COVID-19 Economic Update

From Eric Lascelles' #MacroMemo, May 4 - 8, 2020

Restarting too soon?

- Economic developments
- Restarting the economy
- Financial markets
- American politics

Webcast

Our latest monthly economic webcast for May is <u>now</u> <u>available</u>.

Summary

In this world of swirling COVID-19 developments, there are several new positives and negatives to highlight.

Positives:

- Surely the biggest positive is that the economic restart is beginning in earnest. A broadening set of regions are tentatively reviving economic activity. This is earlier than we had once imagined, and points to a better near-term economic outcome.
- The number of new infections globally appears to remain in slight decline, as do the number of daily deaths.
- Another week has passed, bringing us incrementally closer to the full resumption of normal economic activity.

Negatives:

• Most importantly, and providing something of a mirrorimage interpretation of the first positive item listed above, we worry that the economic restart is happening too early in some jurisdictions that have barely managed to achieve a steady number of daily cases, let alone trimmed them significantly.

• Furthermore, we continue to believe the recovery will have to be gradual and ultimately incomplete until there is a significant technological leap, a major new therapeutic drug, or a vaccine, or until herd immunity is achieved.

• Although improving, the COVID-19 infection numbers have still not declined as precipitously as one would have expected after six weeks of quarantine.

• New research argues that COVID-19 deaths may be substantially underestimated.

• U.S.-China tensions are increasing, though we had expected this.

Virus figures

The world is now recording roughly 80,000 new instances of COVID-19 per day, bringing the cumulative global count to nearly 3.5 million. The trend has been roughly sideways since the beginning of April, with perhaps the slightest of downward tendencies (see chart).

Spread of COVID-19 globally



Note: As of 05/04/2020. Spike on 02/13/2020 due to methodology change. Source: ECDC, Macrobond, RBC GAM

As we have noted in the past, there are two reasons to doubt these numbers:

- Many cases are almost surely missed, primarily because the disease often confers only mild symptoms, with many even asymptomatic. The latest in a growing pile of research finds that a remarkable 21% of a random sample of the New York City population already possesses the antibodies to COVID-19 – more than 10 times the official count of infected. The debate is decreasingly about whether there are asymptomatic cases, and increasingly whether those uncounted cases represent 50% versus 90%-plus of the true infection count.
- 2. The rate of testing is steadily improving. This means that a rising fraction of the previously hidden cases are now being captured. In turn, what appears to be a flat number of new infections might actually represent a declining trend concealed by more intensive testing.

As we noted last week, the number of COVID-19 deaths may prove a superior measure. It has the disadvantage of being lagged several weeks to the infection data, but otherwise appears to be more reliable and less subject to changing testing norms. Indeed, with only a few blips, the global death rate has declined more palpably than the infection rate – a clear positive (see chart).



COVID-19 deaths globally



Note: As of 05/04/2020. Spike on 02/13/2020 due to methodology change. Source: ECDC, Macrobond, RBC GAM

However, it must be conceded that the mortality figures are not perfect either. We have generally worked with the assumption that whereas the official case fatality rate is around 7%, the true underlying fatality rate should eventually prove to be in the range of 0.5% to 1.0% once the real breadth of infection becomes clear.

Recent work by a team of sophisticated quantitative analysts at JP Morgan makes the case that the rate could even be as low as 0.1% to 0.4%. However, we resist leaping to that conclusion as there is increasing evidence that the death count is also probably being underestimated. A study by the Financial Times of fatality rates in 14 countries reaches the conclusion that the true death toll of COVID-19 may be nearly 60% higher than officially reported. We suspect this is due to deaths from underappreciated side effects such as heart attack and stroke, and many doctors are also apparently unable to code deaths as COVID-19-related unless a formal test has occurred; instead, there has been a big increase in deaths attributed to such factors as pneumonia.

Despite the imprecision here as well, a miss of perhaps 60% in the death figures is much less problematic than what could ultimately prove to be a miss of 1000% in the infection numbers if the New York City example proves representative.

Europe continues to make the most impressive strides, with a sharply reduced number of cases and deaths in its major countries (see chart).

