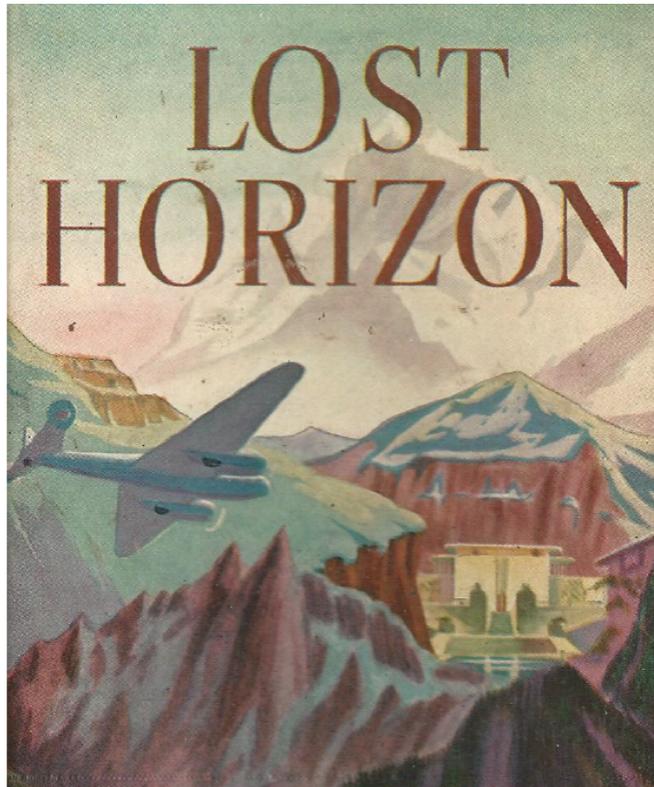


Convexity Maven

A Commentary by Harley Bassman

May 1, 2019

“Lost Horizon”



James Hilton - 1933

Swift with the turn of a phrase, in 1923 John Maynard Keynes highlighted the obvious when he quipped: “In the long run, we are all dead.”

I suppose a pessimist could use such morbid logic to dismiss any effort to advance one’s station in life; on the contrary, being a Type-A optimist, I have prodded my sometimes-drowsy children with “you can rest when you’re dead”.

With respect to finance, one must carefully consider the relevant horizon when evaluating an investment decision. The mortgage money should never be invested in pork bellies, and a Millennial’s retirement fund should hopefully find a more suitable home than two-year Treasury notes.

Recently, I was invited to attend a small gathering to celebrate the 90th birthday of the Nobel Prize winning economist Dr. Harry M. Markowitz. This was a special pleasure since Dr. Markowitz and I both share an engagement with the University of Chicago and UC San Diego.

Dr. Markowitz split the 1990 prize with Merton Miller and William F. Sharpe (of the eponymous Sharpe Ratio) for their pioneering work in financial economics. His significant contribution was the Markowitz Model that likely takes up a few weeks in every first-year MBA's classroom. Sparing the details of how a mean-variance model mashes an asset's expected yield with its standard deviation, let's just simplify and say that he was the first person to mathematically recognize the relationship between risk and return.

Great innovation always seems so obvious after it is created (think of the Post-It Note), thus the concept of considering a matrix of return versus risk now seems almost quaint. And using an asset's daily price volatility is certainly a terrific first cut as a measure of risk – In the land of the blind, the one-eyed man is King.

However, let's not forget that he still has only one eye ! I would not want such a person behind the wheel of my child's school bus, yet we ask many portfolio managers to operate with a similar handicap.

With no disrespect to the OG's of finance, I do not think they meant for their models to be used as a fine-toothed comb for investment modeling. Rather, these were supposed to be macro conceptualization tools for asset allocation.

It is unclear which side of the asset management business first promoted the use of these various risk/return ratios (Sharpe, Information, Sortino), but they have been abused to the detriment of investors. Marketers have suggested to consultants that a high Sharpe Ratio is indicative of a superior investment process. In classic feedback-loop fashion, risk managers soon insisted that portfolio professionals manage their investments to optimize such ratios.

For want of a transparent and an easily available measure, economists identified the daily price volatility of an asset as a gauge for its risk. While daily volatility is certainly a risk attribute, it is unclear it has a lot of correlation to the probability that an asset will produce its expected return at the investment horizon.

