Defending and Surcharging Fiduciaries for Losses from the Great Recession and Other Disasters

- “The ultimate outcome of an investment is not proof of imprudence. The fiduciary duty of care ‘requires prudence, not prescience.” *DeBruyne v. Equitable Life Assur. Soc. of U.S.,* 920 F.2d 457, 465 (7th Cir.1990)

- *Donovan,[v. Cunningham*, 716 F.2d 1455 (5th Cir. 1983)] 716 F.2d at 1467 ('The test of prudence ... is one of conduct, and not a test of the result of performance of the investment. The focus of the inquiry is how the fiduciary acted in his selection of the investment, and not whether his investments succeeded or failed.'

Highest Level of Skills

- Restatement Third of Trusts §77(3) “If the trustee possesses, or procured appointment by purporting to possess, special facilities or greater skill than that of person of ordinary prudence, the trustee has a duty to use such facilities or skill.” Under California Probate Code §16014(b), “If the settlor, in selecting the trustee, has relied on the trustee’s representation of having special skills, the trustee is held to the standard of the skills represented.”

Prudent Investor Act

- Cal. Prob. Code §16047 requires a trustee to create "an overall investment strategy having risk and return objectives reasonably suited to the trust."
- The term " 'risk' is used (as it is commonly is in economic literature) to refer to volatility of returns." Restatement Third of Trusts §90, com. *e(1)* at 302.

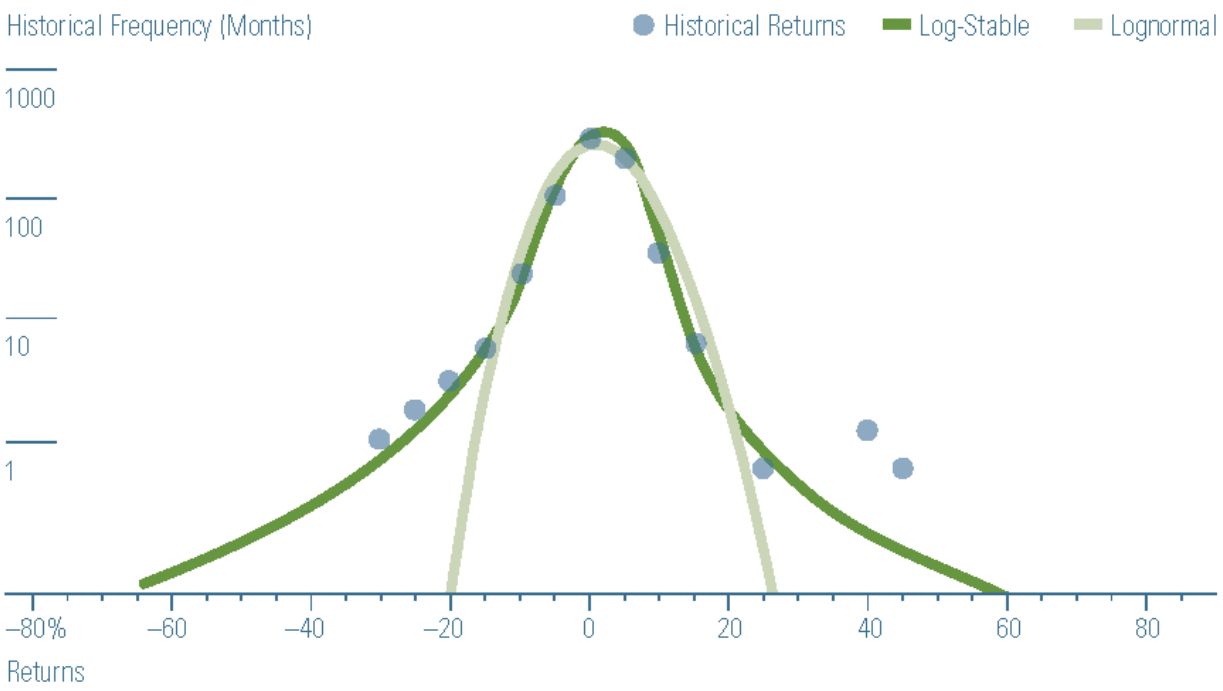
Chart re VIX Volatility S&P 500 over 5-Year Period

The Log-Stable Model *from*

Nailing Downside Risk by James X. Xiong, CFA

Exhibit 1 Too Fat The log-stable model does a better job of capturing the S&P 500's extremes than the lognormal model, but its tails are too fat.