COVID-19 deaths in Italy



Note: As of 05/04/2020. Source: ECDC, Macrobond, RBC GAM

The U.S., U.K., and Canada continue to lag somewhat. While each has theoretically recorded its peak daily infection and death figures, the decline has been subtle at best. The U.S. infection figures are essentially going sideways, with the death numbers declining slightly. The U.K. is the same on both fronts.

Canada's latest infection numbers have been distorted by a recent data gremlin, but the country appears to be going mostly sideways as opposed to sustaining a significant decline in infections or deaths.

COVID-19 deaths in Canada



Note: As of 05/04/2020. Source: ECDC, Macrobond, RBC GAM

Emerging-market countries are struggling the most, with India, Mexico and Russia all suffering notably rising caseloads (see chart of Russia).

Spread of COVID-19 in Russia



Note: As of 05/04/2020. Source: ECDC, Macrobond, RBC GAM

Economic developments

COVID-19 may be starting to do less damage through the confidence channel, as demonstrated both by the relative resilience of financial markets and the fact that the term "coronavirus" and its synonyms are being used much less frequently in Google searches (see chart). While the subject is hardly far from mind, it is no longer the only thing that people are thinking about.

Interest globally in Google search topic: 'Coronavirus' 100 90



Note: As of 04/29/2020. Interest over time represents search interest relative to the highest point for the time period shown (100=peak interest). Source: Google Trends, RBC GAM

It will come as no surprise that economic data has radically undershot expectations over the past few months (see chart). Simply put, virtually no one expected a pandemic at the end of 2019, let alone a nearly global quarantine.

Global economic surprises crashed



Note: As of 04/30/2020. Source: Citigroup, Bloomberg, RBC GAM

However, we have noted that the bulk of the latest economic data continues to arrive below the consensus, even after forecasters have had an opportunity to adjust to this new reality. This aligns with our own belowconsensus macro view for 2020.

To be sure, not all economic data has been atrocious. The ISM (Institute for Supply Management) Manufacturing Index for April arrived at 41.5. This is well above the consensus forecast of 36. The outcome is still entirely consistent with a recession, but isn't quite as low as during the global financial crisis.

We were also pleasantly surprised by U.S. Q1 GDP, which only declined by 4.8% annualized. That said, while this did not quite match our own grim forecast, it was nevertheless below the market consensus and the all-important consumer component was down 7.6%. Demand for consumer services fell an even larger 10.2%. Furthermore, the real action will be in the second-quarter data – Q1 was just the opening act.

The New York Fed's weekly economic index is pointing to a 12% YoY decline in GDP – a colossal hit, to be sure, but not as big as our own peak-to-trough estimate of 22.5%. For the U.S. there is undeniably the possibility that the GDP hit isn't as big as we are assuming.

Alas, there are also plenty of measures that point to the opposite risk: that our forecast of a peak-to-trough decline in U.S. GDP of 22.5% and a 2020 GDP print of -10.6% are not sufficiently pessimistic. Several are discussed next.

The Philadelphia Fed has come out with a special COVID-19 survey that shows businesses reporting sales down by roughly 40% (see next chart).

New orders and sales of U.S. businesses hammered by COVID-19



Note: Estimated as weighted average of % change in new orders or sales for all respondents. Source: Weekly Business Outlook Survey on the COVID-19 Outbreak, Federal Reserve Bank of Philadelphia, RBC GAM

Another question finds that 40% of U.S. businesses have closed in response to the guarantine.

Hours-worked data is similarly grim. U.S. hourly workers are estimated to have suffered a truly mind-boggling 60% decline in their hours worked during the quarantine (see next chart). In fairness, these figures ignore the 41% of American workers who are not paid by the hour. This second group presumably suffered less. But even if one makes the unrealistically optimistic assumption that salaried workers experienced no decline in hours, the overall labour force would still have experienced a roughly 35% decline in working hours.



