GLOBAL
Insight
WEEKLY

Wealth Management

Perspectives from the Global Portfolio Advisory Committee

October 19, 2023

The opening acts of recession

Sean Killin – Toronto

While pinpointing the actual start of a recession comes with the benefit of hindsight, there are unique trends that have historically coincided with the opening act of an economic contraction. We look at three indicators that can provide constructive context for investors and offer our thoughts on what these are saying about a potential recession.

Since the onset of major central banks' monetary tightening campaigns in the first half of 2022, the probability of a recession has risen, and much attention has focused on certain risk factors that could portend a possible economic contraction. For example, RBC Wealth Management's U.S. Recession Scorecard assesses seven leading economic indicators in order to gauge recession risks.

As interest rate hikes start to take their toll, like they are now, it's also useful to examine three additional U.S. indicators that are typically consistent with conditions that exist at the beginning of or shortly before the onset of a recession. These are known as coincident recession indicators:

- The steepening of the U.S. Treasury yield curve
- Job losses over a three-month period
- Deteriorating consumer confidence

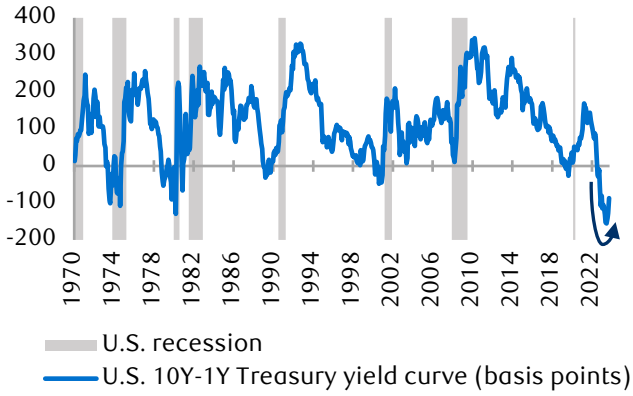
In understanding these indicators, investors can become better equipped to manage risk exposure more tactically in portfolios while navigating the initial stages of recession.

Traversing a steepening slope

When recession risks start to increase, short-term yields rise higher than long-term yields, inverting the shape of the Treasury yield curve. In the current cycle, this started happening in July 2022 and was the yield curve's first early warning signal of a potential recession.

In steep trouble

A steepening yield curve signals imminent recession



Source - RBC Wealth Management, Bloomberg; monthly data through 9/30/23

For perspectives on the week from our regional analysts, please see pages 3–4.

Investment and insurance products offered through RBC Wealth Management are not insured by the FDIC or any other federal government agency, are not deposits or other obligations of, or guaranteed by, a bank or any bank affiliate, and are subject to investment risks, including possible loss of the principal amount invested.

For important disclosures, required non-U.S. analyst disclosures, and authors' contact information, see page 6.

Priced (in USD) as of 10/18/23 market close (unless otherwise stated). Produced: 10/19/23 4:22 pm ET; Disseminated: 10/19/23 4:30 pm ET

As the economy subsequently weakens and the bond market responds to changing investor expectations regarding economic conditions, the yield curve tends to re-steepen towards a normal position.

In fact, the re-steepening of the Treasury yield curve into positive territory from an inverted position has historically proven to be the most reliable market indication of imminent recession risk. This typically happens one to two quarters in advance of a recession, but it can occur simultaneously or soon after the onset of one.

In the current cycle, the yield curve has just started to re-steepen, and will fully unwind its inverted state when it reaches above the zero line as depicted in the chart on the previous page. When this happens, this would be the yield curve's second warning signal of a possible recession—an even more imminent warning.

The yield curve can steepen by different means. Recently, this process has begun with long-term bond yields rising faster than their short-term counterparts—a phenomenon known as a "bear steepening." This tends to reflect resilience in the labour market and wider economy, and ultimately supports the case for keeping financial conditions tight or making them more restrictive.

We think this is signalling the bond market believes the U.S. Federal Reserve is likely to maintain higher interest rates for a longer period of time amidst broad resilience in the economy.

If the higher-for-longer rates scenario plays out, this would subsequently further raise net-interest expenses for businesses, ultimately placing additional pressure on corporate profit margins. A margin squeeze and restrictive financial conditions would likely weaken employment prospects and growth expectations, the typical precursors of recession.

The jobs market

Another signal of imminent recession would be when job losses begin to materialize—more specifically, when the three-month average of U.S. non-farm payrolls turns negative.