S&P 500 Monthly Returns from January 1926 to April 2009

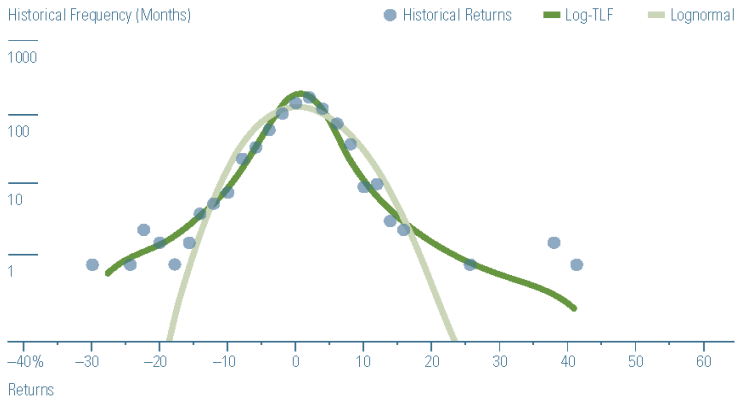


Log-TLF Versus Lognormal *from*

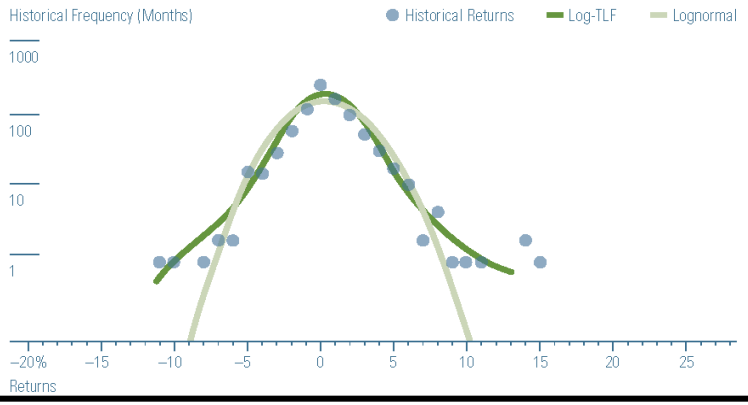
Nailing Downside Risk by James X. Xiong, CFA

Exhibit 2 Log-TLF Versus Lognormal The log-TLF model is an even better fit than the log-stable model for S&P 500 returns. It also does an excellent job of capturing bond returns.

S&P 500 Monthly Returns from January 1926 to April 2009



U.S. Long-Term Government Bond Monthly Returns from January 1926 to April 2009



More Risk than Predicted

- Modern Portfolio Theory taught that “a normal distribution model assumes that an asset return that is three standard deviations below its mean (commonly called a three-sigma event) has only a 0.13% probability of happening, or once every 1,000 return periods. From January 1926 to April 2009, however, the S&P 500 had a monthly mean return of 0.91% and a monthly standard deviation of 5.55%. A negative three-sigma event, therefore, means that the index would suffer a 15.74% monthly loss. In 83 years, the S&P 500 has suffered 10 monthly returns worse than that amount.” James Xiong, “Nailing Downside Risk,” (Morningstar Advisor, Feb/March 2010).

Fat Tails (Leptokurtic)

- One of the most extreme examples of a fat-tailed return profile occurred on Oct. 19, 1987, when the Dow Jones Industrial Average declined by 22.68%, or more than 20 standard deviations. The magnitude of the deviation from normal returns can be understood when considering that a normal distribution would predict such a move once in more than 4.5 billion years. More recently, 2008 had 11 days with declines greater than 4 standard deviations, and on May 6, 2010, the Dow Jones Industrial Average declined by 9 percent in a matter of minutes on an intraday basis, a move that on a daily basis would have been among the top 10 declines in recorded history." 2102 Ibbotson SBBI Classic Yearbook at 77.