Percentage change of hours worked by hourly workers

Note: As of 05/01/2020. Impact compares hours worked in a day vs. median for the same day of the week in January, 2020. Source: Homebase, Macrobond, **RBC GAM**

Turning to more conventional employment figures, the weekly jobless claims numbers in the U.S. fell again, to 3.8 million new claimants in the latest week. While it is heartening that this weekly print has improved from nearly 7 million job losses in the early weeks of the quarantine to roughly half that today, the fact remains that a total of 30 million Americans have

now filed for unemployment insurance and the job losses have not been quite as front-loaded as we had imagined. Our initial hope had been that the job losses would be restricted to the first few weeks, but significant job losses have persisted into a second month (see chart).

U.S. jobless claims skyrocket as cities and states go into lockdown



Note: As of the week ending 04/25/2020. Source: DOL, Haver Analytics, RBC GAM.

The U.S. payroll report to be released in May should be utterly jaw-dropping. The consensus forecast is for the loss of more than 21 million jobs. There is the distinct risk it is worse given that jobless applications have been significantly higher than this. The consensus anticipates an unemployment rate of 16% – we flag the possibility it jumps by more.

Expenditure-based GDP

In gauging the economic damage from COVID-19, we have tended to tackle the subject from two perspectives:

- a top-down holistic approach that relies upon broad realtime measures of economic activity, and
- a sector-based approach that arrives at reasonable conclusions for each industry and then aggregates them into a coherent whole.

But there is another way to calibrate the size of the economic shock: via expenditure-based GDP. This is to say, we can go through the classic exercise of combining consumer spending, business investment, government expenditures and net exports to alight upon the implications for GDP.

Consumer spending

Let us start with consumer spending. This represents by far the biggest share of GDP at around 70% of the total. It is classically among the more stable components of GDP, though that may not mean much given the extreme consequences of COVID-19.

A variety of public estimates of credit card and debit card usage point to declines in consumer spending of between 30% and 60%, with most at the lighter end of the range. A major electronics retailer has observed a 30% decline on a year-over-year basis. One might also surmise that consumer spending should decline by roughly the same amount that household income goes down. To the extent that earlier estimates pointed to at least a 35% decline in this category, that says something about the outlook for consumer spending (though the job losses have tended to be lower paying, such that the overall impact on consumption may be smaller).

Let us not forget that many of these measures fail to pick up large chunks of non-discretionary spending, which should prove more resilient.

In turn, the true decline in consumer spending should be moderately less than these figures. Overall, we imagine consumer spending experiences a peak-to-trough decline of between 25% and 30%.

Business investment

Business investment represents a much smaller share of GDP, at around 17%, but has historically been more volatile than consumer spending. This is tentatively still true under COVID-19: whereas consumer spending fell by 7.6% annualized in the first quarter, business investment fell by an even larger 8.6%.

One open question is the extent to which businesses might prove more level-headed than households, capable of looking to the long term given the evident artificial nature of this shock.

Individual business indicators such as railroad carloads, trucking statistics, steel production and rig counts mostly point to a significant but less extreme decline than in the consumer metrics. One prominent industrial activity proxy is down just under 20%.

Arguably the most useful among the metrics is our own model of capital expenditures, which anticipates a roughly 25% decline on a year-over-year basis in response to the stated cap ex intentions of U.S. companies in several surveys (see next chart). Altogether, we assume a 20% to 25% peakto-trough decline in business investment.





Note: Capital expenditures (Apr 2020) are 3-month moving average of an aggregate of normalized indicators of future and current capex from surveys on manufacturing and non-manufacturing firms conducted by the NFIB, the Federal Reserve Bank of Chicago, Dallas, Kansas City, New York, Philadelphia, and Richmond. Real equipment investment as of Q1 2020. Source: Haver Analytics, RBC GAM

Government spending

The government expenditure share of GDP is around 18% in the U.S. This component doesn't jump as much as the trillions of dollars of stimulus gushing out of fiscal coffers would suggest. Instead, the bulk of those funds represent government transfers to businesses and households, rather than government spending. Perhaps the government did 5% more than usual during the period of the peak-to-trough decline in the other components.

International trade

Lastly, in the U.S., trade represents around -5% of GDP. The number is negative because the U.S. imports more than it exports. This sector theoretically helps or hurts the overall GDP print depending on whether COVID-19 does more damage domestically (helps U.S. GDP since foreign demand is relatively more resilient) or does more damage internationally (hurts U.S. GDP since foreign demand is weaker). We have generally assumed that the U.S. economy does slightly better than the other developed countries, but worse than many emerging-market economies. We therefore assume trade is a wash in this thought experiment.

