10 QUESTIONS FOR 2022

Some Big Picture Thoughts on the New Year

AUTHORS

Cullen O. Roche
CIO, Discipline Funds
cullenroche@disciplinefunds.com

Erica A. Fries
CEO, Discipline Funds
ericafries@disciplinefunds.com

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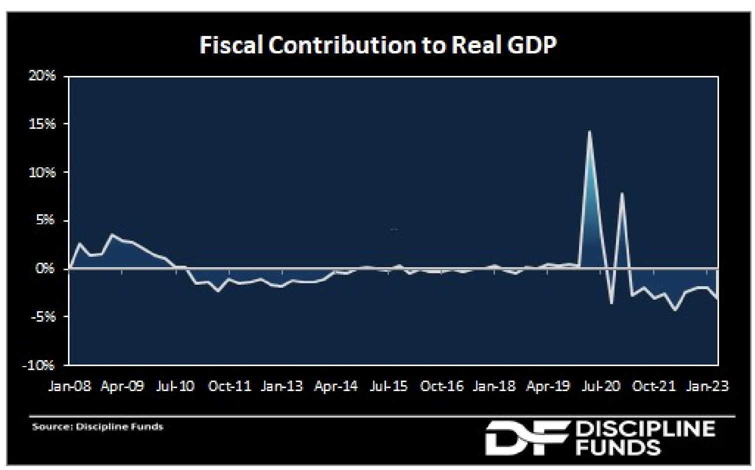
1. Wait, why do people still provide annual forecasts?

Investors are notoriously bad at forecasting short-term market movements. This isn't surprising—most financial assets are long-term instruments. For example, a 30 year Treasury Bond will pay 1.93% for 30 years. But the actual annual returns from that instrument will vary wildly based on its principal fluctuations. So while we can make a very precise 30 year prediction, it is quite a different task to do the same over a 30 day span as short-term price changes are a function of a multitde of unpredictable short-term factors. This is similar across all asset classes, even more so for any instrument that doesn't pay out specified cash flows.

Then again, we live in the short-term. So while it might be comforting to have some certainty about long-term returns it can be unsettling to see short-term volatility. Knowledge provides us with perspective and the foundation to establish discipline. So, with that said, we hope this report provides some knowledge and perspective that helps you enact some long-term investment discipline.

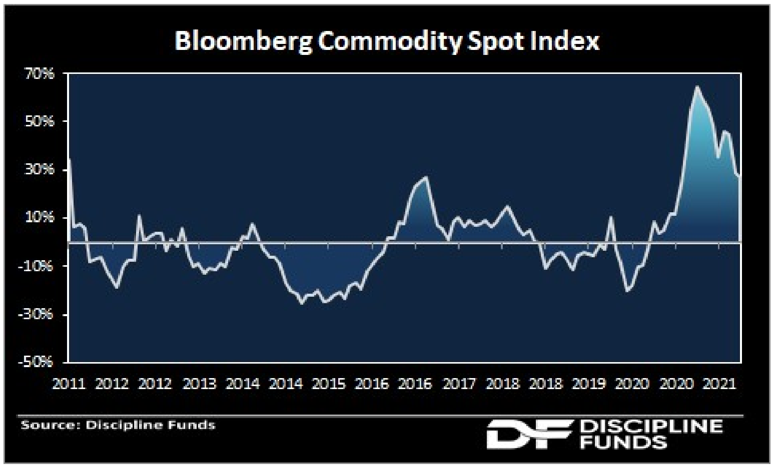
2. What will happen with inflation?



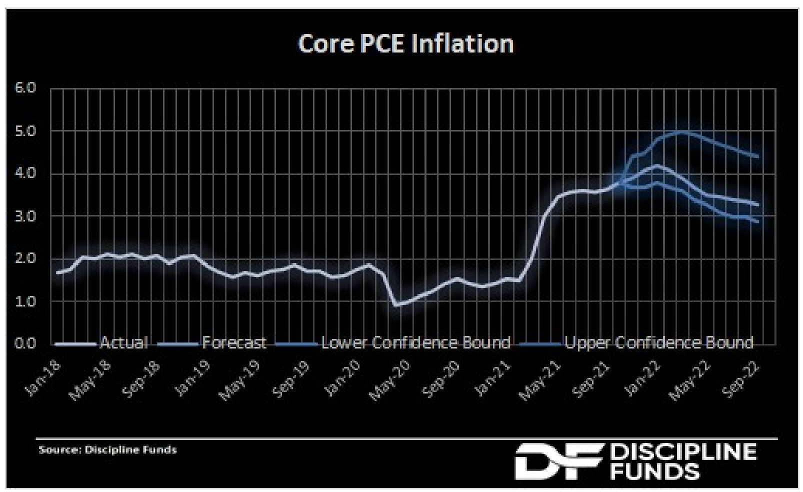
Global governments printed a lot of money to fend off the pandemic. Combine this with many of the unique supply constraints that the pandemic caused and you had a perfect recipe for inflation. But we should start seeing some signs of relief in 2022. The two main drivers will be the reversal of the aforementioned macro trends.

