The Convexity Maven

A Commentary by Harley Bassman

July 7, 2021

"Blind Faith"

A mid-year update

Many old school Wall Street expressions are now NSFW, but one of my favorites (that has yet to be cancelled) is still relevant: **"Hope is not a strategy"**.

This is especially poignant for a University of Chicago trained value investor who must now admit that Blind Faith in the Federal Reserve (FED) has been the most successful investment strategy over the past decade.

With this in mind, perhaps now is a good time for a review and update.

S&P 500 Call vs Put combination (listed on NASDAQ)

As much as I would like to claim my success on Wall Street was on personal merit, the cold truth is that I've made a career of being 'better lucky than smart'. This has been proven once again if you mark the start date from the December 15, 2020, publication of my Commentary - *"A Model Portfolio – 2021"*.

With the S&P 500 (SPX) near its all-time high, I suggested:

The Trade - with SPY = 365.00
Buy call option; Strike = 410 (12.3% out-of-the-money) @ $19.00 (Vol = 18.5%)
Sell put option; Strike = 275 (24.7% out-of-the-money) @ $19.00 (Vol = 26.5%)
Expiry = January 20, 2023

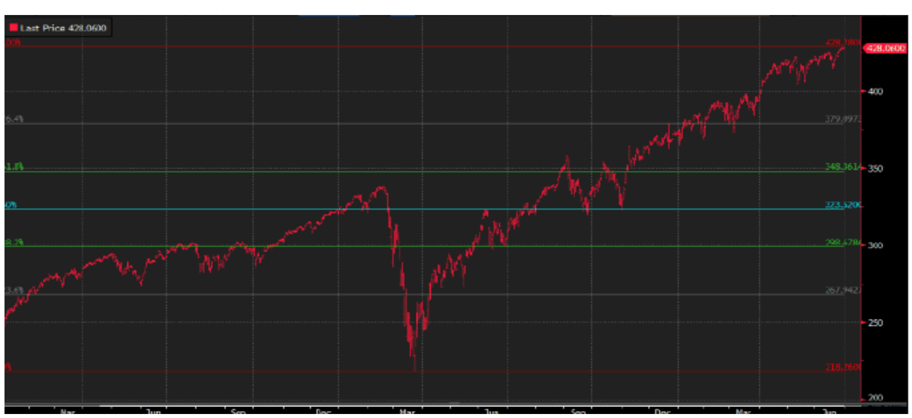
Six months later, after a 17.3% rally to 428, this costless package is now worth about 37 points. Since the trade was executed as a "costless" package, the return on investment is theoretically infinite; a 'fairer' consideration would be to mark the gain relative to a "funded" 275 put strike; thus, offering a 13.5% return, plus any gains on the collateral used to support this position.

I might suggest taking some chips off the table by cashing in this package, and resetting the position as:

With the SPY = 428.00
Buy call option; Strike = 470 (9.8% out-of-the-money) @ $15.30 (Vol = 15.8%)
Sell put option; Strike = 340 (20.6% out-of-the-money) @ $15.30 (Vol = 22.1%)
Expiry = December 16, 2022

This ticket is clearly not as easy with the downside put strike raised to 340, but that level is close to the pre-pandemic high set on February 19, 2020. Moreover, it is just beneath the -cymbidium line- Fibonacci retracement at 348.36.

Also, I am shortening the expiry date to a time prior to the first FED rate hike.



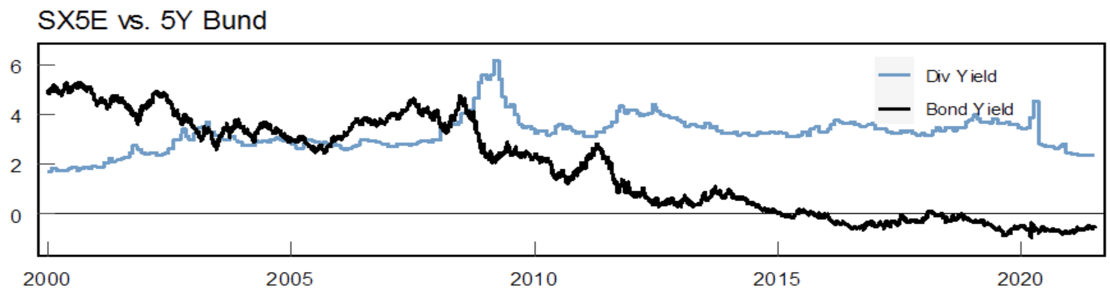
SX5E Call options (listed on Eurex)

The Dow 50 of Europe, the SX5E, advanced nearly tick for tick with the SPX as it improved by over 17% from about 3500 to 4100. I had suggested:

The Trade: Buy SX5E call; strike = 3500; expiry = December 2024 @ 325 pts. One was buying a four year expiry at-the-money option for 9.3% of the strike.

