

TalkingPoints:

S&P Leverage and Inverse Indices



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Read more about the S&P Leverage and Inverse Indices and how they can be a useful benchmark for leverage and inverse products.

1. What are leverage and inverse indices and why are they important?

The [S&P Leverage and Inverse Indices](#) aim to replicate the daily performance of their underlying indices with a constant multiplicative factor, positive or negative, with or without embedded borrowing and lending costs. They offer market participants short-term trading tools for hedging and leveraging purposes. They also provide benchmarks for leverage and inverse products, such as leverage and inverse mutual funds, exchange-traded funds, exchange-traded notes, etc.

2. What are the underlying securities of leverage and inverse indices?

The S&P Leverage and Inverse Indices can measure equities and futures indices. Examples of possible underlying equity indices would include the [S&P 500[®]](#) and the [Dow Jones Industrial Average[®]](#).

The underlying futures indices could include equity futures indices, currency futures indices, commodity futures indices, and VIX[®] futures indices, such as the [Dow Jones Industrial Average Futures Index](#), [S&P U.S. Dollar Futures Index](#), [S&P GSCI Crude Oil](#), and [S&P 500 VIX Short-Term Futures Index](#).

3. What return types are there for leverage and inverse indices?

For equity-based leverage and inverse indices, the index return types follow the underlying indices and can be measured in price return, total return, or net total return.

For futures-based leverage and inverse indices, both excess return indices and total return indices are calculated. The difference in excess return and total return is explained in question 4.

4. What borrowing costs are embedded in leverage and inverse indices?

For equity-based leverage indices, the daily return consists of two components: (1) the return on the total position in the underlying index minus (2) the borrowing costs for the leverage.

For equity-based inverse indices, the daily return consists of two components: (1) the inverse of the underlying index return plus (2) the interest earned on both the initial investment and the proceeds from short selling the securities in the underlying index.

Indices typically use an overnight rate, such as the Overnight LIBOR in the U.S. or Eonia in Europe. Some assume a zero rate and are called carry-free indices. The same rate is assumed to be used for both lending and borrowing.

For futures-based leverage and inverse indices, the index excess return is the multiple of the underlying futures index's excess return. The total return additionally includes interest accrual on the notional value of the index, based on the 91-day U.S. Treasury Bond rate. These settings are typically used in futures-based indices.

5. What is the leverage ratio of a leverage or inverse index?

The leverage ratio is a constant that represents the leverage that an index takes at the opening of a particular trading day. When the leverage ratio is 2, each dollar invested provides USD 2 of exposure to the performance of the underlying index, which means 200% of the risk and volatility.

6. How frequently are leverage and inverse indices rebalanced?

The [S&P Leverage and Inverse Indices](#) typically rebalance on a daily basis. This allows the index to respond to the changes in the market every day the market is open. An index's exposure to its underlying index is reset to the correct multiples at the end of each trading day. While the daily rebalancing allows the indices to seek to magnify (or invert) the return of their underlying indices on a daily basis, returns for longer periods are a product of the compounded daily leveraged (or inverse) returns during the period.

7. Assuming zero borrowing costs, would a 2X leverage index return 10% if the underlying index returned 5% in a given month?

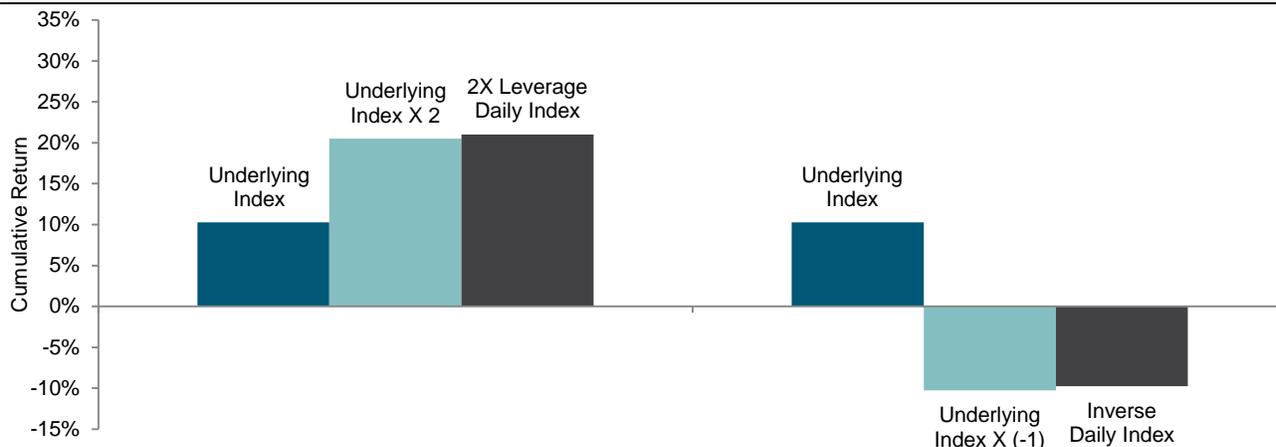
The indices' objective to seek an exposure of 200% is a daily objective and does not necessarily apply to longer periods of time. The actual longer-term performance may be close to the daily targets—but depending on certain market movements and due to the resetting of the leverage ratio back to 200% at market close, performance over time may vary.

