RBC WEALTH MANAGEMENT -

Global Insight

🔍 A closer look

Coping with the mercurial market

Kelly Bogdanova – San Francisco

The market's mood swings have been unsettling, but the underlying conditions that triggered the rout are unlikely to shatter the economic or earnings cycles. We think this will all sort out, but it will take some time.

The U.S. equity market weakened further recently amid heightened volatility, dragging many other markets down with it. The S&P 500 extended its pullback to 7.6% below the all-time high reached just a little more than a month ago. Yearto-date performance has been teetering between negative and positive territory lately.

We think the U.S. market's mercurial behavior is a temporary phenomenon. The immediate risks facing equities have not changed our constructive longer-term view because the two pillars for stocks—economic and earnings growth—are likely to continue to provide a solid foundation. Forward-looking indicators are still signaling the U.S. economic expansion will persist over the next year, at least.

However, the business cycle is likely in its later stages and short-term vulnerabilities have been exposed in recent weeks. Equity markets need more time to recalibrate to factor in these developments, in our view.

Pressure flow

The U.S. selloff began earlier in the month with the spike in Treasury yields. Fingers also pointed to the Federal Reserve as concerns mounted that it could push interest rates up too far, too fast, potentially constricting domestic and global growth. A confluence of other issues circled as well (see exhibit).

Recently, market declines have been triggered mainly by soft corporate earnings reports and cautious management commentary by select high-profile multinationals, and related tariff and China angst.



Multiple concerns pressuring equity markets ...

- U.S. earnings missteps
- Profit margin pressure
- Tariffs, China-U.S. trade dispute
- Global & Chinese growth risks
- Fed policy uncertainty, rates
- Italy/EU budget battle
- Lingering Brexit challenges
- U.S. midterm election angst

Source - RBC Wealth Management

Market pulse

- 4 U.S. equity fears not seen in fixed income
- **4** What we find interesting about the BoC's statement
- 5 Brexit battle signals uncontroversial U.K. budget
- **6** Some Asian markets near attractive valuation levels; Upgrade Japan to Overweight



Profit pruning

The single biggest factor that has changed in the past couple weeks is that some cracks have been exposed in the corporate earnings outlook. But at this point, we see them as relatively small ones, not gaping holes.

The U.S. and other markets are adjusting to softer margin trends and other missteps in Q3 reports, which are influencing how to perceive earnings for Q4 and, importantly, 2019.

Slower U.S. earnings growth had been expected for 2019 relative to this year even before the soft Q3 reports because the tax cut boost is dropping out of the data and year-over-year comparisons are tough. But with 26% of S&P 500 companies having reported Q3 results so far, we believe the consensus earnings forecast could be somewhat too high and the market action is likely signaling this.

Currently, the S&P 500 consensus estimate stands at \$178 per share for 2019, where it has been for a number of months. RBC Capital Markets, LLC's Head of U.S. Equity Strategy Lori Calvasina is at a more conservative \$173 per share level. Her forecast now looks more realistic to us. \$170 per share is increasingly being discussed among market participants as a possibility. To get the 2019 consensus estimate down to \$173 or \$170 would require a reduction of roughly 3%–5%.

Normally if estimates are trimmed by this modest magnitude over the course of months and toward the end of the year when estimates typically come down, it could be absorbed by the market within a normal consolidation period and at a reasonable pace. But given the long streak of upward earnings revisions that market participants had become accustomed to, the risk of downward adjustments seems more challenging for the market to handle, especially in a volatile environment when a number of other issues are also playing a role in the selloff. We think this will all sort out, but it could take some time.

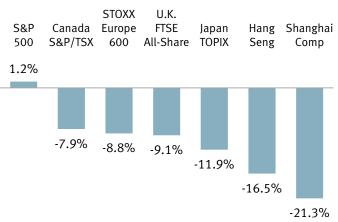
Just because the consensus forecast might be trimmed modestly in coming weeks and months doesn't mean it's on the path toward something worse. The long-term economic indicators that we monitor certainly don't hint of a potential sharp drop-off in earnings estimates because all of them are still flashing green (see table). This is key because recessions normally cause bear markets and the associated collapse in earnings estimates. The modest trimming of estimates is typically standard procedure at this stage of the business cycle and at this time of year.

Trade war tentacles

While concerns about the 2019 earnings outlook are a key cause of the recent downdraft in equities, the specific forces *behind* the soft Q3 reports have been an additional drag on most markets.

