Hedge Funds, Volatility, and the Career Ending Margin Calls

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Who is our presenter and what makes him qualified to hold us captive for an hour?

- Finance Lecturer at Babson College
- Former hedge fund manager seeded by Julian Robertson (Tiger)
- Former Head of Fixed Income at two mega investment firms
- Former Director of Corporate Finance at Aetna (Credit Rating “AAA” >> “A”)
- Former Student of Dr. Robert Merton of MIT Sloan (Founder and Partner of Long-Term Capital Management)

- When Genius Failed: The Rise and Fall of Long-Term Capital Management by Roger Lowenstein
Well Known Hedge Fund Managers?
Anthony Scaramucci’s Firm Hit Hard by Credit Collapse

‘The Mooch’ is facing one of his biggest tests as SkyBridge struggles with the poor performance of its hedge-fund managers.
Not a Hedge Fund Manager!
Wait! What? What is a Hedge Fund?

- Hedge funds are alternative investments using pooled funds that employ different strategies to earn active return, or alpha, for their investors. (Investopedia)
- The original hedge funds were structured to hold stocks both long and short. Therefore, the positions were "hedged" to reduce risk, so the investors made money regardless of whether the market increased or decreased. (The Balance)
- Fee Structure = Management fee (1.5%) + a annual performance fee (20%)
So you want to be a HF manager...

- Generate a five year investment track record of managing a long/short fund
- Raise $50 million from yourself, family, friends, sprinkle in a billionaire or two
- And a few other items to acquire:
  - Prime Broker (to borrow from)
  - Technology – research, systems, etc.
  - Administrator (record keeper)
  - Office Space + Team
  - Compliance
  - 42k other things
How many Hedge Funds and do we need them?

- According to Hedge Fund Research, approximately 9K HFs managing about $3.2 Trillion. Over last 5 yrs. More than 4k closed.
- With Fed Quantitative Monetary infinity, “managed” and “debt fueled”: equity market returns averaged almost 12.5%.
- **Constanza Effect**: Do the opposite of everything you would normally do. 2019 S&P + 31.5% while HFs + 7.8%....so in 2020 long HFs and short S&P 500.
Why be short stocks if the asset class outperforms over the long term?

$100M Longs 12/31/19
- Zoom Communications
- Regeneron Pharmaceuticals
- Citrix Systems
- Digital Realty
- Gilead Science
- Long Portfolio Weighted Beta 1.25
- Market Neutral Hedge Fund

$100M Shorts 12/31/19
- Apache Corp.
- Norwegian Cruise
- Royal Caribbean
- Marathon Oil
- Noble Energy
- Short Portfolio Weighted Beta 1.25
- For illustrative Purposes Only 😊
Why be short stocks if the asset class outperforms over the long term?

$100M Longs 1Q 2020
- Zoom Communications +114%
- Regeneron Pharmaceuticals +30%
- Citrix Systems +28%
- Digital Realty +17%
- Gilead Science +16%
- Long Portfolio Average +41%

$100M Shorts 1Q 2020
- Apache Corp. – 84%
- Norwegian Cruise – 81%
- Royal Caribbean – 76%
- Marathon Oil -76%
- Noble Energy – 75%
- Short Portfolio Average – 78%

Long/Short Portfolio = +41% - (-78%) = +119% hmmmmm
What is the #1 advantage a hedge fund has over a long only IMA?
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- Unregulated - #1 Answer
- Diversification – non correlated
- Long/Short
- Derivatives (ISDA & Futures)
- Gate Redemptions
- “Side Pocket” Portfolios
- The Greatest Minds $$ Can Buy
- Eating Your Own Cooking
- LEVERAGE!!!!!!!!!!!!!!
Talk to us About Leverage – It’s always good….right?

- Buy $500,000 home with 20% down ($100K) as required for conforming loan
- And borrow $400,000 from the bank
- In one year the home price goes up 20% to $600,000 (100% return)
- Sorry, in one year, the home price goes down 20% (-100% return), the mortgage firm does not require you to invest more equity into home unless you are going to refinance
The Long/Short Equity example did not require significant leverage. 1X Long +1X Short = 2X Leverage

- The Longs and the Shorts had the same weighted beta – Market Neutral
- One requirement of the Long/Short portfolio is the need for individual stock price volatility for out-sized returns
- The positions of this strategy are typically highly liquid.
What other HF Strategies don’t require significant leverage?

- **Global Macro Strategy** – Investment Thesis
  - The Long and the Short positions may be based on economic forecasts
  - The positions may be expressed in stock, bonds, derivatives, commodities and currency
  - Trade deficits or geopolitical events which impact the currency/ratings of a country
  - The strategy typically does not require significant leverage while the long and short positions can be **highly liquid**.

Managed Futures describes a strategy whereby a professional manager assembles a diversified portfolio of futures contracts. The Long and the Short positions may be based on spot and forward price anomalies. The supply and demand of a commodity or precious metal. Reversion to the mean of highly volatile futures (price implied vol or outlier price). The strategy typically does not require significant leverage while the long and short positions can be highly liquid.

