

The Market in Review

Paul Siluch, Lisa Hill, Peter Mazzone, and Sharon Mitchell
Financial Advisors
Raymond James Ltd. – Victoria BC

October 22nd, 2021

This week's articles and insights

1. *Buggywhips to Self-Driving Chips*
2. *Trouble with the Curve*
3. *Approaching the Seasonal Best Months*

“Have you ever noticed that anybody driving slower than you is an idiot, and anyone going faster than you is a maniac?”

– *George Carlin*

Your Index Report

	Current	Last Week	Year-to-Date
Dow Jones Ind. Avg.	35,603	+1.98%	+ 16.33%
S&P 500	4,550	+2.51%	+ 21.13%
TSX	21,212	+1.88%	+ 21.68%

Buggywhips to Self-Driving Chips

Remember the Kindle e-reader? I say “remember” because sales have fallen over the years. 32% of U.S. adults owned an e-reader device in 2014 versus

only 19% today (source: Pew Research). The Kindle from Amazon was once the hottest new device around. Bookstores disappeared as e-readers became more available a decade ago and then really vanished as e-book sales exceeded paper book sales.

This is a classic example of a S-Curve, where a new technology starts small, grows rapidly until it controls most of a market, then attenuates. Think of the automobile replacing the horse and buggywhip, as one example. Or word processors replacing typewriters.

Not all S-curves result in the obliteration of one technology for another. Sometimes the new technology gets halted, for some reason, or is hit with unexpected failure rates. Transitions can stop partway and stay flat for years until technology catches up.

The nuclear industry is one such example. After a surge in oil prices in 1973, thanks to OPEC, reactors were built all over the world. It made sense – a few pounds of uranium displaced millions of barrels of oil. As we know, however, they were expensive to build and far more dangerous than oil if they failed. Three Mile Island and Chernobyl come to mind. Now that small modular reactors are on the horizon, the industry may finally start growing rapidly once again.

The Kindle revolution is another example of an S-curve that stalled. *E-books* are still a growing business (versus *e-readers*, which are not), with people now preferring to read electronic versions of their novels on phones or tablets. Reading this way during travel is an undeniable benefit over lugging multiple books in your handbag.

The Kindle stalled, however, because many people still prefer paper books. In the U.S. and Canada, only 7% of readers use an e-reader exclusively. This compares to 37% of U.S. readers who only read paper books, and 56% of Canadian readers (source: tonerbuzz.com). Is it old people stuck in the past? No - even young and millennial readers prefer print over digital. Why is this? Print books offer a tactile experience that is more easily remembered.

“You feel it, you smell it, and you remember it.”

- Quote from survey on print books

Categories hardest to displace are nature books, children's books, and cookbooks.

While electronic book sales continue to grow, so do print book sales. A new category – audiobooks – is growing even faster. What this means is that the S-curve transition from print books to electronic books may take decades to happen, if it ever completely happens. Sometimes old technology is just as good as new technology.

Trouble with the Curve

Which brings us to the newest S-curve: Autonomous Vehicles (AV), which are cars that drive themselves. We have been told they are coming and that children today will never drive their own cars. But are we really that close?



Source: Unsplash

The benefits would be enormous. The National Highway and Transportation Safety Agency found that human error was the probable cause in over 92% of U.S. accidents. And even in recent crashes involving self-driving cars, forensic data showed that the main problem was the people behind the wheel relied too much on systems that weren't yet fully capable (i.e. the drivers took a nap).

An electric car is not an autonomous car, although it is likely that most autonomous cars will be electric cars. This is because electric cars, like Tesla's (**NASDAQ TSLA**), are basically computers on wheels, which is the perfect platform for a 'smart car.' To be truly autonomous, a car will have to be artificially intelligent, or very close. The problem is, we've had several hype cycles since the 1950s that "artificial intelligence is close!" only to see it fizzle away in failed expectations. Many of the methods used in AI (artificial intelligence) just don't lend themselves to cars. Winning at chess,

for example, is as simple as programming a massive computer (or massive chip) to examine nearly every possible move before making the best one. This allowed the Deep Blue chess computer to beat humans at chess in 1997 and never look back.