GDP add-up

While this is a highly stylized approach to expenditurebased GDP (it ignores inventories, for example), it nevertheless does the job when attempting to gain a rough-hewn sense for the economic impact of COVID-19 from a new, third perspective. Combining the estimates and the appropriate weights for each component of GDP yields a peak-to-trough decline of 22.2%. This is strikingly similar to our official estimate of -22.5%.

Canadian developments

While the U.S. remains by far the richest country in terms of the availability of real-time economic statistics, others are also improving substantially. Canada, for instance, now has a special survey that probes the extent to which Canadian businesses report declining revenue and employment.

Backed by a series of reasonable assumptions that allow us to fill in some blanks, the surveys point to a 29% decline in Canadian business revenues (see chart), with the accommodation & food services and arts, entertainment & recreation categories unsurprisingly suffering the greater declines.

Decline in Canadian business revenue by sector



Note: Estimated as weighted average of % change in business revenue for all respondents. Source: Canadian Survey on Business Conditions, Statistics Canada, RBC GAM

The same survey points to a 27% decline in reported Canadian employment (see chart). This was again led by the accommodation & food services category, and trailed by retail trade in second place.

Impact of COVID-19 on Canadian employment by sector



Note: Estimated as weighted average of % of workforce laid off due to COVID-19 by all respondents. Survey conducted from April 3 to 24, 2020. Source: Canadian Survey on Business Conditions, Statistics Canada, RBC GAM

Canada's April employment report will also be published this coming Friday, with the market anticipating a gargantuan 4.25 million job loss on top of the 1 million jobs already shed in March. The combined elimination of 5.25 million jobs out of a labour force of roughly 20 million is almost precisely in line with the aforementioned survey. It is notable that Canada appears to be on track to lose more jobs as a share of its labour force than the U.S. – despite what is theoretically a less flexible labour force. This is a curious thing, and not entirely explainable by differences in sector weights.

An interesting pattern

It has caught our attention that public and not-for-profit institutions such as the IMF, the OECD, the Peterson Institute and various government entities have generally put forth more pessimistic growth forecasts for 2020 than have sellside economic forecasters.

Given that our own forecasts are significantly below the consensus, it gives us some solace that such wellresourced and traditionally conservative institutions have aligned in the vicinity of our own views. Or could it be that the private forecasters appreciate some nuance of GDP or some critical observation about the history of economic shocks that we do not? Time will tell.

A word on central banks

A few brief words on central banks. The latest actions mostly represent tweaks to the big initiatives already announced.

In the U.S., the latest Federal Reserve decision yielded only minor changes. The Fed promised not to raise rates until the economy is on track to achieve full employment and price stability. This piece of forward guidance was welcomed but did not ultimately change expectations much. The Fed also expanded its Main Street lending program to include larger businesses.

The latest European Central Bank decision was regarded with slight disappointment as the central bank continues to lag the Fed in its actions. The entity's pandemic emergency purchase plan was expanded moderately and it cut interest rates for certain liquidity operations.

In contrast, the Bank of Japan was viewed as having done quite a lot: it committed to unlimited buying of government bonds as needed to keep government borrowing costs low. It also bumped up its corporate bond buying program.

The Bank of Canada will shortly have a new Governor: onetime Senior Deputy Governor Tiff Macklem, who returns after a stint as dean of the University of Toronto's business school. The decision has been heralded all around, as Macklem possesses a deep institutional knowledge of the Bank, has experience at the Department of Finance, and was instrumental in handling the global financial crisis.

China's recovery

China remains the country to watch given that it was first to encounter the virus, first to deploy an unprecedented quarantine, and first to manage something of an economic recovery. As other countries now deploy their own exit strategies, a key question is the extent to which China has succeeded in reviving its economy.

