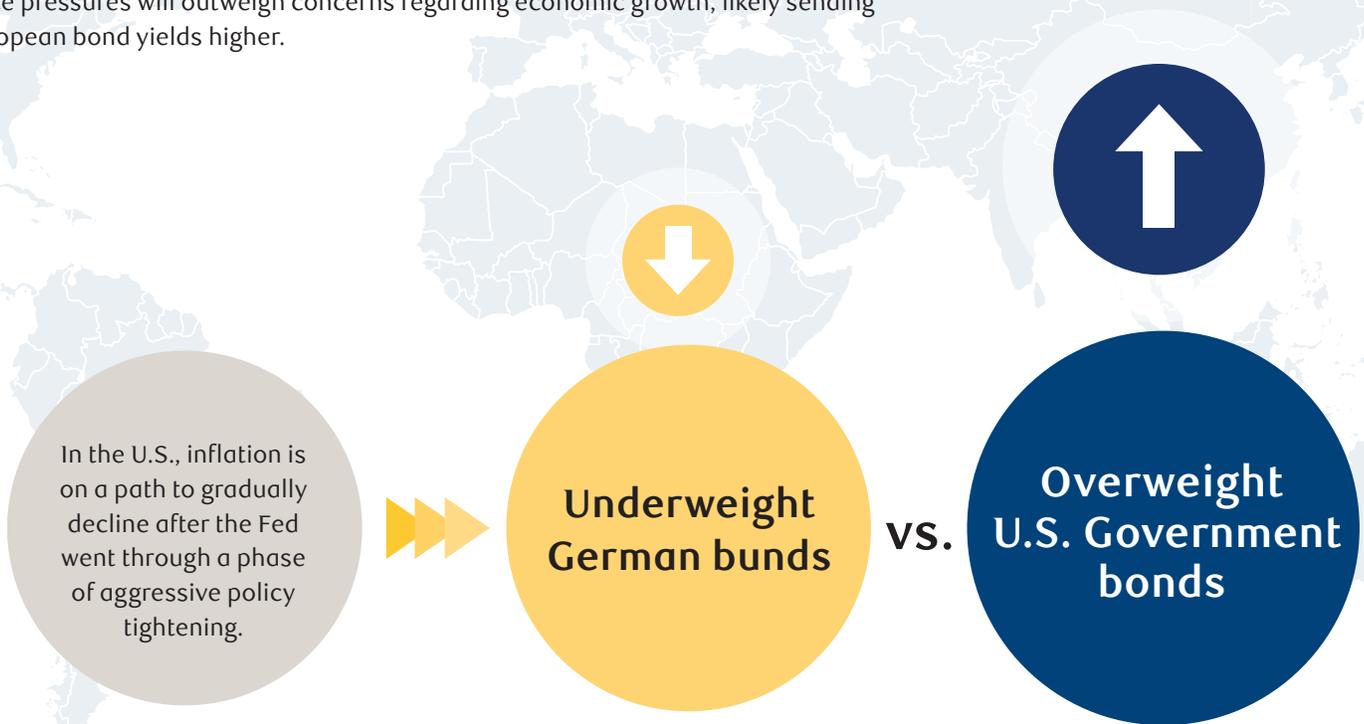
Among its developed-market peers, the U.K.'s financial situation appears to be the worst. The U.K. economy is likely already contracting, which is remarkable considering it is the only G7 economy that has failed to surpass its pre-pandemic size. Meanwhile, inflation, which at over 10% is already the highest among developed nations, looks set to ratchet even higher over the months ahead. Inflation has been running above 9% since April and will likely stay in the double digits through the new year. Inflation is exacerbating the economic pullback by cutting into consumer-spending power. Meanwhile, the Truss government's dramatic missteps cratered any hope of government support for the economy and have necessitated a policy about-face by her replacement, Rishi Sunak. Instead of targeted tax relief to bolster the most vulnerable and perhaps provide a fillip to consumer spending, the government has been forced into spending cuts and tax hikes – neither of which are likely to turn around the economy.

Meanwhile, the Bank of England (BOE) remains under pressure to continue raising interest rates to combat inflation. The government's earlier mistakes also mean that the BOE is being forced to uphold confidence in the U.K. bond market, meaning monetary policy may have to be kept tighter than would otherwise be the case. We expect the gilt market to be particularly volatile over the coming months, as the BOE sells bonds from its massive portfolio and the government continues to issue large amounts of debt.

Our forecast is for the bank rate to rise all the way to 5.25% sometime over the next 12 months from 3.00% at the end of November.

Regional outlook

Overall, we are overweight U.S. government bonds and underweight German bunds. In the U.S., inflation is on a path to gradually decline after the Fed went through a phase of aggressive policy tightening, and this approach has afforded bond yields some room to fall from current levels. We believe that German bunds are likely to underperform over the next year as inflation pressures and still accommodative policy stances leave more room for the ECB to tighten. Barring a deeper slowdown than we expect, elevated price pressures will outweigh concerns regarding economic growth, likely sending European bond yields higher.



Interest rate forecast: 12-month horizon

Total Return calculation: December 1, 2022 – November 30, 2023

U.S.						
	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	5.00%	4.75%	4.10%	3.70%	3.60%	3.25%
Change to prev. quarter	1.50%	1.55%	1.00%	0.70%	0.45%	
High	6.00%	6.15%	5.50%	5.00%	5.00%	(3.82%)
Low	4.00%	3.90%	3.50%	3.25%	3.50%	5.24%
Expected Total Return US\$ hedged: 2.7%						

Germany						
	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	3.00%	2.75%	2.80%	2.40%	2.20%	(2.28%)
Change to prev. quarter	1.50%	1.35%	1.65%	0.90%	0.80%	
High	4.00%	3.75%	3.30%	2.75%	2.50%	(5.39%)
Low	1.50%	1.65%	1.65%	1.50%	1.50%	6.80%
Expected Total Return US\$ hedged: 0.2%						

Japan						
	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	(0.10%)	0.10%	0.10%	0.25%	1.65%	0.26%
Change to prev. quarter	0.00%	0.05%	(0.10%)	0.00%	0.35%	
High	0.10%	0.25%	0.35%	0.50%	1.80%	(2.14%)
Low	(0.10%)	(0.10%)	0.00%	0.00%	1.20%	6.49%
Expected Total Return US\$ hedged: 5.4%						

Canada						
	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	4.50%	4.00%	3.30%	3.00%	3.00%	2.53%
Change to prev. quarter	1.00%	0.75%	0.40%	0.25%	0.20%	
High	5.50%	5.50%	4.70%	4.50%	4.30%	(6.04%)
Low	4.00%	3.75%	3.00%	3.25%	3.35%	1.43%
Expected Total Return US\$ hedged: 1.6%						

U.K.						
	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	5.25%	4.75%	5.00%	4.50%	4.00%	(4.75%)
Change to prev. quarter	2.25%	1.35%	2.00%	1.75%	0.90%	
High	6.00%	5.25%	5.30%	4.75%	4.00%	(5.93%)
Low	2.50%	2.75%	3.00%	3.00%	3.25%	5.72%
Expected Total Return US\$ hedged: (3.4%)						

Source: RBC GAM



Currency markets

U.S. dollar rally fizzles, suggesting greenback has peaked



Dagmara Fijalkowski, MBA, CFA
 Head, Global Fixed Income & Currencies
 RBC Global Asset Management Inc.



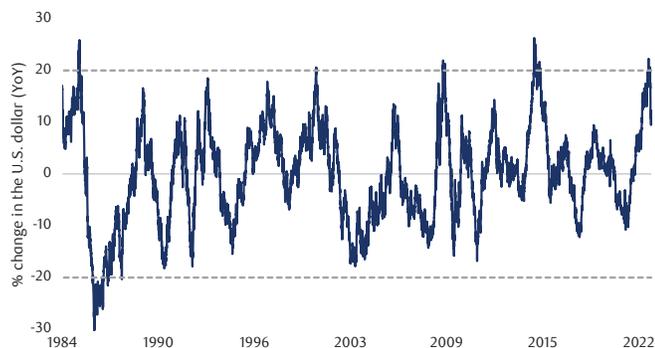
Daniel Mitchell, CFA
 Senior Portfolio Manager
 RBC Global Asset Management Inc.

The U.S. dollar extended its 12-year-old bull market through October as the allure of higher U.S. bond yields and economic challenges abroad continued to overshadow longer-term issues facing the greenback. However, the rise in the ever buoyant dollar came to an abrupt halt in early November, leading investors to question whether the greenback’s period of dominance is finally coming to an end. With valuations stretched, it’s clear to us that the currency’s bull market is mature and that a major turning point is near. Such peaks are tough to call, but we have greater conviction that a softening in the greenback is in store and that it will herald the start of a multi-year decline.

Even with the recent declines, the pace of U.S.-dollar gains this year has been extraordinary, rivalling some of the largest appreciations since the early 1980s (Exhibit 1). The dollar has reached parity with the euro for the first time since the euro was introduced 22 years ago and has registered multi-decade highs against the yen and the British pound. Even the

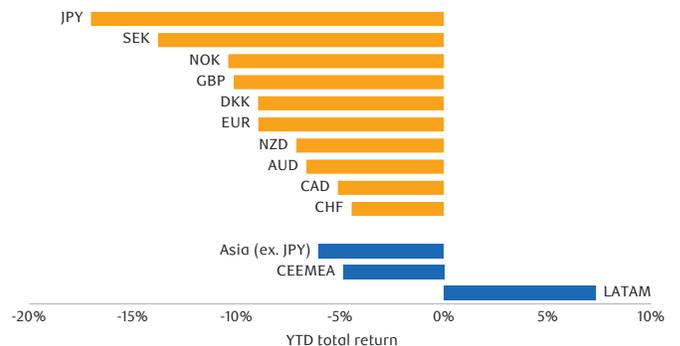
relatively stable renminbi declined 9%, weakening below the levels recorded after Donald Trump initiated a trade war with China. Few other currencies escaped the dollar’s exceptional strength, and most now sit 5%-10% lower than where they started the year (Exhibit 2).

