

TailDex®

NATIONS®

INDEXES

A ROBUST, MODEL-FREE AND INVESTABLE MEASURE OF TAIL RISK

The Nations® TailDex® Index measures the market's estimate of the likelihood of an extreme drop in equity prices. By creating a synthetic put option three standard deviations out-of-the-money and normalizing the option price, the Nations Large Cap TailDex Index provides a clear measure of expectations for an extreme move in the S&P 500® and can be compared across time, market regimes and asset class. TailDex Indexes are model-free and robust from a theoretical standpoint.

Nations TailDex Index

The Nations TailDex Index calculates and standardizes the cost of options that hedge against a three standard deviation drop in price. Since TailDex measures the cost of hedging tail risk and standardizes the threshold of a such tail event, a threshold shared by the academic and investment communities, TailDex is superior to other measures of tail risk and can be compared to Nations TailDex Indexes on other equity indexes and asset classes. Existing measures of tail risk exhibit significant flaws as most focus on the reaction of option implied volatility to an extreme event rather than the market risk of the event. The calculation of the tail event threshold for Nations TailDex is logically based on the current volatility environment rather than stale historical data that may not be relevant to the existing volatility regime.

What Is Tail Risk?

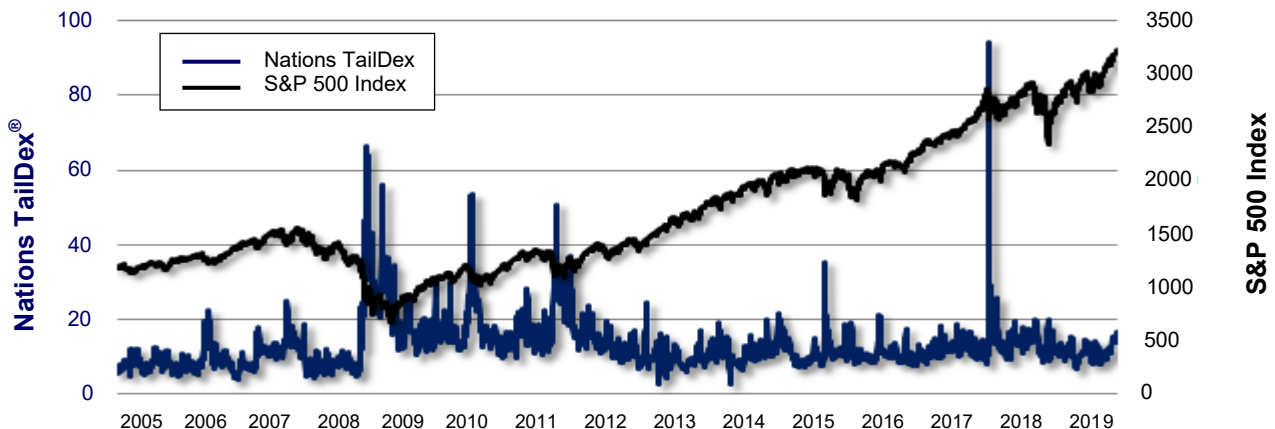
Tail risk is the likelihood of an extreme downward move in an asset's price, a move of at least three standard deviations. The likelihood of such an event in equity markets is more probable than anticipated by a normal distribution of returns.

If investment returns exhibited a normal distribution the likelihood of such an event would be 0.135% but investment returns are clearly not normally distributed; extreme events occur more frequently than expected. This phenomenon has significant negative implications for investors and asset managers.

Nations Large Cap
TailDex Ticker Symbol:

TDEX

HISTORICAL COMPARATIVE RESULTS



Better Ideas. Better Indexes.®

The Nations Large Cap TailDex Index

The Nations Large Cap TailDex Index (ticker TDEX[®]) calculates the cost of a SPDR[®] S&P 500 (SPY) put option that is precisely three standard deviations out-the-money with precisely 30 days to expiration. As such, TailDex informs investors of the market's estimation of the likelihood of a three standard deviation drop in the SPDR S&P 500 (SPY) over the next 30 days and the cost of insuring against such a drop. The Nations TailDex is a superior, investable measure of tail risk because TailDex measures tail risk as academics and market participants define it. The Nations TailDex Indexes are protected by patents pending.

Nations TailDex Index Values Are More Meaningful

TailDex Index values represent the cost of purchasing a precisely 30-day put option with a strike price precisely three standard deviations out-of-the-money. The Nations TailDex Index was recently at 14.29 indicating that a 30-day put option struck three standard deviations out-of-the-money would cost 0.1429% of the underlying, in this case the SPDR S&P 500 (SPY) ETF.

Historical Values

	Nations TailDex Index
Recent Closing Value (12/31/2019)	14.29
Average Daily Closing Value	13.06
Median Daily Closing Value	11.67
Standard Deviation of Daily Change	16.99%
Correlation to S&P 500	-24.76%
Closing High	94.48 (February 5, 2018)
Closing Low	4.97 (January 4, 2006)
Correlation to VolDex	39.90%
Beta vs. VolDex	0.85
R-Squared vs. VolDex	15.92%

1/31/2005 through 12/31/2019

Performance of an index is not illustrative of any particular investment or vehicle. Index results quoted represent past performance, which is no guarantee of future results.

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Index Description

The Nations TailDex Index provides an improved measure of the market's perception of tail risk. Nations indexes define a "tail" event the way academics and practitioners define it, as a price drop of three standard deviations. Since TailDex Indexes are constructed without using an option pricing model or volatility derivatives, they can be compared across equity indexes and asset classes.

A Superior Measure

TailDex is a vastly superior measure of the perception of tail risk:

- TailDex measures tail risk as investors and asset managers define it, as a downward move of three standard deviations.
- The TailDex measure is meaningful. It is the cost of a precisely 30-day put option expressed in basis points of the underlying.
- Since time to expiration and relative moneyness are standardized, Nations TailDex Indexes can be compared to those of other equity assets.
- The 3 standard deviation threshold is calculated using current option prices rather than stale historical return data.
- Nations TailDex is the only measure of the market's perceptions for the likelihood of an extreme event, the sort of event which occurs more frequently than expected and is often called a "fat tail".