In fact, it is conflicted at its core since most investors have a longer horizon than a few weeks. It is an oxymoron that long-liability managers, such as pensions and insurance companies who have investment horizons measured in decades, should be focused upon how much an asset's price wiggles from day to day.

Let's be clear, I am not opposed to the macro notion of allocating assets based upon some sort of risk versus return metric, rather I am pushing back on the reliance of scaling risk based upon short-term price volatility. And while I cannot prove it, I might propose that the use of price volatility metrics may lead to underperformance at the portfolio level.

A real-world heuristic might offer support.

A while ago I was introduced to a liquid-products Alternative Asset manager. The fund would invest in liquid and transparent financial instruments, both listed and OTC (over-the-counter). Here, "Liquid" meant that all of the investments could be closed-out quickly enough to allow for monthly redemptions. "Transparent" meant there was more than one source for a daily closing price.

The suggested target return was 8% with relatively standard fees. Such a "net" return would require gross portfolio income of 11% to 12%. To report a desirable Information Ratio (IR) of at least 0.75 (return divided by risk), the daily volatility should not exceed 15%. Finally, as is common among many Liquid-Alts funds, a 6% drawdown in value would force a risk reduction ("stop-out").

Could a fund succeed within these constraints? A regular option model can estimate the probability of an asset reaching its target (strike) level at expiration. Using similar analytics, a "digital" option model can calculate the odds of touching that target anytime up until expiry. If one plugs in the above conditions, various investments in such a fund will stop-out once every three years; forcing a costly liquidation if the rules are followed assiduously.

[Note: Stop-outs are highly correlated to unemployment.]

Compounding the issue is determining how a 6% drawdown is measured. Simple enough would be an investment manager starting with \$100 and she is stopped-out if the value dips to below \$94. However, most risk management systems employ a "high-water mark" process. So, if she trades well through mid-year and has increased the initial \$100 to \$110, a stop-out might occur at \$104, or down 6% from the highest close.

While this is not irrational as a risk management tool, it does beg the question as to how one determines the highest mark.

Suppose a Macro Investor is long US bonds and short EUR bonds in a balanced fashion. The FED announces a change in policy at 2:15pm NYTime, after Europe has closed. The US position increases in value, but the expected EUR losses are deferred until next day's opening. If the books are closed at 5:00pm NY, this portfolio will mark a huge gain, which of course will be reversed the next day.

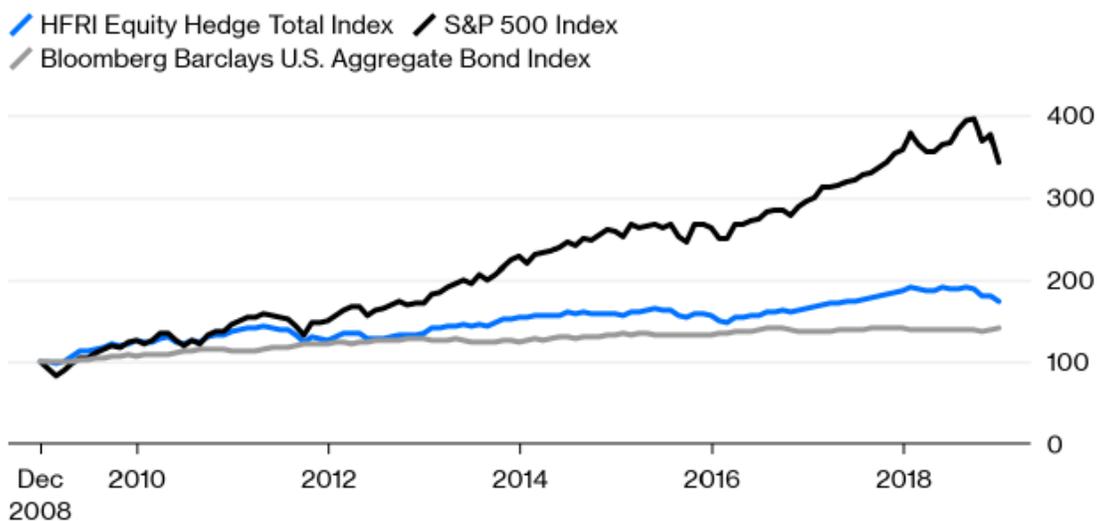
The small problem is that a new high-water mark has been set. If there was a non-economic 2% gain derived from the timing, the manager will now only have a 4% cushion before risking a stop-out.