The heaviest losses are in Asia

Year-to-date declines of select equity indexes



Source - RBC Wealth Management, Bloomberg; data through 10/25/18; data in local currencies

Major economic indicators still in expansion mode

RBC Wealth Management U.S. economic indicator scorecard

Indicate	Status			
Yield Curve (12-mon	th to 10-year)	\checkmark	_	
Unemployment Clair	\checkmark	-	_	
Unemployment Rate	\checkmark	-	_	
Conference Board Le	\checkmark	-	_	
ISM New Orders Min	\checkmark	_	_	
Fed Funds vs. Nomin	\checkmark	_	_	
Expansion	Neutral		Recessio	nary

Source - RBC Wealth Management, Bloomberg, FRED Economic Data St. Louis Fed

The U.S. tariffs on steel and aluminum and the U.S.-China trade dispute are common factors cited by management teams that have stumbled in Q3 or warned about future quarters. Input costs are rising for companies that use steel and aluminum or other goods with tariffs in their manufacturing processes. The tariffs don't discriminate. They are impacting select U.S., Canadian, European, and Asian companies.

All of this raises questions about how long the tariffs will be in place. After all, it's tough to remove them once they gain constituencies and the steel tariffs have definitely gained constituencies—U.S. steel workers are back on the job and wages have risen.

The market is also well aware additional U.S. tariffs could be imposed on China, and China could retaliate by raising non-tariff barriers. The broader, deepening geopolitical rivalry between the two countries is also on our minds.

The reality is that tariffs and trade disputes are uncertainties for the 2019 global economic and earnings outlooks. Sentiment in the U.S. was rather complacent about trade for many months and the market shook off tariff headlines. But now sentiment has shifted, mainly due to management comments and the realization the U.S.-China trade dispute could take time, perhaps quite some time, to sort out.

The valuation silver lining

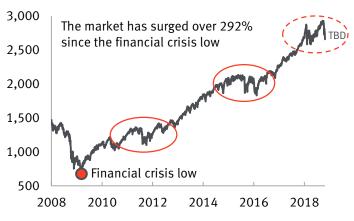
Even with the existing tariffs and near-term earnings risks, it's important to consider that the vast majority of Q3 earnings reports have been solid. S&P 500 earnings are currently on pace to grow almost 24% y/y (roughly 8 percentage points of that comes from the tax cut boost). Among companies that have reported so far, about 82% have exceeded earnings estimates, well ahead of the strong trends in previous quarters and far above the long-term average. Revenue beat rates have moderated, although they are near the long-term average.

Importantly, investors should not lose sight of valuations. They've only become cheaper during this selloff. For example, the S&P 500 is trading at 15.6x RBC Capital Markets' 2019 estimate of \$173 per share. This is below the long-term average of 16.2x since 1990. Other markets outside of the U.S. are even more reasonably valued or cheap.

Manage the mood

Our longer-term view remains that investors should give equities the benefit of the doubt as long as the economic, credit, and earnings cycles remain favorable for stocks. Our forward-looking economic indicators remain intact, and we still expect U.S. earnings to grow at an average pace in 2019 alongside an attractive valuation. The U.S. secular bull market should stay intact as this mercurial behavior runs its course.

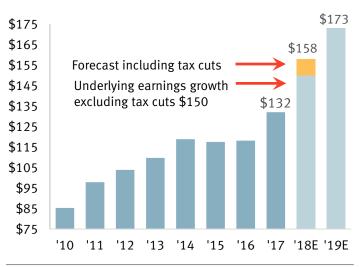
So far this pullback is similar to previous choppy periods S&P 500 Index since 2008



Source - RBC Wealth Management, Bloomberg; data through 10/24/18

Despite Q3 missteps, we still expect earnings to rise in 2019

S&P 500 annual earnings per share and estimates



Source - RBC Wealth Management, RBC Capital Markets U.S. Equity Strategy, Thomson Reuters I/B/E/S; 2018 and 2019 data are RBC estimates