Exhibit 1: Breakneck U.S. dollar gains



Note: As at November 29, 2022. Source: Bloomberg, RBC GAM

Exhibit 2: Currency performance



Note: LATAM is the average of (BRL, MXN, PEN, CLP, COP), CEEMEA (ZAR, CZK, RON, PLN, TRY, HUF), Asia ex. JPY (SGD, INR, THB, PHP, MYR, IDR, KRW, CNH, TWD). As at November 29, 2022. Source: Bloomberg, RBC GAM

The extension of the U.S.-dollar bull market well into a second decade makes this cycle unusual in length (Exhibit 3). The current uptrend in the currency has been prolonged by a series of temporary factors causing inflation to persist and prompting the U.S. Federal Reserve (Fed) to keep raising interest rates. Other developments, including the Russia-Ukraine war and China’s harsh COVID-19 crackdown, have also elevated the dollar by slowing economic growth and weakening the case for investment and tourism in other regions. These themes have captured investors’ attention at the expense of more traditional elements that are bearish for the dollar. But as shorter-term influences fade, dollar strength will begin to buckle under the weight of huge budget and current-account deficits, deglobalization, exploding health-care costs, an aging population and a falling share of foreign-exchange reserves. This coming slide in the dollar will be significant given the extent to which the currency is overvalued.

Our preferred measure of long-term currency valuation is purchasing power parity (PPP) (Exhibit 4), which showed the U.S. dollar at levels more than 30% richer than fair value at the end of October – a reading broadly supported by other types of valuation models. Deviations greater than 20% are generally considered “extreme” – large enough to sway decisions made by households and businesses. As the dollar becomes more expensive (and as other currencies cheapen), U.S. consumers are finding they get more for their money when they spend abroad. At the same time, businesses can

reduce input costs by switching to foreign suppliers. Studies by Deutsche Bank have found that currencies tend not to remain in extreme territory for long, with periods beyond 20% thresholds typically being measured in months rather than in years. Having just surpassed 20% overvaluation in May, the dollar’s recent drop would align with Deutsche Bank’s research that these episodes are very short-lived.

Also supporting this view is the fact that the euro couldn’t manage to weaken beyond US\$0.95 even though the economic and political news in Europe remains broadly negative. There is a limit to how much other currencies can weaken before their cheapness makes them attractive enough to draw capital away from the U.S. We expect this to be an increasingly powerful headwind for the greenback next year and one that will help crystallize the completion of the cyclical peak in the U.S. dollar’s long-term cycle.

There is a debate over whether the U.S.-dollar peak has already passed. In November, the euro rebounded 10% from its lows and investors trimmed dollar positions after China began easing its stringent COVID lockdowns earlier this month. Meanwhile, the Fed has signaled that it would likely slow the pace of rate hikes at its next few meetings, an important signal from U.S. central bankers that steps in the fight against inflation are finding their mark. Many currency traders are quick to extrapolate this reduced pace as the final stages of the Fed’s rate-hiking cycle. And while interest rates remain higher in the U.S. than abroad, the Fed’s signal removes an important source of support for the greenback.

Exhibit 3: Long-term cycles of the U.S. trade-weighted dollar



Note: As at November 25, 2022. Source: Bloomberg, U.S. Federal Reserve, RBC GAM

Exhibit 4: U.S. trade-weighted dollar PPP valuation

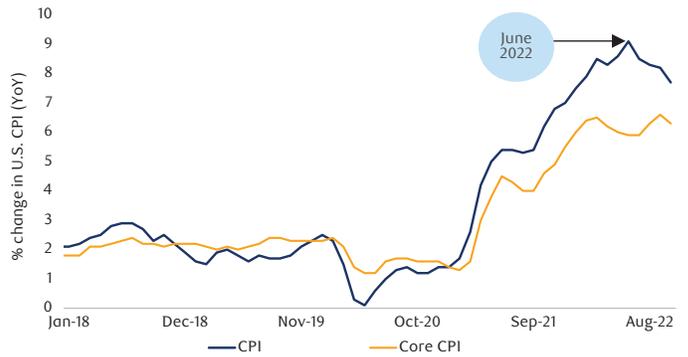


Note: Uses new Fed USD index from Dec 31, 2019 onward (USTWAFE Index). As at December 6, 2022. Source: U.S. Federal Reserve, Bloomberg, RBC GAM

It's clear that we won't see a repeat of this year's 4-percentage-point increase in benchmark interest rates as the Fed nears the end of its tightening cycle and the threat of recession is starting to weigh more heavily on the balance of risks for the dollar. Market sentiment toward the dollar has turned less bullish, a change that could accelerate if consumer prices stabilize over the next few months. There are a few developments that would further tilt the balance toward a bearish outlook for the dollar:

- Inflation data.** It seems likely that the year-over-year rate of inflation peaked in June (Exhibit 5), but we know that some of the recent stabilization of prices is related to weakness in commodity prices. Core CPI measures, which excludes the highly volatile food and energy components, offer more reliable indicators. A few more months of soft core inflation would support the idea that the Fed could stop hiking in early 2023, a scenario that would likely cause a rush to short the greenback. In addition to CPI, we are closely monitoring the bond market's pricing of the Fed's 'terminal' rate" – the point at which the Fed stops hiking rates. The drop in expectations for the terminal rate from its 5.13% high has so far been insignificant (Exhibit 6), and our view is that further dollar weakness would result if a recession caused terminal interest-rate expectations to fall more meaningfully.
- Energy scarcity in Europe.** Milder weather in autumn allowed European countries to rebuild natural-gas inventories, and storage facilities are now filled to capacity in nearly every eurozone nation (Exhibit 7). While the economic situation in Europe is certainly still challenged, this development reduces the likelihood of worst-case scenarios and offers relief to investors who previously fretted over a catastrophic winter energy shortage in Europe.
- China COVID-19 cases.** Risk sentiment surged and the U.S. dollar dropped quickly in response to early-November rumours that Chinese lockdown measures could be lifted. Since then, positive cases in the country have risen to 40,000/day and restrictions remain in place. It's possible now that this reopening theme will take longer to fall into place but once it does, perhaps in the spring when the Chinese roll out new vaccines, the dollar's downward adjustment could be swift.

Exhibit 5: U.S. inflation peaked in Q2



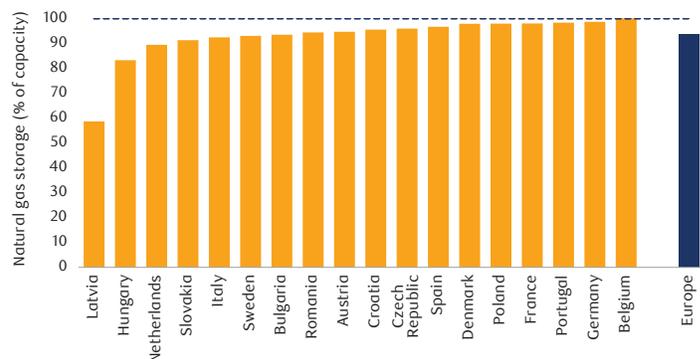
Note: As at October 31, 2022. Source: Bureau of Labour Statistics, Bloomberg, RBC GAM

Exhibit 6: Fed funds terminal rate has not yet fallen



Note: As at November 29, 2022. Source: Morgan Stanley, Bloomberg, RBC GAM

Exhibit 7: European gas inventories near capacity



Note: As at November 29, 2022. Source: Gas Infrastructure Europe, Macrobond, RBC GAM

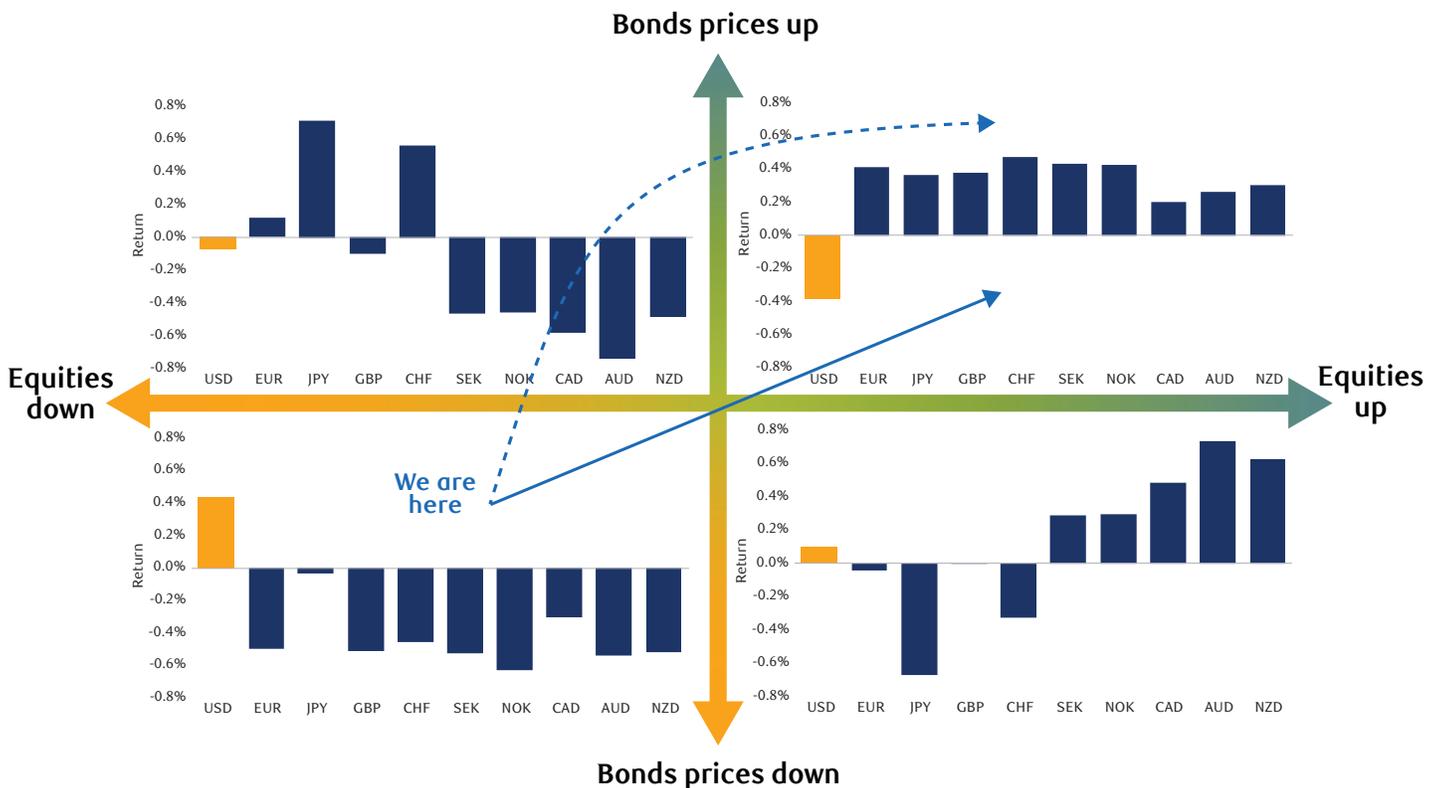
The U.S. dollar's special safe-haven status

The potential for weakness in global equities is one factor that could stand in the way of our forecasts for a lower dollar. The greenback's has long had an inverse relationship with global equities: As stocks sink, investors typically flee to the safety and security of the U.S. dollar. This dynamic has been accelerated by this year's concurrent sell-off in global bonds. The greenback has benefited because higher yields make holding U.S.-dollar assets more appealing than assets denominated in other currencies. Consequently, investors use U.S.-dollar holdings as portfolio protection at a time when other safe-haven assets – bonds, gold and the Japanese yen – haven't offered insurance.

