If a COVID-19 Therapy Doesn’t Benefit a Stock, Does it Even Exist?

Here’s our COVID-19 (2019-nCoV) therapeutics take. Based on emerging data, chloroquine looks to be as promising a therapeutic candidate as any to treat COVID-19, and may turn out to be more effective, scalable, and affordable than either GILD’s remdesivir or ABBV’s Kaletra/Aluvia (lopinavir/ritonavir). But chloroquine doesn’t directly benefit any stock, like GILD or REGN or ABBV, which is probably why it seems to be getting less attention. That said we are not the first to suggest chloroquine could be the solution to COVID-19 (the linked authors go so far as to say “If clinical data confirm the biological results, the novel coronavirus-associated disease will have become one of the simplest and cheapest to treat and prevent among infectious respiratory diseases.”) We went extra on sourcing our below commentary given the quality of data sourcing on COVID-19 right now can get sketchy.

For the record, we want all of these to work and for COVID-19 to go away.

- **Chloroquine.** Effective in vitro (i.e., at least as effective as remdesivir in the same experiment/paper – see Exhibit 1), encouraging clinical reports after N=100 treated (no data, just reports) emerging from China, biodistributes to lungs after oral dosing, proposed mechanism (acidification of endosomes during viral fusion) seems plausible, evidence of increased demand (see here as well as Exhibit 2 for IQVIA script data showing w/w doubling as of February 28) suggesting it may be getting used in real world practice already.

- **Remdesivir.** Effective in vitro, good mechanistic rationale, but current clinical anecdote (NEJM paper) not supportive of activity in our view (See note) namely because viral load was reduced in this patient by >4-log prior to remdesivir dosing (see Exhibit 2). Plus IV dosing is suboptimal, biodistribution unclear (thus in vitro -> in vivo translation potentially the problem for respiratory virus), and it’s possible GILD could end up giving most of the drug away for free to ingratiate themselves politically (like they are Truvada PrEP to ~200k patients/year for next 11 years).

- **Kaletra/Aluvia (lopinavir/ritonavir).** Clinical reports (see here) sound positive (although even ABBV doesn’t know what’s going on – see comments here) but show no evidence of impact on viral load (thus hard to know if effect is real); mechanism is HIV protease inhibitor (a mechanistic non-starter it seems for 2019-nCoV).

There are obviously many more treatments being tested in clinical trials, but we are focusing on the two highest profile/most discussed (GILD/ABBV) and the one that we argue should be discussed (chloroquine).

See rest of our note for data, figures, etc.
We would typically wait until more data are in hand before making a definitive call on any drug. But the COVID-19 situation is so rapidly progressing and uncertain that we feel obligated to at least take a shot at describing the mosaic that we see unfolding. Specifically, semi-interpretable data for at least three candidate antiviral small molecule approaches have emerged, with more to come. The drugs are: Remdesivir (GILD), Kaletra/Aluvia (ABBV), and chloroquine (generic). You may not have read as much about chloroquine yet since it doesn’t directly benefit any stocks. We are not saying these are the only three COVID-19 drugs or drug development programs out there (since they are not), but they seem to be the ones with the most data so far since they were very quickly repurposed.

If we had to pick one of the three at this point that actually seems most likely to have the biggest impact on treating COVID-19 in the coming months/years, it would be chloroquine. This means other repurposing/development programs could end up having minimal net impact on their respective businesses/stocks and recent run-ups in certain stocks (GILD) based on coronavirus candidate therapies are unsustainable.

Here is our read on some of the most important datasets we’ve seen so far:

**Chloroquine**

Chloroquine is an anti-malarial drug (i.e., anti-parasitic) that has been used for >70 years with a good safety track record. It costs pennies/dose to produce and is an oral drug. Repurposing it for COVID-19, if it turns out to be effective, seems like it could be straightforward and scalable. The mechanistic explanation for why it is effective at inhibiting viruses including potentially respiratory viruses is as follows:

- “Chloroquine is known to block virus infection by increasing endosomal pH required for virus/cell fusion, as well as interfering with the glycosylation of cellular receptors of SARS-CoV… Besides its antiviral activity, chloroquine has an immune-modulating activity, which may synergistically enhance its antiviral effect in vivo. Chloroquine is widely distributed in the whole body, including lung, after oral administration.”  

