Global Insight Weekly



Trade tensions heat up: What investors need to know

Kelly Bogdanova – San Francisco

As trade tensions escalate on several fronts, investors are rightly concerned—and confused—about the vulnerability of the economy and markets. Here's what investors should know to help navigate the uncertainty ahead.

Risks associated with trade and tariffs are the top concern of institutional investors, according to a recent survey by RBC Capital Markets. They far outweigh worries about inflation, interest rates, Fed policy, and the economy overall, among many other issues.

Amid the uncertainties, there is a lot of confusion about the trade disputes, especially after a myriad of tariff threats and counter-threats have been lobbed back and forth in recent weeks. Neither the U.S. nor its major trading partners seem willing to back down anytime soon.

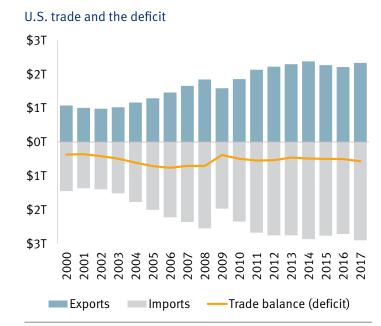
In an attempt to cut through the noise, we answer some frequently asked questions:

Q: Markets largely ignored trade tensions for months. Why have they reacted recently?

A: Perhaps this has to do with President Trump's unorthodox communications style. For much of his presidency markets have been in "show me" mode—less focused on rhetoric and more focused on actual outcomes.

For example, markets were slow to price in the historic U.S. tax cuts and associated increase in earnings estimates. The reaction to tariff rhetoric has been similar—most markets were mostly unaffected by the war of words until the prospects of multiple tit-for-tat tariffs became nearly assured. This is unusual behavior for equity markets, which normally price in events well in advance.

It's now clear the U.S. administration isn't completely bluffing and there is more to this than just tough rhetoric. What were trade "threats" months ago have begun to turn into actual



Source - RBC Wealth Management, U.S. Census Bureau; annual data through

Market pulse

- 4 Oil prices continue to outpace U.S. Energy stocks
- 4 Impressions from the BoC governor's recent speech
- 5 Sterling slides on BoE's dovish tone
- **5** China stocks feel the sting of trade tensions



policies. Steel and aluminum tariffs have been implemented by the U.S. and counter-tariffs are forthcoming from many trading partners. Also, the first round of U.S.-China tariffs is nearing the implementation phase. We think the additional tariff threats lobbed in the past few weeks by all sides now seem more credible in the eyes of markets.

Q: What is the potential economic impact of tariffs?

A: The trade disputes are being fought on four different fronts: (1) steel and aluminum, which impact many countries; (2) automobiles, which impact auto-producing nations; (3) the U.S. versus China; and (4) the U.S. versus NAFTA partners Canada and Mexico.

Our economists believe there is a very low probability that all of these fronts will ignite at once into an all-out global trade war. They anticipate the parties will ultimately negotiate trade deals for most if not all of these because it is in the economic interests of all countries involved, including the U.S. If a full-on trade war is avoided, the economic damage should be manageable.

That being said, our economists have evaluated some harsh scenarios. For example, if the U.S. and China were to levy 25% tariffs on all imports from each country and China were to include additional non-tariff barriers so as to match the total U.S. tariffs, RBC Capital Markets estimates it would subtract a little more than one-half of a percentage point from annual U.S. GDP growth (the economy would grow 2.4% rather than 2.9%, for example). Keep in mind, the U.S. and China tariff threats currently on the table are much lower than this (25% on the first \$50B in goods, followed by a 10% tariff on the equivalent of \$400B more in goods).

In another scenario, if the U.S. were to levy a hefty 20% tariff on imports from China, Mexico, and Canada, and each country countered, RBC Global Asset Management's economist estimates it would subtract 4.8% from Mexico's GDP growth (admittedly, a big number), 2.4% from Canada, 1.9% from the U.S., and 0.9% from China. The probability of this occurring is very low, in our view.

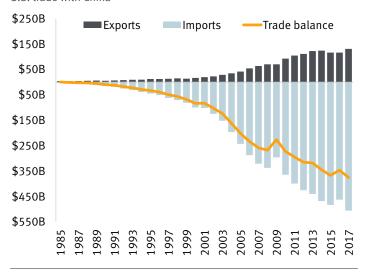
Q: Which U.S. sectors are most vulnerable to tariffs?