With the SX5E near 4100, this option will trade near 640 points, up 97%.

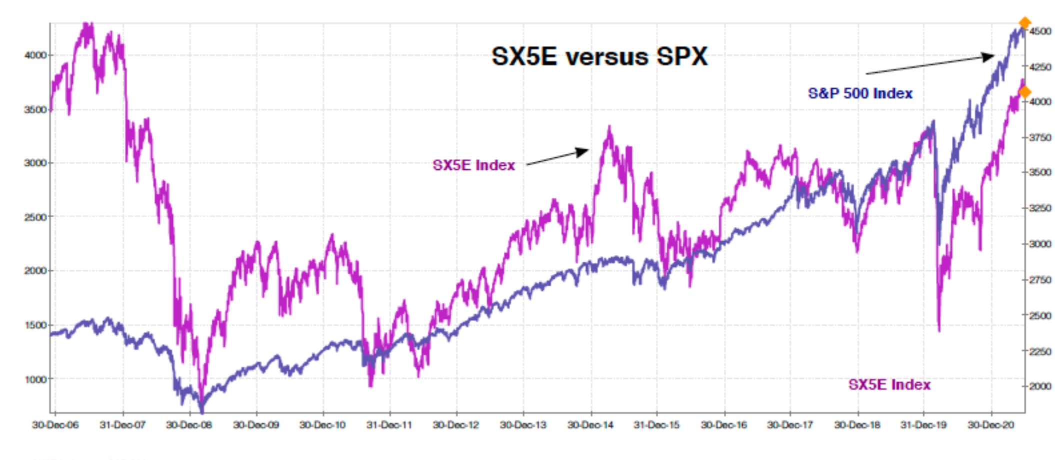
The value proposition here is to use long-dated options to lock in a **-crow line-** negative interest rate (borrowing cost) that continuously compounds for four years. Relative to the much higher -delphinium line- dividend yield, the modeled option price is significantly reduced.



Source: J.P. Morgan

I think the -allium line- SX5E, still below its 2006 all-time-high, is relatively cheap versus the -agapanthus line- SPX; as such, I am inclined to add to my position:

Buy SX5E call; strike = 4100; expiry = December 2024 @ 345 pts; IVol = 17.3%
One is buying a 3½ year at-the-money strike option for 8.4% of the strike.



Unless otherwise noted, source for all charts and data is Bloomberg or Credit Suisse LOCUS

Mortgage Real Estate Investment Trusts (mREIT)

As a reminder, a Mortgage REIT is different from the more common Equity REIT. mREITs do not own real estate assets (hotels, shopping centers, apartments), but rather mortgages supported by residential and commercial property.

A portfolio of mREITs was my most confident suggestion last year. A significant discount to Book Value combined with a 'promise' from the FED to keep borrowing costs low until 2023 was a strong wind into my sails.

I generally refrain from naming specific stocks, and now that I am gainfully employed by an asset manager, I am doubly cautious. That said, the portfolio described at the time should not have been a mystery.

15-Dec-20

Security	Price	Book Value	Disc to BV	Distribution	Yield
"A"	$15.32	$16.84	-9.03%	$1.44	9.40%
"B"	$17.25	$19.95	-13.53%	$1.60	9.28%
"C"	$9.31	$10.86	-14.27%	$0.60	6.44%
"D"	$11.60	$14.86	-21.94%	$1.20	10.34%
"E"	$9.96	$16.93	-41.17%	$0.80	8.03%

A $100,000 portfolio composed of $20,000 invested into each security would now be worth $126,200. If one includes the dividends of ~$4,400, that would produce a total return of over 30%, nearly double the SPX.