But Deep Blue would be a terrible driver. Imagine it approaching an object in the middle of the road at 100 kilometers per hour. Deep Blue would have to cycle through every known object of that size, from a paper bag (“keep driving!”) to a large rat (“keep driving, but plan on a car wash!”) to a child (“stop or swerve!”). And thousands of other similar objects of similar size. By the time it made up its mind, it would be too late.

"The difference between AI and human intelligence is that you show an AI 100,000 cats before it will recognize one cat, and you show a human child one cat and it can recognize all other cats."

- Allen Zhang, creator of WeChat

There are five levels of Automated Driving capability:

Level 0: No automation

These include abilities that control the car momentarily, such as antilock brakes, but don't control the car.

Level 1: Driver assistance

These include automated cruise control and park assist. Many new cars have these features today.

Level 2: Partial automation

The driver does not have to steer, brake, or accelerate under some driving conditions. They do have to monitor the car, however. Tesla's offer this level today.

Level 3: Conditional automation

The car can mostly drive itself, but the driver must always be alert to take over.

Level 4: High automation

The vehicle can operate fully autonomously but is restricted to specific roads or conditions. Alphabet's (Google **NASDAQ GOOG**) Waymo division operates Level 4 cars in a tightly-controlled sections of Phoenix and San Francisco today.

Level 5: Full automation

The vehicle can operate fully autonomously without any human driver interaction.

Bear in mind, all human drivers have essentially Level 5 capabilities. We can drive in just about all weather conditions, in the day and the night, and make the safest choices 99% of the time. The human brain is exceptionally good at pattern recognition, which is vital when assessing oncoming cars and poor road conditions. Cars still rely on centralized data, meaning they have to check conditions or maps on computers hundreds of miles away, which may not always work. Stuffing every car with computers capable of what humans can do remains an elusive goal.

Tesla hoped to be at Level 5 by the end of 2021, and yet many of its features are still stuck back at Level 2. "Auto-steer" capabilities were hyped as Level 5 features, yet are really just Level 2.

"The AV industry has promised too much for too long, and has delivered too little."

- Raj Rajkumar, robotics professor at Carnegie Mellon University

Some reports show the valuation of Waymo, the autonomous leader, has shrunk sharply over the last five years due to its inability to deliver a true AV car.