**Chloroquine: Preclinical data look promising**

In preclinical cell culture experiments to assess activity against 2019-nCoV, chloroquine looks at least as active as remdesivir (see Exhibit 1)

**Exhibit 1.** Chloroquine in vitro data look as good if not better than remdesivir vs. COVID-19 in the exact same experiments

Any pharmacologist will tell you EC50s of 1.13μM and 0.77μM are effectively identical, especially given uncertainties (i.e., stdev) was not provided.

Chloroquine more effective inhibitor at achievable dose across the viral cycle

Source: Raymond James research Adapted from [https://www.nature.com/articles/s41422-020-0282-0/figures/1](https://www.nature.com/articles/s41422-020-0282-0/figures/1)
Chloroquine: Clinical report is very encouraging (Dated February 19, 2020)

“This far, results from more than 100 patients have demonstrated that chloroquine phosphate is superior to the control treatment in inhibiting the exacerbation of pneumonia, improving lung imaging findings, promoting a virus negative conversion, and shortening the disease course according to the news briefing” - https://www.jstage.jst.go.jp/article/bst/advpub/0/advpub_2020.01047/_pdf/-char/en

If there were a similar report of results in 100 remdesivir-treated patients demonstrating superiority vs. control, we guess it would make the rounds on the Street rapidly and impact GILD shares. Chloroquine has no obvious associated stock so this is seemingly under-the-radar.

Chloroquine: Manufacturing demand reportedly going up

Contract development and manufacturing organization Recipharm is reporting increased demand for chloroquine (see here).

Chloroquine: IQVIA data perhaps suggestive of real-world demand

Exhibit 2. Chloroquine scripts

IQVIA U.S. prescription data are unfortunately 1 week trailing so take this single data point with a grain of salt. We will learn a lot more in the coming weeks regarding how frequently chloroquine is being used in the U.S. as a treatment option for COVID-19 as infections rise in the U.S. It is also noteworthy that the incremental jump in w/w scripts by February 28 (+426 scripts) is more than the number of reported infected individuals in the U.S. at that time. That either says something about the quality of this data point, or about the underreporting of infected individuals in the U.S.

Putting it all together, chloroquine shouldn’t be left out of the discussion of candidate COVID-19 therapies and may actually be leading the pack.
Remdesivir

Remdesivir is GILD’s repurposed Ebola drug, currently being tested in China and the U.S. in COVID-19 patients and being offered for Emergency use. Remdesivir is also being offered under compassionate use in Japan.

Remdesivir: Preclinical data supportive

The rationale for testing remdesivir in COVID-19 stems from earlier literature showing its activity in similar viruses SARS and MERS. More recently, activity in 2019-nCoV infected cell culture models showed activity similar to chloroquine (see Exhibit 1 above).

Remdesivir: Clinical anecdote published in NEJM that has been widely discussed isn’t as supportive as it seems

Please see our prior analysis (link HERE) for a description of why we don’t believe the NEJM patient treated with remdesivir provides evidence of activity. Specifically, the virus was already going away for days prior to remdesivir treatment. See exhibit 3 for our analysis.

Exhibit 3. NEJM anecdote of patient treated with GILD’s remdesivir shows steep viral load decline prior to treatment


Remdesivir: Public commentary is cautious and doesn’t overstate the limited evidence we currently have (i.e., there aren’t “bread crumbs” to suggest remdesivir is already generating positive data)

“We urgently need a safe and effective treatment for COVID-19. Although remdesivir has been administered to some patients with COVID-19, we do not have solid data to indicate it can improve clinical outcomes,” - NIAID Director and U.S. Coronavirus Task Force member Anthony S. Fauci, M., February 25
Remdesivir: in vitro to in vivo translation uncertain given lack of clinical success in the past (e.g., Ebola)

Bioavailability of remdesivir to the lung in COVID-19 patients is a fair question. Based on our quick literature search, it looks like remdesivir should just barely reach active concentrations in the lung, but it’s tight.

