IndexUniverse.com
The World of Indexing... and Beyond

Setting The Record Straight:

Achieving Success Beyond a Day with Leveraged and Inverse Funds

Live Webinar
September 16, 2009 2–3 p.m. EDT

IndexUniverse.com
The World of Indexing... and Beyond

Welcome

Matt Hougan
Managing Director
ETF Analytics
IndexUniverse.com

Joanne Hill
Head of Investment Strategy
ProFunds Group

IndexUniverse.com
The World of Indexing... and Beyond

PROSHARE ADVISORS LLC

Understanding Returns of Leveraged and Inverse Funds

Joanne M. Hill, Ph.D
Head of Investment Strategy

2009-3870

Agenda

- Background on leveraged and inverse funds
- Understanding compounding
- Putting volatility in perspective
- Realized returns and multiples
- Monitoring and rebalancing over time

What are Leveraged & Inverse ETFs

Conventional Index Funds*

Seek to match the index return

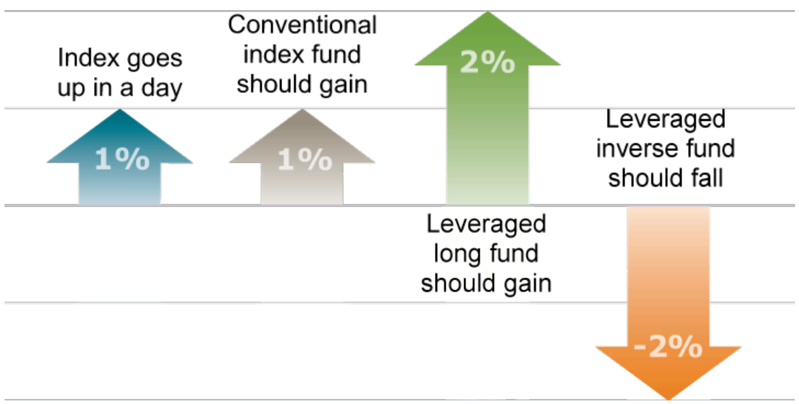
Leveraged Long Funds*

Seek a multiple of the index return on a daily basis

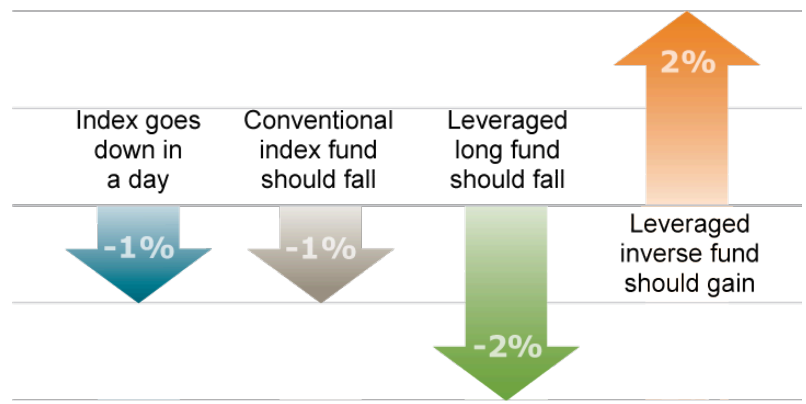
Leveraged Inverse Funds*

Seek a multiple of the inverse return of the index on a daily basis

Up Day



Down Day



- Conventional index fund
- Leveraged index fund
- Leveraged inverse index fund

* Before fees and expenses.