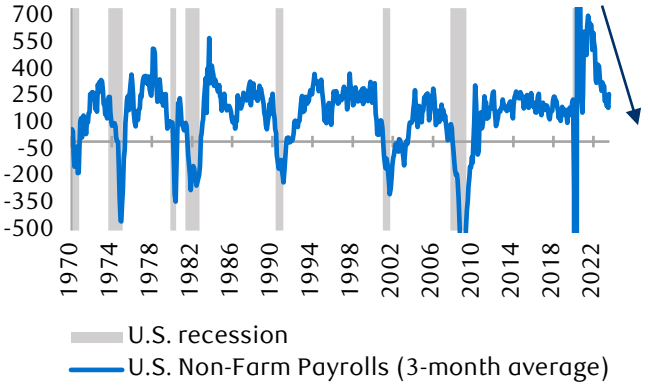
At present, the U.S. labour market remains robust, thanks to a still-elevated number of job openings underpinned by a healthy pace of job creation. The three-month average is pacing at +266,000 jobs, well above the negative level that would signal trouble.

However, it's important to consider this indicator has turned negative very quickly in previous cycles, and it could change course just as fast in this one.

A vote of (consumer) confidence

A third indicator that can signal the imminent onset of a recession is when consumers' view of the current state of the economy deteriorates sharply relative to their view of the economy's prospects six months from now.

Outright job losses signal imminent recession



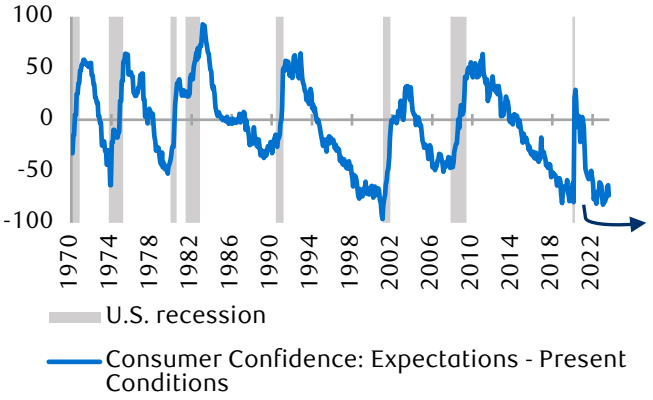
Source - RBC Wealth Management, Bloomberg; monthly data through 9/30/23

This is a survey-based indicator, where perceptions can be influenced by human emotion. Nevertheless, it has been a reliable barometer in gauging the impact of slower growth, weaker labour markets, and tighter credit conditions on the real economy.

This indicator is depicted in the chart below as the view of economic conditions six months from now (expectations) *minus* the current view of the economy (present conditions). In the current cycle, the indicator has declined to the deep lows that have typically prevailed before the start of previous recessions. A sustained move higher would raise the likelihood a recession was underway.

Greener pastures?

Consumers more confident in future vs. present conditions?



Source - RBC Wealth Management, Bloomberg; monthly data through 9/30/23

In the clear ... for now

None of these three coincident indicators are currently signalling that a U.S. recession is imminent. However, they bear monitoring because if one or some combination of them are triggered soon, that would indicate recession risks have increased notably, and more defensive portfolio positioning would be warranted.

