GLOBAL
Insight
WEEKLY

Wealth Management

Perspectives from the Global Portfolio Advisory Committee | April 11, 2024

Rally realities

Kelly Bogdanova – San Francisco

It's been a nearly unprecedented winning streak for the U.S. stock market. But in this heady atmosphere there are some nagging vulnerabilities that investors should keep top of mind. We dig into these, and why a Market Weight position in U.S. equities is appropriate to balance the risks and opportunities.

How good has the recent U.S. equity rally been? It's approaching the top of the heap in terms of the magnitude of the move within such a short time frame.

The S&P 500 has surged 25.3 percent since the October 2023 low.

The 22.5 percent rally in Q4 of 2023 and Q1 of this year ranks among the top five percent of the strongest six-month moves in the last 75 years, according to data compiled by Bloomberg Intelligence.

But in the context of the last couple years, the picture is less buoyant, as the chart shows. The S&P 500 is up only 7.6 percent since the January 2022 peak.

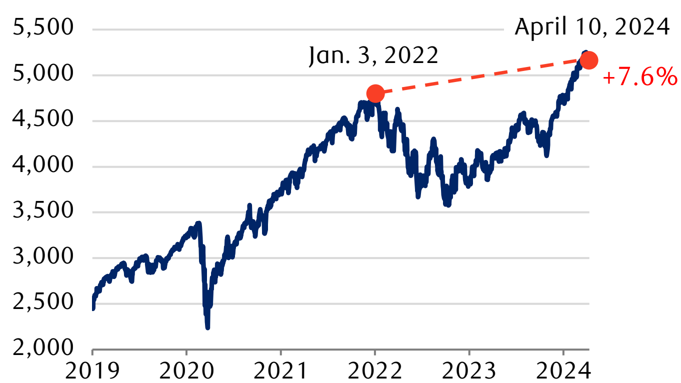
Out of sight, not out of mind

When the market struggled in 2022 and in much of 2023, it was often dogged by inflation fears (and the related significant Fed interest rate hikes and rising Treasury yields) and elevated recession risks. Importantly, earnings growth also declined during part of that period.

For the past six months, those headwinds had largely receded.

The reality is, however, the risks that held back performance in 2022 and 2023 never really went away.

The S&P 500 has rallied strongly from its recent lows, but is up only 7.6% since the January 2022 peak



Source - RBC Wealth Management, Bloomberg; data through 4/10/24

The recently released stronger-than-expected consumer inflation data underscores this, in our view.

With the S&P 500 perched near the 5,200 level, we think it's prudent to keep an eye on three nagging risks:

- Inflation could remain sticky or rise,
- GDP growth could decelerate, and
- The ongoing geopolitical and military clashes in the Middle East and Eastern Europe could widen.

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

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

Priced (in USD) as of 4/10/24 market close (unless otherwise stated). Produced: 4/11/24 18:23 ET; Disseminated: 4/11/24 18:30 ET

Inflation: The fight's not finished

RBC Capital Markets points out that the higher-than-consensus March Consumer Price Index (CPI) headline and core data are not the only yellow lights flashing on the inflation front.

Inflation pressures in March were broad. More than half of the items measured within the consumer inflation basket rose. Also, goods prices picked up following an eight-month stretch of month-over-month declines.

The March CPI report, combined with other deteriorating inflation trends earlier this year, prompted RBC Capital Markets to decrease its forecast for Fed interest rate cuts from three 25 basis point (bps) cuts to just one this year, and it thinks it would come in December, after the U.S. presidential election the month before.

RBC Capital Markets still forecasts only two rate cuts next year (one in January, the other in March). In this scenario, the Fed would stop cutting its target interest rate at 4.75 percent—a much higher level than the four previous major rate cut cycles since 1990.

We don't think the equity market is particularly sensitive to the exact number of rate cuts that the Fed might implement for the remainder of 2024. But should the Fed end up cutting rates by just 75 bps throughout its rate cut cycle as RBC Capital Markets is now forecasting, we think the market would need to adjust because it's probably currently factoring in more than just three cuts.

GDP: Marginal growth does not have a marginal impact

The Bloomberg consensus forecast for 2024 GDP growth has risen notably, from 0.6 percent in mid-2023 to 2.2 percent currently, and RBC Capital Markets anticipates it can exceed this pace. The well above-trend GDP results from the second half of last year and sturdy underlying employment metrics along with improving manufacturing data so far this year support the notion that 2024 GDP growth could exceed 2.0 percent, in our view.

