The Global Investment Outlook

RBC GAM Investment Strategy Committee

SUMMER 2020

The RBC GAM Investment Strategy Committee

The RBC GAM Investment Strategy Committee consists of senior investment professionals drawn from all areas of RBC GAM. The Committee regularly receives economic and capital markets related input from internal and external sources. Important guidance is provided by the Committee's regional equity advisors (North America, Europe, Asia, Emerging Markets) and from the Global Fixed Income & Currencies sub-committee. From this, the Committee builds a detailed global investment forecast looking one year forward.

The Committee's view includes an assessment of global fiscal and monetary conditions, projected economic growth and inflation, as well as the expected course of interest rates, major currencies, corporate profits and stock prices.

From this global forecast, the RBC GAM Investment Strategy Committee develops specific guidelines that can be used to manage portfolios.

These include:

- the recommended mix of cash, fixed income instruments, and equities
- the recommended global exposure of fixed income and equity portfolios
- the optimal term structure for fixed income investments
- the suggested sector and geographic make-up within equity portfolios
- the preferred exposure to major currencies

Results of the Committee's deliberations are published quarterly in *The Global Investment Outlook.*

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Executive Summary

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The COVID-19 shock altered the course of the global economy and ravaged financial markets, prompting policymakers to step in quickly and with scale. Unprecedented monetary and fiscal stimulus, combined with signs of an economic recovery as lockdowns eased, triggered a rapid rebound in risk assets.

Largest and most abrupt shock to growth in modern history

The easily transmitted virus spread rapidly around the globe, infecting more than 6 million people. Although deaths and illness are certainly a tragedy, the biggest impact to global economies came from government-imposed lockdowns that shuttered businesses and curtailed consumer activity. As a result, we have slashed our growth forecasts over the past quarter, and they are now mostly below-consensus. Our base case outlook for the U.S. is for a 7.1% decline in 2020 GDP, though we recognize a variety of scenarios are possible based on the depth and duration of the shutdowns and the speed of the subsequent recovery. Relative growth expectations between global regions vary based on the severity of lockdown measures in place, the sector makeup of their economies, and country-specific vulnerabilities such as older populations.

Numerous risks as economies begin reopening and beyond

As countries ease lockdown measures, the most prominent risk is that the virus regains traction and forces economies into a second closure. In attempting to gauge which countries are most at risk of suffering a second wave of infections, we focus on variables such as the number of infections per capita, the rate of change in new cases, the strictness of the lockdowns and the degree to which they are being loosened. The pandemic's longer-term repercussions include elevated debt levels that could hinder growth and lifestyle changes that could lower productivity. Inflation could also emerge as a concern once economies eventually recover. While the virus has dominated our thinking, there are other risks that are worth keeping in mind. The U.S. election in November, an important Brexit deadline and the deterioration of U.S.-China relations could all serve as sources of volatility for economies and financial markets.

Policymakers deliver record stimulus

Mandated lockdowns required governments to support workers who could not work and companies that were not allowed to operate. The fiscal stimulus provided has been massive and broad-based, spanning many countries and sectors, with provisions for households as well as businesses. In the U.S., the federal government delivered nearly US$3 trillion in financial aid, almost double the US$1.6 trillion doled out during the financial crisis of 2008-2009. The U.S. Federal Reserve also supplied substantial relief on the monetary side, slashing short-term interest rates by 150 basis points in early March, and expanding its balance sheet by trillions of dollars to ensure the proper functioning of financial markets. Together, the U.S. fiscal and monetary programs have so far amounted to more than 35% of GDP.

U.S. dollar reverses gains from initial crisis-driven surge

The U.S. dollar ended a nine-year stretch of gains after the liquidity shortage experienced during the early days of the COVID-19 crisis led to what we believe was one final rally in the greenback's lengthy bull market. The dollar's subsequent weakness in

late May and early June signaled that investors have begun to factor in its overvaluation as well as the country's fiscal and monetary excesses. Shorter-term considerations, such as lower U.S. interest rates and election uncertainty, may also be weighing on the currency. The euro and yen are likely to benefit most during this initial phase of the U.S.-dollar decline, while we expect the Canadian dollar and British pound to lag. In the months to come, the performance of individual emerging-market currencies will depend largely on the evolution of the pandemic.

Sovereign-bond yields fall to record lows, held down by central banks

The U.S. 10-year Treasury yield fell to an all-time low of 31 basis points as investors sought safe havens and central banks ramped up bond buying. Government-bond yields are well below our modelled estimates of equilibrium indicating meaningful valuation risk in all major regions that we track. Over time, our models suggest that yields should ultimately rise from current levels, but large-scale quantitative-easing programs and highly accommodative central-bank policies will probably limit the extent to which that will happen in the near and intermediate terms. Nevertheless, the current low level of sovereign-bond yields is set to deliver unimpressive returns over our 1-year forecast horizon and possibly beyond. Corporate bonds offer higher yields and widening credit spreads caused by the crisis have boosted their return potential. We think exposure to credit, if properly managed, could serve as a useful avenue for enhancing portfolio yields.

Stock crash sent global equities into a bear market, but the panic was short-lived

Major market indexes fell more than 30% in a matter of weeks in February and March as volatility surged. The crash lowered our global equity composite to its largest discount to fair value since 2012, and a number of technical indicators reached values consistent with durable market bottoms. But the window of opportunity for outsized gains was brief. The S&P 500 Index has already recovered two-thirds of its losses, led by growth stocks and companies with highly predictable earnings. As a result, U.S. large-cap equities are back above our modelled estimate of fair value, suggesting investors should moderate their return expectations going forward. That said, non-U.S. markets remain attractively priced.

Corporate profits are being severely impacted by the COVID-19 crisis, but we think our measure of normalized earnings provides a better guidepost for what earnings could be under normal conditions, and it's this measure that we use to determine fair value. The fact that investors are paying a high price for stocks today amid a recession may reflect confidence that a rebound in profits will accompany a recovery in the economy. Our scenario analysis suggests further upside for stocks is possible as long as investor confidence stays elevated, inflation and interest rates remain low, and earnings ultimately rebound to their long-term trend.

Asset mix – resetting strategic neutral asset mix in favour of stocks

The pandemic has reinforced many trends that were already in place before the virus, such as our world being stuck in an indefinite period of slow economic growth, low interest rates and highly accommodative central-bank policies. Other factors held constant, sustained low real interest rates suggest a long period of below long-term average returns lies ahead for the traditional asset classes. Our view that stocks will provide superior returns, that results for sovereign bonds will be unappealing for an extended period and that sovereign bonds will not provide the income or risk-diversifying properties of the past 40 years have led us to adjust the strategic neutral weights in our multi-asset and balanced portfolios. Effective June 1, 2020, we shifted the strategic asset mix for our reference portfolio for global balanced investors from 55% equities, 43% fixed income, 2% cash to 60% equities, 38% bonds, 2% cash. Managing our tactical exposures around these new neutrals, we are maintaining a modest overweight allocation to stocks given our view that stocks will outperform bonds over the longer term, but we have narrowed the degree of overweight given our modest return assumptions for equities and our below-consensus growth forecast. For a balanced, global investor, we currently recommend an asset mix of 61% equities (strategic neutral position: 60%) and 38% fixed income (strategic neutral position: 38%), with the balance in cash.

Evolving Our Strategic Asset Mix

Addressing substantial, durable changes in the economy and capital markets

Daniel E. Chornous, CFA
Chief Investment Officer
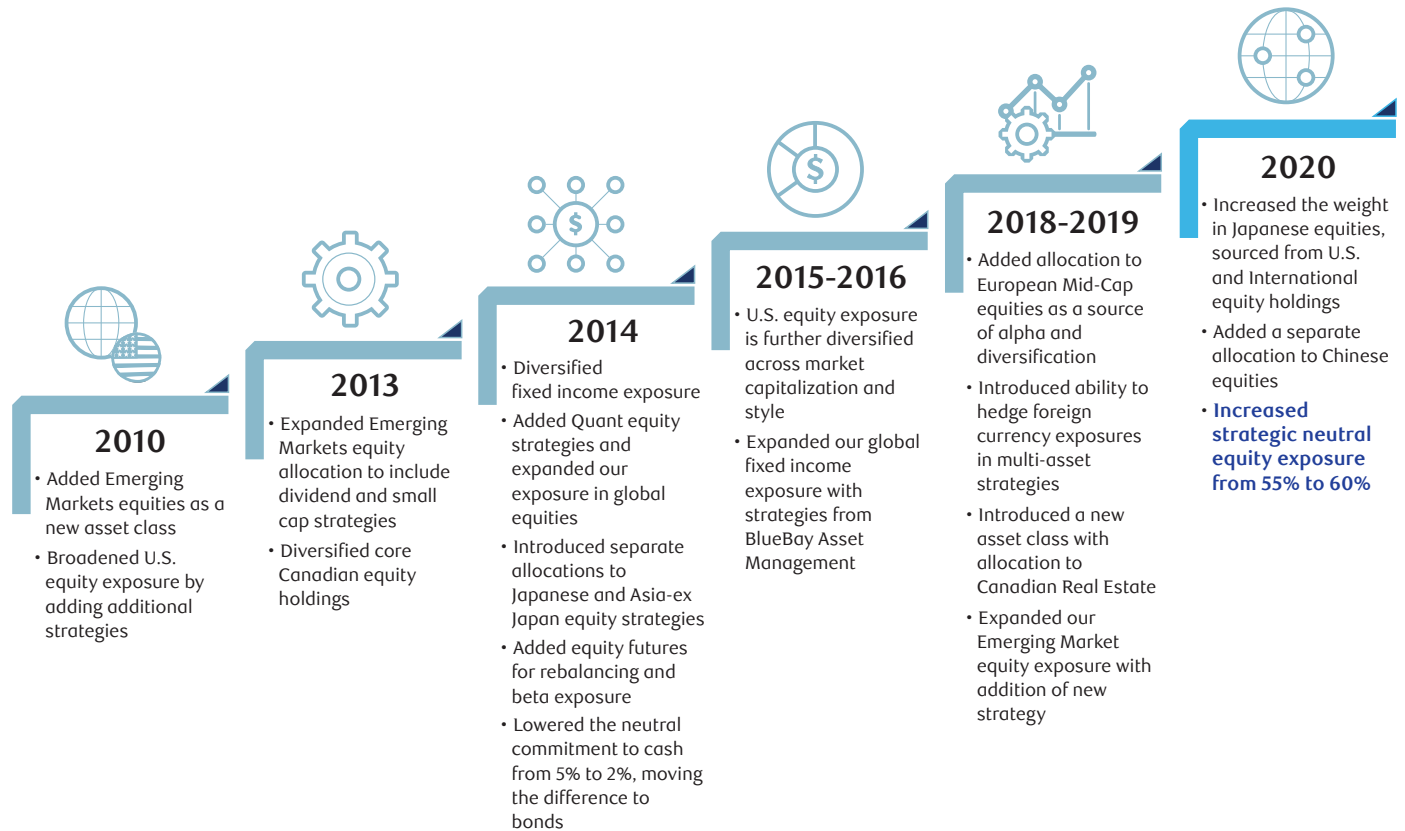RBC Global Asset Management Inc.

Whether a pension-plan sponsor or an individual saving for their own goals, establishing a strategic asset mix is perhaps the most important decision an investor makes. It's a journey. Over time, the assets available to investors multiply, absolute and relative return prospects shift and different assets move around in relation to each other in ways that are not stable. No single blend of assets will remain optimal over a long-term saving and investment program.

Strategic asset mixes for the many different balanced and multi-asset programs managed by RBC Global Asset Management are always evolving. Through a combination of organic growth and mergers we have globalized our investment program, broadened our reach across different asset classes and deepened our capabilities within each of these. Over just the past 10 years, we have added two-dozen new strategies to our multi-asset capabilities in Canada, while removing those with diminishing utility. Their reach has pushed far beyond Canada's relatively narrow and illiquid markets, bulking up exposures in U.S., global and emerging-market credit while adding new capabilities in international and emerging-market equities and in quantitative and style tilted approaches to investing (see Exhibit 1).

A variety of changes in the economy and capital markets, some which have developed slowly and others more recently, indicate the need for close attention to strategic asset mix right now:

- The global real rate of interest has fallen by more than 450 basis points over the past 40 years. Underpinning that trend are slow-moving forces which are unlikely to change in the cycle ahead. Real rates of interest could hold near zero to 1% for a very long time.
- As the "risk-free rate," the real interest rate is the base rate of return for all asset classes. Other factors held constant, dropping the real rate reduces the returns likely to be earned on other investment options.
- Falling real rates and moribund inflation have pulled bond yields to their lowest levels in history. Fixed-income investors now experience reduced income from their positions and heightened volatility resulting from lengthening duration.
- The full package of income, risk-modification and security offered by sovereign bonds is now much less effective as an anchor for balanced and multi-asset solutions.
- Portfolio managers will be rewarded for renovating multi-asset programs to include assets that, to the degree possible, mimic the prior benefits of sovereign bonds in particular while contributing to returns close to those embedded in savings and investment programs.
- Some combination of raising exposure to "risk assets" such as equities and others that offer the diversifying and/or income properties of fixed income is timely. These propositions are paired, as one without the other will introduce additional portfolio imbalances.
- Consistent with our always-evolving approach to asset management, and recognizing the significance of changes that are upon us, we are adjusting upward the midpoint of our allowed exposure to equities for many of our balanced strategies in Canada. To control the additional volatility that higher equity weights bring, we will continue to promote portfolio efficiency through the periodic addition and paring of asset

Exhibit 1: Evolution of RBC's multi-asset capabilities in Canada

2010
- Added Emerging Markets equities as a new asset class
- Broadened U.S. equity exposure by adding additional strategies

2013
- Expanded Emerging Markets equity allocation to include dividend and small cap strategies
- Diversified core Canadian equity holdings

2014
- Diversified fixed income exposure
- Added Quant equity strategies and expanded our exposure in global equities
- Introduced separate allocations to Japanese and Asia-ex Japan equity strategies
- Added equity futures for rebalancing and beta exposure
- Lowered the neutral commitment to cash from 5% to 2%, moving the difference to bonds

2015-2016
- U.S. equity exposure is further diversified across market capitalization and style
- Expanded our global fixed income exposure with strategies from BlueBay Asset Management

2018-2019
- Added allocation to European Mid-Cap equities as a source of alpha and diversification
- Introduced ability to hedge foreign currency exposures in multi-asset strategies
- Introduced a new asset class with allocation to Canadian Real Estate
- Expanded our Emerging Market equity exposure with addition of new strategy

2020
- Increased the weight in Japanese equities, sourced from U.S. and International equity holdings
- Added a separate allocation to Chinese equities
- **Increased strategic neutral equity exposure from 55% to 60%**

Source: RBC GAM

class and portfolio exposures. At the individual strategy level, we believe that our focus on the comprehensive identification and management of risks while seeking sustained alpha through security selection will add value and dampen volatility.

The roots of falling interest rates

Over the past 40 years, the 10-year U.S. Treasury-bond yield has fallen from 15.8% to 0.5% and now rests near its lowest mark in 150 years (Exhibit 2). That change ripples through all aspects of multi-asset strategies, impacting income and return possibilities as well as expected

Exhibit 2: U.S. 10-year bond yield

50 Years
Range: 3% - 5%

45 Years
Range: 2% - 5%

Last Plot:
0.65%

Note: As of May 29, 2020. Source: RBC GAM, RBC CM
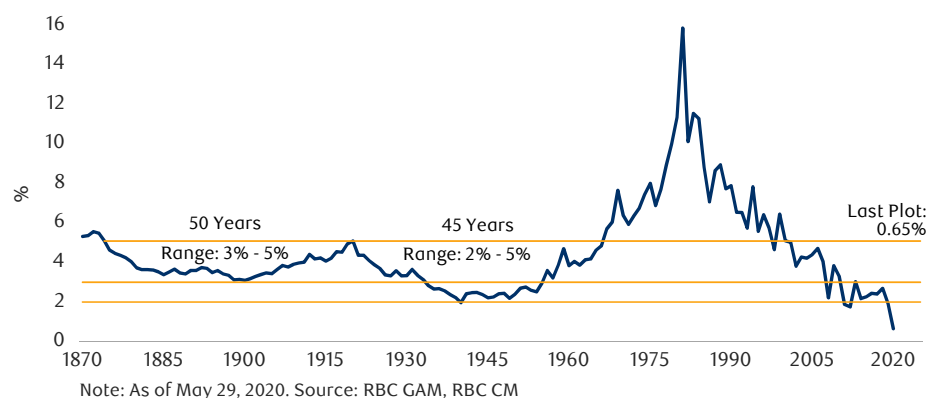
volatility and cross-asset correlations in the near and long term. Simply put, *balanced and multi-asset strategies will not perform in the years ahead as they have in the past without addressing this massive and enduring change in fixed-income markets.*

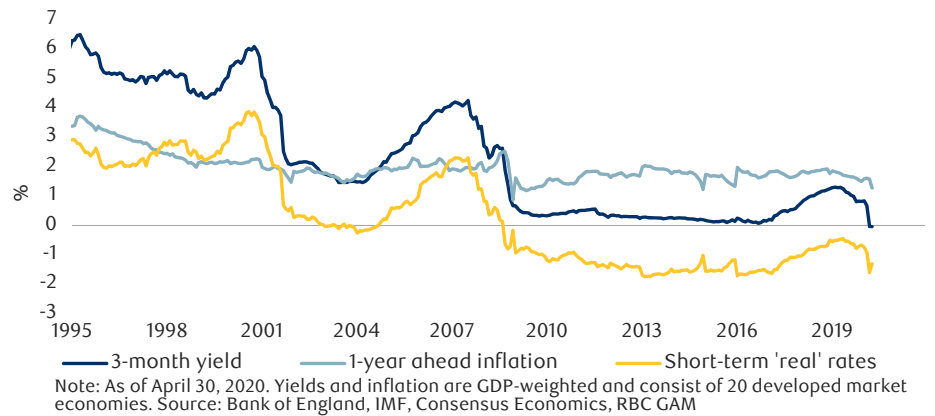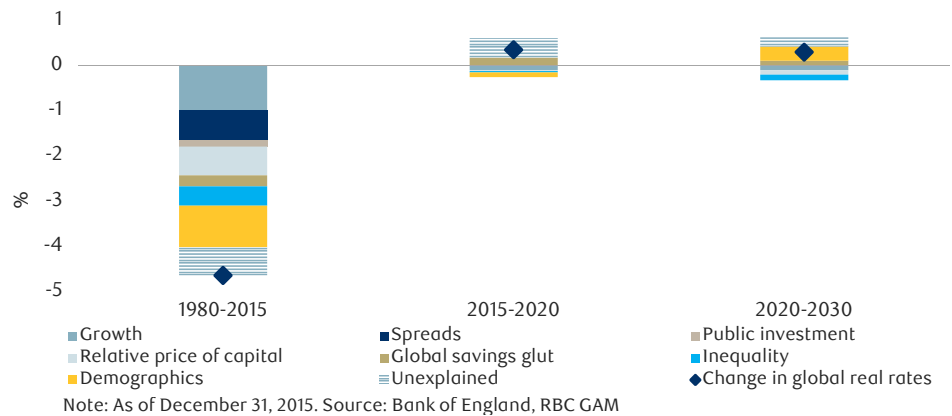The fall in interest rates will not be reversed through the cycle ahead, and perhaps for many that will follow. Much more than the secular decline in inflation is at work. Around the world, the real rate of interest (the after-inflation interest rate) has plunged and the causes for that indicate some permanency to the change (Exhibit 3).

In a 2015 paper, economists at the Bank of England (BOE)[1] documented the persistent decline in real interest rates and provided specific causes for the 450-basis-point fall since 1980. In theory, real rates of interest are determined by long-term growth expectations and societies' preferences for savings versus spending. Exhibit 4 separates the 40-year decline in real rates into its main components. Notice that demographics contributed a large share of the drop through an aging population's shift in the savings/ investment preference and through changing preferences in the emerging world resulting from shrinking family size and improved living standards. Decades of superior growth from emerging nations are evident in those converging preferences, but that also suggests lower trend economic growth going forward as the gap between the developed and emerging world has

Exhibit 3: Real short-term interest rates in developed markets

Note: As of April 30, 2020. Yields and inflation are GDP-weighted and consist of 20 developed market economies. Source: Bank of England, IMF, Consensus Economics, RBC GAM

Exhibit 4: Secular drivers of global real interest rates
Change in global neutral rate

Note: As of December 31, 2015. Source: Bank of England, RBC GAM

narrowed. Moreover, demographic trends are slow-moving and therefore relatively easy to forecast. These changes and their impact on real interest rates will not soon be reversed.

The COVID-19 shock has reinforced the decline in trendline GDP growth. In *Growth in a Time of Debt*,[2] Reinhart and Rogoff analyzed GDP growth rates

for a sample of 20 nations at various levels of debt/GDP ratios. As the 2007-2009 financial crisis drew to a close, they argued that growth through the cycle ahead would remain sluggish because sovereign debt loads of the world's largest countries had all moved above thresholds that in the past coincided with a marked decline in output. Generally, as debt/GDP climbed above 90%, annual GDP growth in these economies slowed by over 1.5%

[1] Lukasz Rachel and Thomas D. Smith (December 2015). Bank of England Staff Working Paper No. 571: *Secular drivers of the global real interest rate.*

[2] Carmen M. Reinhart and Kenneth S. Rogoff (May 2010). *Growth in a Time of Debt.*

and none of the G7 economies were unaffected. Except for Germany, epic support programs by governments responding to the COVID-19 crisis will drag the G7 well above the critical level (Exhibit 5).

Based on projected changes in the factors that contributed to the drop, the BOE economists expected the real rate of interest to hold at or below 1% for many years into the future. Those forecasts are now five years old. Over the period since the paper's publication, real rates in the U.S. have moved between -0.5% and 1.1%, and all within a general trend lower. For Canada, that range has been -0.6 to 0.6% and for the G7 it has held within a band bounded by -1.9% and 1.1%.

Why focus on the real interest rate?

In theory, the short-term real rate of interest is the base rate of return for a risk-free investment. Additional returns can be captured through "risk premiums." Common premia include the opportunity to earn a higher return by investing for a longer holding period, accepting exposure to the threat of default (credit risk), foregoing the ability to quickly exit a position or perhaps facing a frozen market (liquidity risk), accepting that changes in the level and direction of the returns for the stock-market index will have an impact on all listed companies (equity market beta), and capturing gains or experiencing losses related solely to the unique activities of a company (idiosyncratic risk, or security selection alpha).

Exhibit 6 provides a simple example of how a low real rate of interest can

Exhibit 5: Global gross debt/GDP ratios with IMF forecasts

	U.S.	Canada	France	Germany	Italy	Japan	U.K.
2009	86.7	79.3	83.0	73.0	116.6	200.9	63.3
2010	95.5	81.2	85.3	82.4	119.2	207.7	74.6
2011	99.8	81.8	87.8	79.8	119.7	221.9	80.1
2012	103.3	85.4	90.6	81.1	126.5	228.7	83.2
2013	104.9	86.1	93.4	78.7	132.4	232.2	84.2
2014	104.6	85.6	94.9	75.7	135.3	235.8	86.2
2015	104.8	91.2	95.6	72.1	135.3	231.3	86.9
2016	106.8	91.7	98.0	69.2	134.8	236.4	86.8
2017	105.9	90.5	98.4	65.3	134.1	234.5	86.2
2018	106.9	89.7	98.4	61.9	134.8	236.5	85.7
2019	109.0	88.6	98.5	59.8	134.8	237.4	85.4
2020	131.1	109.5	115.4	68.7	155.5	251.9	95.7
2021	131.9	108.6	116.4	65.6	150.4	247.6	95.8
Prior peak	109.0	100.2	98.4	73.0	135.3	237.4	86.9
Anticipated Deficit/GDP Ratio for 2020	-15.4	-11.8	-5.5	-9.2	-8.3	-7.1	-8.3

Note: ☐ = anticipated peak. Source: IMF

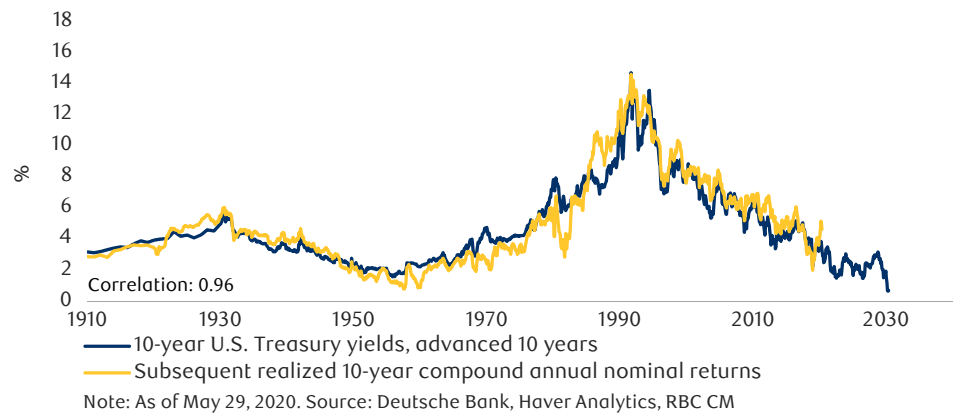### Exhibit 6: Modelling nominal returns through risk premia
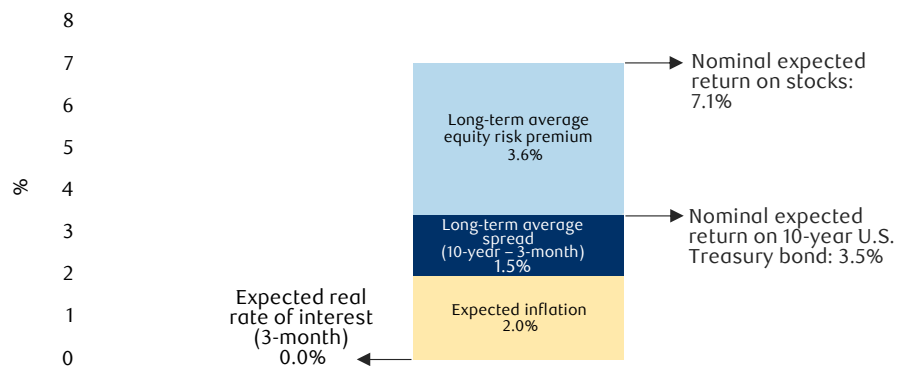
Note: As of May 29, 2020. Source: Bloomberg, RBC GAM

impact returns across the main asset classes. Assuming the real rate holds at 0% and that inflation ultimately regains the 2% level targeted by the U.S. Federal Reserve, adding the average term premium for 10-year U.S. government bonds takes the T-bond yield to 3.5%. Among the best forecasts for the forward 10-year return on a T-bond is its yield to maturity at the date of purchase (see Exhibit 7). So 3.5%, or even less, may be a reasonable placeholder for estimates of future returns on bonds. Adding the long-term average equity-risk premium of 3.6% to that bumps prospective stock-market returns to 7.1%. A simple balanced strategy with a 60/40 split between stocks and fixed income would therefore target a return of 5.7%.

Exhibit 8 presents compound annual total returns for U.S. stocks and bonds over various holding periods into May 2020. At 3.5%, the forecast return for bonds falls below results for every one of these prior periods. Except for the latest 20-year result for stocks (which is reduced by the fact that the count starts near the peak of the technology bubble), forecast annual equity market returns fall 2.5% to 6.1% below prior periods, and the 5.7% forecast for a 60/40 balanced strategy is beneath all points captured in the sample. Although this analysis is based on simple combinations of assets and only very basic modeling of future returns, it indicates *the likelihood of returns for balanced strategies falling below those of the past few decades and even beneath levels embedded in investors' expectations and their savings and investment plans.* Our current forecasts for long-term returns for key asset classes are not much

Exhibit 7: U.S. 10-year Treasury note and returns

Correlation: 0.96

— 10-year U.S. Treasury yields, advanced 10 years
— Subsequent realized 10-year compound annual nominal returns

Note: As of May 29, 2020. Source: Deutsche Bank, Haver Analytics, RBC CM

Exhibit 8: Trailing performance
Compound annual total returns

	1-year	5-year*	10-year*	20-year*	30-year*	40-year*
Bonds	11.4%	3.9%	3.6%	4.9%	5.8%	7.2%
Stocks	12.8%	9.9%	13.2%	5.9%	9.6%	11.5%
Hypothetical balanced strategy (60/40)	13.1%	7.8%	9.6%	5.9%	8.4%	10.1%

Note: Data as of May 29, 2020, *periods greater than 1 year are annualized
Bonds = Bloomberg Barclays U.S. Treasury Total Return Unhedged USD
Stocks = S&P 500 Total Return Index
Balanced strategy (60/40) = 60% Stocks + 40% Bonds, rebalanced monthly.
An investment cannot be made directly into an index. The above does not reflect transaction costs, investment management fees or taxes. If such costs and fees were reflected, returns would be lower. Past performance is not a guarantee of future results. Source: RBC GAM

different from these estimates (see Appendix I).

Lower returns on bonds, stocks and multi-asset strategies are not the only challenge that investors face as a result of the depression in the real interest rate. Barring an unlikely surge in inflation, nominal (after-inflation) interest rates will stay low even as growth in the economy is restored and cyclical pressures build. That means that *coupon income in fixed-income*

and multi-asset strategies will hold below the historic norm. Twenty years ago the Canadian bond universe averaged a 7.4% coupon. Today that rate is 3.3%.

Low interest rates also mean a longer duration and higher volatility for the fixed-income segment of portfolios. In that environment, *the ballast provided by bonds, a critical and highly valued feature of balanced strategies, is much diminished.*

Results can be improved...

These return expectations can be improved. Increasing a portfolio's risk profile by adjusting relative exposures of current holdings (for example, buying more stocks while reducing holdings of sovereign bonds) could bolster results. New assets could be added to the current solution set, focusing on measuring and managing specific risk premia can improve portfolio efficiency, leverage could be introduced to the mix, or some combination of all of these could be effective.

Similarly, the impact on portfolio volatility from the drop in yields can be dampened by blending in assets with relatively low correlations to equities. And the loss of income from falling coupon rates can be partially offset by adding fixed-income and other vehicles with payouts above those of sovereign bonds. *Market efficiency ensures that there is no free lunch, but the full impact of the drop in yields need not be absorbed.*

...by boosting exposure to stocks...

For many, boosting stock market exposure is a good first step. If, as in the above analysis, bonds are to contribute only 3.5% per year, adding weight in equities, which may earn closer to 7%, makes sense if investors have a long enough time horizon to ignore the resulting increase in volatility. Exhibit 9 shows rolling period returns and volatilities for two identical strategies based on the past 70 years of market history: one with a 55/45 equity/fixed income blend and the other 60/40. Notice that although the return for the 60/40 portfolio exceeds that of the 55/45 set for all

Exhibit 9: Hypothetical balanced strategy return statistics
Total returns based on rolling monthly data from January 1950 to May 2020

		Mean	Standard deviation	Batting average^	Max	Min	Sharpe ratio*
Balanced (55% EQ, 45% FI)	1-month	0.7%	2.5%	65.0%	9.9%	-9.6%	N/A
	1-year	9.4%	9.9%	82.9%	46.0%	-21.2%	0.64
	3-year	8.7%	5.6%	93.2%	26.6%	-4.9%	0.46
	5-year	8.6%	4.6%	99.9%	23.2%	-1.0%	0.40
	10-year	8.4%	3.5%	100.0%	16.4%	1.0%	0.29
	20-year	8.6%	2.5%	100.0%	14.6%	5.0%	0.23
	30-year	9.1%	1.2%	100.0%	11.7%	6.5%	0.22
Balanced (60% EQ, 40% FI)	1-month	0.8%	2.7%	64.9%	10.7%	-10.7%	N/A
	1-year	9.7%	10.5%	82.6%	47.7%	-23.2%	0.67
	3-year	9.0%	5.9%	91.4%	27.3%	-5.6%	0.47
	5-year	8.9%	4.8%	99.6%	23.9%	-1.7%	0.41
	10-year	8.7%	3.7%	100.0%	16.7%	0.5%	0.30
	20-year	8.8%	2.6%	100.0%	15.0%	5.1%	0.23
	30-year	9.3%	1.2%	100.0%	12.0%	6.8%	0.23

Notes: S&P 500 Index used as a proxy for equities (EQ). U.S. 10-year Treasury bond used as a proxy for fixed income (FI). Data goes back to 1950.
^Batting average: incidence of positive return. *Sharpe ratio calculated as average return divided by standard deviation of those returns. Returns for periods greater than 1-year are annualized. An investment cannot be made directly into an index. The above does not reflect transaction costs, investment management fees or taxes. If such costs and fees were reflected, returns would be lower. Past performance is not a guarantee of future results. Source: RBC GAM

holding periods, volatility for the former, measured as the standard deviation of returns, is also elevated in the early years before essentially converging with the 55/45 portfolio from years 5-10 and beyond. The Sharpe ratio, a measure of the degree to which a rise in volatility is compensated for by a boost in returns, validates the addition to equity exposure as the metric is higher for the 60/40 set across all time frames. In this simple example, investors seem reasonably well rewarded

for accepting a journey that is a bit bumpier in the short term to capture additional returns through the long term.
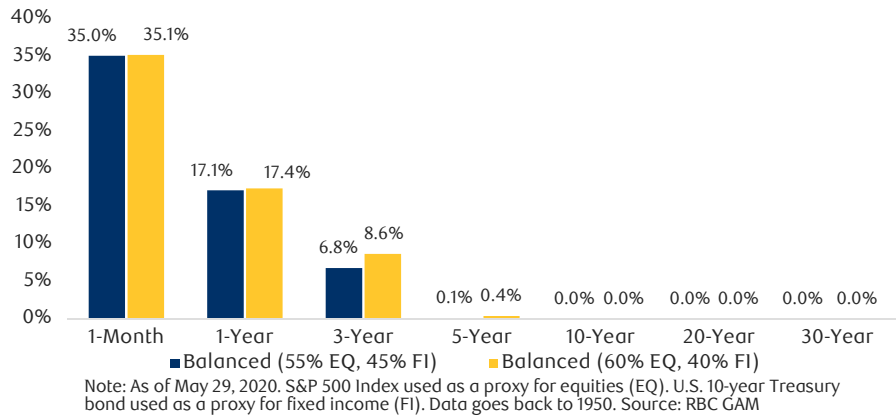
...while controlling volatility

On that basis, the tradeoff seems like a good one, but the investor's time horizon is an important consideration. Exhibit 9 also shows that while the strategies have similar batting averages (the percent of periods with positive returns), the 60/40 portfolio features higher highs and lower lows

(best/worst rolling holding period returns). Exhibit 10 shows the incidence of the strategies falling below their initial value for holding periods of one month through 30 years. For both, that's never happened for periods beyond 10 years, seldom happened beyond a 5-year holding period and, importantly, there isn't much difference between the success rates for the two strategies at any point in time. For those with time horizons beyond five years, the higher equity exposure likely makes sense.
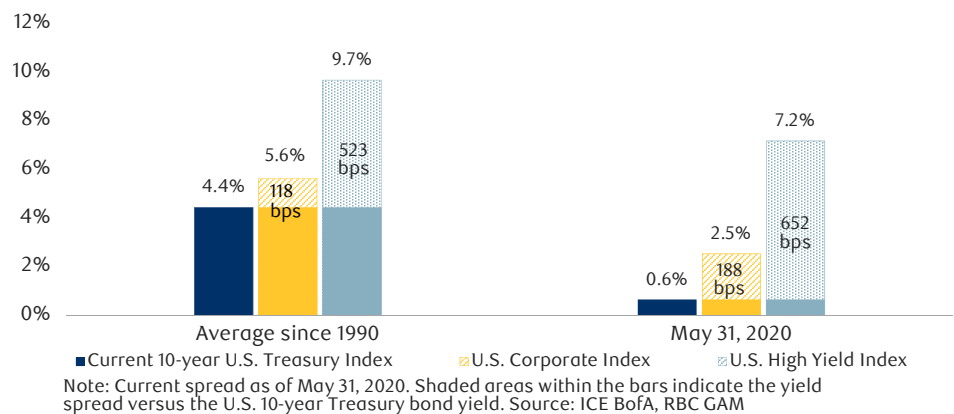
Some of the additional volatility resulting from increased stock-market exposure can be dampened through close attention to the specific elements of returns within equity portfolios. Individual equity and aggregate portfolio returns can be attributed to very granular sources (again: "risk premia") including factors and investment styles. Factors relate to macroeconomic forces such as exposures to interest rates, oil prices, etc. Investment styles measure the degree to which the returns for any particular security move in sync with the index trend (stock-market beta), or closely follow stocks demonstrating similar profiles such as growth, value, momentum or a variety of other descriptors. The portion of returns that cannot be explained by factors and styles is considered to be idiosyncratic alpha.

