

Monitoring the Crisis

Investors and policy makers are looking at new ways to monitor the financial crisis. After Lehman failed last September, there were clear metrics. For example, the spread between LIBO and the Overnight Index Swaps (OIS) and the spread between T-bills and LIBOR (TED spread) were widely used. While these metrics, popular thermometers for gauging the patient's fever, have cooled somewhat, they still remain elevated. The TED spread for example peaked on October 10th near 464 basis points and has been flirting with the 100 basis point level most of this month. Prior to the crisis, the TED spread would typically average between 20 and 40 basis points.

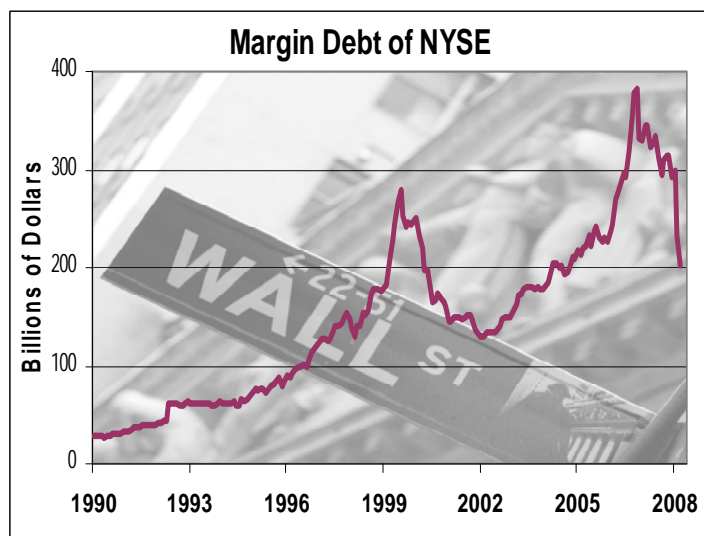
Moreover, part of the improvement has been a function of government or central bank fiat. Yet as was already widely appreciated, easing a patient's fever is not the same as curing the illness. We need to compliment our current tools with new metrics and that is the purpose of this note.

Leverage

There can be little doubt that during the expansion phase there were excesses, but the key excess was arguably not in the realm of moral turpitude, but in leverage. According to reports issued when Bear Stearns funds first began having problems, they were experiencing about a 5% drawdown in asset values. How could that topple a fund, let alone a bank? Answer: Leverage, which media coverage has suggested was around 30 to 1 for Bear Stearns. To be sure Bear was not alone in this trend.

Leverage and only leverage is necessary to understand how a \$1.4 trillion subprime market, which appears to be suffering from less than a 10% default rate, can topple the world economy and trigger more than a \$30 trillion destruction of capital.

Leverage also explains the otherwise perplexing developments in the foreign exchange market. Specifically, the dollar, yen, and to a lesser extent the Swiss franc and Hong Kong dollar, were used to finance the purchases of higher yielding assets. European banks apparently financed a good part of the growth of their balance sheets with the US dollar, in a similar way that many Hungarian households borrowed Swiss francs to finance their mortgages. Hedge funds used structural short dollar positions to finance purchases of commodities and emerging markets. In Japan Mr. and Mrs. Watanabe used the yen to finance the purchases of foreign currencies, stocks, and bonds to augment the miserable return they were receiving domestically. US investors sold the dollar as they too chased the higher overseas returns. And when institutions and investors were compelled to reduce leverage, these financing currencies screamed higher.



If we are right and leverage deserves a privileged place in the explanation of the financial crisis, then we need some tools which allow us to monitor the deleveraging process, something that none of the other gauges that have been relied on truly do.

As the critics point out, economists rarely grasp reality. They are often satisfied with proxies. Yet, there are some elements of leverage that can indeed be measured directly. Margin use at the New York Stock Exchange is one such metric. The margin rate is set by the Federal Reserve at 50%. That is to say the Fed allows equity investors to have 2:1 leverage.

