ProShares | ProFunds

INVESTOR EDUCATION GUIDE • NUMBER 2

GEARED FUND PERFORMANCE

Understanding leveraged and inverse funds

Geared funds, also called leveraged and inverse funds, are designed to provide a multiple of the performance of a benchmark. Geared funds, available as exchange traded funds (ETFs) and mutual funds, track a variety of benchmarks, from stock market indexes like the S&P 500® to the price of a commodity like gold.

Geared funds can be effective tools for a variety of investment strategies. But, as with most tools, you should understand how geared funds work before you use them and recognize that they aren't right for everyone.

This guide provides information about geared fund performance to help you better determine if these funds are the right tools for you. But it does not cover everything you should know before investing. To learn more about the specifics of any fund you are considering, including its objectives, risks, and expenses, please consult a prospectus.

WHAT YOU SHOULD KNOW ABOUT
GEARED FUND PERFORMANCE

This guide covers several key concepts about geared fund performance that you should understand before investing.

- Most geared funds have one-day investment objectives: They aim to provide, before fees and expenses, a multiple (like 2x or -1x) of the return of a benchmark for a single day and for no other time period. In this guide, "geared funds" refers to funds with one-day objectives. *(See pages 3–4.)*

- For any period other than one day, the performance of a geared fund will not likely equal the benchmark return times the multiple stated in its one-day objective. This is due to the compounding of daily returns. Compounding affects all investments, and the effects are magnified for geared funds. *(See pages 5–7.)*

- Over periods longer than a day, a geared fund's returns tend to be *greater* than the multiple of benchmark returns stated in the fund's objective if its benchmark *trends* upward or downward during the period. *(See page 6.)*

- Over periods longer than a day, a geared fund's returns tend to be *less* than the multiple of benchmark returns stated in the fund's objective if its benchmark experiences relatively *high volatility* during the period. *(See page 7.)*

- There are several approaches to holding geared funds for periods longer than a day, each with potential risks and benefits. *(See pages 8–9.)*

WHY INVESTORS
USE GEARED FUNDS

There are two types of geared funds—leveraged and inverse. These funds can be useful tools for a variety of investment strategies.

Geared Funds—Not for Every Investor
Geared funds may not be suitable for all investors. Most geared funds have one-day objectives *(see pages 3–7)*. While geared funds can be used for longer periods *(see pages 8–9)*, buy-and-hold investors pursuing intermediate- or long-term strategies should carefully consider whether geared funds are appropriate. Please read the prospectus before investing.

» **LEVERAGED FUNDS** provide magnified exposure to a benchmark by seeking a multiple (for example, 2x) of its daily return. Common uses for magnified exposure include:
- Pursuing magnified returns (both gains and losses will be magnified)
- Getting a target level of exposure using less cash
- Overweighting a market segment without committing additional cash

» **INVERSE FUNDS** seek to rise on days when their benchmarks fall or vice versa. Some move opposite their benchmarks (-1x); others offer magnified inverse exposure (for example, -2x). Common uses for inverse exposure include:
- Seeking profits from a market decline
- Helping to hedge against an expected decline
- Underweighting exposure to a market segment

Geared funds can be effective tools for these strategies. But they aren't the only tools available. For a comparison of common ways to get magnified and inverse exposure, see our *Geared Investing* guide at proshares.com.

ONE-DAY

INVESTMENT **OBJECTIVES**

Most geared funds aim to provide a multiple of the return of a benchmark *for one day,* before fees and expenses.

What does "one day" mean?
ETFs and mutual funds calculate the net value of their assets (NAV) at a specified time each trading day. A geared fund's "one-day" performance is measured by the change in value from one NAV calculation to the next. For many funds, the calculation is at the close of the U.S. stock market, but others use different times, so be sure to check the fund's prospectus. It is important to look at the right one-day period when comparing fund and benchmark returns.

That means a 2x fund should not be expected to provide 2x benchmark returns for any other time period.

Why do most geared funds have a one-day objective?