Chinese output has rebounded substantially, but is not all the way back. Measures of industrial activity have staged the most enthusiastic bounce, with industrial value added rebounding from down 25.9% YoY in February to merely 1.1% down YoY in March. A private sector estimate of China's industrial activity argues that an initial 40% decline has been trimmed to just a 10% decline now.

However, consumer spending has been more reluctant to normalize. Several proxies remain around 20% below year-ago levels.

A variety of fascinating anecdotes abound:

• Consumers have not felt the need to engage in catchup spending on items that went unpurchased during the quarantine. • One survey has more than half of Chinese households planning to save more and spend less, with just 9% planning the reverse.

• Temperature checks are the norm to enter a shopping mall, go to the office or attend school. Some children have their temperature tested four times per day.

• Schools permit little socializing among students, with many eliminating outdoor play time. Students eat lunch in shifts and there is significant separation between students.

• The density of office space has been reduced.

• Migrant workers are tested for the virus and must wait in special dormitories before they are cleared to work.

• Restaurants are sparsely attended (perhaps 50% to 60% of normal) and few people are flying. While subway usage is rising, it remains down 59% relative to normal in Beijing.

• China continues to use a QR code and phone application system to classify people into groups relating to whether they are allowed to be out and about or must stay in their homes.

• Car sales are said to be rebounding nicely in certain parts, but this is in significant part because people do not want to take public transit.

• One Chinese research firm estimated that China's true unemployment rate might be more than 20%, though this was later retracted. Stories abound of migrant workers no longer able to secure positions.

• Beijing now allows buses to operate up to 75% of capacity and subways up to 65% of capacity.

In short, China has managed a substantial rebound but it is incomplete and life is not fully back to normal, particularly from a consumer spending perspective.

Restarting the economy

We wrote last week about how the economic recovery will have to be gradual and ultimately incomplete until significant advances are made in testing and tracing the disease, the development of therapeutic drugs, the creation of a vaccine or the achievement of herd immunity (see table). None of these appear to be imminent, though one can rightly claim that the amount of testing continues to improve.

Three reasons the economic recovery should be gradual:

Incremental re-opening	Government plans incremental restart Limited by disease transmission Cannot fully re-open until one of the following: Mass testing & tracing Effective therapeutic Vaccine Herd immunity
Limited demand	 Diminished income Diminished wealth Limited pent-up demand (virus hit services) Generalized risk aversion Specific aversion to social activities
Limited supply	 Supply chain issues Re-hiring workers could be challenging given generous government benefits

As countries and regions continue to announce and even implement their exit strategies – allowing schools, construction sites, manufacturers, small retailers and in some cases even barber shops and restaurants to open – we are nervous that some jurisdictions are acting prematurely.

Our measure of the global transmission rate (also frequently referred to as the reproduction rate) has fallen from 3 in mid-March to roughly one today (see chart). This is massively important progress, and is a testament to social distancing, additional testing and health care efforts. However, it is crucial that the transmission rate get below one, not merely that it reaches one. And, nearly by definition, the easing of quarantine rules will force the transmission rate to rise somewhat. This could easily create a second wave of illnesses.

Global transmission rate hovering around key threshold of one



Note: As of 05/04/2020. Transmission rate calculated as 7-day % change of underlying 5-day moving average of new daily cases. Source: ECDC, Macrobond, RBC GAM

In fairness, some countries are doing much better than others, and are accordingly in a superior position to lessen their social distancing measures (see chart). China, Spain, Germany, France, Japan, Switzerland and Italy all have transmission rates sufficiently far below one that a moderate amount of additional social interaction isn't likely to push them back above one.

Transmission rate above one suggests continued growth (based on new cases)



Note: As of 05/04/2020. Transmission rate calculated as 7-day % change of underlying 5-day moving average of new daily cases. Source: ECDC, Macrobond, RBC GAM

However, the same cannot be said for the likes of the U.S., U.K. or Canada. All three countries retain transmission rates right around one,. This suggests significant easing of measures would be premature. For the U.S. and Canada in particular, this is likely because the quarantining has not been as aggressive as in Europe. It is harder to judge the reason for the U.K.