How are they being used

- Capture gains through short-term trading
- Component of overall portfolio strategy
  - Target exposure with less cash
  - Overweight/underweight exposures
  - Hedge
  - Isolate alpha, hedging the beta or benchmark risk of a portfolio of securities

Why funds are rebalanced daily

- Consistent leverage each trading day helps investors limit risk by preventing leverage from becoming too excessive
- An open-end fund that provides a specified, constant leverage level for all investors is not possible

ProShare Advisors LLC

Understanding compounding

Example of compounding on indexes and leveraged funds

	INDEX	2x FUND
	Daily Return	Daily Return
UPWARD TREND		
Day 1 Return	+10%	+20%
Day 2 Return	+10%	+20%
Compounded 2-day Return	+21%	+44%
DOWNWARD TREND		
Day 1 Return	-10%	-20%
Day 2 Return	-10%	-20%
Compounded 2-day Return	-19%	-36%
VOLATILE MARKET		
Day 1 Return	+10%	+20%
Day 2 Return	-10%	-20%
Compounded 2-day Return	-1%	-4%

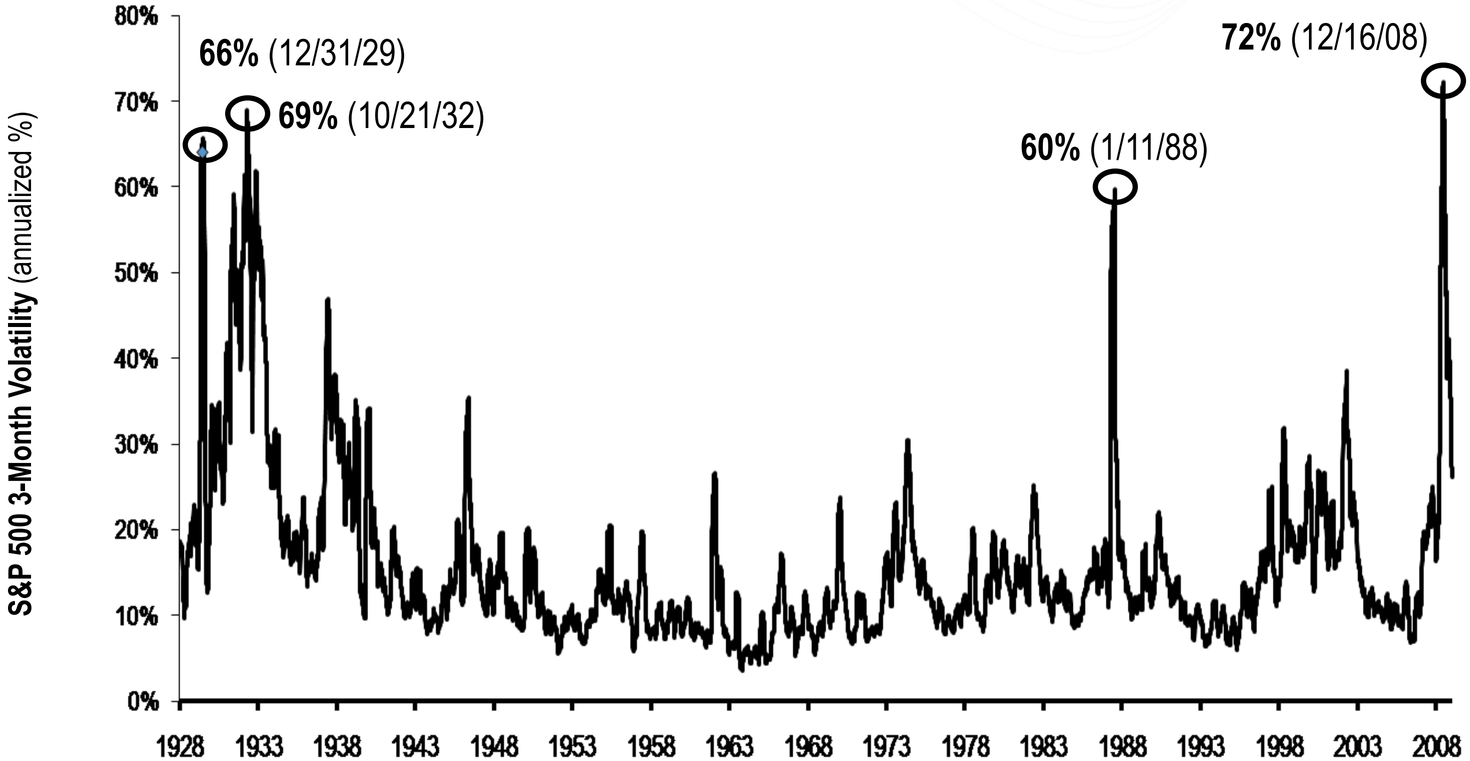
Universal effects of compounding on investment returns