A: Theoretically, the U.S. sectors with the highest levels of international revenues—Technology, Materials, Energy, and Industrials—would have the most to lose in a global trade war on goods *and* services, as the bottom chart illustrates. But that's not what is being threatened and this issue is not cut and dried.

Thus far, the tariff threats have focused on goods, not services. The distinction matters because many Tech firms, including internet and some software companies, are services providers.

Trade with China has become more one-sided over the years

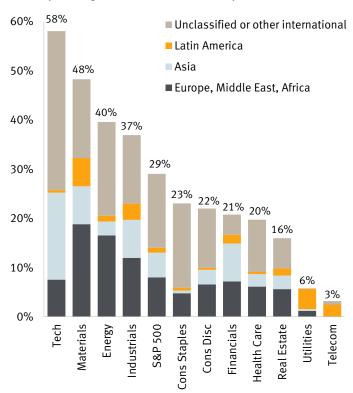
U.S. trade with China



Source - RBC Wealth Management, U.S. Census Bureau; annual data through 2017

Cyclical sectors are the most internationally exposed

S&P 500 percentage of international revenues by sector



Source - RBC Capital Markets U.S. Equity Strategy, Capital IQ, Standard & Poor's

They manufacture nothing so their risk is low. Within Tech, semiconductor and hardware companies are manufacturers and have significant revenues from overseas, so they are much more exposed to tariff risks.

Another key point: it's difficult to break down the risks by regions or countries. Many S&P 500 companies don't detail the sources of their international revenues, which is why the bulk of international exposure is in the "unclassified or other" category, as shown in the bottom chart on the previous page.

In general, internationally oriented semiconductor, tech hardware, materials, and industrial firms have the most exposure, and some consumer goods companies are vulnerable as well.

Q: What could hasten the end of the trade disputes?

A: A meaningful deterioration in U.S. and global economic indicators and a more pronounced selloff in equity markets could certainly grab the attention of elected officials and push sparring parties to resolve their trade differences. But we don't think it has to get that bad for deals to take place.

Corporate pressure could go a long way toward bringing an end to the trade disputes. A non-trivial share of major trade relationships—whether between the U.S. and China, the U.S. and the EU, or NAFTA members—is business-to-business and involves complex global supply chains with interdependencies that are often misunderstood or underappreciated by government officials. Some tariffs could tie global supply chains in knots. We don't doubt businesses of all sizes in all countries involved will warn governments about this, which could encourage positive movement toward trade deals.

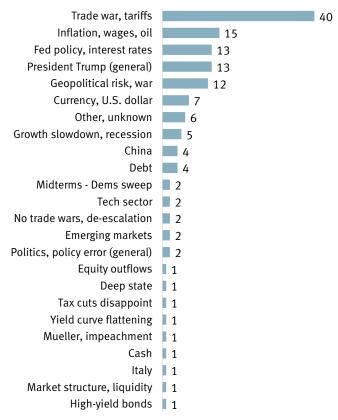
Two U.S. automotive industry groups have already sounded alarms about auto tariffs. ExxonMobil and Chevron warned of the damaging effects of tariffs on steel, which they use for infrastructure maintenance and expansion. High-profile European companies, Daimler and car lights supplier Osram, warned that rising trade tensions could weaken their profit outlooks. Any cautionary comments by U.S. companies during the upcoming Q2 earnings reporting season would likely catch the attention of the free trade advocates in the U.S. administration (Steven Mnuchin, Larry Kudlow). While additional warnings could rattle equity markets, they may also jolt trade negotiators into action.

Cooler heads should ultimately prevail

All sides of the trade disputes have economic incentives to resolve their differences, and we think this will eventually occur. In the meantime there could be more heated rhetoric and additional tariffs implemented that could keep equity markets off balance over the near term.

Survey of institutional investors: What is the biggest tail risk for the U.S. equity market?