Eating Principal During Downturns

- If the stock market or trust portfolio fell 34% in 2008, the million dollar portfolio would be worth only $660,000. To get back to a million dollars, the portfolio would have to earn over 51% in the following years to get back to the original portfolio value. The beneficiary with a $50,000 annual distribution would have to eat into principal to maintain such a level of distributions in the future.

Avoiding consequences of volatility

- Do not plan on consistent returns (Campbell)
- Provide liquidity in portfolio to avoid liquidation of assets during downturns
- Consider impact of smoothing rules on eroding principal during downturns
- e.g. unitrusts, CRUTs, IRA/401k mandatory distributions

Asset Correlations 3 Month (3/14/13)

Correlations of ETFs to Vanguard Large Cap ETF:

Small caps	.94
Mid caps	.97
MSCI EAFE	.85
MSCI Emerging	.70
Vanguard REIT	.79
TIPS	.51
Barclays Aggregate Bonds	.60
Commodities	.32

- Because of correlations, normal diversification did not reduce the risk of a portfolio
- Must reconsider asset allocations during such downturns
- Bonds offer some diversification benefit, but not in a rising interest environment

Geometric Returns

- From 1926 through 2011, large cap stocks had an arithmetic annual total return of 11.8, but a geometric return of 9.8. Small company stocks had an annual total return of 16.5, but a geometric return of 11.9.
- 2012 Ibbottson SBBI Classic Yearbook at 32

Decades of Poor Returns

- For the period 1999 through 2007, large cap stocks had an compound annual return (assuming no distributions to pesky beneficiaries) of -1.38%, 2000-2009, had an annual return of -0.95, while the most recent ten-year period of 2002-2011, had compounded annual returns of 2.92%. *Op. Cit.* at 38.

State Preference

- Any beneficiary may have several distinct goals, so it is important to determine the components of their risk and return objectives so that such distinct state preferences can be reconciled by the investment strategy. See William Sharpe's "Investors and Markets: Portfolio Choices, Asset Prices, and Investment Advice" (Princeton Lectures in Finance, 2006)

Unpredicted Results

- Stocks underperformed bonds for five ten-year rolling periods starting in 1998 (2012 Ibbotson SBBI Yearbook at 38), as bonds soared and their yields crashed under the panicked purchases of US paper by the lemmings of the world seeking safe haven in a global collapse.

Changing Role of Bonds

- In 1982, 55% of Treasuries were owned by individual and institutional investors. At present, only 23% of Treasuries are held by such investors. Foreign holders, largely central banks desperate to stabilize their currencies and banking systems hold 34% of Treasury debt. The Federal Reserve's share of ownership has doubled since 2008, with 11% of Treasuries currently owned. J. Zweig, "Are Bond Rates on a Road to Nowhere?" Wall Street Journal, June 8, 2012

Traditional Role of Bonds

- Bonds used to provide high return and limited risks during the period starting in 1982 when inflationary pressures drove the 30 year Treasury bonds to 15% interest rates.
- Since then, falling prices have inflated the value of existing higher return bonds.
- No more….

2.021% Returns

- Average bond returns of 5.8% are long gone.
- Current rates for 10 year treasuries are 2.021% (3/14/2013)
- Most Treasuries have negative real return when inflation is deducted
- The return on 30 year Treasuries is 3.22— what happened to the time value of money?

50/50 Portfolio?