So that investors can start with the level of exposure stated in the fund's objective, on any day they invest. For example, at the end of each trading day, a 2x geared fund that has met its performance objective is unlikely to still have 2x exposure to the benchmark. Investors buying shares on subsequent days would start with different exposure levels. Over time, this difference could produce daily results as extreme as greater than 10x or less than 1x its benchmark's return.

To prevent this, geared funds aim to meet their objectives for one day only. Then, at the end of each day, the fund's holdings are adjusted so the exposure to the benchmark continues to match the fund multiple.

A look at a hypothetical fund's one-day performance with and without this daily adjustment helps make this concept clearer. Consider the example on the next page.

EXAMPLE

WHY **ONE-DAY** OBJECTIVES

By seeking to provide a multiple of benchmark performance for just one day, then adjusting its holdings, a geared fund aims to continue to provide exposure to the benchmark that matches the fund multiple.

Consider what happens at the end of a day in the 2x fund at right:

» **Ending Assets $120:** The fund met its objective of 2x benchmark returns, gaining $20 in value.

» **Ending Exposure $220:** The $20 gain in value is added to the $200 Beginning Exposure.

» **Exposure Needed $240:** To provide exposure equal to 2x its $120 Ending Assets, the fund needs to add more exposure to its benchmark.

For a fund with a one-day objective, holdings can be adjusted each day, so it can continue to provide 2x exposure for new investors.

So, understanding why a one-day objective is desirable, why can't the fund also be expected to provide 2x the benchmark return over longer periods? **The answer lies in a basic investment concept: *compounding.***

Hypothetical 2x Fund On a day its benchmark rises 10%	
Beginning Assets	$100
Beginning Exposure	$200 (2 x $100)
Fund Gain	20%
Ending Assets	$120
Ending Exposure	$220
Exposure Needed	$240 (2 x $120)

This example shows extreme benchmark movement to illustrate the point. Returns would be lower after fees and expenses. The illustration does not reflect the performance of any specific fund.

UNDERSTANDING

HOW **COMPOUNDING** WORKS

When returns are compounded,
10% + 10% = 21%

Compounding is math that affects all investments. Compounding means each period's gains or losses enlarge or shrink the base from which the next period's returns are calculated. So long-term returns can't be measured by simply adding up the returns from shorter periods.

In the example below, the hypothetical investment is up 10% each day. Over two days the return is not 20%—it's 21%, because Day 2's returns are calculated on a base that includes Day 1's gain.

The Math of Compounding	
Day 1 Beginning Assets	$100
10% Return	$10
Day 2 Beginning Assets	$110
10% Return	$11
Ending Assets	$121
Compounded 2-Day Return	21%

Compounding can have both positive and negative effects, depending on market movements. These effects are magnified for geared funds. To see how this works, see the example on the following pages.

EXAMPLE
IN A TRENDING PERIOD **2 x 21% = 44%**

During trending periods, meaning periods when the fund's benchmark rises or falls steadily, compounding results in geared fund returns greater than the benchmark return times the fund multiple. The top example illustrates this for a hypothetical 2x geared fund with a one-day objective.

» **Benchmark Return 21%:** Just as on page 5, the Compounded 2-Day Return of the benchmark is greater than the sum of each day's returns.

» **2x Fund Return 44%:** You might expect the fund's Compounded 2-Day Return to be 2x the benchmark's return. But because the fund's gains and losses are magnified, compounding's effects are also magnified. Its compounded return is greater than 2x the benchmark's.

The bottom example shows that this also happens in a downward trending market. The 2x fund's losses would be less than 2x the losses of the benchmark.

	BENCHMARK RETURN	2x FUND RETURN
UPWARD TREND	↗	↗
Beginning Value	$100	$100
Day 1 Return	+10% ($10)	+20% ($20)
Day 1 Ending Value	$110	$120
Day 2 Return	+10% ($11)	+20% ($24)
Day 2 Ending Value	$121	$144
Compounded 2-Day Return	+21%	+44%

	BENCHMARK RETURN	2x FUND RETURN
DOWNWARD TREND	↘	↘
Beginning Value	$100	$100
Day 1 Return	-10% ($10)	-20% ($20)
Day 1 Ending Value	$90	$80
Day 2 Return	-10% ($9)	-20% ($16)
Day 2 Ending Value	$81	$64
Compounded 2-Day Return	-19%	-36%

This example shows extreme benchmark movement to illustrate the point. Returns would be lower after fees and expenses. The illustration does not reflect the performance of any specific fund.