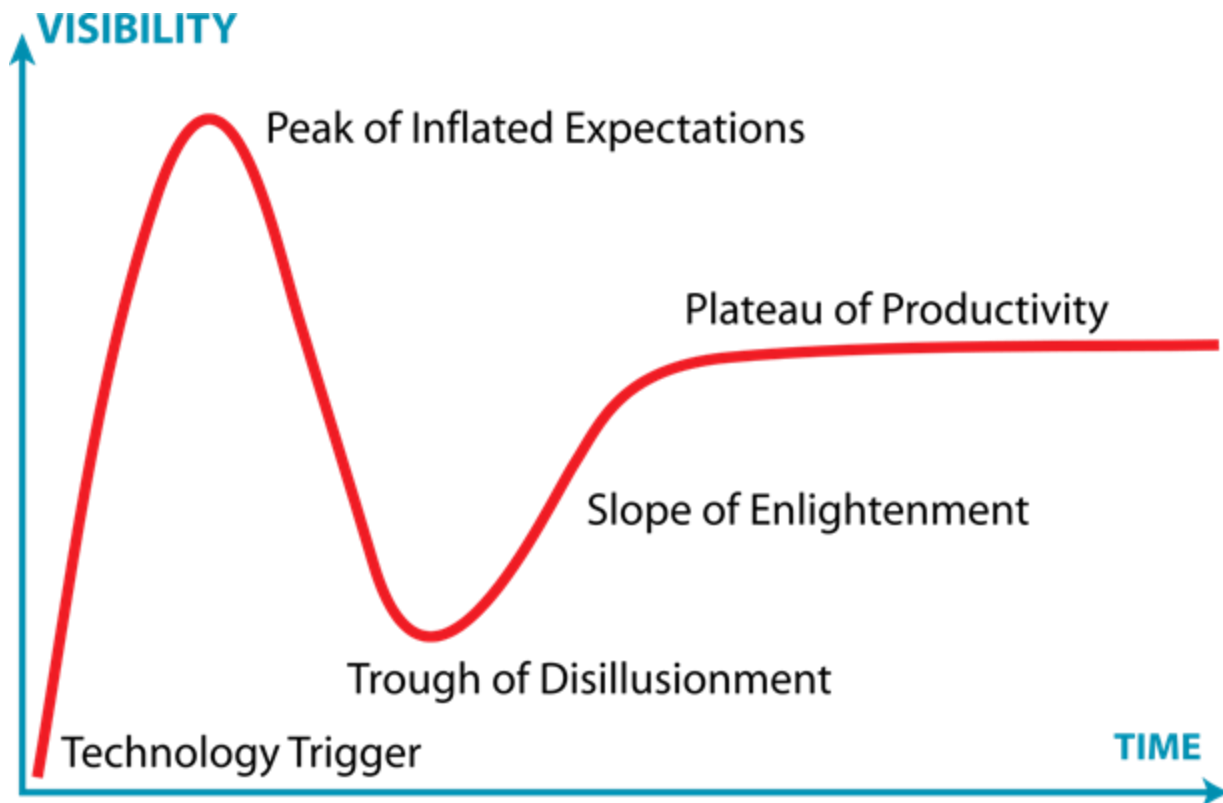
Predictions that we would see highways full of driverless cars by 2020 have shifted to 2030 and beyond. And it may not be cars that get automated first, but highway trucks, ships, and mining vehicles that never see a city street. It will also take hundreds of billions to fully realize the dream. This means the race to self-driving has narrowed to Waymo (Alphabet), Intel (**NASDAQ INTC** with its Mobileye division), GM (**NYSE GM** with its Cruise division), Tesla, and possibly Ford (**NYSE F**) and Apple (**NASDAQ AAPL**). As with the Kindle, this S-curve may look more like a W-curve that takes far longer to realize.

Meanwhile, we own both Apple and Alphabet in our portfolios. These are companies that can afford to pour money into an unprofitable venture for much longer than others, and are most likely to see success in the next decade. They also don't need to rely on success in AV cars if the reality is further away than anticipated.

Closer Than We Think?

Our research analyst, Lincoln Jiang, offers this counterpoint to my somewhat skeptical argument. He has been studying General Motors closely and sees their Cruise division as a very serious competitor in this new field.

“My counterpoint for this would be akin to “*We always overestimate the change that will occur in the short term and underestimate the change that will occur in the long term*”. This is a quote attributed to Bill Gates but versions of it have been around for decades. In any case, I think that precision on the actual timeline of autonomous driving is less important compared to the likelihood of it occurring. I would bet a considerable sum that eventually, the problem is solved. The path could certainly be convoluted. However, it isn't science fiction and we may be moving between the peak of inflated expectations and the trough of disillusionment currently.



The regulatory hurdles will certainly be tougher than the technological ones. Data from Waymo and Cruise shows that their latest disengagement rate (when a safety driver needs to intervene in an autonomous vehicle) was 0.033 per mile for Waymo and 0.035 for Cruise, or roughly 1 disengagement per 30,000 miles (48,500 km). I would consider that strong proof that we are very close.

From an investor's point of view, I can appreciate the skepticism. Even 2030 could be generous to see mass adoption, but I believe that once we start to approach the S-curve, the exponential growth will be incredible. That said, I have learned to temper expectations. I first rode in an Uber in Toronto back in 2014, and I thought that within two years it would be ubiquitous across the country. Here we are more than 7 years later and the "coming soon" sign is still on display. The idea of investing in any pure-play autonomous technology feels like a crowded space with sky-high valuations.

I like Alphabet and GM as the best and safest ways to invest in this theme."

Approaching the Seasonal Best Months

September lived up to its reputation for being the worst month of the year to be invested. The Dow Jones Industrial Average fell by about -4.4% while Canada's S&P/TSX fell by a smaller -2.3%. China's index of large companies was one of the worst at -6.1%.

