

# PutDex<sup>®</sup>

NATIONS<sup>®</sup>

INDEXES

## A VITAL MEASURE OF THE COST OF PUT OPTIONS

The Nations<sup>®</sup> Large Cap PutDex<sup>®</sup> Index is a new measure of the cost of the most popular large cap index put options, those used most frequently to insure a large cap portfolio against loss. PutDex is a normalized, strike independent measure of the cost of a SPY put option with 30 days to expiration which is struck 1 standard deviation out-of-the-money.

The put options used in PutDex are options on SPY, the SPDR<sup>®</sup> S&P 500<sup>®</sup> ETF. SPY options are the most active, liquid options in the world.

PutDex is the first measure of the cost of put options. As such, it is a measure of expectations for a break in equity prices as well as a measure of the likelihood of price volatility during the next 30 calendar days.

### Interpreting the Value of PutDex

The value of PutDex increases as the price of the 1 standard deviation out-of-the-money near-term put options increases. Higher put option prices indicate expectations for greater volatility during the next 30 days and potentially a downward bias on the part of speculators and traders.

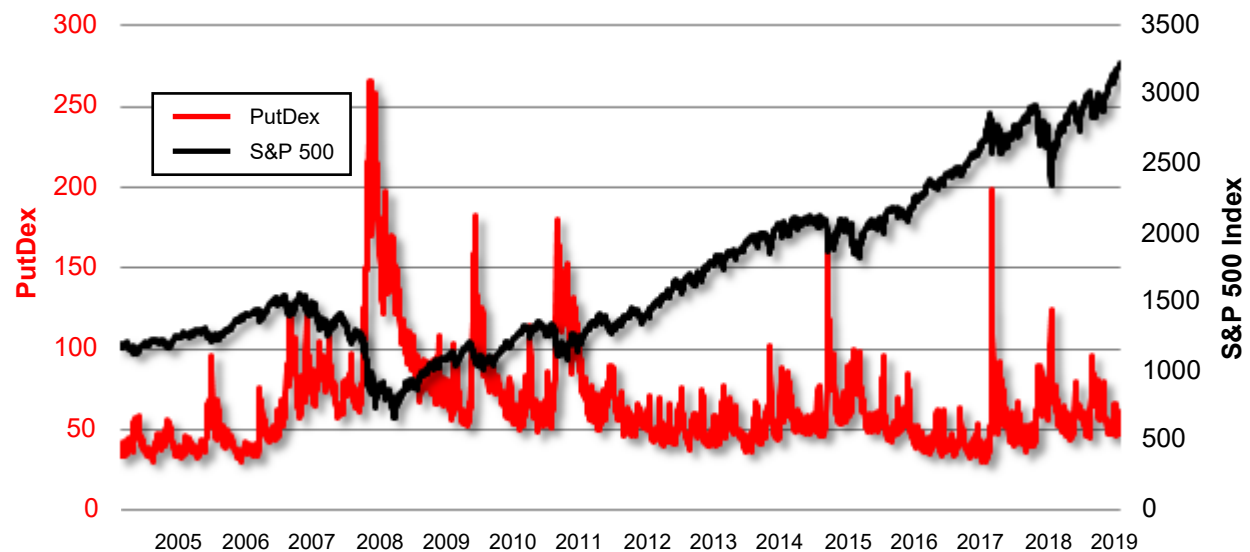
### Nations<sup>®</sup> PutDex<sup>®</sup>

The Nations Large Cap PutDex Index measures expectations for market volatility and direction over the next 30 calendar days as expressed by options on SPY, the most liquid options in the world.

Volatility is a measure of both the speed and magnitude of price movements over a finite period of time. Most investors and speculators equate volatility and risk and PutDex provides specific insight into expectations for volatility.

PutDex provides insight into both expectations for this future volatility and the market's expectations for the direction of those price changes. Obviously, the direction of the price changes is important to long-term investors.

## Historical Comparative Results

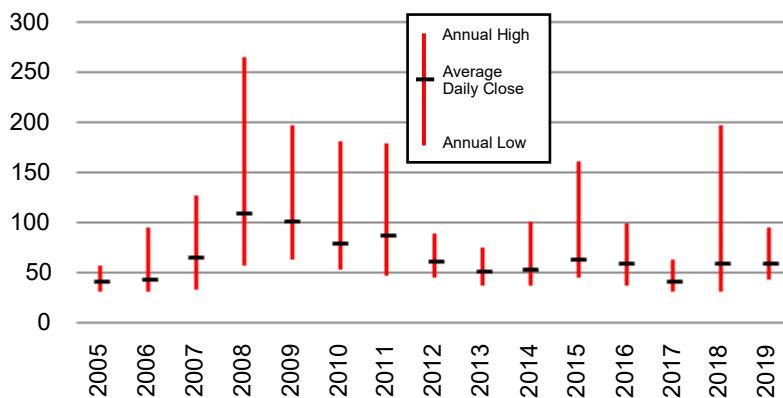


Better Ideas. Better Indexes.<sup>®</sup>

## How Is PutDex Related To VolDex

PutDex and VolDex are different measures of the risk of returns for SPY options with PutDex focusing on downside returns. VolDex measures the market's perceptions of expected volatility over the next 30 days. PutDex is the normalized price of an out-of-the-money put option. While both are driven by expectations for volatility, PutDex is impacted by directional risk as expressed by skew, an important measure for investors concerned with market direction, not just absolute volatility of returns.

## PutDex Annual Range And Average Daily Close



## THE NATIONS SUITE OF VOLATILITY INDEXES

Nations Indexes measure important aspects of the large cap index option market and when used together provide unique insight into the market's perceptions of risk and/or future direction. For example, CallDex<sup>®</sup> measures the cost of a 1 standard deviation out-of-the-money SPY call option and when compared to PutDex provides understanding not offered by other indexes. RiskDex<sup>®</sup> calculates this formal relationship and captures the positioning of investors and speculators.

Nations indexes are protected by patents pending.

Performance of an index is not illustrative of any particular investment. Index returns quoted represent past performance, which is not a guarantee of future results.

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## PutDex Construction

The Nations Large Cap PutDex Index measures the normalized cost of a hypothetical SPY (SPDR S&P 500 ETF) put option with precisely 30 days to expiration which is precisely 1 standard deviation out-of-the-money.

PutDex uses current option prices to calculate the 1 standard deviation threshold for the 2 expiration dates bracketing 30 days from today. It then calculates a normalized put option price for each expiration date and interpolates to arrive at a 30 day figure.

The best way to understand everything the SPY option market has to say is to deconstruct skew and PutDex provides insight into this vital portion of the option market.

## Nations PutDex Index

### Daily Results

Average Close:	64.58
Median Close:	56.68
High Close: (October 27, 2008)	265.98
Low Close: (January 5, 2018)	30.67
Largest Daily Increase: (February 5, 2018)	202.46%
Largest Daily Decrease: (February 6, 2018)	46.69%
Correlation to S&P	- 64.11%
Correlation to VOLI:	88.88%
STD of Daily Change:	8.90%
Beta (vs. VOLI)	0.99
R-Squared (vs. VOLI)	79.00%

1/31/2005 through 2/31/2019