Convexity Maven

A Commentary by Harley Bassman

January 28, 2020

"Pigs Can Fly..."

The full quotation is: *"Pigs can fly if shot out of a large enough cannon, but they eventually return to Earth as bacon."*

Thus, I will summarize my thoughts on Quantitative Easing (QE2 to QE~), and the inventible engagement of Modern Monetary Theory (MMT): Yikes !!

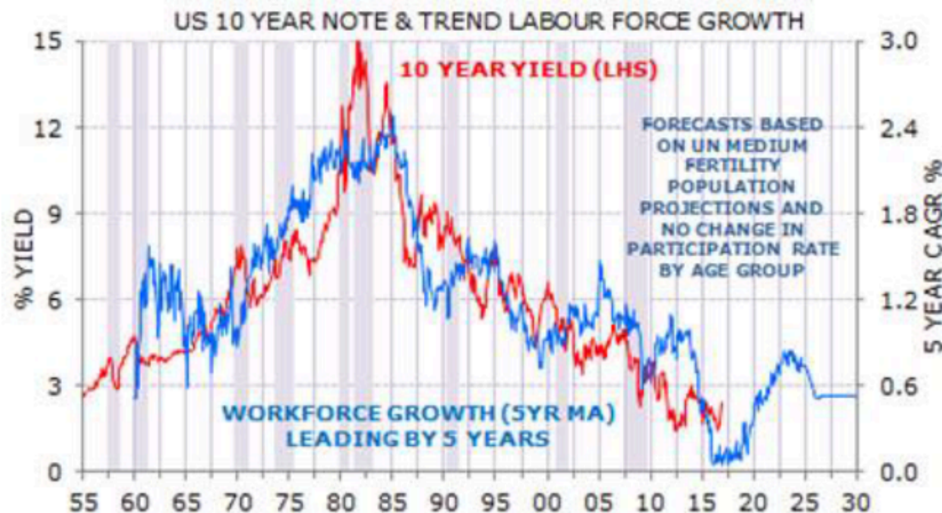
<u>QE1 was a legitimate and necessary policy</u>. For better or worse we live in a financially based economy where leverage (borrowing) is at its core. As such, when the monetary plumbing became clogged, the financial Plumber in Chief (the Federal Reserve ~ FED) had to plunge the system.

Subsequently, the FED and the Federal Government should have followed its 1989 playbook from the Savings and Loan financial crisis. Irreconcilably bad institutions should have been closed, and the senior villains should have been prosecuted. Even if convictions could not be assured, <u>public trials should have occurred as both good policy and politics</u>. Monetary settlements from highly compensated CEOs only evidenced that they could game the system twice.

Recall that Al Capone was ultimately convicted for tax evasion, not bootlegging, bribery and murder. So too do Wall Street managers fear the SEC's catch-all crime of "failure to supervise". This statute is so broad that a first-year legal associate could convict a ham sandwich; and you wonder why our politics have become so acrimonious ?

But enough bloviating, let's return to the matter at hand. I will stipulate that a fiat currency cannot be created at a faster rate than the growth of the economy without inflation. Over 5000 years of collective civilization, we have no record of the Sovereign printing the coin of the realm at such a pace without the currency becoming devalued. If such were the case, surely there would be legends of how poverty was eliminated with the wave of the hand.

It has been my stated opinion that the US Treasury ten-year rate will not exceed 3.50% until at least 2023. It is here that the -baltic line- Labor Force Growth Rate rises significantly and should begin to pull up the -carnelian line- of interest rates.



