Some Leverage is Good, Too Much is Dangerous

By: Thomas F. Basso
CEO, Trendstat Capital Management, Inc.
March, 1999

Purpose of the study:

After the Long-Term Capital debacle in August and September of 1998, investors are appropriately more concerned with the use of leverage by hedge fund managers. If leveraged is being used and the fund lacks transparency, clients are faced with the prospect of not knowing what the positions are and how much those positions are leveraged.

Some clients trying to cut down the potential misuse of leverage try to set some level of leverage that makes sense. For instance a long/short manager could be long 100% of his portfolio and short 100% of his portfolio leading to a 2 to 1 leverage. An event driven manager may be out of the market for a while, then in leveraged 5 to 1 on a special situation. An arb manager may need 10 to 1 leverage to make the returns interesting to the investor.

Defining Leverage:

The first problem facing investors is a lack of consistency in what managers call leverage. For instance, a long only stock manager, buying everything for cash, might claim he's at 1 to1 leverage. Another manager, trading cash currencies might claim to be 1 to1, since he's borrowed no money to put on some positions. However, the currency positions face value may be up to 25 times the leverage of the required good faith deposits on the trades.

The easiest way to compare a market or strategy to another is to define leverage as the face market value of all the investments in the portfolio to the equity in the account. This puts all investments on a equal definition footing for comparisons.

Leverage varies by markets:

Markets tend to move very different speeds. In Table A, I compiled the history of a number of different markets with daily data from January 1, 1990 until the end of February, 1999. The average volatility of a market was calculated using the absolute value of the percent price change each day. The standard deviation of the daily volatilities was also calculated using the daily data. Since the stock market is represented in so many portfolios, I used the S&P 500 Index as the benchmark against which the other markets would be measured.

Table A – Various Markets –Leverage needed to match volatilities

Market	Average Daily Volatility	Standard Deviation of Daily Volatility	Leverage required to equal S&P 500 at 2/1
S&P 500 Index	0.6298	1.0323	2.0000
SL-Bond Index	0.4020	0.3757	3.1303
Japanese Yen	0.5303	0.5450	2.3754
Crude Oil	1.3964	1.5800	0.9021
Live Cattle	0.5931	0.5166	2.1239
Gold	0.4859	0.5562	2.5924
Total All Non-S&P Markets	**0.6815**	**0.7147**	**2.2254**

As you can see from Table A, all the markets listed exhibit less volatility than the S&P 500 Index, except for crude oil, which has had some wild swings during the Gulf war.

Good use of Leverage:

A good use of leverage is to lever markets with less movement in order to match volatilities across a portfolio. For instance, if we were to match volatilities in the portfolio of markets shown in Table A, we would have to leverage the non-S&P markets by about 2.22 to1 in order to bring them into balance so that none of the markets dominated the portfolio. This would be a prudent use of leverage, designed to balance the portfolio's diversification.

Leverage varies with Strategy:

Various strategies require extra leverage to make them interesting to investors. In Long-Term Capital's case, one might argue they went too far in levering their fixed income arbitrage bets, but nobody would argue that they should use no leverage in their strategies. The returns would be so low and stable they would struggle to compete with bank CD's.

I looked at the leverage numbers in MAR-Hedge's Performance Evaluation Directory for the first half of 1998. The first thing I noticed was that the numbers offered by the managers are inconsistent, but it was the only information I could obtain in the public domain. I broke the leverage numbers down into various logical ranges. I decided that most long-only and long/short managers would tend to fall into less than 2:1 leverage, so that was my first range. Next came many of the Global Macro and CTA's in the 2-3 range. Finally, I measured greater than 3 and up to 5, followed by all those over 5. I also kept track of the group of managers that either couldn't or wouldn't answer the question, a group that might cause investors some concern of the unknown. The results are shown in Table B below

Table B – Percent breakdown of various leverage level in Hedge Fund industry

Leverage Range	Number of Funds	Percentage of Funds
Less than 2	616	68.8
2 to 3	138	15.4
Greater than 3 to 5	46	5.1
Greater than 5	60	6.7
Unknown	35	3.9
Total of all funds	895	100.0

Most of the funds (68.8%) fall into the less than 2 range. However, 31.2% of the funds are more levered than 2 to 1. This doesn't mean they are too leveraged. It is very inappropriate to say that the managers at 5 to 1 are uniformly more dangerous than those at 2 to 1.

Where leverage becomes dangerous:

Where does the leverage that the manager uses become dangerous? It varies with each strategy used by the manager. Using Trendstat as an example, I can say that our mutual fund timing and allocation programs are 1 to 1 leverage. Our World Currency program runs about 2.7 on average, below average for currency traders. Our FX Extra is closer to 5, much more in line with other currency traders. Our Multi-trend program is over 3, within norms for that investment area and strategy.

The point I'm making is that it isn't the leverage number that by itself makes something dangerous. I don't view our World Currency at 2.7 times leverage as more dangerous than our Sector Allocation program at 1 to 1. They are actually quite similar in the speed which they move on a given day. Sometimes the currency program moves a little quicker, sometimes the Sector Allocation program is the fastest of the pair.

The investor needs to find leverage figures of comparable managers, before making any rash decisions that leverage is too high or not high enough. When a manager is more highly levered than others with similar strategies, investors should be wary of the additional leverage risk.