Idiosyncratic alpha flows from unique aspects of a business's activities. These "pure" returns generated through stock picking are especially valuable as they are largely uncorrelated with the level and direction of returns for other stocks and from the equity-market indices.

Exhibit 10: Incidence of failure
Percentage of rolling periods with negative returns

Note: As of May 29, 2020. S&P 500 Index used as a proxy for equities (EQ). U.S. 10-year Treasury bond used as a proxy for fixed income (FI). Data goes back to 1950. Source: RBC GAM

Exhibit 11: Yield to maturity

Note: Current spread as of May 31, 2020. Shaded areas within the bars indicate the yield spread versus the U.S. 10-year Treasury bond yield. Source: ICE BofA, RBC GAM

Through our portfolio-engineering initiative we have embedded within every investment team analysts whose responsibilities include isolating the factor and style tilts that exist within each position and working with portfolio managers to hold these within appropriate risk budgets. Alongside traditional risk-management techniques, we aim to construct portfolios that feature high levels of diversification through idiosyncratic returns. The intended result are strategies that capture the overall market return (beta) and add to that

pure returns from stock picking while lessening exposure to the difficult-to-predict rotations in style and factor leadership.

Finding ways to generate income...

To preserve income and generate capital gains through security selection and tactical market timing, we have progressively added investment-grade, high-yield and emerging-market debt to our portfolios over the past 20 years. Diminishing weights in sovereign bonds has funded these positions. Exhibit 11 indicates

Exhibit 12: Correlation coefficients between traditional and alternative asset classes

10-year correlation of monthly returns as of April 2020	Cash and Fixed Income					Equities								Alternative Strategies						
	Cash	Sovereign Bonds	Investment Grade Bonds	High Yield Bonds	Emerging Market Debt	Canadian Equities	US Large-Cap Equities	US Growth Equities	US Value Equities	European Equities	Asian Equities	Emerging Market Equities	China Equities	Absolute Return Bonds	Direct Real Estate	Mortgages	Infrastructure	Low Vol equities	Long/Short Equities	Market Neutral
Cash	1.00																			
Sovereign Bonds	0.12	1.00																		
Investment Grade Bonds	0.03	0.94	1.00																	
High Yield Bonds	-0.23	-0.06	0.22	1.00																
Emerging Market Debt	-0.24	0.27	0.51	0.79	1.00															
Canadian Equities	-0.21	-0.13	0.10	0.78	0.60	1.00														
US Large-Cap Equities	-0.09	-0.15	-0.01	0.51	0.27	0.63	1.00													
US Growth Equities	-0.08	-0.13	0.03	0.54	0.29	0.68	0.93	1.00												
US Value Equities	-0.18	-0.14	0.04	0.65	0.40	0.75	0.92	0.90	1.00											
European Equities	-0.11	-0.17	0.00	0.63	0.46	0.60	0.73	0.68	0.70	1.00										
Asian Equities	-0.14	-0.05	0.14	0.62	0.53	0.59	0.63	0.63	0.62	0.71	1.00									
Emerging Market Equities	-0.16	-0.08	0.11	0.65	0.58	0.62	0.56	0.57	0.58	0.68	0.96	1.00								
China Equities	-0.05	-0.11	0.01	0.42	0.31	0.40	0.41	0.45	0.37	0.49	0.82	0.80	1.00							
Absolute Return Bonds	-0.18	-0.11	0.09	0.60	0.54	0.50	0.40	0.37	0.46	0.53	0.52	0.56	0.41	1.00						
Direct Real Estate	0.13	-0.05	-0.11	-0.06	-0.01	-0.25	-0.24	-0.27	-0.20	-0.04	-0.15	-0.15	-0.08	-0.04	1.00					
Mortgages	-0.20	0.43	0.53	0.23	0.45	0.16	0.08	0.08	0.19	0.07	0.12	0.09	-0.06	0.19	-0.13	1.00				
Infrastructure	-0.04	0.28	0.37	0.43	0.47	0.39	0.59	0.48	0.59	0.67	0.53	0.50	0.23	0.32	-0.08	0.34	1.00			
Low Vol equities	-0.19	0.06	0.27	0.70	0.65	0.92	0.61	0.63	0.73	0.55	0.53	0.55	0.31	0.45	-0.18	0.31	0.53	1.00		
Long/Short Equities	0.31	-0.17	-0.08	0.37	0.20	0.40	0.47	0.51	0.39	0.56	0.44	0.42	0.35	0.26	0.13	-0.20	0.22	0.31	1.00	
Market Neutral	-0.07	-0.03	0.00	0.12	0.07	0.11	0.21	0.23	0.26	0.10	0.05	0.01	0.04	0.00	0.02	0.22	0.14	0.14	-0.09	1.00

Source: RBC GAM

the historical average and current spread between sovereign yields and credit-market alternatives. Moving beyond the safety of government-issued and guaranteed-bonds and into credit markets (earning a credit-risk premium) exposes investors to the possibility of default. As a result, correlations to stocks rise (see Exhibit 12), increasing portfolio volatility somewhat and especially during market corrections. Here too, there is a tradeoff, but time horizons and diversification of positions are important and effective modifiers.

With the updating of Canadian mutual-fund legislation (National Instrument 81-102) in late 2018, gaining exposure to alternative assets is now a possibility for a broader range of investors. Absolute-return credit strategies have demonstrated low correlation to equity-market returns (Exhibit 12) and our modeling indicates a good fit with many of our balanced and multi-asset solutions. Access to relevant strategies at BlueBay, our affiliated global specialty fixed-income manager, places absolute-return credit high in the queue for future renovations.

...and modify risk through diversification and low correlation

Private markets are also a focus. In Canada, we began building a capability in direct real estate investing in 2018 and launched our first strategy in partnership with QuadReal, British Columbia Investment Management Corp.'s real estate subsidiary, in the fall of last year. Through this partnership, many of our balanced and multi-asset strategies were for the first time able to gain exposure to a diversified portfolio of Canadian office, residential, retail and industrial properties, and we hope to build these positions going forward. Importantly, the correlation coefficients in Exhibit 12 highlight direct real estate as a highly useful diversifier for stocks while also offering superior yields.

Similarly, mortgages, with yields that exceed those on sovereign bonds, offer promise as a partial substitute. Our

experience in the asset class stretches back decades and over the past couple of years we have been adding investment-management talent in this area and are looking to expand our reach.

The challenge to keeping current

A recent *Wall Street Journal* article on pension-fund losses caught our eye. Public plans in the U.S. target a 7% rate of return, but at a median of 5.2% through the last 20 years their experience has been nowhere close to that. Even before the COVID-19 crisis, these plans had fallen US$4.1 trillion short of their US$8.9 trillion in promised future benefits.

No doubt there are many reasons for that massive shortfall and plenty of work is being done to close the gap

in one way or another, but avoiding the painful situation that U.S. public pension plans have fallen into is possible. Realistic return expectations that take into account critical, long-lasting changes in the economy and capital markets are essential. Equally important is ensuring that the assets marshaled within an investment plan are fit for purpose going forward and not based solely on their history.

The "marginal gains approach" to improvement is deeply embedded in our investment philosophy and it seems especially useful in this context. Rather than focusing on one big thing that will perhaps secure the future of an investment plan (for example, regularly guessing where the stock market will go in the near term), better to incorporate a variety of

small enhancements. In our view, that includes understanding the powerful changes forced upon investors from low single-digit interest rates and the likelihood that these will remain a feature for a very long time. Plans should be renovated to ensure that return targets can be met over an appropriate time horizon, taking advantage of both traditional asset classes and through the addition of those that bolster returns, improve income generation, manage volatility, add ballast or, ideally, contribute to more than one of these. Most important, whatever the plan is, it must be understood that there never was, and certainly will not be, a perfect steady state for strategic asset mix – it's a journey.

APPENDIX I

RBC GAM long-term capital market assumptions

Asset Class	Reference Index		
Fixed Income		Expected returns (%)	Historical standard deviation (%)
U.S. Cash	Citigroup (1 M) CD (LOC)	1.6	0.5
CDN Cash	FTSE Canada 30 day T-Bill Index	1.5	0.4
GBP Cash	Citigroup U.K. Sterling Euro Deposit (1 M) (LOC)	2.2	0.5
Euro Cash	Citigroup Euro Euro Deposit (1 M) (LOC)	1.0	0.5
Japan Cash	FTSE Japanese Yen Euro Deposit (1 M) (LOC)	0.6	0.5
EM Cash	JP Morgan ELMI+	5.5	8.5
CDN Provincial Bonds	FTSE Canada Provincial Bond Index	2.0	4.5
CDN Federal Bonds	FTSE Canada Federal Bond Index	1.0	3.5
CDN Government Bonds	FTSE Canada All government Bond Index	1.5	4.0
CDNCorporate Bonds	FTSE Canada All Corporate Bond Index	2.6	5.0
CDN Universe Bonds	FTSE Canada Universe Bond Index	1.8	4.5
U.S. Government Bonds	ICE BofA 1-10 Year U.S. Treasury Index	0.9	4.0
U.S. Corporate Bonds	ICE BofA 1-10 Year U.S. Corporate Index	2.9	6.0
U.K. Government Bonds	ICE BofA 1-10 Year U.K. Gilt Index	0.7	3.7
U.K. Corporate Bonds	ICE BofA 1-10 Year Sterling Corporate Index	2.8	5.5
Euro Government Bonds	Iboxx Eurozone Sovereigns	0.7	4.0
Euro Corporate Bonds	Iboxx Eurozone Corporates	2.2	6.0
Asian Bonds	HSBC Asian Local Bond Index LCL	0.3	7.0
Citi WGBI	Citi WGBI	1.0	3.5
HY Bonds	ICE BofA U.S. High Yield Index	6.1	9.0
EM Bonds	JPM EMBI Global Diversified TR USD	4.3	10.0
Global Bonds	Barcap Global Agg Bond Index (USD)	1.8	5.0

Equities		Expected returns (%)	Historical standard deviation (%)
CDN Equities	TSX Composite	8.0	16.0
U.S. Equities	S&P 500 TR	8.2	15.0
U.S. Mid Caps	S&P 400 TR	8.7	18.0
U.S. Small Caps	S&P 600 TR	9.2	20.0
U.K. Equities	FTSE AllSh TR	10.0	15.0
Europe Equities ex UK	MSCI Europe ex U.K. USD	9.6	17.0
Asian Equities	MSCI AC Asia Pac LCL	4.9	16.0
Japan Equities	Nikkei 225 Average PR JPY	7.0	15.0
Australian Equities	S&P/ASX 200 TR	8.4	14.0
Developed Markets (World)	MSCI World	8.1	14.5
EM equities	MSCI EM LCL	10.8	18.0
EAFE Equities	MSCI EAFE	8.0	15.0

Note: As of April 30, 2020. RBC GAM employs multiple independent forecasting models from different investment teams within RBC GAM. The results from the models are collected, reviewed and discussed by the RBC GAM Long-Term Returns Committee to arrive at the expected return assumptions. The committee is also a forum for the discussion of new asset classes, new forecasting tools, methods and refinements to the existing process. Source: RBC GAM

Economic & Capital Markets Forecasts

Economic forecast (RBC GAM Investment Strategy Committee)

	United States		Canada		Europe		United Kingdom		Japan		China		Emerging markets*	
	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020	Summer 2020	Change from Spring 2020
Real GDP														
2019A	2.33%		1.64%		1.17%		1.40%		0.75%		6.13%		4.62%	
2020E	(7.10%)	(9.00)	(8.80%)	(10.10)	(10.60%)	(11.50)	(11.00%)	(12.10)	(7.90%)	(7.70)	(0.10%)	(5.10)	(0.80%)	(5.10)
2021E	5.70%	3.70	3.80%	2.10	3.60%	2.40	3.10%	1.70	1.80%	1.00	10.70%	3.90	8.00%	2.50
CPI														
2019A	1.81%		1.96%		1.19%		1.79%		0.49%		2.90%		3.19%	
2020E	0.00%	(2.30)	0.00%	(2.10)	(0.50%)	(1.90)	0.00%	(1.50)	(1.00%)	(2.10)	2.00%	(1.60)	2.20%	(1.90)
2021E	1.00%	(1.20)	1.00%	(1.00)	0.50%	(1.10)	1.00%	(1.10)	0.00%	(1.00)	2.50%	0.10	2.80%	(0.10)

A = Actual   E = Estimate   *GDP Weighted Average of China, India, South Korea, Brazil, Mexico and Russia.

Targets (RBC GAM Investment Strategy Committee)

	May 2020	Forecast May 2021	Change from Spring 2020	1-year total return estimate* (%)
Currency Markets against USD				
CAD (USD–CAD)	1.38	1.40	0.06	(1.4)
EUR (EUR–USD)	1.11	1.18	0.00	5.3
JPY (USD–JPY)	107.82	101.00	(2.00)	6.4
GBP (GBP–USD)	1.23	1.22	(0.06)	(1.1)
Fixed Income Markets				
U.S. Fed Funds Rate (Upper Bound)	0.13	0.13	(0.88)	N/A
U.S. 10-Year Bond	0.65	0.75	(0.85)	(0.3)
Canada Overnight Rate	0.25	0.25	(0.75)	N/A
Canada 10-Year Bond	0.53	0.75	(0.75)	(1.5)
Eurozone Deposit Facility Rate	(0.50)	(0.50)	0.10	N/A
Germany 10-Year Bund	(0.45)	(0.30)	(0.05)	(1.9)
U.K. Base Rate	0.10	0.10	(0.40)	N/A
U.K. 10-Year Gilt	0.18	0.40	(0.20)	(1.9)
Japan Overnight Call Rate	(0.07)	(0.20)	N/C	N/A
Japan 10-Year Bond	0.01	0.00	0.10	0.1
Equity Markets				
S&P 500	3044	3100	(175)	3.8
S&P/TSX Composite	15193	16250	(1250)	10.5
MSCI Europe	117	122	(18)	8.0
FTSE 100	6077	6075	(1375)	4.0
Nikkei	21878	23600	(150)	9.9
MSCI Emerging Markets	930	990	(130)	9.2

*Total returns are expressed in local currencies with the exception of MSCI Emerging Markets whose return is expressed in USD. Source: RBC GAM

Recommended Asset Mix

Asset mix – the allocation within portfolios to stocks, bonds and cash – should include both strategic and tactical elements. Strategic asset mix addresses the blend of the major asset classes offering the risk/return tradeoff best suited to an investor's profile. It can be considered to be the benchmark investment plan that anchors a portfolio through many business and investment cycles, independent of a near-term view of the prospects for the economy and related expectations for capital markets. Tactical asset allocation refers to fine tuning around the strategic setting in an effort to add value by taking advantage of shorter term fluctuations in markets.

Every individual has differing return expectations and tolerances for volatility, so there is no "one size fits all" strategic asset mix. Based on a 40-year study of historical returns[1] and the volatility[2] of returns (the range around the average return within which shorter-term results tend to fall), we have developed five broad profiles and assigned a benchmark strategic asset mix for each. These profiles range from very conservative through balanced to aggressive growth. It goes without saying that as investors accept increasing levels of volatility, and therefore greater risk that the actual experience will depart from the longer-term norm, the potential for returns rises. The five profiles presented below may assist investors in selecting a strategic asset mix best aligned to their investment goals.

Each quarter, the RBC GAM Investment Strategy Committee publishes a recommended asset mix based on our current view of the economy and return expectations for the major asset classes. These weights are further divided into recommended exposures to the variety of global fixed income and equity markets. Our recommendation is targeted at the Balanced profile where the benchmark setting is 60% equities, 38% fixed income, 2% cash.

A tactical range of +/- 15% around the benchmark position allows us to raise or lower exposure to specific asset classes with a goal of tilting portfolios toward those markets that offer comparatively attractive near-term prospects.

This tactical recommendation for the Balanced profile can serve as a guide for movement within the ranges allowed for all other profiles.

The value-added of tactical strategies is, of course, dependent on the degree to which the expected scenario unfolds.

Regular reviews of portfolio weights are essential to the ultimate success of an investment plan as they ensure current exposures are aligned with levels of long-term returns and risk tolerances best suited to individual investors.

Anchoring portfolios with a suitable strategic asset mix, and placing boundaries defining the allowed range for tactical positioning, imposes discipline that can limit damage caused by swings in emotion that inevitably accompany both bull and bear markets.

[1]**Average return**: The average total return produced by the asset class over the period 1979 – 2019, based on monthly results.
[2]**Volatility**: The standard deviation of returns. Standard deviation is a statistical measure that indicates the range around the average return within which 2/3 of results will fall into, assuming a normal distribution around the long-term average.

Global Asset Mix

	Benchmark Policy	Past range	Summer 2019	Fall 2019	New Year 2020	Spring 2020	Summer 2020
Cash	**2.0%**	1.0% – 16%	2.5%	3.0%	1.0%	2.0%	**1.0%**
Bonds	**38.0%**	25.0% – 54.0%	40.0%	40.0%	40.0%	39.0%	**38.0%**
Stocks	**60.0%**	36.0% – 65.0%	57.5%	57.0%	59.0%	59.0%	**61.0%**

Note: Effective June 1, 2020, we reset our strategic neutral positions to reflect long-lasting changes in economy and capital markets' dynamics. Boosting strategic neutral equity exposure by 5% and reducing fixed income by same amount in our reference balanced portfolio.

Regional Allocation

Global Bonds	WGBI* May 2020	Past range	Summer 2019	Fall 2019	New Year 2020	Spring 2020	Summer 2020
North America	**42.3%**	18% – 48%	40.3%	48.3%	43.8%	44.2%	**42.3%**
Europe	**39.0%**	32% – 56%	43.3%	32.9%	37.7%	37.7%	**39.0%**
Asia	**18.7%**	16% – 35%	16.5%	18.8%	18.5%	18.2%	**18.7%**

Note: Past Range reflects historical allocation from Fall 2002 to present.

Global Equities	MSCI** May 2020	Past range	Summer 2019	Fall 2019	New Year 2020	Spring 2020	Summer 2020
North America	**66.7%**	51% – 66%	61.9%	63.1%	62.5%	63.6%	**65.7%**
Europe	**16.4%**	16% – 35%	19.1%	18.2%	18.6%	17.8%	**16.1%**
Asia	**9.7%**	9% – 18%	11.6%	11.2%	11.4%	11.1%	**10.7%**
Emerging Markets	**7.3%**	0% – 8.5%	7.5%	7.5%	7.5%	7.5%	**7.5%**

Our asset mix is reported as at the end of each quarter. The mix is fluid and may be adjusted within each quarter, although we do not always report on shifts as they occur. The weights in the table should be considered a snapshot of our asset mix at the date of release of the Global Investment Outlook.

Global Equity Sector Allocation

	MSCI** May 2020	RBC GAM ISC Spring 2020	RBC GAM ISC Summer 2020	Change from Spring 2020	Weight vs. Benchmark
Energy	3.49%	2.40%	1.99%	(0.42)	57.0%
Materials	4.20%	2.17%	2.70%	0.53	64.3%
Industrials	10.01%	11.93%	9.01%	(2.92)	90.0%
Consumer Discretionary	10.65%	12.25%	11.65%	(0.61)	109.4%
Consumer Staples	8.82%	8.24%	8.82%	0.58	100.0%
Health Care	14.77%	14.98%	16.77%	1.79	113.5%
Financials	12.96%	14.43%	12.96%	(1.47)	100.0%
Information Technology	19.50%	19.33%	21.50%	2.16	110.3%
Communication Services	8.98%	8.47%	8.98%	0.51	100.0%
Utilities	3.52%	2.54%	3.52%	0.98	100.0%
Real Estate	3.10%	3.25%	2.10%	(1.15)	67.7%

*FTSE World Government Bond Index **MSCI World Index Source: RBC GAM Investment Strategy Committee

The RBC GAM Investment Strategy Committee has announced a change to its strategic equity weight. Please refer to the article by Dan Chornous on page 4 for details of this change. The committee is also considering changes to our regional equity weights. We will provide details of this change at a later date. For a global balanced investor, we are tactically positioned at 61% equity, 38% fixed income and 1% cash.

Capital Markets Performance

Milos Vukovic, MBA, CFA
V.P. & Head of Investment Policy
RBC Global Asset Management Inc.

The U.S. dollar, supported by its status as a safe-haven currency, rose sharply against other major currencies during the initial stage of the COVID-19 market turmoil in March. The greenback's strength and currency volatility abated only after major central banks revealed plans for huge liquidity injections to ensure the proper functioning of capital markets. The U.S. dollar finished the quarter ended May 31, 2020, up 3.8% against the British pound and up 2.6% against the Canadian dollar, while remaining relatively flat against the euro and yen. Sterling weakness was attributed to concerns about the British economy, its future trade relationship with Europe and its late implementation of pandemic lockdown measures. The loonie struggled as the Canadian economy faced weakness in oil prices, financially burdened consumers and diminishing foreign investment.

Bond yields in the U.S., Canada and the U.K. fell markedly over the three months ended May 31, 2020 as a result of quick and aggressive monetary-policy action by central banks in response to the coronavirus pandemic. The U.S. Federal Reserve, the Bank of Canada and the Bank of England cut interest rates to near zero and either began or resumed significant quantitative-easing programs. The yield on the 10-year U.S. Treasury bond fell to a record low of 0.31% from 1.15% three months ago, and ended the quarter at 0.65%. As a result, U.S. bond indexes like the Bloomberg Barclays U.S. Aggregate Bond Index and FTSE U.S. Government Bond Index gained the most, with both returning 1.7%. The FTSE Japanese Government Bond Index was the worst performer, posting a loss of 2.1% in U.S.-dollar terms. Over the latest one-year period, key bond indexes were generally up by percentages in the mid-to-high single digits, except for the FTSE Japanese Government Bond Index, which posted a small decline of 0.2%.

Global equity markets were extremely volatile in the most recent quarter, with many markets falling about one-third from their peaks and then retracing a large part of those losses. The implementation of lockdown measures helped to slow the spread of the virus, but wreaked havoc on economies and capital markets. However, equity markets began to rally from the lows in late March, supported by enormous monetary- and fiscal-stimulus announcements totaling over 35% of GDP. Since the March 23 low, the S&P 500 Index and MSCI World Index regained two-thirds of their peak-to-trough declines and ended the quarter with slight gains. Among broad market indexes measured in U.S. dollars, the MSCI Japan Index and the S&P 500 Index fared the best, returning 3.7% and 3.6%, respectively, in the latest three-month period. U.K., France and emerging-market stocks fared the worst, posting losses of 10.7% for the MSCI United Kingdom Index, 9.8% for the MSCI France Index and 6.9% for the MSCI Emerging Markets Index.

As panic gripped capital markets, investors sought shelter in the relative stability of large-cap stocks, which outperformed their smaller brethren in the three months ended May 31, 2020. The 8.8% drop in the small-cap S&P 600 Index was over 12 percentage points lower than the return of the large-cap S&P 500. Investors preferred the predictability of strong earnings growth from growth stocks as many companies struggled with the COVID-19-related lockdowns. The Russell 3000 Growth Index delivered a 9.9% return while the Russell 3000 Value Index lost 5.1%. A huge dispersion in returns can also be seen for global equity sectors in the quarter. The high-growth Health Care and Information Technology sectors led the way with returns of 11.9% and 11.0%, respectively. At the other end of the spectrum was the Energy sector's 16.8% loss and the Financials sector's 14.9% drop.

Exchange Rates
Periods ending May 31, 2020

	Current USD	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)
USD–CAD	1.3769	2.58	6.03	1.87	0.64	2.06
USD–EUR	0.9009	(0.55)	1.05	0.64	0.40	(0.21)
USD–GBP	0.8097	3.82	7.26	2.37	1.42	4.36
USD–JPY	107.8450	(0.01)	(0.75)	(0.48)	(0.88)	(2.77)

Note: all changes above are expressed in US dollar terms

Canada
Periods ending May 31, 2020

	USD					CAD		
Fixed Income Markets: Total Return	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
FTSE Canada Univ. Bond Index TR	(0.54)	(0.27)	5.09	3.63	1.64	2.03	7.05	4.29

U.S.
Periods ending May 31, 2020

	USD					CAD		
Fixed Income Markets: Total Return	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
FTSE U.S. Government TR	1.74	5.53	9.57	5.11	3.98	4.37	11.62	5.64
BBgBarc U.S. Agg. Bond Index TR[1]	1.65	5.47	9.42	5.07	3.94	4.27	11.46	5.74

Global
Periods ending May 31, 2020

	USD					CAD		
Fixed Income Markets: Total Return	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
FTSE WGBI TR	0.52	2.68	6.19	3.69	3.41	3.11	8.18	4.22
FTSE European Government TR	(0.32)	0.61	4.84	2.87	2.52	2.25	6.80	3.52
FTSE Japanese Government TR	(2.13)	0.07	(0.17)	1.89	4.60	0.39	1.69	2.54

Canada
Periods ending May 31, 2020

	USD					CAD		
Equity Markets: Total Return	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
S&P/TSX Composite	(8.05)	(14.83)	(3.91)	2.16	1.28	(5.68)	(2.11)	2.81
S&P/TSX 60	(7.10)	(13.50)	(3.17)	3.02	2.07	(4.70)	(1.36)	3.68
S&P/TSX Small Cap	(9.64)	(23.47)	(12.80)	(6.68)	(3.94)	(7.31)	(11.18)	(6.09)

U.S.
Periods ending May 31, 2020

	USD					CAD		
Equity Markets: Total Return	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
S&P 500 TR	3.59	(4.97)	12.84	10.23	9.86	6.26	14.95	10.94
S&P 400 TR	(2.27)	(13.86)	(0.81)	2.51	4.68	0.25	1.04	3.17
S&P 600 TR	(8.77)	(20.81)	(8.11)	0.32	3.93	(6.42)	(6.40)	0.96
Russell 3000 Value TR	(5.14)	(16.36)	(2.52)	2.16	4.12	(2.70)	(0.70)	2.81
Russell 3000 Growth TR	9.91	4.47	24.99	16.55	13.91	12.75	27.32	17.30
NASDAQ Composite Index TR	11.07	6.22	28.66	16.48	14.64	13.94	31.07	17.23

Note: all rates of return presented for periods longer than 1 year are annualized. [1] Bloomberg Barclays U.S. Agg. Bond Index TR. Source: RBC GAM

Global
Periods ending May 31, 2020

Equity Markets: Total Return	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
MSCI World TR *	0.89	(8.20)	6.80	5.91	5.84	3.89	9.19	6.73
MSCI EAFE TR *	(3.73)	(14.26)	(2.81)	(0.37)	0.79	(0.87)	(0.64)	0.40
MSCI Europe TR *	(5.24)	(16.19)	(4.41)	(1.68)	0.03	(2.43)	(2.26)	(0.93)
MSCI Pacific TR *	(1.24)	(11.12)	(0.24)	1.98	2.25	1.69	2.00	2.77
MSCI UK TR *	(10.72)	(24.36)	(14.85)	(5.01)	(3.44)	(8.07)	(12.95)	(4.28)
MSCI France TR *	(9.84)	(20.63)	(8.22)	(1.87)	1.71	(7.17)	(6.17)	(1.11)
MSCI Germany TR *	(1.13)	(13.02)	(1.54)	(3.60)	0.05	1.80	0.66	(2.85)
MSCI Japan TR *	3.65	(7.11)	6.98	3.34	3.09	6.73	9.38	4.13
MSCI Emerging Markets TR *	(6.95)	(15.96)	(4.39)	(0.15)	0.88	(4.18)	(2.24)	0.62

Global Equity Sectors
Periods ending May 31, 2020

Sector: Total Return	USD					CAD		
	3 months (%)	YTD (%)	1 year (%)	3 years (%)	5 years (%)	3 months (%)	1 year (%)	3 years (%)
Energy TR *	(16.82)	(34.97)	(31.19)	(11.25)	(8.73)	(14.35)	(29.64)	(10.56)
Materials TR *	4.94	(10.73)	3.86	2.93	2.99	8.05	6.19	3.72
Industrials TR *	(5.58)	(15.22)	(2.94)	1.18	4.29	(2.78)	(0.77)	1.96
Consumer Discretionary TR *	5.95	(3.19)	11.77	8.50	7.60	9.10	14.27	9.34
Consumer Staples TR *	2.69	(6.36)	4.18	2.05	4.75	5.74	6.51	2.84
Health Care TR *	11.92	2.78	23.19	11.28	6.80	15.24	25.96	12.14
Financials TR *	(14.87)	(25.27)	(13.55)	(3.15)	0.04	(12.34)	(11.61)	(2.40)
Information Technology TR *	10.96	6.20	34.50	20.53	18.40	14.25	37.52	21.46
Communication Services TR*	4.13	(2.44)	10.93	4.62	3.91	7.22	13.41	5.43
Utilities TR *	(4.92)	(7.30)	4.47	5.01	5.97	(2.09)	6.81	5.82
Real Estate TR *	(10.20)	(15.81)	(9.55)	1.20	NA	(7.53)	(7.52)	1.98

* Net of taxes. Note: all rates of return presented for periods longer than 1 year are annualized. Source: Bloomberg/MSCI

Economic Outlook

The coronavirus, COVID-19, engulfs the world

Eric Lascelles
Chief Economist
RBC Global Asset Management Inc.

The coronavirus crisis has truly engulfed the world. The pandemic has so altered the economic trajectory that early-2020 blockbuster topics such as the approaching U.S. election, an important Brexit deadline and the deterioration of U.S.-China relations barely get remarked on today.

In the great majority of recessions, the potential trigger is identified in advance by at least a subset of the forecasting community. That was not the case with COVID-19, the disease caused by the coronavirus, SARS-CoV-2. As the coronavirus began spreading around China's Hubei province in January, few investors put any serious weight on a global pandemic interfering with the global economy in 2020, let alone producing the sharpest GDP decline in modern history.

Even once it was understood that a serious pandemic was underway, precedent provided little guidance. Comparisons to SARS, a 2003 outbreak that was quickly contained, proved flimsy almost immediately. Pandemics such as the Spanish Flu of 1918-1919, the Asian Flu of 1957-1958 and the Hong Kong Flu of 1968-1969 did real human damage, but the economic effects were minimal compared to the impact of COVID-19. It is not that this virus is so much more potent than the others, but rather that governments have been willing this time to effect lockdowns. Large chunks of the economy have been shut down via edict, with people staying at home and businesses prevented from opening. Economic data has massively undershot expectations (Exhibit 1).

Lacking precedent, workers, businesses, investors and forecasters are stumbling forward. Fortunately, the lockdowns have borne some fruit, with the spread of the virus now slowing in many parts of the world. In turn, social-distancing measures

Exhibit 1: Global economic surprises crashed, but have rebounded

Note: As of 5/29/2020. Source: Citigroup, Bloomberg, RBC GAM
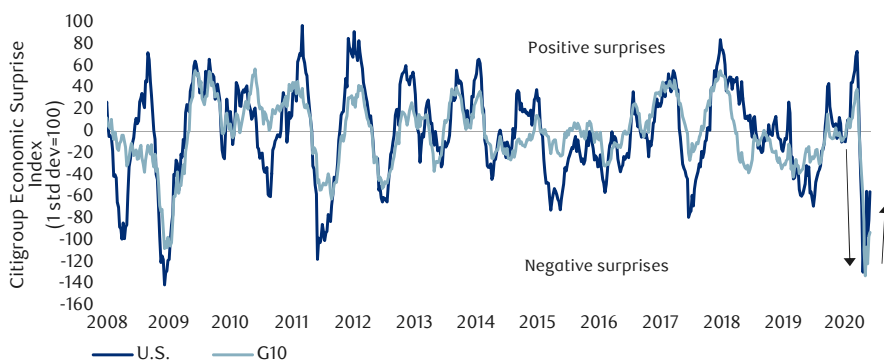
Exhibit 2: Recovery checklist: several boxes being ticked

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	Yes
Decline in global new cases / day	Maybe
Decline in global new fatalities / day	Maybe
Credible plan to end quarantine	Maybe
Quarantining significantly reduced	In progress
Return to economic growth	Yes
Development of important therapeutic	No
Development of vaccine	No
Achievement of herd immunity	No
Return to prior level of output	No

Note: As at 2020-05-20. Source: RBC GAM

are beginning to ease and economic activity is starting to revive. Financial markets have staged a substantial rebound. The worst may be over on all counts.

Our checklist of key coronavirus developments shows that important progress is being made, though we are still a long way from "normal' (Exhibit 2).

Most worryingly, there is a mounting risk that some regions may have to impose a second round of lockdowns as their rates of infection begin rising again.

The spread of COVID-19

The virus originated in China, and rapidly spread around the world. The fatality rate of the virus is unremarkable by the standards of prior pandemics, but the virus is easily transmitted. Absent special preventative measures, the average sick individual infects three more people – a dangerously high trajectory. The virus has proven unusually devious in a variety of ways: it is contagious before symptoms have appeared; a significant fraction of those infected manifest no symptoms at all; and its main symptoms mimic the flu and common cold.

More than 6 million people around the world have been stricken by COVID-19, with around 100,000 new daily infections. The transmission rate has declined significantly, but is now stuck slightly above the key threshold of one (Exhibit 3). Fortunately, while the virus itself can no longer be said to be in decline, according to the global transmission numbers, the fatality rate does appear to be declining (Exhibit 4).

Exhibit 3: Global transmission rate hovering around key threshold of one

Note: As of 6/1/2020. Transmission rate calculated as 7-day % change of underlying 5-day moving average of new daily cases. Source: ECDC, Macrobond, RBC GAM
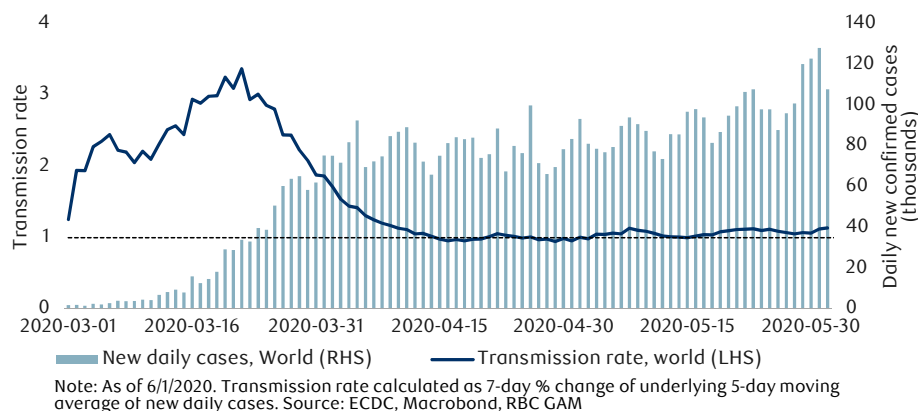
Exhibit 4: Global new cases rising while deaths declining

Note: As of 6/1/2020. 7-day moving average of cases & deaths indexed to 100. Source: ECDC, Macrobond, RBC GAM
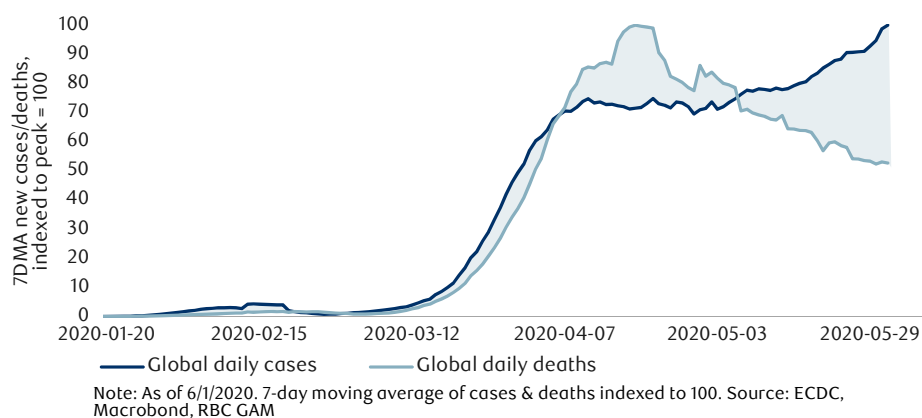
Exhibit 5: COVID-19 hitting emerging-market countries now

Note: As of 6/1/2020. DM aggregates case count from France, Germany, Italy, Spain, U.K. and U.S. and represents 47.2% of global cases. EM aggregates case count from Brazil, India, Iran, Peru, Russia, and Turkey and represents 25.6% of global cases. Source: ECDC, Macrobond, RBC GAM
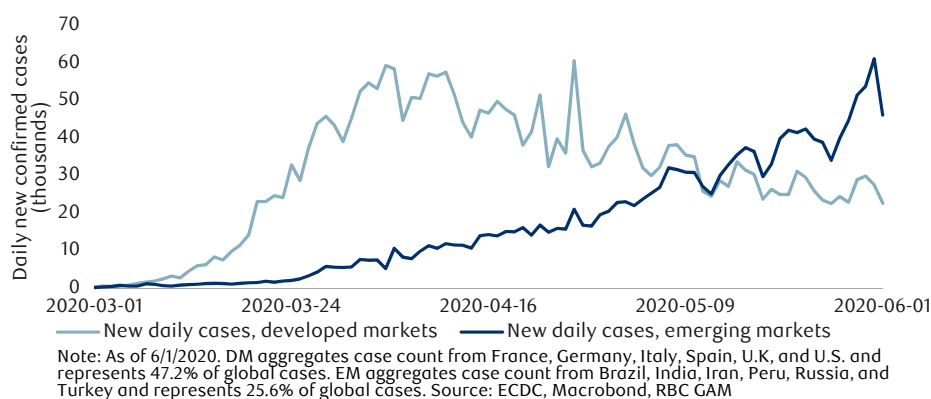
Exhibit 6: COVID-19 economic channels

Economic channel	Description	Shallow depth scenarios	Medium depth scenarios	Deep depth scenarios
Financial markets	Tighter financial conditions, negative wealth effect	Small	Medium	Very large
Business confidence	Reluctance to hire, invest, buy inputs	Medium	Large	Very large
Household confidence	Reluctance to spend	Small	Medium	Large
Death	Reduction in labour supply, product demand	Minimal	Minimal	Small
Illness	Temporary reduction in labour supply	Minimal	Small	Medium
Quarantine	Temporary reduction in labour supply & product demand	Medium	Large	Very large
Supply chain	Magnifies other effects; slows recovery	Small	Medium	Medium
Liquidity/solvency	Temporary losses can tip businesses/households into illiquidity or insolvency	Small	Medium	Very large
Effect on 2020 developed-world GDP growth rate (ppt): (each cell's range reflects different possible crisis durations)		-2 to -5	-6 to -11	-11 to -19

Note: As at Apr 24, 2020. Source: RBC GAM

The fatality numbers are arguably the more accurate of the two sets of estimates.