Sub-nationally, there would appear to be significant risk for such regions as the U.S. state of Georgia, which has been among the most enthusiastic to return economic activity to normal. If anything, the number of new infections per day in Georgia has been increasing slightly in recent weeks. A higher transmission rate would seem almost inevitable going forward, and the number is already above one.

We will admit the math is anything but straight-forward given counterexamples such as Sweden and its light-touch social distancing, with the country nevertheless managing a declining number of new infections recently.

Nevertheless, the main point is that we must be alert to the risk that the regions that re-open most aggressively may be forced into a second round of quarantining.

Evidence of economy rebounding

As a significant chunk of Europe restarts its economy and as parts of the U.S. and Canada do the same, we can now turn to real-time economic data to a get a sense for the extent to which economic damage is being undone.

The evidence is still extremely preliminary, but we can see that the quarantine has already begun to lessen according to certain economic proxies. Around one-third of the decline in Dutch consumer spending has been recovered, according to credit card statistics.

Half of the decline in trips using Apple Maps in Germany has since been recovered. The U.S. has recovered around onefifth of its decline in the same metric.

Sticking with the U.S., the Philadelphia Fed's measure of business sales (presented again, below) argues that nearly a fifth of the decline in sales has been recovered from early April through late April.

New orders and sales of U.S. businesses hammered by COVID-19



Note: Estimated as weighted average of % change in new orders or sales for all respondents. Source: Weekly Business Outlook Survey on the COVID-19 Outbreak, Federal Reserve Bank of Philadelphia, RBC GAM Regional U.S. data showing hours worked indicates that some states such as South Carolina and Georgia were already managing a modest recovery before social distancing rules were officially lifted (see next chart). This is less apparent in stricter states like New York.

Impact on hourly workers9



Note: As of 05/03/2020. Impact compares hours worked in a day vs. median for the same day of the week in January, 2020. Source: Homebase, The COVID Tracking Project, Macrobond, RBC GAM

Financial markets

We conclude with a few thoughts on financial markets.

 Our recovery checklist (see table) argues that significant progress has been made on a number of fronts, but several important steps remain. Although many jurisdictions have presented plans to lighten their quarantines, we do not judge that any major nations have a fully credible plan to completely eliminate their quarantine.

Recovery checklist

Recovery checklist	Achieved?
Significant disease containment efforts	Yes
Major government stimulus	Yes
Decline in Italian new cases / day	Yes
Decline in U.S. new cases / day	Tentatively
Decline in global new cases / day	Maybe
Decline in global new fatalities / day	Maybe
Credible plan to end quarantine	No
Quarantining significantly reduced	No
Development of important therapeutic	No
Development of vaccine	No
Achievement of herd immunity	No
Return to economic growth	No
Return to prior level of output	No

Note: As at 4/25/2020. Source: RBC GAM.

2. We lay out several key arguments for and against risk assets at current valuations:

Anti-risk asset:

• The decline in equities has been notably tamer than usual for a recession/crisis of this magnitude.

• Our economic forecasts are materially below the consensus, highlighting the risk that the consensus may have to fall further.

• A U.S. 2020 GDP hit of -10.6% is empirically consistent with something like a 50% decline in S&P 500 earnings. That is quite a large blow, and worse than the consensus earnings forecast.

Pro risk asset:

• Government bonds may be un-investible for many at current rock-bottom yields, practically obliging ownership of risk assets of some description.

• The U.S. stock market composition is roughly 25% tech stocks and 15% health care – that's 40% of the index that should tolerate COVID-19 reasonably well.

• As we calculated and wrote about several weeks ago, netpresent-value math argues that the stock market decline has been more than sufficient to reflect the diminished stream of earnings coming as a result of COVID-19.

American politics

After several months of almost exclusive focus on the extreme near-term and COVID-19, we are finally able to take a breath and look slightly further into the future.

The U.S. Presidential election is now just six months away. Whereas most politicians globally have enjoyed massive increases in their popularity in response to their handling of COVID-19, that has not been the case at the national level in the U.S. President Trump's odds of recapturing the White House remain just under 50% according to betting markets, and his party's prospects in the House and Senate have both retreated somewhat (see chart).

A tug-of-war for the White House



Note: As of 04/30/2020. Source: PredictIt, RBC GAM

Republicans are still considered more likely than not to retain the Senate, but it is increasingly close.