UNITED STATES

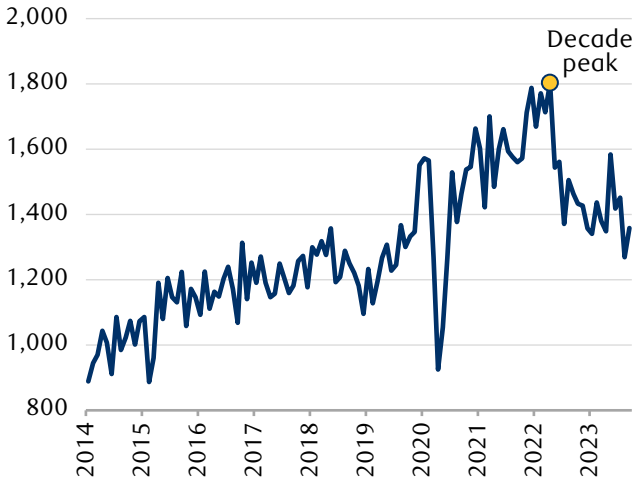
Michael Roedl – Minneapolis

- **U.S. retail sales rose by 0.7% in September as consumer spending powered ahead, despite another uptick in inflation** from the latest Consumer Price Index report. Eight of the thirteen retail sales categories experienced growth last month, including stronger sales at restaurants and car dealerships. Even though wage growth is losing steam, it appears Americans still have the leeway to keep spending as the labor market remains generally strong, led by ample growth in payrolls and labor force participation. **Treasury bond prices responded with a sharp selloff on increasing investor expectations for another interest rate increase before year's end**; Fed fund futures are pricing in a roughly 25% likelihood of one more rate hike this year. However, following comments by Fed Chair Jerome Powell—pledging caution and patience—markets are now pricing some chance that any such rate hike could be pushed into early 2024 as the Fed awaits more economic data while assessing the impact of ongoing market developments

- **U.S. housing starts rebounded slightly in September, but this only partially offset the sizeable drop in August**, which was the largest decline in over a year. While the scarcity of existing homes initially benefited homebuilders, that's beginning to change; the entire housing market is now heavily depressed as a result of surging interest rates and still-high prices, making affordability the worst on record for prospective homebuyers. According to the Mortgage Bankers Association, **the average contract rate for a 30-year fixed mortgage reached 7.7% last week**, the highest level since 2000, pushing homebuilder sentiment to a nine-month low. The Northeast is facing the most pressure after regional housing starts plunged to the lowest level in more than two years. As illustrated by the chart, starts are down considerably from their 10-year high in April 2022.

Housing starts under pressure due to surging mortgage rates and still-high prices

In thousands



Source - RBC Wealth Management, Bloomberg; monthly data through 9/30/23

CANADA

Estefani Ayazo, CFA & Matt Altro – Toronto

- **Canadian inflation unexpectedly decelerated in September, a sign that prior rate hikes are having their intended effect.** According to Statistics Canada, the headline Consumer Price Index (CPI) rose 3.8% y/y in September vs. 4.0% y/y in August, while core CPI, excluding food and energy prices, came in at 3.2% y/y in September vs. 3.6% y/y in August. Encouragingly, inflation resumed its downward trend in September, leading financial markets to price in a greater likelihood the Bank of Canada (BoC) will extend its rate-hiking pause at next week's policy meeting. A surprise second-quarter economic contraction, along with softening labour market conditions, allowed the BoC to leave rates unchanged in September, despite a summer uptick in inflation largely driven by higher energy costs. That said, we think BoC officials will remain vigilant on incoming data as solid job creation in September, elevated gasoline prices, and rising mortgage interest costs could pose upward pressure on inflation in the months ahead.

- **The BoC has released its Q3 Business Outlook Survey (BOS)** which points to a softer demand backdrop as inflation—despite receding—is expected to remain a headwind. Looking broadly, the BOS reported that many companies are expecting lower sales growth alongside slower investment and hiring activities, while about 50% of businesses reported that persistent cost pressures continue to impact their operations. Contributing to these cost pressures are uncertainties surrounding inflation and the high interest rate environment, which are coming to bear on debt servicing costs. These factors are also putting pressure on consumers' ability and willingness to spend discretionary dollars. Businesses and consumers have acknowledged that the negative impacts from rising rates are likely to continue into 2024, according to the BOS. Overall, the BOS helps confirm that the rising rate environment has helped to slow economic activities with the goal of tackling inflation, while highlighting the need for patience as the monetary policy lag continues to work its way through the system.

EUROPE

Frédérique Carrier & Rufaro Chiriseri, CFA – London

- **Poland seems to have taken a centrist turn**. On the back of the highest voter turnout in more than three decades, nearly 74%, **opposition leader and former Prime Minister Donald Tusk's Civic Platform party and two smaller parties have won enough seats to form the next government**.

- Since 2015, the incumbent right-wing Law and Justice (PiS) party had pushed the country deeper into illiberalism and eroded the rule of law. Relations with the EU were tense.
- **Tusk campaigned to put the country back on a pro-European path**, restore judges' independence, and unlock access to the EU funding withheld by the European Commission due to a dispute with the PiS-led government over the country's judicial reforms. Still, governing will be complicated as key state institutions remain headed by PiS loyalists.
- Nevertheless, **the result of the election removes a potential source of uncertainty** and mitigates the risk of additional division in the EU.
- **In the UK, the September inflation data revealed upside surprises relative to economists' consensus expectations. Headline inflation remained unchanged at 6.7% y/y**, which was mainly attributable to a near 4% increase in petrol/diesel prices. However, more positively, **food prices fell in September—the first month-on-month decline in two years**. This trend in declining food prices may continue, given producer prices have been on a downward trajectory for a couple of months. Though services inflation, a measure the Bank of England (BoE) is closely watching, nudged higher to 6.9% y/y in September from 6.8% y/y in August, the largest contributor was volatile recreational services, which are seasonal and thus not persistent, in our view. More importantly, the services and headline inflation readings came in below the BoE's August forecasts, and therefore we continue to expect a pause in rate hikes from the central bank.