- In vitro studies in Calu-3 2B4 human epithelial lung cells show that remdesivir inhibits MERS-CoV replication with an average IC50 value of 0.025uM and the average intracellular concentration of pharmacologically active triphosphate of remdesivir (incubation @ 1 uM concentration of remdesivir) was 2.79uM during a 48hr treatment, suggesting substantial inhibition of CoV replication will be achieved at low micromolar concentrations of TP in lung. - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5567817/#SD1

- Remdesivir TP has a half-life of ~22hrs in normal broncholoar epithelial cells and >24 hr in marmoset lung tissue. Total remdesivir nucleotide and TP levels exceed 1uM concentration in NHP studies of marmoset monkeys after 2hrs, and are reduced to ~0.75uM after 24 hrs. - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5567817/#SD1 (supplementary section)

- In a rhesus macaque/MERS-CoV model, prophylactic and therapeutic administration of remdesivir significantly lowered levels of MERS-CoV replication in the lungs, with average viral load reductions of 2.5 to 4 logs amongst several lobes. Additionally, viral loads in the right and left bronchus, trachea, tonsils, and mediastinal lymph nodes of NHPs treated prophylactically and therapeutically were statistically lower vs. vehicle-treated controls. https://www.pnas.org/content/pnas/early/2020/02/12/1922083117.full.pdf

Remdesivir: Probably won’t make money anyway

GILD’s best strategic move if remdesivir proves active may be to simply give the drug away for free, at least initially. This is a company that recently agreed to give away HIV prevention drug to 200k people/year for 11 years to basically settle a score with the U.S. government. Why not settle the biggest score of all (big bad pharma reputation with politicians) by playing the hero and donating COVID-19 therapy if it turns out to be active, especially if the evidence ends up being somewhat equivocal, and especially if other active drugs (chloroquine) that are virtually costless are available?
Kaletra/Aluvia (lopinavir/ritonavir)

This drug combo acts via HIV protease inhibition, which on its face doesn’t make sense to us.

**Kaletra/Aluvia (lopinavir/ritonavir) – clinical data aren’t convincing**

That said, it has been tested in COVID-19 patients and data have been published already. Specifically, in a cohort of 18 patients from Singapore, 5 were treated with the regimen. The data and our commentary are shown in Exhibit 4.

**Exhibit 4. Anti 2019-nCoV activity of Kaletra/Aluvia is questionable**

Source: Raymond James research, [https://jamanetwork.com/journals/jama/fullarticle/2762688](https://jamanetwork.com/journals/jama/fullarticle/2762688)
Kaletra/Aluvia (lopinavir/ritonavir) – IQVIA script data don’t reveal anything remarkable

Exhibit 5. Kaletra scripts don’t have a spike in recent weeks like chloroquine did.

Source: Raymond James research, IQVIA

Kaletra/Aluvia (lopinavir/ritonavir) – ABBV’s public statements are appropriately reserved

In a press release on 3/9/20, ABBV stated:

- Unconfirmed media reports from China claim Kaletra/Aluvia (lopinavir/ritonavir) is effective in COVID-19 treatment.
- AbbVie does not have access to Chinese clinical information and therefore cannot confirm its accuracy
- AbbVie donated Aluvia to the Chinese government for experimental use against COVID-19
- AbbVie is working with global health authorities to determine the efficacy and safety of lopinavir/ritonavir against COVID-19
- AbbVie does not anticipate disruption to the medicine supply for HIV patients as a result of the investigation of the effectiveness against COVID-19
IMPORTANT INVESTOR DISCLOSURES

Raymond James & Associates (RJA) is a FINRA member firm and is responsible for the preparation and distribution of research created in the United States. Raymond James & Associates is located at The Raymond James Financial Center, 880 Carillon Parkway, St. Petersburg, FL 33716, (727) 567-1000. Non-U.S. affiliates, which are not FINRA member firms, include the following entities that are responsible for the creation or distribution of research in their respective areas: in Canada, Raymond James Ltd. (RJL), Suite 2100, 925 West Georgia Street, Vancouver, BC V6C 3L2, (604) 659-8200; in Europe, Raymond James Euro Equities SAS (also trading as Raymond James International), 45 Avenue George V, 75008, Paris, France, +33 1 45 64 0500 and Raymond James Financial International Ltd., Ropemaker Place, 25 Ropemaker Street, London, England, EC2Y 9LY, +44 203 798 5600.

