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Stocks or Bonds? An Easy to Understand Reward/Risk Framework

Dear Investor,

In recent days we have seen the market narrative begin to dramatically shift as investor bullishness increases with price. While currently we have no strong short-term views as to the overall direction of markets, we do have some long-term views that we felt were worth sharing.

The rationale for our framework is predicated on historical *risk-premia* studies. Risk-premia is defined as the excess return one is compensated for holding a risky asset over a non-risky asset. Monitoring this risk/reward on a weekly/monthly/annual basis, with respect to relative trends in the economy, is our specialty at Bodhi Tree.

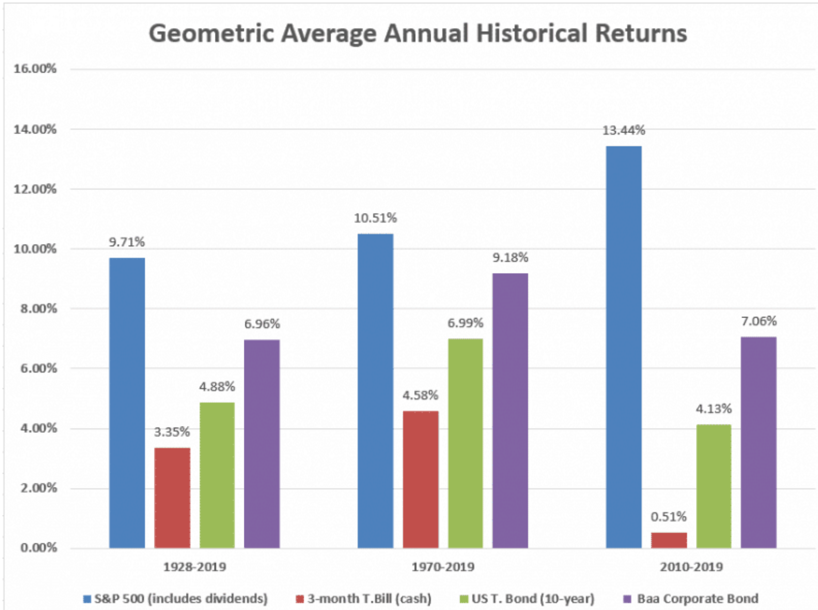
There are many ways to assess risk-premia. For simplicity, we have used an historical approach as it is the most intuitive for investors.

The goal of this missive is for you to have a sense of how risky share prices are relative to other alternatives. The answer to these questions will hopefully help you understand the methods we are currently using to construct the BTTA portfolio with respect to the hedging of factor risks.

***Historical Asset Class Returns provide a useful reference***

In creating this framework, historical returns by asset class are a useful starting point. Provided the data is available, any bond to equity comparisons can be used. It just so happens the historical returns presented below are readily available with ample history.

Figure: Average Annual Historical Returns for Select Assets




*Source: Damodaran*

Summarizing the above chart, we find the following relationships that serve as the basis for our assessment:

| Asset Class | Annual Return | Excess Return vs. Treasury | Excess Return vs. BAA Bond |
|---|---|---|---|
| Stocks | 9.71% | 4.83% | 2.75% |
| BAA Bonds | 6.86% | 2.08% | - |
| 10-year U.S. Treasury | 4.88% | - | - |

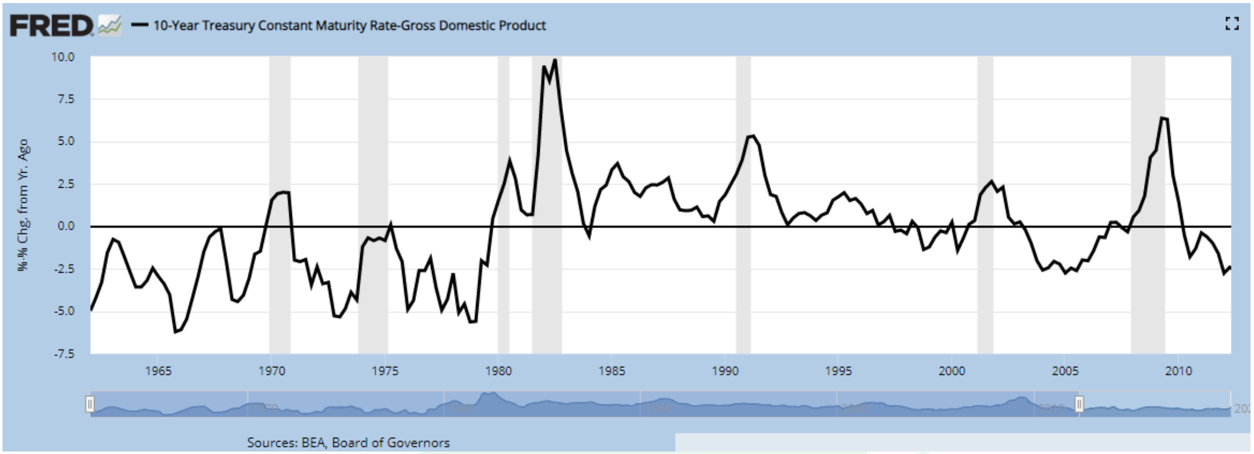
In performing our study, we make the following assumptions:

