February 6, 2020

RBC WEALTH MANAGEMENT

Global Insight Weekly

A bounce in their step

Kelly Bogdanova – San Francisco

Stock indexes around the world rebounded smartly from the losses stemming from fears over the coronavirus, with the U.S. market pushing to another record high. We look at four catalysts behind stock markets' resiliency, but point out that one of these makes us a bit uncomfortable.

The equity market rally has been sharp and swift since the Novel Coronavirus (2019-nCoV) became more acute, especially in the U.S. where the S&P 500 jumped 3.7 percent from its recent low and reached a new all-time high. Other markets have also bounced, although the recovery in Asia has lagged, understandably.

Why the optimism? There are four reasons markets have bounced, which we highlight below. However, the third reason gives us pause.

(1) Loosening the grip of coronavirus fears

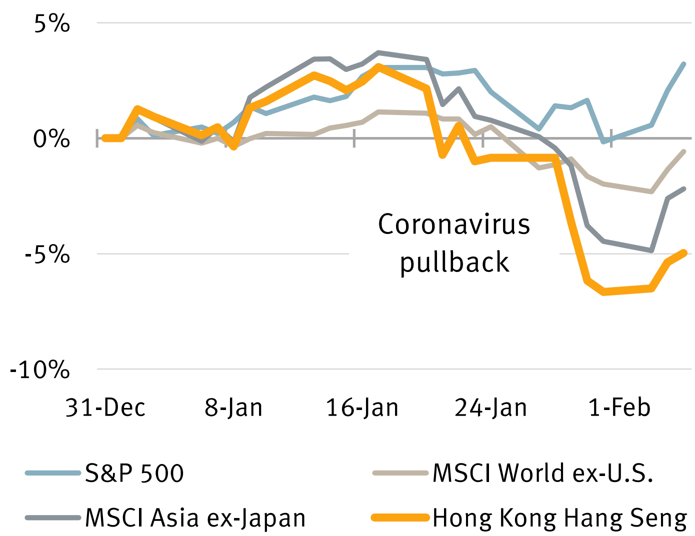
Thus far, markets seem to be taking cues from *official* coronavirus data. Even though the number of infections has jumped by almost 250 percent since last week, recently the increase in the daily rate of new cases has moderated, according to data from the Chinese and U.S. governments, and global health organizations. New infections have been mostly contained to China, predominantly in Wuhan and the surrounding Hubei province. Reported death rates remain low, and there has been progress on developing treatments and vaccines.

(2) Economies likely to ride out the outbreak

We think it's broadly accepted among institutional investors that coronavirus is likely to dent Chinese growth and constrain global growth. RBC Global Asset Management Inc. Chief Economist Eric Lascelles wrote, "The Wuhan epicenter is of considerable relevance to the Chinese economy, in its capacity as the country's seventh largest city, given its status

Asian markets have struggled more due to coronavirus

Year-to-date performance of select equity indexes (%)



Source - RBC Wealth Management, Bloomberg; data through 2/5/20

Market pulse

Click here for authors' contact information. Priced (in USD) as of 2/6/20 market close, ET (unless otherwise stated). **For important disclosures and required non-U.S. analyst disclosures, see page 6**
Produced: Feb 6, 2020 16:27ET; Disseminated: Feb 6, 2020 16:56ET

Wealth Management

as a nationwide transportation hub, and given its large international manufacturing sector."

However, we think equity markets are gravitating to our view that the economic impact should be manageable so long as the outbreak remains contained and because the Chinese government seems committed to supporting its economy. It just injected RMB 1.7 trillion into its banking system and officials have signaled a willingness to pull other levers.

At this stage, Lascelles expects China's Q1 GDP growth to be cut in half to three percent from its typical six percent rate, but he anticipates "unusually rapid" growth in Q2 if the outbreak subsides as others have in the past.

The net-net effect is that Lascelles reduced his 2020 GDP growth forecast for China to 5.6 percent from 5.9 percent. He noted, "This has less to do with mortality rates and more to do with absenteeism, temporarily closed businesses, supply chain issues and confidence effects."