The large reduction in fiscal policy combined with the potential for tightening monetary policy should ease inflation expectations.

The seasonal decline in shipping combined with the broader return to work should continue to loosen supply chains. This is already starting to bear out in commodity markets where prices are down 4% from their October 2021 highs and the rate of change should slow materially heading into 2022.



Perhaps most importantly there will be a meaningful "topping effect" in inflation data by the summer of 2022. In short, the year over year comparisons will naturally cause some moderation in the rate of change. All of this means that inflation is likely to moderate by year-end 2022, but will remain well above the Fed's 2% target. In fact, we should expect to see readings of 6%+ headline CPI well into 2022, but don't fall into the trap of overreacting to things like "hyperinflation" predictions. As the inflationary pandemic trends subside we should start to see secular headwinds reinforce themselves.



3. Are bonds dead?

The high-ish inflation environment has a lot of people declaring the death of bonds. We've heard this declaration for much of the last 20 years and yet bonds have continued to be the "Widowmaker" for anyone who tried to short them for any sustained period of time. We don't see this trend changing in the near-term.

More fundamentally, viewing bonds as an inflation hedge is a mistake. Long-term interest rates tend to be closely correlated to long-term inflation expectations. Therefore, bonds should not be expected to maintain their purchasing power in the long-run. A portfolio of high quality bonds should, however, maintain its principal, especially when held across the proper maturation periods. Therefore, we view bonds purely as income producing volatility hedges. We purchase bonds for the same purpose someone might hold cash—for certainty of principal in exchange for the loss of purchasing power. Longer duration high quality bonds can marginally better protect purchasing power due to interest payments, but should still be expected to lose purchasing power in the long-run.

More specifically, some investors have theorized that long duration bonds are no longer a safe haven. But the COVID inflation raised an interesting counterpoint—if consistent 6%+ inflation doesn't cause interest rates to move materially higher then one has to begin wondering what could happen in the long-run if inflation moderates and the large secular inflation headwinds reinforce themselves.[1] What if US Treasury Bonds, the safest credit instruments in the world, follow the path of Japanese Government Bonds and many European Government Bonds? At a 2% 30 year yield this could mean there is at least 20%+ upside if interest rates fall to just 1%. In a world of very high equity valuations this continues to be one of the best inexpensive and asymmetric hedging options.

That said, it is a mathematical fact that bonds will provide lower risk adjusted returns going forward given the simple fact that current interest rates are so low.

10 Year T-Bond Returns (1940-1980)	S&P 500 Returns (1940-1980)	50/50 Stocks/Bonds (1940-1980)
3% Per Year	11% Per year	7.45% Per Year
3.67 St Dev	17.97 St dev	8.84 St Dev
0 Sharpe Ratio	0.49 Sharpe Ratio	0.47 Sharpe

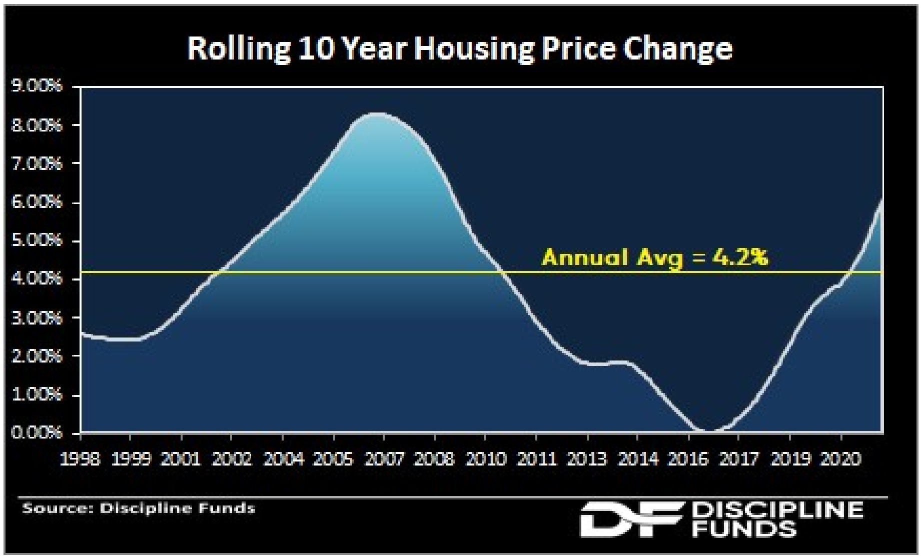
1—These secular headwinds include technology development, demographics, globalization & inequality.

