GLOBAL
Insight
WEEKLY

Wealth Management

Perspectives from the Global Portfolio Advisory Committee November 18, 2021

Central bank dissonance

Frédérique Carrier – London

The synchronised, extraordinarily accommodative response of global central banks since the early days of the pandemic is giving way to policymakers striking out on different paths to policy normalisation. We look at the key inflationary pressure points—housing and wages—and consider what the next moves of major central banks might be.

Housing and wages: The inflation connection

While stubbornly high inflation has largely been caused by supply chain disruptions, which should eventually wane in 2022, two other important factors, rising housing costs and wages, need to be monitored as those conditions could be stickier.

Eric Lascelles, chief economist at RBC Global Asset Management Inc., points out that housing costs represent a large proportion of the inflation basket for most countries though methodological approaches differ. Home prices across much of the developed world have increased to an extraordinary extent throughout the pandemic, which is fueling inflation. In the U.S., rental costs are now catching up. With housing costs representing a hefty 40 percent of the U.S. Consumer Price Index (CPI), inflation is likely to retain at least one key source of upward pressure over the coming year.

As for wages, given that seven of the last eight U.S. CPI prints have overshot consensus expectations, the risk, in our view, is that higher inflation seeps into wages, potentially setting up a wage-price spiral that would require central banks to abruptly rein in monetary stimulus, which could choke off the recovery and trigger financial market volatility.

Lascelles points out that significant wage pressures are already visible in the U.S. and UK. In the former, average hourly earnings grew 4.9 percent year over year in October, though this still represents negative real wage growth given that inflation is even higher. In the UK, wages on a total pay basis climbed 5.8 percent year over year in the July to September period. By contrast, average hourly earnings rose by an anaemic 2.0 percent year over year in Canada and remain subdued in the EU.

Upside pressure on wages arises from labour shortages that have put workers in a position to demand higher pay. COVID-19 lockdowns hindered immigration in developed countries, and some three million workers in the U.S. opted for early retirement, according to the Fed. UK labour shortages are being exacerbated by the banishment of EU workers after Brexit. The minimum wage was also increased in several countries.

The hawks

Markets expect the Bank of Canada (BoC) and the Bank of England (BoE) to be the most proactive in raising interest rates over the next 12 months, with as many as five BoC hikes by the end of 2022 priced into forward market expectations.

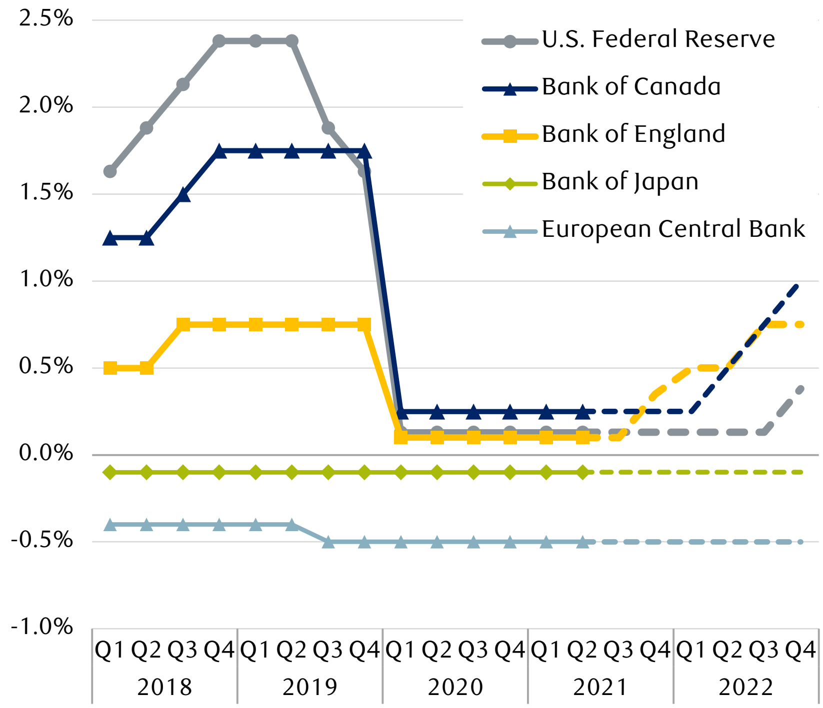
For perspectives on the week from our regional analysts, please see pages 3–4.

