June 2019

RBC WEALTH MANAGEMENT

Global Insight

Perspectives from the Global Portfolio Advisory Committee

Tools of the trade war

As the U.S. and China dig in their heels, we survey the state of the trade war and look at why the U.S. is targeting China's high-tech capability.

Eric Lascelles | Page 4

Focus article

Global inflation—as elusive as ever

Global equity

Easy does it

Global fixed income

The Fed's "man behind the curtain"

Currencies

Euro: In waiting mode

For important and required non-U.S. analyst disclosures, see page 26.

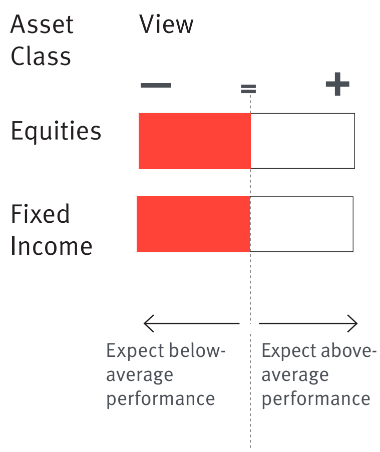
RBC Wealth Management

Table of contents

All values in U.S. dollars and priced as of market close, May 31, 2019, unless otherwise stated.

RBC’s investment stance

Global asset views



See “Views explanation” below for details

Source - RBC Wealth Management

Equities

- The casual optimism observed in the first months of the year abruptly morphed into concerns in May. All developed equity markets staged a retreat during the month, as they reacted to the escalation of the U.S.-China trade dispute, and recalibrated to more subdued growth expectations. Pullbacks bringing prices down 4%–10% after a sharp rebound such as that observed in Q1 2019 are not unusual.
- We maintain a Market Weight in Equities. With most major markets now in oversold territory, and trading at more attractive valuation levels, we think the conditions should fall into place for markets to eventually begin a new up-leg. Any deterioration in the trade rhetoric could push out the start date of any new equity market advance as well as the ultimate depth of the current pullback. Monetary policy should remain accommodative in most regions, which should help underlying economic conditions remain healthy. We would reiterate the message initially issued in the May *Global Insight*, urging investors to add defensive ballast to their portfolios.

Fixed income

- Federal Reserve policymakers hold a neutral policy bias, but market expectations differ as implied probabilities indicate the likelihood of two rate cuts by year-end and we concur. Something has to give and it is likely low inflation, deemed “transitory” by the Fed, holds the key. We regard it as more entrenched and, hence, side with market expectations. The June Federal Open Market Committee meeting could provide clarification. The possibility of easier Fed policy, the trade impasse, and the prospect of soft Q2 growth should keep rates near current low levels.
- We maintain our global Market Weight in fixed income and continue to recommend investors upgrade to higher-quality corporate bonds as we approach the later stages of the credit cycle. Reinvestment risk persists, which argues for U.S. investors adding duration to portfolios.

Views explanation

(+/=/–) represents the Global Portfolio Advisory Committee’s (GPAC) view over a 12-month investment time horizon.

+ Overweight implies the potential for better-than-average performance for the asset class or for the region relative to other asset classes or regions.

= Market Weight implies the potential for average performance for the asset class or for the region relative to other asset classes or regions.

– Underweight implies the potential for below-average performance for the asset class or for the region relative to other asset classes or regions.

Focus article

Tools of the trade war

Eric Lascelles
Toronto, Canada
Eric.Lascelles@rbc.com

Eric is the Chief Economist for RBC Global Asset Management Inc. He maintains the firm's global economic forecast and advises its portfolio managers on key themes and risks. He is also a frequent media commentator on global economic and financial trends, appearing regularly on CNBC, Bloomberg, and other networks.

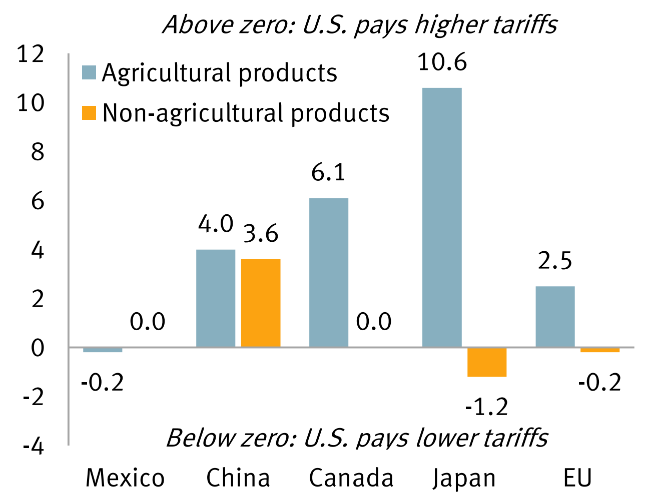
With the U.S. and China digging in their heels, RBC Global Asset Management's chief economist surveys the state of the trade war and looks at how the widening rift could ripple through economic growth. He points to the potential escalation in the tech realm as a key front to watch as the U.S. targets China's high-tech capability.

Markets have recently recoiled at the deterioration of U.S.-China trade negotiations. The U.S. has already imposed several rounds of tariffs on Chinese imports; China's response has been generally proportional, hitting U.S. exporters with tariffs of similar magnitude—though strategically targeted at different sectors.

Anti-trade populism was a central element of President Trump's campaign platform, and this helps to explain the various efforts the White House has made to renegotiate America's trading relationship with the world.

In fairness, the U.S. has some legitimate reasons for discontent. As the chart below shows, U.S. companies have paid higher tariffs on average when selling to foreign markets than foreign companies have paid when entering the U.S. market.

Tariff rate differential between U.S. and partner countries (in percentage points)



The U.S. is right to want better trade deals with partners.

Source - RBC Global Asset Management, WTO/ITC/UNC TAD World Tariff Profiles 2018

Another motivation to renegotiate trade deals is less savoury, but no less valid: like other big countries, the U.S. has the ability to throw its weight around, extracting favourable deals in exchange for access to the largest economy in the world. The U.S. can reasonably aspire to trade deals that are better than strictly "fair."

However, not all of the logic behind the push to renegotiate was sound. For instance, far more U.S. manufacturing jobs have been lost to automation than to overseas factories. Thus, the great bulk of "lost" manufacturing jobs will not be recovered through new trading arrangements.

Pressure politics

The U.S. goal with all of this tariff pressure was to convince China to implement economic reforms that would create a more symmetrical trading relationship between the two countries, not only in terms of the volume of trade in both directions but, more fundamentally, of access to one another's markets: reducing the extent of China's capital controls, halting a pattern of forced technology transfers from western companies to their Chinese partners, and limiting the special advantages enjoyed by China's many state-owned enterprises.

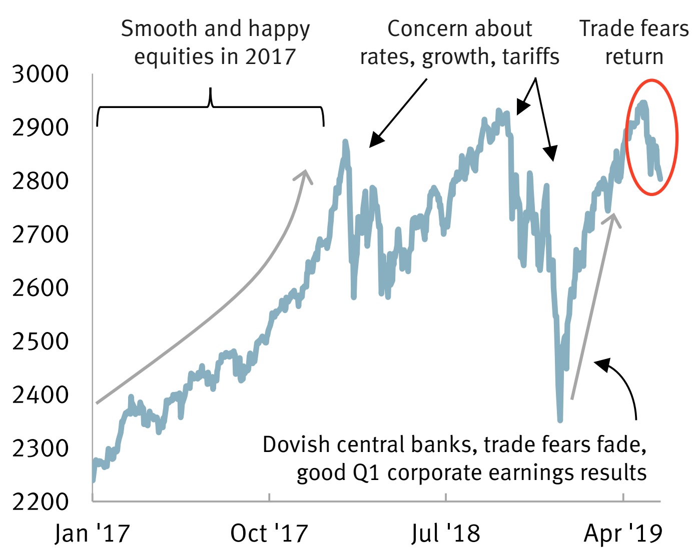
A month ago, these negotiations were beginning to look quite promising. But today, all of the positive talk has vanished, and the two countries are at loggerheads again. The U.S. maintains that China had initially agreed to legislate a wide range of economic reforms, but that its latest edits to the proposed agreement have backtracked on many fronts.

We have always been of the opinion that any deal would be largely superficial and fail to fully address underlying frictions between the world's two economic superpowers, but even that half-victory now seems elusive.

The U.S. has followed through on a long-delayed threat, raising its tariff rate to 25% from 10% on the $200B of Chinese products it initially targeted. It has also threatened to introduce a new set of tariffs on another $300B of imports from China (at a rate between 10% and 25%), potentially doubling the net impact again.

China has retaliated with new tariffs of its own on another $60B of imports from the U.S. (also at a rate between 10% and 25%).

S&P 500 volatility amidst trade & tariff developments



If the trade dispute intensifies, equity markets could pull back further.

Source - RBC Global Asset Management, RBC Wealth Management, *Wall Street Journal*, Haver Analytics; data through 5/28/19

Financial markets are naturally unhappy with all of this. Recall that the equity market rebound since the beginning of 2019 has been driven by three central macroeconomic factors: interest rates had stopped rising, economic growth was starting to stabilize, and protectionist woes were fading. The last of these is no longer the case, and so the market recalibration is unsurprising.

