January 12th, 2022

Winter Quarterly Commentary

"There will be eight Teslas, ten Teslas. And only one of them is well known today... There will be, you know, Microsoft, Google, Amazon-type companies that come out of this space."

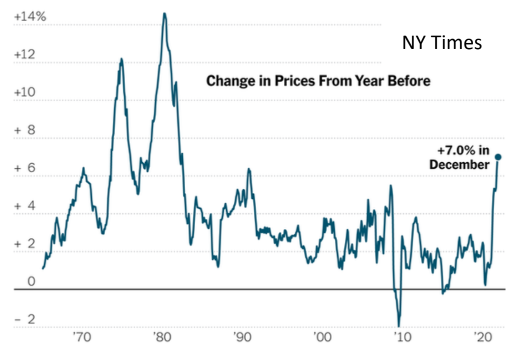
Bill Gates (born 1955)
Tech Entrepreneur, Philanthropist

By now it is not news to say that the Omicron variant of COVID is extraordinarily infectious, but thankfully less likely to kill or hospitalize an infected person. The coming weeks will be challenging for our hospital system. However, we do not anticipate anything resembling the lockdowns experienced in 2020. In fact, no one wants to say it, but this Omicron surge could represent a painful but important step forward toward an end to the pandemic. Early evidence suggests recovery from Omicron provides protection against Delta to a greater degree than recovery from Delta protects from Omicron. In effect, a milder Omicron may prevent people from contracting a dangerous Delta. One way to think of it is an involuntary vaccination spreading quickly throughout the globe.

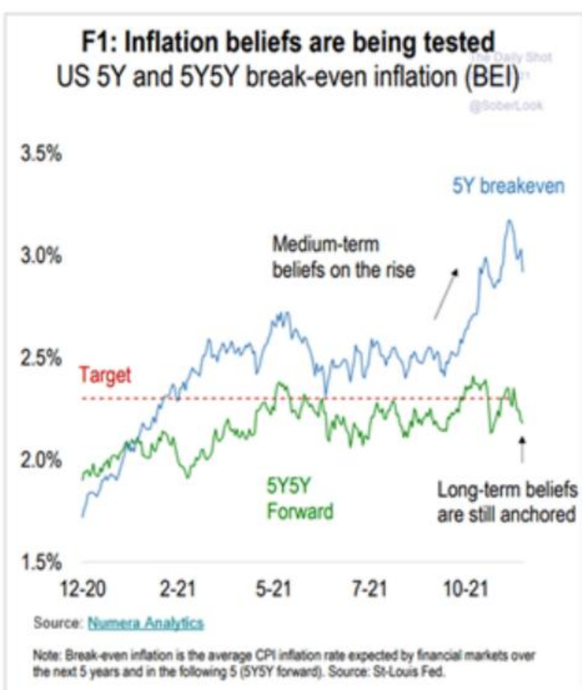
Public health officials are understandably reticent to make such a prediction. What is the upside for them? However, as investors, we must always make decisions with incomplete information. We must be willing to risk being wrong (and quickly change our minds when our error is revealed by unfolding events).

One rather large caveat: every time the virus replicates it has a chance to mutate. Thus, a new variant with significantly stronger ability to evade immune protection could upend the positive scenario we have laid out. Still, should a dangerous rho, sigma, tau, or upsilon variant emerge, we should collectively be in a better position. Drug companies are rapidly ramping up newly approved anti-viral treatment pills which are expected to greatly reduce the danger of severe outcomes. These drugs are expected to remain robust even in the face of future mutation. Suffice to say, we believe the largest threat to financial market returns is not the virus, but rather inflation and the Federal Reserve's response to it.

Inflation is here. The December headline CPI reading clocked in at seven percent, a 40-year high. The question is where inflation goes from here, and on what time frame. We have long feared that a *sustained* inflationary bout would be detrimental to asset prices and investment returns.