The current period resembles the early post-war stimulus era in many ways with bouts of high-ish inflation and low government bond rates due to yield curve control. As rates slowly creeped higher from 1940-1980, nominal bond returns averaged 3% on the 10 year. Importantly, combining this hedge with equities provided a far more stable return across the ensuing 40 years despite rising rates. In other words, despite poor real returns, the bonds served their purpose of dampening equity market volatility and providing the investor with a more behaviorally manageable return.

To answer our question—are bonds dead? NO. Bonds aren't dead. They are not as robust as they once were, but even if rates rise they should still provide an equity volatility dampening effect that is superior to holding pure cash.

4. What will happen with house prices?

It could be said that "so goes housing so goes the US economy." This is part of what made the pandemic recovery so robust-people invested an enormous amount in their primary residence because it became both their home and their office in many cases.



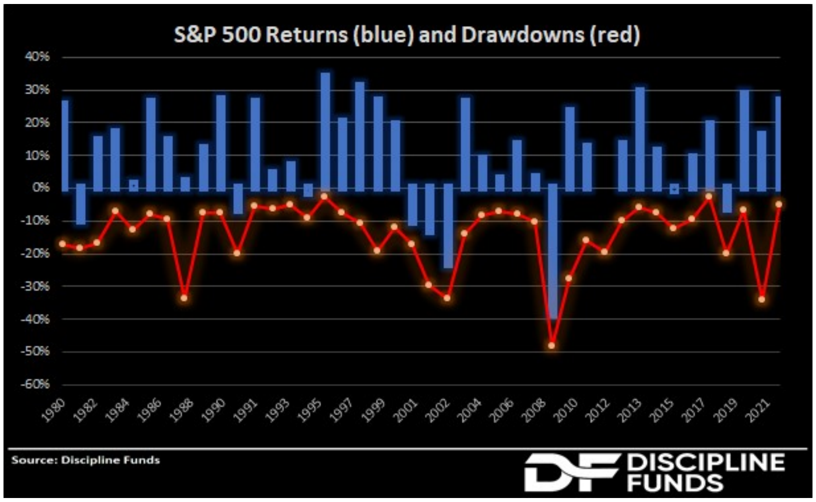
For housing, predicting short-term price changes is difficult to say the least. This is why it's nice to try to think of housing as having a certain duration, much like a bond. Like any other asset, applying a specific duration to the instrument helps put some perspective on the duration over which that asset can be expected to earn reasonable returns.

Housing is an inherently long duration instrument. So, just like we shouldn't try to time the 30 day return of a 30 year T-Bond, it is also difficult to time the monthly or annual returns of housing.

As a simple heuristic model?, we like to use maximum break-even and average turnover for real estate. The break-even during the housing crisis was roughly 10 years while the average turnover of US real estate is 13 years. This gives us an approximate duration of 10+ years for real estate. As can be seen on the previous chart the current average 10 year rolling returns for real estate are high by historical standards. Future expected real estate returns have tended to be worse on average when real estate has performed as well as it has in recent years. That said, if we think of real estate like our bonds then holding this instrument for 10+ years is unlikely to be a negative return asset class. However, given recent price changes, the buyer who is betting on short-term price changes looks increasingly like a speculator.

If we were to pick one major risk to the US economy it would be a reversal in house prices and some giveback in residential investment.

5. Will the stock market crash?



We like to think of the stock market as if it's a 30 year high quality high yielding bonds. If you hold that instrument for 30 years the odds of earning an average coupon of ~7% is high[1]. But corporations don't earn or distribute their profits consistently because busi-

