

### Description

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The S&P CoreLogic Case-Shiller 20-City Composite Home Price NSA Index seeks to measure the value of residential real estate in 20 major U.S. metropolitan areas: Atlanta, Boston, Charlotte, Chicago, Cleveland, Dallas, Denver, Detroit, Las Vegas, Los Angeles, Miami, Minneapolis, New York, Phoenix, Portland, San Diego, San Francisco, Seattle, Tampa and Washington, D.C.

### Index Attributes

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Calculated monthly, the index is included in the S&P CoreLogic Case-Shiller Home Price Index Series, a family of indices designed to be consistent benchmarks of housing prices in the U.S. The indices track the total value of existing single-family housing within the U.S.

Based on the pioneering research of Robert J. Shiller and Karl E. Case, the S&P CoreLogic Case-Shiller Home Price Indices are generally seen as the leading measure of U.S. residential real estate prices. This family of indices is designed to measure changes in housing market prices, given a constant level of quality in the homes.

### Methodology Construction

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- **Repeat Sales Method.** The repeat sales pricing technique that is used is widely recognized as the most appropriate way to measure price changes for real estate.
- **Index Approach.** The S&P CoreLogic Case-Shiller Home Price Indices are based on observed changes in home prices and are designed to measure increases or decreases in the market value of residential real estate in 20 defined MSAs and three price tiers—low, middle and high.
- **Creation of Sales Pairs.** The movement in the price of single-family homes is measured by collecting data on actual sale prices. When a home is resold, months or years later, the new sale price is matched to its first sale price. These two data points are called a “sale pair,” and the difference in the sale pair is measured and recorded. Sales pairs are designed to yield the price change for the same house, while holding the quality and size of each house constant.
- **Weighting of Sales Pairs.** The indices are value-weighted and designed to control for quality change in the homes being measured. Sales pairs are assigned weights to account for fluctuations in price that can be attributed to factors such as extensive home remodeling, adding a home addition or extreme neglect. Time intervals between sales are also considered.
- **Three-Month Moving Average.** The indices are calculated monthly, using a three-month moving average algorithm. Home sales pairs are accumulated in rolling three-month periods. This averaging methodology is used to offset delays that can occur in the flow of sales price data from county deed recorders and to keep sample sizes large enough to create meaningful price change averages.
- **Data.** CoreLogic®, a leading provider of information technology services, serves as the calculation agent for the S&P CoreLogic Case-Shiller Home Price Indices. CoreLogic receives sale price information from multiple sources and crosschecks data points using its own proprietary methodology.

### Quick Facts

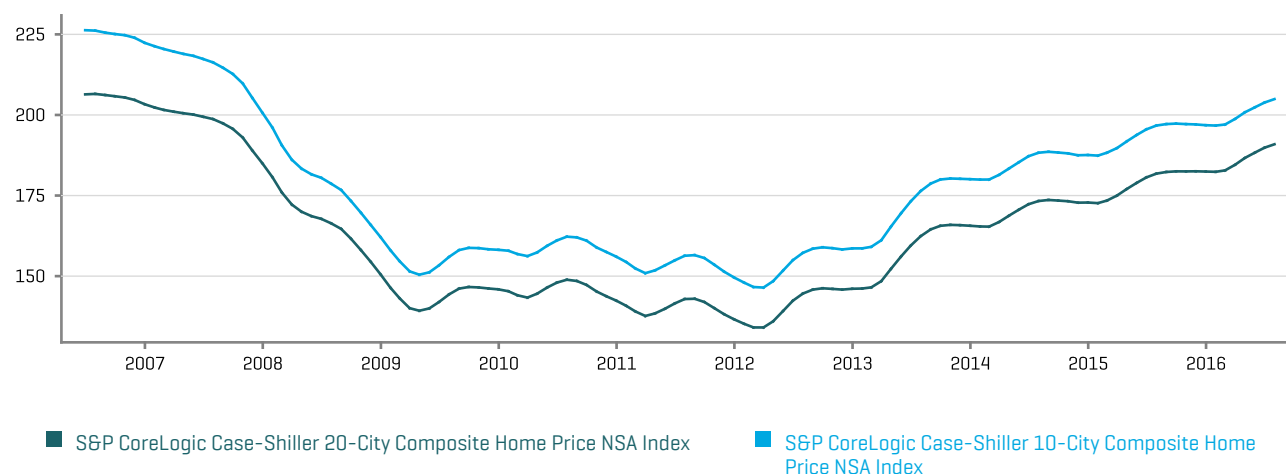
CALCULATION FREQUENCY	Monthly
CALCULATION CURRENCIES	USD
LAUNCH DATE	December 18, 2006

For more information, including the complete methodology document, please visit:

<http://www.spindices.com/indices/real-estate/sp-corelogic-case-shiller-20-city-composite-home-price-nsa-index>

All information for an index prior to its Launch Date is back-tested, based on the methodology that was in effect on the Launch Date. Back-tested performance, which is hypothetical and not actual performance, is subject to inherent limitations because it reflects application of an Index methodology and selection of index constituents in hindsight. No theoretical approach can take into account all of the factors in the markets in general and the impact of decisions that might have been made during the actual operation of an index. Actual returns may differ from, and be lower than, back-tested returns.

### Historical Performance



### Performance

INDEX LEVEL	EFFECTIVE DATE	RETURNS			ANNUALIZED RETURNS			
		1 MO	3 MOS	YTD	1 YR	3 YRS	5 YRS	10 YRS
INDEX LEVELS								
190.91	Jul-2016	0.56%	2.29%	4.64%	5.02%	5.54%	5.97%	-0.78%
BENCHMARK* INDEX LEVELS								
204.92	Jul-2016	0.53%	2.05%	4.11%	4.18%	5.12%	5.56%	-0.98%

\* The index benchmark is the S&P CoreLogic Case-Shiller 10-City Composite Home Price NSA Index

### Calendar Year Performance

2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
INDEX LEVELS									
5.56%	4.35%	13.38%	6.94%	-4.07%	-2.40%	-3.08%	-18.61%	-9.03%	0.67%
BENCHMARK* INDEX LEVELS									
4.93%	4.17%	13.54%	6.03%	-4.14%	-1.34%	-2.42%	-19.23%	-9.77%	0.22%

\* The index benchmark is the S&P CoreLogic Case-Shiller 10-City Composite Home Price NSA Index

### Tickers

	TICKER	REUTERS
INDEX LEVELS	SPCS20	.SPCS20

### Disclaimer

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Source: S&P Dow Jones Indices LLC, a division of S&P Global.

The launch date of the S&P CoreLogic Case-Shiller 20-City Composite Home Price NSA Index was December 18, 2006. The launch date of the S&P CoreLogic Case-Shiller 10-City Composite Home Price NSA Index was December 18, 2006.

All information presented prior to the index launch date is back-tested. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. Past performance is not an indication or guarantee of future results. Please see the Performance Disclosure at <http://www.spindices.com/regulatory-affairs-disclaimers/> for more information regarding the inherent limitations associated with back-tested performance.

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