Protectionism and its discontents

Protectionism tends to be an economic negative for a number of reasons. By far the most important is that the cost of things goes up—in part because importers must pay more, in part because domestic manufacturers encounter less competition and so raise their prices. This doesn't capture the full range of protectionism's ills, but it is the main component.

On the positive side, the government gets to collect tax revenue from foreign companies, and some domestic firms thrive when the pressure of foreign competition is reduced.

But on the whole, the negative effects usually outweigh the positive, and this is nearly always the case when foreign countries retaliate in kind with their own tariffs.

The table below gives our (very) rough sense of the likelihood of various scenarios playing out, and the approximate economic impacts. There isn't much precision to this analysis and it is also a moving target as tariffs and threats are lobbed back and forth. Furthermore, even if a certain tariff is levied, it matters enormously whether the tariff remains in force for five weeks or five years.

RBC Global Asset Management trade scenario probabilities and potential economic impact

Scenario	Likelihood	Detail	Economic impact
Worst case	15%	Trade war	U.S.: -2.1% China: -2.5% Canada: -2.0%
Negative	40%	Substantial tariffs	U.S.: -0.3% to -0.6% China: -0.4% to -0.8% Canada: -0.2% to -0.4%
Slightly negative	25%	Small tariffs	U.S.: -0.1% to -0.2% China: -0.2% to -0.5% Canada: -0.1%
Neutral	10%	Trump tariffs unwind	U.S.: 0% China: 0% Canada: 0%
Best case	10%	Foreign barriers fall to pressure	U.S.: Positive China: ? Canada: ?

Source -RBC Global Asset Management; probabilities as of 5/27/19

Trade scenarios tilt toward "Negative." Our estimate for the economic hit under the "Negative" scenario is around twice the level it would have been had tariffs not gone up recently.

After a brief interlude of optimism, it seems the "negative" scenario is most likely to occur. This points to economic damage to the U.S. of between 0.3% and 0.6% GDP should current tariffs persist, with the Chinese GDP hit between 0.4% and 0.8%, assuming no auto tariffs. By way of comparison, this is around twice the damage we would have anticipated if the tariff rate hadn't recently gone up. Conversely, it is about half the damage we expect if the U.S. delivers on its threat of tariffs on another $300B worth of Chinese imports.

We have reason to think current models may fail to capture the full extent of the damage. For example, the welfare loss to households and businesses could exceed the cumulative economic damage because the government sector frequently comes out ahead thanks to the extra tax revenue it is able to collect via tariffs. That means other economic sectors are left even further behind.

Furthermore, the equity market's reaction to shocks such as these tends to be several times larger than the effect on the economy as a whole. Therefore, it is not unreasonable to expect a market move of multiple percentage points in response to a protectionist shock that only knocks half a percentage point off economic growth.

Corporate skirmishes

Of the non-tariff weapons in the U.S.-China trade dispute, corporate attacks have been the most obvious means of cross-border antagonism.

Huawei, in particular, finds itself the centre of unwanted attention. Not only has its CFO been charged with fraud by U.S. authorities and deployment of its 5G products blocked in the U.S. and several other developed nations, but U.S. companies must now obtain government permission to do business with the company—effectively blocking further commercial activities. Huawei has likely been targeted for several reasons:

- The company is leading the 5G charge, with no U.S. competitor in sight. As such, one goal of the U.S. effort may be simply to limit the extent of China's technological lead.
- Huawei is alleged to have acquired a significant portion of its foundational intellectual property through questionable means, often at the expense of leading firms outside China.
- The U.S. accuses Huawei of violating U.S. sanctions on Iran, though the company professes its innocence.
- The U.S. worries that Huawei's close relationship with the Chinese government could facilitate espionage against countries that place the company's 5G products at the heart of their telecommunications networks.

The obstacles Huawei faces could well be lessened or removed by a trade pact between the two countries. Setting a precedent, the restrictions placed on ZTE by the U.S. were eventually lightened as a favour to the Chinese president—a decision based entirely on political, rather than legal, considerations.

U.S. actions against Huawei could backfire if they remain in place for too long, because the longer China is denied access to U.S. technologies, the more likely it is to replicate such technologies itself. Similarly, any loss of access to the U.S. dollar clearance system would likely accelerate the creation of a competing Chinese clearance system, undermining America's ability to exert the same clout in the future.

China also possesses the ability to hit the U.S. via non-tariff means, be it selling U.S. Treasuries, restricting the sale of Chinese-made iPhones or similar prestige products, or even halting the export of the rare-earth elements (on which it has a near-monopoly) that are needed to produce modern electronics.

Poor visibility ahead

The loss of economic output from newly elevated tariffs and aggressive non-tariff actions could yet blight the green shoots that have recently sprung up in both the Chinese and U.S. economies, unless cooler heads prevail. On the other hand, it bears repeating that none of the impacts described here are enough by themselves to drive the U.S. or China into recession, and that the damage will be spread over several years rather than arriving all at once.

Furthermore, we believe the Trump administration will be anxious to sustain economic growth in the run-up to the 2020 election. For its part, China will be similarly motivated given its recent fiscal stimulus to stabilize growth. Perhaps these incentives will help the two countries secure a deal after all.

While we see a glimmer of hope in a possible meeting between Presidents Trump and Xi at the G20 Osaka Summit in late June, our base-case forecast is now that the latest volley of tariffs will stick.

Ultimately, the key to resolving the two nations' differences may be how long China and the U.S. are willing to tolerate the economic pain of tariffs.

Focus article

Global inflation—as elusive as ever

Tom Garretson, CFA
Minneapolis, United States
tom.garretson@rbc.com

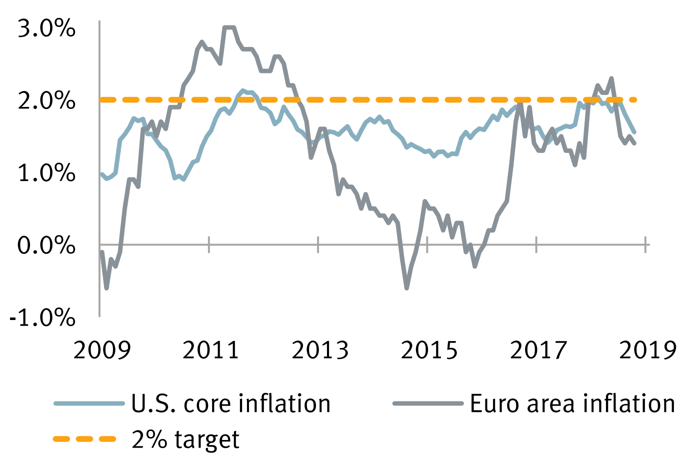
Amidst the ebbs and flows of trade war fears and recent market volatility, inflation remains persistently below target in the face of solid growth and record-low U.S. unemployment. This continues to confound markets and policymakers alike. But the Federal Reserve has been on the quest for a solution—and now one may be on the horizon.

It may be somewhat hard to believe that after nearly 10 years of economic expansion following the global financial crisis, a decline to a 50-year low in the U.S. unemployment rate to 3.6%, and trillions of dollars of stimulus measures taken by global central banks, we're still talking about the puzzle of low inflation. Yet, here we are.

While trade wrangling, growth fears, and bouts of market volatility have put central bank rate hike plans on ice for now, it's the undercurrent of little—if any—inflationary pressure that has sustained expectations for easier monetary policy. The U.S. markets are now pricing as many as three Fed rate cuts by the end of 2020.

As the chart shows, the preferred inflation indexes for both the Fed and the European Central Bank (ECB) have only infrequently been at target this cycle. In fact, U.S. inflation has only been at target 5% of the time since the end of the financial crisis in 2009 and just a quarter of the time over the past 20 years.

Inflation has spent much of this cycle under key levels



Inflation has neared the targeted 2% level recently, but concerns are growing that it could again undershoot central bank objectives.

Source - RBC Wealth Management, Bloomberg

While the Fed continues to forecast inflation of 2% annually through 2021, officials have raised concerns about low inflation of late. And while European inflation has knocked on the door of 2% recently, the ECB continues to see a shallow path forward, averaging just 1.2% this year, 1.5% the next, and only 1.6% by 2021. For its part, the Bank of Japan (BoJ) has effectively thrown in the towel on achieving 2% inflation over its forecast horizon as inflation has averaged just 0.4% this decade, hamstrung by unfavorable demographic trends.

So what are some root causes of inflation shortfalls and how might central banks adjust their methods of achieving inflation objectives?

The breakdown of classic inflation drivers

At the root of the issue in recent years has been the flattening of the so-called Phillips Curve, or the framework the Fed uses to forecast inflation, which simply describes the typically strong relationship between falling unemployment and rising inflation. But even with unemployment in the U.S. near a 50-year low, wage growth has been only modest, as have broader measures of inflation this cycle.

While there have been numerous attempts to explain why this relationship has broken down, perhaps it's simply no longer an apples-to-apples comparison. Inflation—or the lack thereof—has become a global phenomenon over the past 40 years as trade and production have shifted around globally. It may no longer be in the Fed's, or any central bank's, control—whereas unemployment for developed markets remains largely driven by the monetary policies of any given central bank. To illustrate this dynamic, in the U.S., core inflation has averaged just 1.3% annually over the last five years. But broken down further, prices for a basket of services (70% of spending)—and largely a domestic factor—have risen an above-average 2.4%, but prices of goods (30% of spending) that the U.S. largely imports have declined an average of 2.1% each year.