Why is September always the worst month? It's hard to say. Is it back-to-school blues? Are more bills due, or do reporters come back from vacation in bad moods?

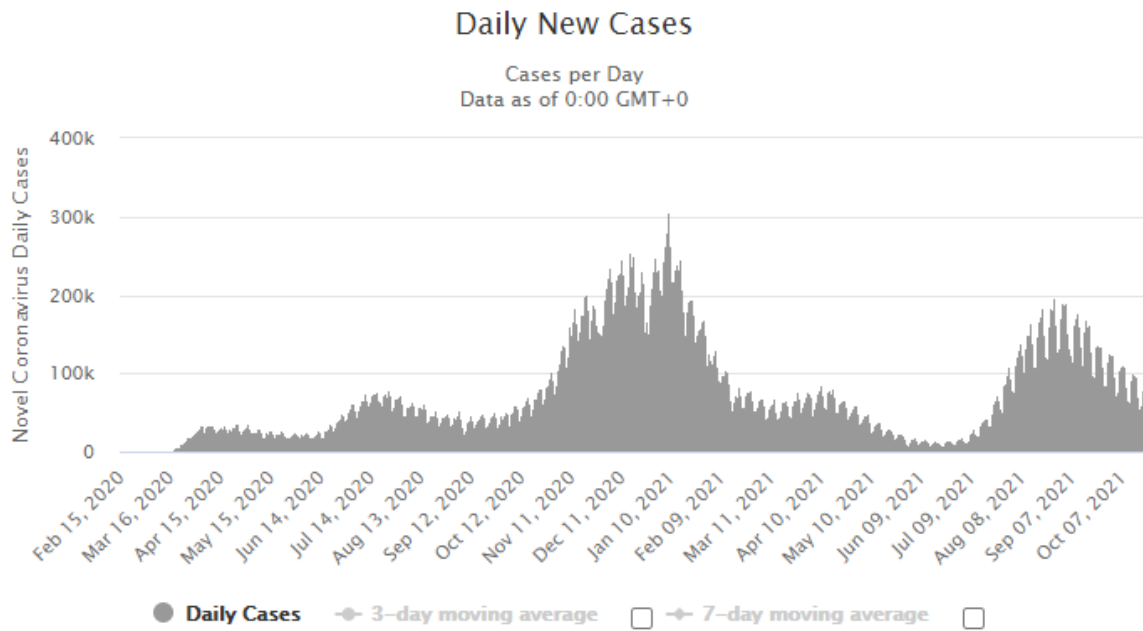
This year, there was no shortage of bad news:

- The Delta variant of Covid-19 was raging across the U.S., Canada, and elsewhere.
- Energy supplies – oil, coal, natural gas – were low in China and India, leading to spiking prices.
- China's largest property developer was in financial distress.

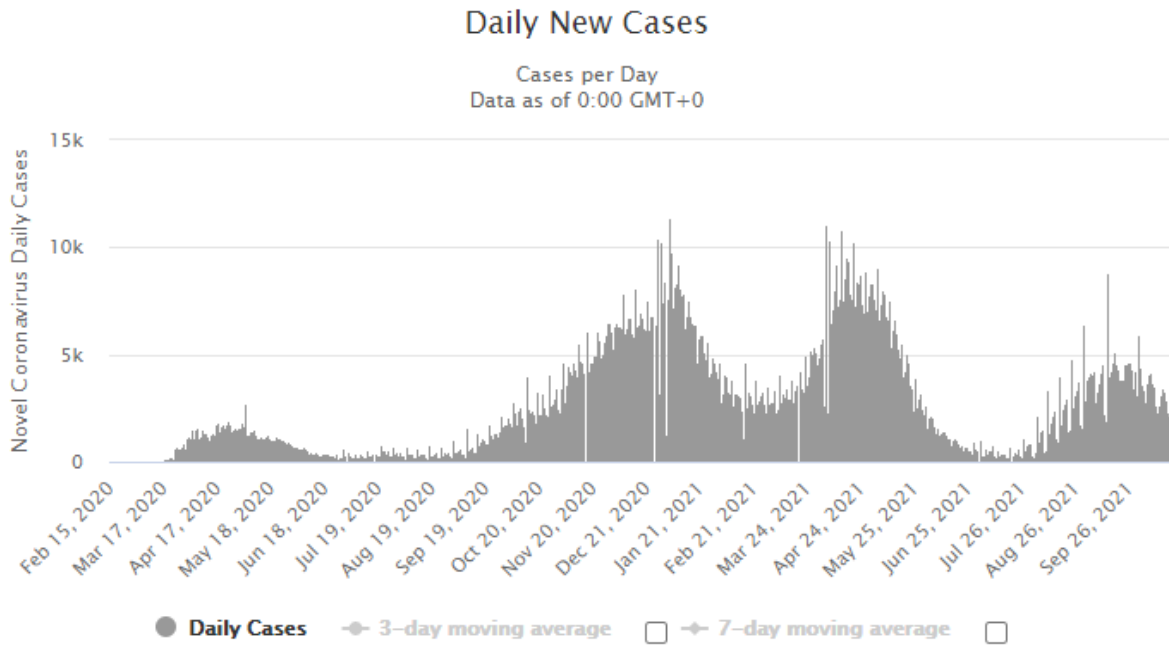
October has been a different story, with Canada's markets up +5% and U.S. markets up a similar amount. Both have – so far – erased September's losses.