United States

Ben Graham, CFA – Minneapolis

- Some of the evidence behind the concepts in the preceding commentary further underscores the investor experience in recent trading sessions. The S&P 500 has declined a painful 8.9% so far this month, through Wednesday's close; small caps were down an even sharper 13.4%. Sector performance was as expected in a fearfilled environment, as bond proxies outperformed and 2018 leaders struggled. Utilities has been the bestperforming sector in October, gaining 4.8% through Wednesday, with Consumer Staples the second-best, appreciating 1.5%; Real Estate is down a relatively small 2.1%. On the other end of the spectrum, economically sensitive and technology-oriented stocks have underwhelmed this month. Through Wednesday, Materials had fallen 13.0%, Industrials 11.6%, and Tech 10.8%. The relative underperformance of these sectors highlights the fact that the stocks most levered to the global and U.S. growth narratives have been the most challenged recently.
- · However, it is very important to consider that not all asset classes are exhibiting the risk aversion present in equity markets. The high-yield (HY) fixed income market can be used as a rough proxy to measure the level of fear in bond markets, and HY bonds are considered "risky" assets, similar to equities. Typically, when economic and corporate prospects worsen, the interest rates that HY instruments pay must rise in order to properly price the increased risk fixed income investors are taking in light of the dampened prospects. Put differently, HY investors require higher interest rates relative to "risk-free" U.S. Treasury bonds for assuming the corporate default risk when economic and corporate prospects worsen. This is frequently measured by the spread between an aggregate HY interest rate and the U.S. Treasury curve. In today's environment, the HY data demonstrates the lack of contagion from equity markets spreading into fixed income markets, as shown in the chart. This lack of fear in bond markets supports our view that patience with U.S. equities is the appropriate response to the recent selloff and we would continue to give U.S. and global equities the benefit of the doubt.



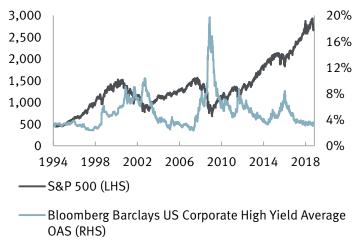
Canada

Diana Di Luca, Richard Tan, CFA, & Arete Zafiriou - Toronto

• The S&P/TSX Composite is down about 8% year to date whereas the S&P 500 is up marginally at about 1.2% in 2018. Renewed concerns on a deceleration in global growth rates are keeping investors at bay and amplifying

Equity market fears not seen in fixed income markets

S&P 500, Bloomberg Barclays US Corporate High Yield Average OAS



Source - RBC Wealth Management, Bloomberg; data through 10/24/18

a rotation into traditional defensive sectors such Utilities. Since the start of the selloff (October 4), only **two of the 11 sectors on the S&P/TSX Composite remain in positive territory**—Utilities and Communication Services. We note that the Communication Services sector was introduced in September, driven by the GICS realignment, and telecom incumbents contribute to approximately 84% of the sector segment.

- The persistence of the low rate environment in past years has made it attractive for companies to borrow cheap capital to fuel share buybacks. Hawkish comments from the Bank of Canada (BoC) have led to the market's interpretation that the central bank may accelerate the pace of its rate hikes going forward. This shows (at least in the bank's view) that the Canadian economy remains healthy. **RBC Economics is forecasting three rate hikes** in 2019. While we believe volatility will persist in the near term, we recommend using this opportunity to add to high-quality businesses with strong competitive advantages. The Canadian banks are trading at a forward price-to-earnings (P/E) ratio of 10.7x vs. 12.2x as of October 1. We note that the indebted consumer base in Canada is a headwind and will likely lead to slower loan growth, in our opinion.
- On the flip side, **Energy has been one of the worst relative performers** since the selloff began. Differentials for WTI-WCS breached \$50 per barrel due to a combination of tight pipeline capacity, elevated storage levels, and higher transportation costs from the railways. RBC Capital Markets does not expect differentials to improve meaningfully until mid-2019 when volumes for crude-byrail is anticipated by RBC Capital Markets to double and when additional pipeline comes online, scheduled to occur by the end of 2019. For those looking to buy on the dip,

we would **continue to recommend looking at integrated names and those with stronger balance sheets** that can weather fluctuations in commodity prices. In addition, we caution that tax-loss selling season is approaching and the Energy sector could be a prime candidate with the group down approximately 9.5% YTD.