Muted market reaction to strong China GDP update

Shanghai Shenzhen CSI 300 Index

Source - RBC Wealth Management, Bloomberg; daily data through 10/19/23

- In the labour market, **regular wage growth remained unchanged at 7.8%** in August. However, the BoE is more focused on private sector wage growth, which eased slightly to 8% from 8.1%, when comparing the most recent three months to the same period last year. In addition, the number of job vacancies also fell, and **we think there is sufficient evidence to convince the central bank that wage pressures are easing**, albeit with a lagged effect.

ASIA PACIFIC

Nicholas Gwee, CFA – Singapore

- **China Q3 2023 GDP growth came in much better than feared**. According to the National Bureau of Statistics of China, GDP grew 4.9% y/y and 1.3% q/q, exceeding economists' expectations, as government stimulus efforts worked their way through the system. The quarter saw a sharp increase in retail sales, particularly for restaurants, alcohol, and cars, offsetting a drag from the property market. The Real Estate sector as a whole continues to suffer. Through September, property investment contracted 9.1% YTD, home sales by floor area fell 6.3% y/y, and construction of new housing starts plunged almost 24% YTD. Nevertheless, we think the latest headline data puts Beijing's 5% 2023 GDP growth target within reach. In addition, the 5% unemployment rate was the lowest in more than two years.
- **Market reaction to the positive China economic data has been muted this week** with the Shanghai Shenzhen CSI 300 Index on track to test its 3,500 one-year support level. We think the weak confidence is primarily due to concerns around the Real Estate sector where the credit squeeze among developers is widening.
- **The Bank of Japan (BoJ) announced an unscheduled bond-purchase operation on Wednesday**, and the benchmark 10-year yield hit 0.848% on Thursday, the highest level since 2014. Some some fixed income strategists think it may be difficult for the BoJ to stop the upward trend in yields, according to a report in The Japan Times.
- **Taiwan Semiconductor Manufacturing Co. (2330 TT) posted better-than-expected Q3 earnings**, helped by strong demand for artificial intelligence (AI) chips. TSMC Q3 net income was NT$211 billion (US$6.5 billion) vs. the NT$190.4 billion average analyst estimate. Management noted that notwithstanding a sluggish global economy, companies are rushing to build their own AI tools, and TSMC's capacity to produce and package the relevant chips will be constrained deep into 2024.