- Delta has peaked in both countries:

Daily New Cases in the United States



Daily New Cases in Canada



Source: Worldometers

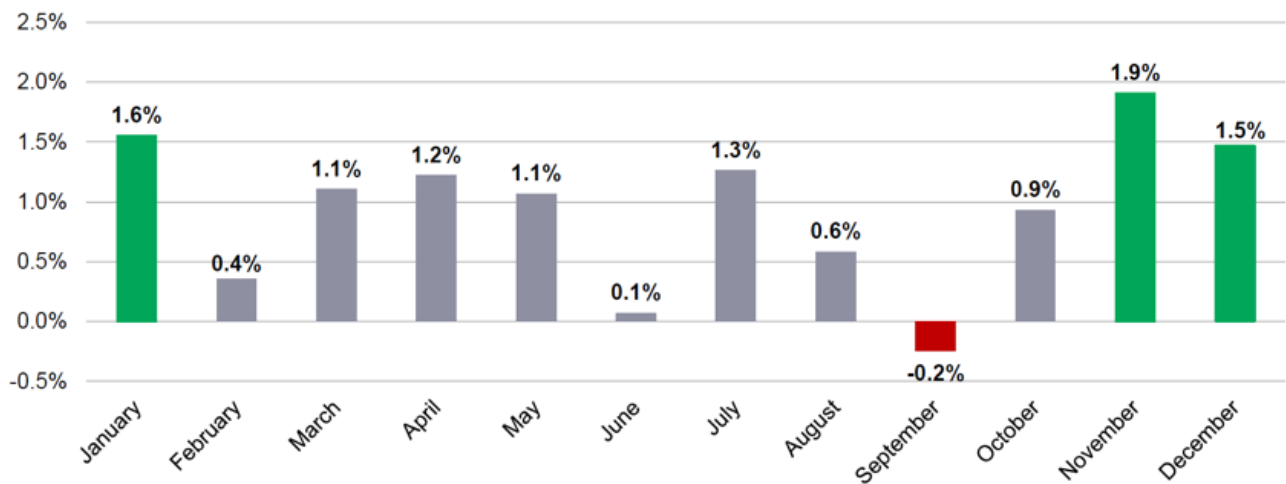
- The energy price spike has worsened, but the market seems to have accepted (or ignored) it. Oil inventories in the U.S. are at their lowest seasonal level since 2014, so we remain on watch for higher oil prices.
- While three Chinese property developers have missed bond interest payments, markets see these problems as internal to China that won't spread.

We are approaching the “seasonal best six months” of the market, which is the period from November 1st to April 30th. Note how November has traditionally been the best month to be an investor in the calendar year.

October isn't over yet, and may still deliver some Hallowe'en chills, but markets are normally smoother after November starts.