30-Jun-21

Security	Price	Book Value	Disc to BV	Distribution	Yield
"A"	$16.89	$17.81	-5.17%	$1.44	8.53%
"B"	$21.06	$20.90	0.77%	$1.88	8.93%
"C"	$10.59	$11.35	-6.70%	$0.80	7.55%
"D"	$15.87	$14.90	6.51%	$1.68	10.59%
"E"	$14.75	$17.22	-14.34%	$1.00	6.78%

What is especially noteworthy is that even after a 26% rally, the dividend yield has only declined from 8.70% to 8.47%. This is because four of the five line items have increased their distributions.

OK…. enough back slapping, that was then, and this is now; what do I think about going forward…

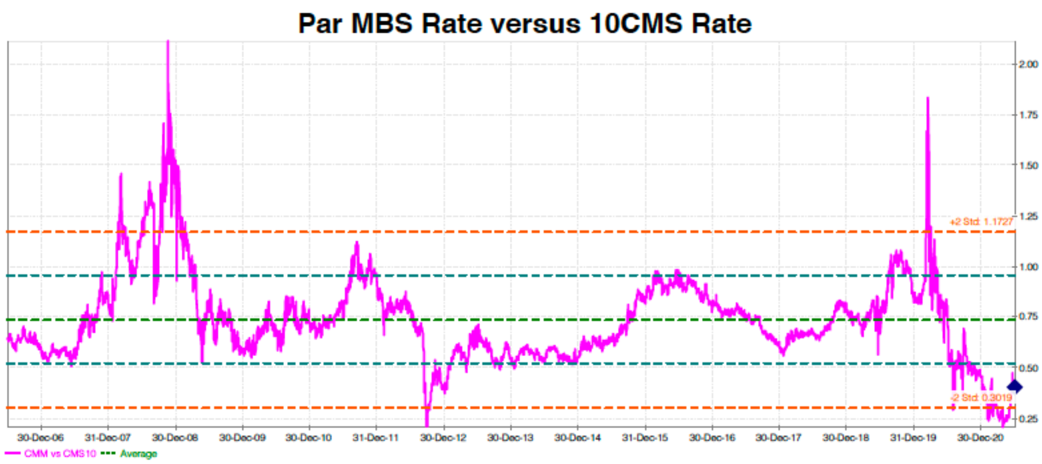
There are a variety of mREITs available, and as a first cut you should click on the CEF Advisors website: *https://cefdata.com/cefaindex/*

While they will not offer suggestions, it is the best place to find the basic statistics if you do not want to pay a King's ransom for a Bloomberg subscription.

At 30,000 feet, there are two types of residential Mortgage REITs. The first is similar to Security "A", where they buy Government Agency Mortgage-backed Securities (Fannie, Freddie, and Ginnie) to eliminate any asset credit risk. They then employ leverage of perhaps 7 to 1, and use derivatives (futures, swaps, and options) to hedge out the various risk factors (Duration, Convexity and Vega).

The distribution is safe for the next few years, but the book value will take a quick 10% hit as soon as the FED "tapers" its Quantitative Easing (QE) MBS purchase program of $40bn per month.

The -zinnia line- below is the spread between the MBS rate and the 10yr Swap rate (similar to the 10yr Treasury rate). Presently near 40bp, it is quite distant from its "forever average" of about 72bp. <u>This risk is not hedged</u> in this type of mREIT. While a spread expansion will not hurt the distribution, it will knock down the book value; as such, one should not buy them without some cushion.



The other type of residential REIT uses Mortgage Servicing Rights (MSR) to hedge out some of the various risk vectors, including the spread risk described above. In theory this is a less risky venture, but the problem is that modeling MSR is more art than science, and thus I chose Securities "B" and "C" because their managers are well versed in the 'sausage-making' of mortgage bonds.

In the same "zip code" as mREITs are some of the Business Development Companies (BDC). Perhaps one could call them active Closed-end Funds (CEF) where they make top of the capital structure loans secured by various assets.