In the good old days, such a problem might be averted by “hand marking” an EUR position estimate, but such practices are now greatly frowned upon.

Hhhmmmm.....what to do ?

- 1) Taking more risk will increase the probability of a stop-out;
- 2) Taking less risk will reduce stop-outs, but may pressure returns below target;
- 3) Find investments with a high IR and a low volatility and employ leverage.

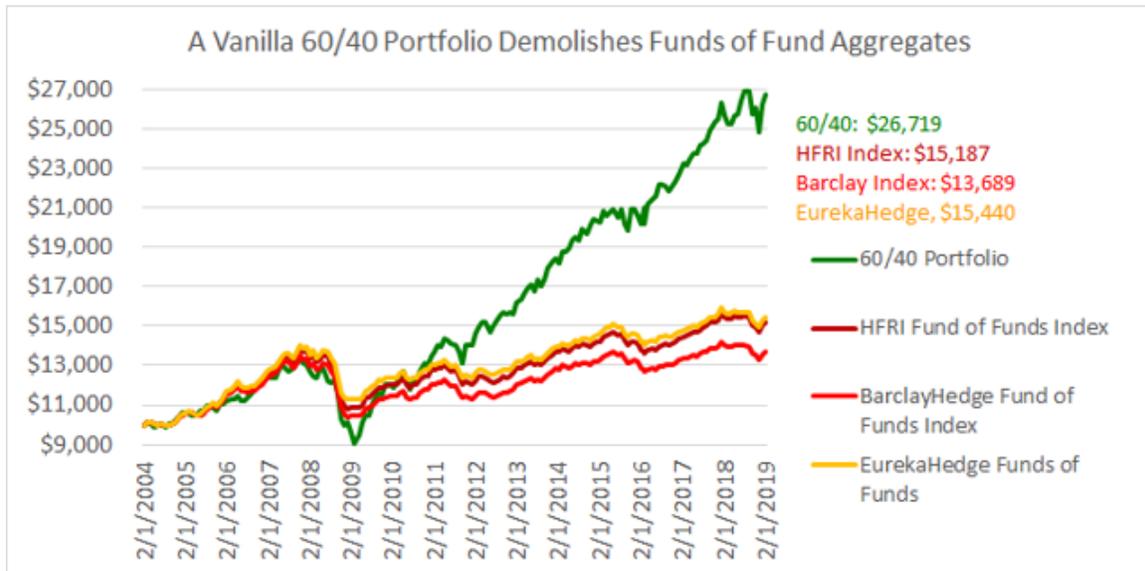
Many investment funds choose the third option as the means to meet their advertised target returns while keeping both risk management and marketing satisfied with a stellar ratio. The rub is that the use of leverage theoretically exposes one to losses greater than invested capital. This is more or less what happened in 1998 when Long-term Capital Management (LTCM) collapsed.



I have a strong suspicion that the Equity Hedge Funds have under-performed the Index (S&P 500) because those managers chose to run a lower-risk portfolio. Without being too cynical, as a business it makes sense to reduce the possibility of an attention grabbing stop-out (that might prompt redemptions) and instead point to unfavorable Fiscal and Monetary policy as the cause for their under-performance. This notion is supported by the fact that since 1994, the S&P 500 has realized a volatility of 14.3% versus a 6.74% realized volatility for the generic Hedge Fund index.

[Note: This is similar to how the Captains of Wall Street blamed the implosion of their firms on “unexpected market turbulence” when preparing for exactly such an event is why they were paid so handsomely, ex ante.]

I offer the chart below as an interregnum for the color-starved. Here a simple -serrano line- 60%/40% portfolio crushes a variety of -habanero line-, -kashmiri line-, and -pequin line- Hedge Fund indices.



Notwithstanding the mismatch between the measured risk horizon and the likely investment horizon, the obvious question is whether daily price volatility is a proper measure of risk. We have already stipulated that risk versus return is a legitimate allocation matrix, but perhaps there is a better risk metric.

One might expect that single day asset price moves can be exaggerated by many factors; and often these daily moves are soon reversed. Since 1985, the monthly realized volatility of the S&P 500 is 8% less than the measured daily volatility. At a minimum, one might want to use a longer measure to mitigate the daily noise.

At this point, I would love to offer a data supported alternative, alas I cannot. However, what I can do is suggest you use a tool often overlooked in financial management: Common Sense

My investment paradigm: ***Sizing is more important than entry level***

Investments in my portfolio need to be big enough to make a difference; yet not so large that a significant impairment could compel me to drive an Uber for food.