It is interesting to note that *longer-term* inflation expectations (set by bond market participants) are relatively low. The chart below shows inflation expectations over the next five years (blue line - years 1-5) and the five years after that (green line - years 6-10). The market believes inflation will average approximately three percent over the next five years (i.e. less than half its current level), and just two and a quarter percent over the subsequent five years.

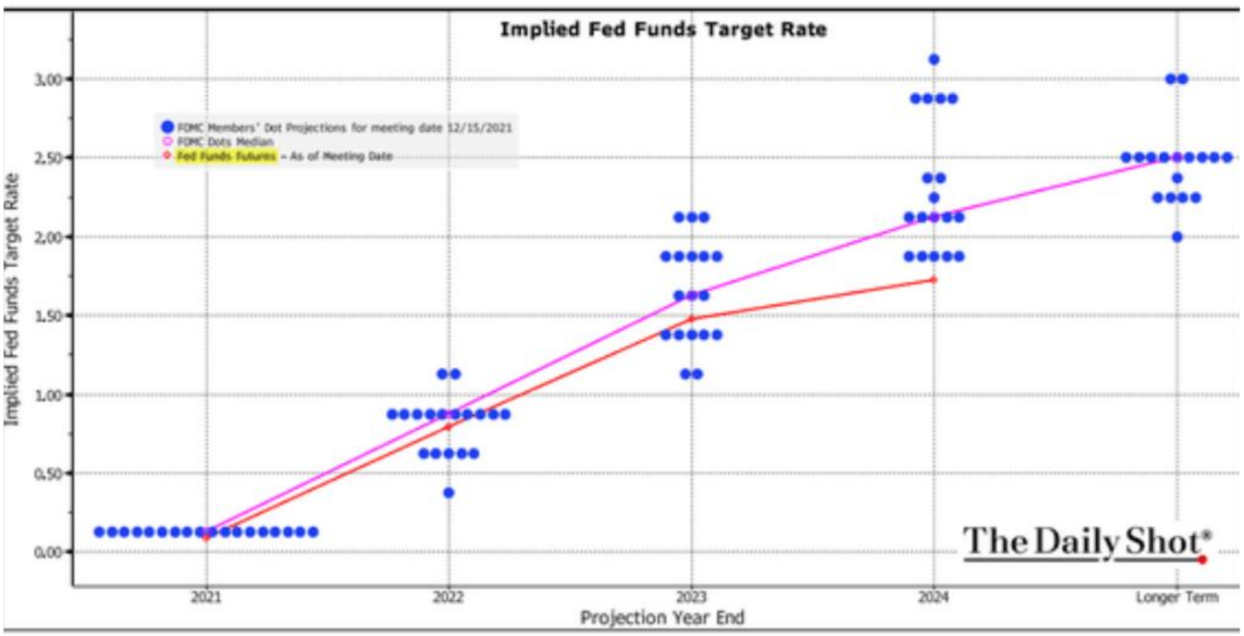


Why doesn't the market expect current levels of inflation to persist? One straightforward possibility is it knows the Federal Reserve is tightening monetary policy and believes this will effectively stifle inflation. The Fed is juicing the economy a bit less these days, printing fewer dollars to buy bonds, until February when it plans to stop the presses altogether.

For now, the Fed is easing off the accelerator. But by the time you receive our next letter in April, it will be tapping the breaks and may even be throwing the vehicle into reverse. In addition to hiking short-term interest rates for the first time in March, the Fed will also likely start selling the huge trove of bonds it has amassed. Printing money and buying bonds was good for asset prices. What will the impact be when the Federal Reserve does the opposite? Selling bonds and then retiring the resulting dollars is *reverse money printing*. Raising interest rates and reverse money printing are unlikely to be favorable for future asset returns. This change in monetary policy might very well be a turning point after a string of bountiful equity market returns.

Interestingly, the market doesn't believe the Fed will tighten as much as the Fed thinks it will. The below chart shows that the market-implied future path of short-term interest rates (orange line) is lower on average than what the Federal Reserve Open Market Committee thinks it will be (pink line).

Expected FOMC rate trajectory. Note that it's more hawkish than the market (orange line).