Number of responses



Source - RBC Capital Markets U.S. Equity Strategy quarterly investor survey (June 2018), RBC Wealth Management



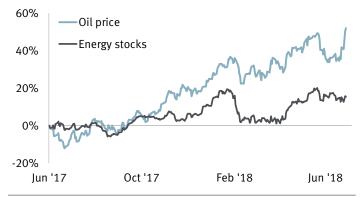
United States

Ben Graham - Minneapolis

- Volatility underscored by mixed trade headlines and constantly shifting tariff rhetoric caused most major U.S. indexes to trade lower during the week. The Technologyheavy NASDAQ Composite experienced the worst decline of major U.S. indexes in recent days while the trendy U.S. small-cap universe was narrowly behind. The tough sledding was driven by concerns about semiconductor and hardware industries as the White House revealed potentially stricter trade policy that could have negative implications for U.S. technology components manufacturers.
- RBC Capital Markets' commodity strategists recently shifted their outlook on oil, as they now see a structurally bullish backdrop and the best fundamental setup in years. As a result, their forecasts were lifted and show an expectation of WTI oil prices averaging \$68/barrel (bbl) in 2018 and \$76/bbl in 2019, up from \$66/bbl and \$64/bbl, respectively. However, while the commodity has rallied more than 60% in the last year, Energy stocks have only gained slightly more than 15%. Our view is that this differential will be narrowed by Energy stocks playing catch-up and we remain constructive on the sector.
- The Financials sector experienced 13 straight days of losses heading into the Comprehensive Capital Analysis and Review (CCAR) results, the longest such streak in nearly 30 years. CCAR is the decision-making process in which the Fed approves or rejects banks' intended capital distribution plans. The recent losing streak builds on the declines since the January 2018 highs in which more than \$425B in sector market capitalization has been lost. We continue to be constructive on the sector, and banks specifically, due to what we view as reasonable valuations, loan growth that has started and should continue, and

Oil prices continue to outpace Energy stocks

One-year price returns of oil (WTI) and the S&P 500 Energy sector



Source - RBC Wealth Management, Bloomberg; data as of 4:00 pm GMT 6/28/18

- a normalization of Fed policy. **CCAR results should be a catalyst for a reversal of the recent trend**, in our view.
- The yield curve has flattened further as the U.S. 10-year Treasury declined to its lowest reading on June 27 since 2007. The spread between the 2-year and 10-year Treasury continued to decline and set post-Great Recession lows at 32 basis points. On the economic front, final Q1 GDP was 2.0%, lower than consensus estimates of 2.2%. Our view is that equities should receive the benefit of the doubt as long as the economic growth trajectory remains in place.



Canada

Diana Di Luca - Toronto

- Bank of Canada (BoC) Governor Stephen Poloz spoke at the Greater Victoria Chamber of Commerce on June 27, focusing on transparency and its role in promoting a more resilient economy. Those hoping that a speech about transparency from the central bank would include some element of forward guidance leading into the BoC's July 11 policy meeting were left disappointed. Rather, Poloz focused heavily on the need for clarity in BoC communications for a variety of audiences, including the general public. Regarding the upcoming meeting, Poloz indicated that the central bank is "working to incorporate in our projections the effects of the recently announced U.S. steel and aluminum tariffs, along with retaliatory measures, both in Canada and globally. We are also analyzing individual-level data to understand how the new lending guidelines in Canada are affecting the housing market and mortgage renewals. We expect these issues to figure prominently in our upcoming deliberations." The probability of a rate hike being priced in by the market edged up to around 59% following Poloz's speech, with markets still uncertain as to the outcome of the upcoming policy meeting.
- Recent moves lower in government bond yields and moves tighter in BBB credit spreads diminish the **appeal of BBB Canadian corporate bonds**. 5- to 10-year Government of Canada (GoC) bond yields have fallen 30–35 basis points (bps) over the last six weeks, while corporate bond spreads have hung in fairly well and remain near the narrowest level of the decade. This is unfortunate for investors looking to put cash to work, because credit spreads often widen when yields fall, which typically diminishes the extent to which corporate yields track government bond yields lower. But this has not been the case in the most recent move lower in government bond yields. This means investors are receiving fairly meager incremental compensation to take credit risk, which we believe enhances the appeal of government bonds and higher-quality corporate issues.

 Perpetual preferred share prices remain near the lowest levels of the year, despite the fact that 10- and 30-year GoC bond yields are down approximately 40 bps since mid-May. This has resulted in credit spread widening of about 40 bps in recent months, and a number of issues have seen credit spreads widen 60–80 bps since early 2017. We recommend taking advantage of the recent pullback in perpetual preferred shares by adding select positions.