Consider the “reasonable worst case” and compare that to the expected return. I will highlight that I said reasonable instead of absolute worst case. Indeed, the S&P 500 could decline by 80%, but that sort event correlates with the need to own cans of tuna and a gun. You are reading the wrong investment primer if you are unwilling to take on a smidgen of risk.

Ultimately, what I am suggesting is that you increase your exposure to assets that exhibit greater price volatility but less fundamental economic volatility. In plain English, solid but less liquid assets. These investment orphans are mispriced because they are shunned by the Ratio driven portfolio managers. A perfect example is the SX5E dividend futures investment, detailed in my ["2017 – Holiday Stocking Stuffers"](#)– December 2, 2016.

One should note that Private Equity has been the solo success this past decade in the Alternatives space; precisely because they are executing a similar strategy. They ask for (1) long-horizon capital with (2) no mark-to-market constraints. They only invest in projects that can (3) produce significant returns, and they diversify enough so (4) a few failures will not sink the overall fund.

It is strange that investors pay a fee to NOT see how the sausage is made.

A few thoughts on Modern Monetary Theory (MMT)

MMT has been plastered across the financial press; but for those of you living in a cave, MMT postulates that a Government can borrow so long as there is spare capacity in the economy. In a nutshell, deficits do not matter until the debt capacity is reached, which will be signaled by rising inflation.

For the record, I do not believe that MMT is viable over the long-term; although as stated prior, it is unlikely my personal horizon will overlap its eventual denouement. While debt can be additive to a functioning Government, I tend not to trust politicians to turn off the money spigot when inflation finally arrives. I defer to Reinhart and Rogoff for advising on debt efficiency.

There are quite a few respected Wall Street names that support the concept of MMT, and they are not wholly incorrect. When the US Government can borrow for thirty years at a 2%-handle, a lot of infrastructure projects are appealing. However, pointing to Japan is Three-card Monte economics. Japan is an aging demographic, with a negative birth rate that borrows in its own currency mostly from domestic net savings.

While the U.S. can also borrow in the currency we print, almost 40% of our debt is owed externally. Moreover, we have a positive birthrate and a Millennial cohort that will soon be entering their peak consumption years.

Nonetheless, be prepared for MMT to be implemented since it balms so many short-term problems. While it may take the election of a progressive Democrat for MMT to become policy in 2020, I can assure you both parties will support MMT by 2029 when the entire Baby Boom generation finally reaches age 65 and demands their Social Security and Medicare benefits. There is no viable Plan B to fund these popular entitlements.

In a nutshell, MMT supporters know that the benefits from a powerful implementation will accrue early, and that the costs will be realized at a distant horizon. MMT rips away all pretense responsible Government; Party on, Garth.

Over the course of 5,000 years of recorded history, I do not recall a society that printed its currency at a rate faster than the productive power of its economy and not encounter a rapturous inflation which soon ended in tears.

Maybe it will be different this time.....not likely.

Closing comments:

One cannot buy a hamburger with "risk", only with "return". As such, this focus on "risk-adjusted return" is somewhat bothersome. The universe of hedge funds may have produced a terrific risk-adjusted return, but those returns have been relatively meager. Unless you employed leverage, you were unlikely to reap a return sufficient to cover the cost of your liabilities.

True story: As detailed in [*"A Delicious Gift from QE2"*](#) – December 6, 2010, we devised a retail Structured Note based upon the S&P 500 that would pay-off eight-to-one on the upside and one-to-one on the downside. Final maturity was ten years, capped at a 220% total return. Priced with the SPX at 1125, it would reap a ten-year 12.3% compound return if it reached its limit (at 1435). For comparison, a similar 12.3% return would elevate the SPX to almost 3600.

I contacted 40 senior Merrill Lynch trading MD's; all replied it was "too illiquid". I noted they would always have some exposure to Equities, why not allocate 20% of that portion of their portfolio - Crickets.

Unless the SPX closes below 1435 in nineteen months, every \$1,000 invested will mature worth \$3,200 for the four investors who joined me.

Your comments are always welcome at: harley@bassman.net
If you would like to be added to my distribution, just ping me.

Harley S. Bassman
May 1, 2019

For reference literature on the financial markets - particularly about options and derivatives - I will immodestly direct you to my educational archive at:

<http://www.convexitymaven.com/themavensclassroom.html>

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