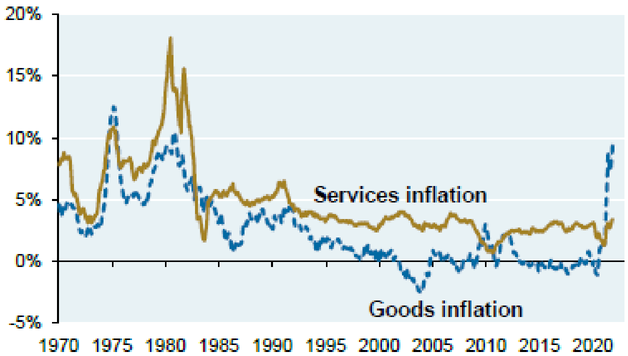


Source: @TheTerminal, Bloomberg Finance L.P.

Why does the market seem to think the Federal Reserve won't ultimately raise rates as much as advertised? Perhaps investors think the Omicron variant will slow the economy, so the Fed won't have to raise rates to do so. The rising price of Royal Caribbean stock, in the face of Omicron being detected on nearly every vessel currently at sail, says otherwise.

A more likely explanation for why the market (on average) doesn't expect the Federal Reserve to hike rates so much is because it expects inflation will subside for reasons unrelated to monetary policy or Omicron. Think about the forces driving the current inflationary trend. We believe it is primarily an issue of too much demand caused by government stimulus. The programs enacted in 2020 and 2021 in response to COVID put more money into the hands of those willing to spend it than the economy's supply mechanism could quickly deliver. Recall, our last letter discussed how even "supply chain issues" were mostly caused by surging demand for physical goods. COVID-related disruptions were only a secondary, exacerbating factor. Notably, wage pressures are not driving price increases... yet. Evidence for this can be seen in the higher rate of inflation for goods versus services. If wages were driving price increases, we would likely see greater inflation in services - something to look out for in the future.

US goods vs services inflation
y/y % change in core CPI

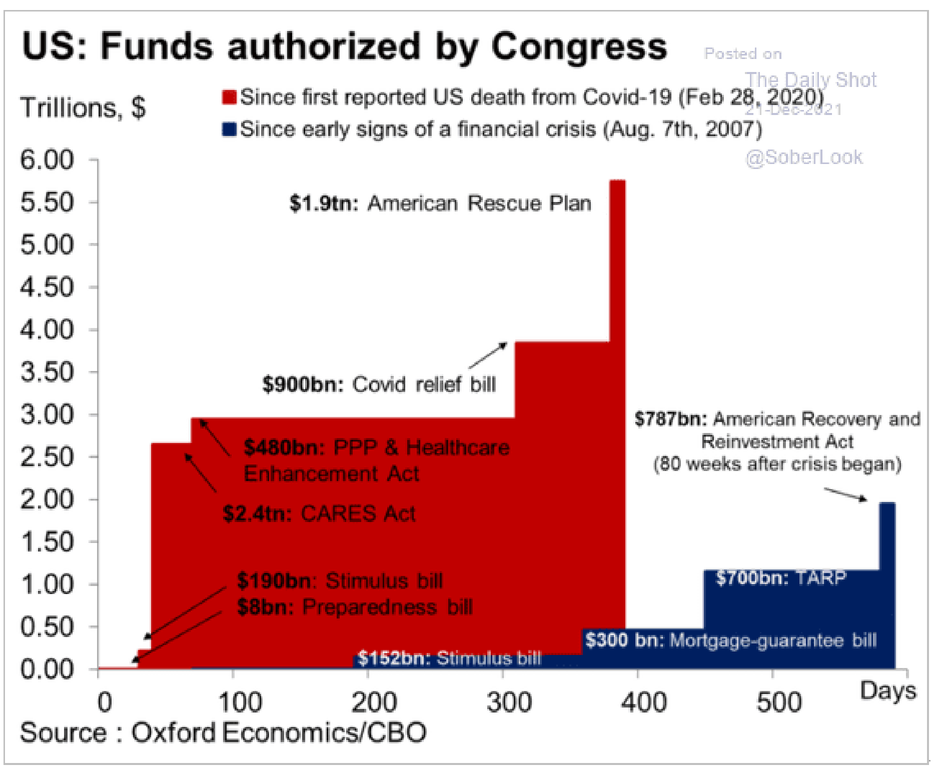


Source: BLS, JPMAM. November 2021.