Developed countries are generally having increased success at taming their infection rates, while a significant number of emerging-market countries continue to suffer a rising infection rate (Exhibit 5).

Forecasts slashed

The pandemic has generated the largest and most abrupt shock to global growth in modern history. The virus impacts the economy in a number of ways (Exhibit 6).

The many deaths and illnesses constitute a human tragedy, but the primary economic damage is actually centred elsewhere. Government-imposed lockdowns inflict the deepest wound, preventing many people from working and spending, and companies from operating. The hit via business

Exhibit 7: Five key economic questions
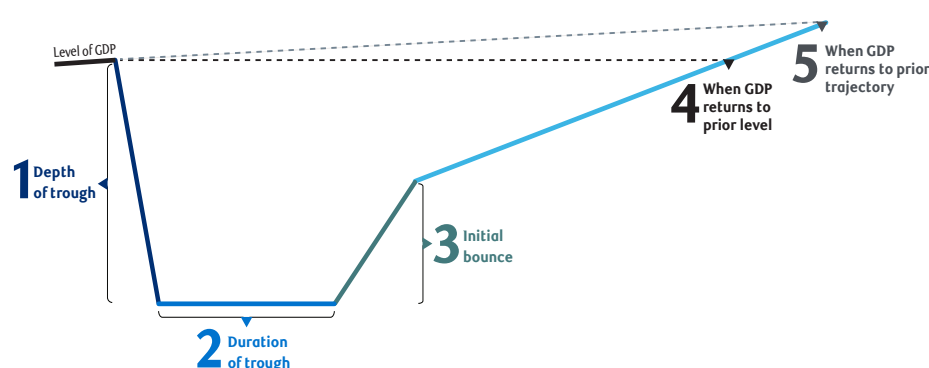
Source: RBC GAM

confidence is also potentially quite large, with businesses opting to lay off workers, scale back capital expenditures and purchase fewer inputs.

Household confidence is another relevant channel. Consumer spending has declined far more sharply than household income, pointing to a

confidence effect. Supply-chain issues and liquidity/solvency problems may yet become more pressing.

Attempts to quantify the effects of the coronavirus on economic activity must be framed via five questions (Exhibit 7). Our base-case outlook for the U.S. economy rests upon the following assumptions:

1. **Depth of trough**: The economy initially shrank by 18% from February into April.

2. **Duration of trough**: The economic trough lasted from the second half of March into late April.

3. **Initial bounce**: Half of the economic decline is recovered by mid-July.

4. **When GDP returns to prior level**: The economy returns to its prior peak at the end of 2021.

5. **When GDP returns to prior trajectory**: The economy rejoins its prior trajectory in the middle of 2022.

Purchasing manager indexes corroborate the initial elements of this pattern, with a sharp decline in economic output visible in March, a further deterioration in April, and a tentative revival in May (Exhibit 8).

When these key assumptions are incorporated into a 2020 growth forecast, they point to sharp economic declines not just in the U.S. but across the developed world (Exhibit 9). The impact on emerging markets is somewhat more varied, but also considerable (Exhibit 10).

Emerging economies merit particular attention. Many continue to suffer a rising number of infections because a large fraction of their citizens live in subsistence-level poverty that precludes sustained social distancing, and their governments have more limited resources to provide adequate medical care and/or monetary and fiscal stimulus.

Another way of evaluating the economic damage is on a sector-by-sector basis. Sectors reliant on

Exhibit 8: Global manufacturing rebounded tentatively after freefall

Note: As of May 2020. PMI refers to Purchasing Managers Index for manufacturing sector, a measure for economic activity. Source: Haver Analytics, RBC GAM
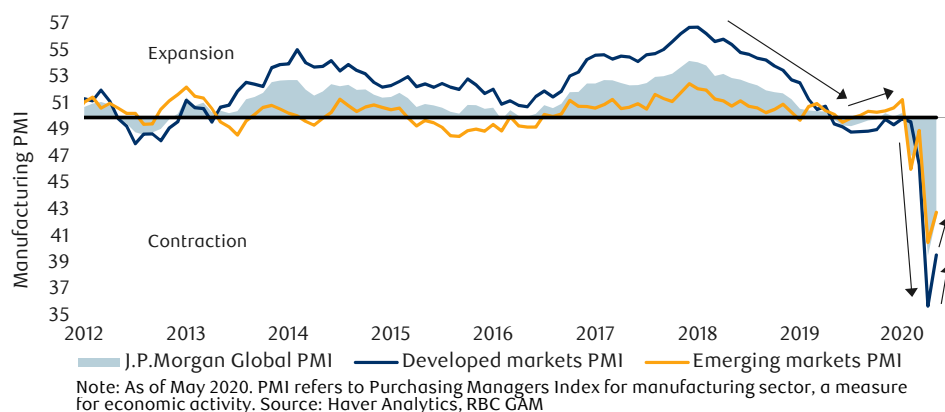
Exhibit 9: RBC GAM GDP forecast for developed markets

Source: RBC GAM
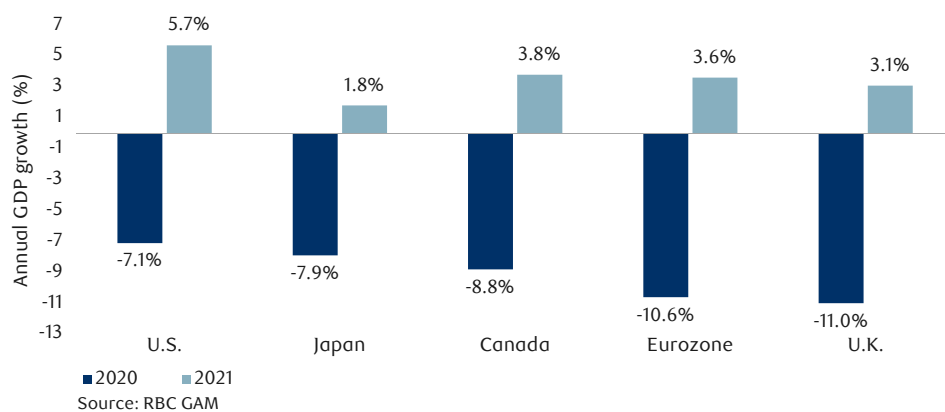
Exhibit 10: RBC GAM GDP forecast for emerging markets

Source: RBC GAM
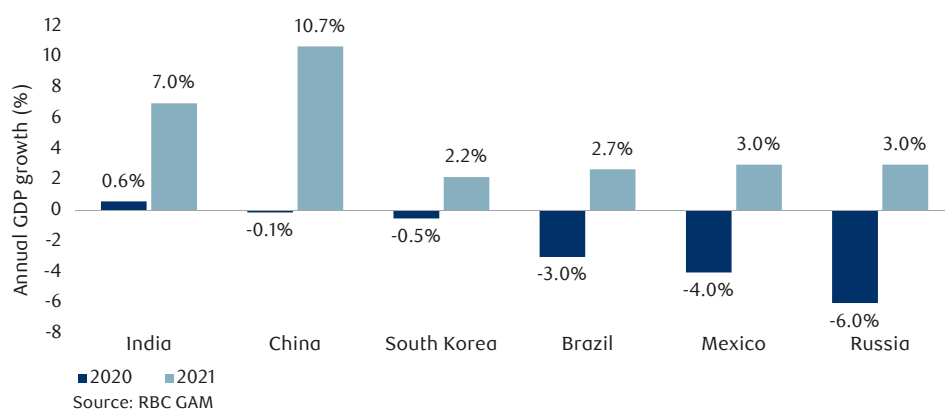
travel and physical interaction such as entertainment, tourism and retail suffer the greatest blow, while those such as health care, government and agriculture are more resilient. At an even more granular level, large businesses generally outperform small ones, and those that can pivot toward online offerings are obviously besting those that require in-person visits.

Our growth forecasts have, naturally, been slashed over the past quarter, and are mostly below the consensus (Exhibit 11). This relative positioning has been informed by a number of real-time economic indicators (discussed in the next section) and our view that the economic recovery will be only partial in the short run (discussed in the subsequent section).

Estimating the hit to output

We have cobbled together an incredible variety of real-time and unconventional macroeconomic indicators that help us to better understand how the pandemic is affecting economies. Some of these measures are quite narrow, providing a porthole into such minutiae as movie-ticket sales, traffic congestion and airline passengers.

Other measures offer a broader view, such as a survey of U.S. businesses that showed sales declining as much as 44% in the wake of lockdowns (Exhibit 12). A survey of the hours worked by U.S. hourly workers found a drop of as much as 60% (Exhibit 13). Credit- and debit-card data in various countries argues that spending fell by at least 30% at the height of the lockdowns. Our own model of business investment uses leading indicators to

Exhibit 11: GAM forecasts vs. consensus for 2020

Note: Deviation measured as difference between RBC GAM forecast and consensus forecast. Consensus forecast as of May 2020. Source: Consensus Economics, RBC GAM
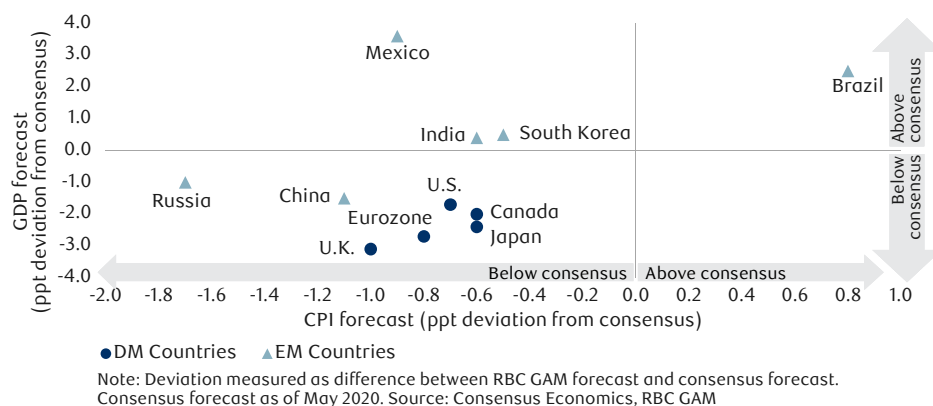
Exhibit 12: New orders and sales of U.S. businesses hammered by COVID-19

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
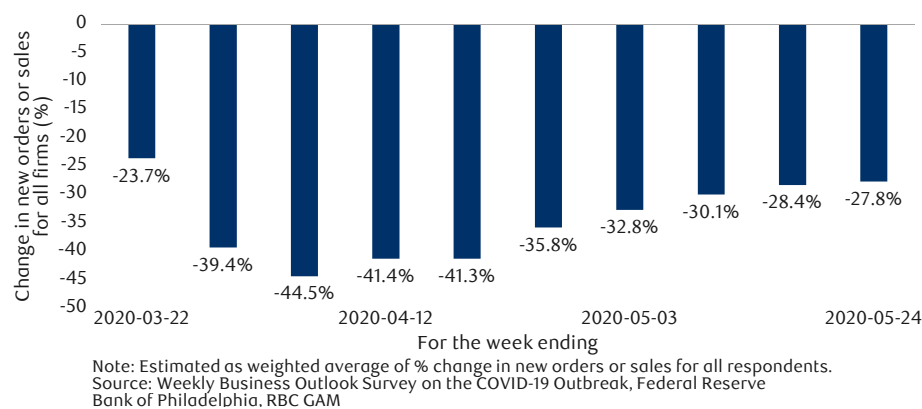
Exhibit 13: Number of hours worked by hourly workers in the U.S. dropped substantially

Note: As of 5/31/2020. Impact compares hours worked in a day vs. median for the same day of the week in January, 2020. Source: Homebase, Macrobond, RBC GAM
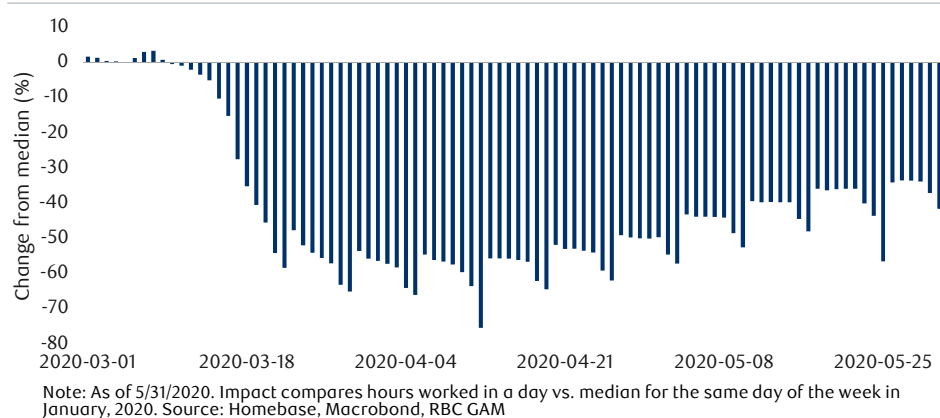
predict that this critical component of GDP has also retreated substantially (Exhibit 14).

The first pieces of more conventional economic data are starting to become available for the crucial month of April, and these suggest that the real-time indicators may have exaggerated the extent of the economic suffering. For instance, while U.S. initial jobless claims now number roughly 40 million (Exhibit 15), the actual number of jobs lost appears to be about 10 million less. In this particular case, the discrepancy lies in the fact that some applicants for government aid were making multiple submissions.

The economic damage has nevertheless been immense. Accordingly, our forecasts assume an 18% peak-to-trough decline in U.S. output, and a somewhat steeper decline in most other developed countries for reasons articulated later.

Recovery assumptions

No less relevant than the extent of the economic decline is how quickly and completely the damage can be undone. Governments are now in a better position to ease restrictions given the many exit criteria that are starting to be met: a decline in the number of new cases in many countries, the availability of spare medical capacity, a huge increase in testing capacity, and the implementation of enhanced protective measures that reduce the risk for workers and shoppers. In turn, multi-phased recovery sequences are being implemented (Exhibit 16).

The incremental re-opening of economies is visible in a variety of ways. Our metric estimating

Exhibit 14: U.S. capex indicators nosedived

Note: Capital expenditures (May 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

Exhibit 15: U.S. jobless claims decreasing gradually

Over 40.8 million jobless claims since the start of lockdown

Note: As of the week ending May 23, 2020. Source: DOL, Haver Analytics, RBC GAM
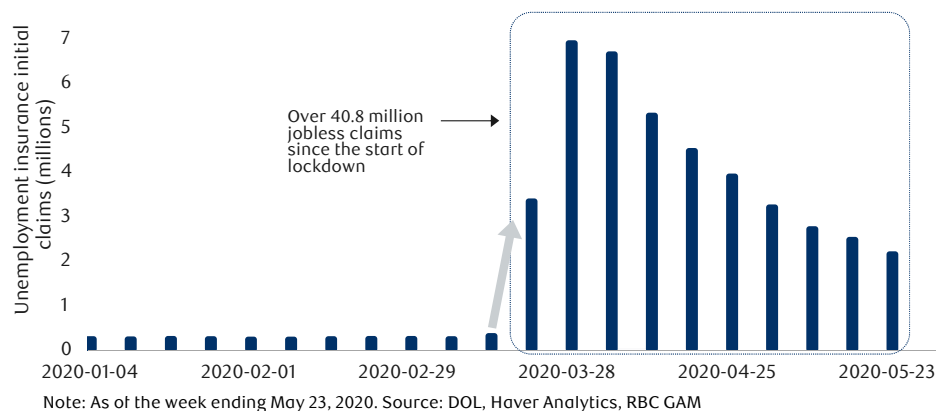
Exhibit 16: Exit strategy and sequence

Exit criteria:
• Reduced new virus count
• Spare medical capacity
• Enhanced testing & tracing
• Enhanced protective measures (masks, altered workspaces, transit, store procedures)

Restart sequence:
• Young, healthy and immune workers can restart before old and sick
• Jobs that can be done from home
• Jobs with low interpersonal contact
• Sectors that are essential to allowing a broader restart of the economy
• Sectors with a high economic importance
• Schools/daycares to let parents work outside the home
• Social activities come later (restaurants, theatre, recreational sports)
• Mass gatherings must wait for herd immunity or vaccine

Criticism:
• Economy is extremely complex – most sectors provide important inputs to other sectors

Source: RBC GAM

the severity of pandemic-related lockdowns shows that a significant number of countries have managed to partially restart, as measured by Google Mobility, Apple Mobility and Oxford University researchers (Exhibit 17).

Similarly, many real-time economic indicators now point toward some semblance of an economic rebound. Data for U.S. business sales and hours worked both now show that around one-third of the initial decline for the two measures has been recovered. Credit- and debit-card data has generally reclaimed more than half of the initial spending decline. Even if such real-time measures exaggerated the extent of the recovery, the recovery has come together faster than we had initially expected.

Nevertheless, the remainder of the recovery is still only likely to be partial in the near term, for three reasons (Exhibit 18).

First, re-openings are, by design, incremental. In theory, the idea is for governments to wait several weeks between each step to ensure no significant acceleration in the number of infections before proceeding. This process will take several months, at a minimum, and there is a fair risk that the progression will have to be halted or even partially unwound along the way.

Based on our understanding of the natural transmission rate of COVID-19 relative to its diminished transmission rate under lockdown, some simple math argues that only around 13% of the lockdown protocol can be eased before the virus accelerates anew.

Exhibit 17: Rebound visible across all countries

Note: As of 5/24/2020. Deviation from baseline, normalised to U.S. Source: Google, University of Oxford, Apple, Macrobond, RBC GAM
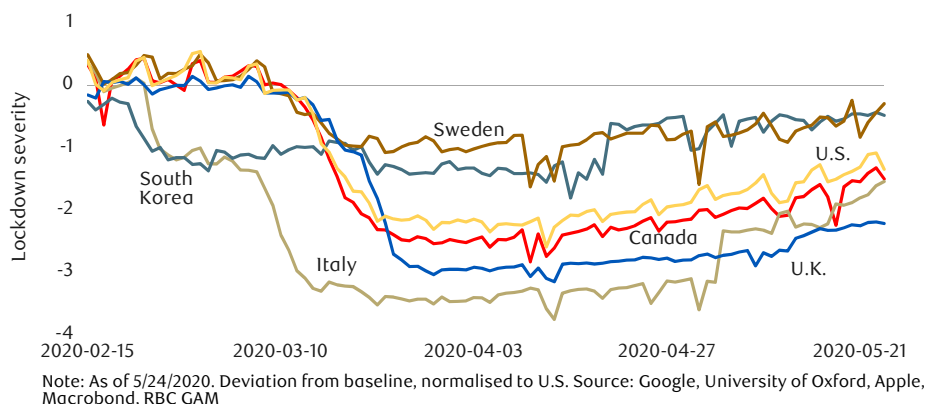
Exhibit 18: The economy is unlikely to completely recover for quite some time

Three reasons the economic recovery should be gradual:

1 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

2 Limited demand
- Diminished income
- Diminished wealth
- Limited pent-up demand (virus hit services)
- Generalized risk aversion
- Specific aversion to social activities

3 Limited supply
- Supply chain issues
- Re-hiring workers could be challenging given generous government benefits

Source: RBC GAM

While that figure probably underestimates how much normalization can actually occur, it makes the point that anything like a full return to normal is not yet possible until there is mass testing and tracing, an effective treatment, a vaccine or herd immunity.

Of these, testing has made significant progress. The U.S. daily testing rate is now 15 times higher than it was two months ago, but it remains short of

what's needed to immediately detect and snuff out flare-ups. A variety of tracing programs now exist, but many have been criticized for being too slow or insufficiently thorough. A variety of software solutions are now being developed, though they have not enjoyed universal success. Testing and tracing could yet prove the key to economic normality, but the necessary measures have not yet been delivered.

Many experimental therapies and vaccines are under development to target COVID-19. The potential therapies represent something of an X-factor. They can be developed more quickly than vaccines, but it is unclear whether any will actually work. Note that no cure exists for the common cold despite decades of effort.

Vaccines take more time to develop and produce, but there is a good chance that one will eventually be produced. Some have been so bold as to claim that a vaccine could be ready by this fall, though a more realistic scenario is sometime in 2021. As such, it is not a near-term solution.

Herd immunity may end up being a longer-term solution to COVID-19 assuming the virus continues to circulate and no other fixes are found. However, it is not a particularly desirable outcome, requiring around 70% of the world to be infected, and implying around 1.8 million deaths in the U.S. alone. Even using aggressively high assumptions about the true number of infected people based on antibody testing, it is unlikely that even 10% of the world has been exposed so far. The Spanish Flu pandemic of 1918-1919 was eventually defeated via herd immunity, but that virus had a lower natural transmission rate and so only around 30% of the world's population was infected before herd immunity was achieved.

The second reason the recovery is likely to be incomplete in the near term is that serious damage is happening on the demand side of the economy. Income and wealth have deteriorated.

Risk aversion is always elevated after recessions, consistent with a more gradual rebound than the pace of the initial decline. Finally, people will likely remain particularly averse to highly social activities, even once the danger of COVID-19 has passed. This will keep some sectors like tourism, entertainment and food services somewhat depressed for an extended period of time.

Third, the supply side of the economy will likely also be moderately constrained, though probably less so than the demand side. The resumption of supply chains may be particularly challenging. Only a single link must be broken for problems to arise. Furthermore, even as companies begin to reopen, some are reporting difficulty persuading workers to return. This is for a combination of reasons: some furloughed workers are earning as much or more from government programs than they were while working; some cannot leave their children at home given that schools and camps are largely closed; and some are understandably worried about being exposed to the virus.

Let us also not forget the possible emergence of second-round challenges. Whereas initially the only businesses forced to close are those that cannot be open according to government edict, the longer the economy remains weak, the greater this will bleed through into other sectors. In addition, even as the economy rebounds in May and beyond, it remains notably smaller than normal. In this sense, May can also be thought of as the third consecutive

month of below-normal income, with the damage therefore continuing to accumulate well into any recovery. A rough sense for this can be obtained by examining the frequency with which different words are searched for in Google. Whereas initially the terms "unemployment" and "layoff" were dominating the results, these have since faded as the economic situation improves. In their place, other slower burning but potentially more damaging terms such as "bankruptcy" and "foreclosure" are rising.

A further impediment to a sustained recovery is that many fiscal programs are set to expire in the coming months. It is likely that such programs will be extended, but if they are not, a fresh headwind would appear.

The recovery risk

So far, jurisdictions that have opened with particular enthusiasm, such as the U.S. state of Georgia, have seemingly managed to avoid an immediate infection spike (Exhibit 19). That said, the state has been criticized for how it is tabulating its figures and it is still fairly early going. At a minimum, Georgia and other regions like it are serving as the proverbial canaries in the coal mine.

In attempting to gauge what countries are most at risk of suffering a second wave of infections, we focus on variables such as the number of infections per capita, the rate at which new cases are accelerating/ decelerating, the stringency of the lockdowns and the extent to which they are being loosened (Exhibit 20). The U.S. is near the top of the
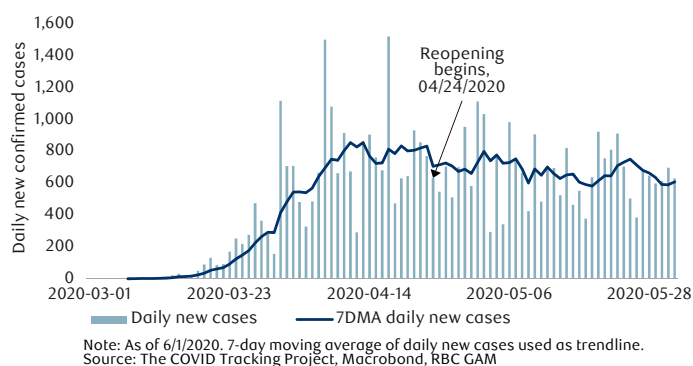
vulnerability rankings, and Sweden, which did not order a strict lockdown, is also at risk.

Reflecting the high degree of uncertainty around the recovery, we are operating with an unusually large number of scenarios (Exhibit 21). These capture three different possible peak-to-trough declines, multiplied by three different possibilities for the pace of the recovery. Our base-case outlook for the U.S. takes the middle decline and the middle rate of recovery, yielding a 7.1% decline in 2020 GDP. The specific trajectory of this forecast, alongside the most pessimistic and optimistic of the nine scenarios, are visualized in the following chart (Exhibit 22).

Of the nine scenarios, the second most likely is arguably the medium depth/slow recovery scenario, which equates to a 10.6% decline in U.S. 2020 GDP. This scenario assumes that the process of easing social-distancing measures is extremely slow, perhaps even interrupted for a period of time as further outbreaks occur. The scenario doesn't have the economy reclaiming half of its lost output until the spring of 2021.

In something of a reversal of the usual refrain, what goes down must come back up in the world of economics. This is to say, the more extreme the economic decline in 2020, the stronger the rebound we anticipate for 2021 as the economy makes strides toward normalization.

Exhibit 19: Early openers like Georgia avoid disaster so far

Note: As of 6/1/2020. 7-day moving average of daily new cases used as trendline.
Source: The COVID Tracking Project, Macrobond, RBC GAM

Exhibit 20: Countries easing lockdowns with higher transmission rate at increased risk of a second wave

Note: As of 5/29/2020. Y-axis: deviation from baseline, normalised to U.S. X marks represent peak lockdown severity. Source: Google, University of Oxford, Apple, ECDC, UN, Macrobond, RBC GAM
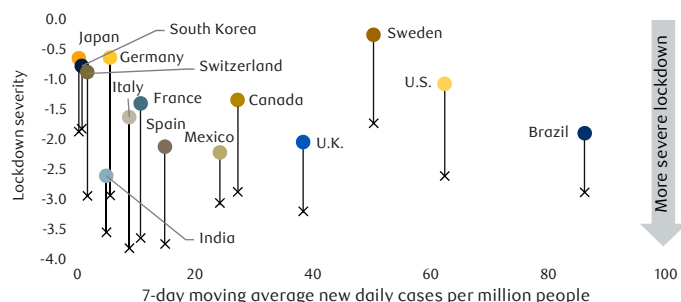
Exhibit 21: COVID-19 scenarios
2020 U.S. real GDP forecast

(Annual average % change)			Recovery		
			Fast	Medium	Slow
Depth	Shallow	-10% trough	-2.8	-3.3	-5.2
	Medium	-18% trough	-6.2	-7.1	-10.6
	Deep	-30% trough	-11.4	-12.9	-18.7

Note: As at 2020-05-21. Assumes rapid decline into trough versus much lengthier recovery period. Source: RBC GAM

Exhibit 22: Potential trajectories of U.S. economic growth

Note: As of 5/21/2020. Best-, middle- and worst-case scenarios are RBC GAM projections based on different assumptions on duration and depth of COVID-19 impact to economic activities. Source: Macrobond, RBC GAM
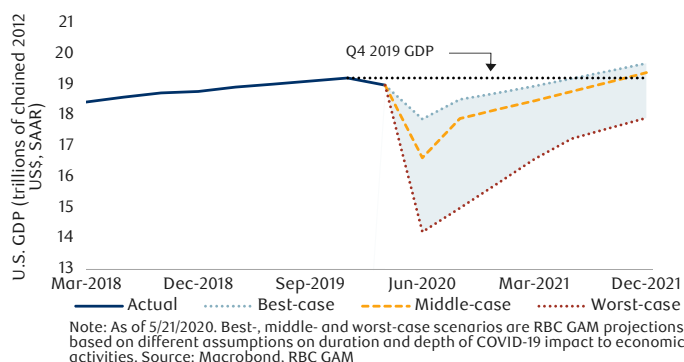
Chinese rebound

China has become something of a lodestar on how to deal with the coronavirus. It was the first country affected by COVID-19 and the first to make progress toward containing it. Now China is the first to manage a substantial economic rebound. The good news is that Chinese industrial activity is close to where it was before the crisis, illustrating that some sectors may return to normal quite quickly (Exhibit 23).

However, Chinese consumer spending has not enjoyed as complete a recovery because many people remain reluctant to spend (Exhibit 24). Additionally, it is far from assured that other countries can realistically mimic China's success in restarting because China's lockdown was unusually comprehensive and the virus barely made an appearance outside of one region of the country.

Not the Great Depression

In grappling with an economic shock of such gigantic proportions, it is natural to seek to better understand where it ranks in the pantheon of past economic disasters. In terms of the speed of economic decline, there truly is no precedent. Recessions can come on quickly, but never before has global output fallen by so much in the space of weeks. In this sense, the COVID-19 experience is totally unprecedented. Instances of war and natural disaster have created bigger economic disruptions within individual regions, but never on so global a scale.

Examined over a longer time frame, the COVID-19 pandemic is far from

Exhibit 23: Industrial activity in China improving gradually

Note: As of 5/22/2020. Measured as a composite of the year-over-year change in railway loaded coal volume, air pollution, daily coal consumption by electric producers, and steel demand. Source: Goldman Sachs Global Investment Research, RBC GAM
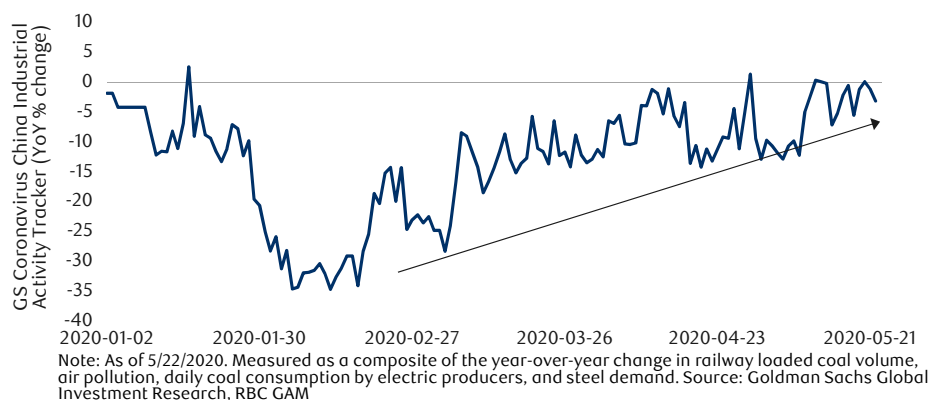
Exhibit 24: Consumer activity in China recovering

Note: As of 5/25/2020. Measured as a composite of the year-over-year change in traffic congestion, movie box-office revenue, daily property sales, and passenger load factors on domestic flights. Source: Goldman Sachs Global Investment Research, RBC GAM
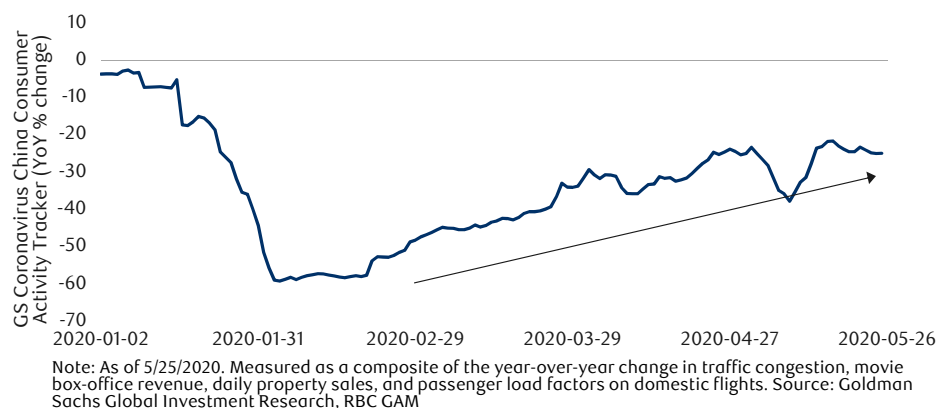
the worst economic blow ever. The Great Depression produced a similar decline in U.S. GDP over the span of a single year, and recorded a slightly worse peak-to-trough decline in output. Arguably, the ultimate test of economic damage is how much activity was squandered over the full length of the episode. By this measure, the Great Depression was 15 times worse than COVID-19 has been so far. And although the initial economic decline due to COVID-19 is more than five times deeper than the global financial crisis,

the slow recovery after the financial crisis means that the current pandemic may ultimately prove to have had a slightly milder overall impact.

Policymakers deliver

Policymakers have been tasked with two enormous jobs: controlling the virus and keeping the economy functioning. While there have been significant missteps, the response has been commendable (Exhibit 25). In particular, it is far from clear that so many countries would have the

nerve to effectively shut down their economies, or to deliver so much stimulus so quickly.

Within the first few weeks that the coronavirus began spreading via community transfer, developed-world governments had imposed lockdowns, closed borders, begun testing and tracing programs (though much remains to be desired) and deployed a significant medical effort to treat the afflicted. It would have been ideal had they responded even more quickly and with even greater force, but this was arguably impossible from a practical standpoint given the complicated logistics and the reality that no country was going to destroy its economy without clear evidence that the virus absolutely demanded it within its own borders.

Economic-stimulus efforts took slightly longer to congeal, but were nevertheless extraordinarily quick and expansive by the standards set in past recessions.