Source: Gerard Minack, Minack Advisors

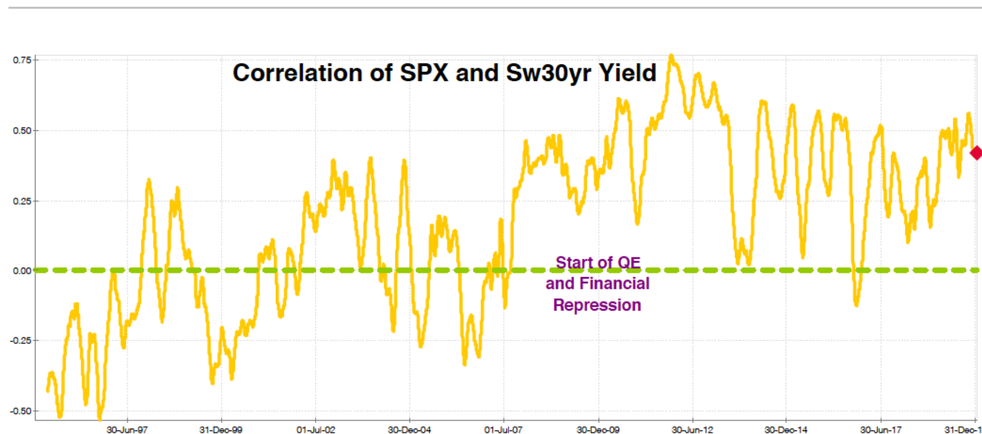
While this is not news to frequent readers, what should be highlighted is that the year 2020 marks the mid-point of when the Baby Boomers reach the age of 65. As such, the speed of their exit from the work force diminishes relative to the increase of Millennials finally leaving Mom's basement to find a job.

The point here is that this baked-in-the-cake demographic inflection point is no longer in the distant future, but rather within the reasonable investment horizon.

And indeed, one should be quite fearful of owning financial assets come the day interest rates rise above ~4.00%; but don't fret yet, there is time to prepare.

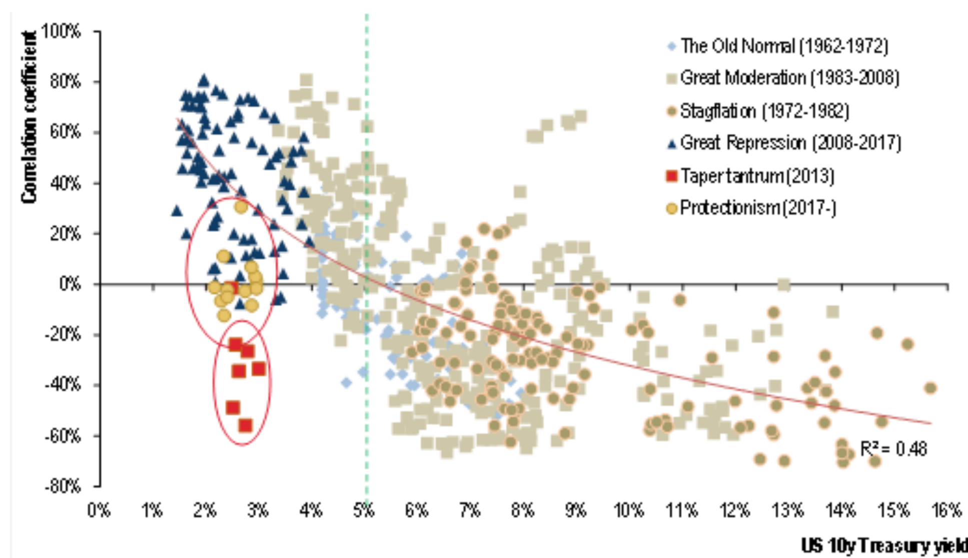
Since the start of the Great Financial Crisis (GFC), stocks and bonds have moved in opposite directions; when stocks trade down, bond prices rise (to a lower interest rate), effectively offering hedge value for a diversified portfolio.

The –buttercup line- correlation has been a boon for quantitative investment managers, especially those who employ leverage via a 'risk parity' strategy. Here, one might use $100 of capital to buy $130 of bonds and $70 of stocks. Such a portfolio has delivered superior returns with a lower volatility; truly an Investment Nirvana.



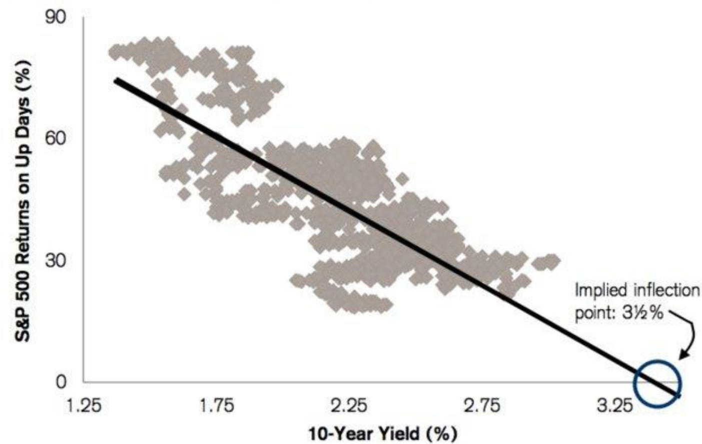
Source for all charts unless otherwise noted: Credit Suisse LOCUS

Significant research has been done to isolate the key drivers of this correlation, and they mostly identify interest rates as the independent variable, with an inflection point between a UST ten-year of 3.50% and 4.50%. [Note: the level of inflation is also important.] In support of this notion, notice the Q-4 2018 Equity market pullback kicked off when the T10yr kissed 3.25%.



