April 26, 2018

RBC WEALTH MANAGEMENT

Global Insight Weekly

A closer look

U.S. earnings: Hold the hand-wringing

Kelly Bogdanova – San Francisco

While it's always appropriate to be alert to risks or concerns, the market's consternation over Q1 earnings is a bit much. It may take time for U.S. equities to work through swirling macro issues, but with corporate fundamentals and the economy sturdy, the business cycle should have further to go.

The U.S. stock market's bumpy ride continues with an imperfect Q1 earnings season as the latest culprit.

Earnings angst, combined with factors that have been circling the market for months—rising interest rates and inflation, the relatively flat yield curve, Fed policy uncertainty, and tariff jitters—have made it difficult for the major indexes to advance.

While concerns about rates, tariffs, and the other outside forces are unlikely to lift overnight, we think the hand-wringing about Q1 results and the profit outlook for future quarters is overblown. The market's fundamental picture remains bright.

Grow with the flow

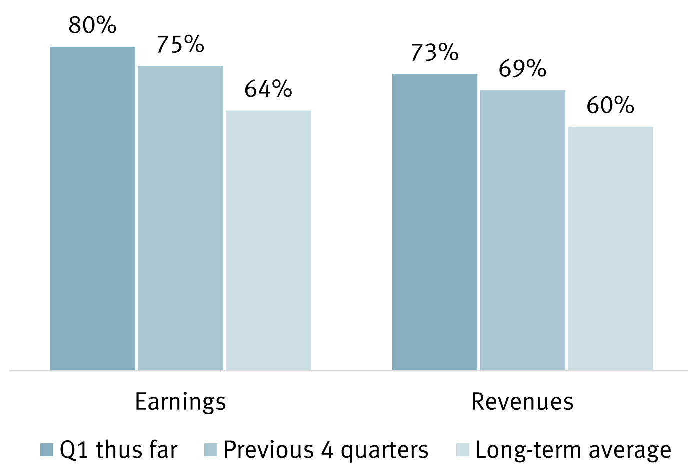
Aside from a couple of high-profile missteps from Caterpillar and 3M, it's been a strong earnings season so far.

The earnings beat rate is at the highest level since data were first totaled in 1994. Among the roughly one-third of S&P 500 companies that have reported thus far, almost 80% have exceeded the consensus earnings forecast. Revenue beats are also ahead of recent quarters and the long-term average (see chart).

The generous corporate tax cut package is likely enhancing earnings beats, and has helped push the overall growth rate to its highest level in years. S&P 500 earnings growth is pacing at 22% y/y, according to Thomson Reuters I/B/E/S, well ahead of the initial consensus forecast.

More companies are beating estimates than usual

Percent of companies exceeding the consensus forecast



Source - Thomson Reuters I/B/E/S; data as of 4/26/18

Market pulse

Click here for authors' contact information.
Priced (in USD) as of 4/26/18 market close, EST (unless otherwise stated).
For important disclosures and required non-U.S. analyst disclosures, see page 6.

But the bulk of that has nothing to do with Uncle Sam. Excluding tax cuts, earnings growth is clocking in at almost 15% y/y. This comes on top of strong mid-double-digit growth in the same period one year-ago—no small feat.

What impresses us the most is that revenue growth is robust for the second straight quarter. Thus far, S&P 500 revenues are advancing 7.9% y/y following 8.3% growth in the previous period. Seven of 11 sectors are delivering almost 7% or more top-line growth, with Technology, Energy, Materials, and Industrials all in double digits. The revenue outlook for the remainder of the year is also favorable, as estimated by our national research correspondent and the consensus forecasts (see lower chart).

All of this good news being said, what jolted market participants about Q1 earnings and especially about the outlook were cautious statements by Caterpillar's management team despite a strong quarter and 3M's Q1 operating earnings miss and full-year guidance cut. RBC Capital Markets' analysts do not view these developments as having broad implications for the Industrials sector as a whole, and we do not think they translate across all equity sectors or are setting off alarm bells for the domestic economy.