Annual GDP growth above 2.0 percent corresponds to historical periods of good gains for the S&P 500. The index rose 11.8 percent on a median annual basis when annual GDP growth was between 2.1 percent to 4.0 percent, according to a study by RBC Capital Markets U.S. Equity Strategy.

However, note that when GDP was within a more sluggish 0.1 percent to 2.0 percent zone, equity market performance often stumbled, with the S&P 500 falling 6.6 percent on a median annual basis. Among the four categories of GDP growth that RBC Capital Markets segmented, S&P 500 performance for this category was by far the weakest, as the table at right shows.

If GDP growth decelerates meaningfully later this year—a possibility that can't be ruled out according to our leading economic indicators—we think the equity market could run into some bumpy patches.

S&P 500 returns during different historical GDP growth environments, 1947–2023

Periods of slow GDP growth (0.1%–2.0%) have been the most vulnerable to low returns

Real GDP growth	Number of years	Median annual return	Range of returns
< 0%	11	**23.5%**	-29.7% to +45.0%
0.1%–2.0%	9	**-6.6%**	-38.5% to +9.5%
2.1%–4.0%	30	**11.8%**	-14.3% to +34.1%
> 4.1%	27	**12.4%**	-17.4% to +31.0%
All years (1947–2023)	77	**10.8%**	-38.5% to +45.0%

Source - RBC Capital Markets U.S. Equity Strategy, RBC Wealth Management, Haver Analytics, Standard & Poor's; price returns, not including dividends

As an aside, one might think that the market's strong historical performance shown in the table above when GDP growth was negative is counterintuitive. But the S&P 500's median annual gain of 23.5 percent during periods of negative growth actually makes sense when we look a bit further back in time and consider recessionary periods overall. Unlike the other three GDP growth categories, recessionary periods often followed market selloffs, with a median decline of 9.7 percent in preceding years. The market usually declines just ahead of and in the early phase of a recession. And it tends to bottom partway through recessions, before the economic clouds lift, aided by Fed rate cuts.

Geopolitical: Crude connection

Another risk for the market is that the military conflicts in the Middle East and Eastern Europe, and the geopolitical tensions associated with them, could widen.

Equity markets have historically absorbed military clashes and related escalations rather quickly. In the 19 previous key events that occurred since World War II, the S&P 500 fell an average of 6.3 percent, but then traded back up to even in just 29 trading days, on average. However, the market and economy tended to struggle more and for longer when oil prices rose for a sustained period.

Striking a balance

As we stated in our recent assessment of the S&P 500's earnings potential in 2024, we still see scope for further market gains this year as long as the economy remains resilient without additional negative inflation developments, and the Fed is inclined to cut rates.

When it comes to equity positioning in portfolios, we recommend balancing out the risks associated with inflation staying sticky or reaccelerating and GDP growth decelerating into a sluggish phase, with the possibility that the U.S. economy could sidestep such risks and remain resilient. We would maintain a Market Weight position in U.S. equities.

UNITED STATES

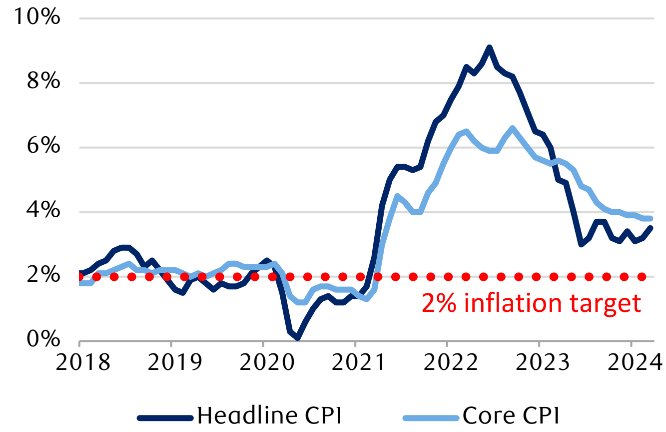
Tyler Frawley, CFA – Minneapolis

- **U.S. inflation was higher than expected in March.** According to the Department of Labor, headline inflation measured by the Consumer Price Index in March was 3.5%, above the Bloomberg consensus expectation of 3.4% and up from 3.2% in February. Similarly, core inflation (which excludes volatile food and energy prices) came in at 3.8%, slightly above the 3.7% consensus expectation and flat compared to February. We think the unexpected increases are a worrisome development, as headline inflation has now risen for two consecutive months, while the pace of declines in core inflation has continued to slow—which indicates to us that the path to the Federal Reserve's 2% target is likely going to be a slower process than originally expected. As a result, the market has trimmed back its fed funds rate cut expectation for 2024 to approximately half a percent, down from an expectation that had been as high as a full percent prior to the report. Additionally, RBC Capital Markets reduced its rate cut expectation to just one 25 basis point (bps) cut in December from the prior view of 75 bps of cuts this year.