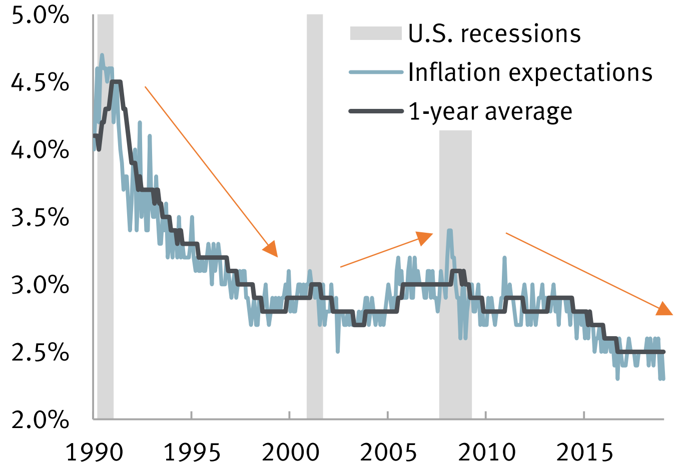
Making policy decisions based on this Phillips Curve framework in anticipation of inflation that never materializes only heightens the risk of policy errors.

Future inflation lies in the past

Another, and arguably more important, reason that inflation has been low is that inflation *expectations* are low. The Fed's own research has shown that inflation expectations are often formed from prior actual inflation.

As shown in the following chart, consumer long-term inflation expectations have been in steady decline during this cycle, reaching the lowest levels since the University of Michigan survey began asking the question in 1979. And therein lies the risk of central banks persistently undershooting inflation targets, and why inflation is desirable in the first place: consumers expecting lower prices ahead may delay spending, which would only weigh on growth, while businesses may be reluctant to raise prices and make new investments—at best creating a cycle of low inflation that ultimately puts the credibility of central banks in jeopardy, and at worst sparking deflationary spirals.

U.S. consumer inflation expectations reach record lows



Source - RBC Wealth Management, University of Michigan Consumer Survey of price expectations over next 5–10 years

One factor driving lower inflation may simply be that consumers expect inflation to be lower in the future, perhaps a byproduct of the Fed missing inflation targets.

So now that both actual and expected inflation appear to have decoupled from target levels, are global central banks on the verge of a shift in strategy?

Time for a change in approach

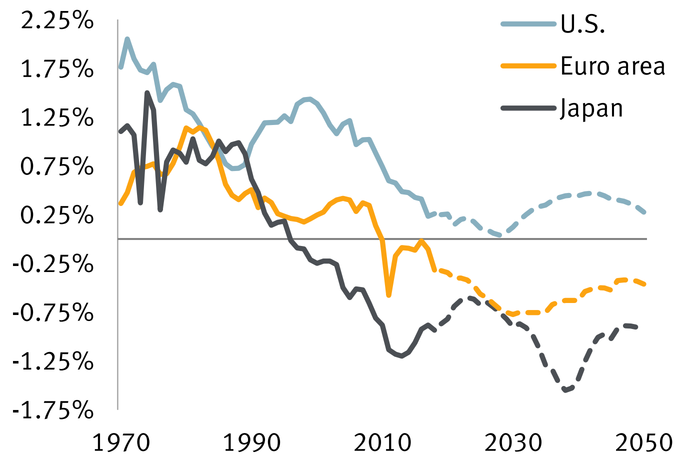
In the U.S., the Fed has embarked on a year-long study of inflation targets that will be presented at a conference in Chicago this month. This could be the first step toward the adoption of a new policy by the Fed, perhaps as early as later this year. The two most frequently discussed ideas are to either raise the inflation target above 2% or to implement a price level targeting regime, with a version of the latter being a far more likely option, in our view.

Under a price level targeting system, bygones would no longer be bygones when it comes to missing inflation targets. Meaning that any "lost" inflation would have to be made up for with inflation above target for a period of time, until prices are back in line with a 2% annual trend. Let's say, for example, that the Fed wanted to make up for all of the inflation misses since 2009—to get back on trend would mean letting inflation run hot at about 2.5% for a period of five years. While higher, it's not markedly higher. Within the current system, the Fed simply manages policy with the intention of returning core inflation to 2% within a 1-3 year window.

But the Fed has spent the better part of 40 years since the Paul Volcker-led Fed "broke the back of inflation" in 1981 in pursuit of achieving the second part of the Fed's dual mandate: low and stable prices. Why would it risk undoing that now?

The trouble that central banks face is that low inflation creates greater risk that policy rates both return to the 0% lower bound, or lower in the case of the ECB and the BoJ, and spend greater amounts of time there during downturns. Policymakers are simply seeking methods to give policy tools greater room to breathe down the road. The policy approach to inflation over the last 40 years may not be optimal for the next 40 in a world where interest rates are likely to remain stubbornly low, largely weighed down by demographic trends amidst aging populations.

Declines in working age population growth expected to persist



Source - RBC Wealth Management, World Bank Estimates and Projections - working age (15–64) population y/y growth

Demographic trends are one of the key factors likely to keep inflation muted, necessitating a change in strategy from central banks.

ECB President Mario Draghi has said that the central bank is not currently reviewing its stated objective of inflation rates below, but close to, 2% but noted that it is awaiting the findings of the Fed's study.

Regardless, the policy prescription for dealing with persistently low inflation is likely going to be a return of "lower for longer" with respect to interest rates as central banks seek to get inflation back to target on a sustained basis.

Portfolio implications

The main point is that all of this is likely to result in lower rates and moderately higher inflation. For equity investors, stocks are largely a natural inflation hedge, though the primary concern would be faster wage growth from ever-tighter labor markets that eats into corporate margins. That said, corporate profitability, at least in the U.S., remains historically high, offering a sizeable buffer.

For fixed income investors, we reiterate our view that investors need to get comfortable extending maturities. Reinvestment risk remains the greatest threat to portfolio performance, as not only are short-term rates likely to remain flat at best, but they are likely to move lower, with the market pricing nearly three Fed rate cuts by the end of 2020.

Despite recent market volatility, we believe this setup of easier central bank policy should continue to favor risk assets including stocks and corporate debt over the near term, but over the longer term this strategy is not without risks. If central banks go down the path to lower policy rates in pursuit of higher inflation, risks of asset bubbles and financial instability will rise, in our opinion, as will the need for investor vigilance.

We'll look to see what the Fed decides and whether others follow, but the major global central banks look to be closer than ever to at least tweaking how policy goals are achieved. The policy prescription is likely to be a return to lower rates for longer.

Easy does it

Major indexes have been correcting some of the excesses of the December-to-April powerhouse equity market advance. For the S&P 500 and Canada's TSX the pullback has been from new, all-time highs posted in April. For those markets laboring under a cloud of political/trade uncertainty—Japan and much of Asia, the U.K., and Europe—the rally was not as dynamic and failed to produce new highs.

As usual, our attention is concentrated on the outlook for the global economic cycle, and the U.S. economy in particular. There are numerous headwinds: for example, the build-up of inventories prior to the imposition of tariffs boosted GDP growth to some degree, while the run-down of those excess stocks will have softened growth in the current quarter. Policy uncertainty generally is weighing on business confidence, which seems unlikely to improve materially anytime soon.

That said, there is at least one very important tailwind: monetary policy and credit conditions remain extremely easy. Central bank polices are very accommodative and appear likely to remain so. Credit spreads—i.e., the excess yield corporations have to pay above government yields—are extremely narrow, indicating that most corporations are able to access all the credit they need on unusually favorable terms.

The latest Senior Loan Officer Survey published by the Fed in April revealed that a majority of U.S. banks have been lowering lending standards on almost all types of loans so far in the current year. The most recent survey of small businesses published by the National Federation of Independent Businesses stated that only 4% of all respondents (an historically low number) reported that not all their credit needs were satisfied.

Equity views

Region	Current
Global	=
United States	=
Canada	=
Continental Europe	=
United Kingdom	=
Asia (ex-Japan)	=
Japan	+

+ Overweight = Market Weight – Underweight
Source - RBC Wealth Management

In the absence of tighter credit conditions, we expect the U.S. and global economies will continue to post year-on-year GDP growth, albeit at slower-than-anticipated rates. If that proves to be the case, corporate profits should also advance as should the value of businesses.

We expect the current correction/consolidation will eventually run its course and that equity markets will embark on a further advance. We remain Market Weight equities. We also advise paying attention to portfolio imbalances that may have built up over this long bull market and to focus on quality upgrades toward sustainable dividend payers and unstressed balance sheets as this already very long cycle extends further.