- The S&P/TSX Composite has contracted from a forward P/E ratio of 16.4x since the beginning of the year to 13.0x currently. This compares to the S&P 500 of 18.4x and 15.5x, respectively. Overall, we remain Market Weight Canadian equities as we believe the discount to U.S. peers provides adequate compensation for the inherent risks related to the domestic economy.
- As widely expected by the market, the BoC hiked the overnight rate by 25 basis points to 1.75% on October 24. The BoC's formal statement notes that the global economic outlook "remains solid," with the U.S. economy being particularly strong. Despite the successful conclusion of NAFTA negotiations, international protectionism is still noted as a downside risk to the global economy: the BoC now projects a 0.30% drag on GDP growth, down from 0.67% in the previous *Monetary Policy Report*.
- The latest *Monetary Policy Report* indicates the Canadian economy is operating close to potential, with "solid growth in both foreign and domestic demand." Growth projections were mostly unchanged, while the report noted that the composition of GDP growth continues to shift away from consumption and housing toward business investment and exports, driven in part by higher borrowing costs and stricter mortgage requirements. Elevated household indebtedness was noted as a risk to inflation, as was the potential spillover from U.S.-China trade tensions.
- What we find most interesting about the BoC's statement is that not only did the BoC remove the word "gradual" in relation to its hiking cycle, which was widely expected, but it actually went one step further to say that "the policy interest rate will need to rise to a neutral stance to achieve the inflation target." The neutral rate is estimated by the BoC to be somewhere between 2.5% and 3.5% and the policy rate is now 1.75%, which leaves a decent number of hikes to reach neutral. This is important for bond yields given the average neutral rate of 3% is roughly 50 basis points higher than the market currently has rates reaching this cycle. In essence, there is a clear difference between what the BoC has communicated and what the bond market believes to be reality. This is most prominent for bonds in the longer end (10 years+) of the curve, given the market expects the yield curve to fully flatten at 2.5%. We are currently most comfortable recommending

investors select short-to-intermediate maturities that offer lower expected volatility of returns, a better source of liquidity within portfolios as we edge closer toward the end of the cycle, and an opportunity to reinvest at more attractive rates if the BoC follows through with its promise (more hikes than currently priced in).

Europe

Frédérique Carrier & Thomas McGarrity, CFA - London

- Pan-European markets held up relatively well during the week, falling roughly half as much as the S&P 500 in local currency terms. Yet investors have reason to be nervous as the earnings season which just got underway has unveiled a number of important earnings misses. The Tech sector is struggling with challenges similar to those faced by U.S. peers, while companies exposed to emerging markets are also challenged (e.g., Anheuser-Busch InBev cut its dividend). It is much too early in the earnings season to reach a conclusion, but the initial trend is disappointing.
- The same can be said of macroeconomic data. The German flash services Purchasing Managers' Index revealed that **the German services sector may be slowing**, falling to a two-year low and below the consensus forecast. The ifo Business Climate Survey, a sentiment indicator for Germany, corroborated this. Manufacturing activity has slowed in the region, but economists had expected that the services sector would prove to be a cushion. If current trends persist, there may be downside risk to RBC Capital Markets' forecast of 1.8% GDP growth for the eurozone for 2019.
- The U.K.'s annual budget is always a political event, but more so this year as the budget to be unveiled on October 29 is intimately intertwined with the Brexit negotiations. The government cannot risk putting forward policies which would be disagreeable to certain Conservative factions or to the Democratic Unionist Party (DUP), the Northern Ireland party which props up the Conservative Party's wafer-thin majority, at such a delicate time in the Brexit negotiations. Hence, we expect an uncontroversial budget.
- The chancellor of the exchequer will want to honor Prime Minister Theresa May's "end of austerity" promise. Some additional National Health Service spending can be financed through the better-than-expected tax receipts so far this year. But a complete end to austerity would require sizeable tax increases to finance them. Such a move will likely be tackled down the road, though smaller tweaks to taxes are more likely at this point. In reality, austerity will continue for now, but at a slower pace.

• We expect only limited additional Gilt issuance, but over the total five-year forecast horizon, RBC Capital Markets observes that it is becoming increasingly difficult to reconcile the promised increased spending with the chancellor's borrowing plans from March 2019 and his aim of achieving a balanced budget.

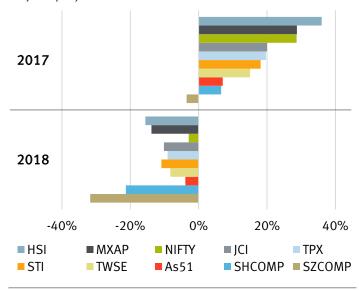
Asia Pacific

Jay Roberts, CFA – Hong Kong; Nicholas Gwee, CFA – Singapore

- The MSCI AC Asia Pacific Index entered a bear market. The index is down 20% from its January peak and 14.5% for the year.
- The majority of the losses have occurred since May when the first U.S. tariffs were imposed on China. The current pullback in U.S. equity markets has now accentuated the weakness in Asia. If the U.S. correction continues, **our base case would be for some further weakness** in Asian equities. However, some Asian markets are already moving close to attractive valuation range levels.