***1. At any given point of time, estimated long-term market returns can be calculated***

The earnings yield (1/PE) serves as a useful starting point in estimating stock market returns. The Earnings Yield is thought of as the "Real Yield" generated by corporate profits. An earnings yield of 5% (P/E of 20x) infers that investors should expect to receive 5% a year after inflation from holding equity risk. We assume in our analysis that this a guaranteed return.

***2. The 10-year U.S. Treasury Yield (UST) serves as a back of the envelope estimate for GDP growth***

Practitioners often use the yield on the 10-year UST as an estimate for real GDP growth. The below chart produced by the Federal Reserve shows how the difference between the two oscillates around a zero-line over time.




With the UST 10-year currently hovering at .75%, investors should expect after-inflation growth to be just that – likely 1% per year or less. For this analysis, we assume no deviation from the zero line over the next ten years.

***Putting it together:***

Combining earnings yield and growth rates can help us understand potential returns from equities over time.

We use the following equation to estimate per annum returns from equities and then compare that to two alternatives: 1) An absolute return assessment based on historical stock returns and 2) A relative assessment based on a spread to BAA bonds.

**Stock Returns = Earnings Yield + 10 year UST yield**

First, in terms of framing the discussion, it is important to start with the facts:

1) The approximate median one year forward P/E ratio of Bodhi Tree's 1,000 stock comp set of companies with >$2 Billion valuation currently stands at 22.5x. This assessment was made mid-May 2020.
2) The 10-year UST has a yield of approximately 75bp, inferring a very low growth period ahead of us.
3) The approximate after-default loss BAA Yield as of this writing is about 3.73%. BAA bonds have a historical default rate of about 25 basis points per year, so it is necessary to subtract this number from the published current bond yield of ~4%.
4) Earnings Yield (1/22.5) + 10 Year US Treasury (0.75%) = 5.19% per year expected from equities.

Armed with the correct data, the fundamental question investors must ask is whether 5.19% per year in the *average* stock is enough to compensate for the risks associated with equity investing?

***Calculating a Fair Value Estimate for U.S. Equities: 2 cases***

The fair price for equities is a subject of great debate. However, I believe we can make some definitive conclusions utilizing the Bodhi Tree framework:

- With the typical mid and large cap stock offering a return of 5.19% per year, equities are set to return far lower than their historical 9.71% return all else equal.

- To deliver their historical return, equities require an earnings yield of 9.25% - (P/E of about 11.2x). We come up with this figure by subtracting the required return of 9.71% by 0.75% per year to derive a minimum earnings yield: (1/ (9.75%-0.75%) =11.2x.
- To get to an 11.2x P/E would infer a decline for the typical stock in an <u>equal weight</u> large/mid-cap proxy index.

To many, it may seem unreasonable to use such a high rate of required return when Central Banks are almost universally at 0%. I absolutely agree that if the economy were to recover, it is unlikely stocks would de-rate to such a low level of P/E absent a substantial rise in borrowing costs.

With these key points in mind, therefore, an alternative means for analysis would be helpful. Rather than insisting on an absolute return target, in the second analysis, we use a relative framework to compare stock returns versus returns from BAA bonds.

- Currently, equities are expected to return 136 basis points (bp) above the loss-adjusted BAA bond yield, which stands at 3.73%. 136bp is almost definitely an unacceptable risk/reward ratio based on the historically required established risk premium of 275 bp.
- In order to provide a historically commensurate reward versus BAA bonds, a 5.71% earnings yield would be required (or ~17.5x PE). This result is calculated by taking the loss-adjusted BAA yield (3.73%), adding the risk premium of 2.75% and subtracting the implied growth rate of equities of 75bp per annum: (1/ (3.73%+2.75%-0.75%)).
- Therefore, to meet the historical BAA risk premium hurdle, current fair value for the average stock would have to drop from 22.5x P/E to 17.5x P/E. As of mid-May, this infers a level that is 24% below current levels whereby investors would be compensated to take on equity risk versus safer alternatives.