Jim Allworth
Vancouver, Canada
jim.allworth@rbc.com

Kelly Bogdanova
San Francisco, United States
kelly.bogdanova@rbc.com

Patrick McAllister, CFA
Toronto, Canada
patrick.mcallister@rbc.com

Frédérique Carrier
London, United Kingdom
frederique.carrier@rbc.com

Judith Oliver
Singapore
judith.oliver@rbc.com

Global equity

Regional highlights

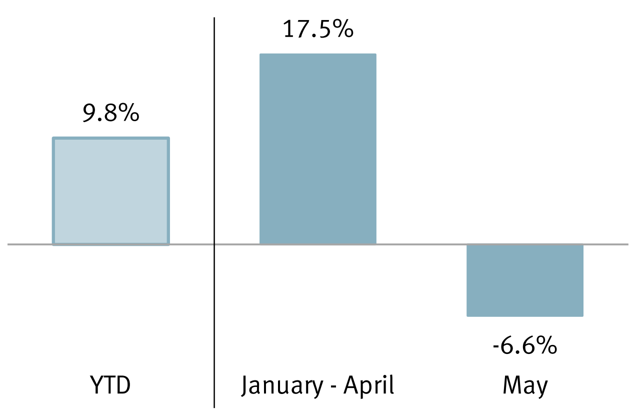
United States

- After four straight months of gains, the U.S. equity market took a much-needed rest. The S&P 500 pulled back X.X% from its late April all-time high as the U.S.-China trade dispute worsened. Additional tit-for-tat tariffs and fresh U.S. sanctions on leading Chinese technology firms raised doubts about global growth and China-linked sectors of the U.S. equity market such as Industrials and technology hardware. Despite the pullback, the S&P 500 remains up 9.8% YTD.
- Just before tensions worsened, S&P 500 companies signaled diminished concerns about trade headwinds. This attitude will likely change during the second-quarter earnings season if the conflict persists. RBC Capital Markets still forecasts full-year S&P 500 earnings of $171 per share, but notes there is about $3 of downside risk should macro conditions deteriorate.
- To us, this dispute is more than a trade war or tech war. It is part of a broader geopolitical struggle between the U.S.-led unipolar framework that has existed since the end of the Cold War, and what China and other nations see as an inevitable shift toward a multipolar world order in which various powers exert authority.
- In terms of equity positioning, we continue to believe portfolios can benefit from some defensive ballast. We recommend upgrading U.S. equity portfolios with an eye toward swapping into dividend-paying stocks and improving the overall quality of holdings. Vigilance remains the watchword.

Canada

- The federal government's decision on whether to proceed with the Trans Mountain pipeline expansion is due June 18. Given that the existing pipeline and expansion project were purchased by the government for CA$4.5B just one year ago, we think it is highly probable the project will receive the green light. However, with a federal election looming in the fall, when construction might begin is less clear. We believe investors are more focused on construction than announcements, given persistent delays in pipeline development.
- Within Canadian sectors, we have been constructive on Industrials. This position is worth evaluating given the

S&P 500 2019 returns



U.S. equities had been on a fairly smooth ride higher through the end of April; that changed in May.

Source - RBC Wealth Management, FactSet; data through 5/31/19 economic expansion is showing signs it is in the late stage and the recent yield curve inversion has introduced a cautionary note to the outlook. As we believe the economic expansion still has legs, we are comfortable maintaining an Overweight but are alert to opportunities to take profits in Industrials at attractive valuations.

- In light of what we perceive to be a persistent negative tone towards Canadian equities, we believe it is useful to view the market from a different angle. While the domestic market does not have the same secular growth opportunities available in the U.S. market, it does have a cohort of companies in oligopolistic industries that share a number of attractive characteristics. The banks, rails, telecom providers, and grocers have established barriers to entry, and have demonstrated pricing power and high returns on equity. Together these companies make up roughly 35% of the benchmark and offer worthy hunting grounds for investment, in our view.

Continental Europe & U.K.

- European macroeconomic data have recently shown signs of stabilization; unfortunately, this comes at a time of increased geopolitical and trade tensions. Unless these tensions ease, prospects may well weaken again given that Europe's export-oriented economy is particularly exposed to China. A weaker euro, while a benefit to exporters, may not be enough to offset the pain of a global slowdown.
- At a forward price-to-earnings (P/E) ratio of 13x, European equity valuations could be vulnerable to a negative outcome in the current trade disputes. We remain Market Weight European equities, and will focus on developments at the June G20 meeting for clues about the path ahead for trade.
- We recommend that investors continue to focus on European companies with global reach, strong business models, and robust cash generation; many such companies are trading at valuation discounts to their international peers. We believe there are selective opportunities in Health Care and Industrial companies benefitting from secular trends, and in Consumer Goods and Services companies with leading market positions and strong brands.
- In the U.K., the recent resignation of Prime Minister Theresa May does nothing to add visibility to the Brexit impasse. A Conservative leadership contest will now take place, during which we expect Brexit rhetoric to harden. U.K. equity valuations are cheap, at a P/E ratio of less than 12x the 2020 consensus earnings estimate, and we maintain our bias towards globally diversified companies.

Asia

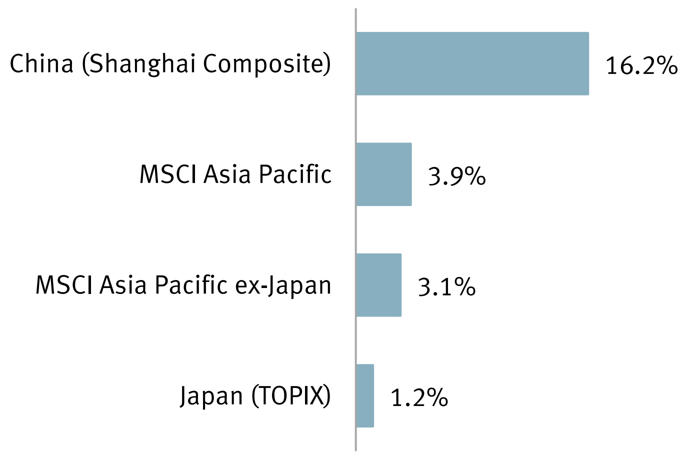
- The U.S.-China trade fight dominates Asia-Pacific markets. Given the extensive supply chain in manufacturing, what affects China affects many of the economies in Asia ex-Japan. We think the region is likely to lag until we see signs of a de-escalation in trade tensions.
- Asia ex-Japan equities also typically struggle to perform when there is U.S. dollar strength. Weakness in the Chinese renminbi is a further headwind. The renminbi has given up all its gains for the year and is likely to remain under pressure in the near term given the trade and economic challenges.
- The best-performing market in the region year to date has been the

onshore China A-share market. Even with the selloff, the CSI 300 Index remains ahead of the MSCI China Index as well as the MSCI Asia ex-Japan Index.

- We had been bullish on China A-shares since January, but now view this segment of the market as less attractive. The onshore market is driven primarily by sentiment. Retail investors are highly sensitive to volatility and we believe momentum is lost for now.
- However, we anticipate becoming more constructive on China A-shares in the future. Given the uncertainty facing the export sector, Chinese policymakers are focused on stimulating the domestic economy, which should benefit the earnings of China A-shares more than the earnings of the offshore listed shares.
- Japan also faces an external headwind from forex markets. The safe-haven trade has pushed up the yen, and the TOPIX finds itself on the back foot whenever the currency appreciates. Return on equity, however, continues to improve and relative valuations are close to a five-year low versus the S&P 500. We believe patience is needed for Japanese equities.

Asian equity index returns, YTD

returns are in local currency

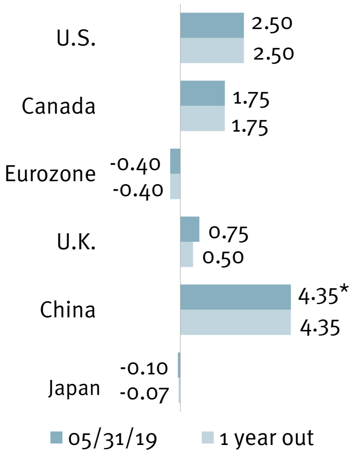


Chinese equities have largely contributed to Asian equity performance in 2019.

Source - RBC Wealth Management, Bloomberg; data through 5/31/19

The Fed’s “man behind the curtain”

Central bank rate (%)



*1-yr base lending rate for working capital, PBoC

Source - RBC Investment Strategy Committee, RBC Capital Markets, Global Portfolio Advisory Committee, RBC Global Asset Management

Watching Fed Chair Jerome Powell’s press conference following the May 1 meeting of the Federal Open Market Committee (FOMC), and reading the meeting minutes released three weeks later, called to mind a pivotal scene near the end of the classic 1939 movie “The Wizard of Oz.” The true nature of the great and powerful Oz is revealed by Toto the dog, despite the wizard’s plea to “pay no attention to the man behind the curtain.”

In the case of the Fed (and this was buried in the meeting minutes) the “Toto moment” came as the Fed’s staff economists’ inflation forecast pulled back the curtain on policymakers’ mantra of “transitory” inflation. The staff sees inflation falling shy of 2% “over the medium term” even as the job market is projected to tighten further. To us, this suggests the Fed’s neutral policy bias may be on thin ice.

Throughout the current economic cycle, market expectations have proven more accurate than the FOMC’s “dots” in predicting the direction of interest rates, and the market now expects two rate cuts this year and another in 2020. In our view, both the staff economists’ forecasts and market expectations suggest the Fed’s neutral policy bias is in question, and it may soon be time to consider that the Fed will adopt an easing bias, potentially paving the way for for rate cuts in September and December.