Full-year S&P 500 estimates, however, may be ahead of themselves. The 2018 consensus forecast has gone up, up, up since late last year as tax cut benefits were factored in. It now stands at $158 per share. We think that's optimistic, but achievable if domestic economic growth accelerates. A more realistic estimate, in our view, is in the $151–$155 range. That would represent 14.4%–17.4% y/y growth with roughly seven percentage points of that coming from tax cuts.

Based on these more conservative earnings estimates, the S&P 500 is trading at a forward price-to-earnings ratio of 17.2x–17.7x, which is somewhat stretched but not overly so as the long-term average is 16.2x.

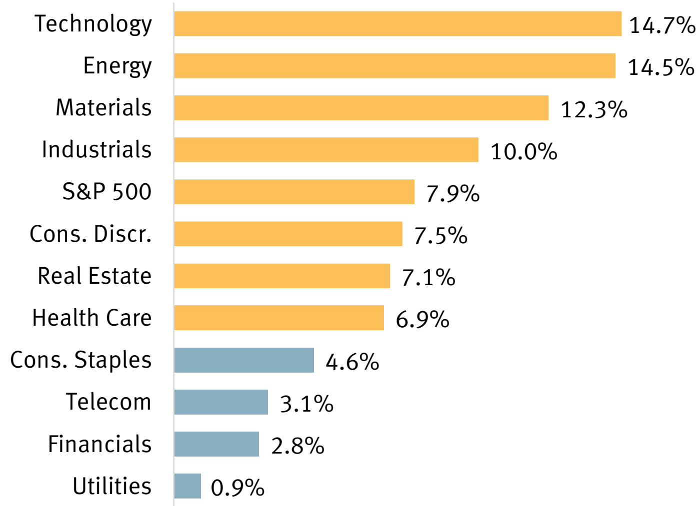
The ability to cope

Even though we're constructive about the corporate landscape and continue to believe the economy's foundation is firm, the outside factors swarming around the market—rising interest rates and inflation, the relatively flat yield curve, Fed policy uncertainty, and tariff jitters—are unlikely to recede in the near term. This could keep market conditions choppy for a while longer.

But the strong corporate fundamentals and positive leading economic indicators make the case the business cycle has further to go. We would continue to Market Weight U.S. equities and would look for opportunities as the correction plays out because the multiyear bull market should ultimately resume its upward path.

Seven of 11 sectors and the S&P 500 projected to grow revenues by nearly 7% or more

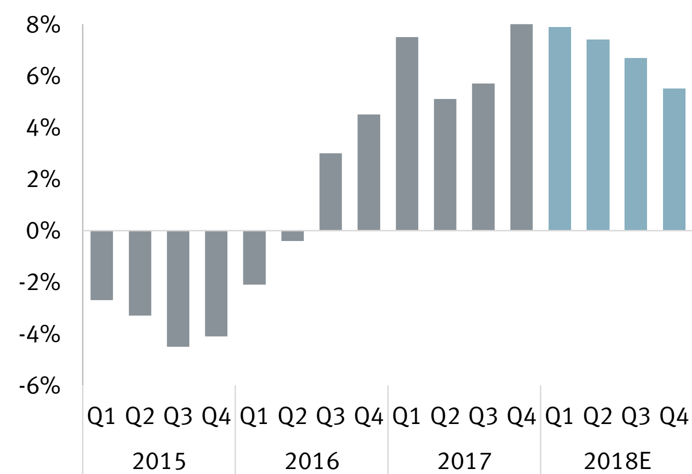
Consensus forecast for S&P 500 sector revenue growth in Q1 (y/y)



Source - Thomson Reuters I/B/E/S; data includes revenue growth rates for companies that have already reported and the consensus projections for those that will report; data through 4/26/18

U.S. corporate revenue growth outlook is sturdy

S&P 500 quarterly earnings growth (y/y) - actual in gray; consensus estimates in blue



Source - RBC Wealth Management, Thomson Reuters I/B/E/S, national research correspondent, FactSet; 2018 consensus estimates as of 4/26/18