MARKET Scorecard

Data as of October 18, 2023

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	4,314.60	0.6%	12.4%	16.0%	-3.8%
Dow Industrials (DJIA)	33,665.08	0.5%	1.6%	10.3%	-4.5%
Nasdaq	13,314.30	0.7%	27.2%	23.6%	-11.4%
Russell 2000	1,728.81	-3.2%	-1.8%	-1.5%	-23.8%
S&P/TSX Comp	19,450.70	-0.5%	0.3%	3.5%	-7.3%
FTSE All-Share	4,088.24	-0.9%	0.3%	7.8%	-0.5%
STOXX Europe 600	445.02	-1.2%	4.7%	11.3%	-4.7%
EURO STOXX 50	4,105.86	-1.6%	8.2%	18.5%	-1.1%
Hang Seng	17,732.52	-0.4%	-10.4%	4.8%	-30.2%
Shanghai Comp	3,058.71	-1.7%	-1.0%	-0.7%	-14.3%
Nikkei 225	32,042.25	0.6%	22.8%	18.0%	10.4%
India Sensex	65,877.02	0.1%	8.3%	11.7%	6.7%
Singapore Straits Times	3,136.62	-2.5%	-3.5%	3.7%	-1.2%
Brazil Ibovespa	114,059.64	-2.1%	3.9%	-1.5%	-0.3%
Mexican Bolsa IPC	49,274.78	-3.1%	1.7%	6.4%	-6.5%
Gov't bonds (bps change)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. 10-Yr Treasury	4.915%	34.4	104.0	90.8	331.5
Canada 10-Yr	4.105%	7.9	80.5	75.3	251.7
UK 10-Yr	4.657%	22.0	98.5	70.7	352.1
Germany 10-Yr	2.924%	8.5	35.3	63.9	307.2
Fixed income (returns)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Aggregate	5.64%	-1.4%	-2.6%	0.4%	-15.9%
U.S. Investment-Grade Corp	6.30%	-1.4%	-1.4%	3.2%	-17.6%
U.S. High-Yield Corp	9.22%	-1.1%	4.7%	7.6%	-6.6%
Commodities (USD)	**Price**	**MTD**	**YTD**	**1 yr**	**2 yr**
Gold (spot $/oz)	1,947.56	5.4%	6.8%	17.9%	10.4%
Silver (spot $/oz)	22.86	3.1%	-4.6%	22.0%	-1.4%
Copper ($/metric ton)	7,902.75	-3.8%	-5.5%	5.6%	-30.1%
Oil (WTI spot/bbl)	88.32	-2.7%	10.0%	6.6%	27.5%
Oil (Brent spot/bbl)	91.25	-4.3%	6.2%	1.4%	8.2%
Natural Gas ($/mmBtu)	3.06	4.3%	-31.7%	-46.8%	-35.1%
Currencies	**Rate**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Dollar Index	106.5650	0.4%	2.9%	-5.0%	13.4%
CAD/USD	0.7293	-1.0%	-1.2%	0.2%	-9.7%
USD/CAD	1.3713	1.0%	1.2%	-0.2%	10.8%
EUR/USD	1.0536	-0.3%	-1.6%	6.9%	-9.3%
GBP/USD	1.2143	-0.5%	0.5%	7.3%	-11.5%
AUD/USD	0.6335	-1.6%	-7.0%	0.4%	-14.5%
USD/JPY	149.8800	0.3%	14.3%	0.4%	31.1%
EUR/JPY	157.9200	0.0%	12.5%	7.3%	19.0%
EUR/GBP	0.8676	0.1%	-2.0%	-0.4%	2.6%
EUR/CHF	0.9470	-2.1%	-4.3%	-3.4%	-11.7%
USD/SGD	1.3728	0.5%	2.5%	-3.4%	1.7%
USD/CNY	7.3165	0.3%	6.1%	1.6%	13.8%
USD/MXN	18.2440	4.7%	-6.4%	-8.9%	-10.6%
USD/BRL	5.0591	0.5%	-4.2%	-3.5%	-8.2%

Equity returns do not include dividends, except for the Brazilian Ibovespa. Bond yields in local currencies. Copper Index data and U.S. fixed income returns as of Wednesday's close. Dollar Index measures USD vs. six major currencies. Currency rates reflect market convention (CAD/USD is the exception). Currency returns quoted in terms of the first currency in each pairing.

Examples of how to interpret currency data: CAD/USD 0.72 means 1 Canadian dollar will buy 0.72 U.S. dollar. CAD/USD -1.2% return means the Canadian dollar fell 1.2% vs. the U.S. dollar year to date. USD/JPY 149.88 means 1 U.S. dollar will buy 149.88 yen. USD/JPY 14.3% return means the U.S. dollar rose 14.3% vs. the yen year to date.

Source - Bloomberg; data as of 10/18/23

Authors

Matt Altro – Toronto, Canada
matt.altro@rbc.com; RBC Dominion Securities Inc.

Estefani Ayazo, CFA – Toronto, Canada
estefani.ayazo@rbc.com; RBC Dominion Securities Inc.

Frédérique Carrier – London, United Kingdom
frederique.carrier@rbc.com; RBC Europe Limited

Rufaro Chiriseri, CFA – London, United Kingdom
rufaro.chiriseri@rbc.com; RBC Europe Limited

Nicholas Gwee, CFA – Singapore
nicholas.gwee@rbc.com; Royal Bank of Canada, Singapore Branch

Sean Killin – Toronto, Canada
sean.killin@rbc.com; RBC Dominion Securities Inc.

Michael Roedl – Minneapolis, United States
michael.roedl@rbc.com; RBC Capital Markets, LLC

Disclosures and Disclaimer

Analyst Certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Important Disclosures

In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc., which is a foreign affiliate of RBC Capital Markets, LLC. This report has been prepared by RBC Capital Markets, LLC which is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada.