Source – Bank of America / Merrill Lynch

The -rainbow- chart above supports the higher level, while the -pewter- chart below points to the lower level.

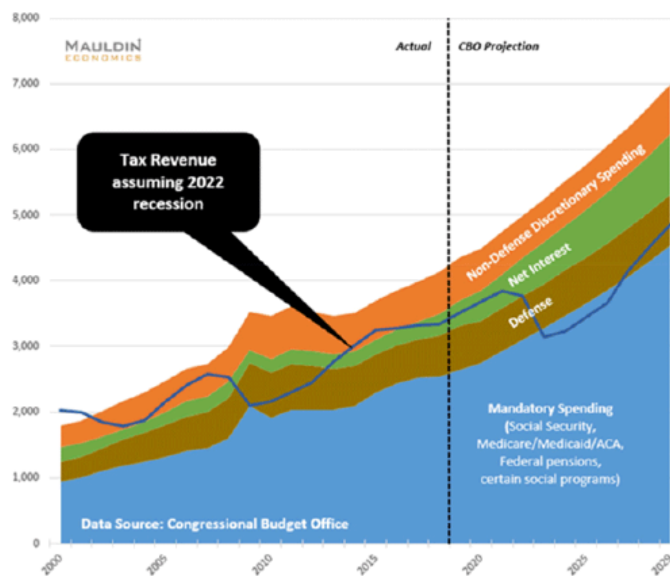


Source – Credit Suisse

It is my opinion <u>this correlation will reverse as the ten-year rate nears 4.00%</u>, which includes a 2.50% level of inflation.

To be clear, I am not saying there will be a financial Chernobyl at this rate, but rather that the leverage in the asset markets will slowly start to unwind, and both stocks and bonds will deflate in unison.

I still believe demographics will cap rates at 3.50% rate until at least 2023; but the likelihood of an expansive fiscal policy could challenge that level soon after.



Source – Mauldin Economics, August 17, 2019

The -gobelin area- highlights another consequence of our aging demographic.

While there has been some growth in -Defense-, -Interest-, and -Discretionary- spending, it is the -Mandatory- spending (driven by the aging Baby Boomers) that accounts for most of the budgetary expansion.

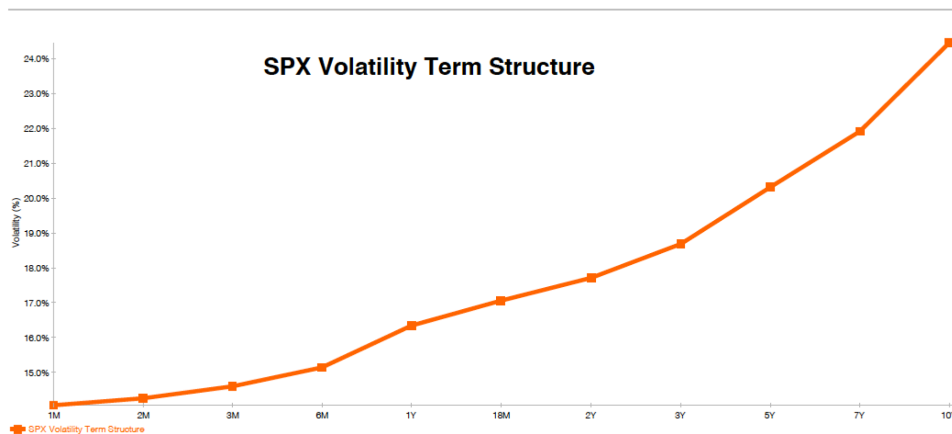
A worrisome accelerant is that both political parties seem supportive of some form of Modern Monetary Theory (MMT), over and above projected baseline spending. The Republicans will clothe it as Infrastructure spending, while the Democrats will not mince words when they roll out Universal Basic Income (UBI).

