House Price Appreciation 1987-2015:
Philadelphia Region v. 10-City U.S. Composite

% Change
1998 to Peak: +172% +106%
From Peak: -17% -18%

*Source: Case-Shiller MacroMarkets LLC. The 10-City Composite Index includes Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco and Washington DC. It does not include Philadelphia.
by Philadelphia Area Submarket and U.S.: 1980Q1=100

- Philadelphia*
- Phila. Suburbs*
- U.S. Avg.**

*Empirically estimated by Kevin C. Gillen, PhD
**Courtesy Federal Housing Finance Agency (FHFA)

Note: The suburban index includes all counties in the regional index, except for Philadelphia county.
## Total House Price Appreciation Rates by Philadelphia Area Submarket and U.S.

<table>
<thead>
<tr>
<th>Period</th>
<th>Philadelphia Region*</th>
<th>Philadelphia County*</th>
<th>Philadelphia Suburbs*</th>
<th>U.S.A.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-Year</td>
<td>136.2%</td>
<td>137.8%</td>
<td>135.6%</td>
<td>127.6%</td>
</tr>
<tr>
<td>10-Year</td>
<td>-6.2%</td>
<td>4.5%</td>
<td>-9.7%</td>
<td>8.4%</td>
</tr>
<tr>
<td>1-Year</td>
<td>1.0%</td>
<td>4.1%</td>
<td>-0.1%</td>
<td>4.8%</td>
</tr>
<tr>
<td>1-Quarter</td>
<td>-1.8%</td>
<td>-0.3%</td>
<td>-2.3%</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

*Empirically estimated by Kevin C. Gillen Ph.D.

**Source: Federal Housing Finance Agency (FHFA). FHFA numbers are through 2014 Q4 only.
Philadelphia Regional House Price Indices 1980-2015, by County
1980Q1=100

Philadelphia*
Bucks
Chester
Delaware
Montgomery
New Castle
Mercer
Burlington
Camden
Gloucester
Salem

*All indices empirically estimated by Kevin C. Gillen, PhD

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Philadelphia Region House Price Appreciation Rates by County

<table>
<thead>
<tr>
<th>Period</th>
<th>Philadelphia</th>
<th>Bucks</th>
<th>Chester</th>
<th>Delaware</th>
<th>Montgomery</th>
<th>New Castle</th>
<th>Mercer</th>
<th>Burlington</th>
<th>Camden</th>
<th>Gloucester</th>
<th>Salem</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-Year</td>
<td>137.8%</td>
<td>152.9%</td>
<td>150.3%</td>
<td>123.4%</td>
<td>141.0%</td>
<td>125.8%</td>
<td>157.2%</td>
<td>120.9%</td>
<td>116.6%</td>
<td>131.7%</td>
<td>123.1%</td>
</tr>
<tr>
<td>10-Year</td>
<td>4.5%</td>
<td>-9.6%</td>
<td>1.8%</td>
<td>-17.5%</td>
<td>-6.6%</td>
<td>-14.3%</td>
<td>-5.4%</td>
<td>-17.5%</td>
<td>-17.7%</td>
<td>-10.4%</td>
<td>-17.3%</td>
</tr>
<tr>
<td>1-Year</td>
<td>4.1%</td>
<td>6.8%</td>
<td>-2.1%</td>
<td>-1.6%</td>
<td>0.0%</td>
<td>5.1%</td>
<td>-15.8%</td>
<td>3.3%</td>
<td>4.2%</td>
<td>0.8%</td>
<td>6.0%</td>
</tr>
<tr>
<td>1-Quarter</td>
<td>-0.3%</td>
<td>-2.4%</td>
<td>-1.8%</td>
<td>-5.0%</td>
<td>0.3%</td>
<td>-1.3%</td>
<td>-6.6%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>-2.8%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

All county-level indices and appreciation rates estimated by Kevin C. Gillen, Ph.D.
Note: Each county is extruded by its average change in house values during 2015 Q1 in order to reflect its growth (or depreciation) rate relative to other counties.
Median Regional House Price v. Indexed Regional House Price