- **U.S. equities are mostly lower this week following the March inflation report that came in higher than expected.** The Nasdaq Composite has been the best relative performer, up a modest 0.10%. The S&P 500 has outperformed the Dow Jones Industrial Average, but each index is lower, down 0.76% and 1.43%, respectively. Following the inflation report, Treasury yields spiked, with the 10-year yield moving more than 20 bps higher to 4.57%, while the 1-year yield rose more than 10 bps to 5.17%. This spike is a continuation of what we have seen since the beginning of the year, with the 10-year yield and the 1-year yield now up 70 bps and 39 bps, respectively, in 2024.

- **Q1 2024 earnings growth estimates have trended lower since the start of the year.** As Q1 earnings season is set to begin this week, Wall Street analysts now expect S&P 500 companies to report 3.2% year-over-year earnings growth, which is down from the 5.6% growth that was expected at the beginning of 2024, according to FactSet estimates. While growth expectations have moderated, Q1 2024 is expected to mark the third consecutive quarter of year-over-year growth for the index. From a sector level, Utilities and Information Technology are expected to see the strongest year-over-year growth, with earnings now expected to grow 23.7% and 20.4%, respectively, according to FactSet. Energy and Materials, on the other hand, are expected to see the most dramatic year-over-year declines, with consensus expectations calling for roughly 25% EPS declines for both sectors. As inflation remains stubbornly elevated and the economy remains surprisingly robust, we believe it will be important to monitor the upcoming Q1 earnings season, as unexpected weakness could begin to soften the argument that the U.S. remains on track for the widely discussed soft landing.

U.S. inflation remains well above the Fed's 2% target



Source - Bloomberg; data as of 4/10/24, reflects year-over-year changes

CANADA

Richard Tan, CFA – Toronto

- **Despite the metal's reputation as a defensive investment and the growing potential of a soft landing, gold prices have reached several new all-time highs in 2024.** This has caused gold to return approximately 13% year to date, outperforming both the S&P/TSX Composite and S&P 500. We believe higher gold prices have primarily been a function of strong central bank demand and the prospect of falling real interest rates. With respect to the former, 2023 net purchases were near record highs, and momentum has carried forward into 2024. On the latter, recall gold is not an income-producing asset and thus, we believe real interest rates can be used as a proxy for the opportunity cost in owning gold relative to income-producing alternatives. Put differently, the perceived cost of owning gold should be lower (and demand may rise) in an environment where real interest rates are falling, which could be the case in H2 should disinflation continue and central banks commence rate cuts.

- **Investor interest in silver has also grown.** The gold to silver ratio (i.e., an ounce of gold divided by an ounce of silver on a price basis) currently stands at roughly 84x. This compares to its 10-year average of approximately 80x and suggests silver is slightly more attractive than gold. However, we believe it is important to acknowledge a few distinctions such as silver does not benefit from the same degree of central bank buying compared to gold, silver production is primarily a byproduct of other mines, and silver has more industrial-use properties relative to gold (i.e., greater economic sensitivity, in our view). Moreover, we note that silver producer equities tend to be smaller-capitalization stocks with only 20%–30% of their revenues attributable to silver.

EUROPE

Rufaro Chiriseri, CFA – London

- **As we expected, the European Central Bank (ECB) held interest rates at 4% for the fifth consecutive meeting.** The monetary policy statement highlighted that inflation is moving broadly in line with the central bank's expectations and noted that if policymakers continue to observe this trend, "it would be appropriate to reduce the current level of monetary policy restriction."