It is rare to see bonds and stocks declining at the same time, and research by RBC Capital Markets confirms that such an

environment is one of the best for the U.S. dollar. Indeed, the bottom-left quadrant of Exhibit 8 shows that the greenback rallies across the board during times when stocks and bonds fall, which is precisely what we have witnessed in 2022. Looking forward, we expect markets to migrate to the top-right quadrant, where bonds and stocks both bounce – likely in response to perceptions that the Fed will start to signal rate cuts next year. Regardless of whether that migration happens directly or by first entering other quadrants, the dollar has little to no room for further strength while the risks for dollar decline are significant. In either scenario, the dollar would almost certainly depreciate, leading to a broad recovery in developed- and especially in emerging-market currencies.

Exhibit 8: Currency returns in various environments for stocks and bonds



Note: Bars show average of weekly data from 1980-2022, excluding observations within +/- 0.5 standard deviations. As at November 25, 2022. Source: RBC Capital Markets, Bloomberg, RBC GAM

Emerging markets

U.S.-dollar strength over the past year has been mostly against G10 currencies, while emerging-market currencies have been more resilient (Exhibit 9). This resilience is not what one would expect in a year of overall dollar strength and surging global bond yields, both of which have traditionally spelled trouble for developing economies. The better performance of emerging markets can be attributed to a few factors. First, these countries are less vulnerable to capital flight than they had been in the past owing to the greater credibility associated with more flexible exchange rates, better current-account balances, larger foreign-reserve buffers and a lower reliance on U.S. dollar-denominated borrowings. Second, emerging-market central banks have been raising interest rates aggressively, and many of them got started well before the Fed’s hiking cycle began. High policy rates in emerging markets – in some cases in the double digits – are helping to avoid the large capital outflows that occurred in response to past Fed hiking cycles. Third, many of these currencies are undervalued (Exhibit 10) and under-owned, so there is a noticeable absence of forced selling of emerging-market currencies. These factors lead us to believe that they may outperform developed-market currencies in the year ahead.

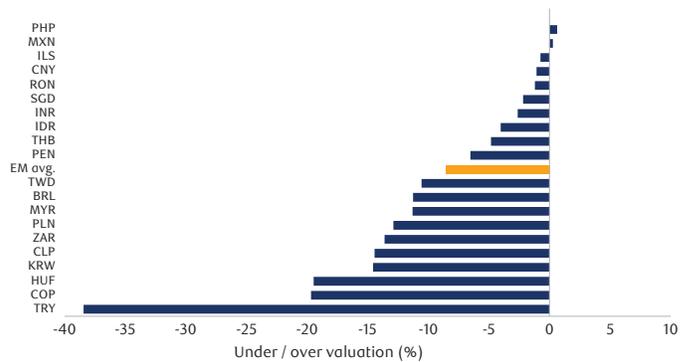


Exhibit 9: A tale of two dollars



Note: Indexed to 100 on January 1, 2022. As at November 25, 2022. Source: Bloomberg, RBC GAM

Exhibit 10: Emerging-market currencies are still cheap

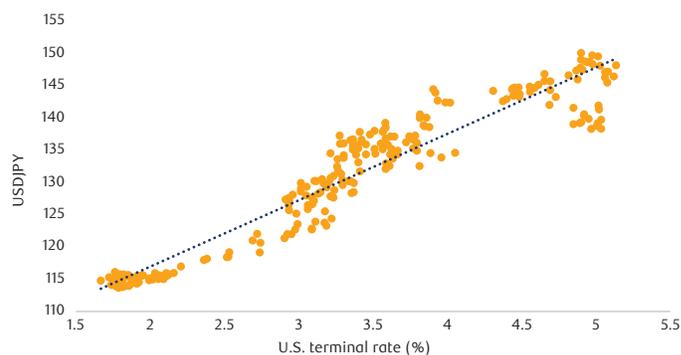


Note: Currency valuation is an average of 16 different valuation models. As at October 14, 2022. Source: Deutsche Bank, Nomura, BIS, Goldman Sachs, Barclays, J.P. Morgan, IMF, RBC GAM

Japanese yen

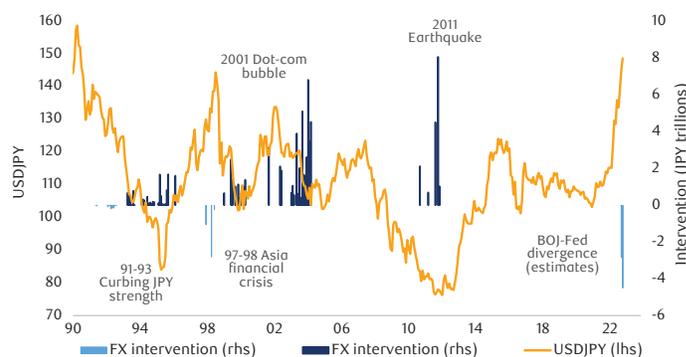
The combination of a hawkish Fed and a Bank of Japan (BOJ) that is steadfastly committed to easy monetary policy has resulted in a near freefall in the Japanese yen. With the BOJ's yield-curve control policy holding longer-term yields in a low, tight range, the yen's depreciation has been purely a function of much higher U.S. monetary-policy rates (Exhibit 11), and only the end of Fed hikes appears capable of turning the yen around. The Japanese currency is now one of the world's most undervalued, but this cheapness is of little solace to exporters because it means even higher rates for energy prices that are set in U.S. dollars. The Japanese Ministry of Finance, intent on slowing the currency's slide, has intervened on several occasions - in late September at 146 yen per dollar and mid-October at 152 (Exhibit 12). The yen didn't actually strengthen until early November, when Treasury yields started to fall. We expect the yen to bounce back once the Fed stops hiking, and to perform quite strongly in the event that the U.S. economy goes into a recession. We forecast the yen at 130 per U.S. dollar in a year's time.

Exhibit 11: USDJPY closely tracks U.S. terminal rates



Note: Data since January 2022. As at November 29, 2022. Source: Bloomberg, RBC GAM

Exhibit 12: USDJPY and Bank of Japan intervention



Note: As at November 29, 2022. Source: Japan MOF, Bloomberg, RBC GAM



Euro

The euro was the first major currency to show significant declines in the first half of 2022, as the Fed embarked on its rate-hiking cycle. The euro traded as low as US\$0.95 in response to concerns about economic growth and energy security even though interest rates at the time suggested the euro should have traded higher (Exhibit 13). The single currency has since rallied to trade around US\$1.05, helped somewhat by the European Central Bank (ECB) rate hikes and higher natural-gas inventories. An unwinding of short-euro positions (Exhibit 14) has helped magnify the euro's bounce, but questions remain about whether an uptrend in the single currency can be maintained.

We also note continued improvement in the balance of capital flows back into Europe. Europeans who had invested abroad to avoid negative bond yields are now finding they can get positive yields at home, and are repatriating some of the 4 trillion euros that had made its way overseas (Exhibit 15). While the closing of any related currency hedges would counter the currency impact, we believe at least a portion of this repatriation will be euro-supportive. We think the euro can continue its rally and forecast the currency to hit US\$1.10 within the next year.

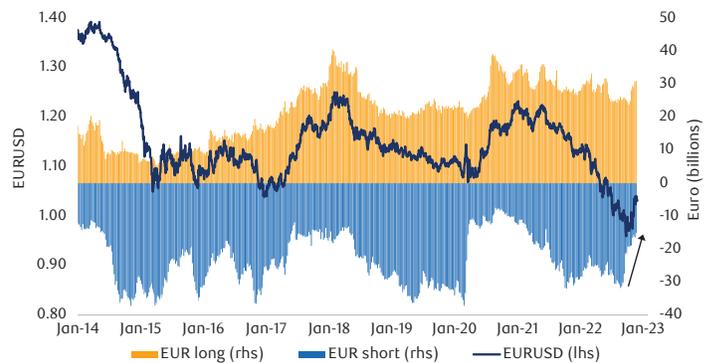


Exhibit 13: Euro was weaker than rates could explain



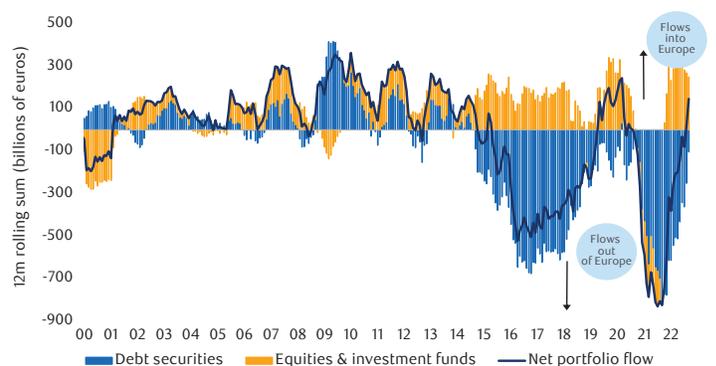
Note: As at November 29, 2022. Source: Macrobond, HSBC, RBC GAM

Exhibit 14: Unwind of short positions helps strengthen the euro



Note: As at November 25, 2022. Source: CFTC, Macrobond, RBC GAM

Exhibit 15: Eurozone investors repatriating money



Note: As at September 30, 2022. Source: ECB, Macrobond, RBC GAM

British pound

We remain bearish on the pound relative to its major peers. Persistent current-account deficits have made the U.K. reliant on foreigners for capital, a situation worsened as firms ramp up investments in Continental Europe as Brexit rules are implemented. The government’s proposal to spend aggressively did little to help the U.K.’s image as a responsible custodian of capital and caused the pound to briefly plummet to multi-decade lows at US\$1.05 per pound. The pound is still about 10% overvalued against the euro (Exhibit 16) and recent pound weakness remains insufficient to revive exports to the eurozone – Britain’s largest trading partner. We expect that sterling will be a persistent underperformer within the G10 and see the currency trading at US\$1.20 in 12-months’ time.