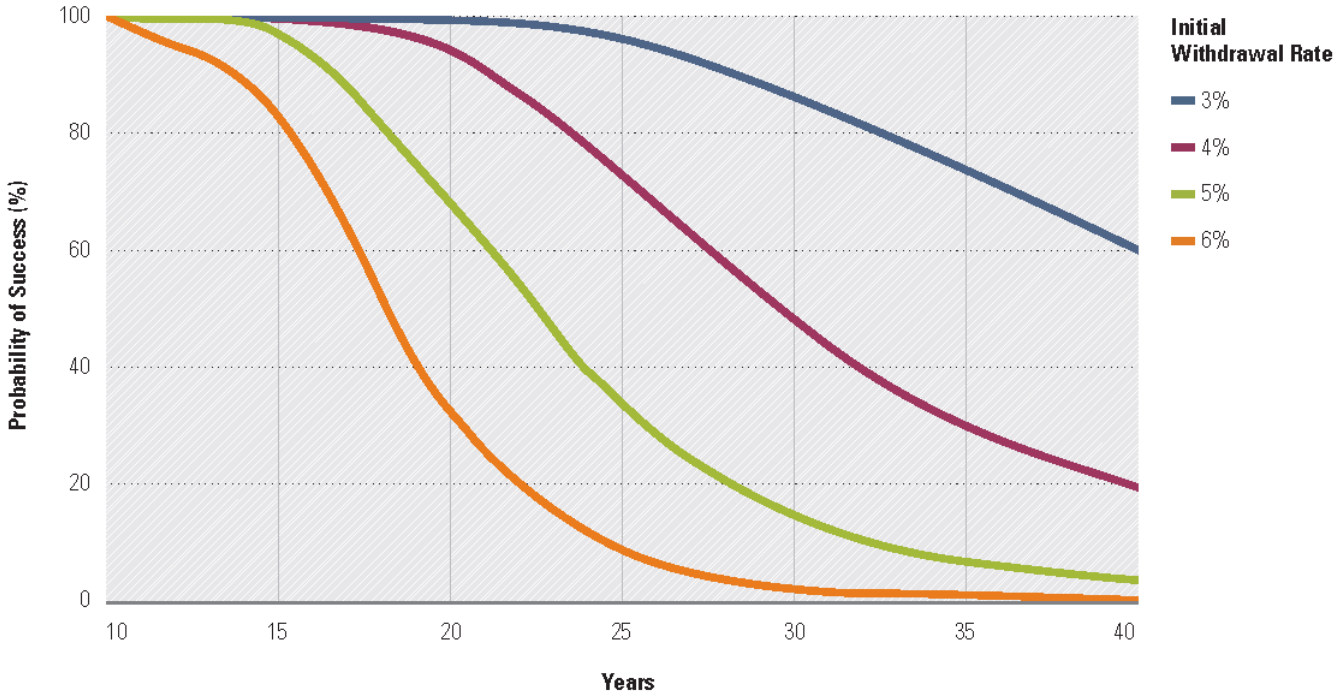
- If the market portfolio is expected to earn 5% in nominal terms in the current financial markets, but faces 2.5% inflation, the widow gets 2.5% per year from stocks.
- If you stay under 10 years to avoid inflation risk, you have negative real returns
- Even TIPS have been bid up to negative real returns

- D. Blanchett, M. Finke, and W.D. Pfau, “Low Bond Yields and Safe Portfolio Withdrawal Rates,” (January 21, 2013)

“Safe Portfolio Withdrawal Rates”

From Morningstar Investment Management, Low Bond Yields and Safe Portfolio Withdrawal Rates by David Blanchett, CFA, CPA, Michael Finke, Ph.D., CFP and Wade D. Pfau, Ph.D., CFA

Figure 6: Probabilities of Success for Various Initial Withdrawal Rates for a 40% Equity Portfolio



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Initial Withdrawal Rates for Various Equity Allocations, Retirement Periods and Probabilities of Success

From Morningstar Investment Management, Low Bond Yields and Safe Portfolio Withdrawal Rates by David Blanchett, CFA, CPA, Michael Finke, Ph.D., CFP and Wade D. Pfau, Ph.D., CFA

Table 2: Initial Withdrawal Rates for Various Equity Allocations, Retirement Periods, and Probabilities of Success

Probability of Success (%)	Retirement Period (Years)											
	15	20	25	30	35	40	15	20	25	30	35	40
	20% Equity Allocation						40% Equity Allocation					
99	5.0	3.6	2.8	2.2	1.9	1.6	4.6	3.3	2.5	2.1	1.8	1.6
95	5.4	4.0	3.1	2.6	2.2	1.9	5.2	3.9	3.1	2.6	2.2	2.0
90	5.7	4.2	3.3	2.7	2.3	2.1	5.6	4.2	3.4	2.8	2.5	2.2
80	6.0	4.4	3.5	3.0	2.6	2.3	6.1	4.6	3.7	3.2	2.8	2.5
50	6.6	5.0	4.1	3.4	3.0	2.7	7.0	5.5	4.5	3.9	3.5	3.2
	60% Equity Allocation						80% Equity Allocation					
99	3.9	2.8	2.2	1.9	1.5	1.3	3.4	2.3	1.8	1.4	1.2	1.1
95	4.9	3.6	2.8	2.4	2.0	1.8	4.4	3.2	2.6	2.1	1.8	1.6
90	5.4	4.0	3.2	2.7	2.4	2.2	5.1	3.8	3.0	2.6	2.2	2.0
80	6.1	4.6	3.8	3.2	2.9	2.6	5.8	4.6	3.7	3.2	2.8	2.6
50	7.4	5.9	4.9	4.3	3.9	3.6	7.8	6.2	5.3	4.6	4.2	3.9