This document is not directed to, or intended for distribution to or use by, any person or entity that is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. The securities discussed in this document may not be eligible for sale in some jurisdictions. This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Investors should consider this report as only a single factor in making their investment decision.

For clients in the United States: Any foreign securities discussed in this report are generally not eligible for sale in the U.S. unless they are listed on a U.S. exchange. This report is being provided to you for informational purposes only and does not represent a solicitation for the purchase or sale of a security in any state where such a solicitation would be illegal. Investing in securities of issuers organized outside of the U.S., including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of, the U.S., including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of, the U.S. Securities and Exchange Commission. There may be limited information available on such securities mentioned in this report. Please ask your Financial Advisor for additional details and to determine if a particular security is eligible for purchase in your state.

The information provided is as of the date above and subject to change, and it should not be deemed a recommendation to buy or sell any security. Certain information has been obtained from third-party sources we consider reliable, but we do not guarantee that such information is accurate or complete. Persons within the Raymond James family of companies may have information that is not available to the contributors of the information contained in this publication. Raymond James, including affiliates and employees, may execute transactions in the securities listed in this publication that may not be consistent with the ratings appearing in this publication.

Raymond James ("RJ") research reports are disseminated and available to RJ’s retail and institutional clients simultaneously via electronic publication to RJ’s internal proprietary websites (RJ Client Access & RaymondJames.com). Not all research reports are directly distributed to clients or third-party aggregators. Certain research reports may only be disseminated on RJ’s internal Proprietary websites; however, such research reports will not contain estimates or changes to earnings forecasts, target price, valuation or investment or suitability rating. Individual Research Analysts may also opt to circulate published research to one or more clients electronically. This electronic communication is discretionary and is done only after the research has been publically disseminated via RJ’s internal factors including, but not limited to, the client’s individual preference as to the frequency and manner of receiving communications from Research Analysts. For research reports, models, or other data available on a particular security, please contact your Sales Representative or visit RJ Client Access or RaymondJames.com.

Links to third-party websites are being provided for information purposes only. Raymond James is not affiliated with and does not endorse, authorize, or sponsor any of the listed websites or their respective sponsors. Raymond James is not responsible for the content of any third-party website or the collection of use of information regarding any website’s users and/or members.

Additional information is available on request.

Analyst Information

Registration of Non-U.S. Analysts: The analysts listed on the front of this report who are not employees of Raymond James & Associates, Inc., are not registered/qualified as research analysts under FINRA rules, are not associated persons of Raymond James & Associates, Inc., and are not subject to FINRA Rule 2241 restrictions on communications with covered companies, public companies, and trading securities held by a research analyst account.

Analysts Holdings and Compensation: Equity analysts and their staffs at Raymond James are compensated based on a salary and bonus system. Several factors enter into the bonus determination, including quality and performance of research product, the analyst’s success in rating stocks versus an industry index, and support effectiveness to trading and the retail and institutional sales forces. Other factors may include but are not limited to: overall ratings from internal (other than investment banking) or external parties and the general productivity and revenue generated in covered stocks.
The analyst Steven Seedhouse, primarily responsible for the preparation of this research report, attests to the following: (1) that the views and opinions rendered in this research report reflect his or her personal views about the subject companies or issuers and (2) that no part of the research analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views in this research report. In addition, said analyst(s) has not received compensation from any subject company in the last 12 months.

**Ratings and Definitions**

Raymond James & Associates (U.S.) definitions: **Strong Buy (SB1)** Expected to appreciate, produce a total return of at least 15%, and outperform the S&P 500 over the next six to 12 months. For higher yielding and more conservative equities, such as REITs and certain MLPs, a total return of 15% is expected to be realized over the next 12 months. **Outperform (MO2)** Expected to appreciate and outperform the S&P 500 over the next 12-18 months. For higher yielding and more conservative equities, such as REITs and certain MLPs, an Outperform rating is used for securities where we are comfortable with the relative safety of the dividend and expect a total return modestly exceeding the dividend yield over the next 12-18 months. **Market Perform (MP3)** Expected to perform generally in line with the S&P 500 over the next 12 months. **Underperform (MU4)** Expected to underperform the S&P 500 or its sector over the next six to 12 months and should be sold. Suspended (S) The rating and price target have been suspended temporarily. This action may be due to market events that made coverage impracticable, or to comply with applicable regulations or firm policies in certain circumstances, including when Raymond James may be providing investment banking services to the company. The previous rating and price target are no longer in effect for this security and should not be relied upon.

