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Arrogant Banana Slugs, the 55 Percent Coin, And the Professor in the “Big House”

We were dismayed in late September to read about the failure of Long-Term Capital Management, a highly regarded “hedge fund.” The amount of money at stake has been reported to be either in the hundreds of billions or trillions of dollars – we’re not really sure; our eyes start to glaze over at 10 zeros. The Federal Reserve wound up arranging a bailout investment by 14 banks and brokerage firms. What was surprising about LTCM’s failure was the brain power behind the firm – a former vice-chairman of Salomon Brothers, two Nobel Prize winners, a former Federal Reserve governor and more Ph.D.s in finance and mathematics than you could shake a stick at.

Unfortunately, common sense is a rarer commodity on Wall Street than mere brain power. Measured by the number of Nobel Laureates, LTCM certainly was “smarter” than Sigma. On the other hand, we are probably less likely to suddenly lose a trillion dollars, primarily because we have some common sense.

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As usual, there are some lessons for us all in failure. First, we should be very slow to conclude “genius” based only on past investment performance (or even worse, the performance of a computer model). Suppose you train 100,000 banana slugs to flip coins in unison with their little antennae, and decree that heads is good and tails is bad. After two flips, 25,000 slugs will have flipped heads both times and be lording it over the poor 25,000 that lost both times. After 15 flips, three “genius” slugs will have the perfect record of flipping heads every time and will be starting hedge funds, writing arrogant market letters and heralded as the “next Peter Lynch” by personal finance magazines.

Flipping coins is a zero-sum game -- for every head flip, there is a tail. The derivatives market of options and futures, where most hedge funds trade, is a negative sum game. Like coin flipping, there is a loser for every winner, and both sides pay transaction costs. Since the stock market tends to go up over time, it is a positive-sum game – you can win without anyone losing. Of course, it doesn’t go up every day, so stock market investing is like flipping a coin that comes up heads 55 percent of the time. This 5 percent advantage assumes you are in the market and not doing anything stupid. As we have noted before, emotions lead most investors to over-trade, buying high, selling low, and significantly diminishing investment performance. The lack of emotion is a real advantage for the banana slugs.

Common sense should tell you not to bet your life on the next flip of the 55 percent coin, since 45 percent of the time it will come up tails. The more flips you have, the greater the chance you have of capturing your coin's "advantage." While the next "flip" in the stock market may have a 55 percent chance of being positive, if you can hold 5 years, it goes to 90 percent, and every 15 calendar-year period since 1926 has shown a positive return on the S&P 500. This is why, on average, somebody eighty years old should be taking fewer investment risks than somebody who is 25 – they have fewer "flips" left.

The "professor" ultimately needs to sell his position to Louie in Jersey City, who wouldn't know a multiple regression if it bit him

The use of leverage can speed things up, equivalent to compressing the number of coin flips, but it also increases the risk of ruin from encountering the equivalent of 5 tails in a row. Adding a lot of computing power and mixing in some Nobel-level brains can increase your chances, but probably only from 55 percent to maybe 60 percent. You still wouldn't bet your life on the next flip of a 60 percent coin, but that's just what the professors at LTCM did by leveraging themselves 30 or more to one. With leverage, not only must your "edge" be real, it has to work in every short-run period. LTCM committed one of the most common errors of ordinary investors. Study after study tells us that most investors (and now LTCM) vastly overestimate their chances of success, the exclusiveness of a tip they heard at the club, or the prowess of the hot fund manager profiled in *Money* magazine.

Finally, LTCM demonstrates a problem in applying theory to the real world. When the professor has to sell something, it's going to be to some guy at a trading desk in Jersey City named Louie, who doesn't care how many graduate degrees or what level of computer power is at the other end of the phone. When the professor is in a panic, it is likely to be in the kind of market where Louie's been ordered by his boss not to buy any big positions. It doesn't matter if the professor's delicate computer model is ultimately correct. "Ultimately" is some time in the future (say, 100 coin flips from now), but the margin call needs to be met tonight, so the Nobel guys wind up melting down their medals to meet it and being sent to debtor's prison. It's like the old poker rule – if you can't figure out who the sucker is in the game, it's you. LTCM told investors that the fund faced only a one-in-100 chance of losing 20 percent or more. The actual investor loss was recently estimated at about 96 percent.

We are tempted to offer you investment tips from some slugs with really impressive performance numbers; instead we will help you with a common sense approach to your investments if you contact us. After all, we're "Nobel Laureate-Free since 1992."