US small businesses planning to raise worker compensation, % of small business survey respondents

Source: Bloomberg, NFIB. September 2021.

Inflation may fade simply because government stimulus isn't likely to be repeated. The change in government spending (minus any change in taxes) is called the fiscal impulse, and it is likely to be deeply negative this year no matter how much of Biden's legislative agenda is passed. The 2021 COVID stimulus alone (to say nothing of the two 2020 COVID stimulus bills) was two to three times larger than the 2008 stimulus bill and was deployed two to three times faster. The just-passed infrastructure bill is tiny in comparison and will be deployed



over a ten-year period, rather than in a single year. The much-discussed Build Back Better Act, which was around the size the 2021 stimulus bill, would have been deployed over ten years, with spending at least partially offset by additional taxes on large corporations[1]. The bill doesn't appear to be on the verge of passing in any case. In summary, the change in government spending/transfers will be a huge drag on demand in 2022 relative to 2021 and should help tame the inflation monster.

We know one good way to protect from currently high inflation. We recommend you pick up some Treasury I-series bonds, as they are a bargain. While most bonds sport paltry low-single-digit yields, Treasury I-Series bonds are currently yielding over *seven* percent. This is an incredible interest rate for a bond that is default-risk and state-tax free. These bonds offer inflation protection, as coupon payments reset every six months based on CPI.

We can't buy I-Bonds for you (otherwise we would have!). You can create an account at TreasuryDirect.gov and buy $10,000 worth per individual per calendar year. To think about how this might be worthwhile, the head investor of a family of four could create an account for each family member, allowing a grand total of $40,000 to be saved in this manner per year. As always, what we recommend for you we have done for ourselves. Other than the hassle factor, these bonds represent a clearly superior investment option to cash in the bank[2].

The winds of change are blowing, as they always are. It is our job to respond and invest in the world for how it is and how it will be. We try never to invest for how the world *should* be. Leaving behind the world of "shoulds", here are some things that we think are happening with regard to climate change and the coming "green" transition alluded to in the opening quote.

Sometimes you can just sense momentum. Take the legalization of cannabis for example. Love it or hate it, the trend towards legalization clearly has momentum behind it, with more states decriminalizing, legalizing medically, or legalizing recreationally each year[3].