Raymond James Ltd. (Canada) definitions: **Strong Buy (SB1)** The stock is expected to appreciate and produce a total return of at least 15% and outperform the S&P/TSX Composite Index over the next six months. **Outperform (MO2)** The stock is expected to appreciate and outperform the S&P/TSX Composite Index over the next twelve months. **Market Perform (MP3)** The stock is expected to perform generally in line with the S&P/TSX Composite Index over the next twelve months and is potentially a source of funds for more highly rated securities. **Underperform (MU4)** The stock is expected to underperform the S&P/TSX Composite Index or its sector over the next six to twelve months and should be sold. Suspended (S) The rating and price target have been suspended temporarily. This action may be due to market events that made coverage impracticable, or to comply with applicable regulations or firm policies in certain circumstances, including when Raymond James may be providing investment banking services to the company. The previous rating and price target are no longer in effect for this security and should not be relied upon.

In transacting in any security, investors should be aware that other securities in the Raymond James research coverage universe might carry a higher or lower rating. Investors should feel free to contact their Financial Advisor to discuss the merits of other available investments.

<table>
<thead>
<tr>
<th>Coverage Universe Rating Distribution*</th>
<th>Investment Banking Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RJA</td>
</tr>
<tr>
<td>Strong Buy and Outperform (Buy)</td>
<td>55%</td>
</tr>
<tr>
<td>Market Perform (Hold)</td>
<td>41%</td>
</tr>
<tr>
<td>Underperform (Sell)</td>
<td>4%</td>
</tr>
</tbody>
</table>

*Columns may not add to 100% due to rounding.

**Suitability Ratings (SR)**

**Medium Risk/Income (M/INC)** Lower to average risk equities of companies with sound financials, consistent earnings, and dividend yields above that of the S&P 500. Many securities in this category are structured with a focus on providing a consistent dividend or return of capital.

**Medium Risk/Growth (M/GRW)** Lower to average risk equities of companies with sound financials, consistent earnings growth, the potential for long-term price appreciation, a potential dividend yield, and/or share repurchase program.

**High Risk/Income (H/INC)** Medium to higher risk equities of companies that are structured with a focus on providing a meaningful dividend but may face less predictable earnings (or losses), more leveraged balance sheets, rapidly changing market dynamics, financial and competitive issues, higher price volatility (beta), and potential risk of principal. Securities of companies in this category may have a less predictable income stream from dividends or distributions of capital.

**High Risk/Growth (H/GRW)** Medium to higher risk equities of companies in fast growing and competitive industries, with less predictable earnings (or losses), more leveraged balance sheets, rapidly changing market dynamics, financial or legal issues, higher price volatility (beta), and potential risk of principal.

**High Risk/Speculation (H/SPEC)** High risk equities of companies with a short or unprofitable operating history, limited or less predictable revenues, very high risk associated with success, significant financial or legal issues, or a substantial risk/loss of principal.
**Raymond James Relationship Disclosures**

Certain affiliates of the RJ Group expect to receive or intend to seek compensation for investment banking services from all companies under research coverage within the next three months.

**Stock Charts, Target Prices, and Valuation Methodologies**

**Valuation Methodology:** The Raymond James methodology for assigning ratings and target prices includes a number of qualitative and quantitative factors, including an assessment of industry size, structure, business trends, and overall attractiveness; management effectiveness; competition; visibility; financial condition; and expected total return, among other factors. These factors are subject to change depending on overall economic conditions or industry- or company-specific occurrences.

**Target Prices:** The information below indicates our target price and rating changes for the subject companies over the past three years.