*Empirically estimated by Kevin C. Gillen, PhD

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Median House Price by County: 1980-2015

- New Castle
- Mercer
- Burlington
- Camden
- Gloucester
- Salem
- Bucks
- Chester
- Delaware
- Montgomery
- Philadelphia

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Number of Regional House Sales 2005-2015 with Price>=1m

Qtly. Average
Philadelphia Region House Sales in 2015 Q1

$Price/SqFt
- >$165
- $130-165
- $105-130
- $65-105
- <$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Philadelphia County House Sales in 2015 Q1

$Price/SqFt
- >$165
- $130-165
- $105-130
- $65-105
- <$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Bucks County House Sales in 2015 Q1

$Price/SqFt

- >$165
- $130-165
- $105-130
- $65-105
- <$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Montgomery County House Sales in 2015 Q1

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Chester County House Sales in 2015 Q1

$Price/SqFt
- >$165
- $130-165
- $105-130
- $65-105
- <$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Delaware County House Sales in 2015 Q1

$Price/SqFt

- >$165
- $130-165
- $105-130
- $65-105
- <=$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
New Castle County House Sales in 2015 Q1

$Price/SqFt

- >$165
- $130-165
- $105-130
- $65-105
- <=$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Mercer County House Sales in 2015 Q1

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Burlington County House Sales in 2015 Q1

$Price/SqFt
- >$165
- $130-165
- $105-130
- $65-105
- <$65

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Camden County House Sales in 2015 Q1

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Gloucester County House Sales in 2015 Q1

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
Salem County House Sales in 2015 Q1

Sales are color-coded by the quintiles of the distribution of $Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.
This map shows the location of homes that sold for 1 million dollars or more in 2015 Q1.
Philadelphia Region Houses Listed For Sale: Inventory v. Sales Rate

Source: TrendMLS

% Sold = (# Sales/# Listings)

# Houses Listed For Sale

# Homes Listed "For Sale"

% Absorbed
DOM is the average "days-on-market": the average number of days it takes for a listed home to sell. In a market that is evenly balanced between buyers and sellers, 40-60 days is considered the typical norm.
Philadelphia Region Months of Supply*: Houses v. Condos

*Months of Supply is how many months it would take to sell off the current inventory of listed homes, given the current pace of sales.
Pennsylvania Foreclosure Heat Map

1 out of every 758 homes in Philadelphia is currently in the process of foreclosure, which is down slightly from 1 out of every 703 homes in the previous quarter.

By contrast, 1 out of every 1,217 homes in Pennsylvania is in the process of foreclosure.

Source: http://www.realtytrac.com/statsandtrends/foreclosuretrends/pa
South Jersey’s foreclosure rate is much higher than Pennsylvania’s. Currently, 1 out of every 255 homes in Atlantic County is in the process of foreclosure, followed by 1 out of every 292 homes in Cumberland County, 1 out of every 312 homes in Salem County and 1 out of every 355 homes in Camden County. But, these are all significant improvements over the previous quarter’s foreclosure rates, which averaged 1 out of every 188 homes across all four counties.

Source: http://www.realtytrac.com/statsandtrends/foreclosuretrends/nj
Delaware has the lowest overall foreclosure rate in the Tri-State area:

- 1 out of every 783 homes in New Castle County
- 1 out of every 659 homes in Kent County
- 1 out of every 1,109 homes in Sussex County
- An average of 1 out of every 832 homes Statewide.

Source: http://www.realtytrac.com/statsandtrends/foreclosuretrends/de
Now that the housing market's recovery appears to have arrived, this chart shows how much house prices need to rise in each city in order to erase the cumulative losses from the bust. The total rebound (to date) in house prices is shown by the blue bars, while the remaining losses are shown by the red bars. For example, the Philadelphia Region's average house prices fell by a cumulative 23% from peak to trough. To date, they have rebounded by 5%, which implies they need to rise another 18% in order to return to their pre-bust peak levels.

Source: Kevin C. Gillen, Ph.D. All other cities courtesy S&P/Case-Shiller.