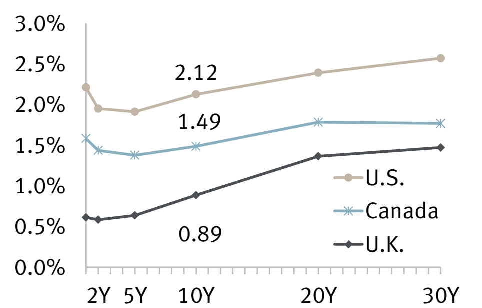
A policy shift from the Fed would likely have broad implications for

Fixed income views

Region	Gov’t Bonds	Corp. Credit	Duration
Global	=	+	5–7 yr
United States	=	+	5–7 yr
Canada	=	=	3–5 yr
Continental Europe	=	+	5–7 yr
United Kingdom	=	=	3–5 yr

+ Overweight = Market Weight – Underweight
Source - RBC Wealth Management

Sovereign yield curves



Source - Bloomberg

other central banks which, in the aftermath of the Great Financial Crisis, have attempted for the most part to follow the Fed’s lead. Suffice it to say that as central banks veer further toward easing monetary policy, and intensifying trade disputes continue to cast their shadows over the tenuous green shoots of global growth, “lower for longer” will likely continue to be the order of the day for interest rates.

Craig Bishop
Minneapolis, United States
craig.bishop@rbc.com

Tom Garretson, CFA
Minneapolis, United States
tom.garretson@rbc.com

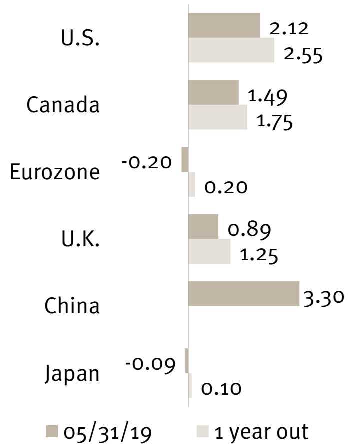
Christopher Girdler, CFA
Toronto, Canada
christopher.girdler@rbc.com

Alastair Whitfield
London, United Kingdom
alastair.whitfield@rbc.com

Calvin Ng
Hong Kong, China
Calvin.Ng@rbc.com

Global fixed income

10-year rate (%)



Note: Eurozone utilizes German Bunds.

Source - RBC Investment Strategy Committee, RBC Capital Markets, Global Portfolio Advisory Committee, RBC Global Asset Management
^Under review

Regional highlights

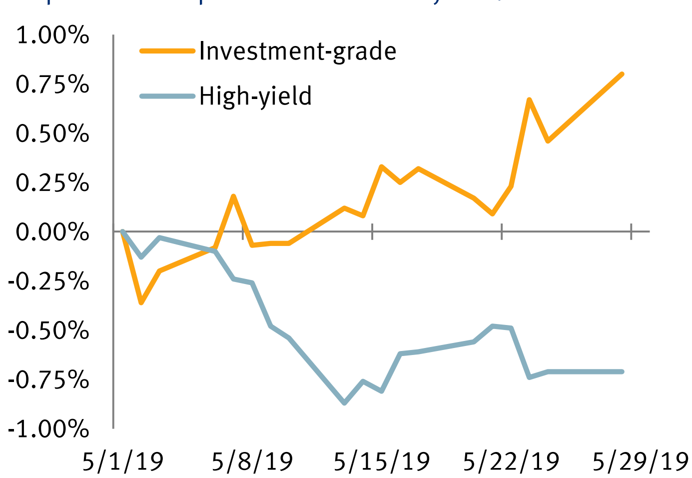
United States

- If the Fed were to seriously entertain the idea of cutting rates—and markets are now pricing an 80%+ likelihood of at least one rate cut this year—the June 2019 Fed meeting could prove to be pivotal as officials could set the stage for the change then. The minutes of the May 1 Federal Open Market Committee (FOMC) meeting showed no discussion of rate cuts, but some officials raised concerns about still-low inflation; others have recently commented that, should tariffs remain in place for more than six months, economic growth could be at risk and rate cuts necessary. We expect rate forecasts to be updated at the June FOMC meeting. The last Fed projections, dating from March, revealed no anticipation of a rate cut, even from the most dovish members.
- Volatility in equity markets spilled over to credit markets in May, as high-yield bonds had their first losing month of 2019. Investment-grade bonds, which are more sensitive to changes in interest rates, were able to post solid gains as the decline in Treasury yields was enough to offset higher credit spreads. While we see valuations in the high-yield market as somewhat more attractive, we still recommend that investors upgrade to higher-quality corporate bonds as we approach the later stages of the credit cycle, given that investors' yield compensation for credit risks remains low, in our view.
- The torrid pace of money flowing into municipal bonds showed no signs of letting up in May, pushing prices up and dragging yields down. Ten-year munis now yield just 73% of Treasuries, and 30-year munis yield just 89%, both of which are the lowest levels on record since the indexes were established in 2001.

Canada

- A very strong employment report, better-than-expected manufacturing sales, and a housing market that appears to have stabilized across the majority of the country weren't enough to keep Government of Canada (GoC) yields from dropping at the end of the month, in line with souring market sentiment. Relative changes in the yield curve, notably longer-dated GoC yields falling more than their shorter-dated

Corporate bond performance for May 2019



High-yield bonds have first losing month of 2019 in May while Investment-grade eked out gains on lower Treasury yields.

Source - RBC Wealth Management, Bloomberg Barclays Indexes; data through 5/29/19 counterparts, has led to another inversion in Canada.

- The monthly moves shine a light on what is priced into the bond market. Currently, there is a notable difference between what the Bank of Canada (BoC) is messaging to the market and what the market believes the central bank is likely to do. The BoC is on hold, but if its own forecasts are right, its next move is likely to be a hike. However, the market expects the bank to cut rates. The bond market and the BoC can't both be right—which leaves us patiently monitoring domestic and global data releases for clues as to which way this could unfold.
- Lower government bond yields also help ensure demand for corporate bonds can remain strong. The Bloomberg Barclays Canadian Corporate Index traded with the tightest spread of the year through May; this is understandable, but reduces the future upside available. Preferred shares continue to trade with very wide credit spreads and haven't reacted strongly to the recent market swings. We continue to recommend a small sleeve of preferred shares within a diversified Canadian portfolio.

Continental Europe & U.K.

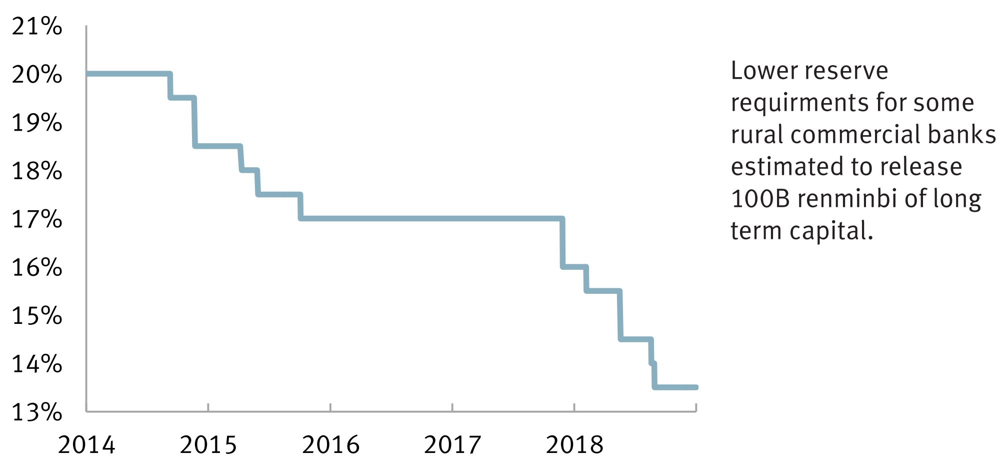
- As many central banks pause their monetary policy programs against a backdrop of moderating growth, minutes from the latest European Central Bank (ECB) meeting point to less confidence that the economy will pick up speed in the second half of the year, despite domestic drivers providing support to the optimistic outlook. Populist parties gained some ground in the European Parliament elections, increasing risks around a breakup of the current Italian coalition government and pushing Italian BTP spreads towards recent highs, while the German 10-year government bond yield has moved into negative territory.
- Because prospects of the ECB tightening monetary policy are being pushed out further, we remain Market Weight government bonds and modestly Overweight corporate credit given continued strong demand from Asian investors.
- In the U.K., with PM Theresa May stepping down and the Conservative Party leadership campaign getting underway, uncertainty around the progress of Brexit and the possibility of a general election has increased. In response, the U.K. 10-year government bond yield has tested a new level of 0.95%, the lowest since 2017.
- With risk appetite falling and prolonged uncertainty likely, the Bank of England is firmly in a "wait and see" mode for the time being, despite a recent pick-up in inflation. Expectations for a change in interest rates are being pushed into 2020. For now, we maintain a Market Weight view on U.K. government bonds with a bias towards short-duration positioning. We also see the yield pickup in U.K. corporate credit as attractive and retain a Market Weight allocation, though we have adopted a selective approach.

Asia

- After a strong performance in the first four months of 2019, the escalation of the U.S.-China trade war in May proved to be a timely opportunity to take profits, albeit in an orderly fashion. The J.P. Morgan Asia Credit Index (JACI) closed out May in positive territory with high-yield bonds underperforming investment-grade bonds, owing to lower U.S. Treasury yields.

- We have taken a more neutral stance on the Asia High-Yield sector for the short term, given the recent buildup in tension between the U.S. and China. However, we remain constructive on the sector over the medium term, as we believe the Chinese government still has room to maneuver, using fiscal and monetary policy to stimulate the economy.
- Aside from the inevitable collateral damage the trade war may inflict, China's economic data has been lackluster. Industrial production rose 5.4% y/y in April, notably lower than the previous month's 8.5% increase. At the same time, retail sales slowed to 7.2% y/y from 8.7% in the prior month. The government has pledged more counter-cyclical measures to stimulate the economy, which we view as favorable for credits.
- The People's Bank of China (PBoC) has lowered the reserve requirement ratio (RRR) for some rural commercial banks, according to Bloomberg news. The lowered requirements are estimated to release long-term capital of around 100B renminbi. Looking ahead, the market is anticipating the PBoC will continue to cut the RRR into this month.