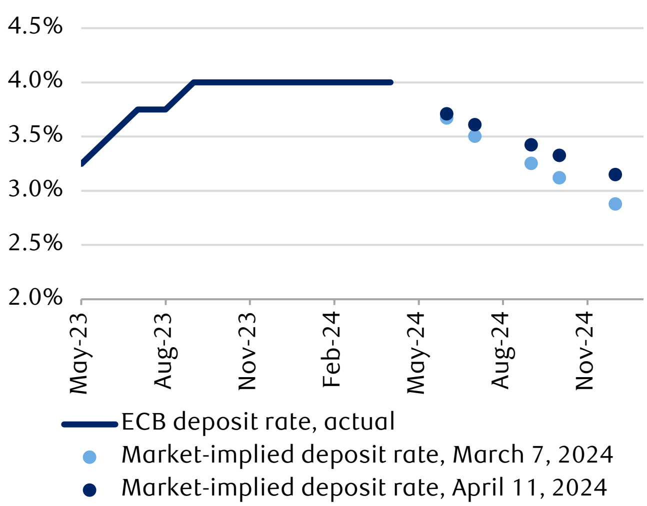
- During the press conference on Thursday, ECB President Christine Lagarde reiterated that "a lot more data" will be available at the June meeting. While a "few" Governing Council members were comfortable with the limited data, the majority ultimately needed more confidence to commence rate cuts. **When addressing the inflation conundrum, Lagarde stated that the Governing Council is "not waiting until everything goes back to 2%" and there will be "bumps in the road" as inflation moves towards its target.** We think this stresses that the central bank is willing to tolerate small misses in inflation data as long as it remains broadly in line with returning to target in early 2025.

- Lagarde was pressed several times to address the divergence in policy between the ECB and the U.S. Federal Reserve, and the effects on foreign exchange rates. **The main concern for market participants is the potential for imported inflation due to a weaker euro against the U.S. dollar in the event the ECB commences a faster or deeper cutting cycle than the Fed.** Lagarde pushed back, pointing out the ECB's "independence" in its decisions, and further highlighted the differences in inflation dynamics across the two economies. Unsurprisingly, euro currency movements seem to be dominated by the recent upside inflation surprise in the U.S. The euro dropped by 1.3% against the dollar this week alone and settled at 1.0707, close to year-to-date lows. In bond markets, fading rate cut expectations led to 2-year German Bund yields rising to 2.831%, nearly nine basis points higher than a week ago.

- As the ECB statement and press conference did not significantly diverge from our expectations, **we continue to anticipate the first cut in June and a year-end policy rate of 3.25%.** Markets have priced out cuts, and expectations for the year-end policy rate are now at 3.13%, closer to our forecast.

Fading European Central Bank rate cut expectations

Actual deposit rate and market-implied future rates



Source - Bloomberg, European Central Bank

ASIA PACIFIC

Jasmine Duan – Hong Kong

- **The Asian Development Bank (ADB) projects a 4.9% growth rate in Developing Asia for 2024, up from an earlier 4.8% projection, with moderate inflation at 3.2%.** The bank maintains a generally positive outlook for the region, and it anticipates strong domestic demand, particularly in South and Southeast Asia, to drive the expansion. Tourism-dependent countries could continue their growth trajectories as international tourism, which had reached 73% of the pre-pandemic level by 2023, recovers. Major uncertainties for Developing Asia, according to the ADB, include the path of U.S. monetary policy, as the risk tilts toward delayed easing. A slowdown in China's property market and the effects of adverse weather-related events might pose additional pressures. Geopolitical tensions and conflicts could disrupt supply chains and amplify commodity price volatility.

- **China had its Qingming Festival, the first major holiday after the Chinese New Year, on April 4–6.** Domestic tourists' spending during the three-day holiday increased by 12.7% compared to the same period in 2019, according to official data, and per-capita tourism spending rose above 2019 levels for the first time since the pandemic. Although the spending level remains notably below its pre-COVID trend, the latest data suggests a continuous recovery in household consumption.

- **China's March purchasing managers' indexes (PMIs) for both the manufacturing and non-manufacturing sectors came in at stronger-than-expected levels above 50.** The data covers large firms as well as small and medium-sized companies. There could be some seasonal distortion to the data due to the Chinese New Year period. But other indicators, such as industrial production and export volumes in the January–February period, also beat estimates and suggest growth momentum is building.

- **Some economists have started to revise China's 2024 gross domestic product (GDP) growth forecast higher as Q1 2024 data surprised to the upside.** The Bloomberg GDP consensus estimate now stands at 4.7%, up from 4.6% previously.

