TRILLIUM | # Economic and Market Outlook

March 31, 2020 (1st Quarter)

We believe that the path of recovery will be smoother for companies that treat each element of their complex web of suppliers, customers, and employees with respect even in the midst of exceptionally challenging times.

The startling and rapid spread of the novel coronavirus upended stock markets, bond markets, and economies worldwide, as one region, country, and continent after another throttled social interaction to halt the expansion of a virus that spreads before it produces symptoms. The economic damage will be severe in the short run; how significant the damage is over the long run will depend upon policy actions and upon how quickly producers and consumers can reestablish productive capacity. Our investment approach continues to focus on companies whose strong business models and balance sheets allow them to withstand perilous financial conditions and sudden drop-offs in demand. While it is extremely challenging in the midst of pandemic-generated economic upheaval, and we recognize that there will be continued volatility over the short- and medium-term, we believe that investors do best by keeping a long view. As always, we analyze which companies demonstrate environmental and social leadership and initiative, and we focus on which companies and industries will survive and prosper once economic activity recovers. We believe that the path of recovery will be smoother for companies that treat each element of their complex web of suppliers, customers, and employees with respect even in the midst of exceptionally challenging times.

It is all about liquidity: many investors found that they held the liquidity equivalent of fool's gold. The rapid spread of Covid-19 upended all predictions about the first quarter's stock and bond markets. First the specter, and then the reality, of worldwide pandemic crushed both equity markets and bond markets, and exposed fault lines of illiquidity running throughout and between markets. Disruption in Asian supply chains, followed closely by a dramatic shutdown of activity in Europe, swept away our late-2019 expectations for calm markets and improving economic growth in 2020. Economic and travel shutdowns cratered the demand for oil, which led Saudi and Russia, unable to agree on a supply cut, to instead increase supply. The price war, designed to drive marginal oil producers, such as U.S. shale oil producers out of business, is compounding the economic damage.

Investors scrambled for safety, but many found that their holdings were immeasurably less liquid than they had believed. Liquidity becomes an illusion when all investors move to the same side of a trade, whether buying or selling. Investors who were unable to sell what they wanted to sell then moved on to sell what they could sell, pushing waves of selling from the stock market to corporate credit, to Treasuries, to money markets. Bond market trading seized up, further exacerbated by the actions of exchange traded funds (ETFs), leveraged ETFs, and hedge funds forced to sell holdings at any price to meet liquidations. Even the Treasury market, generally thought of as the world's most liquid market, ground to a halt, exposing orders-of-magnitude less dealer support and market making activity than during the Great Financial Crisis. The U.S. Federal Reserve unleashed massive monetary policy measures to support market liquidity, while the Congress enacted a fiscal policy response amounting to over 10% of the 2019 level of GDP to cushion the economic damage from enforced shutdowns of economic activity. Previous models of volatility and uncertainty proved woefully inadequate to guide investor behavior, and stocks correlations were exceptionally high in February as investors scrambled to sell anything and everything. By March, we saw some differentiation by sector, with energy clearly the loser. Yet, the exogenous nature of this shock hurt the returns of normally more stable sectors, such as real estate, as the contemplation of rapidly falling income and shuttered stores brought normally stable rent payments into question.

First Quarter Performance. Markets moved in tandem across the world. The S&P 500 total return dropped -19.60%, steep enough to bring the one-year return to -6.99%. Small stocks fared significantly worse, with the Russell 2000 index total return dropping by -30.62% for the quarter and -24.01% for the twelve months. International stocks dropped apace, as the MSCI All Company World Index dropped by 21.37% for the quarter and 10.76% for the year. While bonds are generally protective in troubled economic times, illiquidity hampered bond trading, and economic concerns led to widening corporate spreads. The Bloomberg Barclays U.S. Government/Credit Intermediate index returned 2.40% for the quarter and 6.88% for the twelve months. Lower general levels of liquidity and concern about the impact of the pandemic on state and local finances pressured municipal bond prices; the Bloomberg Barclays Intermediate 1-10 Year Municipal Bond Index lost -0.56% for the quarter and

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returned just 2.77% for the twelve months. Within the U.S. equity market, the Energy sector felt the double hit of a steep drop in demand combined with increased supply, falling over 50% during the quarter. The S&P 500 Real Estate sector lost -19.41%, reflecting growing doubts about the ability of businesses and consumers to pay their rent if the economic shutdown extends beyond three months.

