REDWOOD GROVE CAPITAL

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Regulatory Change and Climate Investing

We started the year with Larry Fink's annual letter to the CEOs of the world's largest companies, in which he declared that "climate change has become a defining factor in companies' long-term prospects." Mr. Fink went on to say that Blackrock would put sustainability at the center of their investment process. We have talked to the head of sustainable investing at Blackrock and believe they are trying to find ways to incorporate sustainability into their largely passive strategies. Readers of this letter know that we remain skeptical of the quality of the information required for passive "ESG" investing, due to the lack of standards, auditing and reporting of these metrics. While we may disagree with the methodology, we agree with the central thesis. Even the largest asset managers in the world are coming to see climate as an important investment consideration that warrants significant attention and resources.

While investors are starting to account for climate change, the Federal Government may play an important role in how the markets respond. Regulatory change, however, has been muted the past few years. For example, consider that the Department of Labor (DOL) pushed forward a new proposal for the Employee Retirement Income Security Act of 1974 ("ERISA") this year which may eliminate all ESG or sustainability considerations for private pension plans' investments. These plans constitute about $9.4 trillion of assets so it is not insignificant that they may be blocked from using environmental and climate considerations in their investment decision making. Contrasting opinions is what make markets. However, it is notable that one of the largest and most sophisticated asset managers in the world is making climate change central to their investing strategy while simultaneously some of the largest pools of capital in the United States are being blocked from considering it.

The DOL's ERISA decision was an unusual process. A typical change to ERISA rules takes 18 months. In this case, due to some unexplained urgency, it was fast tracked to less than 6 months, with a shortened comment period. Nonetheless, the DOL received over 8,000 comments of which over 95% expressed opposition to the proposal. The DOL was unmoved. The prior standard, which allowed ESG factors to be used as a "tie break" between otherwise equal investment opportunities is now likely to be changed. The proposed mandate requires documentation showing improved economic returns if a fund manager states that they use even abstractly environmental, social or governance factors in their investment process. Demonstrating that a specific part of an investment process generates outperformance over time is a difficult standard for any traditional investment manager. The concern is that this proposal will essentially block private pensions from investing in sustainable managers.

But the Federal Government is not a monolith on the issue of climate. In September, the U.S. Commodities Futures Trading Commission (CFTC) published a report on climate risk in the financial system. The report was chaired by Bob Litterman, the former head of Goldman Sach's risk management, and was advised by several of our friends at various NGOs. The opening lines of the report make clear its conclusion, **"Climate change poses a major risk to the stability of the U.S. financial system and to its ability to sustain the American economy. Climate is already impacting or anticipated to impact nearly every facet of the economy."**

The report covered a lot of themes and topics we have covered here in these quarterly letters. It is an excellent report and encouraging to see some government organizations discuss climate's systemic and significant economic risks. To get more government agencies to focus on this issue, this July we co-signed letters to the U.S. SEC, Federal Reserve, the OCC, FDIC and others calling on them to address climate change risk.

The CFTC report breaks out market risk into four groups: physical risk and three transition risks-changes in government policy, technology and consumer preference. Readers of our letters will recognize these as our four secular trends that we incorporate into our investment process. The report also highlights that currently investors have "**insufficient data and analytical tools to measure and manage climate related financial risks**" as well as a "**lack of common definitions and standard for climate related data and financial products**."

However, alternative methods of modeling out the physical risk of climate change are dependent on scenario analysis and what the UN IPCC calls Representative Concentration Pathways (RCP). These pathways are based on possible paths forward for energy production and decarbonization. Due to their forward-looking nature, there are embedded assumptions. In many cases, we believe the assumptions underestimate the risks. However, these assumptions are sometimes used to sow political doubt about the central thesis, and in the investor universe, about the ability to use climate forecasts in economic models.