After a weak period, we are entering a period of historical strength for the S&P 500 Index

S&P 500 Price Index, median monthly returns (1950 – 2020)



Source: Capital Market Strategy, Bloomberg. As of December 31, 2020

Thank you for your referrals this month! They are always handled with great care and discretion.

<http://www.dividendvaluepartners.com>

We thank you for your business and your referrals and we hope you find our site user friendly and informative. We welcome your comments.

How to contact us:

paul.siluch@raymondjames.ca

lisa.hill@raymondjames.ca

peter.mazzoni@raymondjames.ca

sharonmitchell@raymondjames.ca

(250) 405-2417

Disclaimers

The information contained in this newsletter was obtained from sources believed to be reliable, however, we cannot represent that it is accurate or complete. It is provided as a general source of information and should not be considered personal investment advice or solicitation to buy or sell securities. The views expressed are those of the authors, Paul Siluch and Lisa Hill, and not necessarily those of Raymond James Ltd. Commissions, trailing commissions, management fees and expenses all may be associated with mutual funds. Please read the prospectus before investing. The indicated rates of return are the historical annual compounded total returns including changes in unit value and reinvestment of all distributions and do not take into account sales, redemption, distribution or optional charges or income taxes payable by any security holder that would have reduced returns. Mutual funds are not guaranteed, their values change frequently and past performance may not be repeated. This newsletter is intended for distribution only in those jurisdictions where Raymond James Ltd. is registered as a dealer in securities. Any distribution or dissemination of this newsletter in any other jurisdiction is strictly prohibited. This newsletter is not intended for nor should it be distributed to any person in the USA. Raymond James Ltd. is a member of the Canadian Investor Protection Fund.

Raymond James does not accept orders and/or instructions regarding your account by e-mail, voice mail, fax or any alternate method. Transactional details do not supersede normal trade confirmations or statements. E-mail sent through the Internet is not secure or confidential. We reserve the right to monitor all e-mail.

Any information provided in this e-mail has been prepared from sources believed to be reliable, but is not guaranteed by Raymond James and is not a complete summary or statement of all available data necessary for making an investment decision. Any information provided is for informational purposes only and does not constitute a recommendation. Raymond James and its employees may own options, rights or warrants to purchase any of the securities mentioned in e-mail. This e-mail is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited.

This email newsletter may provide links to other Internet sites for the convenience of users. Raymond James Ltd. is not responsible for the availability or content of these external sites, nor does Raymond James Ltd endorse, warrant

or guarantee the products, services or information described or offered at these other Internet sites. Users cannot assume that the external sites will abide by the same Privacy Policy which Raymond James Ltd adheres to.

Commissions, trailing commissions, management fees and expenses all may be associated with mutual fund investments. Please read the prospectus before investing. There can be no assurances that the fund will be able to maintain its net asset value per security at a constant amount or that the full amount of your investment in the fund will be returned to you. Mutual funds and other securities are not insured nor guaranteed, their values change frequently and past performance may not be repeated.

Amazon.com, Inc.- Raymond James & Associates, Inc. makes a market in the shares of Amazon.com, Inc.
Apple Inc. - Raymond James & Associates, Inc. makes a market in the shares of Apple Inc. Raymond James & Associates received non-investment banking securities-related compensation from Apple Inc. within the past 12 months.

Alphabet Inc. - Raymond James & Associates, Inc. makes a market in the shares of Alphabet Inc.

Intel Corporation - Raymond James & Associates, Inc. makes a market in the shares of Intel Corporation.

Prices shown as of October 21st, 2021

You are receiving this message because our records indicate that you have requested this information. If you no longer wish to receive research from Raymond James, please reply to this message with unsubscribe in the subject line and include your name and/or company name in the message. Additional Risk and Disclosure information, as well as more information on the Raymond James rating system and suitability categories, is available at www.rjcapitalmarkets.com/Disclosures/Index.

To unsubscribe and no longer receive any email communications from this sender, including information about your account, please either click [here](#) or send a reply email to the sender with [UNSUBSCRIBE] in the subject line.

Pour vous désabonner de cet expéditeur soit cliquer [ici](#) ou envoyer un e-mail de réponse à l'expéditeur avec [UNSUBSCRIBE] dans la ligne d'objet.