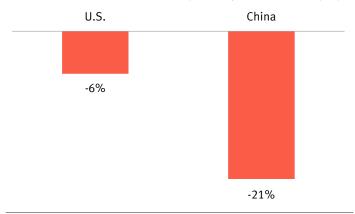
Europe

Frédérique Carrier & Laura Cooper – London

- **The British pound** slipped below 1.31 against the U.S. dollar, again reaching **post-Brexit referendum lows**.
- Jonathan Haskel, the newly appointed member of the Bank of England's (BoE) Monetary Policy Committee, struck a dovish tone, warning of the potential negative effects of Brexit uncertainty. He assessed that this will likely see him err on the side of caution when it comes to raising rates.
- The downturn in the pound was further aggravated by BoE Governor Mark Carney's comments following the release of the semiannual *Financial Stability Report* on June 27. Carney warned that the rise in protectionism and the potential spillover to business confidence is concerning as it could sap the strength of the global economy.
- Haskel's and Carney's comments raised financial markets'
 doubts that the BoE would be in a position to raise
 interest rates at its upcoming meeting in August, with the
 market-implied probability of a hike slipping to below 65%
 from more than 70% previously. The comments echo our
 view that the pound is likely to stay weak this year.
- Prime Minister Theresa May's cabinet is due to meet in
 the first week of July to draft a white paper on the future
 U.K.-EU trade relationship. With several high-profile
 companies, such as Airbus, Honda, and Siemens, pointing
 to the "severe negative consequences" of Brexit, many
 observers wonder whether May will make a U-turn
 and suggest that the U.K. should remain a member of a
 customs union. A House of Commons vote on this issue is
 expected later in July.
- The June European Commission Economic Sentiment Indicator for the eurozone came in marginally weaker than the previous month at 112.3 vs. 112.5. This is down from January's peak of 116.0 and corroborates our view that while the European economy's momentum seems to have slowed down, economic activity remains healthy, underpinning our Market Weight stance on European equities.

Chinese stocks are underperforming their U.S. counterparts on trade and economic slowdown concerns

Price returns of the S&P 500 and Shanghai Composite from January highs



Source - RBC Wealth Management, Bloomberg; data through 6/27/18



Asia Pacific

Jasmine Duan - Hong Kong

- Asian equities are being hit by U.S.-China trade tension. The MSCI AC Asia Pacific Index is down 11.6% from its high in January and down 4.5% YTD. China has been the worst performer in the region. The Shanghai Composite Index is down 21% from its high and has entered a bear market. The U.S. recently announced plans to curb Chinese investments in sensitive areas, such as technology. U.S. Treasury Secretary Steven Mnuchin later clarified that the move is not intended to target China, and President Donald Trump also softened his stance; however, the market did not respond positively to these statements, as Trump may change his decision at any time.
- The renminbi (RMB) has depreciated around 3.7% against the U.S. dollar (USD) in the past 11 days. In addition to trade tensions, the decision by the People's Bank of China to cut the required reserve ratio could also contribute to RMB weakness. RMB depreciation has raised concerns about higher debt burdens in some sectors (e.g., China Property and China Aviation) that carry a large amount of USD-denominated debt.
- The response to the Xiaomi (1810 HK) IPO has turned out better than expected. Xiaomi will be listed on Monday, Iuly 9.
- The Reserve Bank of New Zealand kept its benchmark interest rate unchanged at 1.75%, but the bank said it may consider a rate cut if needed as economic growth slows and inflation remains below target.



Data as of June 28, 2018

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	2,716.31	0.4%	1.6%	11.3%	33.4%
Dow Industrials (DJIA)	24,216.05	-0.8%	-2.0%	12.9%	39.1%
NASDAQ	7,503.68	0.8%	8.7%	20.4%	59.9%
Russell 2000	1,645.02	0.7%	7.1%	15.4%	48.6%
S&P/TSX Comp	16,179.89	0.7%	-0.2%	5.4%	16.9%
FTSE All-Share	4,188.60	-0.8%	-0.8%	3.7%	25.9%
STOXX Europe 600	376.87	-1.6%	-3.2%	-2.3%	19.0%
EURO STOXX 50	3,365.52	-1.2%	-4.0%	-4.8%	22.0%
Hang Seng	28,497.32	-6.5%	-4.8%	11.0%	41.3%
Shanghai Comp	2,786.90	-10.0%	-15.7%	-12.2%	-4.3%
Nikkei 225	22,270.39	0.3%	-2.2%	10.6%	45.3%
India Sensex	35,037.64	-0.8%	2.9%	13.6%	32.1%
Singapore Straits Times	3,257.57	-5.0%	-4.3%	1.3%	18.2%
Brazil Ibovespa	71,766.52	-6.5%	-6.1%	15.7%	43.5%
Mexican Bolsa IPC	47,031.27	5.3%	-4.7%	-4.7%	5.2%
Commodities (USD)	Price	MTD	YTD	1 yr	2 yr
Gold (spot \$/oz)	1,248.02	-3.9%	-4.2%	-0.1%	-4.9%
Silver (spot \$/oz)	16.00	-2.5%	-5.5%	-4.8%	-10.0%
Copper (\$/metric ton)	6,693.50	-2.2%	-7.1%	14.1%	39.2%
Oil (WTI spot/bbl)	73.45	9.6%	21.6%	64.2%	53.5%
Oil (Brent spot/bbl)	77.68	0.1%	16.2%	64.2%	59.9%
Natural Gas (\$/mmBtu)	2.95	-0.1%	-0.1%	-3.8%	1.1%