Reserve requirment ratio cut shows easing bias by the Peoples Bank of China



Source - RBC Wealth Management, Bloomberg; data through 5/29/19

Currency forecasts

Currency pair	Current rate	Forecast Jun 2020	Change*
Major currencies			
USD Index	97.75	95.46	-2%
CAD/USD	0.73	0.74	1%
USD/CAD	1.35	1.36	1%
EUR/USD	1.11	1.17	5%
GBP/USD	1.26	1.33	6%
USD/CHF	1.00	0.98	-2%
USD/JPY	108.2	118.0	9%
AUD/USD	0.69	0.67	-3%
NZD/USD	0.65	0.63	-3%
EUR/JPY	120.9	138.1	14%
EUR/GBP	0.88	0.88	0%
EUR/CHF	1.11	1.15	3%
Emerging currencies			
USD/CNY	6.90	7.50	9%
USD/INR	69.6	75.00	8%
USD/SGD	1.37	1.44	5%

* Defined as the implied appreciation or depreciation of the first currency in the pair quote. Examples of how to interpret data found in the Market Scorecard.

Source - RBC Capital Markets, Bloomberg

U.S. dollar: Finding firm footing

The U.S. dollar extended its 2018 advance against G10 currencies in early 2019, climbing to fresh two-year highs in April. Downward pressure on the dollar coming from growing expectations for Fed rate cuts was offset by robust demand due to a sudden escalation in U.S.-China trade tensions. A ratcheting-up of trade frictions could keep the dollar elevated in the near term; however, the fading of support from a relatively favourable U.S. interest rate backdrop should limit the greenback's attractiveness next year.

Euro: In waiting mode

The euro slumped to mid-2017 levels against its major trading partners in early April before recouping some losses in May. Signs of a sustained growth recovery and building price pressures remain elusive and accordingly, the European Central Bank will likely refrain from shifting from its accommodative policy stance in 2019, in our view. A meaningful upturn in the euro is thus unlikely to materialize until a pickup in growth becomes firmly entrenched and emerging political risks appear contained.

British pound: Brexit back in focus

A sudden deterioration in sentiment towards the U.K. avoiding a no-deal Brexit abetted a sharp downturn in the British pound in May. The currency had been trading within a tight range since mid-February until a flare up of political frictions spurred renewed fears the U.K. could crash out of the EU without a deal. Pressure on the pound could persist amid the domestic political uncertainty, yet an eventual rebalancing of Brexit risks could see the selloff easing beyond the near-term pain, in our view.

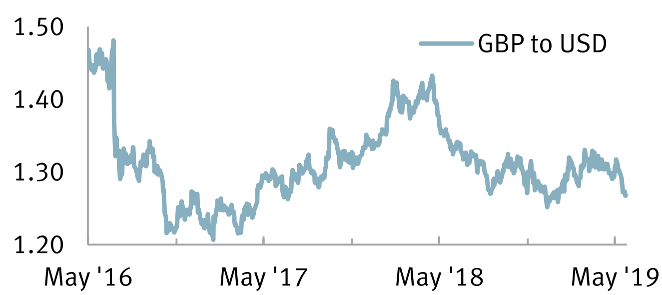
Canadian dollar: Range-bound

The Canadian dollar traded within a narrow range throughout April and May, but remained the top year-to-date performer against the U.S. dollar amongst G10 currencies. A lift from favourable interest rate differentials was tempered by crude oil prices coming under pressure, keeping the currency relatively range-bound in recent weeks. If oil prices bounce back, it could prop up the currency, though ongoing trade tensions and domestic headwinds signal that a neutral outlook is warranted.

Japanese yen: Trade relief

The yen rallied sharply in May to nearly unwind its losses recorded over the early part of 2019. Deteriorating risk sentiment on account of a sudden escalation in the U.S.-China trade spat spurred renewed demand for the perceived safety of the yen. Further gains are likely to be capped by Japanese investors seeking higher yields abroad, in turn, generating yen selling; however, we are more sanguine towards the yen outlook due to an upswing in market volatility.

A flare-up of political frictions sent the British pound sharply lower in May



Political risks and Brexit uncertainty could see the pound remain under pressure for now.

Source - RBC Wealth Management, Bloomberg; data through 5/23/19

Laura Cooper
London, United Kingdom
laura.cooper@rbc.com

Commodities

Commodity forecasts

	2019E	2020E
Oil (WTI $/bbl)	$63.88	$65.88
Natural Gas ($/mmBtu)	$2.80	$2.75
Gold ($/oz)	$1,301	$1,300
Copper ($/lb)	$2.76	$3.00
Soybean ($/bu)	$9.20	$9.55
Wheat ($/bu)	$4.83	$4.98

Source - RBC Capital Markets forecasts (oil, natural gas, gold, and copper), Bloomberg consensus forecasts (soybean and wheat)

Richard Tan, CFA
Toronto, Canada
richard.tan@rbc.com

Oil – Family crude

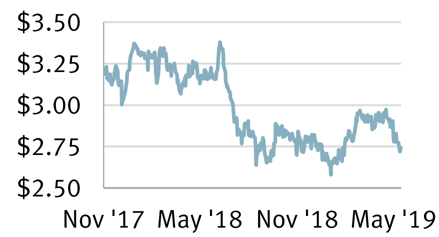
Thus far, U.S. crude has been spared from retaliatory Chinese tariffs, which RBC Capital Markets views as a strategic move by China. That country has been the primary pillar of demand growth for years and sources roughly 10% of its crude from Iran and Venezuela. Both of those nations have been hit by U.S. sanctions. Crude prices declined by approximately 2% m/m.

Natural gas – Tit-for-tat

Effective June 1, China intends to increase tariffs on U.S. natural gas to 25% from 10% in retaliation to the additional tariffs brought on by the U.S. government. We believe this will pressure the anticipated ramp-up in U.S. gas production given that China has become the world's largest importer of liquefied natural gas. Development of new projects in the U.S. will likely slow because long-term contracts are often required by lenders.

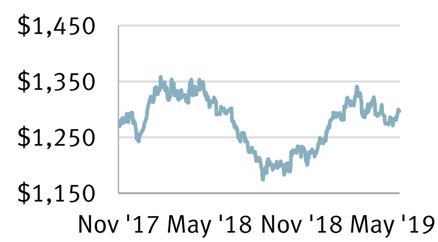
Copper – Electronic tax

Copper prices are down approximately 6.8% m/m and about 8% off their highs in 2019 following deterioration in U.S.-China trade relations. China is expected to impose tariffs on a number of U.S. electronics products (e.g.. televisions, cameras, microwaves, etc.), which often use base metals (including copper) during the manufacturing process. Electronics makes up roughly 30% of total U.S. imports to China.



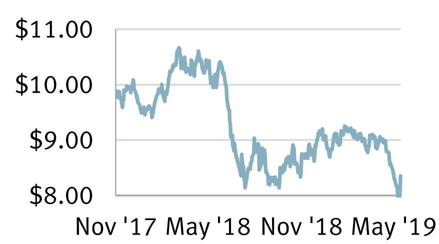
Gold – Subdued momentum

Despite market volatility, momentum in gold remained relatively subdued, up approximately 1% m/m. Renewed growth fears should skew inflation to the downside, keeping gold prices range-bound in the near-to-medium term. We remain constructive on gold in light of accommodative monetary policies and the headwinds facing global growth.



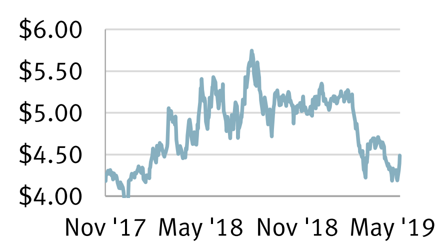
Soybeans – Weathering the storm

Soybean pricing is down approximately 7% m/m and 18% y/y. Exports to China (the world's largest buyer) have softened further with the U.S.-China trade battle. Wet weather in the U.S. Midwest has delayed the planting season. Global inventories rose to 113 million tonnes vs. consensus expectations of 109 million tonnes.



Wheat – Chronic surplus

The USDA expects global consumption to reach a record high in 2019/20; however, growth in global production is anticipated to cover the increased demand. That would mark the sixth time in seven years that production has exceeded consumption. Prices have fallen by roughly 2% m/m, driven by favourable weather conditions in the European Union and Russia, which should drive up crop yields.