While the U.S. and Europe could experience coronavirus-related headwinds—particularly in Europe, which is more closely tied to China trade flows—we think this would also be short-lived. Economic trends in the U.S. and Europe have improved lately. In the U.S., the closely watched ISM Manufacturing Purchasing Managers' Index unexpectedly jumped back into expansion territory in January, rising to 50.9 from 47.2, and manufacturing sub-indicators were also strong.

(3) U.S. FOMO

The "fear of missing out," or FOMO for short, is playing a bigger role in equity performance, in our view. This is the one catalyst that has propelled markets that we're least comfortable with.

Data and anecdotal evidence suggest that some institutional investors are chasing momentum—specifically, narrow pockets of the U.S. market in the Technology and Communication Services sectors that have been outperforming in recent weeks and months. As more investors have piled in, this has likely amplified gains in these segments, and has resulted in a narrower group of stocks leading the U.S. market.

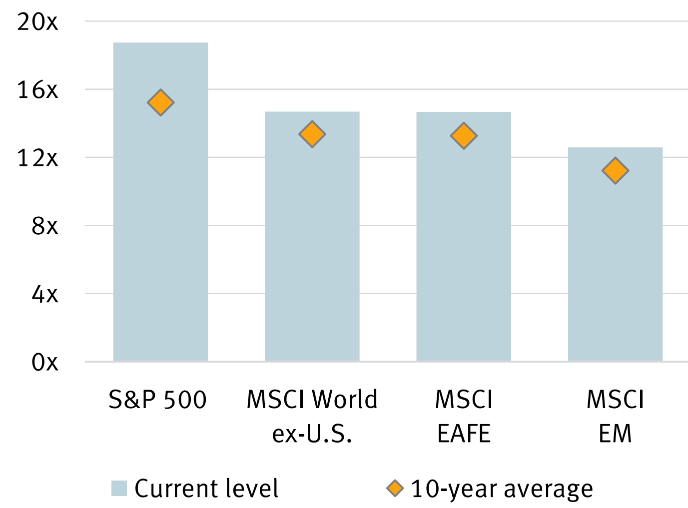
To us, a healthy rally is propelled over time by a broad group of stocks in a variety of sectors and industries leading, rather than just a narrow group.

RBC Capital Markets, LLC Technical Strategist Bob Dickey said there is reason to be circumspect. He wrote, "The higher volatility and big moves by some of the larger growth stocks in the market have often been signs of a market peak in the past, and the current market environment reminds us of those past periods where the volatile moves in some stocks did not make fundamental sense."

He believes the U.S. market could pull back in the near term. He wrote, "We do not see the recent bounce as the start of a new up-leg for the indexes but as a more typical pattern of higher volatility that often comes at turning points. We would expect this higher volatility will continue for several more weeks and lead into a pullback to the support levels of around 27,000 on the Dow Jones Industrial Average (DJIA) and 3,000 on the S&P 500 over the next two months."

U.S. valuation is more elevated above its long-term average than other major indexes

12-mo. forward price-to-earnings ratios based on consensus forecasts



Note: EAFE = European, Australasian, and Far Eastern markets; EM = Emerging markets
Source - RBC Wealth Management, Bloomberg; data through 2/5/20

(4) Earnings trends "good enough"

Equity markets have also bounced lately because Q4 earnings and revenue trends have been largely as expected, with some bright spots. The U.S. earnings growth rate is likely to end the reporting season in positive territory.

Also, the rate of decline in forward earnings estimates has slowed or stabilized in a number of developed markets. For example, the consensus forecast for S&P 500 earnings has dipped just $1 to $176 per share since late December.

Stay on target

While equity markets have bounced due to these four factors, we don't rule out additional volatility as the economic implications of coronavirus are further discerned and digested. Any swings in U.S. momentum stocks could also impact the broader U.S. and global equity markets.

For long-term investors, we are still comfortable holding total equity exposure at the benchmark level in portfolios as long as most of our U.S. recession indicators continue to signal that the expansion will persist and the global economy is not meaningfully threatened by coronavirus or other extraneous factors. We do, however, recommend that investors double-check their equity allocations. If they have run ahead of target levels, now would be a good time to trim them back to normal, in our view.