As the previous chart illustrates, the use of margin on the New York Stock Exchange has collapsed. It is off nearly 50% from its peak, with a spectacular implosion in Q4 08. Moreover, there is no sign that the process has ended.

Indeed the risk is that another \$50-\$75 billion of margin debt is retired, which would bring the use of margin back to where it bottomed during the previous cycle in 2002.

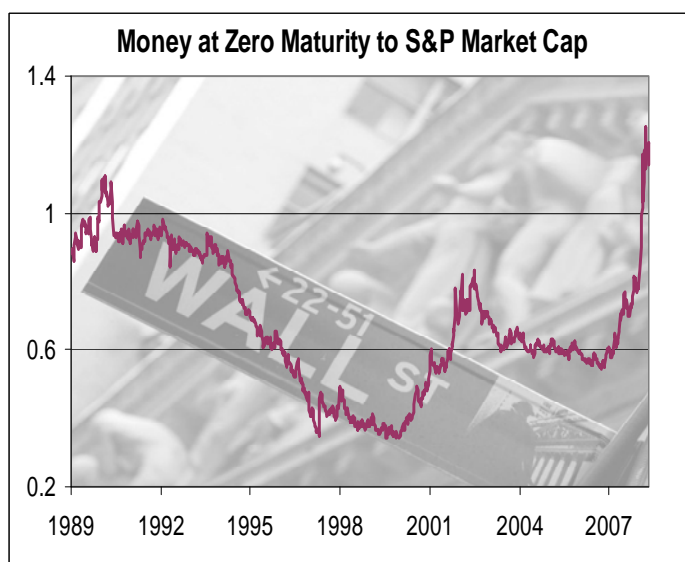
Hedge Fund Liquidation

Hedge funds are notoriously and purposely opaque. Depending on the report, between market losses and redemptions, overall hedge fund assets fell by \$600-\$800 billion last year to \$1.2 trillion. Hedge funds, by definition, are significant users of leverage. If a fund is levered conservatively at 5:1, a \$1 of redemption may require selling \$5 of assets. Many hedge funds moved to restrict redemptions with the same creativity that was previously used for financial engineering. The consulting firm, GFIA estimates that a full fifth of hedge fund assets were subject to redemption restrictions last year.

The risk is that those who could not redeem when they wanted to, will do so at their first opportunity. In addition, some industry reports suggest that hedge funds continue to divest themselves of illiquid assets. The combination of redemptions and realized losses on illiquid assets may see hedge fund assets shrink even more in the year ahead. Most estimates forecast that assets under hedge fund management will shrink by 25% - 33%. The \$300-\$400 billion that this implies will most likely require additional de-leveraging.

Liquidity

There are several channels by which households in aggregate are reducing their leverage. The most obvious ways are curtailing of purchases, which is reflected in the decline in personal consumption expenditures and retail sales, with the latter accounting for a little more than a third of the former. Another channel that is rarely appreciated in this context is home foreclosures. Essentially foreclosures remove major liability from the balance sheet of the American household sector, thus reducing their leverage.



The demand for liquidity in the current environment is a mirror image of the de-leveraging forces. Rather than chasing returns, investors and households are chasing security. There is strong demand for financial assets that investors can redeem at par on demand. These assets are best measured by the St. Louis Federal Reserve's MZM or money at zero maturity data, which can be obtained from <http://research.stlouisfed.org/fred2> under "Money Aggregates". To avoid the soporific details, this is a broad measure of money supply (M2) plus money market funds and excluding time deposits.

There are all sorts of factors that impact the nominal levels of MZM and a way to see past the noise and detect signals, is by viewing the data through an equity kaleidoscope. When compared to the market capitalization of the S&P 500, MZM is at the highest levels since the late 1980s. Though some calculated versions may show a similar peak was seen in the mid-1970s.

The point is that when this ratio begins to turn down, investors and policy makers can feel a bit more comfortable in thinking and acting as if the worst is behind us. And if the past offers a helpful guide, when the ratio of MZM to S&P 500 market capitalization turns down, the stock market has generally rallied.

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