Hong Kong

• The Hang Seng Index closed under 25,000 for the first time this year. Hong Kong's benchmark, with most of its market capitalization from China-based companies, peaked at 33,154 on January 26 and has declined by 25%, albeit after a very strong run in 2017. Indeed, a similar pattern has emerged for many equity indexes in Asia (see chart).



Major equity indexes: 2017 & 2018 YTD returns

Indexes shown: Hong Kong Hang Seng Index (HSI), MSCI AC Asia Pacific Index (MXAP), NSE Nifty 50 Index (NIFTY), Jakarta Stock Exchange Composite Index (JCI), Tokyo Stock Exchange Tokyo Price Index (TPX), Straits Times Index (STI), Taiwan Stock Exchange Weighted Index (TWSE), S&P/ASX 200 (As51), Shanghai Composite Index (SHComp), Shenzhen Composite Index (SZComp). Source - RBC Wealth Management, Bloomberg; data through 10/24/18 and in local currencies

- For the first time in quite a while, **we are beginning to see value in the Hang Seng**. During the decline this year, valuations have been largely irrelevant. As we noted in October 11's *Global Insight Weekly*, book value in particular, as well as 1.1x book value, have historically been strong support levels for the index. These levels are 21,205 and 23,325, respectively.
- While this is not necessarily a timing tool—valuations may remain depressed for a while—historically, investors have been rewarded over time for allocating capital to Hong Kong-listed equities when valuations are close to book value. To repeat, we are not quite there yet—book value is 15% below the current index level and technicals are poor—but also not too far away.

Mainland China

- Mainland China stocks are a **harder market to forecast**. There was some brief optimism regarding policy intervention in the past week. The authorities have supported weak equity markets before by announcing policy initiatives aimed at the economy or the market directly.
- Typically, these announcements have not marked the bottom of the market. But they **have signaled that the bottom is not far off**, generally one to six months away. While each situation has of course been different, we believe there is **not enough material weakness in Chinese economic data** at present to warrant quite the level of bearish investor sentiment that is now prevalent.
- Even so, we continue to advise a cautious approach to China stocks and would look for two things to take place. First, there needs to be a period of consolidation in the equity market to show that forced selling due to technical issues, such as margins calls, has abated. Second, MSCI China earnings have been consistently revised down for the past six months; that needs to halt.
- The renminbi continues to decline against the dollar and looks set to go above USDCNY7.00. RBC Capital Markets forecasts the pair to go to 7.20 by the middle of 2019.

Japan

• Japan remains our preferred North Asian equity market. We are moving to Overweight from Market Weight on Japan equities with a 12-month view. Employment data is particularly strong. Inflation is low but positive: a significant achievement for Japan. Earnings growth is decent and equity valuations are attractive. Corporate cash levels continue to rise. Return on equity, a measure of profitability, has reached a cycle high of around 10%. One risk is appreciation of the yen. However, we expect the yen to weaken in 2019. • Similar to Hong Kong, **Japan's benchmark TOPIX index is also approaching levels of valuation support**. The index has traded above book value for almost the entire period Prime Minister Shinzo Abe has held office (since late 2012). There was a period in Q1 2016, during a global equity market correction, when the index traded between 1.0x and 1.1x book value. For the rest of the time, 1.1x book value has been a strong support line. 1.1x book is 1,470, 8% below the current index level of 1,600.

Singapore

- The MSCI Singapore Index is down 17% from its high in May. More than one-third of index stocks are trading at or near 52-week lows. Sentiment has weakened despite a fairly healthy macro environment. We believe risks remain skewed to the downside in the short-to-medium term. The U.S.-China trade dispute poses threats and opportunities for Singapore, in our view. Tariffs weigh down on trade flows and business confidence. However, with bilateral trade agreements, trade diversion to the region may potentially cushion the impact.
- Valuation has become very attractive, in our view. The price-to-book ratio of MSCI Singapore is 1.19x, the long-term average is 1.60x, while the low during the global





Source - RBC Wealth Management, Bloomberg; data through 10/25/18

financial crisis was 1.14x. We think the Singapore equity market will be **better supported relative to regional peers** due to relatively undemanding valuations and reasonable earnings growth.