Exhibit 16: GBPEUR – PPP valuation

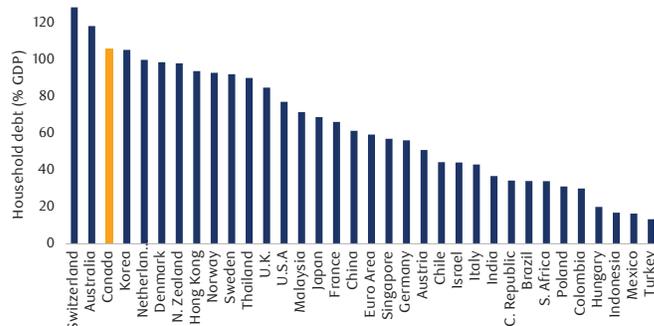


Note: As at October 31, 2022. Source: Bloomberg, RBC GAM

Canadian dollar

The Canadian dollar has held up relatively well this year amid broad U.S.-dollar gains, largely because the Bank of Canada (BOC) has been raising interest rates at roughly the same pace as the Fed. The loonie has slipped more recently, as investors pay more attention to the Canadian economy’s reliance on housing and the relatively large stock of household debt that finances it (Exhibit 17). Investors increasingly doubt the BOC’s willingness and ability to continue hiking as aggressively as the Fed, and the U.S. dollar recently started to accelerate gains versus the Canadian dollar in lockstep with these doubts (Exhibit 18). Even with the currency’s recent pullback, the loonie has managed to outperform other G10 currencies this year (Exhibit 19).

Exhibit 17: Canadians have a relatively high debt stock



Note: As at March 31, 2022. Source: BIS, Macrobond, RBC GAM

The country now boasts a current-account surplus, strong terms of trade, high population growth and one of the highest yields in developed markets. The economy is expected to perform better than in the U.K. or Europe and the country is in decent fiscal shape, having posted a few monthly surpluses this year.

Exhibit 18: USDCAD and U.S. – Canada terminal rate spread



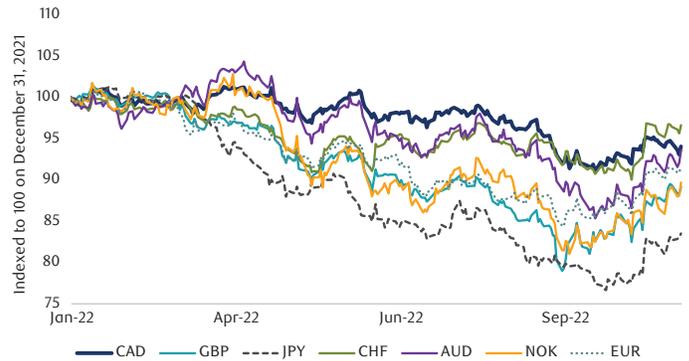
Note: As at November 29, 2022. Source: Morgan Stanley, Macrobond, RBC GAM

The greenback has strengthened against the Canadian dollar beyond the well-worn range that had held for more than a year (Exhibit 20), in part because of the recent focus

on Canadian housing. The exchange rate has found a new trading range of C\$1.32 to C\$1.40 per U.S. dollar, where the top represents the level at which corporations and institutional investors begin to take an interest in the loonie. Typical drivers of the currency, including short-term interest rates and oil, have lessened in importance as the currency has become hitched to both equities and the U.S. dollar. A further selloff in stocks, then, could push the exchange rate above C\$1.40, at which level we would recommend that investors with a long-term horizon acquire Canadian dollars and hedge U.S.-dollar exposure. Our forecast is for the loonie to strengthen alongside broader weakness in the U.S. dollar. We think the currency can rise to C\$1.23 per U.S. dollar over the next year.

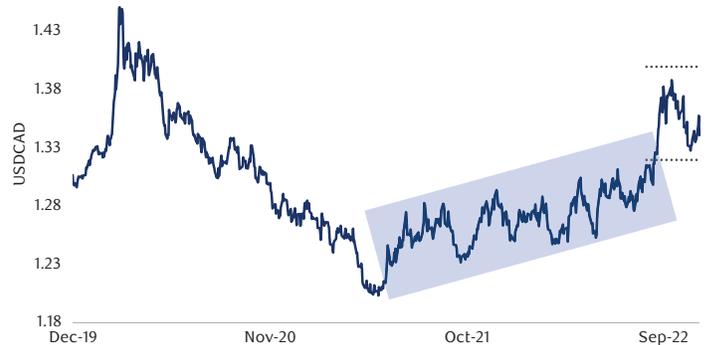


Exhibit 19: G10 year-to-date performance



Note: As at November 30, 2022. Source: Bloomberg, RBC GAM

Exhibit 20: USDCAD has broken through channel



Note: As at November 30, 2022. Source: Bloomberg, RBC GAM



Regional outlook – United States



Brad Willock, CFA

V.P. & Senior Portfolio Manager
RBC Global Asset Management Inc.

U.S. stocks, measured by the S&P 500 Index, had a volatile autumn but finished the three-month period ended November 30, 2022, up 3.6%. Between January and November, however, stocks dropped 13.1% after the benchmark U.S. equity index reached an all-time high on the first trading day of 2022. Stocks have been under pressure since the U.S. Federal Reserve (Fed) responded to this year's soaring inflation – the fastest in 40 years – with a vow to stamp it out. The Fed, led by Chair Jerome Powell, is in the midst of the fastest rate-hiking cycle since the early 1980s, taking the policy rate from about zero to almost 4.0% in just eight months, and another 0.5% rise is forecast for mid-December.

Thankfully, progress on inflation is being made. The pace of price increases probably peaked this summer, driven in part by a drop in the price of gasoline, but also for goods such as used cars. The welcome change reflects lower commodity prices and the clearing of supply-chain congestion.

Inflation for services has been rising at a high rate exceeding 6%, largely because companies are being forced to offer wage increases to hold onto or attract workers. Such wage inflation is a problem for the Fed, which is striving to keep overall long-term inflation around 2%. As a result, investors should expect higher interest rates, slower economic growth and a softer labour market. As Powell said, these outcomes are “the unfortunate costs of reducing inflation and will bring some

pain to households and businesses.” The bottom line is the Fed has done a lot, but will need to do more.

One aspect of this business cycle that complicates the Fed's job is that the labour market appears tighter than it has been in 70 years. There are over 10 million job openings and roughly 6 million unemployed people. The result of this imbalance is that those who quit their job are being rewarded with wage increases averaging 7.5%, while those staying put are getting raises of about 5%. Both numbers are high in nominal terms, but the spread between the two is historically very large and symptomatic of a frothy labour market. The problem for the Fed is that much of the imbalance can be attributed to constrained supply of workers from three sources: the retirement of roughly 3 million baby boomers during the pandemic; the refusal of an estimated 12% of the population to return to pre-COVID activities; and the significant number of people suffering from chronic COVID symptoms. It is hard to predict how the supply of labour will change, but it seems to us that at least some of the labour-market tightness will hang around for the longer term and that inflation could therefore prove more persistent over the coming years.

To gauge where we are in the macroeconomic outlook, it is useful to assume that U.S. business cycles begin and end with the housing market. The home is central to the economy because it a highly leveraged asset that acts as the primary

vehicle to accumulate and store wealth for roughly 140 million households. Low mortgage rates in 2020 and 2021 helped home sales soar, driving prices up 45% since the onset of the pandemic. The market has chilled as mortgage rates more than doubled to roughly 7% this year. In July, sales of new and existing homes slowed to their lowest level in six years and have slid further during the fall. The impact of a slowdown in the housing market is transmitted to the broader economy over a period of two to three quarters and picked up in business-activity surveys such as the ISM Service and ISM Manufacturing surveys. If history is a reliable guide, companies will then begin reporting earnings weakness, and if profit margins decline for several quarters, people will start to lose their jobs. The final stage of the business cycle occurs when unemployment has increased and demand has fallen to the point where prices decline and inflation cools.

With respect to the current cycle, housing is in clear retreat, as indicated by the NAHB Index, and business activity is slowing, as indicated by the ISM Manufacturing New Orders subindex. Both indicators suggest corporate earnings are likely to come under pressure as the slowdown in housing and the lagged effects of high inflation, energy prices and interest rates work their way through the system. The consensus estimate for the S&P 500 earnings estimate for 2023 peaked at US\$250 in May and has since dropped 8% to US\$230. We expect earnings estimates to continue to fall over the next several quarters, and with the S&P 500 trading at roughly 17 times the current estimate, we believe the market is anticipating a softish economic landing with minimal further downside to earnings next year. We believe that outcome is too optimistic.

For the past several quarters we have maintained significant exposure to defensive sectors such as Consumer Staples and Health Care, though we recently trimmed our exposure to the historically expensive Utilities sector. We used the proceeds to increase our exposure to the Industrials sector, whose outlook has improved this year as supply chains eased. Spending on supply-chain improvements, electrification, decarbonization and the re-shoring of manufacturing appear to be driving rising backlogs and accelerating revenue and earnings growth.

We maintain our favourable long-term outlook for the Energy sector given our view that chronic underinvestment over the past several years will keep the oil market tight and support prices while companies return significant free cash flow to shareholders via buybacks and dividends. Finally, we have a less rosy view of the Information Technology sector as it experiences some payback from the boom in 2020 and 2021. There is always uncertainty in the markets, but the current period is more uncertain than most. As a result, our portfolios are defensively positioned and focused on high-quality companies that generate plenty of free cash flow.





Regional outlook – Canada



Sarah Neilson, CFA

V.P. and Senior Portfolio Manager
RBC Global Asset Management Inc.