The BoC has been aggressive in scaling back COVID-19 stimulus. Given robust economic growth, high COVID-19 vaccination rates, and strong employment gains, the central bank recently reduced asset purchases to the level of reinvestments only, which has effectively ended its quantitative easing programme. BoC Governor Tiff Macklem and his BoC colleagues suggested interest rates could rise as soon as April 2022. October inflation is running at a high 4.7 percent year over year, which we believe the central bank will likely see as vindicating its position.

In the UK, the BoE recently stressed that some modest tightening of monetary policy would likely be necessary to meet its two percent inflation target. Prices surged in October, with the CPI reaching 4.2 percent, the highest level since 2018. The BoE has been waiting to see the impact on the labour market of the termination of the jobs support programme in September before increasing rates, but with unemployment continuing to fall and robust wage growth, the probability of a rate increase in December has grown. The market expects another two hikes in 2022.

Hawks and doves: Diverging expectations for interest rates

RBC Economics policy rate forecasts



Source - RBC Economics, RBC Wealth Management, Bloomberg; data as of 11/18/21

In the U.S., higher and more persistent inflation may mean a shift in expectations. Could the current $15 billion per month pace of tapering be accelerated to say $20 billion per month? And how soon and by how much will interest rates be increased?

We continue to expect the Fed will keep the tapering pace at $15 billion as markets like consistency. With tapering likely to end in mid-2022, we expect the Fed to take stock of conditions at that time and look for unemployment below four percent before raising rates. We anticipate one increase in late 2022, though we acknowledge a second hike in 2022 is possible if inflation remains high.

The doves

At the other end of the spectrum, the Bank of Japan (BoJ) and the European Central Bank (ECB) are unlikely to increase interest rates before 2023.

Japan's economic recovery has been slower compared to peers in 2021 due to a series of long-lasting and stringent COVID-19 restrictions. Inflation has been soft at a mere 0.2 percent year over year, partially due to government policies such as encouraging major telecom carriers to cut mobile phone fees. Given the muted inflation, we expect the BoJ to maintain its policy rate at negative 0.1 percent until late 2023.

By contrast, the October CPI in the eurozone reached 4.1 percent, up from 3.4 percent the previous month. According to RBC Capital Markets, the price increases were broad-based. With the recovery proceeding at a healthy pace, we believe the ECB is likely to start to rein in monetary stimulus. It already indicated it aims to terminate its Pandemic Emergency Purchase Programme in March 2022, though it will likely transition to a separate, existing asset purchase programme, lasting well into 2023, to continue to support regional economic activity. Markets do not expect the ECB to increase interest rates until sometime in late 2023.

Stay alert

Higher and persistent inflation can change market expectations for tightening of monetary policy, creating volatility. So far, fixed income markets have borne the brunt of this as equity markets seem to have been largely immune (for more, see the Nov. 11 Global Insight Weekly), though this may change over 2022. With this in mind, keeping an eye on housing costs and wages can help investors assess future central bank moves.

UNITED STATES

Alan Robinson – Seattle

- **U.S. stock indexes traded in a narrow range near all-time highs during the week**, with the positive drivers of strong consumer spending and accommodative monetary policy just outweighing concerns over increasing COVID-19 case counts and higher inflation.

- **The U.S. Consumer Price Index jumped by 6.2% y/y in October**, according to the Bureau of Labor Statistics, marking the largest 12-month increase in this inflation barometer in 31 years. Price rises were driven by pandemic-related supply shortages and strong consumer demand. Core prices (excluding the volatile categories of food and energy) were also up a solid 4.6%.