• In terms of stock selection, we are cognizant of high nearterm risks and have a preference for defensive names and selective cyclical counters.



MARKET SCORECARI

Data as of October 25, 2018

Equities (local currency)	Level	MTD	YTD	1 yr	2 yr
S&P 500	2,705.57	-7.2%	1.2%	5.8%	26.2%
Dow Industrials (DJIA)	24,984.55	-5.6%	1.1%	7.1%	37.5%
NASDAQ	7,318.34	-9.0%	6.0%	11.5%	38.5%
Russell 2000	1,500.40	-11.6%	-2.3%	0.5%	23.4%
S&P/TSX Comp	14,924.08	-7.1%	-7.9%	-5.9%	0.4%
FTSE All-Share	3,836.72	-7.1%	-9.1%	-6.2%	0.8%
STOXX Europe 600	355.07	-7.3%	-8.8%	-8.3%	3.5%
EURO STOXX 50	3,164.40	-6.9%	-9.7%	-11.9%	2.5%
lang Seng	24,994.46	-10.1%	-16.5%	-11.7%	6.1%
Shanghai Comp	2,603.80	-7.7%	-21.3%	-23.3%	-16.9%
Nikkei 225	21,268.73	-11.8%	-6.6%	-2.0%	22.5%
ndia Sensex	33,690.09	-7.0%	-1.1%	2.0%	19.9%
Singapore Straits Times	3,012.84	-7.5%	-11.5%	-9.9%	5.6%
Brazil Ibovespa	84,083.51	6.0%	10.1%	9.7%	31.7%
Mexican Bolsa IPC	46,275.71	-6.5%	-6.2%	-5.3%	-3.8%
Commodities (USD)	Price	MTD	YTD	1 yr	2 yr
Gold (spot \$/oz)	1,232.07	3.3%	-5.4%	-3.5%	-3.3%
Silver (spot \$/oz)	14.64	-0.4%	-13.6%	-13.6%	-17.5%
Copper (\$/metric ton)	6,188.00	-1.2%	-14.1%	-11.4%	31.0%
Oil (WTI spot/bbl)	67.33	-8.1%	11.4%	29.8%	36.0%
Oil (Brent spot/bbl)	76.63	-7.4%	14.6%	31.1%	50.9%
Natural Gas (\$/mmBtu)	3.17	5.4%	7.3%	8.6%	14.2%

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 10/25/18.

Examples of how to interpret currency data: CAD/USD 0.76 means 1 Canadian dollar will buy 0.76 U.S. dollar. CAD/USD -3.8% return means the Canadian dollar fell 3.8% vs. the U.S. dollar year to date. USD/JPY 112.48 means 1 U.S. dollar will buy 112.48 yen. USD/JPY -0.2% return means the U.S. dollar fell 0.2% 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

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

Arete Zafiriou – Toronto, Canada arete.zafiriou@rbc.com; RBC Dominion Securities Inc.

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.

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 Investment Services (Asia) Limited

Nicholas Gwee, CFA – Singapore

nicholas.gwee@rbc.com; RBC Investment Services (Asia) Limited

Disclosures and Disclaimer

Analyst Certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Important Disclosures

In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc., which is a foreign affiliate of RBC Capital Markets, LLC. This report has been prepared by RBC Capital Markets, LLC. which is an indirect wholly-owned subsidiary of the Royal Bank of Canada and, as such, is a related issuer of Royal Bank of Canada.

Non-U.S. Analyst Disclosure: Diana Di Luca, Richard Tan, and Arete Zafiriou, employees 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 Royal Bank of Canada Investment Management (U.K.) Limited; and Jay Roberts and Nicholas Gwee, employees of RBC Investment Services (Asia) 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 <u>https://www.rbccm.com/</u> <u>GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2</u> 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 September 30, 2018								
			Investment Banking Services					
			Provided During	Provided During Past 12 Months				
Rating	Count	Percent	Count	Percent				
Buy [Top Pick & Outperform]	859	54.33	251	29.22				
Hold [Sector Perform]	646	40.86	125	19.35				
Sell [Underperform]	76	4.81	5	6.58				

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 <u>https://www.rbccm.com/GLDisclosure/PublicWeb/</u><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 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 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.

© RBC Capital Markets, LLC 2018 - Member NYSE/FINRA/SIPC

© RBC Dominion Securities Inc. 2018 - Member Canadian Investor Protection Fund © RBC Europe Limited 2018 © Royal Bank of Canada 2018

All rights reserved RBC1253