In markets predominantly trending in one direction with low volatility, the performance for periods longer than one day may exceed the return of the index multiplied by 200%. However, in volatile markets, the pursuit of daily investment targets will typically have a negative impact on performance for periods longer than one day.

The scenarios in Exhibits 1-3 illustrate how a 2X leverage daily index and an inverse daily index perform in various market scenarios, assuming zero borrowing or lending costs.

Exhibit 1: Market Rises Steadily

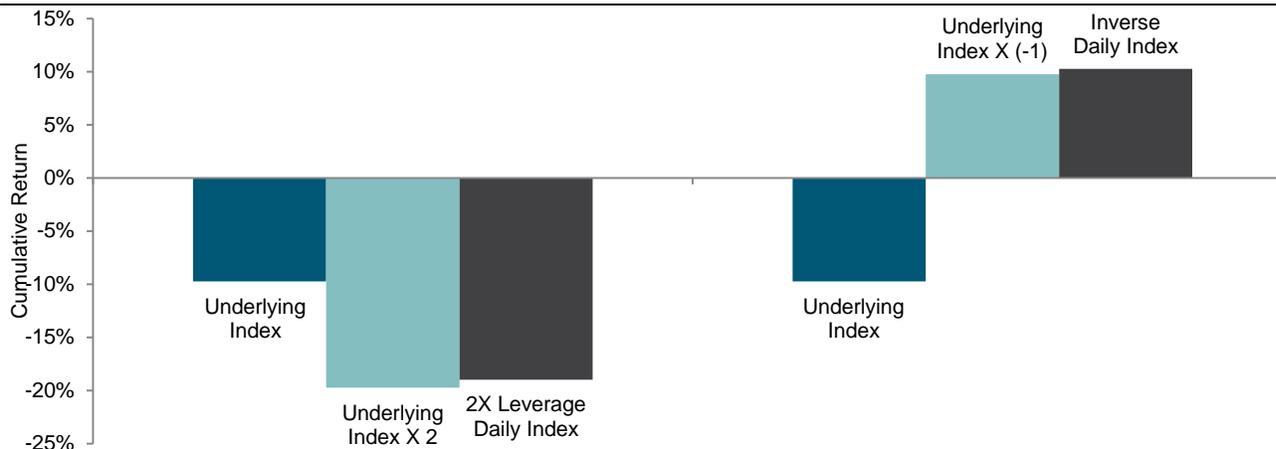
TIME PERIOD AND RETURN	UNDERLYING INDEX	2X LEVERAGE DAILY INDEX	INVERSE DAILY INDEX
First Day (%)	5	10	-5
Second Day (%)	5	10	-5
Cumulative Return	$(1 + 5\%) * (1 + 5\%) - 1 = 10.25\%$	$(1 + 10\%) * (1 + 10\%) - 1 = 21\%$	$(1 - 5\%) * (1 - 5\%) - 1 = -9.75\%$
Cumulative Return * 2 (%)	20.5	-	-
Cumulative Return x - 1 (%)	-10.25	-	-



Source: S&P Dow Jones Indices LLC. Chart and table are provided for illustrative purposes. *The Underlying Index, Underlying Index X 2, 2X Leverage Daily Index, Underlying Index X (-1), and Inverse Daily Index are hypothetical portfolios.

Exhibit 2: Market Declines Steadily

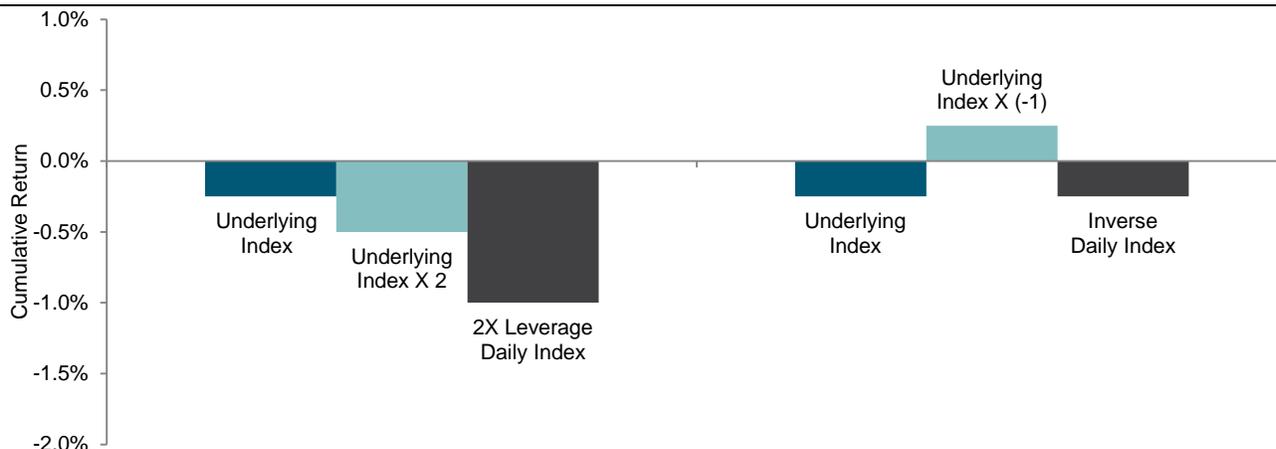
TIME PERIOD AND RETURN	UNDERLYING INDEX	2X LEVERAGE DAILY INDEX	INVERSE DAILY INDEX
First Day (%)	-5	-10	5
Second Day (%)	-5	-10	5
Cumulative Return	$(1 - 5\%) * (1 - 5\%) - 1 = -9.75\%$	$(1 - 10\%) * (1 - 10\%) - 1 = -19\%$	$(1 + 5\%) * (1 - 5\%) - 1 = -10.55\%$
Cumulative Return * 2 (%)	-19.50	-	-
Cumulative Return x - 1 (%)	9.75	-	-