**Some Points to Consider…**

We have established under two different frameworks that from recent multi-week highs achieved in May, U.S. equities are anywhere from 25%-50% overvalued.

The framework to use – absolute vs. relative - is of great debate. This question has been especially pertinent given the Federal Reserve's radical policies, which as of late appear to have obfuscated the fair value of credit and therefore equity. The fundamental question is whether a ~4% BAA gross yield is fair given the current risks to numerous corporates? What would be the yield without Fed intervention? Obviously, the higher that number, the lower would be our fair value for the U.S. equity market.

Some points to consider:

- Fair Value is a guarantee in the long-run but not in the short-run.
- The trajectory of the economy is paramount in understanding the potential trajectories for stocks because a positively trending economy provides a floor for share prices assuming stable interest rates.
- Interest rates are not close to where they should be. In our opinion, no rational actor would lend at the current rates the Fed is willing to purchase assets. Therefore, the trajectory of asset prices is highly correlated to the actions of the Central Bank(s).

While on the one hand the "left-tail" appears to be taken off the table with Fed intervention supporting low corporate borrowing rates, it is difficult to underwrite significant upside in share prices based on growth or valuation. I do not think it is unfair to say that the Coronavirus situation worldwide has put a ceiling on future growth prospects while by all measures, non-responsive equity prices are a bubble.

That said, if the economy does not weaken further, the implication could be for share prices to be range-bound for many years. Think of this as the, "death by a thousand cuts," scenario for passive investors. Breaking down the various scenarios, it is our view that:

I. In the best case, one could expect a solid economic recovery followed by share price appreciation that lags due to valuation. An analogue would be the 2004-2007 period for U.S. shares.
II. In a worse scenario, one could expect a double-dip recession (caused by any number of structural economic and political issues), which would lead to a secondary collapse in share values back to or below BAA yield fair value. An analogue would be the "double-dip" in 2002.
III. In the <u>WORST</u> scenario, we would expect a failure of the Fed's junk bond credit facilities and a move toward true discovery and single digit P/E ratios for shares. The analogue could be 2008 where stocks bottomed at an under 10x forward P/E.

***Conclusions***

What the last few years have taught us is that markets can stay irrational longer than one can stay solvent. All too often investors read various forms of bullish or bearish analysis and translate them in binary fashion: "get out" or "be in" markets. Given our experience with building tactical allocation frameworks in this brave new world, we could not disagree more with this approach.

A simple understanding of overvaluation/undervaluation, along with cycle analytics, can lead us to some very powerful conclusions on how to conduct a hedging policy.

By understanding where one is in the market valuation cycle, an investor can create the appropriate hedging policy. For instance: overvalued markets and stable/positive economic growth may mean only a subset of companies will outperform, thereby benefiting more of a rifle approach with stock selection. Likewise, undervalued markets and positive economic growth would most benefit value investors whereby casting a wide net would be the appropriate strategy.

On the hedging side, understanding the regime can lead to incredibly powerful results. It would be imprudent, for instance, to hedge with cyclical risk at the bottom of the market. Conversely, at the top of the market, such risks should be embraced perhaps even moving down cap-bias as the BTTA Fund did in February and March of 2020.

At Bodhi Tree we have well-defined models that help us understand cycle dynamics, giving us a tremendous edge against more traditional single-strategy focused managers (e.g. "only" L/S equity or "only" Macro).

We do not attempt to be long/short orthogonal risks, rather, it is our objective to achieve two goals with respect to portfolio construction:

1) Create a best-in-class factor-neutral long portfolio that attempts to minimize biases toward market cap, value vs. growth factors, and purposefully avoids technical factors.
2) Hedge with the correct factors based on a risk/reward assessment of cycle dynamics. This can range from cyclical shorts at the top of the market to non-cyclical shorts at the bottom of the market, as well as more nuanced factor expressions.

The goal with everything we do is to first and foremost **protect our collective capital** from negatively skewed environments (like now) while providing a 'call option' on the 'unlimited' upside of a well-managed, moderately concentrated stock portfolio during more asymmetrical investment environments.

Sincerely,

Shalin Madan