Non-U.S. Analyst Disclosure

One or more research analysts involved in the preparation of this report (i) may not be registered/qualified as research analysts with the NYSE and/or FINRA and (ii) may not be associated persons of the RBC Wealth Management and therefore may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

In the event that this is a compendium report (covers six or more companies), RBC Wealth Management may choose to provide important disclosure information by reference. To access current disclosures, clients should refer to https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2 to view disclosures regarding RBC Wealth Management and its affiliated firms. Such information is also available upon request to RBC Wealth Management Publishing, 250 Nicollet Mall, Suite 1800, Minneapolis, MN 55401-1931.

References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Dividend Growth (RL 8), the Guided Portfolio: ADR (RL 10), and the Guided Portfolio: All Cap Growth (RL 12). The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List. As of April 3, 2023, U.S. RBC Wealth Management's quarterly reports will serve as the primary communication for its models and will highlight any changes to the model made during the quarter.

RBC Capital Markets Distribution of Ratings

For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories – Buy, Hold/Neutral, or Sell – regardless of a firm's own rating categories. Although RBC Capital Markets' ratings of Outperform (O), Sector Perform (SP), and Underperform (U) most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because RBC Capital Markets ratings are determined on a relative basis.

Distribution of ratings – RBC Capital Markets Equity Research

As of September 30, 2023

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Outperform]	820	55.97	250	30.49
Hold [Sector Perform]	590	40.27	148	25.08
Sell [Underperform]	55	3.75	5	9.09

Explanation of RBC Capital Markets Equity Rating System

An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average.

Ratings: Outperform (O): Expected to materially outperform sector average over 12 months. **Sector Perform (SP):** Returns expected to be in line with sector average over 12 months. **Underperform (U):** Returns expected to be materially below sector average over 12 months. **Restricted (R):** RBC policy precludes certain types of communications, including an investment recommendation, when RBC is acting as an advisor in certain merger or other strategic transactions and in certain other circumstances. **Not Rated (NR):** The rating, price targets and estimates have been removed due to applicable legal, regulatory or policy constraints which may include when RBC Capital Markets is acting in an advisory capacity involving the company.

Risk Rating: The **Speculative** risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet

leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.

Valuation and Risks to Rating and Price Target
When RBC Capital Markets assigns a value to a company in a research report, FINRA Rules and NYSE Rules (as incorporated into the FINRA Rulebook) require that the basis for the valuation and the impediments to obtaining that valuation be described. Where applicable, this information is included in the text of our research in the sections entitled "Valuation" and "Risks to Rating and Price Target", respectively.

The analyst(s) responsible for preparing this research report have received (or will receive) compensation that is based upon various factors, including total revenues of RBC Capital Markets, and its affiliates, a portion of which are or have been generated by investment banking activities of RBC Capital Markets and its affiliates.

Other Disclosures

Prepared with the assistance of our national research sources. RBC Wealth Management prepared this report and takes sole responsibility for its content and distribution. The content may have been based, at least in part, on material provided by our third-party correspondent research services. Our third-party correspondent has given RBC Wealth Management general permission to use its research reports as source materials, but has not reviewed or approved this report, nor has it been informed of its publication. Our third-party correspondent may from time to time have long or short positions in, effect transactions in, and make markets in securities referred to herein. Our third-party correspondent may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any company mentioned in this report.

RBC Wealth Management endeavors to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. In certain investment advisory accounts, RBC Wealth Management or a designated third party will act as overlay manager for our clients and will initiate transactions in the securities referenced herein for those accounts upon receipt of this report. These transactions may occur before or after your receipt of this report and may have a short-term impact on the market price of the securities in which transactions occur. RBC Wealth Management research is posted to our proprietary Web sites to ensure eligible clients receive coverage initiations and changes in rating, targets, and opinions in a timely manner. Additional distribution may be done by sales personnel via e-mail, fax, or regular mail. Clients may also receive our research via third-party vendors. Please contact your RBC Wealth Management Financial Advisor for more information regarding RBC Wealth Management research.

Conflicts Disclosure: RBC Wealth Management is registered with the Securities and Exchange Commission as a broker/dealer and an investment adviser, offering both brokerage and investment advisory services. RBC Wealth Management's Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on our website at https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2. Conflicts of interests related to our investment advisory business can be found in Part 2A Appendix 1 of the Firm's Form ADV or the RBC Advisory Programs Disclosure Document. Copies of any of these documents are available upon request through your Financial Advisor. We reserve the right to amend or supplement this policy, Part 2A Appendix 1 of the Form ADV, or the RBC Advisory Programs Disclosure Document at any time.