Governments have now committed truly unprecedented amounts of monetary and fiscal support (Exhibit 26). Not only have central banks cut their policy rates to the bone, but a great deal of quantitative easing has also been introduced. We estimate the U.S. will deliver quantitative easing worth an unprecedented 22% of GDP over the span of the first year, 10 times greater than over the equivalent period during the global financial crisis. Canada has ventured for the first time into quantitative easing at a pace nearly as aggressive as the U.S. Japan's response has been on a par with the U.S. and Canada, while the

Exhibit 25: Massive government efforts to address COVID-19 reduce risk of uncontrolled spread, long-lasting recession
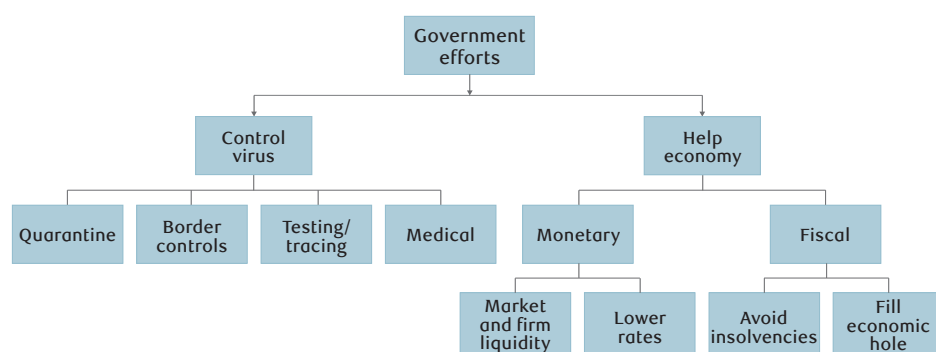
Source: RBC GAM

Exhibit 26: Global COVID-19 stimulus packages

Country/Region	Monetary stimulus		Fiscal stimulus	Relief package
	Policy rate cut (bps)	Asset purchase (% of GDP)	Government outlay (% of GDP)	Outlay and others (% of GDP)
U.S.	150	22.1	11.3	15.0
Canada	150	17.0	6.5	11.8
Germany	0	7.3	13.7	45.4
France	0	7.3	2.3	16.3
Italy	0	7.3	6.3	49.3
Spain	0	7.3	5.5	18.2
Netherlands	0	7.3	4.1	8.5
Sweden	0	6.0	4.8	12.6
U.K.	65	9.0	4.7	20.5
Switzerland	0	0.0	3.3	9.3
Japan	0	18.6	14.5	42.2
Australia	50	0.0	10.8	16.1
China	30	0.0	4.8	6.1
India	75	0.0	5.4	12.9
South Korea	75	0.1	2.1	24.2
Mexico	175	0.0	0.0	3.4
Brazil	150	0.0	4.8	8.0
Russia	50	0.0	2.1	2.9

Note: As of May 29, 2020. RBA has implemented yield curve control in place of asset purchase. Asset purchase estimated for BoC, BoJ and Federal Reserve which have open-ended QE, based on an assumption of a duration of 1 year. Monetary stimulus carried out by ECB shown for Euro Area member countries. Fiscal stimulus estimates for Greece, Italy, Portugal and Spain include funding from €750 billion EU package announced on 5/27/2020. Fiscal stimulus only includes spending, tax cuts and non-repayable portion of loans and does not include relief measures such as tax and fee deferral, repayable loans, loan guarantees, and equity investment, etc. Source: National central banks, national government websites, Bruegel, IMF, ING, UBS, RBC GAM

U.K. and Eurozone have been decisive if somewhat more restrained.

On the fiscal side, the effort has also been massive. We estimate there is direct fiscal stimulus worth 11.3% in the U.S., and an even bigger 15.0% when other elements of the relief package are included such as loans and loan guarantees. By the time the fiscal effort is complete, and recognizing that the revenue side of the equation has also been damaged, we calculate that government debt-to-GDP ratios across much of the developed world will rise by at least 20 percentage points.

The stimulus has also been unusually broad and well targeted. For instance, the monetary stimulus has been disproportionately directed at keeping markets functioning and businesses solvent. Central banks have waded into a variety of credit markets with an eye to ensuring that businesses will be able to continue rolling their debt and that investors can get in and out of positions as desired.

Similarly, the fiscal stimulus has been much more broadly delivered than during the global financial crisis. Rather than funneled disproportionately to financial institutions, significant funds this time have been allocated directly to affected households and a wide range of businesses. This serves the dual purpose of filling an economic hole and minimizing the odds that forgone wages and business revenue will lead to widespread insolvencies.

These extraordinary policy efforts are factored into our growth forecasts in two ways. The first is via the

Exhibit 27: Google mobility trends for workplaces and retail locations
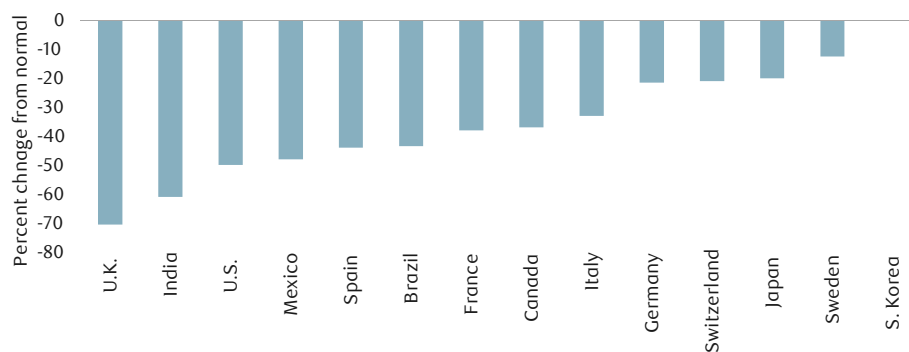
Note: As of 5/25/2020. Average of movement trends for workplaces and retail locations.
Source: Google, RBC GAM

observation that the initial economic decline has been significantly less severe than it would have been without government cheques reaching households and businesses during the worst of the quarantine. The second is via the assumption that the fiscal stimulus will continue to boost activity over the second half of 2020 and the first half of 2021, in keeping with traditional lags.

Looking ahead, somewhat more stimulus is likely to be announced, in part to restore particularly damaged sectors, and in part to bridge the gap between the currently scheduled expiry of programs and the substantial revival of economies.

International differences
The path of the coronavirus has been fairly similar across countries in that the virus has spread widely in nearly every country, and countries have responded via lockdowns and stimulus. However, there are important differences.

Whereas normally the variation in growth between countries can be chalked up to different population dynamics, mild perturbations in fiscal and monetary policy, and the like, the calculus has changed radically in the COVID-19 era. We are now evaluating the relative growth outlook for countries based on four new criteria.

First, which countries have implemented the most aggressive lockdowns? To the extent the bulk of the damage is coming from governments telling workers to stay home and companies to close, this is easily the most important consideration (Exhibit 27).

Second, how oriented is a country to different sectors that fare well or poorly in a pandemic? A big technology industry offers buoyancy while a big tourism sector is a millstone.

Third, we use a scorecard to tally up a range of vulnerabilities by country, including the rate of infection, each country's reliance on immigration and trade, the elderly fraction of the population, and so on.

Fourth, how much monetary and fiscal stimulus is each country delivering?

Combining these considerations into a single set of national forecasts, the U.S. fares unusually well given its relatively lighter lockdowns, favourable sector mix and aggressive stimulus.

The U.K. and Eurozone possess somewhat worse parameters, according to our methodology, having implemented more extreme lockdowns, having less favourable sector mixes (a particularly large tourism sector in the Eurozone, for instance), older populations, and lower levels of stimulus. This adds up to a 10.6% decline in the Eurozone and an 11.0% drop in the U.K.

Conversely, Japan appears set to nearly match the U.S., with a 7.9% decline in 2020. Japan has been more aggressive than many of its peers in the delivery of stimulus and has not had to implement as stringent lockdowns as elsewhere.

In all cases, our base-case forecast suggests a substantial rebound in 2021 – one that is arguably already taking hold in every country as we examine the real-time data.

While this analysis is reasonably neat and tidy, it is worth recalling our earlier analysis that not every country is equally at risk of a resurgence of the virus. Naturally enough, those with milder lockdowns and higher transmission rates are at a somewhat greater risk of a recurrence (Exhibit 28). Thus, those that currently look best from a base-case perspective – the U.S. and Japan – could well fall

Exhibit 28: Transmission rate below one means COVID-19 in retreat
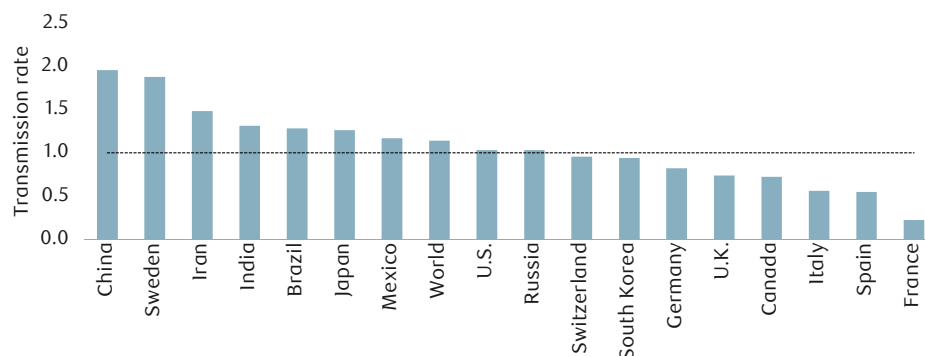
Note: As of 6/5/2020. Transmission rate calculated as 7-day % change of underlying 5-day moving average of new daily cases. Source: ECDC, Macrobond, RBC GAM

Exhibit 29: Oil prices recovered lost ground after unprecedented collapse

WTI plunged below zero as world storage approached maximum capacity

Note: As of 5/29/2020. Source: Bloomberg, Haver Analytics, RBC GAM
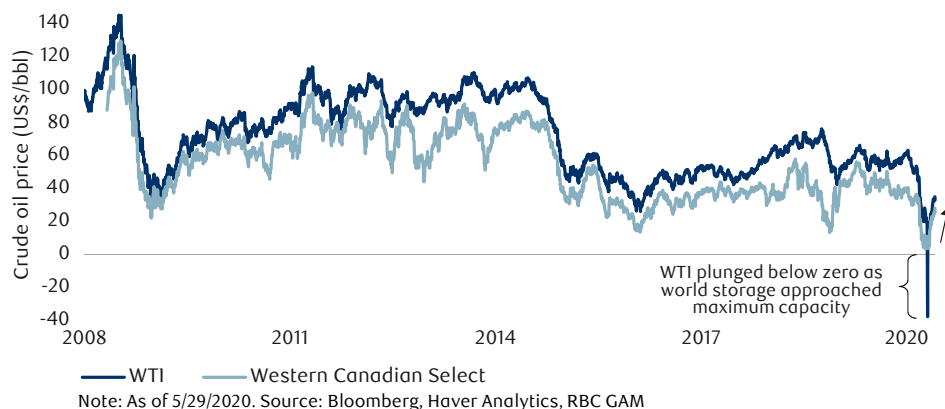
back to the pack given their relatively greater likelihood of an adverse scenario.

Canadian considerations

In the ranks of countries affected by COVID-19, Canada's economy lands somewhere in the middle, suffering a worse hit than the U.S. and Japan, but better than the Eurozone and U.K. This is because, relative to the U.S., Canada has implemented slightly more aggressive lockdowns, the country's sector mix is a hair less favourable

(including a large and beleaguered resource sector), and the amount of government stimulus is somewhat smaller. This cocktail yields a forecast Canadian GDP contraction of 8.8% in 2020 versus a 7.1% contraction in the U.S.

The unprecedented decline in the price of oil – including a surreal period during which oil futures prices were temporarily negative – has done considerable damage to the Canadian economy (Exhibit 29). The country's housing market and highly leveraged

consumers are also more vulnerable than in many other countries. Indeed, it seems reasonable to expect at least a moderate weakening in Canadian home prices given that skyrocketing unemployment and a fall-off in immigration will likely reduce home purchases.

Conventional measures of Canadian economic activity point unsurprisingly to a more serious economic contraction than during the global financial crisis (Exhibit 30).

Point-in-time estimates of Canadian business revenue claim a nearly 30% decline in the first quarter from the year before (Exhibit 31). Canadian credit-card and debit-card statistics point to a 30%-plus initial spending drop, though in keeping with the U.S. trend, more than half of this has since been recovered.

The downs and ups of inflation

There is a lot to evaluate in judging how inflation should respond to the pandemic (Exhibit 32). In the short run, it seems fairly clear that inflation will be lower rather than higher (Exhibit 33). We believe inflation will undershoot normal by around 2 percentage points this year.

Recessions are almost always deflationary, and the temporary loss of nearly 20% of economic demand is far more likely to reduce inflation than to spur it, despite some instances of labour shortages. Furthermore, this particular recession has been paired with a collapse in oil prices. Measures of market-based inflation expectations have fallen and are now even lower than before (Exhibit 34). There are also

Exhibit 30: Canadian growth to be hit hard; is the worst over?

Note: As of May 2020. Composite constructed using four leading indicators from surveys on Canadian businesses. Source: CFIB, Macrobond, RBC GAM
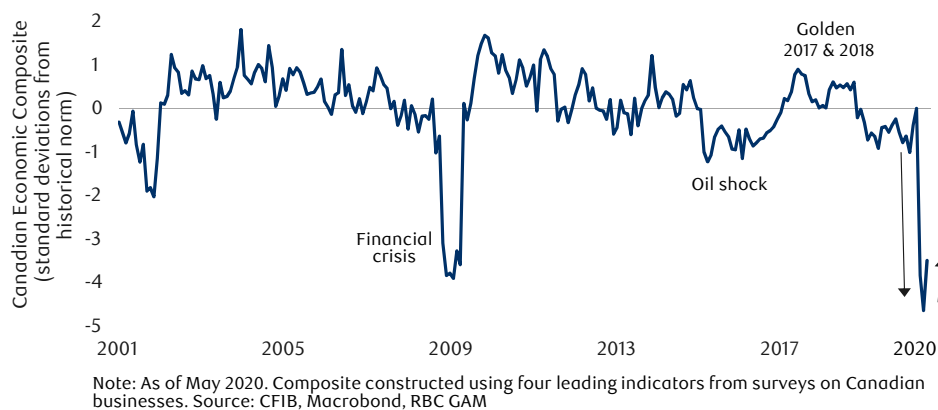
Exhibit 31: Decline in Canadian business revenue by sector

Note: Estimated as weighted average of % change in business revenue for all respondents. Source: Canadian Survey on Business Conditions, Statistics Canada, RBC GAM
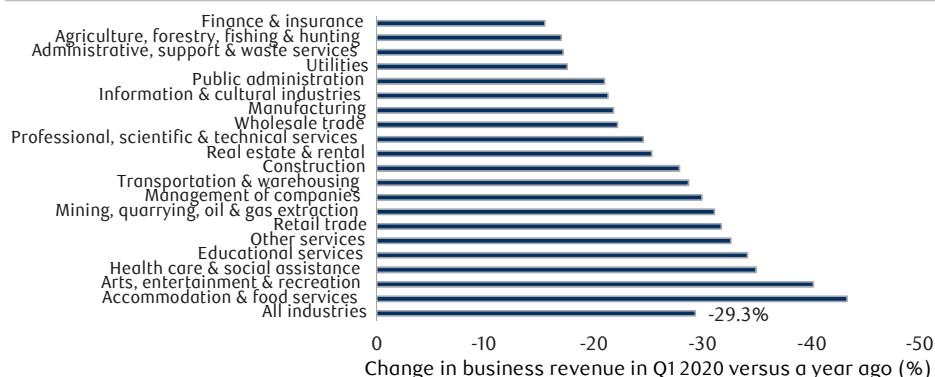
Exhibit 32: Deflation in the short run, but possibly more inflation in the long run

Deflationary pressures dominate in short run	
Big shock to demand	• Diminished income; can't shop
Sharply lower oil prices	• From demand shock + price war
Lower inflation expectations	• Market expects lower inflation
Structural forces	• Deflationary demographics, etc.

Inflationary pressures could emerge over long run	
Quantitative easing	• Central banks are printing money • Diminishing central bank independence
Supply chain	• Short term: temporary shortages • Long term: on-shoring raises costs
Labour shortage	• Workers can't get to work? Minor point.
Inflate away debt?	• Backfires eventually, but could be achievable if done discreetly

Source: RBC GAM

longstanding structural depressants such as an aging population and low fertility rate.

However, the balance of evidence points to higher inflation over the medium and long run. Many of the initial depressants are already fading: economies are starting to open up and the oil shock is already starting to abate. Meanwhile, the arguments for more inflation are potentially more long-lasting. The money printed by central banks is unlikely to be unwound quickly. Elevated public-debt levels will almost certainly endure, and with them the temptation to run inflation slightly hotter in an effort to reduce their real burden. Efforts by developed economies to bring some manufacturing back within their borders are also likely to lead to higher prices as countries seek to reduce their dependence on others.

To be clear, it is far from preordained that extra inflation is on its way. The global financial crisis resulted in a similar set-up and yet problematic inflation never made an appearance. But it is fair to say that there is a higher-than-usual risk of extra inflation, and this risk should be considered to the extent it can limit real returns in both bonds and stocks.

Long-term COVID-19 repercussions

Although COVID-19's most powerful blows land in the near term, it is not unreasonable to speculate that there may be a variety of lasting consequences, as well (Exhibit 35).

Among the most obvious and enduring implications are that levels of public

Exhibit 33: RBC GAM CPI forecast for developed markets

Source: RBC GAM
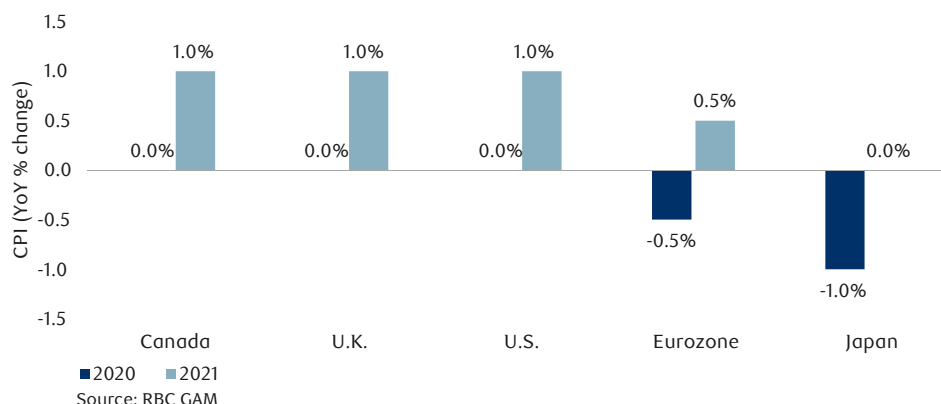
Exhibit 34: U.S. market-based inflation expectations fell sharply

Note: Market-based inflation expectations as of 5/29/2020, survey-based inflation expectations as of May 2020.
Source: Federal Reserve, University of Michigan Surveys of Consumers, Haver Analytics, RBC GAM
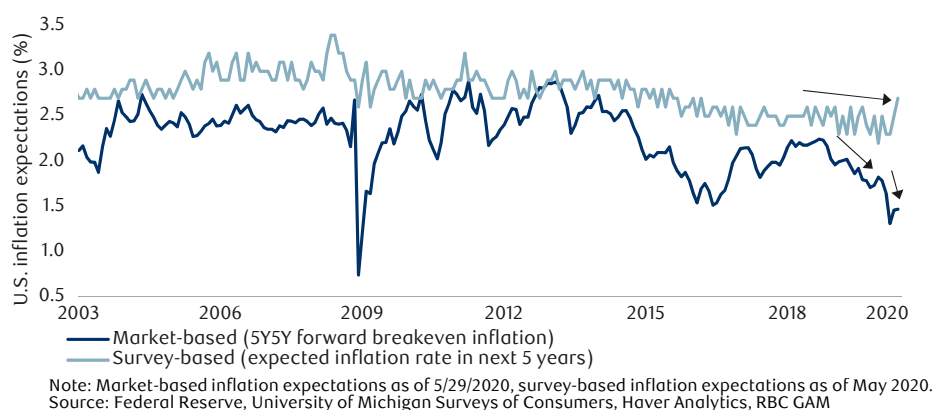
and private debt seem likely to be persistently higher, redirecting economic output from more productive purposes toward servicing debt. In turn, the sustainable rate of economic growth may prove slightly slower, with the rate of return on a variety of investments presumably a bit lower, too.

Governments are unlikely to have the means to pay down the additional debt anytime soon. Fortunately, most governments can afford to service

the additional debt so long as interest rates remain extremely low, which seems likely. One can certainly think of a handful of Eurozone countries with already precarious debt loads, but recent steps by the European Commission toward a form of debt mutualization may reduce the scope of any additional sovereign-debt crises.

It is tempting to think that government services could permanently expand to include some of the emergency wage-replacement provisions, but

this is far from certain. Most of the fiscal measures have explicit end dates, and most are also linked to a specific need. For instance, when unemployment falls, so too will a big part of government spending. And even if there were a desire to maintain some of the programs, governments would need to raise taxes aggressively to finance them. There is little talk or appetite for higher taxes at this juncture, particularly at a time when the economy is weak.

It is easy to imagine that lifestyles will change. Examples include a shift toward less dense workplaces and more working from home; a push for more automation; the further advance of online business at the expense of brick-and-mortar stores; and less business and personal travel. Globalization was already in retreat before the coronavirus came along, but it could well nudge the needle further in that direction. Each of these developments, in turn, affects a variety of industries – many for the worse, though a few for the better.

Innovation could well be helped by the new opportunities that open up in a reconfigured world, but the reduced ability to collaborate and a more cautious approach to capital expenditures seem more likely to slow the rate of productivity growth rather than accelerate it.

These are fascinating scenarios to contemplate, and likely entirely relevant over the coming years. However, we do flag the distinct possibility that most of these proposed transformations actually revert to their prior patterns over the long run. After

Exhibit 35: Long-term implications of COVID-19

General	Economy and markets
• Much will prove only transitory (Spanish flu, 9/11)	• More skittish about future viral outbreaks
• Populism – Unclear more vs less?	• More public debt / default risk
• Low density > high density	• More private debt / default risk
• Human life valued more highly than in past	• Ultra-low interest rates to persist
• More focus on low probability/high impact risks	• Hazier distinction between monetary & fiscal policy
• Geopolitics get trickier; EU challenged?	• Permanent expansion of government? Maybe, but not convinced
• Environment – less focus but better trajectory?	• Anti-globalization – less immigration / more onshoring
	• Accelerating automation
Lifestyle	• Loss of human capital from school & business closure (small)
• Office – remote work / less travel / handshaking	• Innovation – helped by new patterns of demand / hurt by remote work?
• Leisure – eat out less / less travel	• Online > Brick and mortar
• Higher inequality	• Big business > small business
• Baby boom? Doubtful	• Less anti-trust pressure, fewer data privacy limitations
	• Lower long-term return on investment? Would require high death rate

Source: RBC GAM

the terrorist attacks of September 11, 2001, many people became nervous about flying in an airplane or working in a tall building. Yet airline traffic climbed consistently for most of the next two decades before the pandemic and builders kept filling high-rise edifices with workers. The Spanish Flu killed far more people than COVID-19 is likely to, yet fundamentally social activities like going to restaurants and theatres did not permanently vanish.

Overlooked issues
Normally, our quarterly economic missives evaluate a wide range of themes and risks. This edition has been quite different, drilling ever more deeply into a single subject – COVID-19 and its consequences. This is defensible given the pandemic's extraordinary impact, but it is worthwhile to at least flag some other items of relevance.

U.S.-China relations were precarious before COVID-19. We were of the view

that the world was evolving from a hegemonic position with the U.S. at the top to a classically contentious multipolar one even before President Trump was elected. The pandemic has exacerbated the situation, in part because China is being blamed for allowing the virus to spread beyond its borders, in part because the virus exposed supply-chain vulnerabilities, and in part because disasters and recessions have a way of spurring isolationist thinking. It appears that a new cold war is setting in, and global growth may suffer from it over the medium and long run.

Much of where things go from here depends on the U.S. election in November. Tensions between the U.S. and China would likely lessen if Joe Biden, the Democratic candidate, wins the ballot, though both Democrats and Republicans have significant grievances with China. Betting markets currently point to a close race, with Biden assigned a slightly better chance of winning the election than Trump (Exhibit 36). The fact that a challenger such as Biden is so competitive is notable as incumbents usually enjoy a massive advantage in U.S. elections. Moreover, many of the world's leaders have seen leaps in their popularity in the wake of the pandemic, but President Trump and his party, so far, have not.

While the most likely scenario remains that the Republicans retain the Senate and the Democrats keep the House of Representatives – splitting the balance of power, there is a real chance that the Democrats capture the Senate and the presidency. Whether this is good or bad from a financial-market

Exhibit 36: Democrats gaining momentum

Note: As of 6/1/2020. Source: PredictIt; RBC GAM
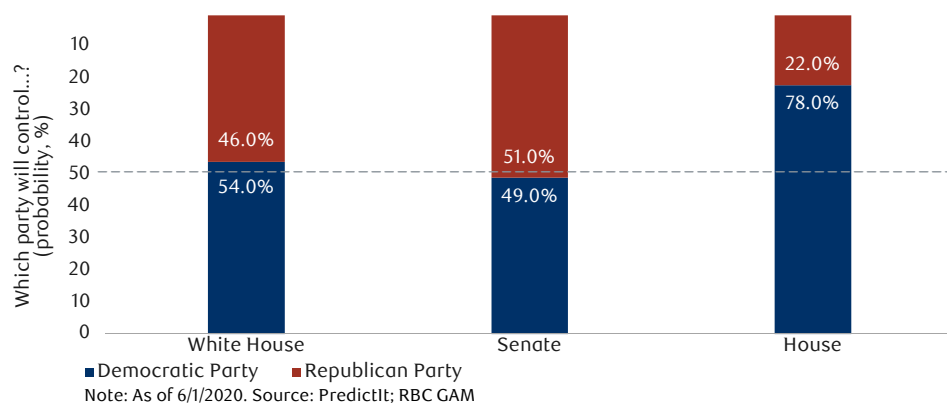
Exhibit 37: Brexit outlook tilting toward worse outcome
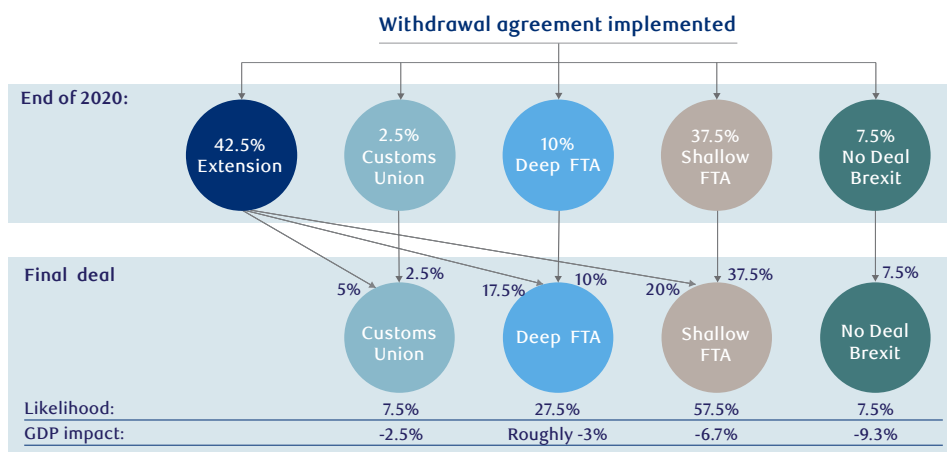
Note: As at Apr 22, 2020. Source: U.K. Treasury, RBC GAM

perspective is more nuanced than usual. Financial markets classically prefer Republican governments given the GOP's preference for tax cuts and deregulation. While Trump's tariffs and high level of policy uncertainty have not been relished by the business community, it remains reasonable to surmise that markets would still prefer a second Trump term to the possibility of a sharp leftward shift under Biden.

Brexit is still on track to happen at the end of 2020, though the subject is no longer making newspaper headlines. Comparatively speaking, the economic damage done by a hard U.K. exit from the European Union (EU) no longer looks so awful when compared to the massive damage being done by COVID-19. Still, the U.K. hardly wants to grapple with two major economic shocks at once, and so the subject remains entirely salient.

A variety of scenarios remain conceivable for reforming the longstanding relationship between the U.K. and the EU (Exhibit 37). We still assign a significant probability that the sides agree to an extension, delaying the deadline until after the distractions of COVID-19 have been dealt with. Admittedly, the window for achieving an extension is rapidly closing. In the end, we have downgraded our forecast relative to our prior assumptions given the view that there just isn't the focus or government resources necessary to achieve a deep and comprehensive agreement between the two parties this year. As such, we now assign a 57.5% chance that the eventual relationship is merely a shallow free-trade agreement, versus just a 27.5% chance of a deep free-trade agreement. The odds of a customs union or a no-deal Brexit remain low, in our view.

Finally, the business cycle once commanded a place of honour in our quarterly notes. Until the arrival of COVID-19, the U.S. economy was considered in the "late cycle" stage. But not only has a recession now clearly struck, but it arrived in a manner that was entirely outside the parameters of the business cycle. This recession wasn't the classic result of too much risk-taking or an expansion simply becoming fragile as it aged: it was an entirely *deus ex machina* event. Our business-cycle work may become relevant again in the coming months as we track further signs of the recovery and look for evidence of the next business cycle taking root.

Bottom line

The bottom line is that Covid-19 has totally upturned the prior economic narrative. The global economy has now suffered the deepest recession in modern history for a reason that was impossible to foresee. If nothing else, this reminds us of just how difficult (and undesirable) it is to speak with precision or high conviction about the outlook for economies and financial markets.

Nevertheless, the situation is improving. We have now gained a tentative handle on the event, better understanding the characteristics of the disease, tabulating estimates of the upfront economic damage, and identifying which countries have been hit worst. We are even beginning to accumulate evidence of an economic rebound. Much remains unknown, including the pace at which the recovery will proceed and the probability of a recurrence of the virus. But the moment of maximum chaos has arguably come and gone, and this has understandably been a great motivator for the financial-market rebound visible thus far.

Market Outlook

A look beyond the COVID-19 crisis

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Global economies fell into deep recession due to the COVID-19 pandemic, which forced mass quarantines and lockdowns in a near synchronous fashion around the world. Investors sought safety in a time of incredible uncertainty – government bonds soared, credit spreads widened and stocks plunged. But unprecedented support from central banks and politicians, as well as signs that the virus outbreak was being contained in the world's largest economies, helped restore confidence. After months of strict stay-at-home measures, an economic recovery is beginning to take shape and the revival will be paced by the speed at which lockdown measures ease.

While many are looking forward to a return to normalcy, investors are left with a challenging backdrop. Sovereign-bond yields are at historic lows and accommodative central-bank policies will likely keep interest rates low for a long time. The rebound in stock prices from their March lows has boosted valuations to levels that, to be sustained, will likely depend on a rapid recovery in profits. Across the spectrum of asset classes, we have moderated our return expectations, prompting us to question whether we have the right blend of assets for investors to achieve their goals.

Exhibit 1: Bear market depth
S&P 500 Index peak-to-trough declines
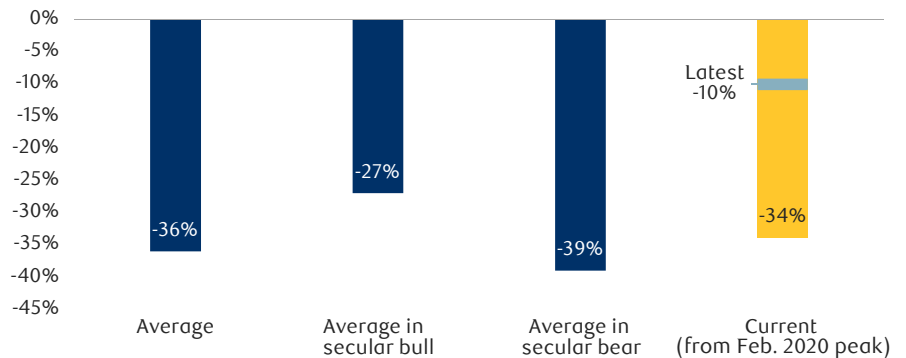
Note: As of May 29, 2020. Based on 24 bear markets of at least 20% decline since 1870.
Source: RBC GAM

This quarter, we reset the strategic asset mix for our reference balanced portfolio in favour of more stocks and less fixed income given our view that sovereign bonds will likely deliver low returns for a long period into the future and that stocks will generate notably superior returns. As of June 1, we raised the neutral equity weight by 5% to 60% equities and accordingly reduced the neutral allocation to fixed income by 5% to 38%, with the remaining 2% in cash. To read more in depth about the rationale for this change, please refer to the featured article titled *Evolving Our Strategic Asset Mix* page 4 of this publication.

Market downturn was severe but panic was short-lived

Investors were rattled in March as stocks plunged, with major market indexes experiencing daily drops of more than 5% on several occasions. The declines were steep but rather short-lived. To put things in context, the 34% decline in the S&P 500 Index from February 20 to March 23 was in line with the average of the past 24 bear markets (defined as a peak-to-trough decline of at least 20%) dating back to 1870 (Exhibit 1).The duration of this episode, however, was a mere 33 days whereas the average bear has market spanned 639 days or nearly two years (Exhibit 2).

A variety of signs indicate that the likelihood for a retest of the March 23 low is not great and we also observe that downturns have been less painful during secular bull markets. Our long-term price-momentum indicator suggests U.S. equities are in a secular bull market, which is an upward grind typically measured in decades rather than years (Exhibit 3). Historically, equity markets tend to enter sustained periods of advance following long stretches of little-to-no progress such as the period following the bursting of the technology bubble in early 2000 and ending with the financial crisis of 2008-2009. The recovery from the financial crisis appears to have marked the end of a secular bear market and the beginning of the

current secular bull. The COVID-19 crisis was a "black swan" event. The collapse and symmetrically powerful recovery in stocks during February/March of 2020 reinforces trends already in place that suggest that we are in a long bull cycle underpinned by the rise in productivity and living standards that flow from the socialization of technological innovation.

The secular backdrop is important as it relates to the experience of market downturns. During secular bull markets, declines have been about half as long and only two-thirds the depth of downturns in secular bear markets (Exhibit 4). Moreover, rally phases in secular bulls have been almost twice as powerful as those in secular bear markets. Based on history, we can conclude that downturns in secular bull markets tend to be relatively short and shallow, and provide opportunities to reload for the next leg higher.

Unprecedented stimulus supports risk assets

Major factors that helped arrest the recent decline in risk assets were the awesome stimulus announcements by governments and central banks around the world. Policymakers, having learned from past crises, understood the need to move fast and with vast scale to manage massive economic damage from business shutdowns and soaring unemployment. Congress passed nearly US$3 trillion in aid including direct payments to Americans, funding for hospitals and payroll support for small businesses (Exhibit 5), almost double the US$1.6 trillion in fiscal support provided during the financial crisis, and it is

Exhibit 2: Bear market duration
S&P 500 Index calendar days from peak to trough
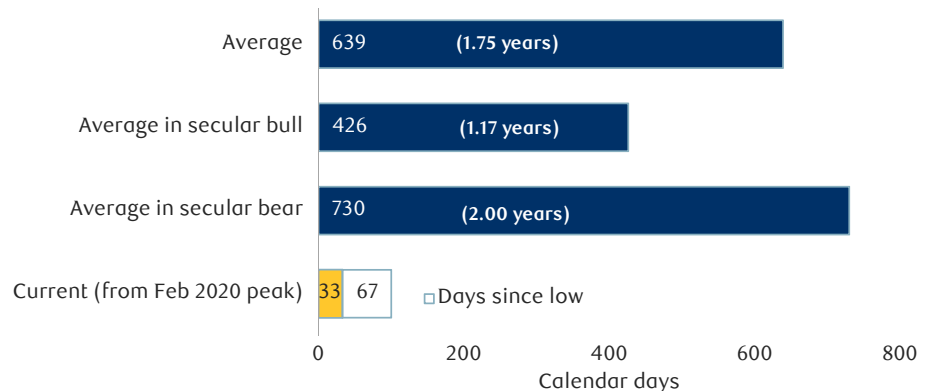
Note: As of May 29, 2020. Based on 24 bear markets of at least 20% decline since 1870. Source: RBC GAM

Exhibit 3: S&P 500 Index
Supercycle price momentum

Note: Coppock curve based on yearly data as of May 29, 2020. Source: Bloomberg, RBC CM, RBC GAM
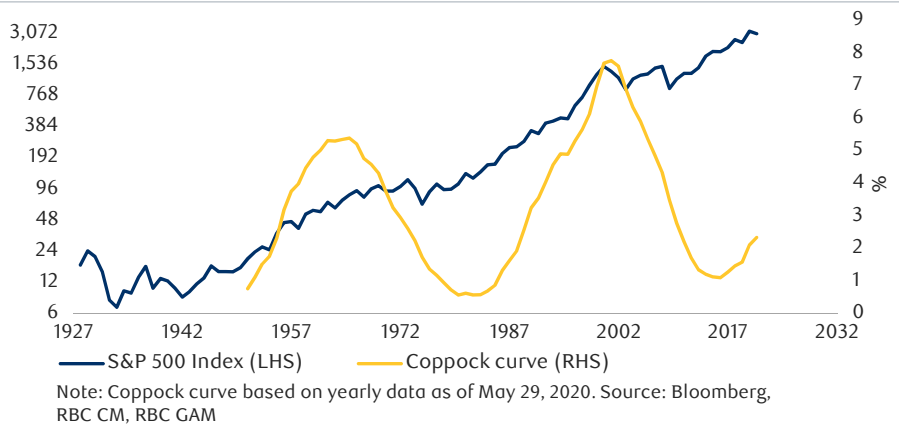
Exhibit 4: U.S. equity-market cycle statistics
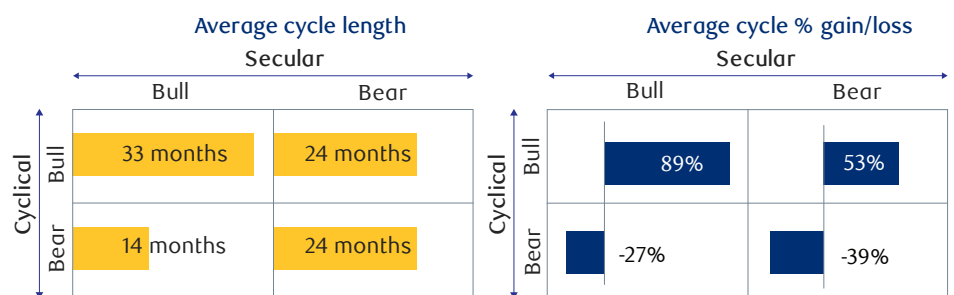
Source: RBC GAM

possible that more may be made available.