United States

Ben Graham, CFA – Minneapolis

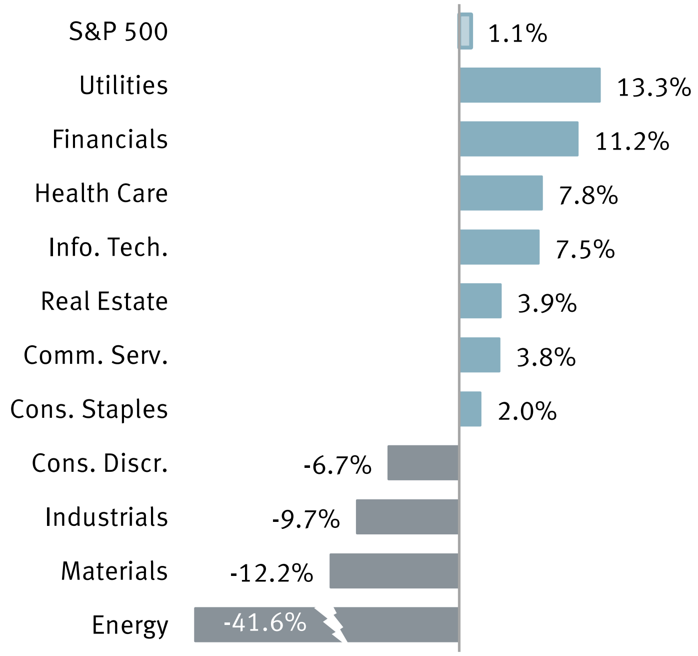
- **U.S. equity markets have largely shrugged off late January's weakness** thus far this week, as evidenced by the three major large-cap indexes hitting new all-time highs. With weekly gains approaching 5%, the NASDAQ and Russell 2000 are leading the S&P 500 and Dow Jones Industrial Average—whose gains are still north of 3%. **Value and growth stocks have alternated leadership** on a daily basis, but for the week, both are up similar amounts while the VIX, often referred to as the fear index, has declined to below 15 from its January 31 intraday high of 19.99. **Weekly sector leadership can be described as pro-growth and pro-cyclicality** as Tech, Materials, Health Care, and Industrials are the four leading sectors.

- Earnings season rolls on with 73% of the S&P 500 market cap having delivered results. At this time, **the S&P 500 is on track for earnings growth of 1.6% and revenue growth of 4.8% for the fourth quarter**. These growth metrics compare favorably to the respective -0.3% and 4.1% estimates from December 31, and highlight the overall surprise factors that have been positive thus far in earnings season. Specifically, Consumer Discretionary, Information Technology, and Communication Services have been delivering the best earnings **surprise factors** with each more than 8% higher than expected in aggregate. Meanwhile, Industrials (-3.1%) is the only sector surprising to the downside while Utilities and Real Estate have delivered positive surprise of less than 1%.

- After last week's weak economic data, headlined by the regional Purchasing Managers' Index (PMI) data from the Chicago Fed and Pending Home Sales, this week saw a reversal. **Both ISM PMIs hit expansionary levels** and came in higher than expected with the 50.9 reading on the Manufacturing Index and 55.5 on the Non-Manufacturing Index. These compare favorably to consensus expectations of 48.5 and 55.1, respectively. Finally, ADP employment data showed a **monthly gain of 291,000 jobs**. While there may be revisions to this initial print in coming months, it was the best monthly reading since May 2015's job growth of 295,000.

S&P 500 earnings growth, by sector

Fourth quarter 2019, year over year



Note: Energy is truncated
Source - RBC Wealth Management, Refinitiv I/B/E/S; data as of 2/6/20

Canada

Meika McKelvey – Toronto

- All eyes were on the **November GDP release** last Friday after the Bank of Canada (BoC) emphasized the recent growth slowdown in Canada as one of the major factors behind the more cautious tone at its January meeting. The small **0.1% m/m gain beat expectations** for a flat reading, and **both goods and services edged up 0.1%** in the month. However, the headline gain was driven mainly by growth in utilities on the back of colder weather in many parts of the country. The underlying details of the report were slightly softer and revealed some positives and negatives that are both likely to unwind in the coming months. Ultimately, **the November print does not change the barely flat growth picture for Q4** (+0.3%) and should not move the needle for the BoC in terms of the possible need for easing.