IN A VOLATILE PERIOD **2 x –1% = –4%**

In volatile periods, compounding can lead to geared fund returns lower than the benchmark return times the fund multiple. This example shows the same hypothetical fund when returns whipsaw.

» **Benchmark Return -1%:** The sum of each day's returns is 0, but the benchmark's Compounded 2-Day Return is a loss. Why? The Day 1 Return results in a larger value, then the Day 2 Return's loss is calculated on that larger value.

» **2x Fund Return -4%:** As with the trending periods, compounding's effects are magnified for the 2x fund. Note that its Compounded 2-Day Return is lower than 2x the benchmark return.

Because you can lose money faster in a geared fund, it's important to actively monitor your position to be sure it remains in line with your strategy. The more volatile the fund's benchmark, the larger the multiple of benchmark performance it seeks, and the longer you hold it, the more pronounced the effects of compounding will be.

VOLATILE PERIOD	BENCHMARK RETURN	2x FUND RETURN
Beginning Value	$100	$100
Day 1 Return	+10% ($10)	+20% ($20)
Day 1 Ending Value	$110	$120
Day 2 Return	-10% ($11)	-20% ($24)
Day 2 Ending Value	$99	$96
Compounded 2-Day Return	-1%	-4%

This example shows extreme benchmark movement to illustrate the point. Returns would be lower after fees and expenses. The illustration does not reflect the performance of any specific fund.

USING GEARED FUNDS

OVER LONGER PERIODS

Although most geared funds have one-day objectives, there are several approaches investors can take to use them for longer periods.

Once you understand how compounding affects your investment performance, you may decide to hold a geared fund for more than a day. On the next page are several ways you can address compounding, or even use it to your advantage.

Each of these approaches has risks and benefits you should consider. Whatever you choose to do, it is important to actively monitor your position, in some cases as frequently as daily, to be sure it remains appropriate for your strategy. Remember that compounding's effects are negative in periods of high volatility, so it is especially important to monitor your position when using a fund with a volatile benchmark.

» REBALANCE

Employ a rebalancing strategy if your goal is to achieve longer-term returns close to the benchmark return times the fund multiple. For example, you might use an inverse fund for an ongoing portfolio hedging strategy and rebalance to keep exposure aligned. Rebalancing may result in transaction costs and tax consequences. For a closer look at rebalancing, see pages 10–12.

» LIMIT THE HOLDING PERIOD

Hold a geared fund for a short time. Because the effects of compounding grow with time, a geared fund may well suit your objectives over a short time period.

» ACCEPT THE EFFECTS OF COMPOUNDING

Hold a geared fund over a longer period without rebalancing, accepting compounding's effects. If you understand compounding's potential effects, you can choose to accept returns different from the benchmark returns times the fund multiple—positive or negative. Remember, those differences could become significant.

» SEEK TO TAKE ADVANTAGE OF COMPOUNDING

Pursue enhanced returns using the effects of compounding on geared funds. If you have conviction about the volatility and direction of a benchmark, use a strategy that could benefit from compounding in those conditions. For example, when you expect a trending, low-volatility period, you might hold a leveraged fund to potentially enhance your return.

REBALANCING STRATEGY:
A CLOSER LOOK

Consider a rebalancing strategy if you seek geared fund returns close to the benchmark return times the fund multiple over longer periods.

Rebalancing is the process of trimming or adding to a position to maintain the desired amount of exposure to specific asset classes or securities in your portfolio.

For example, if you hold a 2x fund and your goal is to achieve returns near 2x the benchmark, you could add to or trim your position as the difference between the benchmark's return and the fund's return grows. As you will note in the step-by-step example on page 12, this rebalancing may help you keep exposure in line with the fund's daily objective.

Rebalancing can buffer the negative effects of compounding, but it can also reduce the positive effects. Rebalancing during a low-volatility trending market, for example, may result in lower returns than not rebalancing.