The U.S. Federal Reserve (Fed) also delivered unprecedented support on the monetary side, with interest-rate cuts followed by enormous balance-sheet expansion. Short-term interest rates were slashed 150 basis points in early March, bringing them back down to the zero bound where they sat for several years following the financial crisis. The Fed also began to aggressively purchase fixed-income assets and extended the program to include corporate debt, providing liquidity to financial markets and support for debt securities, reducing the fears of wide scale defaults. The Fed's balance sheet has risen by a whopping US$3 trillion in the past three months, which is nearly as much as all quantitative-easing programs since the financial crisis combined and it is still expanding (Exhibit 6). Together, the fiscal and monetary stimulus delivered so far amounts to over 35% of U.S. GDP, and while the U.S. numbers are impressive on their own, similar efforts have been employed in other countries.

Sovereign yields plunge, likely to stay low

Government-bonds yields fell to record lows as investors sought safe-haven assets and central banks cut rates and/or ramped up bond-buying. The U.S. and German 10-year yields fell to record lows of 31 basis points and negative 91 basis points, respectively, and government bond yields elsewhere also fell significantly (Exhibit 7). In all the regions that we track, yields are well below our modelled estimates of equilibrium indicating

Exhibit 5: U.S. fiscal-stimulus comparison
Financial crisis versus COVID-19 crisis

Note: As of May 29, 2020. Source: Wall Street Journal, RBC GAM
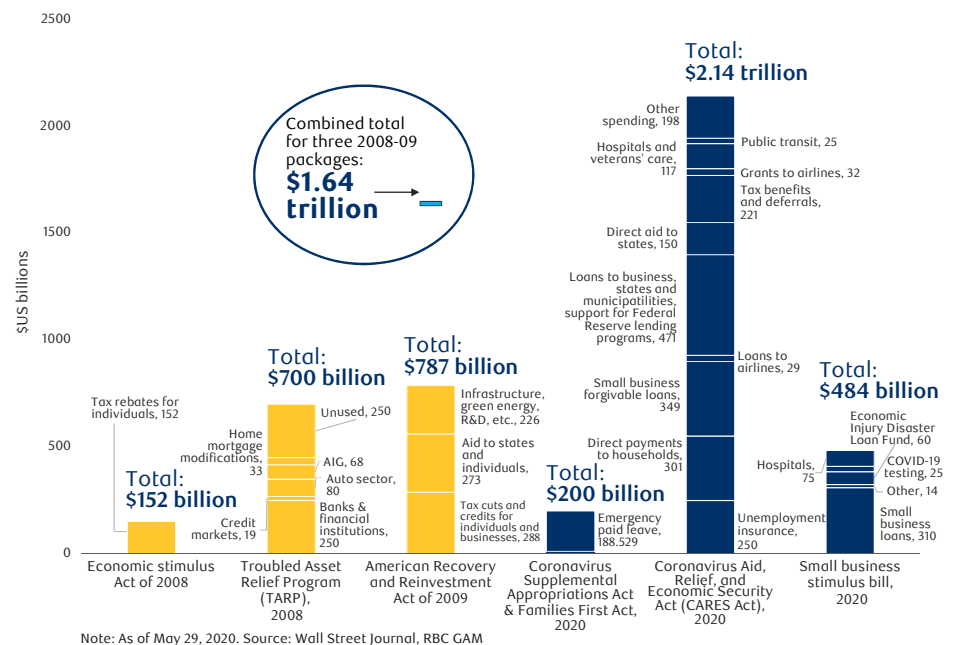
Exhibit 6: U.S. Federal Reserve
Balance-sheet assets

Note: As of May 29, 2020. Source: U.S. Federal Reserve, RBC GAM
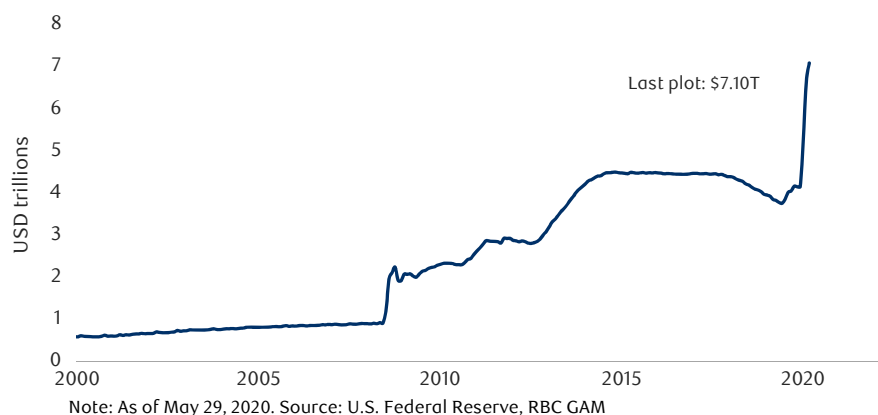
meaningful valuation risk (page 50). While our models suggest yields will ultimately rise from current levels over time, quantitative easing and highly accommodative central-bank policy will likely limit the extent to

which that will happen in the near and intermediate terms. Nevertheless, the current low level of yields in sovereign bonds are set to deliver unimpressive returns over our 1-year forecast horizon and possibly beyond.

Higher yields on offer in credit markets

Prior to the pandemic, corporate bonds generally offered little compensation for the risk that companies may default on their loans. The crisis altered that calculus as spreads ballooned. In particular, high-yield spreads in the Energy sector widened as Saudi Arabia declared an oil-price war by boosting production at a time when oil demand was already crumpling due to the pandemic (Exhibit 8). Looking at the high-yield universe as a whole, credit spreads exceeded the levels reached during the 2016 oil-price crash, but remained well below their peaks of the global financial crisis (Exhibit 9). Spreads began tightening after the Fed stepped in to support credit markets, but they remain above their long-term averages. In a world starved of yield, exposure to credit, if properly managed, could serve as a useful avenue for enhancing portfolio yields.

Stocks enjoy solid rebound after crash pulled them to attractive levels

The first-quarter stock-market crash pulled equity valuations down to levels not seen in years as most major indexes fell more than 30% from their peaks in less than two months. All global equity markets that we track dropped below their estimates of fair value, and markets outside the U.S. were especially attractive on an equilibrium basis (page 51). In aggregate, our global stock-market composite situated stocks as much as 24% below their fair value at the depth of the sell-off, the largest discount since 2012 (Exhibit 10).

Exhibit 7: 10-year government-bond yields

Note: As of May 29, 2020. Source: RBC GAM
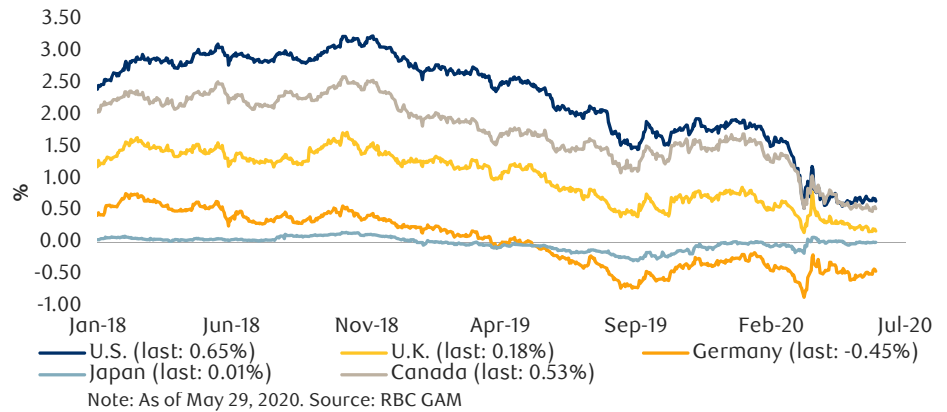
Exhibit 8: Relative performance
Price levels, indexed to 100 at start of the chart

HY Energy
peak (2020/03/23): 2272
last plot: 1081

HY ex Energy
peak (2020/03/23): 973
last plot: 593

HY Index
peak (2020/03/23): 1087
last plot: 654

Long-term avg:
553 bps

Note: As of May 31, 2020. Source: BofAML, RBC GAM
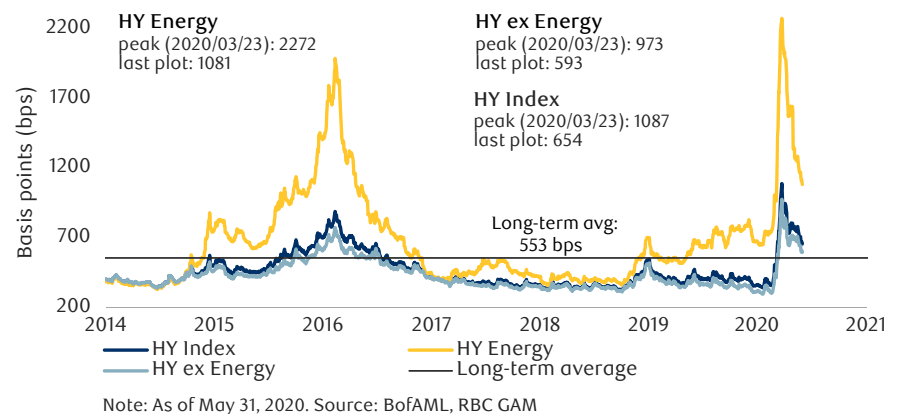
Exhibit 9: High-yield bond spread
Credit Suisse HY Index

Note: As of May 31, 2020. Source: Credit Suisse, RBC GAM
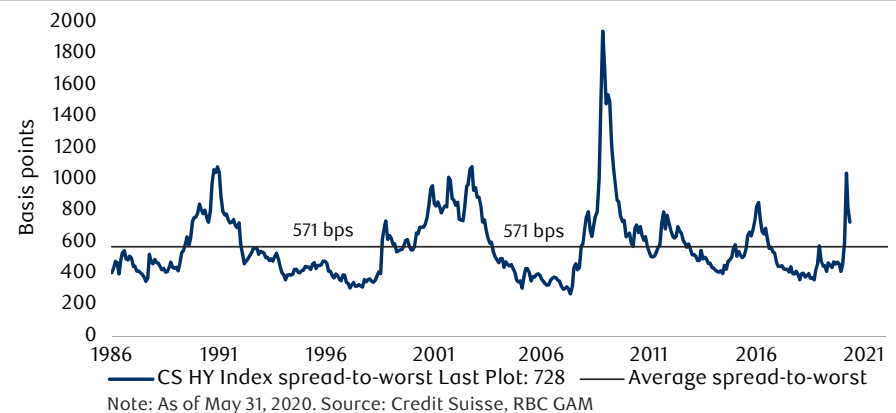
Steeply discounted equities boosted total-return potential, but the window of opportunity for outsized gains was brief. The sharp stock rally since the March lows means that the S&P 500 has already recovered more than 2/3 of its loss at the trough. The S&P 500 led global equities, as the index contains many large-cap growth issues including technology companies that have benefitted from the work-from-home shift sparked by the pandemic. Other markets have risen but not to the same extent and, as we get past the crisis and the recovery takes shape, we see opportunities for non-U.S. markets to gain traction (Exhibit 11).

U.S. equities rallied back to a low-return zone

The 35%-plus rally in the S&P 500 from its March 23 low has pushed the index back above fair value and into a valuation zone historically associated with lower returns. Exhibit 12 plots a standardized version of our S&P 500 fair-value model, where the dotted line running down the centre of the chart is fair value, and the solid lines above and below represent one standard deviation from fair value. We segmented the chart into four buckets and computed returns based on the S&P 500's starting point in any 1-year period (Exhibit 13). The market crash briefly pulled stocks down to Bucket 2 – within one standard deviation *below* fair value. In this zone, stocks have delivered average 1-year returns of 11.7% and have produced positive monthly results 84% of the time. This has been a sweet spot for stocks and is where the S&P 500 spent most of the post-financial-crisis bull market, except for brief periods in 2014, early

Exhibit 10: Global stock-market composite
Equity-market indexes relative to equilibrium

Last plot: -14.3%

Note: As of May 29, 2020. Source: RBC GAM
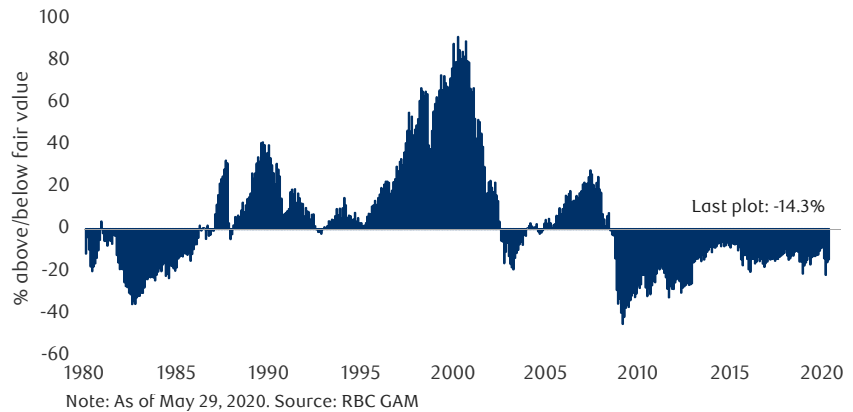
Exhibit 11: Relative performance
Price levels, indexed to 100 at start of the chart

— S&P 500 — MSCI Emerging Markets — MSCI World ex-U.S.

Note: As of May 29, 2020. Source: MSCI, Bloomberg, RBC GAM
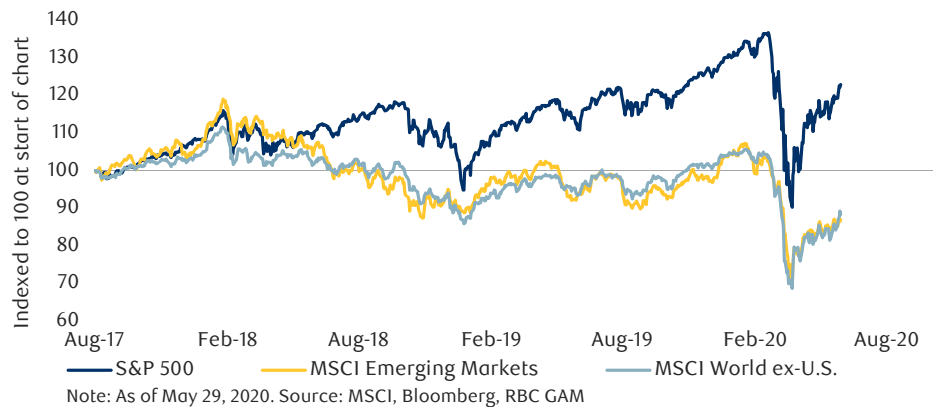
Exhibit 12: Standardized S&P 500 fair-value bands

S&P 500 most overvalued

+1 SD

FV

-1 SD

Last plot: 0.08

4

3

2

1

S&P 500 most undervalued

Note: As of May 29, 2020. Source: Haver Analytics, RBC GAM
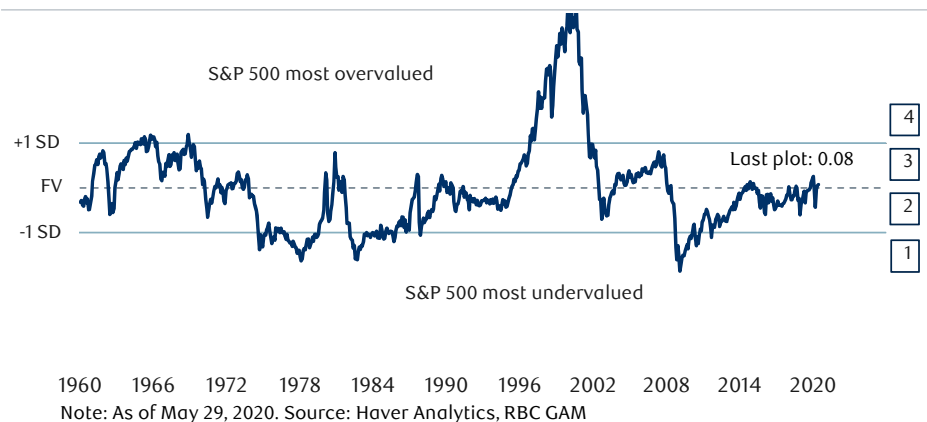
2018 and again in late 2019/early 2020. In the most recent period, stock valuations have crossed into Bucket 3 – within one standard deviation *above* fair value. When equities make the transition to Bucket 3 from Bucket 2, average 1-year returns drop to 3.5%, the percentage of positive monthly results falls to 61.4%, and the standard deviation of returns climbs to 15.7%. While stocks can still rise in Bucket 3, history suggests it would be prudent to lower return expectations for U.S. equities in this environment and to watch for an increase in volatility.

Virus to deal hefty blow to earnings

The pandemic is having a severe impact on earnings, but we expect corporate bottom lines to begin recovering next year. Our new top-down earnings model, which our GDP estimates into revenue, earnings and profit margins, suggests earnings will decline 37.6% in 2020 followed by an increase of 35.5% in 2021 (Exhibit 14). Importantly, even with the sizeable rebound forecast for 2021, earnings would remain below their 2019 levels. Our base-case economic projections suggest earnings will be slower to recover than does the consensus of analyst estimates, which project that 2021 earnings will exceed their 2019 peak in line with our more optimistic case for the economy (Exhibit 15).

Normalized earnings provide guide-post for valuing stocks

Because corporate profits can be highly uncertain and severely distorted due to shocks such as COVID-19, we prefer to use normalized earnings as a way to gauge the potential earnings

Exhibit 13: S&P 500 Index
Return prospects by valuation zone

Valuation	Data set (Bucket)	1-year Average Return	Batting Average^	1-year Average Return in Win*	Max Loss	1-year Return Std. Dev.
(S&P 500 most overvalued) **1 SD Above**	4	-0.7%	49.3%	14.8%	-27.5%	16.9%
Equilibrium	3	3.5%	61.4%	13.0%	-41.4%	15.7%
1 SD Below	2	11.7%	84.3%	15.5%	-44.8%	13.1%
(S&P 500 most undervalued)	1	14.7%	80.2%	19.9%	-12.8%	16.3%

*Win = Periods where returns are above 0%. ^Batting Average = Incidence of winning in any given period. Source: RBC GAM

Exhibit 14: COVID-19 impact
Medium depth/medium duration scenario

Note: Assumes 18% decline in peak to trough annualized average real GDP lasting 12 weeks at the trough before recovering. Historical regressions suggest revenue changes are 1.3x nominal GDP, earnings changes are 5.3x nominal GDP, and profit margins are 0.3x nominal GDP. As of May 29, 2020. Source: RBC GAM
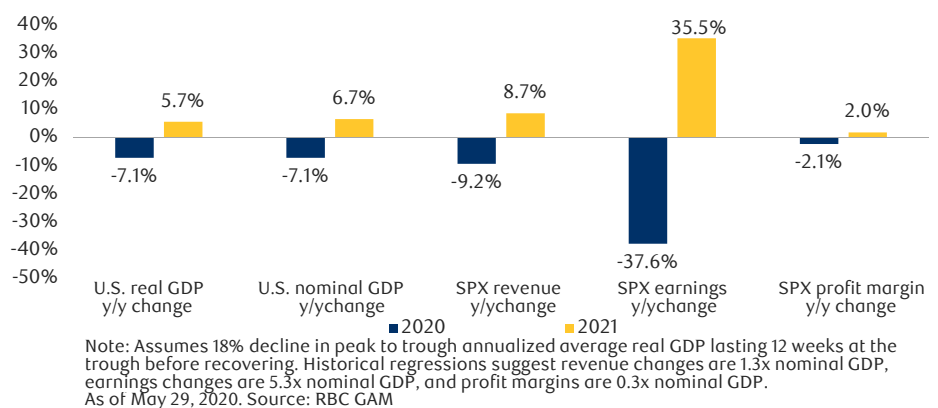
Exhibit 15: COVID-19 impact
S&P 500 earnings per share

Note: Medium/Medium assumes 18% decline in peak to trough annualized average real GDP lasting 12 weeks at the trough. Short/Shallow assumes 10% decline in peak to trough annualized average real GDP lasting 6 weeks at the trough. As of May 29, 2020. Source: Bloomberg, RBC GAM
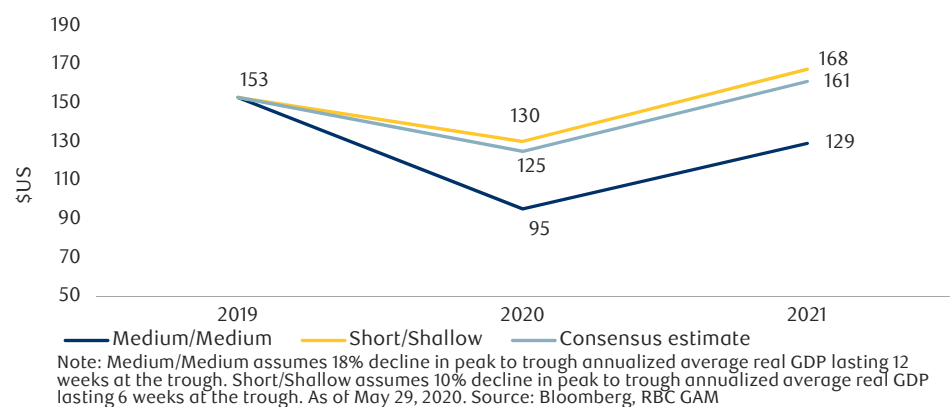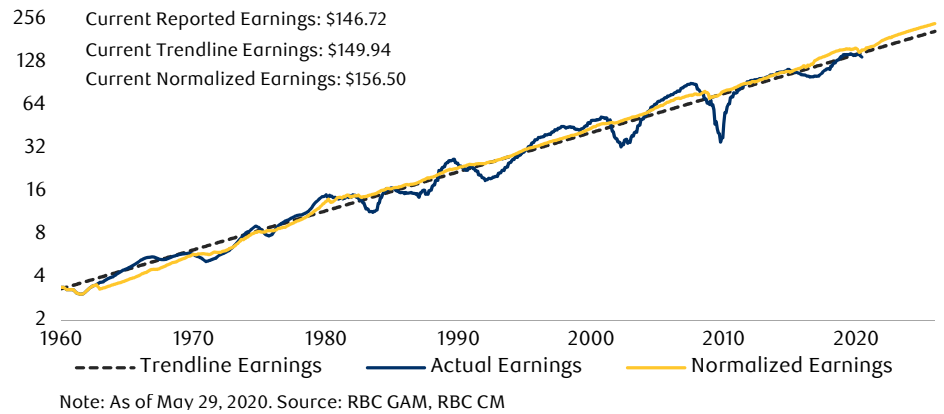
power for the stock market. Our normalized earnings metric predicts what the S&P 500 could earn under normal conditions given current and projected interest rates, inflation and corporate profitability. Exhibit 16 plots a comparison of S&P 500 reported earnings, alongside our normalized measure and the long-term trend. The chart shows that, ultimately earnings have always recovered to their long-term trend or normalized level after significant declines. While S&P 500 earnings-per-share might fall to US$125 or even lower in 2020, the long-term trendline places them at US$155 and normalized earnings at US$163. Looking ahead to 2021, trendline earnings are projected to rise to US$165 and normalized to US$181. The fact that investors are paying a high price for stocks today may reflect confidence in a forthcoming rebound in profits.

Scenario analysis for stocks suggests moderate return potential

Incorporating various earnings measures into our scenario analysis suggest stocks will likely deliver single-digit returns over the next year or two, as long as earnings recover as expected. Exhibit 17 outlines a variety of combinations of earnings and price-to-earnings multiples to arrive at potential levels for the S&P 500 Index by the end of both 2020 and 2021. While earnings might decline meaningfully in the next quarter or two, stock values could remain elevated if investors continue to price in an eventual rebound in earnings to their longer-term trend or normalized levels. Our equilibrium

Exhibit 16: S&P 500 Earnings Comparison

Current Reported Earnings: $146.72
Current Trendline Earnings: $149.94
Current Normalized Earnings: $156.50

- - - - Trendline Earnings   —— Actual Earnings   —— Normalized Earnings

Note: As of May 29, 2020. Source: RBC GAM, RBC CM

Exhibit 17: Earnings estimates and alternative scenarios for valuations and outcomes for the S&P 500 Index

		Consensus		
		2020 Bottom up	2020 Trendline	2020 Normalized
	P/E	$125.2	$154.7	$163.3
+1 Standard Deviation	24.4	3058.0	3779.3	3989.2
+0.5 Standard Deviation	22.2	2777.1	3432.2	3622.8
Equilibrium	19.9	2496.2	3085.1	3256.4
-0.5 Standard Deviation	17.7	2215.4	2737.9	2890.0
-1 Standard Deviation	15.4	1934.5	2390.8	2523.6

		2021 Bottom up	2021 Trendline	2021 Normalized
	P/E	$161.5	$164.8	$181.7
+1 Standard Deviation	23.8	3851.7	3930.2	4333.4
+0.5 Standard Deviation	21.7	3498.0	3569.2	3935.4
Equilibrium	19.5	3144.2	3208.2	3537.4
-0.5 Standard Deviation	17.3	2790.4	2847.2	3139.3
-1 Standard Deviation	15.1	2436.6	2486.2	2741.3

Note: As of May 29, 2020. Source: Bloomberg, Thomson Reuters, RBC GAM

P/E is the multiple consistent with current and expected interest rates, inflation and corporate profitability. By the end of this year, combining the equilibrium P/E of 19.9 with the bottom-up consensus earnings estimate for the S&P 500 of US$125.20 would produce an index level of 2496 by the end of 2020, which is an 18% decline from the close at the end of May. But using trendline earnings of US$154.70, or normalized earnings of US$163.30, the S&P 500 would trade at 3085 or 3256, respectively, by year-end, which is slightly above where the market is trading at the time of writing. Under these scenarios, the S&P 500 would deliver low single-digit total returns through the end of 2021. Moreover, low interest rates and bond yields could support P/Es above their equilibrium level given a lack of alternatives offering the potential for attractive returns.

Sentiment and technical signals suggest market low may be behind

Many investors have been predicting a retest of the March stock-market lows but, coincident with the low, sentiment and certain technical indicators reached extreme readings that typically occur at durable market bottoms. Sentiment readings are more useful at troughs than peaks, and the AAII sentiment survey had reached extreme pessimism in March (Exhibit 18). Moreover, the number of stocks above their 200-day moving average fell to its lowest level since the financial crisis and price momentum fell to extreme negatives reached only a handful of times in the past few decades (exhibits 19 and 20). While a retest of the low is, of course, possible,

Exhibit 18: AAII sentiment survey
Percent bearish

Note: As of May 27, 2020. Source: American Association of Individual Investors (AAII)
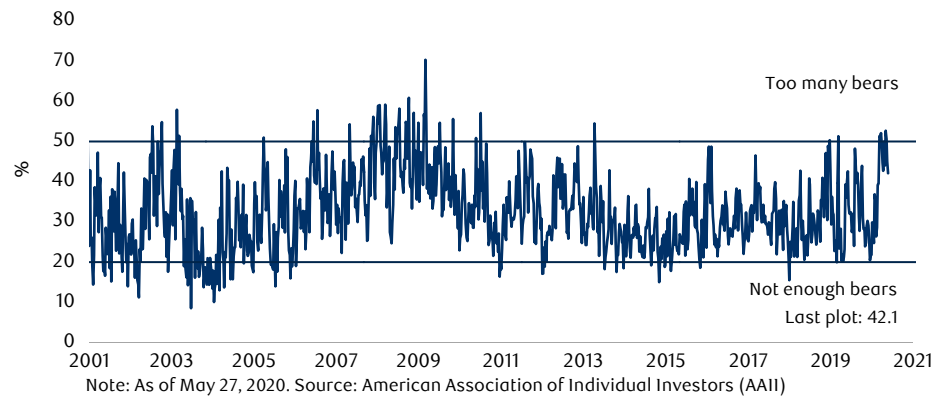
Exhibit 19: New York Stock Exchange Composite Index
% of stocks above their 200-day moving average

Note: As of May 29, 2020. Source: Bloomberg, RBC GAM
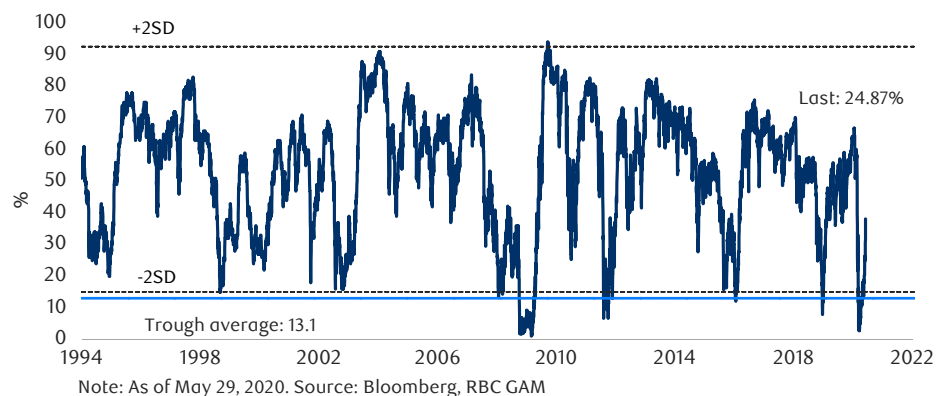
Exhibit 20: S&P 500 Index
Monthly price momentum

Note: As of May 29, 2020. Source: RBC GAM
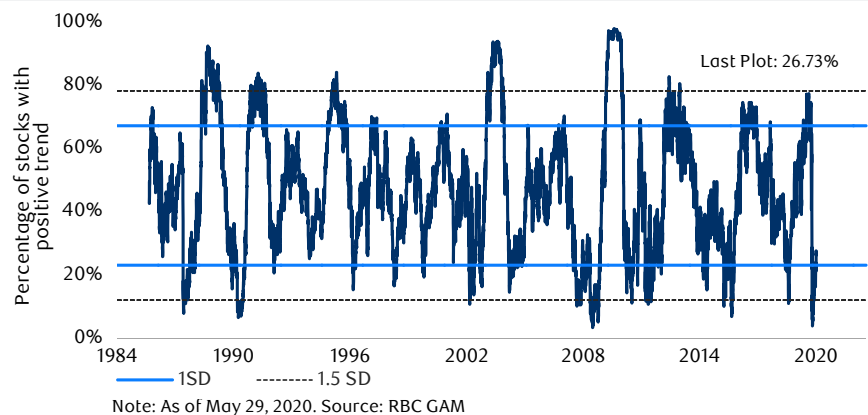
market signals indicate that stocks were washed out in March.

What's in style? Earnings predictability and large-cap growth

In an environment of heightened uncertainty and weak economic growth, investors favoured companies with predictable earnings streams, large market capitalizations and rapidly growing profits. Stocks of U.S. companies with rapid earnings growth and a low dispersion of earnings estimates have outperformed those with low earnings growth and/or a high dispersion of earnings estimates by a significant degree (exhibits 21 and 22). These themes were accentuated by the pandemic. As a result, large-cap and growth stocks have emerged as the clear winners during the COVID-19 crisis, in particular mega-cap technology stocks, many of which have pristine balance sheets and whose businesses have even been bolstered by work-from-home orders. Exhibit 23 plots the performance of large cap versus small cap as well as growth stocks versus value stocks. The chart shows that the trend of large-cap-growth outperformance has been in place for many years, but that it accelerated in early 2020 during the spread of COVID-19. A shift in leadership back to value and/or small-cap stocks from large-cap growth, if sustained, could be a sign that investors are looking past the crisis and toward a revival of the economy.

Exhibit 21: S&P 500 relative performance of earnings growth
Top versus bottom decile of trailing 12-month EPS growth

Note: As of May 29, 2020. Represents equally weighted portfolio, rebalanced daily, that is long the top decile of earnings growth and short the bottom decile of earnings growth of companies in the S&P 500 Index. Source: Cornerstone Macro, Bloomberg, RBC GAM
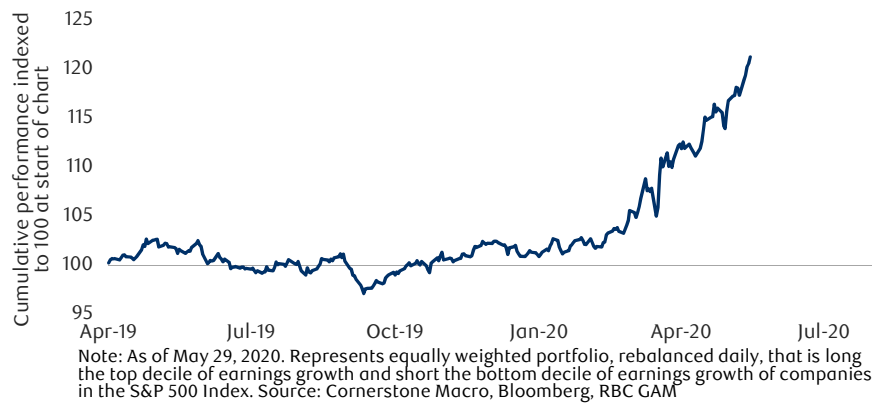
Exhibit 22: S&P 500 relative performance of earnings dispersion
Narrowest versus widest decile of earnings dispersion

Note: As of May 29, 2020. Represents equally weighted portfolio, rebalanced daily, that is long the decile of companies with the narrowest earnings dispersion and short the decile with the widest earnings dispersion in the S&P 500 Index. Source: Cornerstone Macro, Bloomberg, RBC GAM
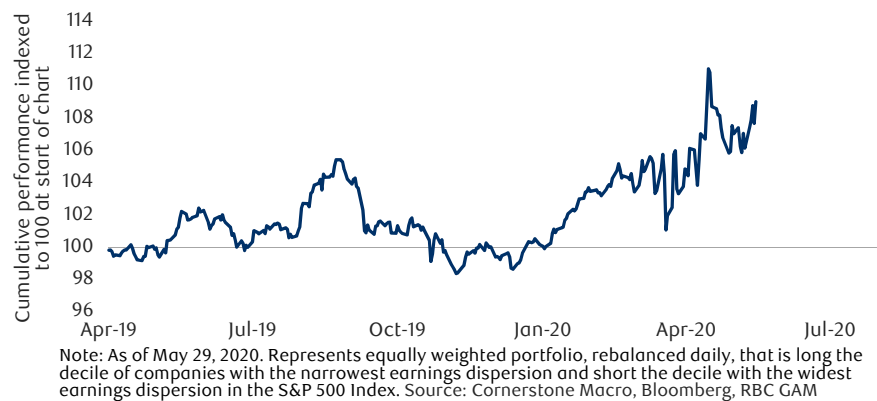
Exhibit 23: Relative style performance

Note: As of May 29, 2020. Source: Bloomberg, RBC GAM
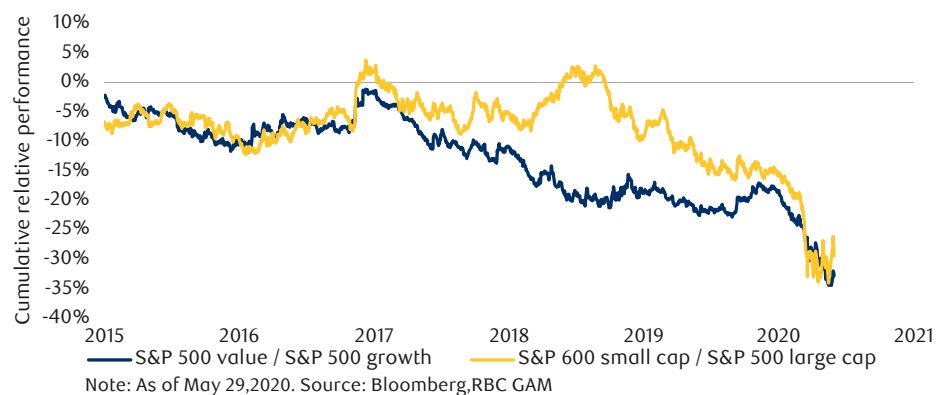
Resetting strategic asset mix in favour of more stocks, less bonds

The deep global recession caused by the pandemic was a forced downturn caused by governments shutting down economies and imposing strict stay-at-home measures. As lockdowns gradually ease, we expect economies to rebound and some of this recovery is already taking place. That said, a premature easing of restrictions increases the risk of a second wave of COVID-19. Other risks include a potential rise in China-U.S. tensions, a messy Brexit and the U.S. presidential election in November. All in all, 2020 will be remembered as a year of significant disruption with long-lasting consequences.