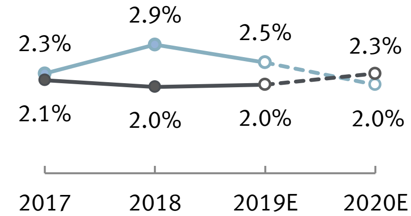


Source - RBC Wealth Management, Bloomberg; date range: 11/1/17–5/15/19

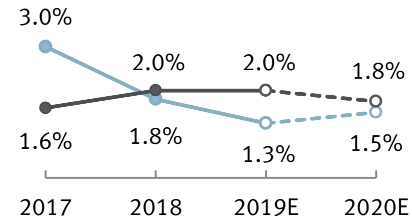
Key forecasts

Real GDP growth — Inflation rate

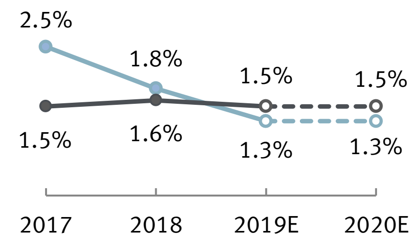
United States – Summer slowdown
April added a robust 263,000 new jobs, taking the unemployment rate down from 3.8% to 3.6%, the lowest since 1969. Labor market strength is keeping consumer sentiment elevated despite the trade dispute, with the Conference Board's Consumer Confidence Index jumping more than four points to a level not seen since fall 2018. Q1 2019 GDP was revised to 3.1% q/q, however Q2 GDP is tracking weaker at 1.2% q/q. Markets are pricing in a substantial chance of an interest rate cut by the Fed in 2019.



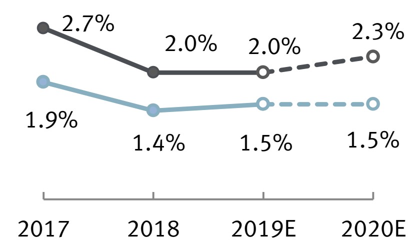
Canada – Record employment gains
May's BoC announcement, as expected, produced no interest rate change and the Bank's neutral, data-dependent stance was reiterated. Employment remains a bright spot: a record 106,500 new jobs added in April pushed the unemployment rate down to 5.7% and brought labor force participation back to two-year highs. Inflation hovers near the BoC's 2% target. Retail sales reaccelerated in March (+1.1% m/m) although households remain challenged by record levels of debt.



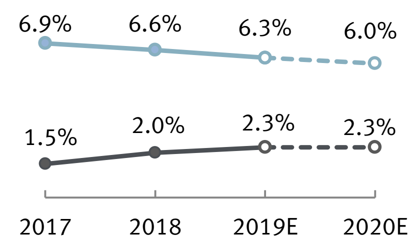
Eurozone – ECB on hold
Weak survey data from Q1 2019 led the European Central Bank (ECB) to sharply downgrade 2019 GDP estimates from 1.7% y/y to 1.1% y/y, but ultimately Q1 GDP growth exceeded expectations at 0.4% q/q on stronger-than-expected performance from Germany. However, external risks (such as auto tariffs if a deal isn't negotiated in 180 days) have intensified in recent weeks, risking the potential for a second-half economic rebound.



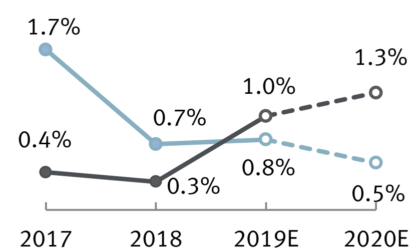
United Kingdom – Brexit handcuffs
The unemployment rate fell to 3.8% in March despite new hiring falling to 99,000 from 220,000 prior. Inflation firmed to 2.1% y/y in April, rising above the Bank of England target, although the Bank likely has its hands tied with Brexit uncertainty, thus expectations are for rate hikes to remain on hold until a Brexit resolution. However, Governor Carney has stated there may be "more frequent interest rate increases than the market expects" if there's a benign Brexit resolution.



China – No deal in sight
Trade talks fell apart in May after President Trump accused China reneging on a deal while Chinese officials argued that the Americans raised their demands. On top of tariffs, the U.S. moved to curb China tech champion Huawei's ability to sell goods in the U.S.; China has threatened to retaliate by establishing a list of American companies to be cut off from Chinese markets if the government believes they damage the interests of Chinese firms.



Japan – Low rates continue
Inflation rose materially in April to 0.9% y/y from 0.5% y/y prior, a welcome sign for the Bank of Japan (BoJ) but still well below target. Weakening global growth is making for a difficult time for the BoJ, which downgraded its economic assessment and altered its bond buying program for the third time this year, reducing the amount of debt it would buy in the long end of the yield curve due to worries about excessive yield curve flattening.



Source - RBC Investment Strategy Committee, RBC Capital Markets, Global Portfolio Advisory Committee, RBC Global Asset Management

Market scorecard

Index (local currency)	Level	1 month	YTD	12 month
S&P 500	2,752.06	-6.6%	9.8%	1.7%
Dow Industrials (DJIA)	24,815.04	-6.7%	6.4%	1.6%
NASDAQ	7,453.15	-7.9%	12.3%	0.1%
Russell 2000	1,465.49	-7.9%	8.7%	-10.3%
S&P/TSX Comp	16,037.49	-3.3%	12.0%	-0.1%
FTSE All-Share	3,923.87	-3.5%	6.8%	-7.1%
STOXX Europe 600	369.06	-5.7%	9.3%	-3.7%
EURO STOXX 50	3,280.43	-6.7%	9.3%	-3.7%
Hang Seng	26,901.09	-9.4%	4.1%	-11.7%
Shanghai Comp	2,898.70	-5.8%	16.2%	-6.4%
Nikkei 225	20,601.19	-7.4%	2.9%	-7.2%
India Sensex	39,714.20	1.7%	10.1%	12.4%
Singapore Straits Times	3,117.76	-8.3%	1.6%	-9.1%
Brazil Ibovespa	97,030.32	0.7%	10.4%	26.4%
Mexican Bolsa IPC	42,749.16	-4.1%	2.7%	-4.3%
Bond yields	**5/31/19**	**4/30/19**	**5/31/18**	**12 mo. chg**
US 2-Yr Tsy	1.922%	2.266%	2.427%	-0.51%
US 10-Yr Tsy	2.125%	2.502%	2.859%	-0.73%
Canada 2-Yr	1.429%	1.563%	1.918%	-0.49%
Canada 10-Yr	1.488%	1.712%	2.244%	-0.76%
UK 2-Yr	0.600%	0.764%	0.610%	-0.01%
UK 10-Yr	0.886%	1.185%	1.230%	-0.34%
Germany 2-Yr	-0.659%	-0.584%	-0.656%	0.00%
Germany 10-Yr	-0.202%	0.013%	0.341%	-0.54%
Commodities (USD)	**Price**	**1 month**	**YTD**	**12 month**
Gold (spot $/oz)	1,305.45	1.7%	1.8%	0.5%
Silver (spot $/oz)	14.57	-2.5%	-6.0%	-11.3%
Copper ($/metric ton)	6,486.50	-9.7%	-2.4%	-15.2%
Uranium ($/lb)	20.90	-0.5%	-12.6%	-7.7%
Oil (WTI spot/bbl)	53.50	-16.3%	17.8%	-20.2%
Oil (Brent spot/bbl)	64.49	-11.4%	19.9%	-16.9%
Natural Gas ($/mmBtu)	2.45	-4.7%	-16.5%	-16.9%
Agriculture Index	273.20	9.5%	3.1%	-6.2%
Currencies	**Rate**	**1 month**	**YTD**	**12 month**
US Dollar Index	97.7500	0.3%	1.6%	4.0%
CAD/USD	0.7398	-0.9%	0.9%	-4.1%
USD/CAD	1.3516	1.0%	-0.9%	4.3%
EUR/USD	1.1169	-0.4%	-2.6%	-4.5%
GBP/USD	1.2629	-3.1%	-1.0%	-5.0%
AUD/USD	0.6938	-1.6%	-1.6%	-8.3%
USD/JPY	108.2900	-2.8%	-1.3%	-0.5%
EUR/JPY	120.9600	-3.2%	-3.9%	-4.9%
EUR/GBP	0.8841	2.8%	-1.6%	0.5%
EUR/CHF	1.1178	-2.2%	-0.7%	-3.0%
USD/SGD	1.3748	1.0%	0.9%	2.8%
USD/CNY	6.9050	2.5%	0.4%	7.7%
USD/MXN	19.6165	3.5%	-0.2%	-1.5%
USD/BRL	3.9232	0.1%	1.3%	5.4%

Global equities were lower in May as optimism of a U.S.-China trade deal diminished.

Canadian yield curve near inversion as inflationary pressures fade.

Copper, a proxy for global economic growth, continues to be pressured lower.

The British pound was much weaker in May amid Brexit chaos.

Equity returns do not include dividends, except for the Brazilian Ibovespa. Equity performance and bond yields in local currencies. U.S. Dollar Index measures USD vs. six major currencies. Currency rates reflect market convention (CAD/USD is the exception). Currency returns quoted in terms of the first currency in each pairing. Examples of how to interpret currency data: CAD/USD 0.73 means 1 Canadian dollar will buy 0.73 U.S. dollar. CAD/USD -4.1% return means the Canadian dollar has fallen 4.1% vs. the U.S. dollar during the past 12 months. USD/JPY 108.29 means 1 U.S. dollar will buy 108.29 yen. USD/JPY -0.5% return means the U.S. dollar has fallen 0.5% vs. the yen during the past 12 months.

Source - RBC Wealth Management, RBC Capital Markets, Bloomberg; data through 5/31/19.

Research resources

This document is produced by the Global Portfolio Advisory Committee within RBC Wealth Management's Portfolio Advisory Group. The RBC Wealth Management 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.

Global Portfolio Advisory Committee members:

Jim Allworth – Co-chair; Investment Strategist, RBC Dominion Securities Inc.