- Compounding affects all investments over time
- Upward trending periods enhance returns
- Downward trending periods reduce losses
- Volatile periods reduce returns and may increase losses
- Positive and negative effects of compounding are significantly magnified in a leveraged fund
- The impact of compounding on a 2x leveraged fund is greater than 2x

PROSHARE ADVISORS LLC

Leveraged and inverse funds affected by record volatility

Highest short-term volatility levels for U.S. equities in 80 years affected all investments, including leveraged funds



Source: Journal of Indexes , August 2009. **Past performance is no guarantee of future results.**
For illustrative purposes only.

PROSHARE ADVISORS LLC

The effect of compounding on leveraged strategies

An historical analysis

The study is for hypothetical purposes only and is not intended as an investment recommendation. **Results are for the S&P 500 Index only; results with respect to other indexes will vary.**

Methodology: Historical Analysis of Leveraged & Inverse Index Returns

- S&P 500®
  - Studied 50 years covering all possible 2, 7, 30, 91, and 183 day holding periods for leveraged and inverse versions (+2x and -2x) of an S&P 500 Index
  - Compared the returns of daily objective strategies based on 2x and -2x the S&P 500
- Additional research
  - Analyzed holding periods for a variety of other indexes
    - NASDAQ-100 from 1985-2008
    - Dow Jones U.S. financial and energy sectors from 1992-2008

S&P 500 2x Returns: Compounding Effect Was Close to Zero on Average

From 1959-2008, average differences between daily objective 2x S&P 500 strategy and 2 times the index return:

Holding Period	Average Difference
2-Day	-0.0000%
7-Day	-0.0003%
30-Day	-0.0017%
90-Day	0.0426%
183-Day	0.1949%

While individual period returns varied, the effect of compounding on average was about neutral across the holding periods we studied.

High percentage of realized multiples close to the daily multiple for 2x S&P 500

Frequency Returns Fell within Various Multiple Ranges Over Various Holding Periods (1959-2008)						
Realized Multiple Ranges		**Historical 2x Daily Objective S&P 500**				
		2-Day	**7-Day**	**30-Day**	**91-Day**	**183-Day**
1.75	**2.25**	99.2%	96.3%	90.0%	82.6%	80.0%
1.50	**2.50**	99.6%	98.1%	94.7%	90.9%	90.1%
1.00	**3.00**	99.8%	99.0%	97.3%	95.5%	95.1%
Negative or "flipped"		0.0%	0.2%	0.7%	1.1%	1.2%

Source: Bloomberg, June 2009. ProFunds Group Investment Analytics. **Past performance is no guarantee of future results.** For illustrative purposes only. Not indicative of an actual investment. Does not take into account any fees or transactional costs. **Results are for the S&P 500 Index only; results with respect to other indices will vary.**

High percentage of realized multiples close to the daily multiple for -2x S&P 500

Frequency Returns Fell within Various Multiple Ranges Over Various Holding Periods (1959-2008)						
Realized Multiple Ranges		Historical -2x Daily Objective S&P 500				
		2-Day	7-Day	30-Day	91-Day	183-Day
-1.75	-2.25	97.3%	89.5%	73.4%	55.4%	44.2%
-1.50	-2.50	98.7%	94.6%	85.3%	74.9%	70.2%
-1.00	-3.00	99.4%	97.1%	92.3%	86.6%	84.5%
Positive or "flipped"		0.1%	0.7%	2.0%	3.6%	3.4%

Source: Bloomberg, June 2009. ProFunds Group Investment Analytics. **Past performance is no guarantee of future results.** For illustrative purposes only. Not indicative of an actual investment. Does not take into account any fees or transactional costs. **Results are for the S&P 500 Index only; results with respect to other indices will vary.**