In our view, the pandemic has reinforced trends that were already in place. Some of these include our world being stuck in an indefinite period of slow economic growth, low interest rates and highly accommodative central-bank policies. Against this backdrop, real interest rates have fallen to ultra-low levels and, as a result of slow moving factors including aging demographics and a narrowing gap between the emerging and developed world, we don't expect a meaningful rise in real interest rates for the foreseeable future.

Real interest rates serve as a basis for all asset class returns. Other factors held constant, sustained low real interest rates suggest a long period of below long-term average returns lies ahead for the traditional asset classes. This is particularly true for sovereign bonds. Given that sovereign yields

Exhibit 24: S&P 500 earnings yield
12-month trailing earnings/index level

S&P 500 earnings yield to UST yield spread (last plot: 4.17%)
U.S. 10-year Treasury yield (last plot: 0.65%)   S&P 500 earnings yield (last plot: 4.82%)
Note: As of May 29, 2020. Source: RBC GAM, RBC CM
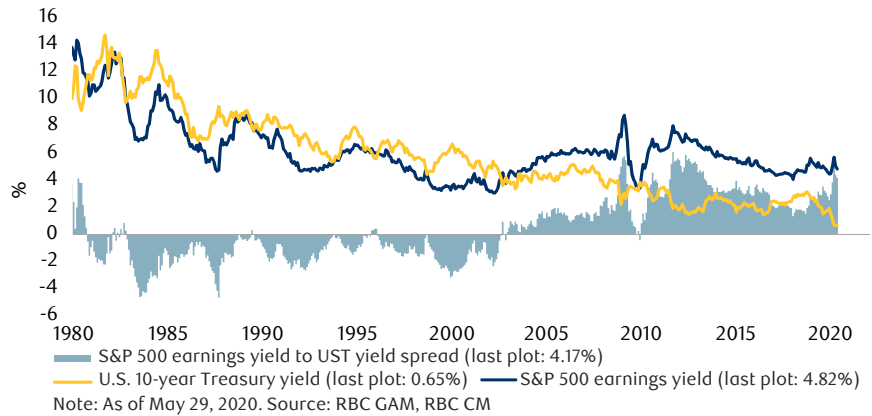
Exhibit 25: 10-year U.S. stock and bond performance
Stock market 10-year total return minus long-bond 10-year total return

Note: As of May 31, 2020. Source: Ned Davis Research, RBC GAM
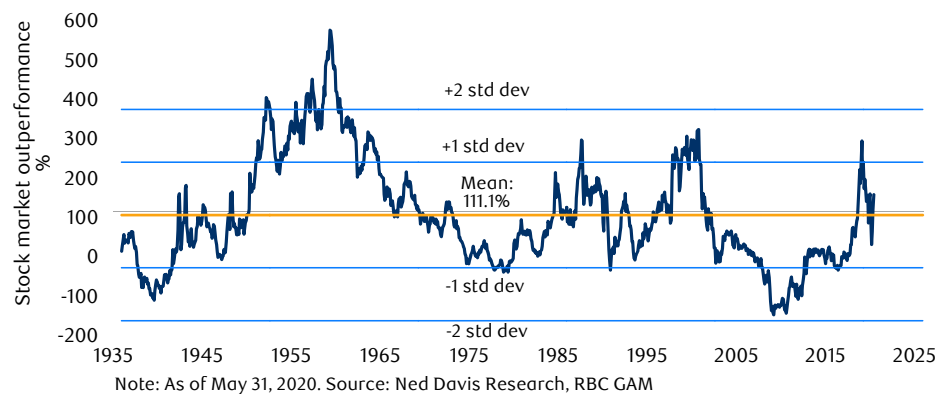
are below 1% in all major regions, we forecast returns in a range of slightly negative to low single digits over the year ahead and potentially for many years to come.

In comparison, equities offer much better return potential over the longer term. We expect that economies will eventually recover from the current recession and that corporate profits will ultimately resume an upward trend, as they always have.

Our view that stocks will provide superior returns, that results for sovereign bonds will be unappealing for an extended period and that sovereign bonds will not provide the income or risk-diversifying properties of the past 40 years have led us to adjust the strategic neutral weights in our multi-asset and balanced portfolios, increasing equities by 5% and sourcing that from bonds. Our decision was reinforced by the fact the equity-risk premium versus stocks and

bonds widened to its largest since 2012, and the trailing 10-year performance between stocks and bonds fell close to one standard deviation below its long-term average (exhibits 24 and 25). Effective June 1, 2020, we shifted the strategic asset mix for our reference portfolio for global balanced investors from 55% equities, 43% fixed income, 2% cash to 60% equities, 38% bonds, 2% cash.

Given the new strategic neutral setting and our view that stocks will outperform bonds over the long term, we are maintaining a slight overweight allocation to stocks, but tactically narrowing the degree of that overweight in light of our modest return assumptions for equities and our below-consensus growth forecast. For a balanced, global investor, we currently recommend an asset mix of 61 percent equities (strategic neutral position: 60 percent) and 38 percent fixed income (strategic neutral position: 38 percent), with the balance in cash.

Global Fixed Income Markets

U.S. 10-Year T-Bond Yield
Equilibrium range

Last Plot: 0.65% Current Range: 0.74% - 2.50% (Mid: 1.62%)
Source: RBC GAM, RBC CM
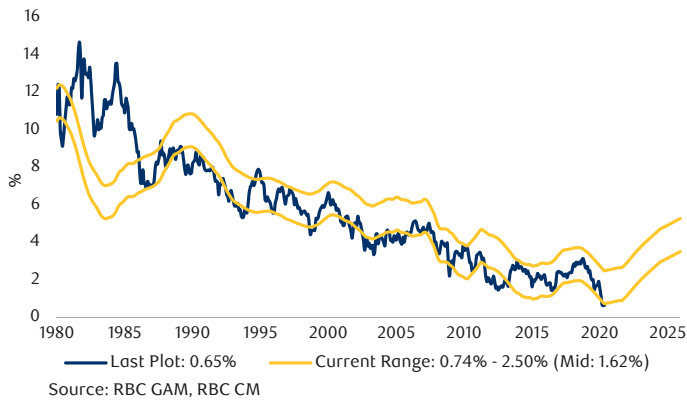
Eurozone 10-Year Bond Yield
Equilibrium range
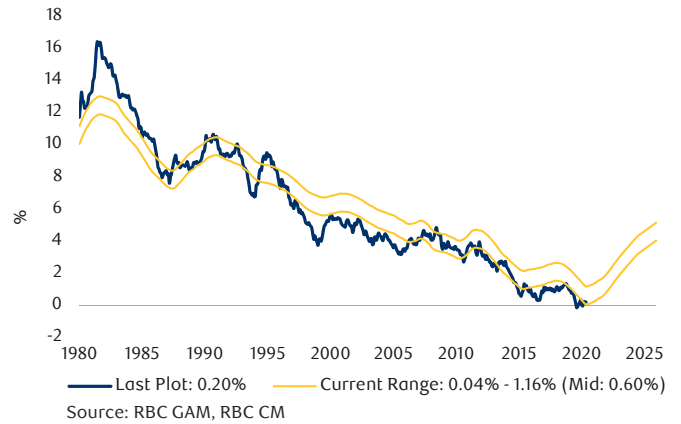
Last Plot: 0.20% Current Range: 0.04% - 1.16% (Mid: 0.60%)
Source: RBC GAM, RBC CM

Japan 10-Year Bond Yield
Equilibrium range

Last Plot: 0.01% Current Range: -0.82% - -0.01% (Mid: -0.41%)
Source: RBC GAM, RBC CM

Canada 10-Year Bond Yield
Equilibrium range

Last Plot: 0.53% Current Range: 0.41% - 1.94% (Mid: 1.18%)
Source: RBC GAM, RBC CM
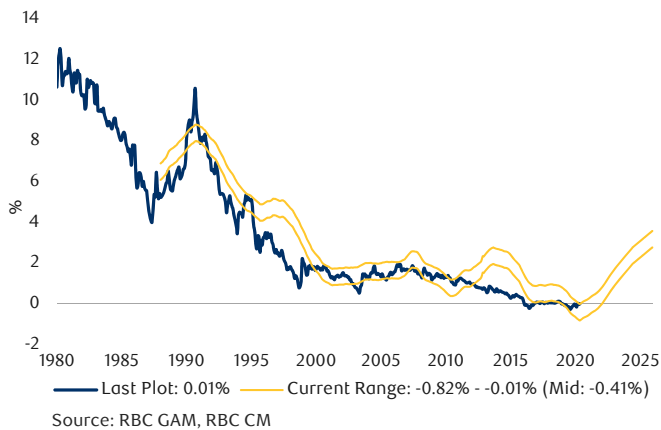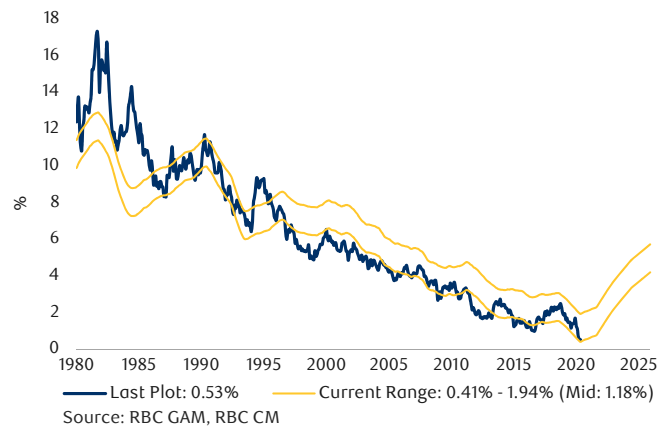
U.K. 10-Year Gilt
Equilibrium range
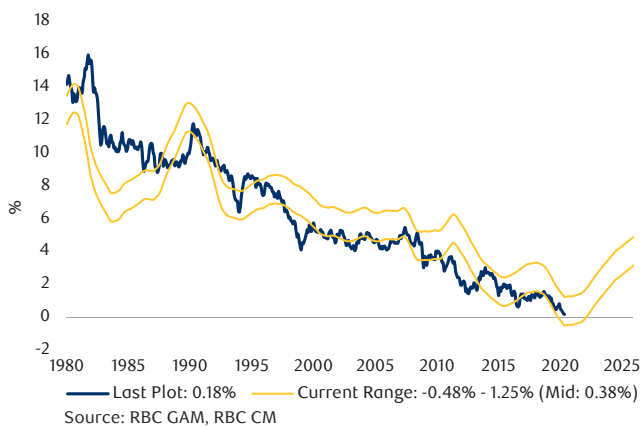
Last Plot: 0.18% Current Range: -0.48% - 1.25% (Mid: 0.38%)
Source: RBC GAM, RBC CM

Note: As of May 29, 2020

"

While our models suggest yields will ultimately rise from current levels over time, quantitative easing and highly accommodative central-bank policy will likely limit the extent to which that will happen in the near and intermediate terms.

Global Equity Markets

S&P 500 Equilibrium
Normalized earnings and valuations

May. '20 Range: 2249 - 3748 (Mid: 2999)
May. '21 Range: 2363 - 3938 (Mid: 3151)
Current (29-May-20): 3044

Source: RBC GAM

S&P/TSX Composite Equilibrium
Normalized earnings and valuations

May. '20 Range: 15367 - 23368 (Mid: 19368)
May. '21 Range: 18201 - 27677 (Mid: 22939)
Current (29-May-20): 15193

Source: RBC GAM
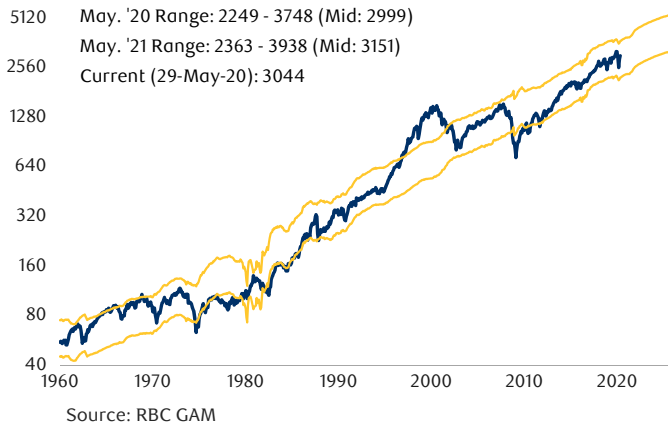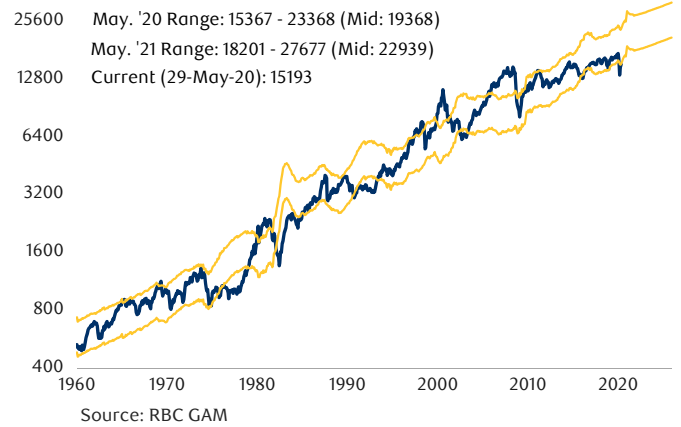
MSCI Japan Index
Normalized earnings and valuations

May. '20 Range: 713 - 2244 (Mid: 1478)
May. '21 Range: 836 - 2632 (Mid: 1734)
Current (29-May-20): 946

Source: Consensus Economics, RBC GAM
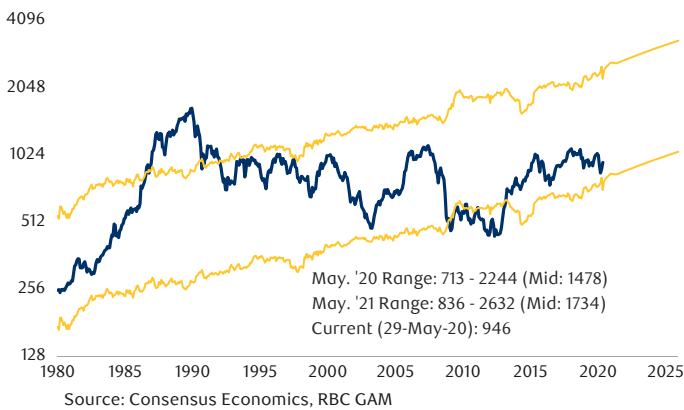
MSCI Europe Index
Normalized earnings and valuations

May. '20 Range: 141 - 314 (Mid: 227)
May. '21 Range: 156 - 348 (Mid: 252)
Current (29-May-20): 117

Source: Consensus Economics, RBC GAM
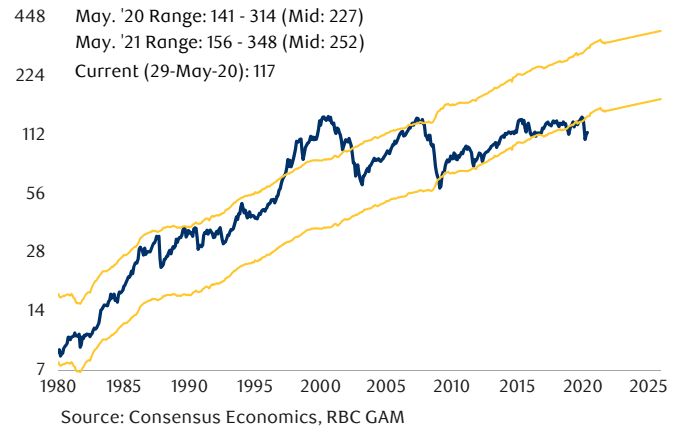
MSCI U.K. Index
Normalized earnings and valuations

May. '20 Range: 2154 - 4736 (Mid: 3445)
May. '21 Range: 2482 - 5456 (Mid: 3969)
Current (29-May-20): 1722

Source: Consensus Economics, RBC GAM
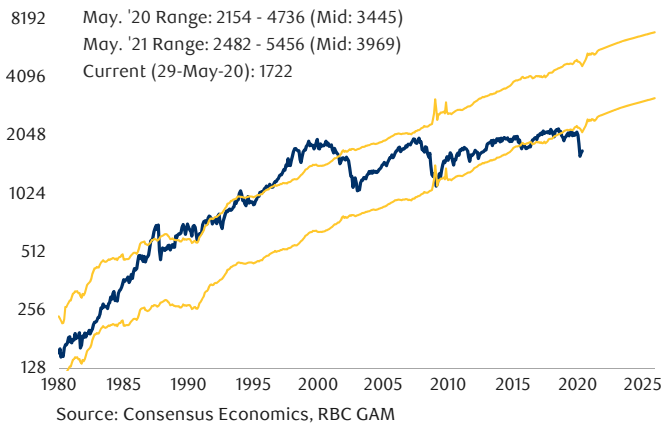
MSCI Emerging Markets Index
Normalized earnings and valuations

May. '20 Range: 974 - 1857 (Mid: 1416)
May. '21 Range: 1006 - 1919 (Mid: 1463)
Current (29-May-20): 930

Source: Consensus Economics, RBC GAM
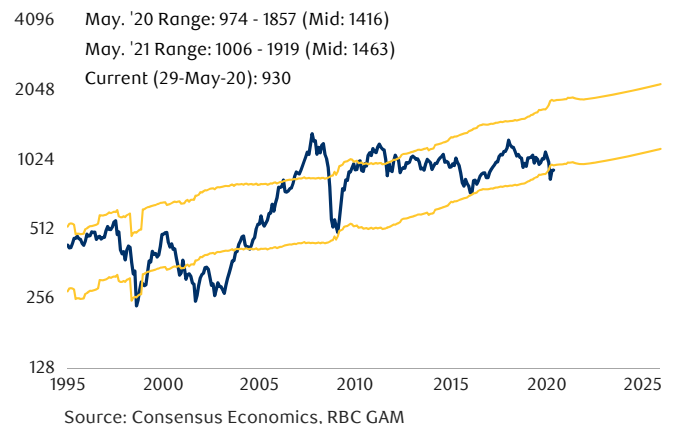
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Global Fixed Income Markets

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Global bond yields have declined sharply as the coronavirus causes massive disruption to people's lives around the globe. The U.S. 10-year government-bond yield fell from nearly 2.00% at the beginning of the year to an all-time low of just 0.31% in early March, and is currently yielding a paltry 0.60% (Exhibit 1). We expect that the hangover in economic activity due to the virus will continue for some time. As a result, bond yields should stay near their recent lows as unemployment remains high, inflation low and central banks accommodative. For the next 12 months, the focus of the bond market will be on policymakers' responses to the evolving pandemic.

Governments have massively increased spending in recent months, and they will need to tap bond markets aggressively to fund these outlays and make up for lower tax receipts. By the end of this year, global government debt as a share of GDP is expected to rise by a quarter, dwarfing the increase incurred during the global financial crisis in 2009 (Exhibit 2). The result will be the highest government-debt loads relative to the size of the global economy since the Second World War.

Exhibit 1: U.S. 10-year bond yields

Note: As of May 11, 2020. Source: Bloomberg
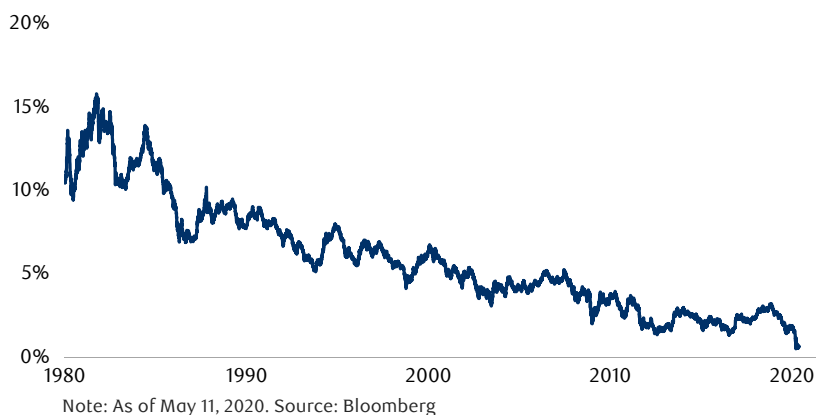
Exhibit 2: The debt increase is larger than it was in the financial crisis – Annual increase in government debt, as a percentage of GDP

Note: As of March 30, 2020. Source: IMF
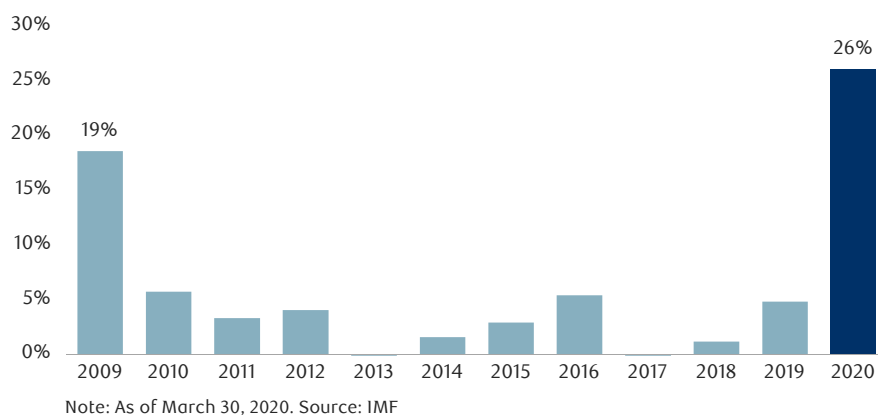
Central banks have also been busy. Those that had managed to raise interest rates over the past several years, such as the U.S. Federal Reserve (Fed) and the Bank of Canada (BOC), have cut rates to effectively zero and started, in the BOC's case, or restarted, as with the Fed, asset purchases. Central banks that were already accommodative, such as those in Europe and Japan, have accelerated the use of other tools as they ease policy. All major central banks have committed to keeping interest rates at low levels for a lengthy period. The Fed has bought nearly US$2 trillion of government bonds since March, a pace and scale greater than at any time in its recent history, and has plans to buy more (Exhibit 3). For the first time, the Fed is purchasing corporate bonds.

For the foreseeable future, concerns about COVID-19 and its lingering effects on the global economy should support bond prices. Uncertainty

will reign, and it is in environments such as these that government bonds show their worth. Bond prices will be bolstered by central-bank efforts to keep policy loose via low rates and asset purchases, and without significant progress in the fight against the coronavirus, it is highly unlikely that any central bank will raise rates over the next 12 months. The current environment is a particularly good one for yields to remain low, and we forecast that 10-year yields in most major markets will be essentially unchanged a year from now unless the economic recovery proceeds at a much faster pace than we expect. As the pandemic subsides longer term, it would be reasonable to expect yields to rise and bond prices to fall from current levels. This pandemic, like all others before it, will eventually fade, and a return to something resembling normalcy, not only for individuals but also the bond market, should follow.

The effect of any nascent economic recovery will show up in higher long-bond yields and a steeper yield curve, and the increase in yields will almost certainly happen well before central banks raise interest rates. In the aftermath of the 2008-2009 financial crisis, long-term bond yields starting rising as the economy recovered, even though it was seven years before the Fed raised its benchmark rate from the zero setting established during the crisis.

Fair-value estimates for bonds suggest that the yield on the benchmark 10-year U.S. Treasury should rise over time to between

Exhibit 3: Asset-purchase programs of the Federal Reserve

Note: As of May 6, 2020. Source: U.S. Federal Reserve Banks
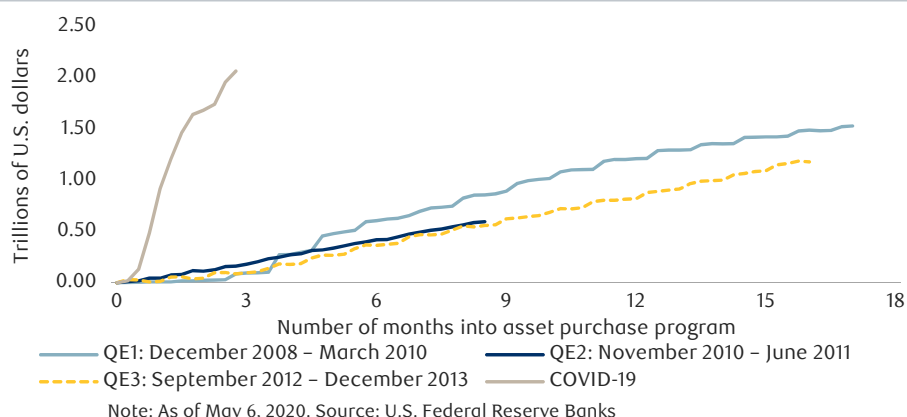
1.5% and 3.5%. The range comes from our fair-value model, which is based on inflation, equilibrium interest rates and a term premium, the last of which estimates the return that investors will demand to compensate for the risk that yields could change substantially.

We expect the massive increase in government debt will raise questions regarding budgetary sustainability given that the fiscal picture for many countries was not encouraging even before the pandemic. For Italy and the U.S., in particular, the fiscal response to the impact of the coronavirus has made a bad situation much worse. Discussions that were already difficult will become more so. None of this sounds encouraging for long-term bondholders, whose holdings are based on promises of fixed cash flows stretching long into an uncertain future. In time, investors may demand higher compensation given the risks.

It is hardly inevitable, however, that higher debt loads will lead investors to demand higher yields. Take Japan: despite a debt-to-GDP ratio of over

200%, the Japanese government can borrow for up to 10 years at negative interest rates. Part of the reason that investors are so comfortable with such low yields is due both to the particular preferences of Japanese investors and the Bank of Japan (BOJ), which effectively sets nearly all government borrowing rates through its yield-curve control program. Other central banks are starting to follow in the BOJ's footsteps as they too emerge as the largest purchasers of government debt to facilitate the massive increase in deficits. The expanded central-bank purchases mean that the amount of newly issued debt that investors will need to absorb is relatively modest.

Central-bank asset purchases, while originally a temporary means to facilitate a faster return to economic growth, might be permanently necessary to prevent government borrowing costs from rising. After the Second World War, the Fed worked to keep U.S. government borrowing costs low by intervening in the Treasury market. The European Central Bank's (ECB) purchases of government bonds

in recent years have been portrayed as an essential tool of monetary policy, when they are in fact largely aimed at containing borrowing costs for the Italian government.

A concern for bondholders is the dwindling inventory of tools that central banks have left to stimulate the economy with rates at or below zero and already large balance sheets full of government and, increasingly, corporate bonds.

For central banks with policy rates at or above zero, one possible tool that has been discussed is negative interest rates, which are already in place in Japan and Europe. We understand the appeal of cutting interest rates below zero. In prior recessions, the Fed would have typically cut interest rates by several percentage points without even considering the possibility of running into 0%. In the past three major recessions, the Fed cut rates by 400 to 600 basis points (Exhibit 4). In the current cycle, however, the Fed has been able to cut by only 225 basis points. Opening the door to negative interest rates would create an additional avenue to looser monetary policy for central banks that have not already gone down this path.

We believe, however, that the Fed and BOC will hesitate to employ negative interest rates because the evidence is mixed on whether they work. Moreover, negative interest rates seem to come at a huge cost to the earnings and operations of banks, which policymakers rely on to convert monetary-policy changes into borrowing that boosts economic growth. Sweden has abandoned an

Exhibit 4: Central banks typically cut rates by much more
Fed policy-rate changes during the last four rate-cut cycles
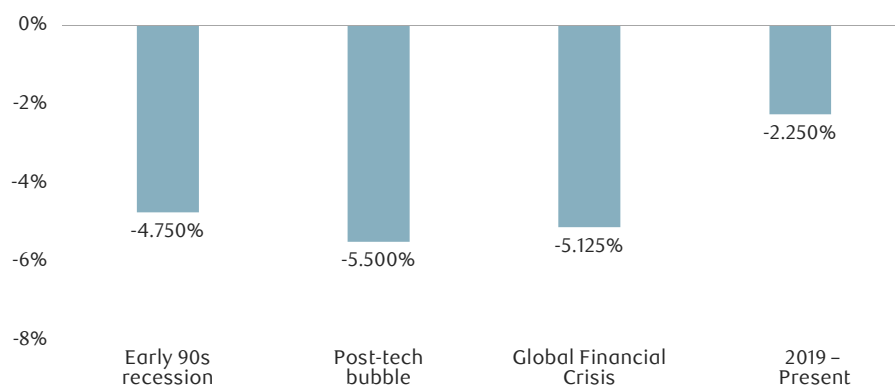
Note: As of date April 30, 2020. Source: U.S. Federal Reserve Banks

experiment with negative rates, citing its ineffectiveness in jump-starting the economy. While the new governor of the BOC, Tiff Macklem, has publicly raised the possibility of negative rates, the appetite for a policy rate below zero appears to be tepid in Canada's closest trading partner, the U.S. We would be surprised to see the BOC pursue negative rates independently of the Fed.

The more likely course, if required, is that more central banks will pursue a policy known as yield-curve control. Japan has had such a policy in place for several years, and a common view in North America is that yield-curve control represents a much more natural evolution of current policy than negative rates. Yield-curve control is simply a more explicit form of forward guidance – a tool familiar to most central bankers. In this case, the commitment to a certain path or level of policy rates is replaced with a path or level for bond yields across the yield curve.

Yield-curve control would relieve some of the pressure on central-bank asset purchases, which can interfere with the normal functioning of the bond market. Japan's experience is that being more explicit in where it wants yields has permitted the BOJ to keep yields low while dramatically scaling back the size of its government-bond purchases (Exhibit 5). In doing so, the BOJ has improved the outlook for market liquidity and maintained its intended easing bias by keeping the 10-year JGB yield around its target of zero.

For now, concerns about fiscal sustainability will be put aside by investors and policymakers as uncertainty regarding the short- and long-term impacts of the pandemic on national economies remains high. Over the longer term, however, strong fiscal and monetary responses mean that bond yields should rise. We expect that returns for government bonds will be modest, as low starting yields are eaten away by capital losses.

As we continue to adapt and evaluate our portfolios in the face of stunning changes to our markets, we need to prepare for the eventuality that large swaths of global fixed-income markets may be eventually owned by central banks. The presence of large non-profit-oriented market participants could change some of the fundamental relationships we expect in fixed income.

Direction of rates

U.S. – 10-year government bond yields have fallen to near-record lows of 0.60%. With the fed funds rate target already set between 0.00% and 0.25%, yields are unlikely to fall much further unless the Fed decides to adopt negative interest rates - something we consider unlikely at this time. Asset purchases are also likely to support bond prices over the next year. The Fed`s balance sheet has doubled in size from a year ago, and will continue to grow to eventually include substantial holdings of not only government debt, but corporate bonds and their associated ETFs as well. We forecast the 10-year Treasury yield to be little changed a year from now, at 0.75%.

Germany – We do not expect a change in the ECB's policy rate over the next year. However, policy easing in response to the pandemic will continue in the form of asset purchases. With the policy rate on hold at -0.50%, we expect bund yields to be just -0.30% in a year`s time. ECB policy is much more important for the bonds of European countries with large government debt loads such as Italy and Spain. Central-bank asset purchases are underpinning investor confidence and

Exhibit 5: Yield-curve control and the Bank of Japan's annual government bond purchases

Note: As of April 1, 2020. Source: Bank of Japan

keeping borrowing costs low even as government debt climbs from already high levels.

Japan – The Bank of Japan (BOJ) continues to provide strong support for government-bond prices via asset purchases and explicit yield targets. We do not expect the BOJ to adjust its policy rate over the next 12 months. Any sustained appreciation in the yen could prompt some additional easing measures, but we think that these will be restricted to asset purchases and not a change in the policy rate, currently at -0.10%. Fiscal policy is highly stimulative as the government works to offset some of the economic damage from the pandemic. The resulting increase in bond supply should be easily absorbed by the market, which remains anchored by the BOJ`s yield-curve control policy. Japan is a good example of a country where high government-debt loads have resisted the clarion call of higher yields. We expect 10-year bonds yields to be little changed in a year, and within the current policy-defined range of -0.20% to +0.20%.

U.K. – Our 12-month forecast for 10-year gilt yields is 0.40%, essentially unchanged from its level at the time of writing. The Bank of England (BOE) faces a similar policy outlook as many of its central-bank peers: already low policy rates, expansive asset-purchase programs, and a prolonged period of poor economic growth and below-target inflation. We forecast no changes to the policy rate over the next year and expect the BOE`s efforts to keep policy accommodative should keep bond yields low.

Canada – Bond markets over the past three months were as volatile as they've ever been. The global spread of COVID-19 and subsequent closure of huge portions of the economy led to massive financial-market intervention by the Bank of Canada (BOC). Since January, the BOC has cut its benchmark interest rate by 150 basis points to 0.25% and embarked on Canada's first foray into central-bank debt purchases. The purchases have expanded the BOC's balance sheet to almost half a trillion dollars. The quantitative-easing programs ensured

that financial markets functioned properly by alleviating short-term funding strains and providing support for businesses. The BOC's asset purchases will include as much as $50 billion of provincial bonds and as much as $10 billon of Canadian corporate debt.

It has become clear that the crisis will culminate in a deep recession and that short-term interest rates will likely stay at current levels well into 2021. It is also possible that the BOC will expand its debt purchases, and perhaps introduce negative interest rates if the economy worsens more than expected. We look for longer-term bond yields to remain within recent ranges until compelling evidence of a recovery is underway. Investors have so far been willing to accept extraordinarily low yields on debt sales that have led to exploding budget deficits, but their willingness to continue doing so without demanding higher yields will depend on whether they feel comfortable that the deficits will at some point be brought under control. Absent that assurance, yields could head higher. We expect no change to the BOC's overnight rate of 25 basis points, and have left our forecast for the 10-year bond yield at 75 basis points.

Interest rate forecast: 12-month horizon
Total Return calculation: May 21, 2020 – May 20, 2021

U.S.

	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	0.13%	0.40%	0.50%	0.75%	1.45%	0.12%
Change to prev. quarter	(0.88%)	(0.85%)	(0.95%)	(0.85%)	(0.55%)	
High	0.13%	0.75%	1.25%	1.50%	2.00%	(4.02%)
Low	0.05%	0.25%	0.25%	0.30%	1.00%	3.22%

Expected Total Return US$ hedged: 0.02%

Germany

	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	(0.50%)	(0.50%)	(0.40%)	(0.30%)	0.10%	(2.21%)
Change to prev. quarter	0.10%	0.00%	0.00%	(0.05%)	0.05%	
High	(0.50%)	(0.25%)	(0.10%)	0.00%	0.30%	(4.83%)
Low	(0.50%)	(0.60%)	(0.70%)	(0.75%)	(0.30%)	2.60%

Expected Total Return US$ hedged: (1.60%)

Japan

	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	(0.20%)	(0.20%)	(0.10%)	0.00%	0.55%	(0.82%)
Change to prev. quarter	0.00%	0.00%	0.10%	0.10%	0.25%	
High	(0.20%)	(0.10%)	0.00%	0.20%	0.70%	(3.21%)
Low	(0.20%)	(0.20%)	(0.20%)	(0.20%)	0.25%	3.78%

Expected Total Return US$ hedged: (0.03%)

Canada

	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	0.25%	0.55%	0.65%	0.75%	1.25%	(0.76%)
Change to prev. quarter	(0.75%)	(0.65%)	(0.75%)	(0.75%)	(0.30%)	
High	0.25%	0.75%	0.85%	1.00%	1.40%	(2.49%)
Low	0.25%	0.25%	0.25%	0.30%	1.00%	2.38%

Expected Total Return US$ hedged: (1.70%)

U.K.