Meanwhile, the House of Representatives looks increasingly likely to remain in Democrat hands, whereas that was up for debate not long ago.

Of course, much can yet change before the election, with key determinants including the extent of any economic recovery, whether the early lifting of U.S. social distancing rules proves to have been in error, and whether seniors (who lean, on average, to the right of centre) feel comfortable heading to the polls given their greater vulnerability to COVID-19.

– With contributions from Vivien Lee and Graeme Saunders



Eric Lascelles Chief Economist RBC Global Asset Management

MA (Economics) (2003), Queen's University; BA (Economics) (2000), Princeton University.

Eric is Chief Economist for RBC GAM and is responsible for maintaining the firm's global economic forecast, and generating macroeconomic research. He is also a member of the RBC GAM Investment Strategy Committee, the group responsible for the firm's global asset mix recommendations. Eric is a frequent media commentator and makes regular presentations both within and outside of RBC. Prior to joining RBC GAM in 2011, Eric spent a decade at another Canadian financial institution, rising from economist to the chief economics and rates strategist on the firm's trading floor. He previously worked with the Canada's national statistical agency.

RBC GAM is the asset management division of Royal Bank of Canada (RBC) which includes RBC Global Asset Management Inc., RBC Global Asset Management (U.S.) Inc., RBC Global Asset Management (UK) Limited, RBC Global Asset Management (Asia) Limited, and BlueBay Asset Management LLP, which are separate, but affiliated subsidiaries of RBC.

In Canada, this document is provided by RBC Global Asset Management Inc. (including PH&N Institutional) which is regulated by each provincial and territorial securities commission with which it is registered. In the United States, this document is provided by RBC Global Asset Management (U.S.) Inc., a federally registered investment adviser. In Europe this document is provided by RBC Global Asset Management (UK) Limited, which is authorised and regulated by the UK Financial Conduct Authority. In Asia, this document is provided by RBC Global Asset Management (Asia) Limited, which is registered with the Securities and Futures Commission (SFC) in Hong Kong.

This document has not been reviewed by, and is not registered with any securities or other regulatory authority, and may, where appropriate, be distributed by the above-listed entities in their respective jurisdictions. Additional information about RBC GAM may be found at www.rbcgam.com.

This document is not intended to provide legal, accounting, tax, investment, financial or other advice and such information should not be relied upon for providing such advice. RBC GAM takes reasonable steps to provide up-to-date, accurate and reliable information, and believes the information to be so when printed. RBC GAM reserves the right at any time and without notice to change, amend or cease publication of the information.

Any investment and economic outlook information contained in this document has been compiled by RBC GAM from various sources. Information obtained from third parties is believed to be reliable, but no representation or warranty, express or implied, is made by RBC GAM, its affiliates or any other person as to its accuracy, completeness or correctness. RBC GAM and its affiliates assume no responsibility for any errors or omissions.

Past performance is not indicative of future results. With all investments there is a risk of loss of all or a portion of the amount invested. Where return estimates are shown, these are provided for illustrative purposes only and should not be construed as a prediction of returns; actual returns may be higher or lower than those shown and may vary substantially, especially over shorter time periods. It is not possible to invest directly in an index.

Some of the statements contained in this document may be considered forward-looking statements which provide current expectations or forecasts of future results or events. Forward-looking statements are not guarantees of future performance or events and involve risks and uncertainties. Do not place undue reliance on these statements because actual results or events may differ materially from those described in such forward-looking statements as a result of various factors. Before making any investment decisions, we encourage you to consider all relevant factors carefully.

® / TM Trademark(s) of Royal Bank of Canada. Used under licence.

© RBC Global Asset Management Inc., 2020

Publication date: (05.05.2020)



This document is provided by RBC Global Asset Management (RBC GAM) for informational purposes only and may not be reproduced, distributed or published without the written consent of RBC GAM or its affiliated entities listed herein. This document does not constitute an offer or a solicitation to buy or to sell any security, product or service in any jurisdiction. This document is not available for distribution to people in jurisdictions where such distribution would be prohibited.