Irene Fernando, CFA

V.P. and Senior Portfolio Manager
RBC Global Asset Management Inc.

The three months ended November 30, 2022, were volatile for equity markets as investors weighed the path and pace of future interest-rate increases, evidence of slowing inflation and the likelihood of a recession. The S&P/TSX Composite Index continued to outperform other global equity markets, finishing the period up 4.2% in U.S.-dollar terms. The S&P 500 Index gained 3.6% and the MSCI World Index advanced 4.0%.

The S&P/TSX remains the best-performing major index so far this year, driven by the surge in energy commodities. As a result, Canada's Energy sector has been the best performing sector, gaining 34%. Consumer Staples was the second-best performing sector, as investors gravitated to defensive companies amid rising market volatility, while the Industrials sector rebounded as supply-chain obstacles began to clear. The Information Technology and Health Care sectors continue to be the worst-performing sectors, both down more than 50% from the start of this year.

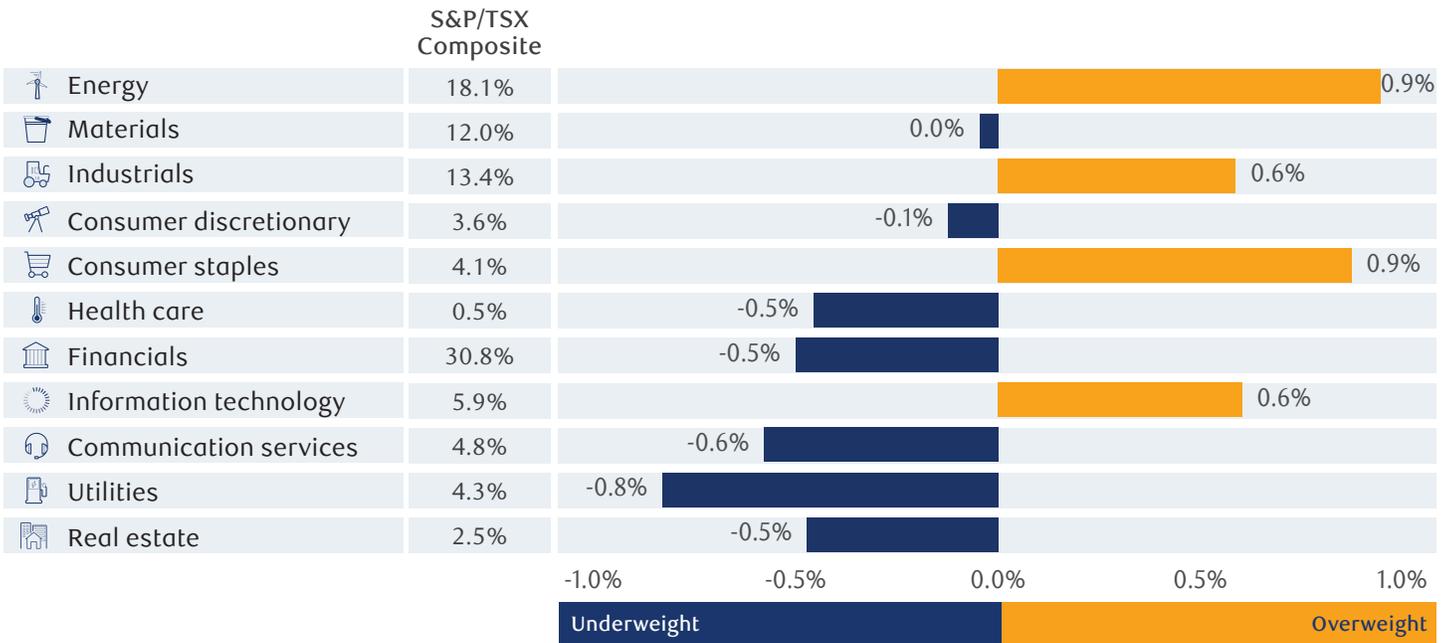
Valuations for fast growing, unprofitable technology stocks shrank in response to rising interest rates, with Shopify dropping 66% through November. The Materials sector fell in response to the impact of falling gold prices on gold-related equities, hurt by the strong U.S. dollar, expectations that interest rates would continue to increase and gold producers' rising production costs. Financials, the largest sector in the S&P/TSX, declined as bank stocks began to reflect the potential for a mild recession and higher loan losses.

While the potential for higher interest rates is largely reflected in equity-market valuations, returns will depend on the economic response to monetary tightening, earnings growth and the ceiling level for interest rates. A key concern for investors is whether central banks can remove liquidity to temper inflation without tipping the economy into a recession.

Reflecting the pace and magnitude of monetary tightening that has occurred in 2022, consensus forecasts for Canada's GDP growth have been lowered, but remain above expected growth in the U.S. Economists now anticipate that Canada's economy will expand 3.2% in 2022 and only 0.6% in 2023 – down from the expected 2023 growth of 2.8% just six months ago.

The Bank of Canada (BOC) expects economic growth to slow to under 1% in 2023 from 3.25% in 2022, and rise 2% in 2024. The BOC remains focused on achieving its 2% inflation target by using monetary-policy tools including quantitative tightening. With a backdrop of persistently high inflation, a tight labour market and strong consumer demand for services, the BOC took its benchmark interest rate up to 4.25% in December. Canada's indebted consumers and the outsize contribution of housing to the economy present the BOC with a challenging backdrop even as it signals that rates are likely to keep rising.

Canada – Recommended sector weights

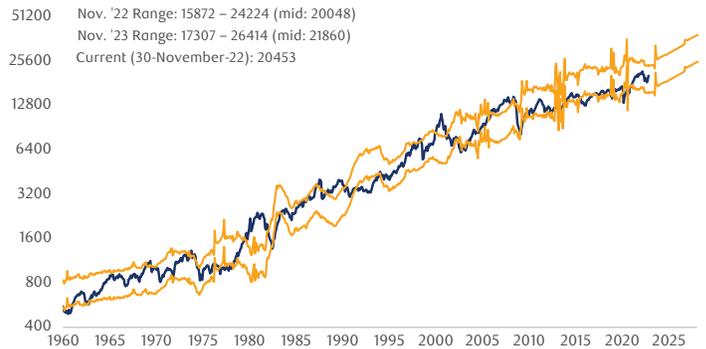


Note: As of November 30, 2022. Source: RBC GAM

“In our view, bank valuations are reflecting a mild domestic recession, and the sector should continue to trade at a historical discount absent any change in the macroeconomic outlook.”

S&P/TSX Composite Equilibrium

Normalized earnings and valuations



Source: RBC GAM

Canada's housing market has shifted downwards in response to rising mortgage rates, with home-resale activity now below pre-pandemic levels in most provinces, and nationwide composite prices 10% lower than the feverish levels reached in February 2022. Even with the price decline, the cost of home ownership is at its least affordable since 1990 given higher mortgage rates, according to RBC Economics. A prolonged housing downturn would weigh on consumers and further feed the housing-market slump.

Earnings are expected to rise 16% this year due to stronger energy prices and (so far) resilient consumers. The recent period of higher inflation has proved to be positive for revenue growth in first half of the year, although the pressure from higher costs will start squeezing profit margins in the coming quarters. Aggregate earnings estimates for S&P/TSX companies have been declining from their July peak but may still not reflect the economic pessimism. Looking to 2023, we expect earnings growth of 4%. Commodity price estimates are currently forecast above today's prices, which means there is a risk that analysts lower earnings estimates in the new year. Earnings in the Financials, Industrials and Consumer Discretionary sectors are expected to grow next year, offsetting negative earnings trajectory in Energy and Materials.

The TSX currently trades at 12.6 times forward earnings, below its 14.5 long term average. The Canadian index also remains at a significant multiple discount to the S&P 500 Index's 18.0 valuation. The Canadian index's low valuation, we believe, reflects a view that earnings estimates are currently too high and likely to be lowered. Energy, Consumer Discretionary and Real Estate are the cheapest sectors compared with historical averages.

Banks stocks have recovered from the lows in early October and were up 6.1% overall in the three-month period, outperforming the S&P/TSX by 1.6 percentage points. The group currently trades at 9.9 times forward earnings, or an 11% discount to the longer-term average, reflecting the potentially negative impact of economic uncertainty on loan demand. The consensus is that bank earnings will increase 5% in 2023, although we think this figure is too high given that banks will have to set aside larger provisions for credit losses and face pressure to increase rates to attract deposits. In our view, bank valuations are reflecting a mild domestic recession, and the sector should continue to trade at a historical discount absent any change in the macroeconomic outlook.

Oddly, energy equities gained 4.2% over the past three months, outperforming the 11% drop in crude prices. One way or another, this difference will probably narrow over the next few months. Demand for crude oil has largely recovered from the COVID-related slowdown but is still affected by economic weakness in China and the possibility of global recession. Prices aren't falling as much as might be expected given the economic outlook amid the potential for lower Russian oil flows, OPEC production discipline and surprisingly resilient economic growth in North America. Producers continue to exhibit discipline and restrain growth capital investment, which has provided energy producers with substantial free cash flows. The free cash has largely been directed to debt reduction, significantly reducing financial risks in the event of large price declines, and dividends and share buybacks. Capital spending is likely to rise given inflation, squeezing free cash flow and return potential in the near term.



Regional outlook – Europe



David Lambert

Senior Portfolio Manager and Head, European Equities
RBC Global Asset Management (UK) Limited

The economy and financial markets have been defined this year by spiking inflation, rising interest rates and bond yields, and a strong U.S. dollar. While none of these developments are particularly helpful for equity markets, it seems that we may be through the worst of it. We could soon see some stabilization if not the start of a reversal, which would provide a much more benign backdrop for equity markets.

Last quarter, we discussed the risks in the equity market being mainly in stocks that will be subject to earnings downgrades in the current slowdown/recession environment. We are seeing this come to pass, as stocks with dependable earnings and strong balance sheets fared better than higher-risk cyclical companies toward the end of summer and into the fall. “Value” businesses, whose appeal is based on price-to-book-value, have cash flow and earnings that fluctuate with the economic cycle, whereas “quality” stocks exhibit a pattern suggesting long-term cash-flow improvement regardless of the cycle.