Results for Dow Jones U.S. Oil & Gas Daily Objective Strategy

Frequency Returns Fell within Various Multiple Ranges Over Various Holding Periods (1992-2008)

Realized Multiple Ranges		Historical 2x Daily Objective Dow Jones U.S. Oil & Gas				
		2-Day	7-Day	30-Day	91-Day	183-Day
1.75	2.25	98.4%	92.6%	83.1%	68.6%	61.0%
1.5	2.5	99.3%	96.2%	**91.1%**	82.6%	76.9%
1	3	99.6%	98.0%	95.1%	90.8%	87.7%
Negative or "flipped"		0.1%	0.4%	1.2%	2.1%	3.1%
		Historical -2x Daily Objective Dow Jones U.S. Oil & Gas				
		2-Day	7-Day	30-Day	91-Day	183-Day
-1.75	-2.25	95.1%	80.6%	58.9%	38.1%	33.5%
-1.5	-2.5	97.6%	89.6%	**75.5%**	58.4%	54.6%
-1	-3	99.0%	94.6%	86.9%	74.7%	69.0%
Positive or "flipped"		0.2%	1.4%	3.6%	7.1%	8.8%

Source: Bloomberg, June 2009. ProFunds Group Investment Analytics. **Past performance is no guarantee of future results.** For illustrative purposes only. Not indicative of an actual investment. Does not take into account any fees or transactional costs. **Results are for the S&P 500 Index only; results with respect to other indices will vary.**

ProFunds Group Study Conclusions

- The impact of compounding over long run was neutral
- For selected indexes, there was a high likelihood of achieving returns close to the stated multiple times the index returns
  - The shorter the period and lower the index volatility, the higher the likelihood
- The likelihood of the direction of returns being “flipped” was low

ProShare Advisors LLC

Monitoring and rebalancing:
Mind the gap

Rebalancing can be an effective tool

- Some investors want returns closer to the stated multiple times the index returns over longer periods
- Monitoring fund value vs. index returns
  - Add or reduce position in fund during holding period
- May help get close to stated daily multiple over time
- Similar concept as rebalancing asset allocations
- Rebalancing doesn't always increase returns
  - In trending markets, rebalanced returns may in fact be lower (although closer to the multiple) than if no rebalancing was done