MARKET Scorecard

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	5,160.64	-1.8%	8.2%	25.6%	15.0%
Dow Industrials (DJIA)	38,461.51	-3.4%	2.0%	14.5%	10.8%
Nasdaq	16,170.36	-1.3%	7.7%	33.8%	17.9%
Russell 2000	2,028.39	-4.5%	0.1%	14.4%	1.7%
S&P/TSX Comp	22,199.13	0.1%	5.9%	9.5%	1.5%
FTSE All-Share	4,339.84	0.0%	2.5%	3.2%	1.9%
STOXX Europe 600	506.59	-1.2%	5.8%	10.4%	9.9%
EURO STOXX 50	5,000.83	-1.6%	10.6%	16.0%	29.6%
Hang Seng	17,139.17	3.6%	0.5%	-15.7%	-21.6%
Shanghai Comp	3,027.34	-0.5%	1.8%	-8.7%	-6.9%
Nikkei 225	39,581.81	-2.0%	18.3%	43.2%	46.7%
India Sensex	75,038.15	1.9%	3.9%	25.4%	26.2%
Singapore Straits Times	3,237.52	0.4%	-0.1%	-1.7%	-4.3%
Brazil Ibovespa	128,053.74	0.0%	-4.6%	25.7%	8.2%
Mexican Bolsa IPC	56,702.56	-1.2%	-1.2%	4.9%	3.7%
Gov't bonds (bps change)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. 10-Yr Treasury	4.544%	34.3	66.4	112.7	184.4
Canada 10-Yr	3.695%	22.7	58.5	79.9	105.9
UK 10-Yr	4.148%	21.5	61.1	71.6	239.8
Germany 10-Yr	2.435%	13.7	41.1	25.2	172.8
Fixed income (returns)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Aggregate	4.98%	-0.8%	-1.6%	0.5%	-1.9%
U.S. Investment-Grade Corp	5.42%	-0.8%	-1.1%	3.2%	0.4%
U.S. High-Yield Corp	7.80%	-0.3%	1.2%	10.7%	8.7%
Commodities (USD)	**Price**	**MTD**	**YTD**	**1 yr**	**2 yr**
Gold (spot $/oz)	2,332.56	4.6%	13.1%	17.1%	19.8%
Silver (spot $/oz)	27.89	11.7%	17.2%	12.1%	12.6%
Copper ($/metric ton)	9,283.00	5.9%	9.7%	5.4%	-9.9%
Oil (WTI spot/bbl)	85.23	2.5%	19.0%	6.9%	-13.3%
Oil (Brent spot/bbl)	90.50	3.5%	17.5%	7.5%	-11.9%
Natural Gas ($/mmBtu)	1.87	6.2%	-25.5%	-13.8%	-70.2%
Currencies	**Rate**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Dollar Index	105.1670	0.7%	3.8%	2.5%	5.4%
CAD/USD	0.7310	-1.0%	-3.2%	-1.2%	-8.1%
USD/CAD	1.3680	1.0%	3.3%	1.3%	8.8%
EUR/USD	1.0744	-0.4%	-2.7%	-1.1%	-1.2%
GBP/USD	1.2542	-0.6%	-1.5%	1.3%	-3.7%
AUD/USD	0.6513	-0.1%	-4.4%	-1.9%	-12.7%
USD/JPY	152.9700	1.1%	8.5%	14.5%	23.0%
EUR/JPY	164.3500	0.6%	5.5%	13.3%	21.5%
EUR/GBP	0.8567	0.2%	-1.2%	-2.3%	2.6%
EUR/CHF	0.9811	0.8%	5.6%	-0.7%	-3.4%
USD/SGD	1.3538	0.3%	2.5%	1.6%	-0.7%
USD/CNY	7.2343	0.2%	1.9%	5.1%	13.7%
USD/MXN	16.4396	-0.7%	-3.1%	-9.5%	-18.0%
USD/BRL	5.0743	1.2%	4.5%	0.1%	8.0%

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 Tuesday'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 0.73 means 1 Canadian dollar will buy 0.73 U.S. dollar. CAD/USD -3.2% return means the Canadian dollar fell 3.2% vs. the U.S. dollar year to date. USD/JPY 152.97 means 1 U.S. dollar will buy 152.97 yen. USD/JPY 8.5% return means the U.S. dollar rose 8.5% vs. the yen year to date.

Source - Bloomberg; data as of 4/10/24

Authors

Kelly Bogdanova – San Francisco, United States
kelly.bogdanova@rbc.com; RBC Capital Markets, LLC

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

Jasmine Duan – Hong Kong, China
jasmine.duan@rbc.com; Royal Bank of Canada, Hong Kong Branch

Tyler Frawley, CFA – Minneapolis, United States
tyler.frawley@rbc.com; RBC Capital Markets, LLC

Richard Tan, CFA – Toronto, Canada
richard.tan@rbc.com; RBC Dominion Securities Inc.

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 March 31, 2024

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Outperform]	831	56.84	264	31.77
Hold [Sector Perform]	585	40.01	151	25.81
Sell [Underperform]	46	3.15	4	8.70

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

Wealth Management