History suggests that a recession, which looks increasingly likely, is rarely the time to boost exposure to riskier stocks. In these instances, markets continue to typically favour stocks with resilient cash flows (quality, defensive stocks that form a moat around portfolios) over value. This preference has been in evidence since the middle of 2022, particularly in Europe,

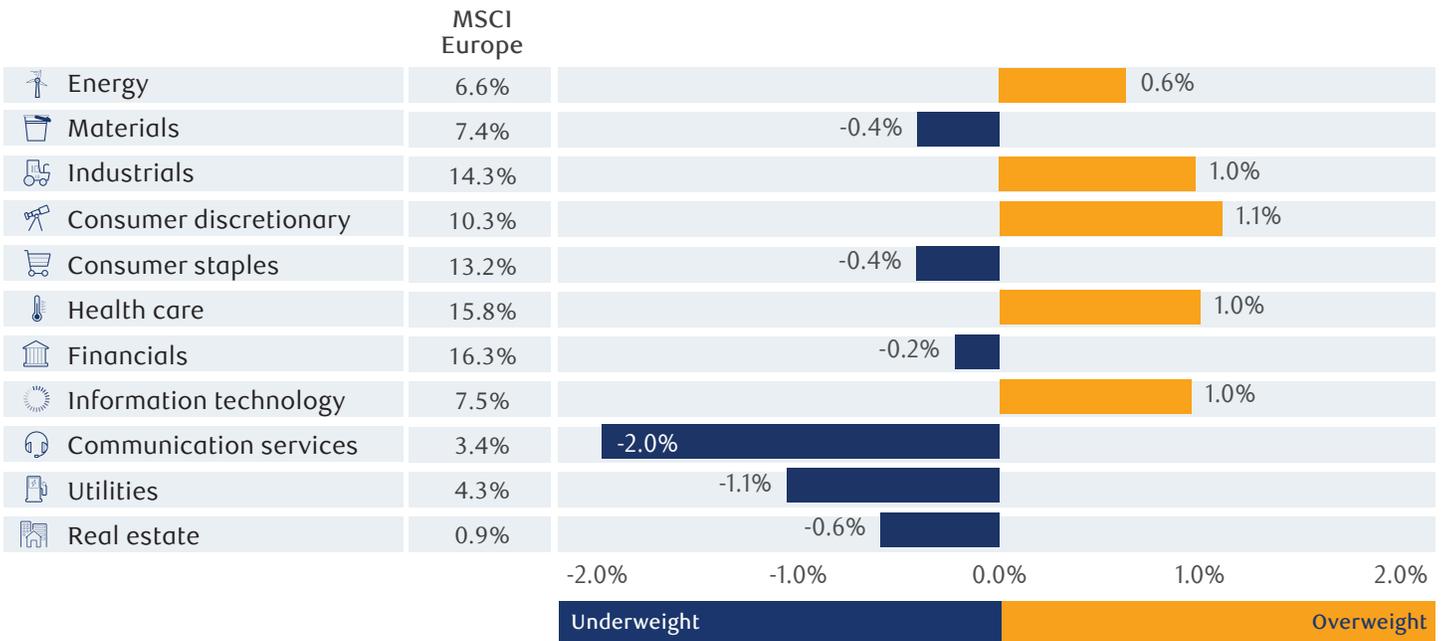
where economic uncertainty is especially high. Value stocks have underperformed the broad market for four straight months – something rarely seen in the past 20 years.

The value of an equity is generally regarded as the present value of its future cash flows, which are discounted at a rate that takes into account the time value of money. What we saw in the market sell-off in the first half of 2022 was the sensitivity of future cash flows to changes in interest rates. The rise in interest rates, and therefore discount rates, was the principal driver of the fall in equity markets, with a reduction in valuations affecting growth and high-quality stocks the most. The debate is over the degree to which cash flows are sustainable in an economic downturn.

The rise in economic uncertainty has restored a pattern of market behavior in which value stocks struggle given their lower-returns profile even with higher operating leverage. We expect this phase to last into mid-2023.

Market valuations remain well below the long-term median in Europe, with the exception of Switzerland. We believe the decline in overall market valuations has accounted for a lot of the expected earnings downgrades that we are set to encounter in the coming months.

Europe – Recommended sector weights



Note: As of November 30, 2022. Source: RBC GAM

“One aspect of our thinking that has changed over the past year is that we now believe that the era of ultra-low interest rates and borrowing costs is over.”

MSCI Europe Index Equilibrium

Normalized earnings and valuations



Source: RBC GAM

For this reason we are looking 12 to 18 months out and thinking about the next stage of the cycle, which will be a recovery. For now, economic uncertainty and leading indicators in steady decline mean that investors will for now favour high-quality, low-risk large-cap growth stocks. This short-term orientation of the market doesn't prompt us to add risk to the portfolios right now, but we do need to start thinking about it.

Over the short term, investors should therefore favour certain consumer companies, especially those with well-known brands. Pockets of the Industrials, Health Care and Information Technology sectors will also fit into this category. The more cyclical Consumer Discretionary, Financials, Energy and Materials sectors would be most at risk of downgrades if the economic backdrop continues to weaken.

In the consumer sectors, we still see excellent brand value and large barriers to entry in luxury goods. Europe is the global leader in luxury, and this area has recorded some of the highest and most stable returns on equity in decades. It is difficult to make inroads against entrenched luxury brands, and these companies have been at the forefront in exploiting e-commerce. This backdrop leads us to believe that luxury-goods companies will offer investors the opportunity for significant shareholder value over the medium to long term.

We tend to shy away from capital-heavy industries, and those subject to heavy regulation such as banks, telecommunications and utilities. We acknowledge, however, that there are pockets in which companies are exhibiting very low valuations and are throwing off a lot of cash. The Energy sector is one of these, and we have much more exposure here than we did 12 months ago.

We are watching with interest the behaviour of consumers and corporates to falling commodity prices, which will bring down pressure on inflation. There is a risk that demand for goods and services begins to ease off as people and businesses hold off on purchases in expectation that raw-materials prices will continue to moderate. We would expect the biggest and financially strongest companies to be able to comfortably weather any such episodes.

One aspect of our thinking that has changed over the past year is that we now believe that the era of ultra-low interest rates and borrowing costs is over. We will see marked increases in the cost of debt as companies roll over their loans and this ultimately will prompt investors to become more discerning with respect to who they judge to be "good" and "bad" companies. The positive outcome of this change will be a better environment for stock picking in our equity universe.



Regional outlook – Asia



Chris Lai

Portfolio Manager, Asian Equities
RBC Global Asset Management(Asia) Limited

Asian equities were broadly flat in the three months ended November 30, 2022. Stocks were weak in September and October as global growth decelerated and U.S. bond yields remained at levels that were much higher than a year earlier. Asian equities rebounded in the first half of November after the Chinese government signaled that it might ease the world's most stringent COVID-19 restrictions, but reversed gains after the eruption of rare public protests in response to the virus-related curbs. Equity markets in India performed relatively well during the period amid foreign demand for domestic stocks and a recovering economy.

A synchronized global-growth downturn appears to be underway and the slowdown could short-circuit Asia's economic recovery starting in the current quarter. We expect exports to weaken and tighter financial conditions to weigh on capital expenditures in some cases. In this environment, consumer inflation will likely moderate as consumption growth turns lower. A deceleration in inflation would likely prompt central banks in the region to reduce the size and pace of rate hikes and even begin to cut policy rates by the second half of 2023.

Japan

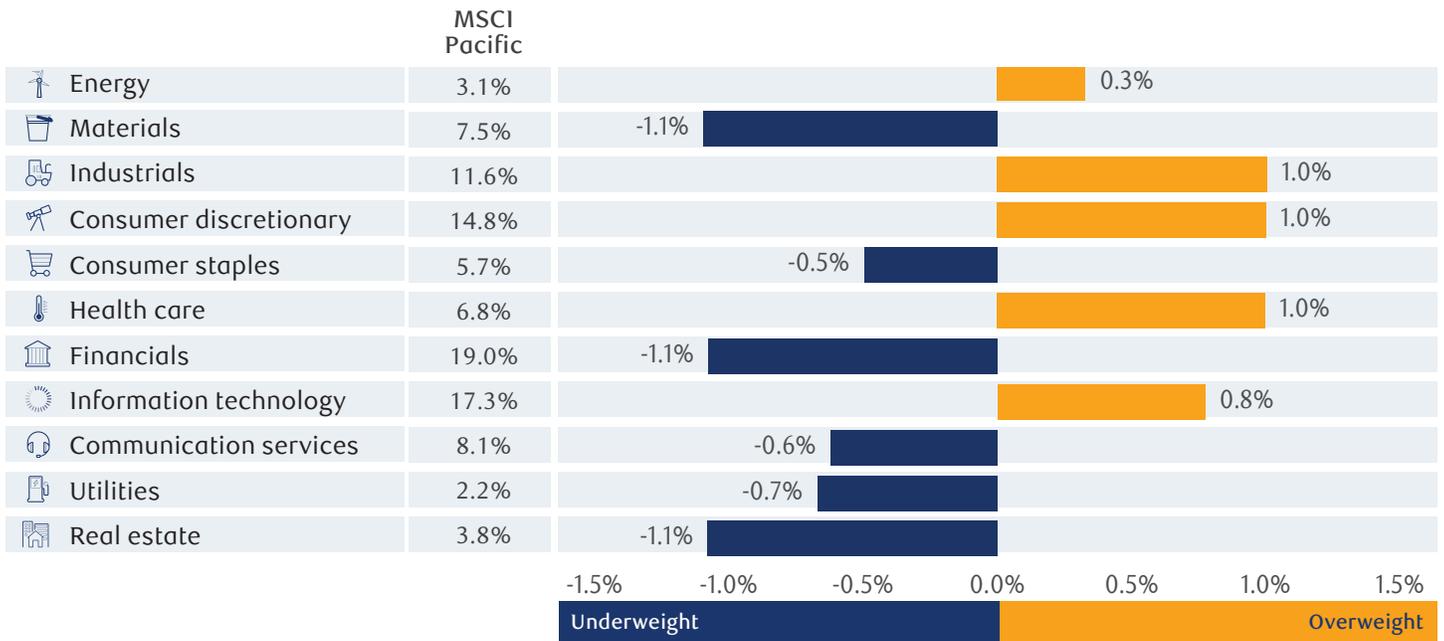
The Japanese economy is forecast to expand 1.6% in 2022 and 1.7% in 2023, on the back of solid domestic demand, a relaxation of restrictions on tourists entering the country

and gradual wage increases. The Bank of Japan's (BOJ) recent business-confidence survey highlighted that most companies are planning to make healthy capital expenditures in the months ahead. Decarbonization, digitization and robotics will be among the main targets for capital investment, and we believe that strong capital investment will be a major reason that Japan avoids recession.