Kelly Bogdanova – Co-chair; Portfolio Analyst, RBC Wealth Management Portfolio Advisory Group U.S., RBC Capital Markets, LLC

Frédérique Carrier – Co-chair; Managing Director, Head of Investment Strategies, Royal Bank of Canada Investment Management (U.K.) Limited

Mark Bayko, CFA – Head, Portfolio Management, RBC Dominion Securities Inc.

Craig Bishop – Lead Strategist, U.S. Fixed Income Strategies Group, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Laura Cooper – Head of FX Solutions and Strategy, Royal Bank of Canada Investment Management (U.K.) Limited

Janet Engels – Head of Portfolio Advisory Group U.S., RBC Wealth Management, RBC Capital Markets, LLC

Tom Garretson, CFA – Fixed Income Portfolio Strategist, RBC Wealth Management Portfolio Advisory Group, RBC Capital Markets, LLC

Christopher Girdler, CFA – Fixed Income Portfolio Advisor, RBC Wealth Management Portfolio Advisory Group, RBC Dominion Securities Inc.

Patrick McAllister, CFA – Canadian Equities Portfolio Advisor, RBC Wealth Management Portfolio Advisory Group – Equities, RBC Dominion Securities Inc.

Alan Robinson – Portfolio Analyst, RBC Wealth Management Portfolio Advisory Group – U.S. Equities, RBC Capital Markets, LLC

Alastair Whitfield – Head of Fixed Income - British Isles, Royal Bank of Canada Investment Management (U.K.) Limited

The RBC Investment Strategy Committee (RISC) consists of senior investment professionals drawn from individual, client-focused business units within RBC, including the Portfolio Advisory Group. The RISC builds a broad global investment outlook and develops specific guidelines that can be used to manage portfolios. The RISC is chaired by Daniel Chornous, CFA, Chief Investment Officer of RBC Global Asset Management Inc.

Additional Global Insight authors:

Eric Lascelles – Chief Economist, RBC Global Asset Management Inc.

Judith Oliver – Business Development Analyst, Royal Bank of Canada, Singapore Branch

Calvin Ng – Head of Fixed Income Advisory Hong Kong, RBC Wealth Management Hong Kong, RBC Investment Services (Asia) Limited

Richard Tan, CFA – Canadian Equities Associate Portfolio Advisor, RBC Wealth Management Portfolio Advisory Group – Equities, RBC Dominion Securities Inc.

Required disclosures

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: Jim Allworth, Mark Bayko, Christopher Girdler, Patrick McAllister, and Richard Tan, employees of RBC Wealth Management USA's foreign affiliate RBC Dominion Securities Inc.; Frédérique Carrier, Laura Cooper, and Alastair Whitfield, employees of RBC Wealth Management USA's foreign affiliate Royal Bank of Canada Investment Management (U.K.) Limited; Judith Oliver, an employee of Royal Bank of Canada, Singapore Branch; Calvin Ng, an employee of RBC Wealth Management Hong Kong, RBC Investment Services (Asia) Limited; and Eric Lascelles, an employee of RBC Wealth Management USA's foreign affiliate RBC Global Asset Management Inc. contributed to the preparation of this publication. These individuals are not registered with or qualified as research analysts with the U.S. Financial Industry Regulatory Authority ("FINRA") and, since they are not associated persons of RBC Wealth Management, they may not be subject to FINRA Rule 2241 governing communications with subject companies, the making of public appearances, and the trading of securities in accounts held by research analysts.

In the event that this is a compendium report (covers six or more companies), RBC Wealth Management may choose to provide important disclosure information by reference. To access current disclosures, clients should refer to https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2 to view disclosures regarding RBC Wealth Management and its affiliated firms. Such information is also available upon request to RBC Wealth Management Publishing, 60 South Sixth St, Minneapolis, MN 55402.

References to a Recommended List in the recommendation history chart may include one or more recommended lists or model portfolios maintained by RBC Wealth Management or one of its affiliates. RBC Wealth Management recommended lists include the Guided Portfolio: Prime Income (RL 6), the Guided Portfolio: Dividend Growth (RL 8), the Guided Portfolio: ADR (RL 10), and the Guided Portfolio: All Cap Growth (RL 12). RBC Capital Markets recommended lists include the Strategy Focus List and the Fundamental Equity Weightings (FEW) portfolios. The abbreviation 'RL On' means the date a security was placed on a Recommended List. The abbreviation 'RL Off' means the date a security was removed from a Recommended List.

Distribution of Ratings
For the purpose of ratings distributions, regulatory rules require member firms to assign ratings to one of three rating categories - Buy, Hold/Neutral, or Sell - regardless of a firm's own rating categories. Although RBC Capital Markets, LLC ratings of Top Pick/Outperform, Sector Perform, and Underperform most closely correspond to Buy, Hold/Neutral and Sell, respectively, the meanings are not the same because our ratings are determined on a relative basis.

Explanation of RBC Capital Markets, LLC Equity Rating System
An analyst's "sector" is the universe of companies for which the analyst provides research coverage. Accordingly, the rating assigned to a particular stock represents solely the analyst's view of how that stock will perform over the next 12 months relative to the analyst's sector average.

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

			Investment Banking Services Provided During Past 12 Months	
Rating	Count	Percent	Count	Percent
Buy [Top Pick & Outperform]	794	54.01	202	25.44
Hold [Sector Perform]	589	40.07	107	18.17
Sell [Underperform]	87	5.92	5	5.75

Ratings: Top Pick (TP): Represents analyst's best idea in the sector; expected to provide significant absolute total return over 12 months with a favorable risk-reward ratio. **Outperform (O):** Expected to materially outperform sector average over 12 months. **Sector Perform (SP):** Returns expected to be in line with sector average over 12 months. **Underperform (U):** Returns expected to be materially below sector average over 12 months. **Restricted (R):** RBC policy precludes certain types of communications, including an investment recommendation, when RBC is acting as an advisor in certain merger or other strategic transactions and in certain other circumstances. **Not Rated (NR):** The rating, price targets and estimates have been removed due to applicable legal, regulatory or policy constraints which may include when RBC Capital Markets is acting in an advisory capacity involving the company.

Risk Rating: The **Speculative** risk rating reflects a security's lower level of financial or operating predictability, illiquid share trading volumes, high balance sheet leverage, or limited operating history that result in a higher expectation of financial and/or stock price volatility.

Valuation and Risks to Rating and Price Target
When RBC Wealth Management assigns a value to a company in a research report, FINRA Rules and NYSE Rules (as incorporated into the FINRA Rulebook) require that the basis for the valuation and the impediments to obtaining that valuation be described. Where applicable, this information is included in the text of our research in the sections entitled "Valuation" and "Risks to Rating and Price Target", respectively.

The analyst(s) responsible for preparing this research report have received (or will receive) compensation that is based upon various factors, including total revenues of RBC Capital Markets, LLC, and its affiliates, a portion of which are or have been generated by investment banking activities of RBC Capital Markets, LLC and its affiliates.

Other Disclosures
Prepared with the assistance of our national research sources. RBC Wealth Management prepared this report and takes sole responsibility for its content and distribution. The content may have been based, at least in part, on material provided by our third-party correspondent research services. Our third-party correspondent has given RBC Wealth Management general permission to use its research reports as source materials, but has not reviewed or approved this report, nor has it been informed of its publication. Our third-party correspondent may from time to time have long or short positions in, effect transactions in, and make markets in securities referred to herein. Our third-party correspondent may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any company mentioned in this report.

RBC Wealth Management endeavors to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. In certain investment advisory accounts, RBC Wealth Management or a designated third party will act as overlay manager for our clients and will initiate transactions in the securities referenced herein for those accounts upon receipt of this report. These transactions may occur before or after your receipt of this report and may have a short-term impact on the market price of the securities in which transactions occur. RBC Wealth Management research is posted to our proprietary Web sites to ensure eligible clients receive coverage initiations and changes in rating, targets, and opinions in a timely manner. Additional distribution may be done by sales personnel via e-mail, fax, or regular mail. Clients may also receive our research via third-party vendors. Please contact your RBC Wealth Management Financial Advisor for more information regarding RBC Wealth Management research.

Conflicts Disclosure: RBC Wealth Management is registered with the Securities and Exchange Commission as a broker/dealer and an investment adviser, offering both brokerage and investment advisory services. RBC Wealth Management's Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on our website at https://www.rbccm.com/GLDisclosure/PublicWeb/DisclosureLookup.aspx?EntityID=2. Conflicts of interests related to our investment advisory business can be found in Part 2A Appendix 1 of the Firm's Form ADV or the RBC Advisory Programs Disclosure Document. Copies of any of these documents are available upon request through your Financial Advisor. We reserve the right to amend or supplement this policy, Part 2A Appendix 1 of the Form ADV, or the RBC Advisory Programs Disclosure Document at any time.

The authors are employed by one of the following entities: RBC Wealth Management USA, a division of RBC Capital Markets, LLC, a securities broker-dealer with principal offices located in Minnesota and New York, USA; by RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Toronto, Canada; by RBC Investment Services (Asia) Limited, a subsidiary of RBC Dominion Securities Inc., a securities broker-dealer with principal offices located in Hong Kong, China; and by Royal Bank of Canada Investment Management (U.K.) Limited, an investment management company with principal offices located in London, United Kingdom.

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. 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. 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 Branch accepts responsibility for this report and its dissemination in Singapore.