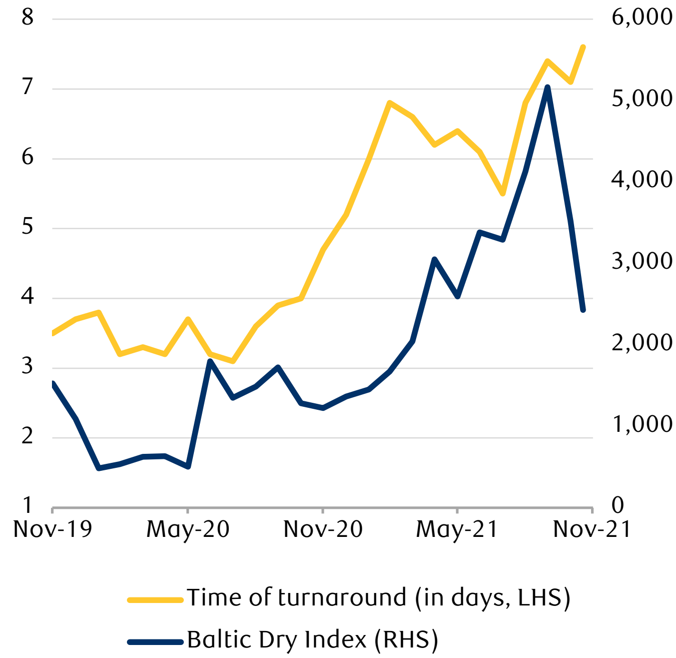
- These inflation figures didn't appear to dissuade U.S. consumers from opening their wallets, with the government reporting **October retail sales were up 16.3% y/y on a nominal basis**, indicating very strong volume growth after stripping out inflation.

- These data releases coincided with **earnings reports from retail bellwethers** including Home Depot (HD), Walmart (WMT) and Target (TGT). A common theme in these results was sales exceeding consensus estimates, offset by profit margin pressures caused by higher costs. According to FactSet, **285 S&P 500 companies referenced inflation during their Q3 2021 earnings calls**; this is more than double the five-year average. Investors' reactions to these reports generally depended on whether companies were able to pass these price increases on to their customers, with stocks of companies that demonstrated pricing power outperforming those that did not.

- One important cost pressure continued to ease during the week, with the Baltic Dry Index of shipping costs marking a five-month low. The **decline in shipping costs** has coincided with a number of industries, including global automobile manufacturers, reporting easing supply chain pressures and wider semiconductor availability. But this development may come too late to help stock the shelves for the holiday season, as **wait times for ships unloading at West Coast ports remain elevated** (see chart), partly due to the difficulty of finding truckers to take goods from the ports.

Shipping costs have peaked, but delays persist

Days at port for ships on West Coast versus shipping costs



Source - RBC Capital Markets, RBC Wealth Management; monthly data through 11/17/21

CANADA

Simon Jones – Toronto

- **The Consumer Price Index rose in line with consensus expectations in October**, increasing 4.7% y/y (0.7% m/m) according to Statistics Canada, up modestly from 4.4% y/y in September. Inflation was relatively broad-based with all major components increasing on a year-over-year basis. Higher energy prices (+25.5%) was a key contributor to October's price gains, as oil demand firmed amid coal and natural gas shortages globally. Ongoing supply disruptions also factored into October's increase as the semiconductor shortage continued to underpin motor vehicle prices (+6.1%), while labour shortages, supply chain challenges, and rising prices for livestock feed pushed the cost of meat higher (+9.9%). Although inflation continues to trend upward, its acceleration is consistent with the Bank of Canada's (BoC's) inflation forecast and, as a result, shouldn't cause the BoC to deviate from its current policy stance.