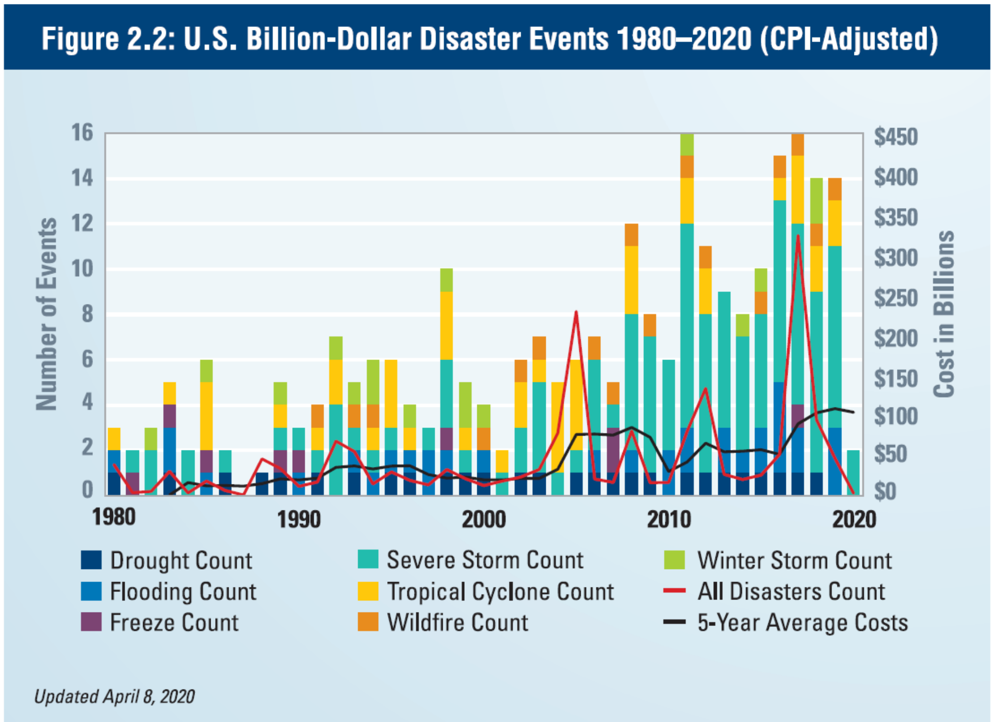
With that in mind, the CFTC report cites research that by the end of the century, the impacts of climate change on the United States' GDP will result in an approximately 1.2 percent reduction for every 1C degree of warming. We are currently on the RCP 8.5 path which is conservatively estimated to cause 4.3C degrees warming by the end of the century. A massive effort, including a carbon tax and trillions invested in green energy (greater than what is being proposed by Biden) would put us on pace for 2C degrees of warming. To put that economic impact into context, in recent years, not counting for the impact of the coronavirus, GDP has grown at approximately 2.4-2.5% annually. Based on the report, the business as usual path (RCP 8.5) would lead to an annual loss double our recent annual GDP growth. Based on these findings and others, the report's primary recommendation is for a national carbon tax. This tax represents a potential regulatory change that we consider in our investment process by looking for companies that already use an internal price of carbon in their capital allocation decisions.

The end of the century is a faraway point on the horizon for even the most long-term investors. However, we do not need to wait 80 years to feel these economic impacts. Many of climate change's four market risks are already evident. As the market increased its weighting for a Biden victory, the potential regulatory implications are being priced into the market. In just the past few months, clean tech companies have seen improved valuations. We have seen that in our investment in Ameresco, an energy efficiency company, that is up over 100% this year due to enthusiasm for building retrofitting. While companies like these have seen increased valuations, in our opinion, others impacted by regulatory change and other climate secular trends have not.