Because you are buying and selling shares, rebalancing may result in transaction costs and tax consequences. Before implementing a rebalancing strategy, be sure you have cash available to buy more shares when needed.

ESTABLISHING A REBALANCING PLAN

Before implementing a rebalancing strategy, you should plan how you will decide when to rebalance. There are two methods to choose from: Trigger-Based or Calendar-Based.

Trigger-Based Rebalancing	**Calendar-Based Rebalancing**
How It Works With this method, you rebalance each time the difference between the benchmark's return and the fund's return, known as the "gap," reaches a certain threshold. For instance, you could decide to rebalance every time the difference between the benchmark return and the fund return reaches 10%.	*How It Works* This method involves rebalancing at predetermined intervals such as weekly, monthly, or quarterly.
Advantages • You can maintain exposures within a predetermined range that you select based on your goals. • It is attuned to market conditions—you rebalance more frequently in volatile periods.	*Advantage* • You have the convenience of knowing exactly when and how often you will rebalance.
Disadvantage • A Trigger-Based approach may require frequent rebalancing. Keep in mind that inverse funds and funds with volatile benchmarks or larger multiples may require more frequent rebalancing.	*Disadvantage* • It is not attuned to market conditions. Depending on market volatility, your performance may stray significantly from the benchmark return times the fund multiple, especially if you rebalance infrequently.

REBALANCING GEARED FUNDS
STEP BY STEP

» STEP 1 — CHOOSE A REBALANCING PLAN *(see page 11)*

» STEP 2 — DETERMINE THE GAP BETWEEN THE BENCHMARK'S RETURN AND THE FUND'S RETURN

The chart at right shows the returns of an inverse fund and its underlying benchmark. Each started at an Initial Value of $100. Over time, the Benchmark Return was 5%. The Fund Return was -10%, making its Current Value $90. Using this formula, you'll see that the gap is 15%.

Benchmark Return – Fund Return = Gap

5% – (-10%) = 15%

» STEP 3 — CALCULATE YOUR REBALANCE TRADE

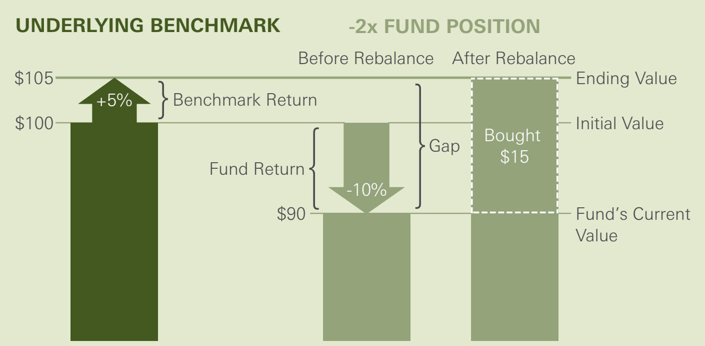
When it is time to rebalance, calculate how much to increase or decrease your position using the formula below. In our example, you would increase your inverse fund position by $15.

Initial Value x (1 + Benchmark Return) – Fund's Current Value = Rebalance Trade Amount

$100 x (1 + 0.05) – $90 = $15

» STEP 4 — MONITOR AND REPEAT IF NECESSARY

REBALANCING AN INVERSE FUND POSITION



For illustrative purposes only

Find Out More

Understanding the concepts in this guide is an important step in deciding if geared funds are the right tools for you. Of course, other factors may also affect performance. Be sure you understand a fund's risks and costs, as well as its underlying benchmark, before investing. Our websites, proshares.com and profunds.com, offer educational materials and specific product information to help with your decisions. You should always consult the prospectus of any investment you are considering.

About ProShares and ProFunds

ProFunds was founded in 1997 and launched ProShares, the first geared ETFs, in 2006. Today, with more than 120 ETFs and 100 mutual funds, we are the world's leader in geared funds. We also offer other alternative ETFs and mutual funds that allow investors to execute sophisticated investment strategies.

To learn more about us and our growing family of alternative investments, please visit proshares.com and profunds.com.