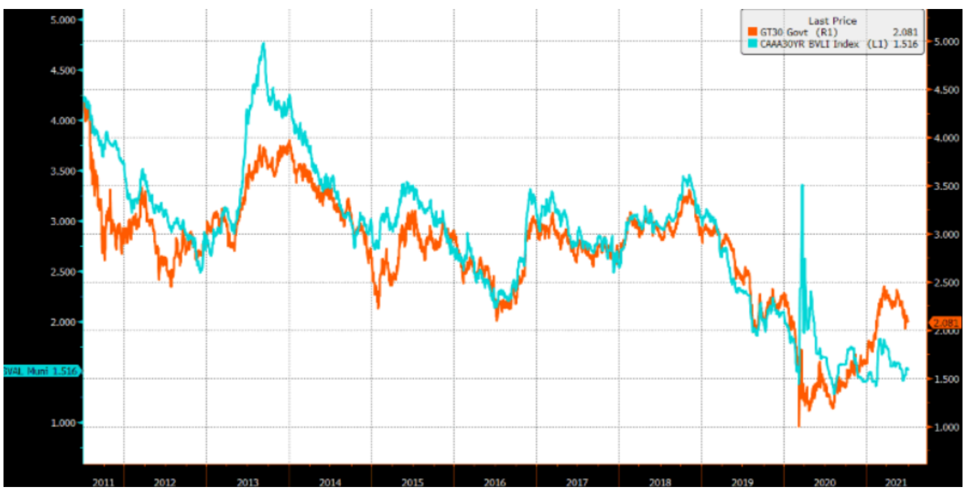
Security "D" falls into this category; and here too one should consider the skill set of the managers. I love this one because the top dogs here built the original ABS business at Merrill Lynch when we were all still pups. I hold a few of these BDCs, but I am cautious since most trade above Book Value. As a soft hedge, I have been selling covered calls struck above Book Value.

Mortgage REITs that fund commercial mortgages (CMBS) are the most challenging in the current environment. People will do anything to avoid a foreclosure on their personal home (residential) but will not think twice about mailing in the keys for an office building (commercial).

Security "E" was interesting late last year as it was trading at 59% of book value, even after two quarters of impairment charges. While not an investment suitable for widows and orphans, their top of the capital structure loans were mostly current, despite the pandemic.

Municipal Bond Closed-end Funds (CEFs)

The expression "follow the money" was popularized during Watergate, and clearly it is still relevant today. Despite significant support for the notion that Joe Biden did not "win" the election, the explosive richening of -salvia line- Municipal Bonds relative to -ranunculus line- US Treasuries offers certitude taxes will rise.



I dedicated an entire Commentary (*"State of Mind"* - March 19, 2020) to detail how Muni Bonds were simply the "wrong price". At the time, long-dated Muni's traded 60bp <u>over</u> UST 30yrs; presently Muni's yield 57bp <u>less</u> than Treasuries.

Perhaps on a tax-adjusted basis (<u>assuming higher tax rates</u>), these bonds are now fair; but that assumes one thinks 2.00% on a 30yr UST is "fair". (I don't !)

What are still interesting are Muni Closed-end Funds (CEFs). Well-diversified CEFs focused on CA and NY sport yields over 4.0%, and still trade below NAV. The "magic" here is: 1) smaller issues; 2) higher coupons; 3) longer maturities; 4) callable bonds; 5) enhanced by 35% leverage via FED depressed short-term rates. I have offset some of these risks by pairing with an **Interest Rate Hedge Strategy,** which I know you are anxiously waiting for an update.

MLPs and AMLP options

I suggested a clever option strategy in *"Fail Better"* – October 22, 2019 (clearly well-titled), which I updated in *"Holiday Stocking Stuffers"* – December 3, 2019.

Adjusting for a five-to-one reverse split (never a good sign), I offered that with the unlevered AMLP (MLP ETF) at $43.70 one could:

Buy the January 21, 2022, expiry call; strike = $45
Sell the January 21, 2022, expiry put; strike = $35
Net **credit** $1.25

I always suggest that "sizing is more important the entry level", and here this was proven in spades. That said, even I was tested when -oleum line- AMLP had a low print of $12.05, before closing at $14.10, on March 18, 2020; down 68%.

As noted in my follow up, it is still unclear to me whether Oil & Gas Master Limited Partnerships (MLPs) are functionally a Ponzi scheme that rely upon rising oil prices, or a mismatch in capital sourcing since Institutions can't (or won't) buy a (K-1) partnership structure.

No matter, investors starved for yield by the FED closed their eyes this year and bought. AMLP closed the quarter at $36.41, after nearly kissing $39.00, to yield a bit over the 7.00% target level I set nearly two years ago.

In for penny, in for a pound…my plan is to ride this trade to the bloody end as rising oil prices and FED suppressed interest rates should offer support.