Finally, let's remember that the entire Baby Boom generation (1946 to 1964) will be over the age of 65 by 2029.

So, while I cannot pinpoint when the final denouement will occur such that long-term interest rates rise above 3.50%, we can likely bracket the date to be somewhere between 2023 and 2029.

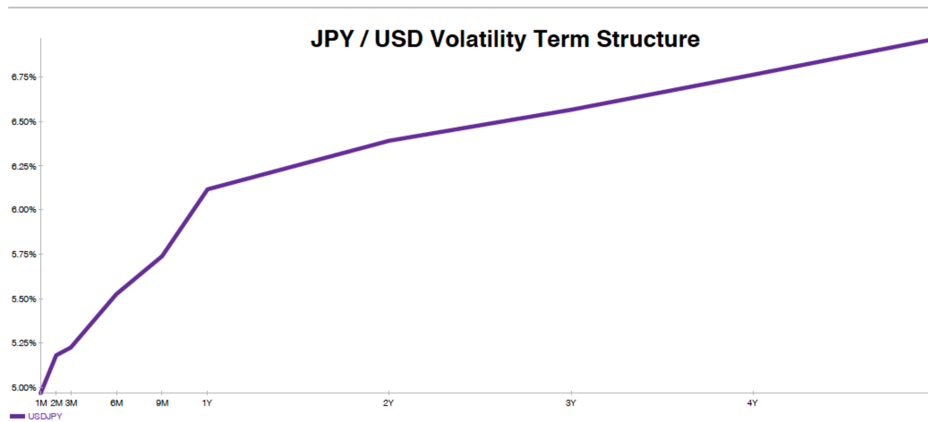
Preview to a Trade:

I know what's for dinner tomorrow night, but a year from now is a different story. The same is true for economic expectations, whether it's Government statistics, Corporate earnings, or Foreign Central Bank policies. Since uncertainty (risk) is greater as the date grows more distant, so too should the cost of risk (Implied Volatility) also rises as the expiration date of an option becomes longer.

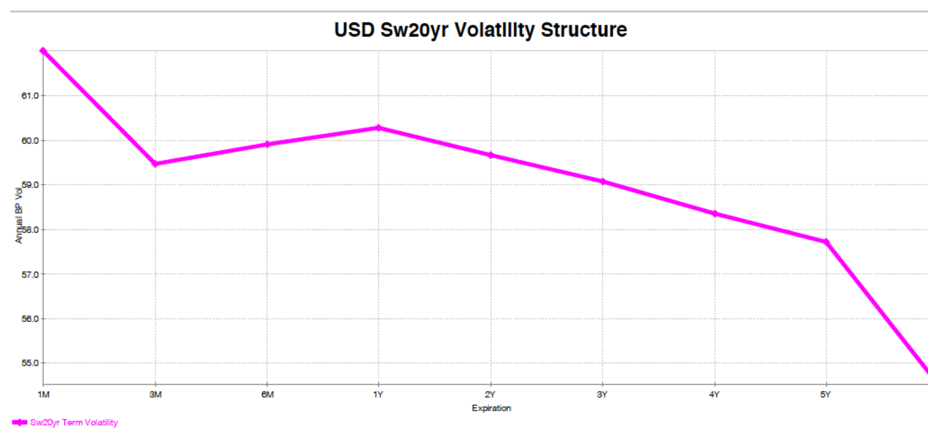


The -butterscotch line- is the Implied Volatility term surface (one-month to ten-year expiry) for options on the S&P 500. It rises with the expiration date for many reasons, but primarily because of the uncertainty associated with time.