Also aiding Japan's economy is a relatively low inflation rate, which should allow the BOJ to engage in less monetary tightening than central banks in the U.S. and Europe. The country's jobs market has been holding up well, with the unemployment rate forecast to remain unchanged at 2.6% in the fourth quarter of 2022 compared with the third quarter. The U.S. dollar rose in September and October as inflation led to increases in longer-term Treasury-bond yields. However, this trend began to reverse in November on speculation that the U.S. Federal Reserve was nearing the end of its rate-hiking cycle.

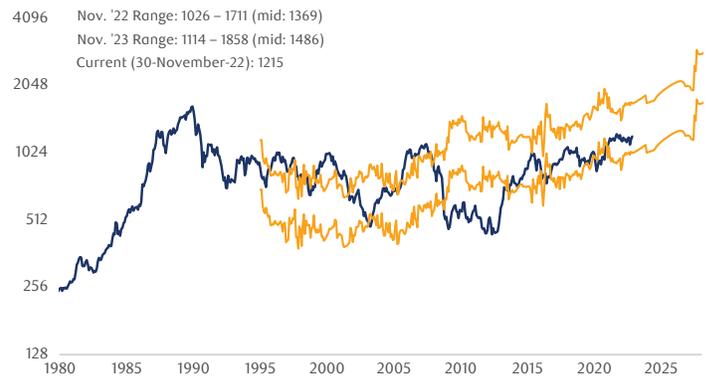
Given that inflation remains under control, we expect the BOJ to stick with current monetary policy through 2023 even after a new governor takes over in April amid a slowing global economy. The government is trying to limit inflation with gasoline subsidies, a cap on electricity prices and a price freeze on imported wheat.

Asia – Recommended sector weights



Note: As of November 30, 2022. Source: RBC GAM

MSCI Japan Index Equilibrium Normalized earnings and valuations



Source: RBC GAM

“We forecast that Chinese GDP growth will be 3% in 2022 and 5.5% in 2023 – below long-term growth rates of 6% to 7%.”

Rest of Asia

The refusal of President Xi Jinping to scale back China's strict COVID reductions boiled over in November, leading to demonstrations around the country. Xi, who last month claimed an unprecedented third term as the country's supreme leader, appears to have responded to the protests by easing some restrictions. However, China's low vaccination rate leads us to believe that a full re-opening of the economy may not come before the third quarter of 2023. There's concern that political opposition to the government's policies will further complicate Xi's COVID response and interfere with the economy, denting the global expansion. We forecast that Chinese GDP growth will be 3% in 2022 and 5.5% in 2023 – below long-term growth rates of 6% to 7%. In response, the government is rolling out measures to support the Real Estate sector, and we expect Beijing to encourage banks to fund infrastructure and announce further stimulus measures over coming months.

For India, we expect next year's GDP growth to fall to 5% from a projected 7% this year. Inflation remains high at 7%, mainly due to rising food prices, but also reflecting increased electricity rates and the return of consumer demand for travel and other services. The Reserve Bank of India (RBI) delivered a 50-basis-point policy hike in September, but we believe that a downturn in global growth will supplant high inflation in driving policy decisions. We expect the RBI's policy rate to reach 6.50% in the first half of next year after two more rate hikes by February. The outlook for fiscal policy has improved, with robust tax collections and high nominal growth offsetting the impact of higher subsidies for products

including fuel, and lower government proceeds paid to the RBI. As a result, the government expects to meet its fiscal 2023 fiscal deficit target of 6.4% of GDP.

In Indonesia, we anticipate 2022 GDP growth of 4.8%, up from 3.7% in 2021, supported by domestic demand. The economy is likely to have started slowing in the fourth quarter of this year, as rising fuel prices have hurt household spending and exports weaken. As a result, GDP growth in 2023 is forecast to decline to 3.8%. Indonesia's central bank raised its policy rate by 50 basis points in October to 4.75%, driven by a depreciation in the Indonesian currency. We expect the policy rate to top out at 5.5% by the start of 2023.

Survey data suggest that the Australian economy has lost momentum since rate hikes commenced in May 2022, due in part to a 5% fall in home prices from the peak earlier this year. The economy appears to be holding up well, however, likely supported by elevated household savings and advantageous terms of trade. Still, weak global growth and further monetary-policy tightening will in our view lead to a consumer- and housing-led recession beginning in the first quarter of 2023. We expect little support for the economy from fiscal policy, as the government is keen to build its reputation as a prudent fiscal steward and loathe to fan inflation. As a contraction arrives, we forecast a rise in the unemployment rate to 4.2% in 2023 from 3.5%, taking some pressure off inflation due to a tight labour market. The Reserve Bank of Australia delivered a seventh consecutive 25-basis-point rate hike in early November, taking its policy rate to 2.85%.





Regional outlook – Emerging markets



Richard Farrell

Portfolio Manager,
RBC Global Asset Management (UK) Limited

We have experienced what has been dubbed “a lost decade” for emerging markets, during which their equities underperformed developed-market stocks. The underperformance can be explained in part by a slowing in the rate of earnings growth in emerging markets relative to developed markets, even if overall profits are still rising.

History tells us that longer-term outperformance in emerging markets is driven by earnings “super-cycles” – periods when superior growth in emerging-markets earnings per share measured in U.S. dollars is sustained versus the U.S. Examples include the early 1990s, when Asia’s “Tiger Cubs” industrialized, and the early 2000s after China joined the World Trade Organization.

To create the next long-term upswing or EPS super-cycle, we will need a combination of structural drivers that are just as big as those that propelled earlier ones, although at this point there do not appear to be any broad themes to push this forward in the very near term. Three longer-term developments that could emerge to fill the role include a further acceleration in intra-Asian trade, India’s urbanization and the expansion of financial services across larger segments of the population. However, all three will occur over decades rather than years. Near-term drivers focus on China and include a phased relaxation of the country’s strict COVID

restrictions, a let-up in the clampdown on internet platforms and a comprehensive recovery plan for the country’s Real Estate sector. In the medium term, factors such as reform-led productivity improvements and green energy will support earnings growth. While some of these drivers are not yet in place, we believe that a combination of these factors will set emerging markets up for a sustained period of superior U.S.-dollar profit growth.

In the shorter term, it is worth looking at the IMF’s GDP growth forecasts for emerging markets versus developed markets.

In the fourth quarter of 2021, the difference between earnings-growth rates in developed markets and emerging markets was the smallest since 1989, but has since begun to widen in favour of emerging markets. The gap will widen to 3.4 percentage points by the end of 2023, based on GDP forecasts from the IMF and Oxford Economics, from almost no difference in late 2021. Historically, an environment in which emerging-market economies are growing at a rate that is 3 percentage points faster than developed markets has tended to result in emerging-market outperformance. If the IMF’s real GDP growth predictions are correct, then a 3.4% growth differential suggests improved relative performance for emerging-markets equities.

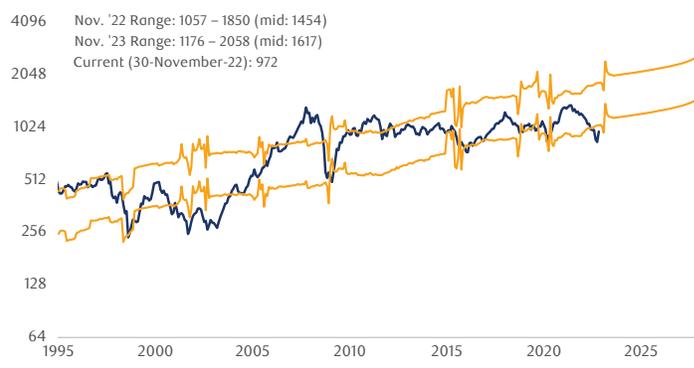
Amid the global monetary-tightening cycle, it's important to look at the difference in real interest rates between emerging markets and developed markets. Many emerging markets have significantly higher foreign-exchange reserves and significantly higher current-account surpluses than in previous U.S. Federal Reserve (Fed) tightening cycles. It stands to reason, therefore, that emerging-market central banks have the room to pause interest-rate hikes while the Fed continues to tighten. Excluding China, emerging markets have maintained real interest rates at a level that is four percentage points higher than developed markets, based on their weighted average.

When we consider emerging-market earnings, it is important to think about returns on equity and profit margins. Value creation, as defined as return on equity less cost of equity, drives emerging-market relative performance over the longer term. This measure has been dropping for emerging markets over the past two years as earning downgrades started earlier than they did in developed markets. However, we expect these comparisons to stabilize, and the consensus view is that they will improve in 2023 and 2024 to the point where there is a 3-percentage-point spread in favour of emerging markets.

There are three potential risks to the more benign emerging-markets growth outlook. The first is that the way investors have been thinking about economic growth over the past 20 years may no longer apply in a world characterized by higher inflation and higher interest rates. That said, emerging-market returns on equity are much higher than they were in the 1980s, when inflation and interest rates were as high as they are now. The business models of many emerging-markets companies are stronger and they are better managed than they were then. Emerging-markets companies in general have greater scale and more entrenched competitive advantages.

MSCI Emerging Markets Index Equilibrium

Normalized earnings and valuations



Source: RBC GAM

China is the second risk. We must ask ourselves whether China's growth slump may be morphing into a structural slowdown more akin to post-1990 Japan than typical cyclical slowdowns. The extent of the GDP growth slowdown in China has been quite sharp this year, and is a risk factor given that China is the largest trading partner for most emerging markets and a key driver of global growth. The combination of extended zero-COVID policies and a spillover from the housing crisis could result in a significant drag not only on other emerging markets but also the global expansion.

The third and final risk to take into account is the heightened scale of geopolitical risks. Taiwan and the war between Russia and Ukraine are just two to mention. Taiwan and South Korea are among the emerging markets most dependent on trade with Europe, where elevated energy prices threaten to deepen next year's recession due to the 10-month-old Russia-Ukraine conflict. Moreover, China's military posturing toward Taiwan, and the dispute's negative impact on China-U.S. relations, has been in part responsible for this year's reduction in valuations for Chinese and Taiwanese stocks. The second risk factor is clearly much harder to quantify.