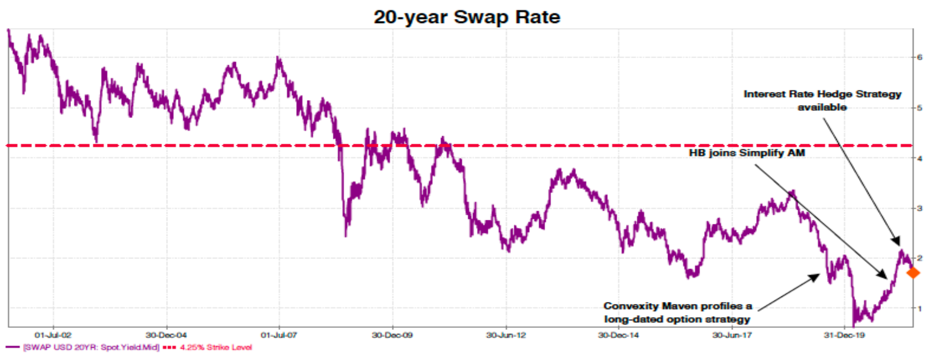
On another rally I might sell the $45 calls that are presently bid at 25 cents. The hope (which is not a strategy) is that the $35 puts expire worthless, and I pocket the $1.25 credit; and in the alternative, I will roll forward to the $30 strike puts that expire in January 2023.

I will confess I was too cute by half; if I had simply bought the best-in-class MLP at $27.50, I could have collected a tax-advantaged $3.12 in distributions and have only a fractional loss versus its current price of $24.13 (to yield 7.46%).

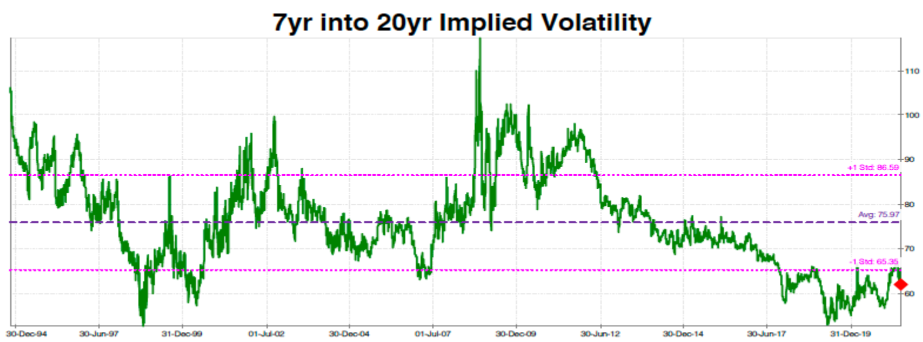
An Interest Rate Hedge Strategy

Let me start by saying that if you liked it at $50, you must love it at $42 !!

It is just plain bad luck that this Strategy became available the day before the huge May CPI print that drove -catmint line- interest rates to a local peak.



Adding salt to the wound was the concurrent pop in -dianthus line- Implied Volatility, which has since also reversed with the FED's calming words.



The Strategy has not changed: $25 - 5yr UST, and a May 2028 expiry option on $800 of a 20yr Swap struck at 4.25%. Presently the UST is worth about $25.04 and the option $16.96. **The Strategy can still not be worth less than $25.**

Let me make two points clearly:
First, this Interest Rate Hedge Strategy is a long-term Macro-economic insurance policy; and unless you have used this Strategy for speculation, it has worked.

Assume a $1mm portfolio invested 60%/40% into SPY and 10yr USTs. Since May 12th, a $600k position in SPY is up 5.68%, or $34,080 and a $400k position in the T10yr is up 2.05%, or $8,255, for a total gain of $42,335.

I suggested an initial $50,000 allocation for a $1mm portfolio, so that $42,335 gain has been reduced by only $8,000.

Second, and perhaps more important, the 16% decline in value of this Strategy coincident with rates declining is **a feature, not a bug**.

The most important quality of this Strategy is that it offers "direct drive" and Convex performance to interest rates that can be modeled and estimated.

With an initial $50 investment on May 12th, this Strategy would change in value by 17 cents for each basis point move; and presently, because of its positive Convexity, it moves by about 13 cents (on a $42 value). Moreover, each one-point change in Implied Volatility (IVol) changes the value by about 80 cents.

Rates are now about 35bp lower, and IVols have declined by 4 points. Pencil to paper, the modeled reduction in value is $5.25 for rates (using the 15 cent per bp average) and $3.20 for IVol; this is within spitting distance of its trading price.