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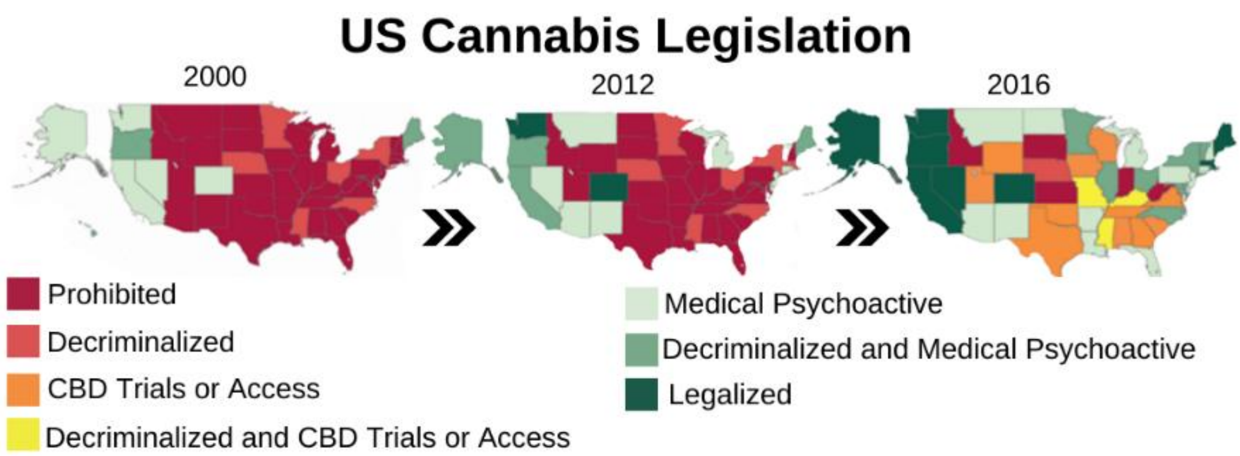
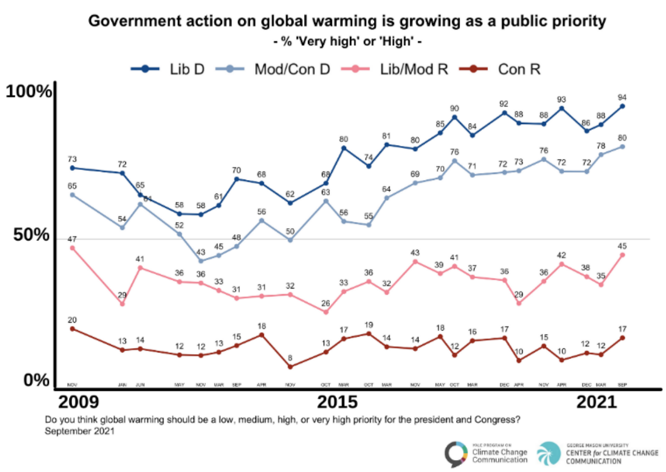
[1] It is worth noting that none of the most feared tax provisions made it into the final version of the bill that didn't pass. The only tax increases were surcharges for those making over five million and twenty-five million annually, and for those corporations who paid cash taxes at a rate less than fifteen percent of their reported earnings.

[2] These bonds, nominally long-term instruments, can be redeemed at any time after one year with only minor penalties which can be safely ignored. Give us a call if you have any questions.

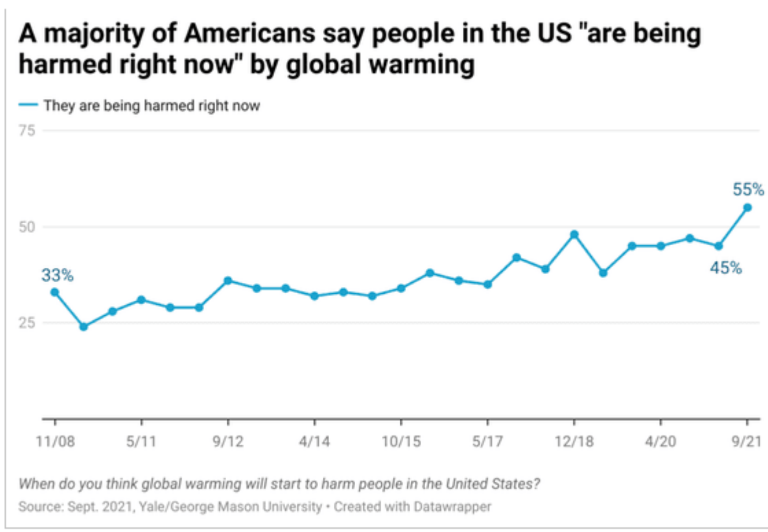
[3] Here are the states for 2021. Decriminalization: Louisiana. Medical: Mississippi. Recreational: New York, Virginia, New Mexico, Alabama, Connecticut.