United States

Ben Graham – Minneapolis

- U.S. equity markets were broadly lower in recent days, highlighted by the S&P 500 declining 1.5% from its April 18 high of 2,708. **While equities have been challenged, the U.S. 10-year Treasury crossed the 3.0% threshold**, closing at 3.02% on April 25, for the first time since December 2013. Additionally, the yield curve experienced a steepening in recent sessions. Interestingly, it's not the bond proxies that have been the primary detractors of market performance. Rather, the **economically sensitive and secular growth sectors of Industrials, Materials, and Tech have been the hardest hit groups for the week. This is contrary to expectations**, as bond proxies—Consumer Staples, Utilities, and REITs—are usually the hardest hit during periods of rising rates and a steepening yield curve.
- In an earnings soundbite, **Apple and its supply chain have been struggling recently** on early reports from firms in the world's largest smartphone manufacturer's supply chain. Taiwan Semiconductor (TSMC) is the most notable; during the quarterly earnings call, TSMC management noted its expectation for stagnation in smartphone demand. **Apple reports May 1, and shares are down 7.7% since the TSMC earnings release, erasing $69B in market cap.**

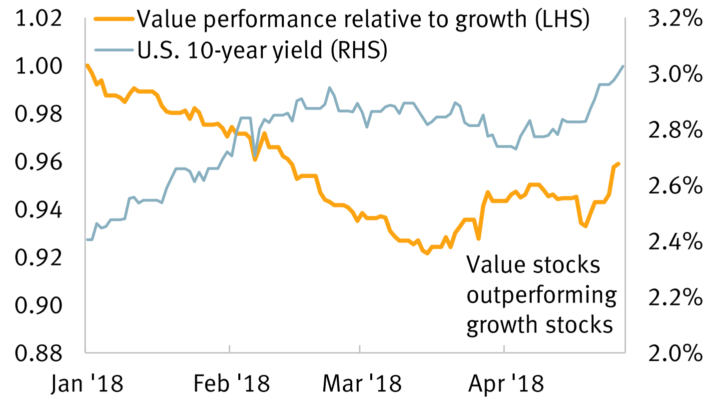
Canada

Diana Di Luca & Mikhial Pasic, CFA – Toronto

- **Bank of Canada (BoC) Governor Stephen Poloz and Senior Deputy Governor Carolyn Wilkins appeared in front of the Standing Senate Committee on Banking, Trade and Commerce** and presented a short review of the latest Monetary Policy Report. Within the opening statement, Poloz reiterated that growth in Q1 was slower than expected due to a larger-than-anticipated reaction in the housing market to new mortgage regulations that require the imposition of tougher lending standards on borrowers and weaker export growth. He also noted that growth should rebound and the BoC's forecast this year is 2%, above the upwardly revised potential rate of 1.8%. **On inflation, Poloz noted that it should remain "somewhat above the 2% target this year" while highlighting four key uncertainties** to its outlook. The first and most obvious uncertainty is the level of growth. There is a risk that growth moderates and drops below the upwardly revised potential rate of 1.8%, creating a less inflationary environment. The second uncertainty relates to dynamics of inflation and how the BoC captures inflation in its models, i.e., whether they are properly capturing core inflationary trends. The third regards wages and how they are growing within the

Value stocks rally on trends in U.S. 10-year Treasury

2018 relative performance of S&P 500 value vs. growth



Source - RBC Wealth Management, Bloomberg; data through 4/25/18

economy, and the fourth is the well-documented sensitivity of consumers to higher interest rates.

- We are keeping a **watchful eye on the recent run-up in U.S. interest rates as many Canadian companies borrow in U.S. dollars**. While the 10-year yield hitting 3% captured headlines, we believe **the recent rise in shorter-term yields could have a greater impact on corporate borrowers**. Three-month LIBOR is the reference rate on nearly US$1T of floating rate, non-investment bank loans, and this rate is up nearly 100 basis points in the last year. This is a potential vulnerability worth monitoring as this increase in the cost of funds could have a meaningful impact on the financial condition of these more leveraged non-investment-grade borrowers. We continue to believe a **focus on higher-quality 3- to 6-year investment-grade corporate bonds and federal bonds trading below par** is a sensible way to earn just under 3% in today's environment in the Canadian market.