- **BoC Deputy Governor Lawrence Schembri reminded markets this week that the path to policy normalization remains uncertain**, noting that the pandemic has made it more difficult for central banks to assess economic capacity, inflationary pressures, and labour market dynamics. **His comments echoed the key message from BoC Governor Tiff Macklem's opinion piece** published earlier this week that stated the economy is "getting closer" to absorbing the slack necessary to begin raising interest rates, but "we are not there yet." The messaging comes amid the recent rise in short-term government bond yields that implies the market is expecting the BoC will raise interest rates at a faster pace than outlined in the BoC's current forward guidance. As it stands, the BoC doesn't anticipate achieving the conditions necessary to begin raising rates until "sometime in the middle quarters of 2022," but both Schembri and Macklem reiterated that any policy adjustments will remain outcome-dependent.

EUROPE

Rufaro Chiriseri, CFA & Thomas McGarrity, CFA – London

- **UK unemployment and inflation data released this week are key pieces of the puzzle for the Bank of England's (BoE) Monetary Policy Committee (MPC) to determine whether it should start tightening policy. Data showed 160,000 jobs were added in October** and openings soared to a record high. The figures suggest that very few of the 1.1 million workers who were on furlough became unemployed when the furlough program ended in September. The next unemployment data release is scheduled for Dec. 14, two days before the MPC's rate decision, and we expect the data to remain positive.

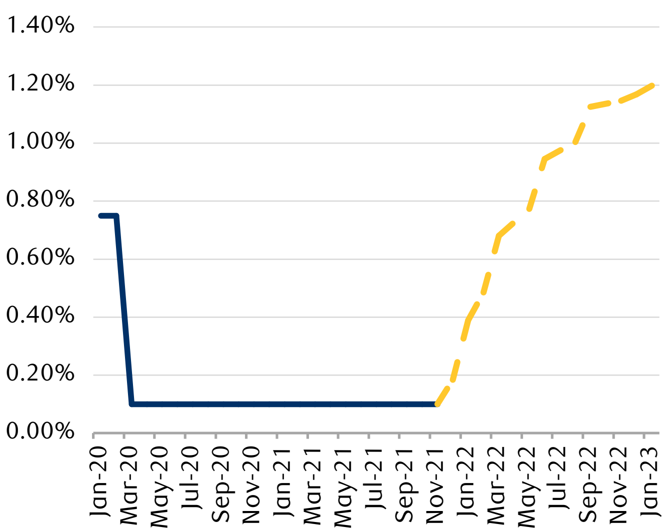
- Regarding inflation, **CPI rose to 4.2% y/y in October** from 3.1% y/y in September. This inflation print was above the 3.9% consensus estimate, but more in line with the November Monetary Policy Report (MPR) that forecast a figure slightly above 4%. The MPR inflation forecast peaks at 5% in Q2 2022 but falls back towards the BoE's 2% target over the medium term.

- The MPC stated that "if the data, particularly on the labour market, are broadly in line with the November MPR" then it would be necessary over the coming months to raise interest rates. Our base case is a hike in December followed by two further hikes, in Q1 and Q3 2022, to reach a 0.75% bank rate.

- **European equity markets continued to grind higher during the week**, despite rising COVID-19 infections in the region, including the continent's biggest economy—Germany. Notably, many of the new restrictions being introduced at this stage are focused on unvaccinated people, as governments push to increase vaccination rates.

The market expects the BoE base rate to increase to around 1.2% by the end of 2022

Historical and market-implied future bank rates



Source - RBC Wealth Management, Bloomberg; data through 11/18/21

- **Within the market's quarter-to-date rally, luxury stocks have significantly outperformed**. The subsector is now trading above the level it had reached in mid-August, before media reports that the Chinese government was considering changes to its "common prosperity" policies, including tackling excessive incomes, which initially hit the luxury goods names. Having digested the news, the market has seemingly opted to view the Chinese government's ambitions as having a positive impact on expanding the size of China's middle class, a key growth driver for the industry, and supporting a re-rating of price-to-earnings multiples. Strong Q3 results from across the industry, showing that the demand environment for luxury goods remains buoyant, has also been a factor driving luxury's recent outperformance, in our view.