	3-month	2-year	5-year	10-year	30-year	Horizon return (local)
Base	0.10%	0.25%	0.30%	0.40%	0.85%	(4.14%)
Change to prev. quarter	(0.40%)	(0.25%)	(0.25%)	(0.20%)	(0.10%)	
High	0.10%	0.60%	0.80%	0.90%	1.10%	(8.89%)
Low	0.10%	0.10%	0.10%	0.15%	0.70%	(1.28%)

Expected Total Return US$ hedged: (4.30%)

Source: RBC GAM

Currency Markets

Pandemic drives last hurrah for the U.S. dollar

Dagmara Fijalkowski, MBA, CFA
Head, Global Fixed Income & Currencies
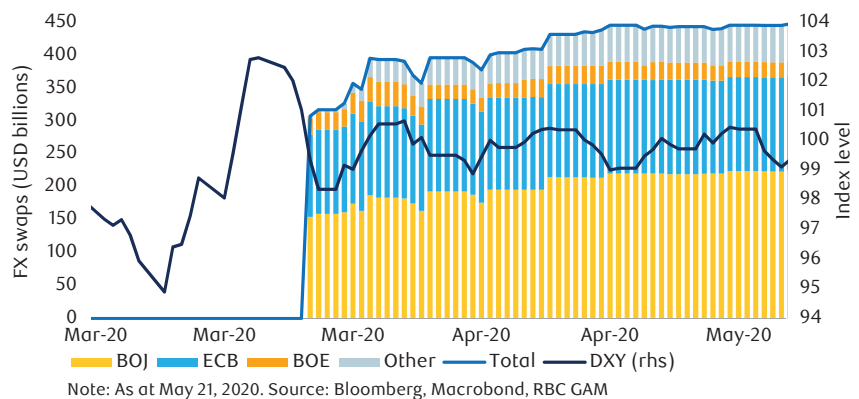RBC Global Asset Management Inc.

Daniel Mitchell, CFA
Portfolio Manager
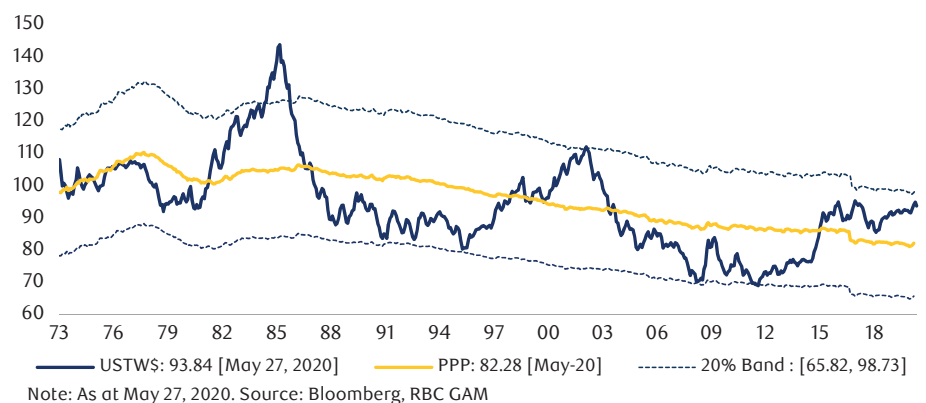RBC Global Asset Management Inc.

Currencies were not immune to the frantic moves experienced in other areas of the financial markets at the height of coronavirus fears in March and April. Although fluctuations subsided in May, leaving most G-10 currencies confined to relatively tight ranges, not all currencies had that respite. Emerging-market currencies, which trade by a different playbook, haven't performed as well because virus concerns still weigh more on emerging economies. It looks like the pandemic provided one last hurrah for the U.S. dollar bull market, which has been gradually running out of steam.

Many economists refer to the U.S. dollar as a "safe haven." A more correct moniker would probably be a "liquidity haven" because it is the currency in which most of the world's trade finance and global investment occurs. Given that role, the greenback experiences phases of acute demand in times of financial stress. This was clearly the case in 2008, when the dollar's strength persisted until central bankers were finally able to satisfy the world's appetite for liquidity. The first half of 2020 has offered quite a different experience. Central banks including the U.S. Federal Reserve (Fed), European Central Bank (ECB) and Bank of Canada (BOC) were far quicker in providing liquidity, acting to short-circuit the hoarding of U.S. dollars and preventing the associated

Exhibit 1: Central-bank swap lines stem acute dollar demand

Note: As at May 21, 2020. Source: Bloomberg, Macrobond, RBC GAM

Exhibit 2: USD is expensive
PPP Valuation

USTW$: 93.84 [May 27, 2020]   PPP: 82.28 [May-20]   20% Band : [65.82, 98.73]
Note: As at May 27, 2020. Source: Bloomberg, RBC GAM

increase in the cost of borrowing. Exhibit 1 shows the stabilization of the greenback alongside increased usage of central-bank swap lines set up to lend U.S. dollars in foreign markets. With these measures in place, the dollar has risen only 4% against a basket of the world's currencies since the beginning of the year – a tiny amount in the context of recent wild fluctuations in the financial markets. However, it was likely not just the extraordinary provision of liquidity that prevented a meaningful U.S. dollar rally. The currency's overvaluation is

also playing a role, as are a number of other long-term factors that likely will continue to pull the greenback lower in the years to come.

Overvaluation

Timing is everything, and a comparison of the performance of the dollar in 2020 with 2008 shows why. At the beginning of the 2008-2009 financial crisis, the dollar was in its sixth year of a bear market and getting quite cheap relative to the currencies of its G-10 counterparts. In mid-March of this

year, the trade-weighted U.S. dollar was nine years away from its 2011 bottom, and was nearing overvaluation extremes, according to our purchasing-power-parity model (Exhibit 2). In fact, the dollar was actually trading outside the 20% valuation bands against several G-10 currencies. Research shows that currency valuation is important in shaping the economic behaviour of households and businesses, causing exchange rates to spend very little time beyond these "lines in the sand" before reversing course. We know that the currency market is in the very late stages of a dollar bull market (Exhibit 3), so the recent shift into overvaluation ticks yet another box for U.S. dollar bears.

Fiscal and monetary excess

This year's unprecedented global fiscal and monetary expansions should raise red flags for holders of fiat currency, which is likely one reason why gold prices are nearing all-time highs. The U.S. is leading the charge in this fiscal and monetary movement, with the Fed balance sheet expanding and budget deficits ballooning faster than elsewhere (exhibits 4 and 5). In the short term, these efforts will help stem the economic hit from the pandemic, but longer-term consequences will almost certainly follow because these types of policies are politically difficult to reverse. Questions about debt sustainability and the capacity to address future crises will be front of mind again. While not an immediate concern, such stimulative policies raise the prospect of higher inflation expectations down the road, and prompt some questions: Could this begin to affect the world's appetite for U.S. assets? Is peak globalization

Exhibit 3: Long-term cycles in the U.S. dollar

Note: As at May 22, 2020. Source: Bloomberg, RBC GAM

Exhibit 4: Change in central-bank balance sheets

Note: As at May 22, 2020. Source: Citigroup, RBC GAM
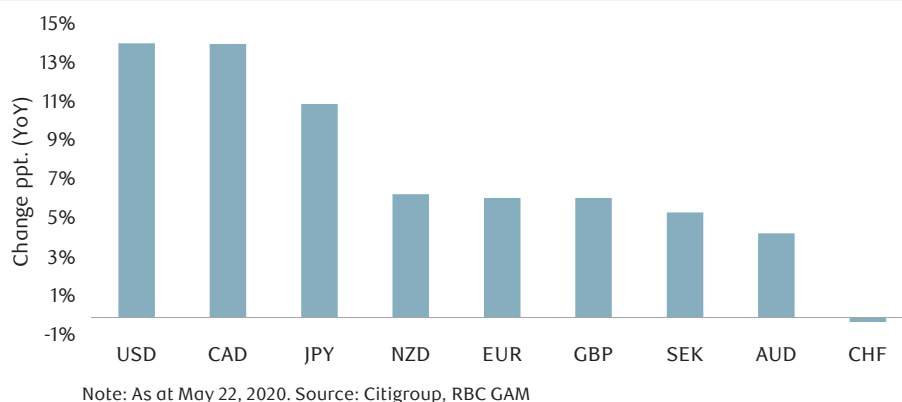
Exhibit 5: Government budget deficits

Note: As at May 20, 2020. Source: Citigroup, IMF, RBC GAM
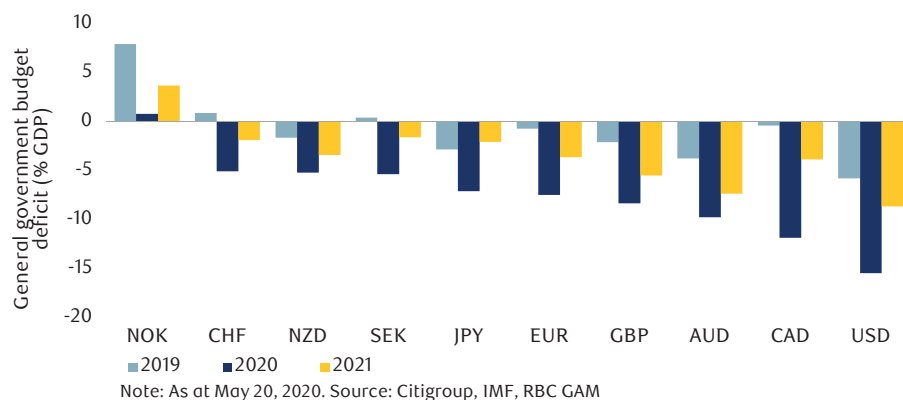
behind us? Are these risks properly reflected in a currency that's trading near a 20% premium to its fair value?

Slow decline in U.S.-dollar hegemony

In the short term, U.S.-dollar strength, central-bank currency intervention and reserve rebalancing form a powerful feedback loop, leading emerging-market central banks to sell euros to rebalance their portfolios after spending U.S. dollars to defend their currencies in March and April. In the longer term, we have seen evidence that the dollar is losing some of its appeal for central banks, with the share of U.S. dollars held in the reserve portfolios of these large and long-term holders dropping to 61% from 66% over four years (Exhibit 6).

Part of the "*exorbitant privilege*" [1] enjoyed by the U.S. dollar derives from America's acceptance since the Second World War of a responsibility to ensure global order. Yet there are growing divides between the U.S. and allies such as Japan, South Korea and Saudi Arabia. The U.S., under President Trump, has threatened to withdraw support for global institutions such as the World Trade Organization, the North Atlantic Treaty Organization and the World Health Organization. The fact that the U.S. has weaponized its currency by restricting Iranian and Venezuelan access to the dollar-based payments system is a dangerous precedent that has China accelerating efforts to boost circulation of the renminbi in an effort to spread its

[1] A term coined by then-French Finance Minister Valéry Giscard d'Estaing in the 1960s with reference to the substantial benefit garnered by the U.S. through its ability to print the world's primary reserve currency.

Exhibit 6: U.S. dollar share in global FX reserves

Note: As at Oct. 31, 2019. Source: Bloomberg, IMF, RBC GAM

Exhibit 7: U.S. 2-year interest-rate advantage

Note: As at May 22, 2020. Source: Bloomberg, RBC GAM
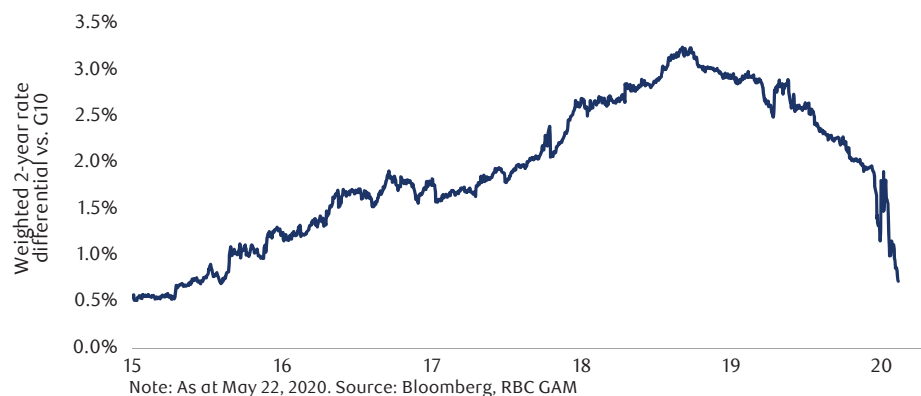
financial influence around the globe. The renminbi likely won't replace the U.S. dollar anytime soon as the world's primary currency, but the multi-decade shift away from the U.S. is underway and represents a meaningful and persistent U.S.-dollar headwind in the decade ahead.

A less supportive environment

Aside from rich valuations and unbridled balance-sheet expansion, there are several shorter-term factors that offer further reason for investors to move assets into other currencies.

Whenever life returns to normal, the dollar will still be burdened by election uncertainty, and there is little doubt that we will again be reminded of the White House's preference for a weaker currency. Importantly, the pandemic has eroded the few areas of support that the greenback previously enjoyed. For one thing, the greenback's yield advantage has vanished (Exhibit 7). Falling relative U.S. yields matter for how the greenback trades against the euro and yen, not only because they are the greenback's largest and most liquid rivals, but also because

Japan and Europe have large U.S investments. Holders of these assets are likely to sell U.S. dollars in order to increase hedges as declining U.S. interest rates cheapen the cost of doing so.

Finally, in an ironic twist, the U.S. achieved energy independence in recent years just as the world started to view oil resources as more liability than asset. In addition to this long-term consideration, the short-term impact on oil prices of slower global economic growth will undermine the case for U.S. shale production - an additional headwind for the dollar.

Canadian dollar

The Canadian dollar has been more resilient than other commodity currencies since the onset of the pandemic (Exhibit 8). This is partly because resource extraction forms a larger share of GDP in those other economies, and also because many are emerging-market currencies weighed down by other concerns such as capital outflows, unstable politics and scant central-bank credibility. However, there has been a notable shift in sentiment against the loonie, with most investors now acknowledging the difficult road that lies ahead for the Canadian currency. Foreign-exchange positions had swung sharply bearish amid concern that a poorly positioned oil sector, stretched consumers and a heavy reliance on foreign investors to fund budget and current-account deficits would pull the currency lower. While these positions appear to have thinned in late May, we think there is scope for the loonie to weaken again. Our base case forecast calls for 1.40 in a year's time, the level

Exhibit 8: Commodity currencies

Note: Indexed to 100 on Dec. 31, 2019. As at May 22, 2020. Source: Bloomberg, RBC GAM
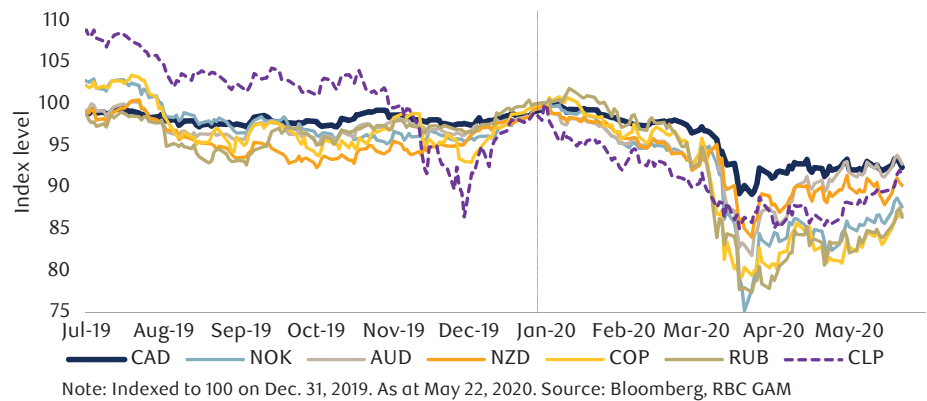
Exhibit 9: Canada basic balance of payments

Note: As at Mar. 31, 2020. Source: Statistics Canada, RBC GAM
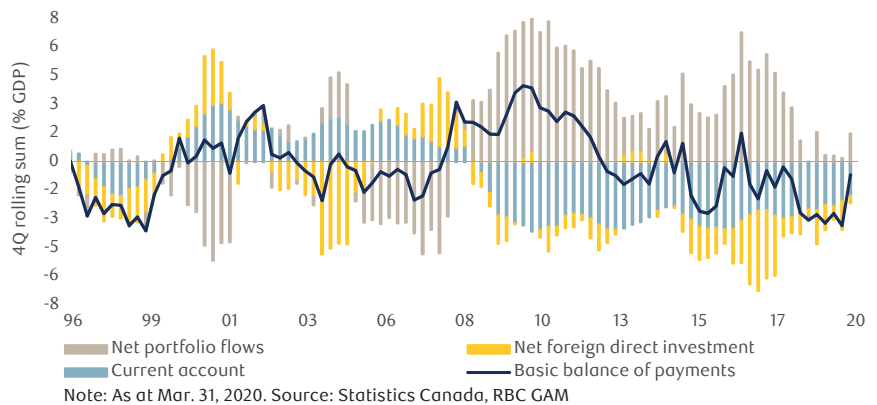
which corresponds with the loonie likely being unable to benefit from U.S.-dollar weakness, held back by a range of domestic problems.

For 10 years, Canada has run a persistent current-account deficit, a shortfall that has been funded mostly by foreign buying of Canadian bonds (Exhibit 9). The fact that Canada is also adding more to its direct investment abroad than it is attracting magnifies the country's funding burden. Inbound portfolio investment in 2019 fell 75% from just two years

earlier, and occurred precisely at the time when the country's fiscal deficits are set to rise. In this context, it's a good thing that the BOC will be buying government and provincial bonds through its recently announced quantitative easing-programs. Unfortunately, efforts to depress longer-term bond yields will not prove helpful for the loonie as it caps an already dwindling interest-rate advantage. Without relatively high yields, currency weakness will be the avenue for restoring the attractiveness of Canadian assets.

The Canadian dollar should eventually benefit from a U.S. dollar sell-off, but we think it will generally underperform other major currencies given intensifying domestic and external headwinds. The country's high sensitivity to global trade will present challenges in a post-pandemic world, with tighter borders and globalization slowing down or reversing. The oil industry, plagued by transportation constraints and environmental disputes, is being dealt the heavy blow of crude-oil prices that are below the cost of production. Even before the pandemic, small businesses were experiencing an uptick in bankruptcies, and Canada's reliance on small business for 70% of employment therefore bodes ill, as do highly indebted households poorly prepared for the double-hit of job losses and wealth destruction. We expect Canadian economic data to lag improvements elsewhere and weigh on the loonie in this recovery.

Euro

We continue to like the euro and believe the region's current-account surplus will at some point support the single currency now that the U.S. interest-rate advantage has been dramatically reduced. A large and positive current-account surplus may have been one factor preventing euro weakness during the market's plunge amid tight global liquidity and sovereign-debt concerns. On the latter, we believe that European policymakers will eventually do what is necessary to maintain Eurozone solidarity as they did with Greece, Ireland and Portugal a decade ago. Northern states may grumble, but the costs of breakup are

Exhibit 10: European portfolio flows and the single currency

Note: As at Dec. 31, 2019. Source: Bloomberg, ECB, RBC GAM
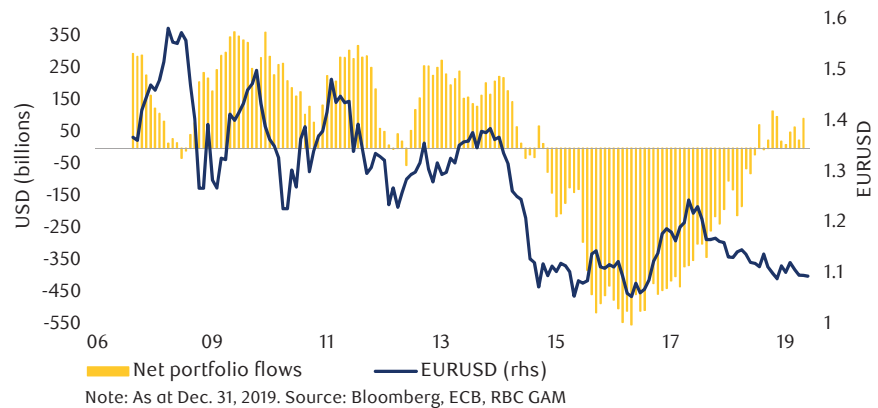
Exhibit 11: 10-year yield available to European investors

Note: As at May 27, 2020. Source: Bloomberg, Macrobond, RBC GAM

so unbearable that rescue funds and new Eurozone-backed debt dubbed "coronabonds" are less painful routes. The recent proposal from Germany and France on a 500-billion euro European Recovery Fund shows that compromise on this issue may be closer than widely believed.

One important question is whether the resumption of the ECB's asset-purchase program encourages investors to increase holdings of foreign assets. This could be negative

for the euro, as it was when the ECB initiated quantitative easing in 2015 (Exhibit 10). However, the appeal of foreign investments may be declining as falling interest rates elsewhere have narrowed the yield gap. On both a hedged and unhedged basis, the yield available to European investors buying U.S. Treasuries has collapsed (Exhibit 11). Some argue that the recent rise in volatility actually supports the single currency, as investors are forced to sell emerging-market positions funded with the euro. Others assert that

investors will prefer to invest in their home markets after the crisis subsides, indicating that a portion of Europe's large holdings of foreign assets could be repatriated. Adding these factors to a starting point of euro undervaluation makes a case for a gain in the single currency.
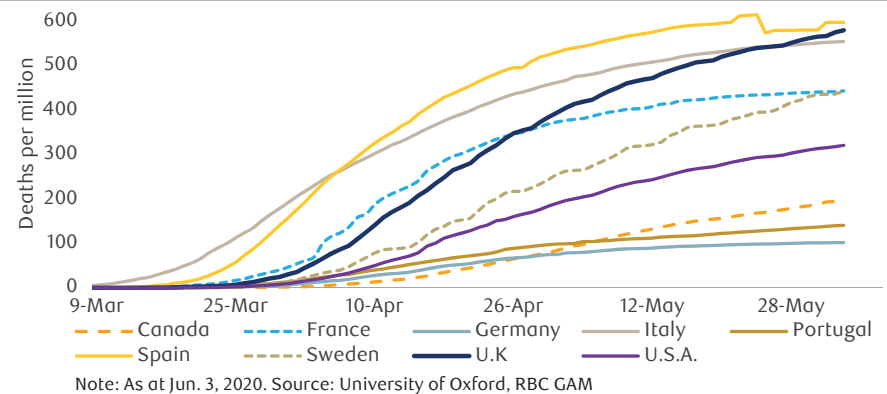
Japanese yen

It is puzzling that the yen hasn't risen more in the current risk-off environment. A temporary pause in the currency's safe-haven appeal may have been related to a stronger appetite for foreign assets among Japanese pension funds (Exhibit 12). As in Europe, the behavior of domestic investors is an important determinant of the yen's performance.

The Government Pension Investment Fund (GPIF), Japan's largest pension fund at US$1.5 trillion in assets, recently reclassified hedged foreign bonds into a domestic category to increase available capacity for buying unhedged foreign bonds. The move, mirrored by smaller Japanese pension funds, temporarily capped how far the yen could rally. Could the fact that the GPIF is now publicly announcing its bond purchases mean that they have finished the transition into foreign bonds? If so, the yen's long-term fundamentals can again support the currency, which benefits from undervaluation and Japan's healthy current-account surplus. As mentioned earlier, the convergence of interest rates in recent months may encourage other Japanese investors, particularly those that are more sensitive to currency movements, to hedge more of their U.S.-dollar currency exposure.

Exhibit 12: Net Japanese portfolio flows

Note: As at Oct. 31, 2019. Bloomberg, RBC GAM
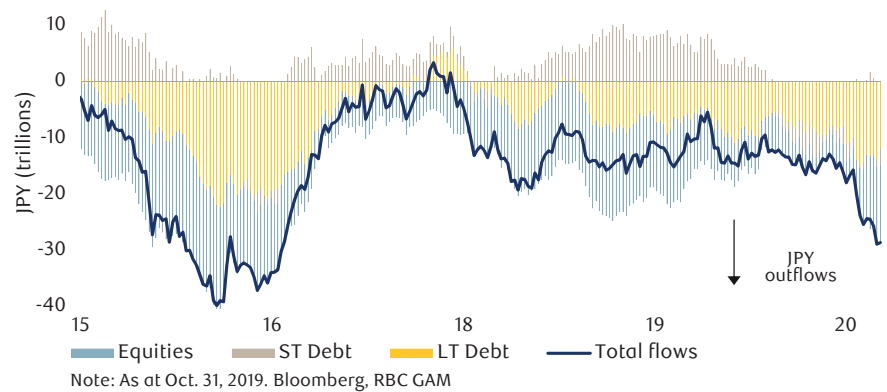
Exhibit 13: Trajectory of COVID deaths

Note: As at Jun. 3, 2020. Source: University of Oxford, RBC GAM

British pound

Britain's combination of large current-account deficits, overly indebted consumers and lack of domestic corporate investment puts the pound in the same league as the Canadian dollar. In place of lower oil prices, the pound must contend with Brexit, a saga that has fallen out of focus during the pandemic. We note that the end of 2020 still looms as the deadline for when the U.K. and the EU are slated to agree on an exit agreement. The odds that the two sides will be able

to hammer out a deal are falling with each passing day.

The U.K has been especially hard-hit by the pandemic, with one of the highest per-capita death rates in Europe (Exhibit 13). In the aftermath of the lockdown, U.K. consumers are less likely to spend as they shore up their savings. As a result, the outlook for U.K. economic growth remains relatively dire, even accounting for the sizable government stimulus that is planned.

Mixed outlook for emerging markets

Emerging-market investors have had plenty to worry about since the arrival of the coronavirus: weak global growth, rising U.S.-dollar liabilities, worsening terms of trade, lower worker remittances, the collapse of tourism and a relative dearth of fiscal resources to combat the crisis. Central banks in emerging markets would typically raise interest rates to keep capital onshore, but have instead loosened monetary policy to support domestic demand. While the Fed's efforts to reduce the scarcity of dollars has helped ease financial stress, investors have continued to relentlessly sell emerging-market assets (Exhibit 14).

What options remain for these countries to support their markets and economies? Some countries have tried currency intervention, without much success. Others have wandered into quantitative easing (Exhibit 15), but many countries lack the fiscal and monetary credibility to successfully execute these programs. There is a risk that investors see these unconventional policies as a slippery slope of governments being reliant on central banks for funding fiscal deficits and the possibility of runaway inflation leading to currency debasement. Additional measures could include capital controls and appeals for financial help from the IMF, though we think these measures are unlikely for the larger and more stable emerging markets. Emerging-market currencies responded to the crisis as we would

Exhibit 14: Capital flows to emerging markets

Note: As at May 21, 2020. Source: IIF, RBC GAM
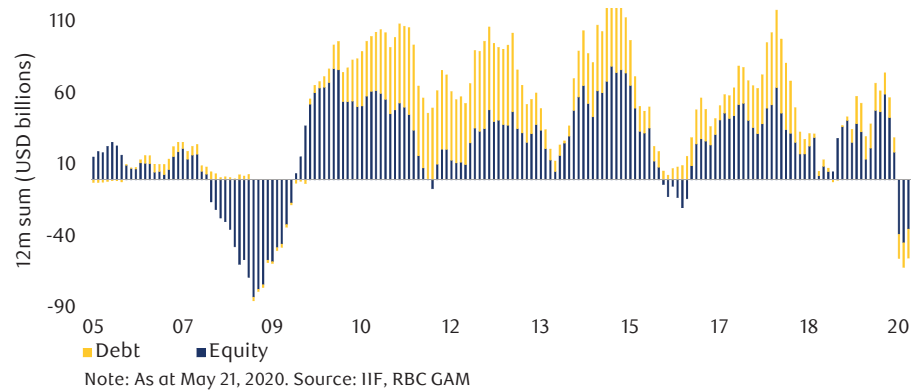
Exhibit 15: Quantitative easing in emerging markets

Date announced	Country	Purchases	Stated purpose
15-Mar	Israel	Govt. bonds	Liquidity
17-Mar	Poland	Govt. bonds	Liquidity
18-Mar	India	Govt. bonds	Liquidity
19-Mar	Chile	Corp. bonds	Liquidity
20-Mar	Romania	Govt. bonds	Liquidity
23-Mar	Colombia	Private debt	Monetary easing
25-Mar	South Africa	Govt. bonds	Liquidity
25-Mar	Korea	T-bills, Corp. bonds	Liquidity
31-Mar	Turkey	Govt. bonds	Monetary easing
01-Apr	Indonesia	Govt. bonds	Fiscal stimulus
07-Apr	Hungary	Govt., Corp., Mortg. bonds	Liquidity
07-Apr	Thailand	Govt., Corp. bonds	Liquidity
10-Apr	Philippines	Govt. bonds	Liquidity
21-Apr	Mexico	Govt. bonds	Liquidity

Note: As at April 30, 2020. Source: BIS, Barclays, RBC GAM

expect, weakening 11% collectively in two months, but the declines ranged from 1% for the Philippine peso to 26% for the Mexican peso. Will this weakness be enough to pique investor appetite given the delayed arrival of COVID-19 in many countries? It's too early to tell, so caution is warranted in the near term, even if the dollar weakens versus major developed-market currencies.

The impact of the pandemic will vary across emerging-market countries, depending on the capacity of health-care systems, population age and density, access to fresh water and the structure of individual economies including the degree of dependence on tourism. Recoveries will be more difficult for open economies tied closely to global supply chains, and for those with large numbers of informal workers beyond the reach of government assistance. We are

more optimistic about countries such as China and South Korea, which have large national savings and are reporting few, if any, new COVID-19 cases. There is also scope to boost allocations to countries such as Russia, Colombia and Mexico, which have exposure to commodities, as they are sufficiently cheap. We remain bearish on India and Brazil, where we expect the pandemic to have the most negative longer-term consequences, as well as Turkey and South Africa, where the benefits of cheaper oil imports are outweighed by a broad range of systemic problems.

Conclusion

The liquidity shortage experienced during the early days of the COVID-19 crisis has led to one final rally in the greenback, ending a nine-year stretch of gains. Subsequent weakness in late May and early June signaled that

investors have begun to factor in the U.S. dollar's overvaluation, as well as the country's fiscal and monetary excesses. Shorter-term considerations, such as lower U.S. interest rates and election uncertainty may also be weighing on the currency. The euro and yen are likely to benefit most strongly during this initial phase of the U.S.-dollar decline, while the Canadian dollar and British pound lag. In the months to come, the performance of individual emerging-market currencies will depend largely on the evolution of the pandemic.

Regional Outlook – U.S.

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The S&P 500 Index rose 3.6% during the three-month period ended May 31, 2020, as the coronavirus-related sell-off bottomed in late March and stocks staged a remarkable comeback during April and May. The March decline was one of the most intense in stock-market history, a drop of 34% in 23 days as investors became fearful that the spread of the virus and related lockdowns would lead to a steep drop in corporate profits. The World Health Organization declared the crisis a pandemic on March 11, and on March 16 the U.S. issued social-distancing guidelines. The equity sell-off stopped on March 23 after the U.S. Federal Reserve (Fed) reduced short-term interest rates to effectively zero and announced its intention to support the investment-grade corporate debt market, significantly reducing the likelihood that America's largest companies would run out of cash while the country was in lockdown. The Fed lowered the odds of a worst-case scenario further on April 4, when it announced support for the high-yield and municipal bond markets. With the Fed walling off most of the bad scenarios, it was time for investors to assess the damage.

In the three-month period ended May 31, five of the 11 sectors outperformed the S&P 500, led by Health Care, Information Technology, Consumer Discretionary, Communication Services and Materials, while Consumer Staples, Utilities, Real Estate, Industrials, Financials and

United States – Recommended sector weights

	RBC GAM Investment Strategy Committee May 2020	Benchmark S&P 500 May 2020	Active Risk vs. Benchmark May 2020
Energy	2.0%	2.9%	(0.9%)
Materials	1.8%	2.5%	(0.8%)
Industrials	7.0%	8.0%	(1.0%)
Consumer Discretionary	10.8%	10.5%	0.2%
Consumer Staples	7.0%	7.1%	(0.1%)
Health Care	16.0%	15.2%	0.8%
Financials	10.5%	10.4%	0.1%
Information Technology	27.5%	26.2%	1.3%
Communication Services	12.0%	11.0%	1.0%
Utilities	3.5%	3.2%	0.3%
Real Estate	2.0%	2.8%	(0.8%)

Source: RBC GAM

S&P 500 Equilibrium
Normalized earnings and valuations

May. '20 Range: 2249 - 3748 (Mid: 2999)
May. '21 Range: 2363 - 3938 (Mid: 3151)
Current (29-May-20): 3044
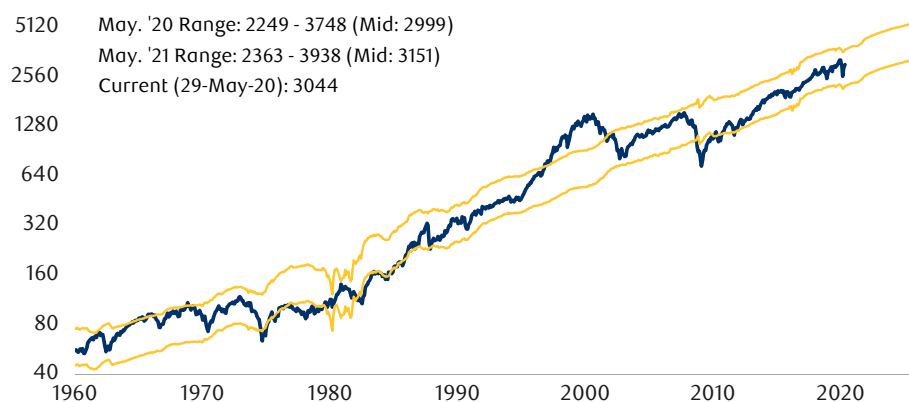
Source: RBC GAM

Energy lagged. Notably, the difference in performance between best and worst sectors was 25 percentage points, about double the usual gap.

It is clear that COVID-19 and society's response to it has benefited some industries while dramatically hurting others. For example, biotechnology, pharmaceuticals and health-insurance companies led the Health Care sector as revenues in these areas are not impaired by social distancing. In the same sector, however, hospitals and medical-device makers lagged because elective surgeries were postponed given a focus on fighting COVID-19 cases.

In the Information Technology sector, many companies experienced an increase in demand due to work-from-home, study-from-home and entertain-at-home trends. Demand for laptops, tablets, monitors and other gear skyrocketed. The increased use of technology in homes has resulted in solid performance from semiconductors, as well as hardware and software makers led by the two largest computer-related companies, Microsoft and Apple Inc. Changing behavior also affected the Consumer Discretionary sector as stay-at-home orders led to a huge increase in on-line shopping. This consequence, of course, benefited Amazon, the biggest e-commerce company, and other retailers deemed essential, including Wal-Mart, Target, Dollar General, Home Depot and Lowe's. Department stores and specialty retailers deemed 'non-essential' were mostly closed through the period and their stocks have suffered greatly. Restaurants have not done well as traffic has plummeted, though quick-service restaurants that offer drive-through and delivery have fared best amid social distancing. There are, of course, many consumer industries that have been hard-hit by the pandemic, including travel-related businesses like hotels, car rentals, cruise lines and casinos, many of whose stocks are down 30% to 60%.

Another sector where there has been great disruption from the pandemic is Communication Services. The two biggest companies in the sector are Facebook, the social-media company, and Google, the search-engine operator. Both companies generate most of their revenues from on-line advertising, which has been ramped up by many companies as it has become one of the few ways to reach potential consumers. With live sports suspended, people are increasingly streaming content on Netflix and Disney+ or playing video games by Electronic Arts, TakeTwo and Activision. These trends were in place before the pandemic and have been accelerating since.

Two important sectors that had more losers than winners in the period were Financials and Industrials. In the Financials sector, bank stocks were down about 20% overall because investors fear that shutdowns and unemployment will make businesses and individuals unable to pay their debts, likely leading to credit losses, falling dividends and capital raises. The extent of the loan losses will depend on the speed and strength of the economic recovery. However, bank valuations are attractive and the companies are well capitalized compared with previous recessions. In the Industrials sector, most industries have performed poorly, except for defense-related companies, while airlines and aerospace were the down the most with losses of 30% to 50%. Given the global nature of the pandemic and the crowding required to run a profitable airline, we do not expect these industries to return to pre-coronavirus levels for the foreseeable future.

We note that all 50 states are re-opening to some extent, indicating that the drop in economic activity and rise in unemployment have likely recorded their worst levels. Estimates of economic activity anticipate a huge drop in GDP during the first half of 2020, followed by a sharp rebound beginning in the second half of the year and into 2021. Corporate earnings are expected to follow a similar path, taking a big hit this year and bouncing back in 2021 to 2019 levels. The stock market appears to be pricing in this same scenario as it currently trades at about 19 times the consensus 2021 earnings estimate of US$164, in line with the trailing five-year average. Our read of the market is that investors are expecting the virus to remain under control, for government support programs to prevent a solvency crisis and for a vaccine to be widely distributed by the first half of next year. This is an optimistic set of assumptions, but suggests there are significant opportunities in industries most affected by the virus if this scenario plays out. In the meantime, the risk of a second wave of infections from the virus is significant and the ramp-up in anti-Chinese rhetoric by the Trump administration potentially complicates things, particularly as the presidential election approaches this fall.