What other HF Strategies don’t require significant leverage?
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- **Short-Biased Strategies** seek to outperform by recognizing financial deterioration/distress early.
- The Short positions are often expressed by the purchased of put options or credit default swaps – known premium with embedded leverage (Caution: naked short equity positions - see Tesla)
- The **tail-risk of investment return results** is found to be much fatter than the estimated projections; 100 year events occur much more frequently.
- The strategy typically does not require significant leverage
Convertible Bond Arbitrage

- Upon the announcement of an acquisition: **buy stock of seller and short stock of buyer**
- The market stock price of the acquired may be pennies less the announced price due to uncertainty of the deal closing... bidding war
- The strategy typically does require significant leverage as the amount involved could be less than a dollar.
- Reverse Trade when acquisition is completed
**Fixed Income Arbitrage**

- The fixed income markets have fewer participants, enormous specific issues, and often have minor pricing dislocations.
- The investment thesis is to buy the under-valued security and short the over-valued security to pick up "pennies" and leverage the trade many times.
- The trade gets reversed when the dislocation no longer exists when the pricing relationship returns to its mean relationship.
- **If the relationship continues to move away from the mean, the HF may need to post more margin ($$) to keep the trade on.**
Some Bond Geek Terms

- **What is a basis point?** One basis point is .0001 or 0.01%. Got it, so 50 basis points would be equal to .0050 or 0.5%. Basis Points are the measure that Bond Geeks use to calculate the % change in a bond price from a change in interest rates.

- It is an **inverse relationship**, when **interest rates move down**, the price of the bond **increases** as the cash flows of the bond are now discounted at a lower interest rate (discount rate).

- **Duration** is an approximate measure of a bond's **price sensitivity** to changes in interest rates. So if a bond's duration was 5 years and interest rates were to fall by 100 basis points or 1%...the bond’s price would increase by approximately 5%.

- **Price Value of a Basis Point** = Bond Duration x Market Value x .0001
Fixed Income Arbitrage with $100 million of capital with leverage of 50X

**Long**
- $2.5B U.S. Treasury 25 year Bond @ 5% YTM
- Price Value of a Basis Point = $5 million

**Short**
- $2.5B U.S. Treasury 30 Year Bond @ 4.7% YTM
- Price Value of a Basis Point = $5 million

**No Volatility Expected 1 yr. return:** $(.05 - .047) * 2.5B = 7.5 million or 7.5% return for the carry trade (excluding borrowing costs for our example please).

**Movement to the mean** expected: The difference in the YTM of the two securities collapses by 5 bp. The approximate gain would be the change in yield of 5 b.p. ($5% - 4.95\%) times the Price Value of a Basis Point of $5 million would equal an additional $25 million or 25%. So 32.5% total gain for trade.
Fixed Income Arbitrage with $100 million of capital with leverage of 50X

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- **Unexpected Volatility 1 yr. Return** (How about a 1998 Russian Debt Crisis and an all out panic to the very most liquid risk free asset – THE BOND!)
- 25 year Bond YTM falling 0.003% & 30 year Bond falling 0.005%
- Long Position makes 30bp * $5million = $150 million
- Short Position losses 50bp * $5 million = $250 million
Leverage and Tigers and Bear Markets, Oh My! – Prime Broker and Leverage

Prime Broker (PB) as part of the service provides:

- **Financing** to purchase securities that you don’t own – the amount of margin you will need to post will be a function of the expected volatility of the underlying security. (As such, T-Bills would require minimum margin to be posted...while some illiquid small cap stock may require much more)

- **Lends securities** in which you are short them – the amount of margin you will need to post will be the same function as above.

- **Magical Margin Calculator** – PB inputs all the securities into a model which calculates the total amount of margin needed for the HF – incorporating correlations, volatility, pricing, etc.
Leverage and Tigers and Bear Markets, Oh My! – Prime Broker and Leverage

Prime Broker (PB) calculates this required margin daily:

• In our previous T-Bond Fixed Income Arbitrage/Carry trade example, let’s assume the initial margin required was $70 million.

• If the direction of the convergence trade moves further away from the mean, the borrower will be asked to post more margin. Vice versa, if the direction of the convergence trade moves closer to the mean, the borrower will be able to remove some of the margin cash at the PB.

• Warning: **Code Red** if you are required to post more margin and do not have the cash, the PB will start to unwind your positions potentially triggering a further price movement in the relationship further away from mean -- resulting in...
Are Hedge Funds a good or a bad investment during volatile times?
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Pros
- Provide opportunities in less efficient markets
- Access to the best mind $$$ can buy - hmmm
- Reduce portfolio correlation – standard deviation
- Ability to provide positive returns in a down market

Cons
- Darn fees are too high
- Lack of Transparency
- Lack of Liquidity
- Some HF Strategies may have poor performance during volatile market – a crazy little thing call leverage
Anything we did not uncover?
Sources

Wall Street . Com
The Balance
Microsoft ClipArt
Investopedia
CNBC
Forbes
CNN
Pininterest
Getty Images
Red Online
Minitab Express
Micronormous
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