ASIA PACIFIC

Jasmine Duan – Hong Kong

- **Chinese technology stocks recorded their worst day in three weeks on Nov. 18**, with the Hang Seng Tech Index down almost 3%. Baidu (BIDU/9988 HK) and Bilibili (BILI/9626 HK) had the largest declines in the index as both companies' Q3 2021 results reflected the effect of the country's regulatory crackdown and fueled investors' concern over the earnings of other tech companies. According to Bloomberg, among the 13 constituents of the Hang Seng Tech Index that have announced Q3 results, six reported lower-than-expected earnings.

- **U.S. President Joe Biden and Chinese President Xi Jinping had a virtual meeting earlier this week**, during which both sides proclaimed the need for mutual cooperation. Although there are no specific outcomes from the meeting, we think restarting dialogue is an important step and there is room for further improvement in the countries' relationship. It is also possible tariffs may unwind as lower tariffs could provide some relief on elevated U.S. consumer and producer inflation. We think a better U.S.-China relationship would help expand the valuation multiples of Chinese equities.

- **China is fine-tuning its property sector policies**. Regulators plan to let high-quality developers resume issuance of asset-backed securities (ABS) to repay outstanding debt. No developers have sold ABS since August after the government began restricting approvals in Q2. The country also plans to relax a rule that limits the size of new interbank bond issuance by developers to 85% of their outstanding interbank debt. However, the relaxation will also only apply to high-quality issuers.

- **China Evergrande (3333 HK) agreed to sell its remaining 18% holding in HengTen Networks (136 HK) to Hong Kong-based Allied Resources Investment Holdings Ltd.** at HK$1.28 per share, a discount of approximately 24% to its closing price on Wednesday (Nov. 17). The transaction will raise HK$2.13 billion (US$273 million) for Evergrande and could slightly ease its short-term liquidity pressure.

MARKET
Scorecard

Data as of November 18, 2021

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	4,704.54	2.2%	25.3%	31.9%	50.7%
Dow Industrials (DJIA)	35,870.95	0.1%	17.2%	21.9%	27.9%
Nasdaq	15,993.71	3.2%	24.1%	35.5%	87.1%
Russell 2000	2,363.59	2.9%	19.7%	33.6%	48.4%
S&P/TSX Comp	21,637.54	2.9%	24.1%	28.1%	27.1%
FTSE All-Share	4,152.80	0.6%	13.0%	15.1%	2.9%
STOXX Europe 600	487.70	2.6%	22.2%	24.9%	20.1%
EURO STOXX 50	4,383.70	3.1%	23.4%	25.9%	18.3%
Hang Seng	25,319.72	-0.2%	-7.0%	-4.6%	-5.1%
Shanghai Comp	3,520.71	-0.8%	1.4%	5.2%	21.0%
Nikkei 225	29,598.66	2.4%	7.9%	15.0%	26.4%
India Sensex	59,636.01	0.6%	24.9%	35.0%	48.0%
Singapore Straits Times	3,237.02	1.2%	13.8%	16.1%	-0.7%
Brazil Ibovespa	102,426.00	-1.0%	-13.9%	-3.5%	-3.6%
Mexican Bolsa IPC	50,831.95	-0.9%	15.4%	20.3%	17.1%
Gov't bonds (bps change)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. 10-Yr Treasury	1.584%	3.2	67.1	71.4	-23.2
Canada 10-Yr	1.696%	-2.7	101.9	99.3	20.8
UK 10-Yr	0.925%	-10.9	72.8	58.8	17.5
Germany 10-Yr	-0.275%	-16.9	29.4	27.9	6.1
Fixed income (returns)	**Yield**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Aggregate	1.73%	-0.3%	-1.9%	-1.3%	5.8%
U.S. Investment-Grade Corp	2.31%	-0.6%	-1.6%	-0.2%	9.2%
U.S. High-Yield Corp	4.36%	0.0%	4.4%	7.1%	14.3%
Commodities (USD)	**Price**	**MTD**	**YTD**	**1 yr**	**2 yr**
Gold (spot $/oz)	1,859.48	4.3%	-2.0%	-0.7%	26.4%
Silver (spot $/oz)	24.81	3.8%	-6.0%	1.9%	45.5%
Copper ($/metric ton)	9,421.40	-3.9%	21.6%	33.3%	62.0%
Oil (WTI spot/bbl)	79.01	-5.5%	62.8%	88.9%	38.5%
Oil (Brent spot/bbl)	81.10	-3.9%	56.6%	82.9%	29.9%
Natural Gas ($/mmBtu)	4.90	-9.6%	93.1%	80.8%	91.1%
Currencies	**Rate**	**MTD**	**YTD**	**1 yr**	**2 yr**
U.S. Dollar Index	95.5350	1.5%	6.2%	3.5%	-2.3%
CAD/USD	0.7937	-1.7%	1.1%	3.9%	4.8%
USD/CAD	1.2600	1.7%	-1.0%	-3.7%	-4.6%
EUR/USD	1.1371	-1.6%	-6.9%	-4.1%	2.7%
GBP/USD	1.3500	-1.3%	-1.2%	1.7%	4.2%
AUD/USD	0.7277	-3.2%	-5.4%	-0.4%	6.8%
USD/JPY	114.2500	0.3%	10.7%	10.0%	5.1%
EUR/JPY	129.9200	-1.4%	3.0%	5.6%	8.0%
EUR/GBP	0.8423	-0.3%	-5.8%	-5.7%	-1.5%
EUR/CHF	1.0524	-0.6%	-2.7%	-2.6%	-4.0%
USD/SGD	1.3565	0.6%	2.6%	1.1%	-0.3%
USD/CNY	6.3861	-0.3%	-2.2%	-2.7%	-9.1%
USD/MXN	20.7711	1.0%	4.3%	2.2%	7.5%
USD/BRL	5.5660	-1.2%	7.1%	3.8%	32.2%