RBC GAM Investment Strategy Committee

Members



Daniel E. Chornous, CFA

Chief Investment Officer
RBC Global Asset Management Inc.
Chair, RBC GAM Investment Strategy Committee

Dan Chornous is Chief Investment Officer of RBC Global Asset Management Inc., which has total assets under management of approximately \$543.67 billion*. Mr. Chornous is responsible for the overall direction of investment policy and fund management. In addition, he chairs the RBC Investment Strategy Committee, the group responsible for global asset-mix recommendations and global-fixed income and equity portfolio construction for use in RBC Wealth Management's key client groups including retail mutual funds, International Wealth Management, RBC Dominion Securities Inc. and RBC Phillips, Hager & North Investment Counsel Inc. He also serves on the Board of Directors of the Canadian Coalition for Good Governance and is Chair of its Public Policy Committee. Prior to joining RBC Asset Management in November 2002, Mr. Chornous was Managing Director, Capital Markets Research and Chief Investment Strategist at RBC Capital Markets. In that role, he was responsible for developing the firm's outlook for global and domestic economies and capital markets as well as managing the firm's global economics, technical and quantitative research teams.

*AUM in CAD as of November 30, 2022



Soo Boo Cheah, MBA, CFA

Senior Portfolio Manager
RBC Global Asset Management (UK) Limited

Based in the U.K., Soo Boo is responsible for managing global fixed-income allocations. He specializes in assessing the impact of central bank policies and global macroeconomic trends on developed-market bonds. In his role as a senior portfolio manager, he integrates a wide range of investment strategies involving interest rates, currencies, and derivatives. Soo Boo started his career in the investment industry in 2000 and holds an MBA from University of New Brunswick. Soo Boo has been a CFA charterholder since 2002.



Dagmara Fijalkowski, MBA, CFA

Head, Global Fixed Income & Currencies
RBC Global Asset Management Inc.

As Head of Global Fixed Income and Currencies, Dagmara leads a team of 40+ investment professionals in Toronto, London and Minneapolis with almost \$100 billion in assets under management. In her duties as a portfolio manager, Dagmara leads management of several bond funds, including the RBC Bond Fund, and manages foreign-exchange hedging and active overlay programs. She leads the Fixed Income Strategy Committee which determines appropriate level of risk taking given market opportunities. Dagmara is a member of the RBC Investment Policy Committee, which determines the asset mix for balanced products; and the RBC Investment Strategy Committee. In 2016, she was appointed to the RBC GAM Executive Committee. Dagmara, who began her investment career in 1994, holds an MBA from the Richard Ivey School of Business at the Western University in Canada and a Master's degree in economics from the University of Lodz in Poland. Dagmara has been a CFA charterholder since 1997.


Stuart Kedwell, CFA

Senior Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Stu co-leads the North American Equity team and is a member of the RBC GAM Investment Strategy Committee, which is responsible for establishing the firm-wide global asset mix for mutual funds and for institutional and high net worth private clients. Stu began his career in 1996 with RBC Dominion Securities in the firm's Generalist program, a two-year internship in which participants rotate through different areas of the firm. In 1998, he joined the RBC Investments Portfolio Advisory Group, which provides investment ideas and recommendations to RBC DS Investment Advisors. He was also a member of the RBC DS strategy & focus list committees. Stu has been with the firm since 2002 and is a CFA charterholder.


Eric Lascelles

Chief Economist
RBC Global Asset Management Inc.

Eric is the Chief Economist for RBC Global Asset Management Inc. (RBC GAM) and is responsible for maintaining the firm's global economic forecast and generating macroeconomic research. He is also a member of the RBC GAM Investment Strategy Committee, the group responsible for the firm's global asset-mix recommendations. Eric is a frequent media commentator and makes regular presentations both within and outside RBC GAM. Prior to joining RBC GAM in early 2011, Eric spent six years at a large Canadian securities firm, the last four as the Chief Economics and Rates Strategist. His previous experience includes positions as economist at a large Canadian bank and research economist for a federal government agency.


Scott Lysakowski, CFA

Vice President and Senior Portfolio Manager
Head of Canadian Equities (Vancouver)
RBC Global Asset Management Inc.

Scott is Head of the Vancouver-based Canadian Equity Team. He is primarily responsible for overseeing equity research and portfolio management of the firm's core Canadian equity strategies. Scott also serves as lead manager for the Canadian income strategies. Scott began his investment management career with the firm in 2002 as a senior research analyst and portfolio manager within the Toronto-based Canadian Equity Team. He transitioned to the Vancouver team seven years later and assumed his current leadership role in 2012. During his 15-year tenure with the organization, he has conducted research for and managed a broad spectrum of Canadian equity portfolios, specializing in dividend and income mandates.


Hanif Mamdani

Head of Alternative Investments
RBC Global Asset Management Inc.

Hanif Mamdani is Head of both Corporate Bond Investments and Alternative Investments. He is responsible for the portfolio strategy and trading execution of all investment-grade and high-yield corporate bonds. Hanif is Lead Manager of the PH&N High Yield Bond and Alternative strategies, including a multi-strategy hedge fund. He is also a member of the Asset Mix Committee. Prior to joining the firm in 1998, he spent 10 years in New York with two global investment banks working in a variety of roles in Corporate Finance, Capital Markets and Proprietary Trading. Hanif holds a master's degree from Harvard University and a bachelor's degree from the California Institute of Technology.


Bryan Mascoe, CFA

Senior Portfolio Manager
Co-head, Fixed Income (Vancouver)
RBC Global Asset Management Inc.

Bryan is co-Head and a senior portfolio manager on the PH&N Fixed Income Team. He co-manages the investment-grade credit research effort. As part of this role, he manages our dedicated corporate bond portfolios and is responsible for performing credit analysis on investment-grade issuers. He also assists with the strategy and trade execution of corporate bonds held in broader short, universe, and long fixed-income mandates. Bryan has a Bachelor of Commerce degree from the University of British Columbia and is a Leslie Wong Fellow as a graduate of the UBC Portfolio Management Foundation. He has been a CFA charterholder since 2005.


Sarah Riopelle, CFA

Vice President and Senior Portfolio Manager
Investment Solutions
RBC Global Asset Management Inc.

Since 2009, Sarah has managed the entire suite of RBC Portfolio Solutions. Sarah is a member of the RBC GAM Investment Strategy Committee, which sets global strategy for the firm, and the RBC GAM Investment Policy Committee, which is responsible for the investment strategy and tactical asset allocation for RBC Funds' balanced products and portfolio solutions. In addition to her fund management role, she works closely with the firm's Chief Investment Officer, ensuring that all aspects of the investment management function at RBC GAM are running smoothly. She is a member of the RBC Wealth Management Diversity Leadership Committee. Sarah joined RBC Global Asset Management in 2003 as a Senior Analyst within Investment Strategy. From there, she moved to the Canadian Equity team as an analyst and then a portfolio manager. She began her career in the investment industry in 1996 after graduating from the University of Ottawa with a Bachelor of Commerce degree, majoring in Finance and International Management. She was awarded the Chartered Financial Analyst designation in 2001.


Martin Paleczny, CFA

Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Martin Paleczny, who has been in the investment industry since 1994, began his career at Royal Bank Investment Management, where he developed an expertise in derivatives management and created a policy and process for the products. He also specializes in technical analysis and uses this background to implement derivatives and hedging strategies for equity, fixed-income, currency and commodity-related funds. Since becoming a portfolio manager, Martin has focused on global allocation strategies for the full range of assets, with an emphasis on using futures, forwards and options. He serves as advisor for technical analysis to the RBC GAM Investment Strategy Committee.


Kristian Sawkins, CFA

Vice President and Senior Portfolio Manager
PH&N Fixed Income
RBC Global Asset Management Inc.

Kristian is co-Head and a senior portfolio manager on the PH&N Fixed Income team, specializing in universe and short-term bond mandates. He is also a member of the PH&N IM Asset Mix Committee. Kristian joined Phillips, Hager & North Investment Management in 2002 as an associate analyst with the Canadian Equities Team and moved to the Fixed Income Team in 2005. Prior to joining the organization, Kristian spent three years at a major investment bank in New York across a few different roles. Kristian has a Bachelor of Commerce degree from the University of British Columbia and is a Leslie Wong Fellow as a graduate of the UBC Portfolio Management Foundation. He has been a CFA charterholder since 2002.



Jaco Van der Walt, DCom

Vice President and
Global Head of Quantitative Research & Investments
RBC Global Asset Management Inc.

As Head of Quantitative Investments, Jaco leads an experienced team that is driven to continually innovate across all its capabilities, including research, portfolio management, data and systems to leverage the combination of human and machine in investment decision-making. He previously held an executive role at one of South Africa's largest financial services companies, leading the Investment Management Office, with experience spanning pensions, insurance, banking and wealth management. As asset owner, he also chaired the boards and investment committees of several of the company's pension plans, promoting investment excellence and driving transformational change to ensure members reach their retirement goals. Jaco began his investment career in 1996 and holds a Master's degree in Economics from the University of Toronto and a Doctorate from the University of Pretoria.



Milos Vukovic, CFA

Vice President, Investment Policy
RBC Global Asset Management Inc.

Milos, who joined RBC in 2003, oversees investment-management activities including new-fund launches, performance analytics and trade-cost analysis. He is also responsible for developing and monitoring investment mandates and implementing tactical asset allocation for the RBC GAM investment solutions. Milos earlier worked for a Big 4 accounting firm and two top-tier securities firms. He earned an MBA at the Schulich School of Business and has held the CFA designation since 2004. He is a board member of both the Canadian Buy-Side Investment Management Association and the Canadian Advocacy Council for Canadian CFA Institute Societies, and recently joined IIROC's Market Structure Advisory Committee.



Brad Willock, CFA

Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Brad Willock joined RBC Global Asset Management in July 2002 and is a Senior Portfolio Manager and CFA charterholder. In his current role, Brad has responsibility for RBC Global Asset Management's core and income-oriented U.S. equity strategies. He joined RBC in May 1996 after receiving a bachelor's of commerce degree with distinction from the University of Calgary. Prior to that, Brad obtained a bachelor's of science degree at the University of British Columbia and represented Canada at the 1992 Barcelona Summer Olympics in volleyball.

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