Regional Outlook – Canada

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Portfolio Manager
RBC Global Asset Management Inc.

Irene Fernando, CFA
Portfolio Manager
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The S&P/TSX Composite Index tumbled 14.9% in U.S. dollars (9.7% in Canadian dollars) in the five months ended May 31 of this year compared with decreases of 5.0% and 8.2%, respectively, for the S&P 500 Index and the MSCI World Index. Financial markets fell swiftly beginning in late February as aggressive social-distancing rules and widespread economic shutdowns were instituted globally to combat the spread of the new coronavirus. Equity markets then charted a strong rebound from the lows on March 23, supported by a substantial global monetary and fiscal response. Economies began to reopen in May as the number of new infections fell and there was progress toward a possible vaccine. Returns will depend largely on continued progress in managing the virus and the timing of any treatment or vaccine.

The virus-related restrictions are taking a massive toll on jobs, supply chains, consumer purchases and commodity prices, and economists expect Canada's GDP to decline by more than 7% in 2020, the deepest downturn on record. We expect that the hit to Canada's economy will be slightly more extreme than for the U.S. due in part to the sharp decline in oil prices.

The response of politicians and the Bank of Canada (BOC) has been swift

and significant. The BOC quickly dropped its overnight lending rate to 0.25% from 1.75% in March and began bond purchases that represent the BOC's first venture into quantitative easing. The federal government introduced backing for lost income and wages, as well as initiatives aimed at supporting businesses and households affected by the crisis. Most

economists are expecting the so far limited emergence from widespread shutdowns in North America to accelerate in June. While early indications of increased consumer activity are encouraging, uncertainty remains regarding the ultimate impact of reduced government support later in the year, elevated unemployment and continued virus-related restrictions.

Canada – Recommended sector weights

	RBC GAM Investment Strategy Committee May 2020	Benchmark S&P/TSX Composite May 2020	Active Risk vs. Benchmark May 2020
Energy	13.0%	13.5%	(0.5%)
Materials	13.0%	14.1%	(1.1%)
Industrials	12.0%	11.7%	0.3%
Consumer Discretionary	4.8%	3.5%	1.3%
Consumer Staples	5.3%	4.4%	0.8%
Health Care	1.0%	1.0%	(0.0%)
Financials	29.0%	28.6%	0.4%
Information Technology	8.0%	9.3%	(1.3%)
Communication Services	7.0%	5.8%	1.2%
Utilities	5.0%	5.2%	(0.2%)
Real Estate	2.0%	3.0%	(1.0%)

Source: RBC GAM

S&P/TSX Composite Equilibrium
Normalized earnings and valuations

May. '20 Range: 15367 - 23368 (Mid: 19368)
May. '21 Range: 18201 - 27677 (Mid: 22939)
Current (29-May-20): 15193

Source: RBC GAM

Eight of the 11 TSX sectors were negative during the first five months of the year. The Energy sector had the largest drop, down 27%, as halts in both air and road travel dramatically lowered demand for crude oil and filled storage tanks, leading oil prices to record-low prices. The Financials industry was significantly affected by falling interest rates and higher loan losses. The Information Technology sector has been the best-performing sector so far this year due to e-commerce software provider Shopify, which is now one of the biggest weights in the S&P/TSX index. Gold prices gained more than 10% this year, and gold-related stocks have risen to account for 10% of the S&P/TSX index, the highest percentage since 2012. The gains in gold have offset the weak performance of industrial metals and forest products in the Materials sector. The massive quantitative easing undertaken by the U.S. Federal Reserve and other central banks will likely stay in place for some time, creating a positive backdrop for gold equities.

Analysts started the year expecting S&P/TSX index earnings growth of 7% for 2020, up from 4% in 2019. The pandemic, however, has led analysts to now expect a 30% decline, followed by a 43% rebound next year. The decline in year-over-year earnings is expected to come largely from the Energy, Financials, Industrials and Consumer Discretionary sectors. Even with a recovery in 2021, it could be 2022 before earnings get back up to 2019 levels.

The S&P/TSX price-to-earnings multiple is currently 15 times last year's profits, below the long-term average of 16.7. The S&P/TSX remains at a valuation discount to the S&P 500, which trades at 20 times trailing earnings due its higher exposure to technology and the Health Care sector, especially as investors grapple with the uncertainty around energy commodities. Better relative outperformance of the S&P/TSX Index will require a sustained economic recovery that supports higher commodity prices.

Banks, which accounted for about a third of S&P/TSX earnings in 2019, are struggling to assess the impact of the pandemic on this year's earnings as millions of Canadians defer mortgage and credit-card payments, and the economic slowdown reduces business cash flows. A challenging outlook for loan losses and lower interest rates has put bank capital levels and dividend payments into focus. To encourage lending, regulators have moved quickly to provide banks with capital relief and accounting flexibility.

For the quarter ended April 30, 2020, the banks reported loan-loss provisions that reflect a negative outlook for loan delinquencies. As a result, analysts expect 2020 sector earnings per share to decline 25%, and dividend payouts will increase to 64% of profits from 47% at the end of 2019. The banking industry entered 2020 with a healthy capital position and the resilience of capital ratios in the second quarter helped restore investor confidence somewhat. Banks

are preserving capital by suspending buyback programs and putting dividend growth on hold, and Bank of Montreal and Toronto-Dominion Bank are offering discounts on their dividend-reinvestment programs to further bolster capital. In our view, dividend cuts by a large Canadian bank are unlikely unless the outlook deteriorates.

Canada's Energy sector continues to reflect both short-term economic-growth concerns and longer-term concerns about the viability of Canada's oil industry. Slowing economic growth and the plunge in air and road travel could lead to a 10% drop in demand for oil for 2020 as a whole. Crude-oil production has slowed in response, and a lack of storage capacity in April briefly pushed crude-oil prices below zero for the first time ever. The historic fall in energy prices dropped local Canadian crude prices below levels needed to sustain cash flow above break-even.

Demand for petroleum products has begun to improve, given that the easing of lockdowns is getting people back in their cars and into stores. In addition, productions cuts in recent months will curb supply, and it is possible that supply and demand could come into balance later this year, supporting the rally in energy equities that began in March. We continue to closely monitor the financial resilience of Canadian oil companies, especially in light of concerns that the path to the industry's recovery could be drawn-out.

Regional Outlook – Europe

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Confronting a pandemic

The impact of COVID-19 started as a supply shock and immediately evolved into a demand recession, resulting in the fastest bear market in European history. Macroeconomic data since the start of the pandemic hasn't made for good reading and we know that the numbers will continue to deteriorate, with the European economy having been in almost total suspension during April and May. Company reports corroborate the downturn, which has unleashed emergency measures to bolster liquidity and balance sheets.

With the potential for a resurgence in cases, it is fair to say that a proper 'normal' cannot resume until herd immunity or a vaccine for COVID-19 is found. But peak government and central-bank response is behind us and positive epidemiological indicators have shifted the market's attention to reopening schedules and motivated a substantial rally off the lows.

There are many considerations concerning how the system restarts. How will consumer behavior change and for how long? Will businesses resume their intended course of investment? Will international trade and travel function as they did before the virus? Will any response to a second outbreak lead to more lockdowns? These questions are a few of many that will determine the shape of any economic recovery. Other questions will focus on the trajectory of the recovery. Will it proceed as a

Europe – Recommended sector weights

	RBC GAM Investment Strategy Committee May 2020	Benchmark MSCI Europe May 2020	Active Risk vs. Benchmark May 2020
Energy	3.0%	4.9%	(1.9%)
Materials	7.0%	7.4%	(0.4%)
Industrials	15.0%	13.3%	1.7%
Consumer Discretionary	11.0%	9.9%	1.1%
Consumer Staples	14.0%	15.2%	(1.2%)
Health Care	17.0%	16.9%	0.1%
Financials	16.0%	14.8%	1.2%
Information Technology	8.5%	7.1%	1.4%
Communication Services	3.5%	4.2%	(0.7%)
Utilities	4.5%	5.0%	(0.5%)
Real Estate	0.5%	1.3%	(0.8%)

Source: RBC GAM

MSCI Europe Index Equilibrium
Normalized earnings and valuations

May. '20 Range: 141 - 314 (Mid: 227)
May. '21 Range: 156 - 348 (Mid: 252)
Current (29-May-20): 117

Source: Consensus Economics, RBC GAM
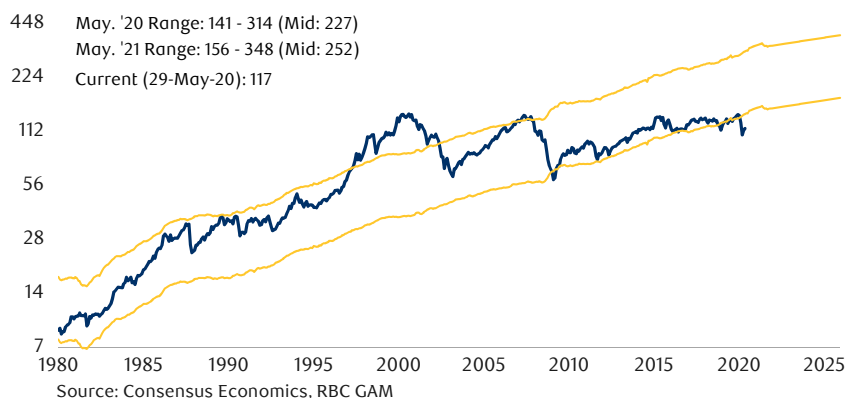
sharp V-shaped bounce back or a U (slow to start then fast), or as an L-shaped depression? We cannot foresee how things will develop, but our best guess is that the recovery will proceed in a U-shaped manner.

The previous crisis

The global financial crisis of 2008-2009 left policymakers nimble and creative. So the required unified response to stop the pandemic from leading to another financial crisis came fast and in force. While stresses remain, the stimulus packages have avoided an immediate liquidity crisis. Unlike the bailouts that followed the financial crisis, support is being delivered via more direct channels with conditions attached to avoid the perception a decade ago that aid to the finance industry came at the expense of

consumers and homeowners. The reaction this time likely signifies the return of more state involvement in the private sector, as well as a greater likelihood of inflation down the road.

Questions about the future of globalization

The pandemic response has led to a more intense questioning of the benefits and drawbacks of globalization. The response to the virus began with countries re-asserting borders to arrest the spread of COVID-19, and the pandemic has catalyzed a negative shift in cultural attitudes away from closer integration among countries. This development lends further support to the de-globalization trend that we have been witnessing in recent years and is likely to narrow profit margins as production is moved to higher-cost jurisdictions, as well as contribute to inflation when costs are passed on.

The question of closer European integration has been further tested by the lack of crossborder assistance. None are more upset than the Italians, whose Eurozone partners have done so little to help them. Italy's financial fragility, a function of stringent EU rules and the country being the most indebted of the group, makes it especially vulnerable. What Italy, and much of southern Europe, want in the future is the issuance of Eurozone-backed bonds (i.e. German-backed), which would provide a lower cost of debt to help in the recovery. However, Germany and much of northern Europe don't want to expose their domestic taxpayers to the liabilities of Italy, Spain and other financially weak members of the Eurozone. While a recently proposed European recovery

package represents a ray of hope, it is small in size and concerns remain that Italy's debt burden could eventually become unmanageable and prompt the country to leave the Eurozone.

Dividends under pressure

As in other recessions, companies are scaling back dividends and share repurchases to conserve cash. While most of the reductions were either needed to counter plummeting revenues or signaled caution, some companies used the crisis as an opportunity to reset over-generous payouts lower. What's unique about the current crisis is the approach of policymakers, who are conditioning aid on such cuts. The greater involvement of governments and regulators poses a threat to the functioning of capital markets because Europe's centuries-old tradition of sharing profits with shareholders via dividends is at the core of European corporate culture. We expect European dividend levels to be lower after the crisis, with payout levels in line with reduced earnings. How much lower is unclear, with many of the cuts ambiguously characterized as "delays" (often to appease the demands of policymakers) and market indicators suggesting a range of outcomes. We expect dividend levels to return to pre-pandemic levels over the medium term.

Recessions have historically resulted in all stakeholders de-emphasizing environmental, social and governance (ESG) considerations. We think things will be different this time and that the ESG momentum seen in recent years will continue. The trend will be especially strong in Europe, which leads the world in

decarbonization. What is important to us is how companies manage the big changes ahead. We looked at the main governance issue earlier when exploring state intervention in dividends. Social considerations are more at the forefront than ever and reflected in the much greater pressure on corporations to address the needs of employees and society at large instead of just their bottom lines. Any dents that ESG commitments put in profitability should be outweighed by long-term operational sustainability.

Market outlook

With so much uncertainty, valuation is paramount. Assuming that the impact of the virus is short-lived and an earnings recovery conforms to the evolving consensus of a V-shaped recovery, European equities are probably fairly valued after the recent rally. Considering valuation from a yield perspective, Europe is still cheap. Stock-market inflows will come in the medium term if the stimulus measures do result in inflation (against which equities provide a natural hedge), in turn supporting valuations. Regardless, events such as the coronavirus pandemic can provide great opportunities for long-term investors, as the panic and forced liquidations result in indiscriminate selling.

In the short term, volatility is likely to remain elevated, but we do believe the worst is behind us. If faster inflation does eventually materialize, the long established style trend of quality and growth outperforming value may finally reverse. Should our concerns around the continuity of Europe escalate, country selection would become key.

Regional Outlook – Asia

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Asian stocks posted sharp declines during the three-month period ending May 31, 2020, in line with global markets, as the coronavirus pandemic dealt an unprecedented blow to global economic growth. Regional markets fell 25% in March before rebounding 20% through April and May. The snapback reflects actions taken by global policymakers to shore up the financial system and provide fiscal support. Public-health measures appear to have helped contain the spread of the virus, but they have come at a hefty economic price.

Lockdowns currently in place are gradually being loosened, but we expect economic activity to remain weak for the remainder of 2020. We anticipate that job losses in service industries will be higher than in manufacturing given that services are more labour-intensive and require more interaction between employees and customers.

Job losses in both areas of the economy mean that unemployment rates are likely to continue rising. Some Asian markets have been affected to a lesser extent than others, with China being one of the first countries to gradually return to reopening its economy. Taiwan has experienced continued demand for its semiconductor exports and will keep pushing producers to set up additional production bases in a bid to diversify away from reliance on

Asia – Recommended sector weights

	RBC GAM Investment Strategy Committee May 2020	Benchmark MSCI Pacific May 2020	Active Risk vs. Benchmark May 2020
Energy	2.5%	2.6%	(0.1%)
Materials	4.0%	5.7%	(1.7%)
Industrials	10.0%	11.6%	(1.6%)
Consumer Discretionary	17.5%	15.9%	1.6%
Consumer Staples	8.5%	6.7%	1.8%
Health Care	10.3%	8.0%	2.2%
Financials	16.0%	17.2%	(1.2%)
Information Technology	16.5%	14.4%	2.1%
Communication Services	9.5%	10.7%	(1.2%)
Utilities	1.3%	2.5%	(1.2%)
Real Estate	4.0%	4.7%	(0.7%)

Source: RBC GAM

MSCI Japan Index Equilibrium
Normalized earnings and valuations

May. '20 Range: 713 - 2244 (Mid: 1478)
May. '21 Range: 836 - 2632 (Mid: 1734)
Current (29-May-20): 946

Source: Consensus Economics, RBC GAM
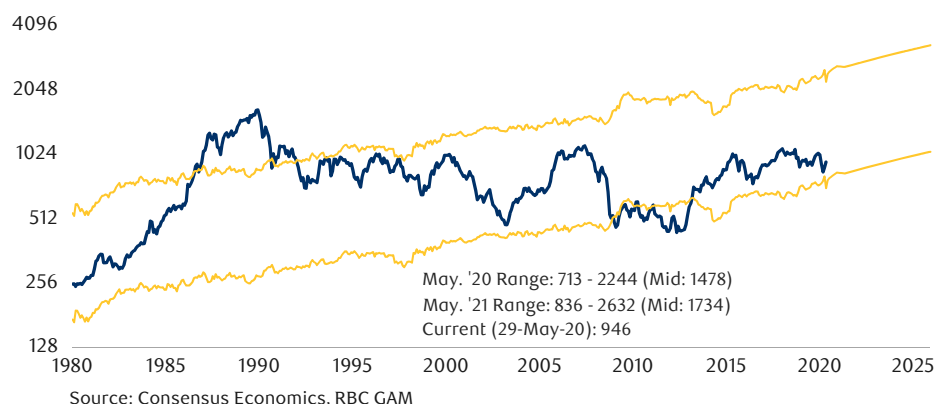
Chinese manufacturing. Elsewhere in the Asia-Pacific region, Australia is facing its first recession in 30 years, and investors are pulling capital from Indonesia, putting pressure on the currency. Japan has been hurt by both the impact of the coronavirus and lowered economic expectations linked to the postponement of this year's Tokyo Summer Olympics until 2021.

On a regional basis, equity markets in New Zealand, China and Taiwan outperformed, while Australia, Indonesia and the Philippines lagged. Within Asia, the Communication Services, Consumer Staples and Health Care sectors outperformed, while Energy, Real Estate, Industrials and Financials lagged.

Japan

Japanese equity markets rebounded from the mid-March lows after the Bank of Japan joined the global easing trend through increased asset purchases, and fiscal policy remained expansionary. The Japanese yen, which is perceived by many investors as a safe-haven currency, appreciated strongly in late February but has since settled into a range.

Growth momentum in Japan had already been weak entering 2020 following an October increase in the consumption tax to 10% from 8%. Looking ahead, Japan's economy will be hurt by a drop in exports and the Olympics delay. Economists forecast that unemployment will rise to a relatively low 3.0% by the fourth quarter of 2020 from 2.5% in the first quarter of this year. Japanese companies tend to maintain employment even in tough economic conditions, meaning that unemployment rates will rise much less than in other countries.

Fiscal policy is likely to take the lead in supporting Japan's economy given that the Bank of Japan wants to avoid keeping interest rates negative over the long term. The government is preparing to deliver US$1.1 trillion in additional economic stimulus including measures to help small and medium-sized businesses, and Prime Minister Abe plans further budgetary action where required to stimulate the economy. Inflation is unlikely in the coming quarters, as consumption contracts. The sharp decline in global crude-oil prices is also likely to hold down consumer inflation.

Asia Pacific ex-Japan

Economic uncertainty related to the coronavirus and renewed U.S.-China trade tensions has led China to suspend its practice of setting targets for economic growth for the first time since 1990. On the monetary-policy front, Beijing has cut lending rates and required banks to boost liquidity and lending. Fiscally, budget deficits are likely to rise to 3% to 4% of GDP to support infrastructure investment and stabilize the labour market.

Taiwan has been one of the better-performing markets in Asia given decisive actions that helped contain the spread of the coronavirus. However, exports account for 60% of Taiwan's GDP and so a sustained recovery will depend largely on a rebound in global trade. Semiconductors and other technology-related companies have benefited from increased demand for computers and other communications gear during the pandemic.

Australia's underperformance has been due to a combination of the impact of the coronavirus and, to a lesser extent, bushfires in New South Wales and Victoria in the first quarter of the year. Real GDP is expected to decline 2.7% year over year for all of 2020, and the unemployment rate is likely to rise to 7.6% by the end of 2020 from 5.2% last year, before gradually declining. Policymakers have responded with fiscal stimulus equal to about 10% of GDP by offering financial support to small businesses and raising benefits for the unemployed. The Reserve Bank of Australia has cut interest rates and launched quantitative easing to keep rates low.

Indonesia's reliance on capital inflows to finance a current-account deficit has left the economy exposed and weakened the currency after foreign investors began selling domestic securities in February. In the near term, we expect the Bank of Indonesia to support the market via currency intervention and large-scale bond purchases, offsetting the foreign selling and small interest-rate cuts. We do not expect significant monetary easing given that the current-account deficit is at the high end of the Bank of Indonesia's target range.

The Philippines has also underperformed other regional markets as the island that includes the capital, Manila, remains under partial lockdown. The Manila region is home to 53% of the country's population and makes up 73% of Filipino GDP. A drop in consumption accounts for much of the economic damage, with shopping malls and other public venues forced to shutter temporarily. Overseas remittances from Filipinos who work abroad, which make up 9% of GDP, could fall amid economic slowdowns in the Middle East and the U.S. One bright spot for the Philippines government is that lower inflation, due to lower oil prices and weaker domestic demand, gives the central bank room to further ease monetary policy.
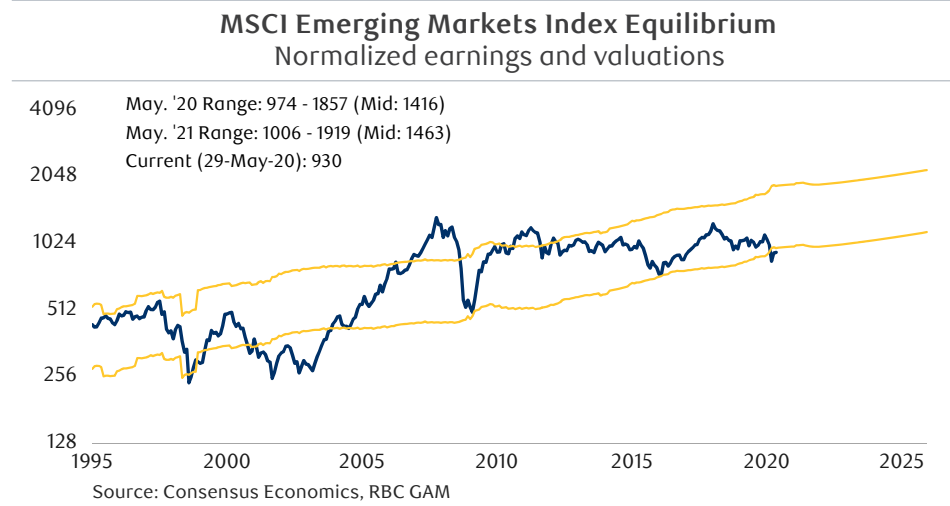
Regional Outlook – Emerging Markets

Laurence Bensafi
Portfolio Manager and Deputy Head
Emerging Market Equities
RBC Global Asset Management (UK) Limited

There was substantial financial-market volatility over the three-month period as the world faces its worst economic crisis since the Great Depression. The MSCI Emerging Markets Index fell 6.9% in U.S. dollars during the three months ended May 31, 2020, and has dropped 16.0% since the beginning of the year. As governments focus on restarting the economy, stocks have rebounded in recent weeks because investors do not want to miss the economic recovery when it comes.

This year's declines in emerging-market stocks, which started in early March, have been more significant than in previous crises. Emerging-market equities have lagged U.S. stocks during the rebound, as major countries including Brazil and India are behind the curve when it comes to tackling the spread of the coronavirus. In both countries, it is unclear what the eventual death toll will be, and both may experience humanitarian crises and deep recessions with long-term effects. We note that emerging markets are becoming cheap overall, but a lack of clarity around the impact of the virus in many countries has led us to be cautious. The significant drop from the end of 2019 does provide some protection from further downside, and we do not believe the market will retest the March lows unless the situation deteriorates significantly.

MSCI Emerging Markets Index Equilibrium
Normalized earnings and valuations

May. '20 Range: 974 - 1857 (Mid: 1416)
May. '21 Range: 1006 - 1919 (Mid: 1463)
Current (29-May-20): 930

Source: Consensus Economics, RBC GAM

The plunge in earnings expectations provides insight into the market decline. Profit expectations for the emerging-market index in 2020 plummeted from a 16% forecast gain in earnings per share at the start of March to a forecast per-share loss of 10.3% at the end of May, according to JPMorgan.

There is a concern that the U.S. stock market will correct significantly if the negative effects of COVID-19 are not properly addressed, and a negative U.S. scenario could lead to poor emerging-market returns since the markets are closely correlated. It is therefore important that the U.S. economy re-open as quickly as possible to avoid a lengthy depression that would have a devastating impact on global equities. One bit of positive news for equity markets is that Joe Biden was chosen as the Democratic candidate for the U.S. election in November. Biden is perceived by investors as more market-friendly than the democratic socialist who was his main challenger, Bernie Sanders.

We turned less negative on equities in late March, in part because the price-to-book value of the emerging-market index fell to 1.3. On the three occasions when this valuation measure dropped below that level during the past 25 years, a significant rebound has ensued. The first time was in 1998-1999 during the Asian financial crisis and the technology-stock bubble, the second in 2008/2009 during the financial crisis, and lastly in 2016 during the so-called 'taper tantrum.' Each time emerging-market stocks rebounded, on average, by 50% in the subsequent 12 months. We cannot rule out further stock declines, but in our view the market is now cheap, and over a one-year horizon we can perhaps expect a larger rebound.

There are still large disparities in price-to-book values between individual emerging markets, with most still lower than in 2016 after the 'taper tantrum,' but higher than in 2009 following the global financial crisis. The two notable positive exceptions are China, which accounts for 40% of the index weight,

and Taiwan, which accounts for 13%. Both countries are ahead of other major emerging-market countries in responding to the pandemic, and they also benefit from lower oil prices. Brazil's relatively high valuation, despite a 47% drop in its stock market so far this year, is due to the fact that the country performed well in the 18 months following the election of reform-minded President Jair Bolsonaro. Stock markets in Mexico, Turkey, South Korea, Colombia and Chile are still the cheapest they have ever been, and they have led the rebound.

Some emerging-market currencies fell significantly against the safe-haven U.S. dollar during the three-month period, when we had expected the U.S. dollar to weaken. The Brazilian real and the South African rand dropped over 20%, and they are now significantly undervalued. Both currencies should appreciate as the situation stabilizes. We would expect the U.S. dollar to weaken from current levels, and that would be good for emerging-market equities.

A lower oil price is good for emerging markets overall, as many large countries are net importers, but sustained lower prices would be a negative as it would signal a prolonged recession. The price of oil has rebounded above US$30 a barrel, providing evidence of a risk-on environment.

In summary, emerging markets have lagged developed markets in the recent rebound, in part because many countries are seen as behind the curve when it comes to tackling the impact of the coronavirus. Another reason is that the rally has not been a high-conviction one as highlighted by style leadership in the rebound. We would have expected value stocks to perform well during the rally. However, it has been growth stocks that have outperformed, suggesting that investors who came back to the market focused on lower risk/higher growth companies because they feared further drops.

Stocks are still undervalued in our view, even after the strong rebound, and we would expect emerging-market equities to outperform overall in the coming months if there is no resurgence in COVID-19 cases. In the near term, however, markets will remain volatile as bad and good news alternate. For a sustained recovery, the market would need to be sure that the worst was over.

RBC GAM Investment Strategy Committee

Members

Daniel E. Chornous, CFA

Chief Investment Officer
RBC Global Asset Management Inc.

Chair, RBC GAM Investment Strategy Committee

Dan Chornous is Chief Investment Officer of RBC Global Asset Management Inc., which has total assets under management of approximately $495 billion*. Mr. Chornous is responsible for the overall direction of investment policy and fund management. In addition, he chairs the RBC Investment Strategy Committee, the group responsible for global asset-mix recommendations and global-fixed income and equity portfolio construction for use in RBC Wealth Management's key client groups including retail mutual funds, International Wealth Management, RBC Dominion Securities Inc. and RBC Phillips, Hager & North Investment Counsel Inc. He also serves on the Board of Directors of the Canadian Coalition for Good Governance and is Chair of its Public Policy Committee. Prior to joining RBC Asset Management in November 2002, Mr. Chornous was Managing Director, Capital Markets Research and Chief Investment Strategist at RBC Capital Markets. In that role, he was responsible for developing the firm's outlook for global and domestic economies and capital markets as well as managing the firm's global economics, technical and quantitative research teams.

*AUM in CAD as of May 31, 2020

Stephen Burke, PhD, CFA

Vice President and Portfolio Manager
RBC Global Asset Management Inc.

Stephen is a fixed-income portfolio manager and Head of the Quantitative Research Group, the internal team that develops quantitative research solutions for investment decision-making throughout the firm. He is also a member of the PH&N IM Asset Mix Committee. Stephen joined Phillips, Hager & North Investment Management in 2002. The first six years of his career were spent at an investment-counselling firm where he quickly rose to become a partner and fixed-income portfolio manager. He then took two years away from the industry to begin his Ph.D. in Finance and completed it over another three years while serving as a fixed-income portfolio manager for a mutual-fund company. Stephen became a CFA charterholder in 1994.

Soo Boo Cheah, MBA, CFA

Senior Portfolio Manager
RBC Global Asset Management (UK) Ltd

Based in the U.K., Soo Boo is responsible for managing global fixed-income allocations. He specializes in assessing the impact of central bank policies and global macroeconomic trends on developed-market bonds. In his role as a senior portfolio manager, he integrates a wide range of investment strategies involving interest rates, currencies, and derivatives. Soo Boo started his career in the investment industry in 2000 and holds an MBA from University of New Brunswick. Soo Boo has been a CFA charterholder since 2002.

Dagmara Fijalkowski, MBA, CFA

Head, Global Fixed Income & Currencies
RBC Global Asset Management Inc.

As Head of Global Fixed Income and Currencies, Dagmara leads a team of 40+ investment professionals in Toronto, London and Minneapolis with almost $100 billion in assets under management. In her duties as a portfolio manager, Dagmara leads management of several bond funds, including the RBC Bond Fund, and manages foreign-exchange hedging and active overlay programs. She leads the Fixed Income Strategy Committee which determines appropriate level of risk taking given market opportunities. Dagmara is a member of the RBC Investment Policy Committee, which determines the asset mix for balanced products; and the RBC Investment Strategy Committee. In 2016, she was appointed to the RBC GAM Executive Committee. Dagmara, who began her investment career in 1994, holds an MBA from the Richard Ivey School of Business at the Western University in Canada and a Master's degree in economics from the University of Lodz in Poland. Dagmara has been a CFA charterholder since 1997.

Stuart Kedwell, CFA

Senior Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Stu co-leads the North American Equity team and is a member of the RBC GAM Investment Strategy Committee, which is responsible for establishing the firm-wide global asset mix for mutual funds and for institutional and high net worth private clients. Stu began his career in 1996 with RBC Dominion Securities in the firm's Generalist program, a two-year internship in which participants rotate through different areas of the firm. In 1998, he joined the RBC Investments Portfolio Advisory Group, which provides investment ideas and recommendations to RBC DS Investment Advisors. He was also a member of the RBC DS strategy & focus list committees. Stu has been with the firm since 2002 and is a CFA charterholder.

Eric Lascelles

Chief Economist
RBC Global Asset Management Inc.

Eric is the Chief Economist for RBC Global Asset Management Inc. (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 RBC GAM. Prior to joining RBC GAM in early 2011, Eric spent six years at a large Canadian securities firm, the last four as the Chief Economics and Rates Strategist. His previous experience includes positions as economist at a large Canadian bank and research economist for a federal government agency.

Scott Lysakowski, CFA

Vice President and Senior Portfolio Manager
Head of Canadian Equities (Vancouver)
RBC Global Asset Management Inc.

Scott is Head of the Vancouver-based Canadian Equity Team. He is primarily responsible for overseeing equity research and portfolio management of the firm's core Canadian equity strategies. Scott also serves as lead manager for the PH&N Canadian Income Fund and the PH&N Monthly Income Fund. Scott began his investment management career with the firm in 2002 as a senior research analyst and portfolio manager within the Toronto-based Canadian Equity Team. He transitioned to the Vancouver team seven years later and assumed his current leadership role in 2012. During his 15-year tenure with the organization, he has conducted research for and managed a broad spectrum of Canadian equity portfolios, specializing in dividend and income mandates.

Hanif Mamdani
Head of Alternative Investments
RBC Global Asset Management Inc.

Hanif Mamdani is Head of both Corporate Bond Investments and Alternative Investments. He is responsible for the portfolio strategy and trading execution of all investment-grade and high-yield corporate bonds. Hanif is Lead Manager of the PH&N High Yield Bond and Alternative strategies, including a multi-strategy hedge fund. He is also a member of the Asset Mix Committee. Prior to joining the firm in 1998, he spent 10 years in New York with two global investment banks working in a variety of roles in Corporate Finance, Capital Markets and Proprietary Trading. Hanif holds a master's degree from Harvard University and a bachelor's degree from the California Institute of Technology.

Sarah Riopelle, CFA
Vice President and Senior Portfolio Manager
Investment Solutions
RBC Global Asset Management Inc.

Since 2009, Sarah has managed the entire suite of RBC Portfolio Solutions. Sarah is a member of the RBC GAM Investment Strategy Committee, which sets global strategy for the firm, and the RBC GAM Investment Policy Committee, which is responsible for the investment strategy and tactical asset allocation for RBC Funds' balanced products and portfolio solutions. In addition to her fund management role, she works closely with the firm's Chief Investment Officer, ensuring that all aspects of the investment management function at RBC GAM are running smoothly. She is a member of the RBC Wealth Management Diversity Leadership Committee. Sarah joined RBC Global Asset Management in 2003 as a Senior Analyst within Investment Strategy. From there, she moved to the Canadian Equity team as an analyst and then a portfolio manager. She began her career in the investment industry in 1996 after graduating from the University of Ottawa with a Bachelor of Commerce degree, majoring in Finance and International Management. She was awarded the Chartered Financial Analyst designation in 2001.

Martin Paleczny, CFA
Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Martin Paleczny, who has been in the investment industry since 1994, began his career at Royal Bank Investment Management, where he developed an expertise in derivatives management and created a policy and process for the products. He also specializes in technical analysis and uses this background to implement derivatives and hedging strategies for equity, fixed-income, currency and commodity-related funds. Since becoming a portfolio manager, Martin has focused on global allocation strategies for the full range of assets, with an emphasis on using futures, forwards and options. He serves as advisor for technical analysis to the RBC GAM Investment Strategy Committee.

William E. (Bill) Tilford
Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Bill heads up portfolio management within the Quantitative Investment team. Prior to joining RBC GAM in 2011, Bill was Vice President and Head of Global Corporate Securities at a federal Crown corporation and a member of its investment committee. His responsibilities included security-selection programs in global equities and corporate debt that integrated fundamental and quantitative disciplines, as well as management of one of the world's largest market neutral/overlay portfolios. Previously, Bill spent 12 years with a large Canadian asset manager, where he was the partner who helped build a quantitative-investment team that ran core, style-tilted and alternative Canadian / U.S. funds. Bill has been in the investment industry since 1986.

Jaco Van der Walt, PhD
Vice President and
Global Head of Quantitative Research & Investments
RBC Global Asset Management Inc.

Jaco is Vice President and Global Head of Quantitative Research & Investments at RBC Global Asset Management Inc. He joined RBC GAM in 2019 to ensure that systematic investing thrives at the firm and to help futureproof the quant business in a world of rapidly evolving technologies and alternative data. Prior to joining, Jaco held an executive role at one of Africa's largest financial services companies, leading the Investment Management Office and working across pension funds, insurance, banking, and wealth management. He also chaired the boards and investment committees of several pension plans and has a track record in driving transformational change. He obtained a Doctor of Commerce (Economics) in 1997 from the University of Pretoria and a Masters of Arts in Economics in 1994 from the University of Toronto.

Milos Vukovic, CFA
Vice President, Investment Policy
RBC Global Asset Management Inc.

Milos, who joined RBC in 2003, oversees investment-management activities including new-fund launches, performance analytics and trade-cost analysis. He is also responsible for developing and monitoring investment mandates and implementing tactical asset allocation for the RBC GAM investment solutions. Milos earlier worked for a Big 4 accounting firm and two top-tier securities firms. He earned an MBA at the Schulich School of Business and has held the CFA designation since 2004. He is a board member of both the Canadian Buy-Side Investment Management Association and the Canadian Advocacy Council for Canadian CFA Institute Societies, and recently joined IIROC's Market Structure Advisory Committee.

Brad Willock, CFA
Vice President and
Senior Portfolio Manager
RBC Global Asset Management Inc.

Brad Willock joined RBC Global Asset Management in July 2002 and is a Senior Portfolio Manager and CFA charterholder. In his current role, Brad has responsibility for RBC Global Asset Management's core and income-oriented U.S. equity strategies. He joined RBC in May 1996 after receiving a bachelor's of commerce degree with distinction from the University of Calgary. Prior to that, Brad obtained a bachelor's of science degree at the University of British Columbia and represented Canada at the 1992 Barcelona Summer Olympics in volleyball.

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Disclosure

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