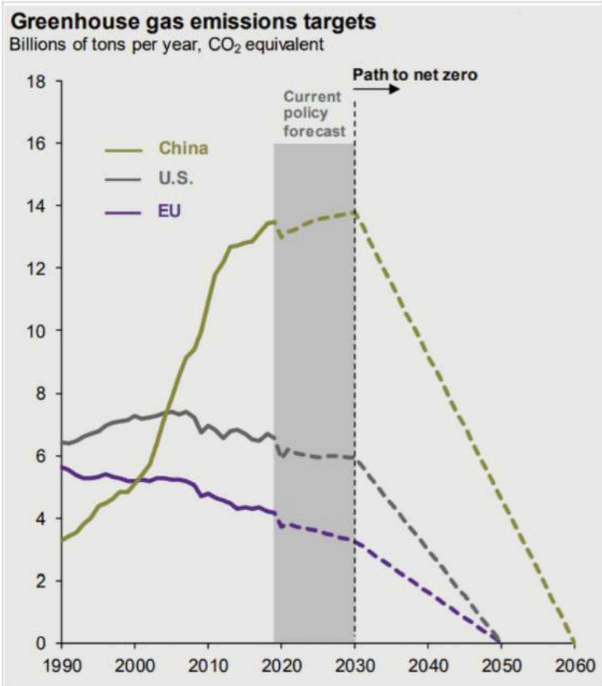




Though not quite as strong, there seems to be a similar momentum behind the desire to do more to address climate change. This is true whether you think this momentum represents long overdue change or misguided folly. Though Biden's climate agenda seems to be stalled for the moment, at other levels of government and abroad, more and more legislation, standards, and frameworks are being implemented. Here in the U.S., especially after some severe weather events, support for doing "something" continues to grow (including among Republicans).

Even if the desire is there, just how much effort governments will actually put into addressing climate change is uncertain. However, the potential implications of any serious action range from massive to mind-boggling.

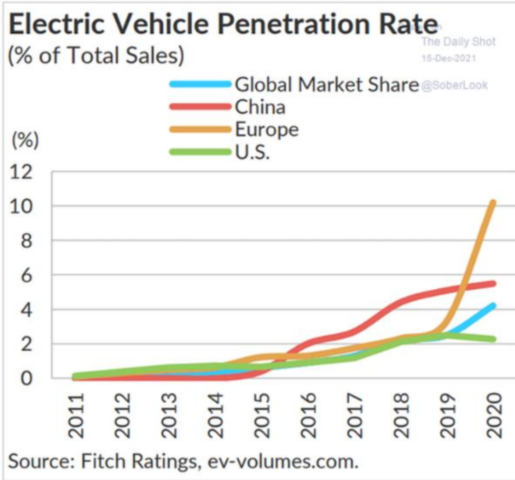




Source: JP Morgan Asset Management

In late 2021, governments around the world got together in Glasgow and pledged to keep global average temperatures from rising more than 1.5 degrees. What does that mean? Just how much reduction in greenhouse gas emissions would that require? The answer may surprise you: one hundred percent. The prevailing scientific wisdom is that to reach that target, advanced economies would have to completely eliminate all greenhouse emissions on a net basis, hitting so-called "net-zero" by 2050[4]. Again, these are the targets that countries around the world have *already* committed to.

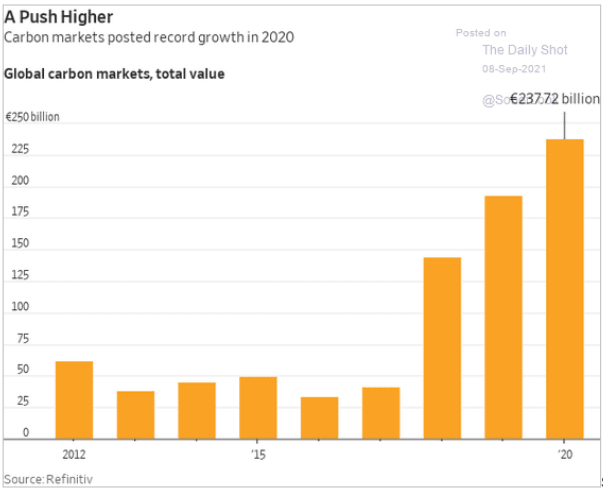
Realistically, governments are unlikely to hit these targets. However, considering that nearly every economic activity involves some amount of greenhouse gas emission, even getting halfway there would be an immense task requiring a gargantuan sum of money to be spent. A vast array of new technologies will need to be invented, scaled, and deployed. Whole new industries would have to spring up. Think of what's happening in the personal vehicle market as electric vehicles start to displace internal combustion vehicles... apply that to a dozen other industries.



