"MARGIN SPIRAL"

Modern Version of "Long-term Capital" (LTCM)
A highly leveraged hedge fund that failed in 1998

The collapse of a "relative-value" hedge fund strategy likely resulted in a spiraling of market dislocations, margin calls, and forced liquidations of leveraged hedge funds during the Wuhan coronavirus period.

For years, highly leveraged "relative value" hedge funds had been taking advantage of a thin spread between US Treasury securities and the futures derivative on those bills, notes and bonds. They purchased massive amounts of Treasury debt and sold the corresponding futures contracts. Theoretically, their leverage could approach 100-to-1.

During the Wuhan coronavirus period, declining yields and rising market volatility raised the value of those futures contracts relative to the underlying Treasury. At the same time, liquidity (i.e. trading volume) in those futures dwindled.

As those highly levered hedge funds received margin calls, they had to unwind these trades within days. Their massive selling of Treasuries and repurchasing of future contracts further dislocated the financial markets.

The rapid selling of Treasuries served to accelerate the decline of Treasury interest rates. For the first time ever, the entire US Treasury yield curve (from 3 months to 30 years) was below the 1% interest rate mark.

Meanwhile, the margin calls also forced the hedge funds to rapidly purchase futures contracts (to unwind the futures positions they previously sold); however, that market was now illiquid. These purchases had to be made at ever increasing prices relative to the underlying Treasuries. This further widened the spread between the Treasury securities and their corresponding futures. This widening spread made this relative value strategy even more unprofitable, and generated larger losses for participants of this relative value trade.

As these trades became more unprofitable, more highly-levered hedge funds received margin calls and were also forced to unwind their trades. In turn, this led to even greater price dislocations, even larger losses, and more margin calls forcing more unwinding trades to occur.

This cycle of price dislocations leading to margin calls into an illiquid market, thereby creating larger and larger price dislocations is called a “margin spiral” (term possibly created by M.K. Brunnermeier & L.H. Pedersen, 12/10/2008).

Futures positions can generate losses of over 100%. Leveraged trades in future positions can generate large losses. Futures trades leveraged 100-to-1 can create excessive losses.

In order to cover extremely large losses, hedge funds had to sell other positions and unwind other strategies. During the Wuhan coronavirus period, this may have led to additional margin spirals of various strategies throughout the market.

The 2020 Wuhan coronavirus correction and bear markets were the fastest correction and bear market in the history of the US stock markets. Several factors contributed to the swift and severe downturn:

- Computer generated trading had become 70% of stock market volume
- Social media (including news and rumors) had become prevalent
- Approximately 20% of the US economy (e.g. restaurants, schools, tourism) were virtually closed within less than a month
- Unemployment rates surged at a record pace

However, the prevalence of highly leveraged hedge funds and possibly a multitude of margin spirals exasperated the situation. Margin spirals increase the magnitude, speed and volatility of bear market losses and dislocations.

A rising spiral of margin calls, leveraged losses and hedge fund bankruptcies would force the sale of other securities to cover the rapid accumulation of massive losses. Securities of underlying companies unaffected by the Wuhan coronavirus would be sold off in order to cover losses in other levered positions. Companies whose fundamentals benefited from the changing economic environment could also see their respective stock and bond prices decline.

Instead of having an orderly market correction where fundamentally sound companies might preserve value, the domino effect of margin spirals can result in a broad security sell-off regardless of underlying fundamentals.

In turn, long-term investors are provided an extremely rare opportunity to purchase securities of growing companies with sound fundamentals at an extraordinary discount.

These unusual opportunities can persist for weeks or even months due to tax loss selling strategies and investors selling securities that did not behave as expected.

Material pressure on this particular relative value hedge fund strategy could be eased by increasing levels of Treasury repurchase agreements made by the US Federal Reserve Bank (the Fed).

Months before the Wuhan coronavirus was named, an overnight lending rate dislocation occurred. A multitude of individuals and corporations had filed for federal tax extensions due to delayed bureaucratic interpretations of the 2018 tax law.

S Corporation tax extensions and general US quarterly withholding payments were due September 16th (as the 15th fell on a Sunday). One of (if not the) largest Treasury bond market participants, Japan, was on holiday ("respect for the aged day").

The dislocation was so large that at 9:30 am on September 17th the Fed conducted a $75 billion overnight repurchase (repo) operation. This is where the Fed buys short-term debt (including Treasuries) in exchange for a cash credit (i.e. newly printed cash).

However, this turned out to be a recurring phenomenon for the Fed, well into the Wuhan coronavirus period.

Did a record amount of cash needs for taxes on a less-liquid trading day create immense pressure on a trading strategy of some highly levered relative value hedge funds? Did the Federal Reserve Bank of New York try to remedy this situation (and prevent or delay a LTCM type incident) by flooding the financial markets with ongoing repurchase agreements again and again?

Timothy C. Call
April 2020