- Another strong data print that wasn't as encouraging under the hood was the release of the **December Canadian trade deficit. It came in at a smaller-than-expected CA$370 million**, with the headline improvement driven by energy exports after the completion of repairs on a major pipeline helped shipments of crude surge during the month. Non-energy exports showed almost no growth in December and although the Canadian National Railway and General Motors strikes likely weighed on results, **underlying trends remain soft**. On the import side, capital goods import volumes (an indicator for business investment) fell almost 3% to the lowest level in two years and combined with aircraft/other transport imports (which often feed into the non-residential investment category), **Q4 annualized growth saw its third straight quarterly decline**. Overall, like the November GDP beat, the better December trade print is unlikely to ease growth concerns at the BoC, and the door to a potential rate cut should remain firmly open.

Europe

Frédérique Carrier & Thomas McGarrity, CFA – London

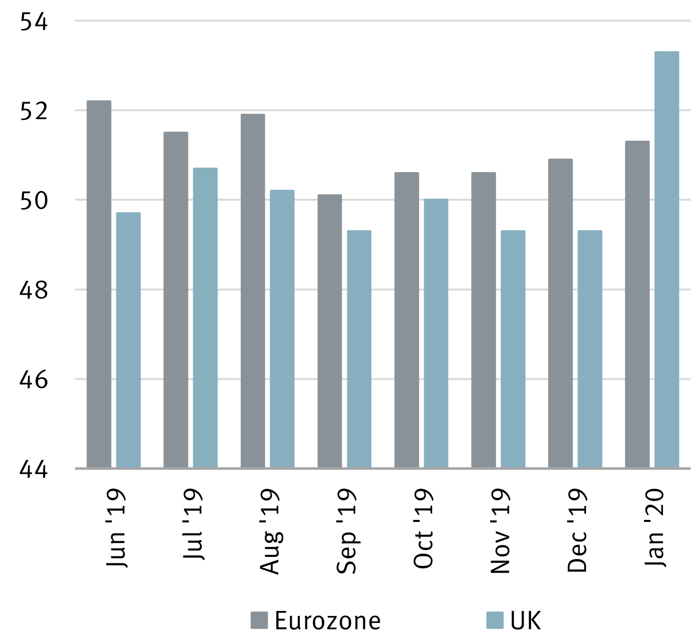
- **Economic data suggests the eurozone economy has bottomed**. The IHS Markit Eurozone Composite Purchasing Managers' Index (PMI) reached 51.3 in January, slightly more than the 50.9 registered in December, and better than economists' expectations. **The positive outcome came despite disappointing performance in France** where pension reform protests led to slightly weaker economic activity. Much like what we saw with the 2018 Yellow Vests protests, we would expect the impact of the current demonstrations to be temporary and for a rebound in the French economy to follow.

- **However, that is not to say that the region is out of the woods. Some areas, such as German manufacturing, are still struggling**. German new factory orders fell 2.1% m/m in December, the eighth monthly decline in 2019. Moreover, as European Central Bank President Christine Lagarde pointed out in a recent speech, the coronavirus is a new risk to sentiment. **RBC Capital Markets expects the outbreak will affect February economic activity data in Germany in particular**, as it is an exporting nation and given the importance of the automotive market to its economy. The Chinese motor authority recently estimated the coronavirus could reduce car sales in China by 2%–5% in 2020, and up to 10% in a worst-case scenario. The 10-year German Bund yield reached a low of -0.44%, down from a high of -0.15% in mid-January.

- Meanwhile, **the UK is enjoying an economic bounce** with the country's January composite PMI at a healthy 53.3, above the prior-month level, as businesses take heart in the strong Conservative majority in government. Yet **attention should soon turn to the trade negotiations with the EU** where UK Prime Minister Boris Johnson has opted to diverge from the EU on regulations so that **only a bare-bones free trade agreement looks possible**. This approach should be disruptive to the UK economy, though higher government spending should help see it through any disruptions.