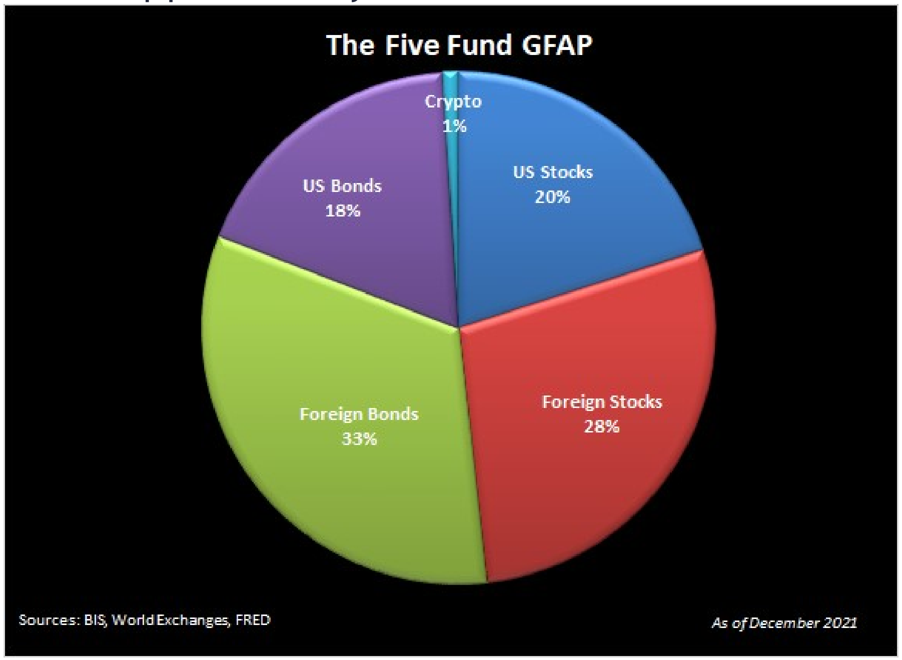
1—7% is approximately the rate of corporate profit growth in the USA.

2021 was an unusually stable year for stock returns. We do not expect this to continue. In fact, the stock market appears to be getting more volatile over time. Our theory is that this is due to the high multiple environment. From the period of 1980-2000 the stock market averaged a –12% maximum decline, but during the 20 year period from 2000-2020 the stock market averaged a –16% maximum decline. Higher multiples have been consistent with higher returns, but they have also been consistent with higher volatility. There's no reason to think that this won't continue to be a trend.

While it's irrational to try to predict the monthly or annual returns of an inherently long-term instrument it would be equally irrational to assume that that near-term stability of the market is a new normal. We expect the stock market to be a much bumpier ride in the years ahead and believe investors would be wise to prepare for this both psychologically and monetarily.

6. Should you buy some Bitcoin or crypto?

The cryptocurrency market has become a reasonable portion of the total market portfolio. As of December 2021 it reflects approximately 1% of the Global Financial Asset Portfolio (GFAP). This small relative size is both an argument against crypto and an argument in favor of it since one can make reasonable arguments that this is both insignificant OR in the process of becoming something very significant. For example, if the entire crypto market were to grow to just 5% of all financial assets the crypto space itself would grow by 400%.



The incredible growth in the crypto space hasn't come without a cost. Bitcoin, for instance, has a standard deviation of over 100. Managing the risk in a 100 standard deviation financial asset is difficult to say the least. If you have a very high risk tolerance, an approximate GFAP allocation of 1% is not an unreasonable starting position.

7. Will Cullen lose weight in 2022?

Nutritional research can often look like investing research in the sense that we know a lot of the general principles that lead to success, but the variables impacting success are so multi-faceted that they can be difficult to deduce to single variables. In other words, perfect is often the enemy of the good and there is increasing research showing that chasing the latest fad diet is a far worse strategy than simply picking ANY reasonable diet and remaining steadfastly loyal to it.

Like investing, it's best to form to generally evidence based foundation, control what you can control and remain disciplined.

To answer our question, Cullen is currently 195 pounds. We are confident he will deflate to 185 pounds by year-end.

8. Why is question #7 in here?

This is a difficult question to answer. First, it's hard to come up with 10 good questions to answer. Second, Cullen is selfishly putting this is in writing to keep himself publicly accountable.

9. Will we be able to come up with 10 relevant questions to answer?

We are cautiously optimistic about the future potential of this research piece.

10. What will be the best investment of 2022?

We believe the current environment is one of the most difficult asset allocation environments we've seen in a long time. Stocks have boomed and are overvalued by many metrics. Bond yields are low and incapable of generating high returns. Crypto markets have boomed and are as unpredictable as any market in the world. Real estate has surged well above the 2006 housing bubble levels.

During environments like this it's generally better not to be over exposed in individual sectors or instruments that can expose you to catastrophic asymmetric downside.

As John Bogle liked to say, "stay the course", but during times like these, where behavioral risk is elevated because assets are overvalued, it's important to remain patient and diversified. More generally, these are good times to invest in yourself, develop personal skills and prepare yourself to be ready when/if some of these asset classes become more attractive. For now, "invest in yourself and diversify your savings" is about the best asset allocation strategy we can think of.

Happy new year and best wishes in 2022.

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