One such area is in infrastructure. The CFTC report highlights climate change's impact to infrastructure across sectors and does not just impact specific sites but shortens the lifecycle of infrastructure nationwide, degrading its operational reliability faster. Our current infrastructure is in such poor shape not only because climate change is going to impact the speed of aging, but also because of chronic underfunding in the last few decades. The American Society of Civil Engineers estimates, not accounting for climate change, that we need to spend $4.5 Trillion by 2025 to improve our roads, bridges, dams, airports and schools[1] in the United States. Some, like Jeremy Grantham at GMO, see this an opportunity, calling for a new "Marshall Plan" to invest trillions into green infrastructure.[2]

In addition to shortened life span and as an opportunity to address climate change, infrastructure is also seeing increased damage every year due to storm, fire, and floods. This has been forecast by climate scientists since the 1980s and can be seen simply in the below chart put out by National Oceanic and Atmospheric Administration. It shows that the rolling five-year average of damage caused by billion-dollar disaster events has doubled in the last five years. We agree with the scientific forecast that this will increase over time and expect demand for construction equipment both for adaptation and mitigation reasons to be entering a period of long secular growth. This is one of many secular trends we have incorporated into our investment process and led us to invest in United Rentals, the largest construction rental equipment company in the United States.

[1] https://www.infrastructurereportcard.org/
[2] file:///C:/Users/tedro/Downloads/Covid-19_Marshall%20Plan_Oct20.pdf



Source: NOAA, National Centers for Environmental Information (2020)

Other markets, such as commercial and residential mortgages, will likely require regulatory action or a popping of the bubble before pricing in climate risks. In the mortgage market, for example, increased flood risk, fire damage and storm damage are being socialized. In the case of conforming residential mortgages, they are being offloaded to Government Sponsored Enterprises (GSEs) like Fannie Mae and Freddie Mac. So, the risk is being put on the taxpayers' balance sheet. While this socialization of risk helps delay the market forces from repricing, it does not prevent the inevitable. In fact, by delaying the repricing, a larger and more costly bubble is formed. Not unlike the housing crisis of 2008, when mortgages are repriced to reflect the higher probability of default due to natural disaster risk, or inability to get property insurance at affordable rates, the impact could be dramatic and contagious. It is our view that while housing pricing are beginning to be impacted by rising sea levels, the holders of those often 30-year mortgages (mostly GSEs and financial institutions) have not yet lowered valuations on those mortgage pools. As a result, we incorporate these risks into our assessment when looking at financial institutions that have significant mortgage exposure.

How and when the markets reprice climate risk in these areas will depend partly on the Federal government's approach to climate change. We have long believed that regulatory change around climate change is a long-term secular trend that ought to be incorporated into an investment process. The past few years have been slow to demonstrate meaningful change on that front, but on the eve of our nation's election, we may see this issue become an increasingly important determinant for future returns.

Closing Thoughts

September was the hottest month on record.[3] It beat a monthly record that was set just last year. With El Nina being the determining factor, NASA's Goddard Institute estimates that there is a 70 percent chance that 2020 will be the hottest year on record beating 2016 (NOAA estimates the risk is closer to 40%).

During this period of record high temperatures, governments around the world have rightly focused on Covid-19, pledging $12 trillion to mitigate its economic impacts. This amount is over three times what was spent during the Great Recession. A new report in Science Journal highlights that this sum is far greater than what is necessary to address investment in low carbon technologies that would prevent the worst impacts of climate change. The paper concludes that if just 12% of the amount pledged were spent on low carbon energy investments for each of the next five years, we could meet the Paris Agreement's most ambitious goal of limiting warming to 1.5C.[4] So far, global stimulus has mostly been allocated based on a "business as usual" model. The G20, for example, has allocated $223 billion to fossil fuel companies with few or no environmental stipulations. While unfortunate, it does show that we have the resources and the technology to solve climate change but just not the political will, yet.

As always, thank you for your continued trust in us. If you have questions, concerns or comments please do not hesitate to reach out.

With gratitude,

Ted greg

[3] https://climate.copernicus.eu/monthly-climate-bulletins
[4] https://science.sciencemag.org/content/370/6514/298