We have seen various estimates that suggest reaching the net zero target might cost about three percent of GDP every year until 2050. "Only" three percent may sound like a reassuringly small number until one realizes that's roughly what the U.S. spends on its military each year. We believe the amount of money invested in making this "green transition" will be absolutely massive, and indeed the funds are already flowing. We also think we can profit from this over

[4] They say "net" zero emissions because it is impossible to eliminate all greenhouse emissions directly. After all, you are breathing out carbon dioxide as you read this, assuming you are alive. The idea is that whatever greenhouse emissions can't be eliminated must be offset by pulling carbon dioxide out of the air and then storing it somewhere. This technology is expensive (indeed, it barely exists at all at present), and so direct emissions reduction is generally seen as doing the real heavy lifting to get to "net zero".

the next few years[5]. This opportunity comes from investing in something that is likely to become a much more important asset class in the forthcoming decade: the carbon emission allowance.



A carbon emission allowance springs forth from a "cap and trade system". The idea behind these regulatory schemes is the government limits or "caps" carbon emissions at a certain level and then turns around to the private sector and says, "you figure out how to get there". The government sells a certain number of emission allowances, which confer the right to emit a certain measure of greenhouse gas emissions[6] without being reprimanded by the government. These allowances can be bought and sold among private parties. Those who can't reduce their emissions cheaply will buy allowances, and those who can reduce their emissions cost-effectively will do so.

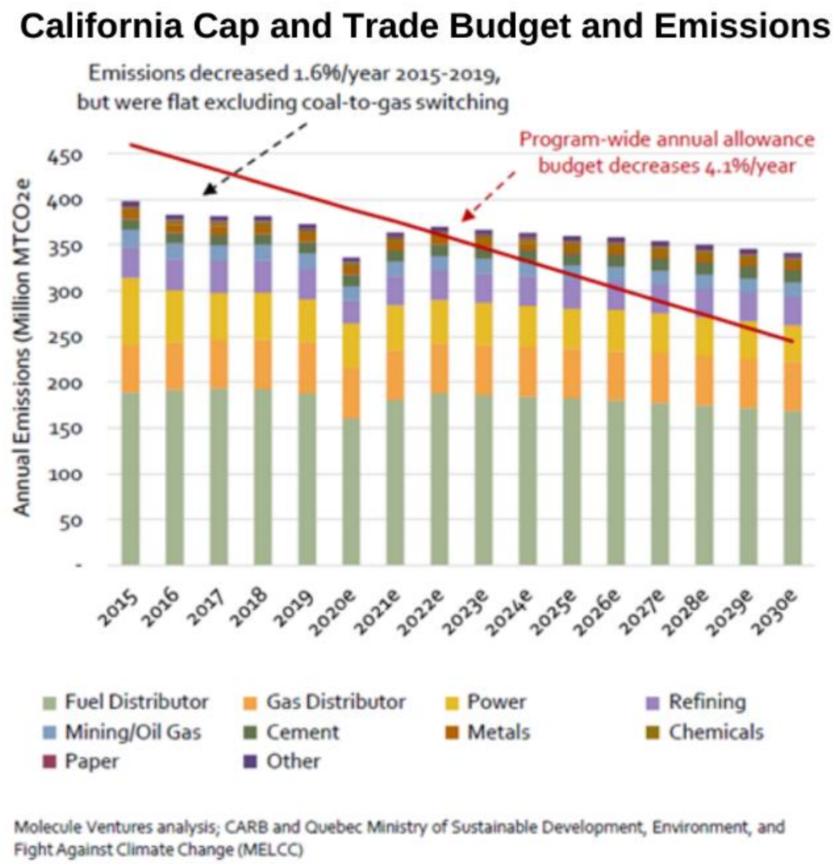
You may not have realized it, but California has actually had one of these systems in place since 2013[7]. It flew under the radar because the scheme was intentionally designed to not be onerous on emitters in the early years. Until now, the system had been selling more allowances than California industry was even using. This meant the price of these allowances remained low and companies have stockpiled them for future use. However, the number of allowances sold declines each year and 2022 is the first year in which the program is expected to sell fewer allowances than California industry requires. Consequently, the oversupply of allowances is about to reverse.