This message and any attachments are intended only for the use of the addressee or their authorized representative. It may contain information that is privileged and/or confidential. Any unauthorized dissemination, distribution or copying of this communication or any part thereof, in any form whatsoever is strictly prohibited. If you have received this communication in error, please delete permanently the original e-mail and attachments, destroy all hard copies that may exist, and notify the sender immediately. Raymond James may monitor and review the content of all email communications. Trade instructions by email or voicemail will not be accepted or acted upon. Please contact us directly by telephone to place trades. Unless otherwise stated, opinions expressed in this email are those of the author and are not endorsed by Raymond James. Raymond James accepts no liability for any errors, omissions, loss or damage arising from the content, transmission or receipt of this email. The designation Raymond James, mentioned in this notice and disclaimer, refers to and include the following divisions and entities: Raymond James Ltd., a member of the Investment Industry Regulatory Organization of Canada (IIROC) and of the Canadian Investor Protection Fund (CIPF); its divisions 3Macs, MacDougall, MacDougall & MacTier and Raymond James Correspondent Services; and its subsidiaries: Raymond James Financial Planning Ltd. registered as a life insurance agency in all provinces except the province of Québec where it is registered as Financial Services Firm with the Autorité des marchés financiers (AMF); Raymond James Investment Counsel Ltd., a firm primarily regulated and governed by the British Columbia Securities Commission but registered and regulated by securities commissions in other Canadian provinces, and also regulated by the U.S. Securities and Exchange Commission; Raymond James Trust (Canada), a trust company regulated by the Office of the Superintendent of Financial Institutions (OSFI); and, Raymond James Trust (Québec) Ltd., a trust company regulated by the AMF.

Ce message ainsi que le ou les fichiers qui y sont joints sont à l'usage exclusif du destinataire ci-dessus ou de son mandataire autorisé. Cette communication pourrait contenir de l'information privilégiée et confidentielle. Toute diffusion, distribution ou reproduction non autorisée de cette communication électronique, en tout ou en partie, sous quelque forme que ce soit, est strictement interdite. Si vous avez reçu cette communication et toute pièce jointe par erreur, veuillez les supprimer de façon permanente de vos systèmes, en détruire toute copie et en informer immédiatement l'expéditeur. Raymond James peut surveiller et examiner le contenu de toutes les communications électroniques. Les instructions portant sur des opérations, communiquées par courriel ou dans une boîte vocale, ne seront pas acceptées, ni exécutées. Veuillez communiquer avec nous directement par téléphone pour donner des instructions d'opérations boursières. Sauf indication contraire, les avis exprimés dans le présent courriel sont ceux de l'auteur et ne sont pas approuvés par Raymond James. Raymond James décline toute responsabilité en cas d'erreurs, d'omissions, de pertes ou de dommages découlant du contenu, de la transmission ou de la réception du présent courriel. Le nom Raymond James utilisé dans le présent avis et clause de non responsabilité réfère et comprend les divisions et entités : Raymond James Ltd., une société membre de l'Organisme canadien de réglementation du commerce des valeurs mobilières (OCRCVM) et du Fonds canadien de protection des épargnants (FCPE), ses divisions 3Macs, MacDougall, MacDougall & MacTier et Services de correspondants Raymond James; et ses filiales : Planification financière Raymond James Ltée, société inscrite en tant que société d'assurance-vie en lien avec la vente de produits d'assurance dans toutes les provinces sauf dans la province de Québec où elle est inscrite en tant que Cabinet de services financiers auprès de l'Autorité des marchés financiers (AMF); Conseils en placement Raymond James Ltd., firme principalement réglementée et régie par la Commission des valeurs mobilières de la Colombie-Britannique mais également soumise à la surveillance et inscrite auprès des Commissions de valeurs mobilières d'autres provinces canadiennes) et est réglementée par la Commission des valeurs mobilières des États-Unis (SEC); Fiducie Raymond James (Canada), une société de fiducie inscrite auprès du Bureau du surintendant des institutions financières (BSIF); et, Fiducie Raymond James (Québec) Ltée, une société de fiducie inscrite auprès de l'AMF.