Europe

Frédérique Carrier & Thomas McGarrity, CFA – London

- **In the U.K., the Brexit legislative agenda is increasingly full**, pointing to a challenging timetable. The House of Lords recently passed an **amendment to the EU Withdrawal Bill** calling on the government to make plans to stay in the customs union, an aim the government has so far rejected.
- Moreover, the **April 26 House of Commons vote** on a motion calling for the government to make plans for future participation in a customs union **could have important consequences** even though the vote is non-binding. Votes to remain in a customs union have been rejected in the past, but Labour's policy on the issue has changed since, and it now sees such an arrangement favourably.
- The vote is seen as a **test on the views of members of parliament**. It could be close given the government's working majority of only 12. If the government were to

be defeated, it would put in question its ability to push through the necessary legislation to achieve Brexit, and would be a blow to Prime Minister Theresa May's authority. **Should the April 26 motion fail to pass, it might not automatically lead to new general elections**, in our view, given the recognition that elections would potentially endanger the aim of delivering Brexit. It is thus conceivable that despite a defeat, the prime minister would remain in her post and seek to deliver a Brexit with the U.K. remaining in the customs union.

- **Data in Europe was somewhat mixed**, with the European Central Bank (ECB) euro area bank lending survey suggesting credit standards were easing for loans to both the corporate sector and housing while demand also improved in all loan categories. However, the German IFO Business Climate Index fell more than expected in April, to 102.1, the lowest level in over a year.
- During the press conference, **ECB President Mario Draghi** expressed growth was moderating, but he remains **confident in the recovery remaining in place**. There was no change in ECB language.

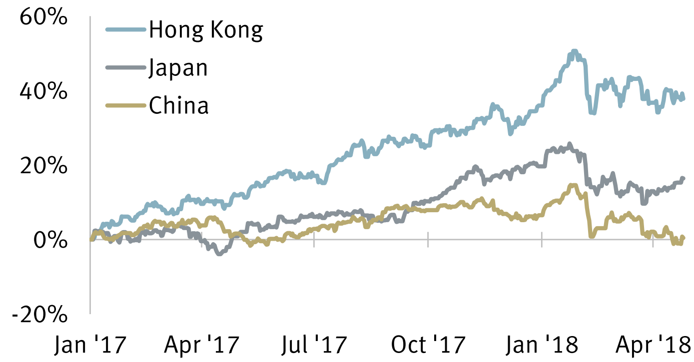
Asia Pacific

Jay Roberts, CFA – Hong Kong

- **The Hang Seng Index in Hong Kong remains under pressure**. The index, which rose by over 35% in 2017, has been laboring under several factors.
- **There was a quarterly earnings miss from Chinese internet giant Tencent** (700 HK), which accounted for approximately one-quarter of the entire index gain in 2017. Tencent, the **largest weighting in the index, has declined by nearly 20% from its January high**. Additionally, Tencent's stock may also be under some pressure due to the choppy market conditions at present for some of the largest Technology stocks, including those in Asia.
- **Second, the Hong Kong Monetary Authority, Hong Kong's de facto central bank, intervened in the currency market to support the Hong Kong dollar** for the first time since 2005. The Hong Kong dollar is pegged to the U.S. dollar in a tight range from 7.75 to 7.85. Short-term interest rates in Hong Kong have not been rising at the same pace as short-term rates in the U.S. due to an abundance of liquidity in Hong Kong. The rising interest rate differential caused the Hong Kong dollar to weaken to a point where intervention was necessary. The three-month borrowing cost consequently rose and is now at its highest level in 10 years, but remains very low by historical standards.
- In our view, **this situation is entirely controllable,** and we do not see any short-term, major risks to the currency. However, with Hong Kong interest rates finally rising, there are implications for the property sector and associated stocks.