Despite the program having been in place for nearly eight years, California has a long way to go toward meeting its emission reduction goals. Thus, we believe it is likely that in 2022 the California Air Resources Board (CARB) will tweak the system going forward to sell even fewer permits than initially planned. Though the California cap and trade system generally enjoys strong bipartisan support in the state, no legislation is necessary to implement this reduction in allowances sold.

[5] Again, the reason behind this investment is the potential for profit, not politics or climate change. Though some may see the latter factor as a positive side benefit. For those opposed to these policies... they are what they are, at least you can try to make some money off them.

[6] Usually a metric ton of carbon dioxide equivalents.

[7] Europe has had a similar system in place since 2005. The price to emit a metric ton of carbon dioxide equivalents in the EU is approximately 100 U.S. dollars.



Restricting supply usually leads to higher prices. In fact, that's the idea here. The whole purpose of the system is to incentivize California industry to emit less carbon, and to do that, emitting carbon *has* to become expensive[8]. It makes sense for factory and power plant owners to install scrubbers in their smokestacks to remove carbon from their emissions *only* when doing so is cheaper than buying the emission permits. The idea is to push the price of allowances to this level. Most research indicates that substantial emission reduction will not occur without a significantly higher price on carbon. Since the system requires substantial emission reduction, the price of emission allowances must go up.

The price to emit carbon dioxide in California is currently $33 per ton. Various world agencies have suggested that, in order to hit the aggressive carbon reduction targets we mentioned earlier, the price of

[8] The point is also to increase the incentive to develop low carbon technologies, not just implement those that already exist. While some of the money raised in selling these allowances is refunded to electric utility consumers, and some of the credits are simply given away to legacy businesses, it is worth noting that a good deal of the money raised through these sales goes to government programs to mitigate climate change. The fact that the government controls the distribution of these funds serves as another incentive for higher prices.

emitting a metric ton of carbon would have to be at least $100 per ton. As you may have already guessed, we are long California carbon emission allowances (CCAs) in client accounts. An added benefit of investing in California carbon emission allowances is they are uncorrelated to both equities and fixed income. This is especially attractive at a time when stocks are expensive and interest rates are low.

Another attractive aspect of these instruments is a measure of downside protection not afforded by equity investments. The regulators are so intent on driving a meaningful price of carbon that their program includes a mechanism for ensuring the price of emission doesn't drop below a certain level. If the price does drop below this reserve amount (about $20 in 2022), CARB simply stops selling new allowances at auction. This is intended to bring supply and demand back into balance only at higher prices. Importantly, to ensure a rising price of emissions over the long-term, CARB increases the reserve price by five percent *plus* inflation every year. The fact that this effective minimum advances over time means there is an all but guaranteed positive minimum return over longer time horizons[9]. These characteristics make this investment compelling for fixed income portions of portfolios. (given the mandate of Managed Income portfolios to minimize principal losses over all time periods, we have not included CCAs in these accounts) When it comes to equity portfolios, we have included an investment in CCAs, as we think the substantial upside and limited downside return profile of these instruments presents one of the more compelling risk-reward profiles we have seen in a while.

As with everything we do with your money, we have done it with our own. We appreciate the ongoing trust you place in us.

Sincerely,

John Prichard

John G. Prichard

Miles E. Yourman

Miles E. Yourman

Kurt Beimfohr

Jeff Vieth

[9] The big risk to this investment is not so much that the price falls precipitously, but that the government scraps the plan altogether. Given the political realities in California we do not think this risk is likely to be realized.