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2.8% annual withdrawal rate

- While the difference between a 3.0% initial withdrawal rate and a 5.0% initial withdrawal rate may not seem material, the 3.0% initial withdrawal rate requires 66.7% more savings than the 5.0% initial withdrawal rate to produce the same annual income. One way to reduce the required savings amount would be to potentially take on more risk during retirement by increasing allocation to equities.

- Unfortunately, **increasing portfolio risk does not have a material impact.** For example, the initial withdrawal rate for a 20% equity portfolio with a 90% probability of success for a 30-year retirement period is 2.7%. If the retiree increased the equity portion of the portfolio to 60% and lowered the probability of success to 80%, he or she could only raise the initial withdrawal rate to 3.2%. This would require 18.5% less savings, **but would subject the retiree to considerably more market risk, which is something that is not captured in the probability of success metric.**

Downside Risk

- “Evidence suggests that distributions of security returns might not be normal, with markets exhibiting more extreme events than would be consistent with a bell curve distribution….If extreme price changes occur substantially more frequently than predicted by a normal distribution, some extremely important events fail to influence conclusions generated from quantitative analysis. In fact, investors may care more about extraordinary situations, such as the 1987 stock market crash, than about outcomes represented by the heart of the distribution.” David F. Swensen, “Pioneering Portfolio Management” at 106

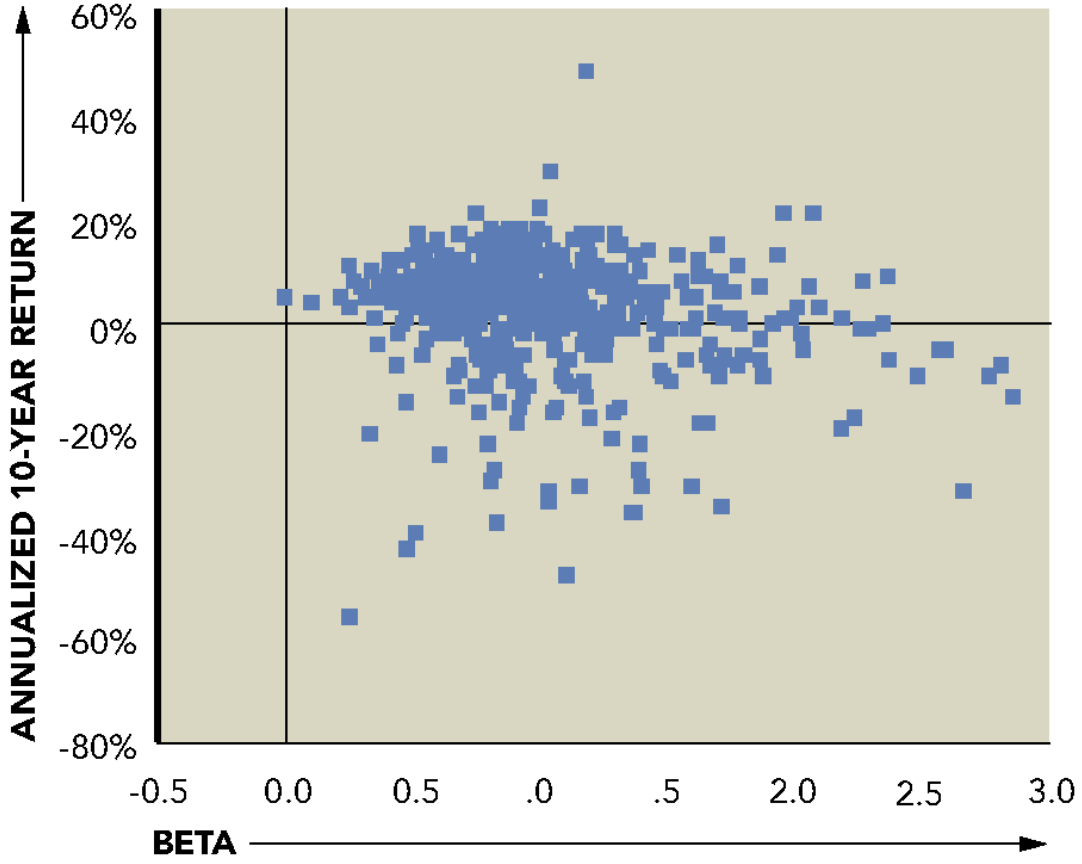
More Risk for More Return?