After a strong 2017, major Asian indexes have struggled with multiple headwinds in 2018

Returns since 2017



Note: Hong Kong is measured by the Hang Seng Index; Japan by the TOPIX, and China by the Shanghai Composite
Source - RBC Wealth Management, Bloomberg; data through 4/25/18

- **Third, mainland China equities have been somewhat weak**. The Shanghai Composite is down 13.6% from its January high and close to its lowest level in a year. Similar to a number of other major markets, mainland stocks were, arguably, overbought in January. Additionally, the simmering trade tensions between the U.S. and China are a headwind.
- **The sharp dollar rally has caused the yen to retreat** by over 4% against the dollar in a matter of weeks. This is **good for Japanese stocks** as previous appreciation in the yen was starting to cast a shadow over the earnings outlook.
- However, **Japanese stocks have a new headwind** in the form of a domestic **scandal involving members of the government and the transfer of government land at a heavily discounted price**. This has caused the popularity of Prime Minister Shinzo Abe and his cabinet to drop sharply and raised questions over whether Abe will be able to run successfully in the Liberal Democratic Party leadership election in September. The election is held every three years. Abe won the Japanese general election in 2017 by a fairly wide margin, but this was probably more due to a fragmented opposition. Polls conducted at the time suggested that Abe's personal popularity was not high.
- **Taiwan Semiconductor** (2330 TT), the world's largest maker of microchips, **forecasts Q2 revenue of $7.8B–$7.9B, far below market expectations** of $8.8B, as well as lower margins. Part of the weakness is due to a slowdown in smartphone sales. TSMC generates over 20% of its revenues from Apple (AAPL).
- Korean tech giant **Samsung Electronics** (005930 KS) posted **significant growth in Q1 sales** of over 20% y/y to KRW60.6T ($55.9B). Earnings were better than expected at KRW11.6T ($10.7B). Going forward, Samsung sees robust demand for memory chips but also noted that its mobile business is facing weak demand.

MARKET SCORECARD

Data as of April 26, 2018

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	2,666.94	1.0%	-0.2%	11.7%	27.5%
Dow Industrials (DJIA)	24,322.34	0.9%	-1.6%	16.0%	35.2%
NASDAQ	7,118.68	0.8%	3.1%	18.1%	45.6%
Russell 2000	1,557.90	1.9%	1.5%	9.8%	35.4%
S&P/TSX Comp	15,637.59	1.8%	-3.5%	-0.1%	13.2%
FTSE All-Share	4,083.53	4.9%	-3.3%	2.0%	18.5%
STOXX Europe 600	383.75	3.5%	-1.4%	-1.3%	10.5%
EURO STOXX 50	3,506.03	4.3%	0.1%	-2.0%	12.3%
Hang Seng	30,007.68	-0.3%	0.3%	22.1%	40.2%
Shanghai Comp	3,075.03	-3.0%	-7.0%	-2.1%	3.7%
Nikkei 225	22,319.61	4.0%	-2.0%	15.7%	28.6%
India Sensex	34,713.60	5.3%	1.9%	15.2%	33.5%
Singapore Straits Times	3,570.02	4.1%	4.9%	12.5%	23.3%
Brazil Ibovespa	86,383.20	1.2%	13.1%	33.2%	62.7%
Mexican Bolsa IPC	48,297.71	4.7%	-2.1%	-2.6%	6.3%

Commodities (USD)	Price	MTD	YTD	1 yr	2 yr
Gold (spot $/oz)	1,317.30	-0.6%	1.1%	3.8%	5.9%
Silver (spot $/oz)	16.52	0.9%	-2.5%	-5.6%	-3.7%
Copper ($/metric ton)	6,969.75	4.3%	-3.3%	22.5%	40.1%
Oil (WTI spot/bbl)	68.19	5.0%	12.9%	37.4%	54.8%
Oil (Brent spot/bbl)	74.72	6.3%	11.7%	44.2%	63.4%
Natural Gas ($/mmBtu)	2.82	3.2%	-4.5%	-10.2%	38.8%

Govt bonds (bps chg)	Yield	MTD	YTD	1 yr	2 yr
U.S. 10-Yr Tsy	2.983%	24.4	57.7	67.9	105.6
Canada 10-Yr	2.352%	26.1	30.7	87.3	80.1
U.K. 10-Yr	1.504%	15.4	31.4	42.1	-15.6
Germany 10-Yr	0.593%	9.6	16.6	24.1	29.4