European economic data firming

Markit Composite PMI



Source - RBC Wealth Management, Bloomberg; data through 1/31/20

Asia Pacific

Jasmine Duan – Hong Kong & Nicholas Gwee, CFA – Singapore

- **After plunging by 8% on February 3, the China A-share market recovered strongly** over the next few days. The Chinese government has taken various measures to support the market, including: the People's Bank of China injected RMB 1.7 trillion of liquidity into the banking system on February 3–4; suspending securities lending from February 3 until further notice; and proprietary traders at brokerages and insurers are prohibited from being net sellers of equities this week. **We believe the government will have to further loosen monetary and fiscal policy to maintain economic stability**. Other potential measures include cutting banks' required-reserve ratio and higher fiscal spending (higher deficits).

- Positive tariff news also boosted market sentiment. On February 6, **China announced it will halve tariffs on some $75 billion of imports from the U.S.** The cut will take effect from 1:01 p.m. on February 14 (Beijing time), the same time as when the U.S. is set to reduce tariffs on Chinese products. Chinese tariffs on American goods that were adopted from September 2019 will be lowered, with some rates dropping to 5% from 10%, and others to 2.5% from 5%.

- **Hong Kong closed more border crossings with China** on February 3. The city will also impose a mandatory 14-day quarantine on all visitors from mainland China starting from February 8. **Retail sales, which have been sliding for 11 months due to local protests, will likely suffer another hit**. Hong Kong's retail sales in December 2019 slumped by 19.4% y/y amid protests. For 2019, total retail sales decreased by 11.1% y/y in value and by 12.3% in volume terms. We remain cautious on the retail outlook for Q1 2020.

MARKET SCORECARD

Data as of February 6, 2020

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	3,345.78	3.7%	3.6%	22.5%	24.1%
Dow Industrials (DJIA)	29,379.77	4.0%	2.9%	15.7%	17.9%
NASDAQ	9,572.15	4.6%	6.7%	29.8%	34.5%
Russell 2000	1,677.46	3.9%	0.5%	10.5%	11.3%
S&P/TSX Comp	17,757.49	2.5%	4.1%	13.0%	15.6%
FTSE All-Share	4,170.89	2.8%	-0.6%	6.2%	6.3%
STOXX Europe 600	425.49	3.6%	2.3%	16.4%	14.1%
EURO STOXX 50	3,805.52	4.5%	1.6%	18.5%	12.1%
Hang Seng	27,493.70	4.5%	-2.5%	-1.8%	-10.1%
Shanghai Comp	2,866.51	-3.7%	-6.0%	9.5%	-15.0%
Nikkei 225	23,873.59	0.9%	0.9%	14.4%	10.5%
India Sensex	41,306.03	1.4%	0.1%	11.7%	20.8%
Singapore Straits Times	3,231.55	2.5%	0.3%	1.5%	-5.1%
Brazil Ibovespa	115,190.00	1.3%	-0.4%	21.7%	37.3%
Mexican Bolsa IPC	44,493.15	0.9%	2.2%	1.5%	-9.8%

Commodities (USD)	Price	MTD	YTD	1 yr	2 yr
Gold (spot $/oz)	1,566.83	-1.4%	3.3%	19.9%	18.3%
Silver (spot $/oz)	17.82	-1.2%	-0.2%	13.7%	7.1%
Copper ($/metric ton)	5,703.50	2.7%	-7.2%	-8.9%	-18.9%
Oil (WTI spot/bbl)	50.95	-1.2%	-16.6%	-5.7%	-19.6%
Oil (Brent spot/bbl)	55.11	-5.2%	-16.5%	-12.1%	-17.6%
Natural Gas ($/mmBtu)	1.87	1.2%	-14.8%	-29.9%	-32.4%

Govt bonds (bps chg)	Yield	MTD	YTD	1 yr	2 yr
U.S. 10-Yr Tsy	1.642%	13.5	-27.5	-105.2	-115.9
Canada 10-Yr	1.369%	9.6	-33.3	-55.6	-99.6
U.K. 10-Yr	0.582%	5.8	-24.0	-63.4	-93.9
Germany 10-Yr	-0.370%	6.4	-18.5	-53.2	-106.2