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 0.79 means 1 Canadian dollar will buy 0.79 U.S. dollar. CAD/USD 1.1% return means the Canadian dollar rose 1.1% vs. the U.S. dollar year to date. USD/JPY 114.25 means 1 U.S. dollar will buy 114.25 yen. USD/JPY 10.7% return means the U.S. dollar rose 10.7% vs. the yen year to date.

Source - Bloomberg; data as of 4:35 pm ET 11/18/21

Authors

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

Alan Robinson – Seattle, United States
alan.robinson@rbc.com; RBC Capital Markets, LLC

Simon Jones – Toronto, Canada
simon.jones@rbccm.com; RBC Dominion Securities Inc.

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

Thomas McGarrity, CFA – London, United Kingdom
thomas.mcgarrity@rbc.com; RBC Europe Limited

Jasmine Duan – Hong Kong, China
jasmine.duan@rbc.com; RBC Investment Services (Asia) Limited

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.

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, 60 South Sixth St, Minneapolis, MN 55402.

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 our ratings are determined on a relative basis.

Distribution of ratings – RBC Capital Markets, LLC Equity Research
As of September 30, 2021

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Outperform]	800	56.58	341	42.62
Hold [Sector Perform]	562	39.75	172	30.60
Sell [Underperform]	52	3.68	3	5.77

Explanation of RBC Capital Markets, LLC 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.

As of March 31, 2020, RBC Capital Markets discontinued its Top Pick rating. Top Pick rated securities represented an analyst's best idea in the sector; expected to provide significant absolute returns over 12 months with a favorable risk-reward ratio. Top Pick rated securities have been reassigned to our Outperform rated securities category, which are securities expected to materially outperform sector average over 12 months.

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 Wealth Management 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, LLC, and its affiliates, a portion of which are or have been generated by investment banking activities of RBC Capital Markets, LLC 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; by RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada; by RBC Investment Services (Asia) Limited, a subsidiary of RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Hong Kong, China; by Royal Bank of Canada, Singapore Branch, a licensed wholesale bank with its principal office located in Singapore; and by 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 Hong Kong Residents: This publication is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ('SFC'), and RBC Investment Services (Asia) Limited, which is regulated by the SFC.

To Singapore Residents: 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 material 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. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.

RBC® Wealth Management