Govt bonds (bps chg)	Yield	MTD	YTD	1 yr	2 yr
U.S. 10-Yr Tsy	2.837%	-2.2	43.1	60.9	137.0
Canada 10-Yr	2.134%	-11.0	8.9	51.2	105.2
U.K. 10-Yr	1.263%	3.3	7.3	10.9	30.2
Germany 10-Yr	0.319%	-2.2	-10.8	-4.9	43.1
Fixed Income (returns)	Yield	MTD	YTD	1 yr	2 yr
U.S. Aggregate	3.28%	-0.1%	-1.6%	-0.7%	-0.7%
U.S. Invest Grade Corp	4.00%	-0.5%	-3.2%	-1.1%	1.6%
U.S. High Yield Corp	6.39%	0.6%	0.4%	2.9%	16.9%
Currencies	Rate	MTD	YTD	1 yr	2 yr
U.S. Dollar Index	95.3130	1.4%	3.5%	-0.7%	-1.0%
CAD/USD	0.7536	-2.3%	-5.3%	-1.7%	-1.8%
USD/CAD	1.3270	2.4%	5.6%	1.8%	1.9%
EUR/USD	1.1562	-1.1%	-3.7%	1.6%	4.5%
GBP/USD	1.3075	-1.7%	-3.2%	1.2%	-2.0%
AUD/USD	0.7348	-2.9%	-5.9%	-3.8%	-0.5%
USD/JPY	110.5200	1.6%	-1.9%	-1.6%	7.6%
EUR/JPY	127.7800	0.4%	-5.5%	0.0%	12.4%
EUR/GBP	0.8843	0.6%	-0.4%	0.5%	6.6%
EUR/CHF	1.1536	0.1%	-1.4%	5.7%	6.2%
USD/SGD	1.3685	2.3%	2.4%	-1.0%	1.1%
USD/CNY	6.6270	3.4%	1.8%	-2.5%	-0.3%
USD/MXN	19.7193	-1.0%	0.3%	10.5%	4.7%
USD/BRL	3.8608	3.7%	16.6%	17.7%	16.9%

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 8:35 pm GMT 6/28/18.

Examples of how to interpret currency data: CAD/USD 0.75 means 1 Canadian dollar will buy 0.75 U.S. dollar. CAD/USD -5.3% return means the Canadian dollar fell 5.3% vs. the U.S. dollar year to date. USD/JPY 110.52 means 1 U.S. dollar will buy 110.52 yen. USD/JPY -1.9% return means the U.S. dollar fell 1.9% 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.

Frédérique Carrier - London, United Kingdom

frederique.carrier@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Laura Cooper - London, United Kingdom

laura.cooper@rbc.com; Royal Bank of Canada Investment Management (U.K.) Ltd.

Jasmine Duan - Hong Kong, China

jasmine.duan@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 and Jasmine Duan, employees of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc.; and Frédérique Carrier and Laura Cooper, 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/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.

Distribution of Ratings - RBC Capital Markets, LLC Equity Research As of March 31, 2018							
			Investment Bar	Investment Banking Services			
			Provided During	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 (0): 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/ <u>DisclosureLookup.aspx?EntityID=2</u>. 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

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.

- © RBC Capital Markets, LLC 2018 Member NYSE/FINRA/SIPC
- $\hbox{@}$ RBC Dominion Securities Inc. 2018 Member Canadian Investor Protection Fund
- © RBC Europe Limited 2018
- © Royal Bank of Canada 2018

All rights reserved

RBC1253