After the first, liquidity-panic induced decline, the market outlook depends on how economies will respond. Our best economic analysis, using the most up to date figures that we have, suggests severe economic damage, both in the U.S. and worldwide. Job losses, almost certainly underestimated by initial unemployment claims, topped 9.95 million in the last two weeks of March, with more losses certain to come as almost all of the U.S. is now under a stay-at-home order, and those orders are likely to extend into May or June. We have already entered a recession, as GDP is likely to drop by -5% to -7% in the first quarter, and by anywhere between -20% and -30% in the second quarter, measured on a quarter-over-quarter basis. Fiscal and monetary stimulus measures already taken will help cushion the extent of the decline, and will provide some assistance to the hardest hit sectors, but the depth of the economic decline will depend on the course of the virus: how quickly it can be contained, and how long extreme social distancing measures need to be extended. Early signs from China, South Korea, and Hong Kong encourage us to expect that economic activity will return over time.

Valuation and Positioning. In 2019, almost all of the year's equity returns were due to expanding valuations, as the price/earnings ratio for the S&P 500 on forward earnings estimates increased from 15.5x to 19.7x. The rapid spread of the coronavirus, and the economic implications of containment measures, led to a rapid contraction in the price/earnings ratio to 16.1x, before earnings estimates were adjusted downward. Earnings expectations for the S&P 500 have already declined 10%; we expect that earnings could drop by 40% before beginning to improve, with the earnings of smaller capitalization companies falling even faster. As stock prices dropped, the earnings yield of the S&P 500 increased to 6.9%, while 10-year Treasury Inflation-Protected Security yields dropped to 0.26%, suggesting that stocks will return about 6.6% more than bonds over the next year. Stocks do appear to be more attractively priced than bonds, but under these circumstances, valuation is an unwieldy and inaccurate tool for forecasting returns over the next year. Significant economic declines lie ahead, and equity investors are likely to have even more attractive entry points over the next few months. We do not believe investors should either move to cash or increase their fixed income allocations at this time. We suggest using existing fixed income holdings and cash to fund current needs rather than liquidating stocks, although we acknowledge that stock prices could rise rapidly if rates of transmission fall or a treatment is found.

Long-term Changes. Economic research suggests that a severe pandemic can lower the rate of economic growth for decades; specifically, pandemics tend to depress the rate of investment; increase household savings rates; lower trend inflation rates; and lower the natural rate of interest below what would otherwise have been the case. At lower rates of interest, bonds become less protective of portfolio value relative to stocks; at the same time, using historic data on rates of return to determine asset allocation needs to be approached carefully to account for the effect of different rates of economic growth and inflation. The US demonstrated in 2017 that it has the political will to embrace deficits in service of corporate tax cuts; in 2020 we embraced fiscal stimulus as a cushion against a severe virus-induced shutdown in economic activity. The challenge will come after the virus transmission fades and economic activity recovers. Will we as a society acknowledge that our devotion to "responsible budgeting" in service of low tax rates, and at the expense of growing income inequality and a shredded social safety net, has endangered our lives and our livelihoods, as workers without sick pay, without health insurance, and without savings continue to work while ill? Will we acknowledge that the proper role of government is to address a tattered social safety net and to address the vastly unequal impact of this pandemic on service workers, lower-income groups, minorities, and women? After many weeks of seclusion, will we be able to imagine increasingly sharing the world's resources, reducing our desire for ever-increased consumption, reducing travel, and addressing climate change? Will we assess companies based on how they treated their employees, their contractors, their suppliers, and their customers, as well as how they rewarded their stockholders? Or will we return to complacency, and rush to forget the desperate Spring of 2020? The world we make depends upon what we do. For now, we must attend to how we can act justly, walk humbly in the face of uncertainty, and attend to the needs of the less fortunate.