Fixed Income (returns)	Yield	MTD	YTD	1 yr	2 yr
U.S. Aggregate	2.12%	-0.5%	1.4%	9.3%	11.9%
U.S. Invest Grade Corp	2.66%	-0.5%	1.8%	13.8%	15.4%
U.S. High Yield Corp	5.32%	0.5%	0.5%	9.1%	12.9%

Currencies	Rate	MTD	YTD	1 yr	2 yr
U.S. Dollar Index	98.4680	1.1%	2.2%	2.2%	9.9%
CAD/USD	0.7526	-0.4%	-2.2%	-0.6%	-6.0%
USD/CAD	1.3287	0.4%	2.3%	0.6%	6.4%
EUR/USD	1.0980	-1.0%	-2.1%	-3.4%	-11.3%
GBP/USD	1.2926	-2.1%	-2.5%	0.0%	-7.3%
AUD/USD	0.6728	0.5%	-4.2%	-5.3%	-14.9%
USD/JPY	109.9700	1.5%	1.3%	0.0%	0.4%
EUR/JPY	120.7500	0.5%	-0.8%	-3.4%	-11.0%
EUR/GBP	0.8495	1.1%	0.4%	-3.3%	-4.3%
EUR/CHF	1.0703	0.1%	-1.4%	-6.0%	-7.6%
USD/SGD	1.3857	1.5%	3.0%	2.2%	5.1%
USD/CNY	6.9707	0.9%	0.1%	3.4%	10.8%
USD/MXN	18.6602	-1.0%	-1.4%	-2.4%	0.3%
USD/BRL	4.2825	0.0%	6.4%	15.7%	32.4%

Source - Bloomberg. Note: 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. Data as of 9:35 pm GMT 2/6/20.

Examples of how to interpret currency data: CAD/USD 0.75 means 1 Canadian dollar will buy 0.75 U.S. dollar. CAD/USD -2.2% return means the Canadian dollar fell 2.2% vs. the U.S. dollar year to date. USD/JPY 109.97 means 1 U.S. dollar will buy 109.97 yen. USD/JPY 1.3% return means the U.S. dollar rose 1.3% vs. the yen year to date.

Authors

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

Ben Graham, CFA – Minneapolis, United States
benjamin.graham@rbc.com; RBC Capital Markets, LLC

Meika McKelvey – Toronto, Canada
meika.mckelvey@rbc.com; RBC Dominion Securities Inc.

Frédérique Carrier – London, United Kingdom
frederique.carrier@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

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

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: Meika McKelvey, an employee of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc.; Frédérique Carrier and Thomas McGarrity, employees of RBC Wealth Management USA's foreign affiliate RBC Europe Limited; Jasmine Duan, an employee of RBC Investment Services (Asia) Limited; and Nicholas Gwee, an employee of Royal Bank of Canada, Singapore Branch contributed to the preparation of this publication. These individuals are not registered with or qualified as research analysts with the U.S. Financial Industry Regulatory Authority ("FINRA") and, since they are not associated persons of RBC Wealth Management, they may not be subject to FINRA Rule 2241 governing communications with subject companies, the making of public appearances, and the trading of securities in accounts held by research analysts.

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.

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). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. 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.

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, LLC ratings of Top Pick/Outperform, Sector Perform, and Underperform 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.

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.

Distribution of Ratings - RBC Capital Markets, LLC Equity Research
As of December 31, 2019

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Top Pick & Outperform]	765	51.97	225	29.41
Hold [Sector Perform]	625	42.46	127	20.32
Sell [Underperform]	82	5.57	5	6.10

Ratings:
Top Pick (TP): Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio. **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.

References herein to "LIBOR", "LIBO Rate", "L" or other LIBOR abbreviations means the London interbank offered rate as administered by ICE Benchmark Administration (or any other person that takes over the administration of such rate).

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 RBC Investment Solutions (CI) 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: Riverbank House, 2 Swan Lane, London, EC4R 3BF, UK. RBC Investment Solutions (CI) 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, registered company number 119162.

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.