The rebalancing equation

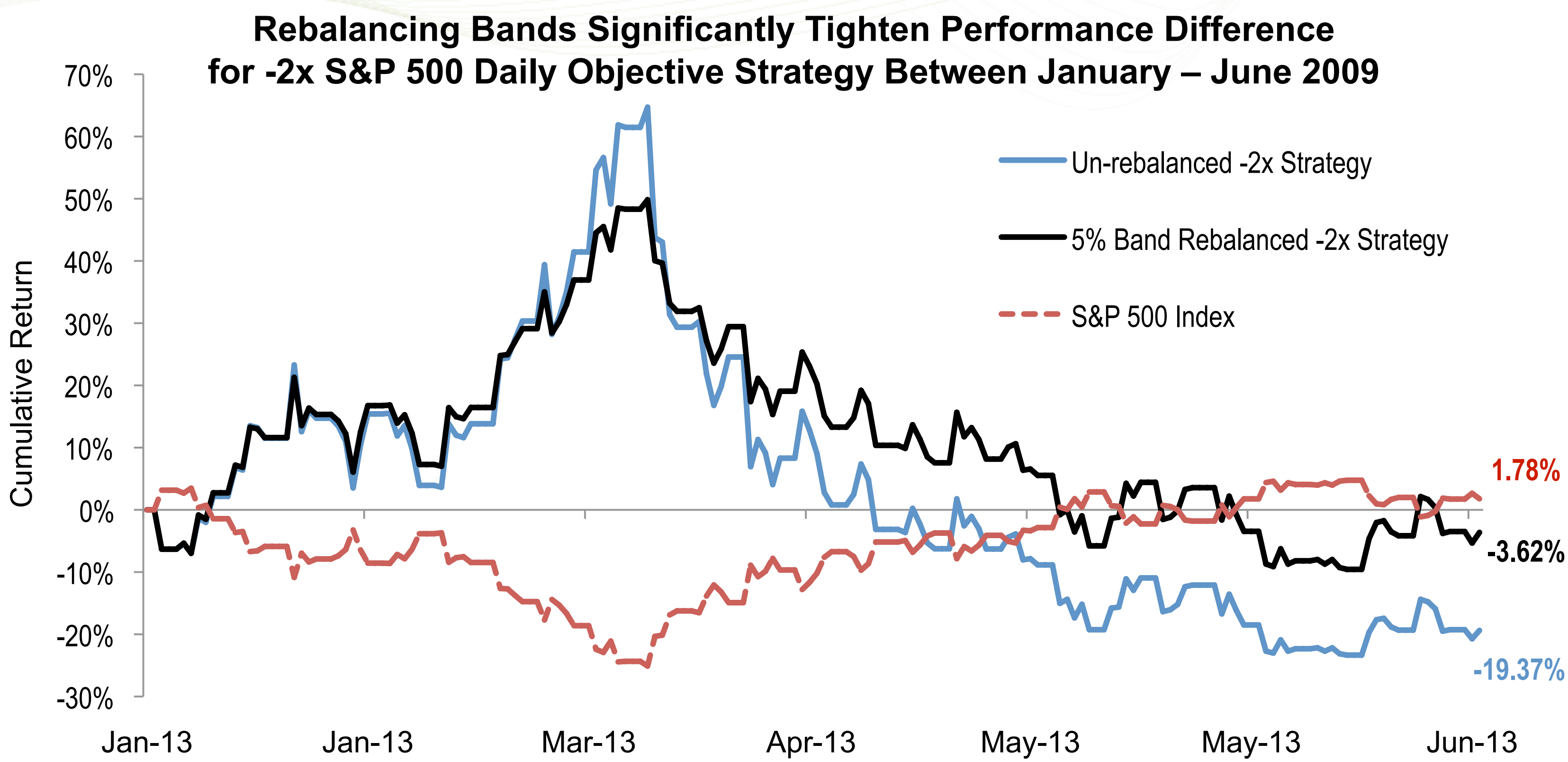
Index Return Greater Than Fund Return → ***Increase*** Fund Exposure

Rebalancing Process

Rebalance Amount =
Initial $ Invested x (1 + Index Return) – Current $ Assets in Position

Decrease Fund Exposure ← **Index Return Less Than Fund Return**

Rebalancing a -2x S&P 500 Daily Objective Strategy in early 2009



*Cumulative Return on S&P 500 Index, un-rebalanced and rebalanced -2x one-day target strategies (using 5% rebalanced bands) for period from December 31st, 2008 through June 30th, 2009

The Performance of Leverage Funds Summary

- Effect of compounding is universal
  - Trending periods enhance returns or reduce losses
  - Volatile periods hurt returns
  - Compounding has greater effect on leveraged funds
- Historically, on average, the effect of compounding was neutral
- High likelihood of getting close to 2x the index return over relatively short periods
  - The shorter the period and the lower the index volatility, the higher the likelihood
- Rebalancing can be used to approximate daily target over time

Additional Information

See "Understanding Returns of Leveraged and Inverse Funds" in the September/October issue of **Journal of Indexes**.

This material is not designed to represent the performance of any specific investment or make a recommendation for purchase. Information contained herein has been obtained from sources believed to be reliable, but the accuracy of the information cannot be guaranteed. Any projections and/or forward-looking statements regarding estimated investment outcomes are based on assumptions that we believe are reasonable at this time. However, actual results may vary materially from stated expectations, and we make no guarantees about specific investment results.

Q&A

Matt Hougan
Managing Director
ETF Analytics
IndexUniverse.com

Joanne Hill
Head of Investment Strategy
ProFunds Group

IndexUniverse.com
The World of Indexing... and Beyond