**Risk Factors**

**General Risk Factors:** Following are some general risk factors that pertain to the business of the subject companies and the projected target prices and recommendations included on Raymond James research: (1) Industry fundamentals with respect to customer demand or product/service pricing could change and adversely impact expected revenues and earnings; (2) Issues relating to major competitors or market shares or new product expectations could change investor attitudes toward the sector or this stock; (3) Unforeseen developments with respect to the management, financial condition or accounting policies or practices could alter the prospective valuation; or (4) External factors that affect the U.S. economy, interest rates, the U.S. dollar or major segments of the economy could alter investor confidence and investment prospects. International investments involve additional risks such as currency fluctuations, differing financial accounting standards, and possible political and economic instability.

Additional Risk and Disclosure information, as well as more information on the Raymond James rating system and suitability categories, is available at raymondjames.bluematrix.com/sellside/Disclosures.action. Copies of research or Raymond James' summary policies relating to research analyst independence can be obtained by contacting any Raymond James & Associates or Raymond James Financial Services office (please see RaymondJames.com for office locations) or by calling 727-567-1000, toll free 800-237-5643.

**International Disclosures**

*For clients in the United Kingdom:* 

This document and any investment to which this document relates is intended for the sole use of the persons to whom it is addressed, being persons who are Eligible Counterparties or Professional Clients as described in the FCA rules or persons described in Articles 19(5) (Investment professionals) or 49(2) (high net worth companies, unincorporated associations, etc.) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended) or any other person to whom this promotion may lawfully be directed. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons and may not be relied upon by such persons and is, therefore, not intended for private individuals or those who would be classified as Retail Clients.

*For clients of Raymond James Financial International Limited (RJFI):* This document and any investment to which this document relates is intended for the sole use of the persons to whom it is addressed, being persons who are Eligible Counterparties or Professional Clients as described in the FCA rules or persons described in Articles 19(5) (Investment professionals) or 49(2) (high net worth companies, unincorporated associations, etc.) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended) or any other person to whom this promotion may lawfully be directed. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons and may not be relied upon by such persons and is, therefore, not intended for private individuals or those who would be classified as Retail Clients.

*For clients of Raymond James Investment Services, Ltd.:* This report is for the use of professional investment advisers and managers and is not intended for use by clients. For purposes of the Financial Conduct Authority requirements, this research report is classified as independent with respect to conflict of interest management. RJFI, and Raymond James Investment Services, Ltd. are authorised and regulated by the Financial Conduct Authority in the United Kingdom.

*For clients in France:* 

This document and any investment to which this document relates is intended for the sole use of the persons to whom it is addressed, being persons who are Eligible Counterparties or Professional Clients as described in “Code Monétaire et Financier” and Reglement General de l’Autorite des marches Financiers. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons and may not be relied upon by such persons and is, therefore, not intended for private individuals or those who would be classified as Retail Clients.

*For clients of Raymond James Euro Equities:* Raymond James Euro Equities is authorised and regulated by the Autorite de Controle Prudentiel et de Resolution and the Autorite des Marches Financiers.

*For institutional clients in the European Economic Area (EEA) outside of the United Kingdom:* 

This document (and any attachments or exhibits hereto) is intended only for EEA institutional clients or others to whom it may lawfully be
submitted.

For Canadian clients:

This report is not prepared subject to Canadian disclosure requirements, unless a Canadian analyst has contributed to the content of the report. In the case where there is Canadian analyst contribution, the report meets all applicable IIROC disclosure requirements.

Proprietary Rights Notice: By accepting a copy of this report, you acknowledge and agree as follows:

This report is provided to clients of Raymond James only for your personal, noncommercial use. Except as expressly authorized by Raymond James, you may not copy, reproduce, transmit, sell, display, distribute, publish, broadcast, circulate, modify, disseminate, or commercially exploit the information contained in this report, in printed, electronic, or any other form, in any manner, without the prior express written consent of Raymond James. You also agree not to use the information provided in this report for any unlawful purpose.

This report and its contents are the property of Raymond James and are protected by applicable copyright, trade secret, or other intellectual property laws (of the United States and other countries). United States law, 17 U.S.C. Sec. 501 et seq, provides for civil and criminal penalties for copyright infringement. No copyright claimed in incorporated U.S. government works.