The authors are employed by one of the following entities: RBC Wealth Management USA, a division of RBC Capital Markets, LLC, a securities broker-dealer with principal offices located in Minnesota and New York, USA; RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada; Royal Bank of Canada, Hong Kong Branch which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ("SFC"); Royal Bank of Canada, Singapore Branch, a licensed wholesale bank with its principal office located in Singapore; and RBC Europe Limited, a licensed bank with principal offices located in London, United Kingdom.

Research Resources
This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC WM Portfolio Advisory Group provides support related to asset allocation and portfolio construction for the firm's Investment Advisors / Financial Advisors who are engaged in assembling portfolios incorporating individual marketable securities. The Committee leverages the broad market outlook as developed by the RBC Investment Strategy Committee, providing additional tactical and thematic support utilizing research from the RBC Investment Strategy Committee, RBC Capital Markets, and third-party resources.

Third-party Disclaimers

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard & Poor's Financial Services LLC ("S&P") and is licensed for use by RBC. Neither MSCI, S&P, nor any other party involved in making or compiling the GICS or any GICS classifications makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability and fitness for a particular purpose with respect to any of such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of their affiliates or any third party involved in making or compiling the GICS or any GICS classifications have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Disclaimer

The information contained in this report has been compiled by RBC Wealth Management, a division of RBC Capital Markets, LLC, from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Wealth Management, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Wealth Management's judgment as

of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients, including clients who are affiliates of Royal Bank of Canada, and does not have regard to the particular circumstances or needs of any specific person who may read it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. To the full extent permitted by law neither Royal Bank of Canada nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct, indirect or consequential loss arising from, or in connection with, any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior written consent of Royal Bank of Canada in each instance. Additional information is available upon request.

To U.S. Residents: This publication has been approved by RBC Capital Markets, LLC, Member NYSE/FINRA/SIPC, which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. RBC Capital Markets, LLC, is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC. International investing involves risks not typically associated with U.S. investing, including currency fluctuation, foreign taxation, political instability and different accounting standards.

To Canadian Residents: This publication has been approved by RBC Dominion Securities Inc. RBC Dominion Securities Inc.* and Royal Bank of Canada are separate corporate entities which are affiliated. * Member-Canadian Investor Protection Fund. ® Registered trademark of Royal Bank of Canada. Used under license. RBC Wealth Management is a registered trademark of Royal Bank of Canada. Used under license.

RBC Wealth Management (British Isles): This publication is distributed by RBC Europe Limited and Royal Bank of Canada (Channel Islands) Limited. RBC Europe Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority (FCA registration number: 124543). Registered office: 100 Bishopsgate, London, EC2N 4AA, UK. Royal Bank of Canada (Channel Islands) Limited is regulated by the Jersey Financial Services Commission in the conduct of investment business in Jersey. Registered office: Gaspé House, 66-72 Esplanade, St Helier, Jersey JE2 3QT, Channel Islands.

To persons receiving this from Royal Bank of Canada, Hong Kong Branch: This document is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch which is regulated by the Hong Kong Monetary Authority and the SFC. This document is not for distribution in Hong Kong, to investors who are not "professional investors", as defined in the Securities and Futures Ordinance (Cap. 571 of Hong Kong) and any rules made under that Ordinance. This document has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. Past performance is not indicative of future performance. WARNING: The contents of this document have not been reviewed by any regulatory authority in Hong Kong. Investors are advised to exercise caution in relation to the investment. If you are in doubt about any of the contents of this document, you should obtain independent professional advice.

To persons receiving this from Royal Bank of Canada, Singapore Branch: This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity licensed by the Monetary Authority of Singapore. This publication is not for distribution in Singapore, to investors who are not "accredited investors" and "institutional investors", as defined in the Securities and Futures Act 2001 of Singapore. This publication has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch.

© 2023 RBC Capital Markets, LLC – Member NYSE/FINRA/SIPC
© 2023 RBC Dominion Securities Inc. – Member Canadian Investor Protection Fund
© 2023 RBC Europe Limited
© 2023 Royal Bank of Canada
All rights reserved
RBC1253

Wealth Management