The table below is an updated **MODELED** profile of how such a strategy could perform, contingent upon a few important assumptions (*), as rates vary. **This is not a prediction**, but rather a modeled pricing projection using it current $42 price compared to the CME listed "US" futures contract.

The -aero line- is an "instant" snapshot as rates vary and Implied Volatility is held constant
The -ajax line- is the value of an unlevered short position in the CME 20yr futures contract
The -yahoo line- is the Strategy, two years hence, with rising Implied Volatility
The -anemone line- is a three times levered CME future, two years hence

	-50bp	Unchanged	+50bp	+100bp	+150bp	+200bp	+250bp	+300bp
20yr Swap Rate	1.20%	1.70%	2.20%	2.70%	3.20%	3.70%	4.20%	4.70%
Stretegy Value Today	$36.56	$42.00	$49.50	$59.19	$71.02	$84.71	$99.82	$115.72
1x listed Future Value	$39.40	$42.00	$44.42	$46.67	$48.76	$50.71	$52.52	$54.22
Px Difference	-$2.84	$0.00	$5.08	$12.52	$22.26	$34.00	$47.30	$61.50
Two year hence Strategy Value	$32.43	$36.66	$43.31	$54.86	$69.56	$87.29	$106.56	$127.54
3x Listed Future two years hence	$29.82	$37.63	$44.88	$51.63	$57.91	$63.76	$69.20	$74.28
Px Difference	$2.61	-$0.97	-$1.57	$3.23	$11.65	$23.53	$37.36	$53.26

It is unlikely I have concealed my frustration that this Strategy was initially offered at a local peak in Interest Rates and Implied Volatility. But truth be told, it has worked exactly as intended; and moreover, a diversified portfolio has done quite well over the past six weeks.

I am still a strong advocate for this Strategy, and trust me, I likely own more of it than you do. But it should be held in combination with the ownership of other financial assets (or risks) that have a negative correlation to interest rates.

Comments and Cautions…

The notion that the FEDs excessive money printing has not created inflation is silly, of course we have inflation, but mostly in -lilium line- financial assets (as well as such hard assets as Housing, Gold, Art, Jewelry, and of course BitCoin).

Will inflation bleed into the price for Services (labor), I don't know. And more important, would Service inflation cause interest rates to rise, again, unclear.

That said, I am confident that higher interest rates will have significantly negative consequences for all asset prices, and I am willing to burn a (modeled) 25bps a year to protect myself against that risk.

If I must offer a date, I have often written that rates will increase sometime between 2023 and 2025 with a Labor Force Growth Rate inflection as Millennials entering the work force exceed the Boomers who are retiring.

Remember: For most investments, sizing is more important than entry level.

Harley S. Bassman
July 7, 2021

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(*) Assumptions for a MODELED Performance Profile

Any (modeled) projected performance profile requires a few assumptions, and there is myriad more for long-dated options. As a 35-year Wall Street professional, I am well aware of how to slant a profile with "tricks"; but I believe the assumptions used here are both reasonable and conservative.

1) Excluded are all fees, commissions, and transaction costs.
2) I assume the initial portfolio ratio is fixed, with no adjustments.
3) I use Wall Street standard (Bloomberg) instant "parallel shifts"; this is conservative since long-term rates will likely rise more than FED controlled short-term rates.
4) All prices calculated on Bloomberg SWPM or BC1.
5) I assume "roll down" for USTs
6) I assume no "roll down" for the cheapest to deliver.
7) I use mid-market pricing for all risk vectors.
8) Excluded is the interest income of the UST allocation.
9) I assume the spread between USTreasuries constant versus Swap rates.
10) I hold Implied Volatility flat in the base case at 74nv
11) I assume Implied Volatility does not rise until rates increase by 100bps in the rising Vol profile, and then by 3nv per 50bp shift.
12) Implied Volatility for the "2yr hence" case rides the current term surface, presently 5yr options are about 4nv higher than 7yr options.
13) I assume the cost of rolling the US futures contract is unchanged for all eight rolls.
14) I assume there is no delivery shift in the futures contract.
15) I assume no slippage in managing the Strategy over time.
16) I assume a "buy and hold" from issuance.

"I'm looking for a hedge against my hedge funds."

Robert Mankoff – The New Yorker

Your comments are always welcome at: harley@bassman.net

If you would like to be added to my distribution, just ping me.
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