Fixed Income (returns)	Yield	MTD	YTD	1 yr	2 yr
U.S. Aggregate	3.34%	-1.2%	-2.7%	-0.6%	0.6%
U.S. Invest Grade Corp	3.97%	-1.5%	-3.8%	0.4%	3.9%
U.S. High Yield Corp	6.31%	0.4%	-0.5%	3.2%	17.5%

Currencies	Rate	MTD	YTD	1 yr	2 yr
U.S. Dollar Index	91.5900	1.8%	-0.6%	-7.5%	-3.2%
CAD/USD	0.7763	0.1%	-2.4%	5.7%	-2.2%
USD/CAD	1.2882	-0.1%	2.5%	-5.4%	2.2%
EUR/USD	1.2103	-1.8%	0.8%	11.0%	7.1%
GBP/USD	1.3917	-0.7%	3.0%	8.3%	-4.6%
AUD/USD	0.7552	-1.7%	-3.3%	1.0%	-2.5%
USD/JPY	109.3600	2.9%	-3.0%	-1.5%	-1.8%
EUR/JPY	132.3600	1.1%	-2.2%	9.3%	5.2%
EUR/GBP	0.8697	-1.1%	-2.1%	2.5%	12.2%
EUR/CHF	1.1974	1.9%	2.3%	10.5%	8.9%
USD/SGD	1.3279	1.3%	-0.6%	-4.9%	-1.8%
USD/CNY	6.3365	1.0%	-2.6%	-8.1%	-2.4%
USD/MXN	18.7930	3.4%	-4.4%	-2.1%	8.2%
USD/BRL	3.4782	5.2%	5.0%	9.6%	-1.5%

Source - Bloomberg. Note: Equity returns do not include dividends, except for the German DAX and 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 8:35 pm GMT 4/26/18.

Examples of how to interpret currency data: CAD/USD 0.77 means 1 Canadian dollar will buy 0.77 U.S. dollar. CAD/USD -2.4% return means the Canadian dollar fell 2.4% vs. the U.S. dollar year to date. USD/JPY 109.36 means 1 U.S. dollar will buy 109.36 yen. USD/JPY -3.0% return means the U.S. dollar fell 3.0 vs. the yen year to date.

Authors

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

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

Diana Di Luca – Toronto, Canada
diana.diluca@rbc.com; RBC Dominion Securities Inc.

Mikhial Pasic, CFA – Toronto, Canada
mikhial.pasic@rbc.com; RBC Dominion Securities Inc.

Frédérique Carrier – London, United Kingdom
frederique.carrier@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Thomas McGarrity, CFA – London, United Kingdom
thomas.mcgarrity@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Jay Roberts, CFA – Hong Kong, China
jay.roberts@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: Diana Di Luca, Mikhial Pasic, and Jay Roberts, employees of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc.; and Frédérique Carrier and Thomas McGarrity, employees of RBC Wealth Management USA's foreign affiliate Royal Bank of Canada Investment Management (U.K.) Limited; 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), and former lists called the Guided Portfolio: Large Cap (RL 7), the Guided Portfolio: Midcap 111 (RL 9), and the Guided Portfolio: Global Equity (U.S.) (RL 11). 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 (TP)/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 March 31, 2018

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Top Pick & Outperform]	865	53.49	275	31.79
Hold [Sector Perform]	667	41.25	147	22.04
Sell [Underperform]	85	5.26	7	8.24

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.

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 received 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 the member companies 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 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 Web site 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 II of the Firm's Form ADV or the Investment Advisor Group 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 II of the ADV, or 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; and by Royal Bank of Canada Investment Management (U.K.) Limited, an investment management company 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 or consequential loss arising from 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 consent of Royal Bank of Canada. 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 Royal Bank of Canada Investment Management (U.K.) Limited and RBC Investment Solutions (CI) Limited. Royal Bank of Canada Investment Management (U.K.) Limited is authorised and regulated by the Financial Conduct Authority (Reference number: 146504). 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. Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ('AFSL') (No. 246521).

To Singapore Residents: This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity granted offshore bank licence 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.

RBC1253