- The assumption that one needs to take more risk (volatility) to obtain more return has long been challenged. Fama and French in 1992 determined that the relationship between high beta and return was flat. Eugene F. Fama and Kenneth R. French, "The Cross-Section of Expected Stock Returns," (Journal of Finance 47(2) 427-465, 1992)

10 year Chart of Beta and Returns

Investment Perspectives, Marquette Associates (October 2012)

Exhibit 3: 10-Year Returns (May 2012) vs. Historic Beta



Source: Bloomberg

The Cross-Section of Volatility and Expected Returns

- A. Ang, R. Hodrick, Y. Xing, and X. Zhang
- LXI The Journal of Finance No. 1 259 et seq.

(February 2006)

- “We find that stocks with high idiosyncratic volatility have low average returns. There is a strongly significant difference of -1.06% per month between the average returns of the quintile portfolio with the highest idiosyncratic volatility stocks and the quintile portfolio with the lowest idiosyncratic volatility stocks.” *Op. cit.* at 261

Low Volatility/Higher Returns

- Looking at the top 1000 US stocks by market capitalization from January 1968 through December 2008: “Regardless of whether we define risk as volatility or beta or whether we consider all stocks or only large caps, low risk consistently outperformed high risk over the period.” Malcolm Baker, Brendan Bradley and Jeffrey Wurgler, “Benchmarks as Limited to Arbitrage: Understanding the Low-Volatility Anomaly,” 67 Financial Analyst Journal at 40 (2011)

- As Ibbotson concluded, “Several academic studies have shown that the market overreacts to bad news and underreacts to good news. This would lead us to conclude that there is more room for value stocks (which are more likely to have reported bad news) to improve and outperform growth stocks, which already have high expectations built into them.” 2012 Ibbotson SBBI Classic Yearbook at at 158.

- A study released by Robert Haugen in April of 2012 confirmed these results across 21 developed markets, for the period 1990 through 2011, and 12 emerging markets for the 11 year period from 2001 - 2011. “The most interesting result is that the low risk quintile outperforms the high risk quintile in every country. On average, the lowest risk quintile wins by more than 14% per year over the high risk quintile. Although the consistency varies across countries, the low risk quintile wins in 80% of the years on average. This is called the ‘hit ratio” and is calculated by counting the number of years in the test period. On a risk-adjusted basis, the consistency is greater. The Sharpe Ratio of the low risk quintile is greater than the Sharpe Ratio of the high risk quintile 85% of the time. Similar results were obtained for the emerging markets. The evidence is extremely compelling: high-risk stocks consistently underperform low-risk stocks, both across time and across countries.”

Active Management is not Sinful

- The 1986 Brinson Study does not show that asset allocation accounts for 93.6% of returns.
- "After removing this common market factor, on average for typical funds about half of the return variation comes from detailed asset-allocation decisions in excess of the market movement and about half of the return variations come from active management, although this 50/50 result dramatically changes from one period to the next." 2012 SBBI Yearbook at 89.

Modern Portfolio Theory

- The Restatement does not expressly adopt Modern Portfolio Theory, "What has come to be called 'modern portfolio theory' offers an instructive conceptual framework for understanding and attempting to cope with nonmarket risk. **The trustee's normal duty to diversify in a reasonable manner, however, is not derived from or legally defined by the principles of any particular theory**." Restatement Third of Trusts §90, com. *e(1)* at 302