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Climate Change and Investment Implications — January 2020

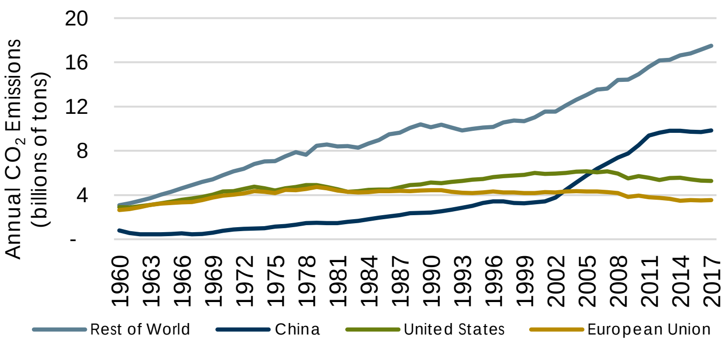
OVERVIEW

- **Global temperatures have increased dramatically in recent years, and the five warmest years since 1880 all occurred after 2013**
- **The World Economic Forum recently ranked risks associated with climate change the second biggest risk globally in terms of potential impact**
- **The transition to a low-carbon economy presents risks and opportunities for every asset class across the globe**

Background

According to NASA, 2014 - 2018 were the five warmest years on record going back to 1880. Global temperatures in 2018 were 1.5° Fahrenheit (F) warmer than the average from 1951 through 1980. NASA and many members of the scientific community believe that this warming has been driven in large part by increased emissions of carbon dioxide and other greenhouse gases caused by human activities. The question for investors is: How does climate change impact my portfolio?

Annual CO_2 Emissions by Region: 1960 - 2017



Source: Ritchie and Roser, 2017

Climate Change Environmental and Economic Impacts

Some of the impacts of climate change are more intuitive than others. For example, a warmer planet results in higher sea levels due to a combination of meltwater from glaciers and thermal expansion of seawater as it warms. The National Oceanic and Atmospheric Administration (NOAA) reported that global sea levels have risen more than eight inches since 1880. In fact, the 2018 average sea level was 3.2 inches above the 1993 average.

Other impacts of climate change are not as self-evident. The National Bureau of Economic Research (NBER), a bipartisan economic research organization, recently published a paper analyzing the impact of climate change on global GDP. The study concluded that if global carbon emissions continue to rise throughout the 21st century, world GDP per capita could decline by 7.2% in 2100. Under this scenario, global temperatures would be 6.7° F warmer than today and GDP losses would be driven by declining worker productivity.

Institutional Investors' Views on Climate Change

One may look at the timeline under which climate change materially impacts global GDP and determine it is not worth considering over the short term. However, asset prices today incorporate risks that investors forecast well into the future. Climate change is a risk that is becoming more important to investors globally. In June 2019 more than 450 institutional investors representing over $34 trillion in assets published a letter to members of the G20 demanding urgent action from governments on climate change. These investors represent a material portion of the world's invested capital, and their decisions to buy or sell assets can significantly influence prices.

Climate Change Investment Risks

Climate change presents unique risks for virtually every asset class. Regardless of industry, as carbon emission disclosures become standard, companies and issuers that fail to reduce their emissions over time are likely to be penalized by regulators and investors alike. Real estate assets that are vulnerable to rising sea levels could see their valuations decline over time. A 2018 study by the University of Colorado and Penn State University found that homes more exposed to rising sea levels sell for 7% less than equivalent homes an equidistance from the beach that are less impacted by sea level rise (Source: Journal of Financial Economics).

Climate Change Investment Opportunities

What are investors to do about it? They can start by asking questions of their investment managers. Not every asset class will be impacted by climate change in the same manner. However, managers should have an awareness of how their portfolio will be affected. ACG recently conducted a survey of 35 investment managers across the fixed income, equity, and real estate categories and found that 83% explicitly incorporate climate change risk into their investment process. ACG believes that incorporating climate change risks and opportunities in the investment process is indicative of a firm that takes a more holistic approach to making the best investment decisions possible.

The transition to a low-carbon economy will require significant capital from both the public and private sectors. The International Energy Agency estimates that this transition will require more than $3 trillion of investment per year to finance power generation, energy efficiency, and new transportation infrastructure. Investors are already showing an interest in these types of investments. Green bonds, for example, are issued specifically to invest in climate and environmental projects. Green bond issuance increased from $2.6 billion in 2012 to an estimated $250 billion in 2019 (Source: Moody's). As consumers consider climate change, corporations need to adapt their product and service offerings for evolving preferences. Sensing a growing market opportunity, a number of private equity funds are being raised to invest in companies that create products and technologies to help reduce carbon emissions and create a more sustainable planet.

Summary

Climate change occurs slowly over time which may make it an easy risk factor for investors to ignore. Recent studies suggest that climate change will have a negative economic impact on long term global GDP. Over the shorter term, investor concerns about global warming may be priced into their assessment of stocks and bonds in the form of lower equity multiples and higher borrowing costs. As consumers become more concerned with climate change they are likely to change their spending patterns. This may provide investment opportunities in companies that offer more sustainable products and services. As with any long-term secular trend, climate change will likely result in both winners and losers. ACG helps investors identify and allocate capital to managers across asset classes that can appropriately separate the wheat from the chaff.

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