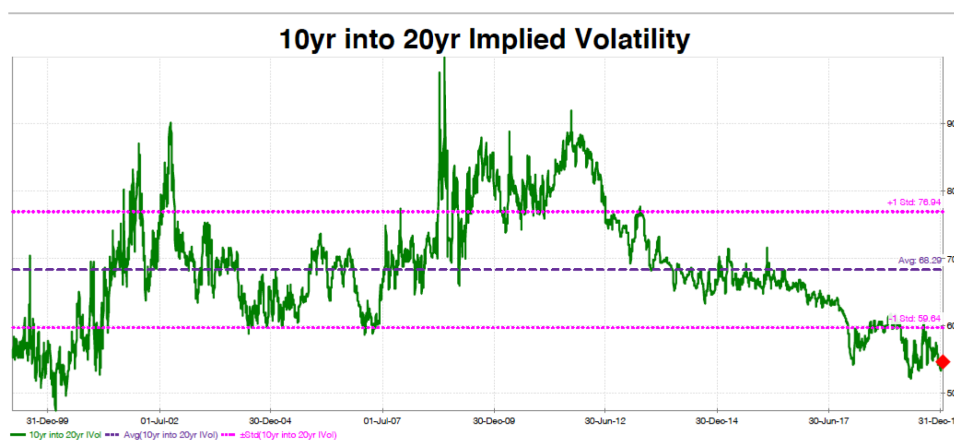
Similarly, the -mulberry line- is the term surface for options on Japan's Yen.



Strangely, the -hibiscus line- term surface for options on Interest Rates is inverted. This situation is not new, as it is related to callable bond issuance.



While the inverted shape of the interest rate term surface is common, what is unique is its level. Presently, the –CBD line- ten-year option on the twenty-year interest rate is near its forever low, 1.5 standard deviations below its average.



Of course, the most egregiously mis-priced risk vector is not the level or shape of Implied Volatility, nor Credit spreads, nor the Equity P/E ratios, all of which have visited these levels prior. Rather it is the level of long-dated interest rates, which are near forever lows. More eye-popping is that the risk premium for forward rates is also compressed. Presently the -palisandre line- Sw20yr rate ten years Forward at 2.00% is only 13bps above its Spot level. This is a function of a flat Yield Curve, which tends to happen when rates are near a local high, not a secular low.

The Trade:

Buy a ten-year payer (put) option on the 20yr rate, K = 4.00%, @ 200bps Assuming the Sw20yr Spot rate of 1.87% (and Forward rate of 2.00%).
Note: *This trade is functionally similar to buying a 10yr option on a 30yr bond.*

The cost to hedge $1mm of rate sensitive assets for a decade is $20,000.

1) This option does not expire until 2030, it captures the entire demographic wave and its associated debt explosion;
2) The strike price is perfectly located at the 4.00% inflection point;
3) At 57nv, Implied Volatility is unlikely to decline much further as an option arbitrageur can profit here with only a 2.8bp daily rate movement;
4) The structure is convex to Volatility, i.e., the option prices rises by more than it declines for equal changes in Implied Volatility;
5) If Volatility rose by 20% to its 2015 to 2016 level (still below its average), the option price would rise by 68%.

<u>This trade is a coiled spring to most risk vectors</u>. The Yield Curve will surely steepen if Interest Rates rise, and thus the Forward rate will rise faster (the 13bp spread will increase). And as detailed in *"A Guide for the Perplexed"* – November 15, 2018, a steeper Yield Curve will increase Implied Volatility.

This trade is NOT a fancy relative value arbitrage ticket, nor is there anticipation of an immediate profit; rather, this option is purchased in the same manner that one buys Gold, a macro hedge against a nasty left tail.

Demographics should have pressured G-7 rates somewhat lower, but the current rate profile is simply the consequence of a misguided Central Bank policy committed in the fog of a currency war. As such, Central Bankers will need more than a finger in the dyke to hold back the approaching flood of Fiscal money.

Can helicopter money be dropped without inflation, perhaps for a spell; but I know how this is supposed to end, or at least that's what I learned at UChicago.

If indeed pigs can fly forever, fine, I burned 20bp a year to find out. But this is a minimal cost to protect a rate sensitive portfolio of long-dated Muni's, Mortgage REIT's, MLP's and leverage CEF's that have a static cashflow yield north of 8.0%.

Harley S. Bassman
January 28, 2020

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

The professional trade outlined here requires an ISDA. If you are qualified and interested, my coverage team at JPM is terrific as it includes some of my institutional colleagues from my time at Merrill Lynch (RIP).

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

If you still have kids in the house, please take a vacation that is more interesting than the Four Seasons, Costa Rica – life is not a dress rehearsal. Turn off the Crackberry (did I just date myself ?) and explore with the family. You don't need to break the bank, rent an RV and see the U.S. We traveled with our four kids on five incredible RV trips.

http://bassman.net

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