Source: S&P Dow Jones Indices LLC. Chart and table are provided for illustrative purposes. *The Underlying Index, Underlying Index X 2, 2X Leverage Daily Index, Underlying Index X (-1), and Inverse Daily Index in this exhibit are hypothetical portfolios.

Exhibit 3: Market Is Flat, but Volatile

TIME PERIOD AND RETURN	UNDERLYING INDEX	2X LEVERAGE DAILY INDEX	INVERSE DAILY INDEX
First Day (%)	5	10	-5
Second Day (%)	-5	-10	5
Cumulative Return	$(1 + 5\%) * (1 - 5\%) - 1 = -0.25\%$	$(1 + 10\%) * (1 - 10\%) - 1 = -1\%$	$(1 + 5\%) * (1 - 5\%) - 1 = -0.25\%$
Cumulative Return * 2 (%)	-0.50	-	-
Cumulative Return x - 1 (%)	0.25	-	-



Source: S&P Dow Jones Indices LLC. Chart and table are provided for illustrative purposes. *The Underlying Index, Underlying Index X 2, 2X Leverage Daily Index, Underlying Index X (-1), and Inverse Daily Index in this exhibit are hypothetical portfolios.

8. What Leverage and Inverse Indices Are Available From S&P Dow Jones Indices?

Exhibit 4: S&P Leverage and Inverse Indices

INDEX CATEGORY	INDEX FAMILY
Leverage and Inverse Indices Based on Equities With Carry	S&P 500 Leverage and Inverse Daily Indices
	Dow Jones Industrial Average Leverage and Inverse Daily Indices
Leverage and Inverse Indices Based on Equities That Are Carry Free	S&P 500 Leverage and Inverse Carry-Free Daily Indices
	Dow Jones Industrial Average PR Leverage and Inverse Carry-Free Daily Indices
	S&P MidCap 400 [®] Leverage and Inverse Daily Indices
Leverage and Inverse Indices Based on Equity Futures	Dow Jones Industrial Average Futures Leverage and Inverse Daily Indices
	S&P U.S. Dollar Futures Leverage and Inverse Daily Indices
Leverage and Inverse Indices Based on Currency Futures	S&P Japanese Yen Futures Leverage and Inverse Daily Indices
	S&P Australian Dollar Futures Leverage and Inverse Daily Indices
	S&P EURO Futures Leverage and Inverse Daily Indices

Source: S&P Dow Jones Indices LLC. Indices available as of Aug. 31, 2016. Table is provided for illustrative purposes.

Exhibit 4: S&P Leverage and Inverse Indices (cont.)	
INDEX CATEGORY	INDEX FAMILY
Leverage and Inverse Indices Based on Commodity Futures	Dow Jones Commodity Index Brent Crude Leverage and Inverse Indices
	Dow Jones Commodity Index Crude Oil Leverage and Inverse Daily Indices
	Dow Jones Commodity Index Gold Leverage and Inverse Daily Indices
	Dow Jones Commodity Index Silver Leverage and Inverse Daily Indices
	Dow Jones Commodity Index North America Copper Leverage and Inverse Daily Indices
	Dow Jones Commodity Index Corn Leverage and Inverse Daily Indices
	S&P GSCI Brent Crude Leverage and Inverse Daily Indices
	S&P GSCI Crude Oil Leverage and Inverse Daily Indices
	S&P GSCI Gold Leverage and Inverse Daily Indices
	S&P GSCI Silver Leverage and Inverse Daily Indices
	S&P GSCI Capped Commodity Inverse Daily Indices
	S&P GSCI Industrial Metals 1-Month Forward Capped Commodity Inverse Daily Indices
	S&P GSCI Agriculture & Livestock 1-Month Forward Capped Component Inverse Daily Indices
	S&P GSCI Energy 1-Month Forward Capped Commodity Inverse Daily Indices
	S&P GSCI Agriculture Select Inverse Daily Indices
	Leverage and Inverse Indices Based on VIX Futures

Source: S&P Dow Jones Indices LLC. Indices available as of Aug. 31, 2016. Table is provided for illustrative purposes.

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