PHILADELPHIA REGIONAL HOUSE PRICE INDICES

November 30, 2017

KEVIN C. GILLEN, Ph.D.
Kevin.C.Gillen@Drexel.edu

Disclaimers and Acknowledgments: The Lindy Institute for Urban Innovation at Drexel University and Houwzer Inc. provide this report free of charge to the public. The report is produced by Kevin Gillen, a Senior Research Fellow with the Lindy Institute and a Senior Economic Advisor with Houwzer. The author thanks Houwzer Inc., Azavea.com, the Philadelphia Office of Property Assessment, the Federal Housing Finance Agency, Case-Shiller MacroMarkets LLC, RealtyTrac, Zillow.com, Trulia.com and the NAHB for making their data available for this report. © 2017, Drexel University, All Rights Reserved.
House Price Appreciation 1987-2017:
Philadelphia Region v. 10-City U.S. Composite

% Change 10-City Philadelphia
1998 to Peak: +172% +106%
From Peak: -5.8% -3.4%

*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.
Philadelphia Regional House Price Indices 1980-2017
by Philadelphia Region and State: 1980Q1=100

*Empirically estimated by Kevin C. Gillen, Ph.D.
**Courtesy Federal Housing Finance Agency (FHFA)
Philadelphia Regional House Price Indices 1980-2017
City v. Suburb v. U.S. Average.: 1980Q1=100

*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.
YoY Change in Average House Prices: 1980-2017
Philadelphia County v. Philadelphia Suburbs v. 10-City Composite

Empirically estimated by Kevin C. Gillen, Ph.D.
Empirically estimated by Case-Shiller. The 10-City Composite reflects average annual house price changes in ten large US cities, including: Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco and Washington DC. It does not include Philadelphia.
# 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>38-Year</td>
<td>152.9%</td>
<td>172.6%</td>
<td>144.8%</td>
<td>141.3%</td>
</tr>
<tr>
<td>10-Year</td>
<td>-1.1%</td>
<td>19.3%</td>
<td>-9.4%</td>
<td>9.1%</td>
</tr>
<tr>
<td>1-Year</td>
<td>5.8%</td>
<td>10.6%</td>
<td>3.7%</td>
<td>6.4%</td>
</tr>
<tr>
<td>1-Quarter</td>
<td>2.1%</td>
<td>2.9%</td>
<td>1.7%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

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

**Source: Federal Housing Finance Agency (FHFA). FHFA numbers are through 2017 Q2 only.
# 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>38-Year</td>
<td>173%</td>
<td>164%</td>
<td>159%</td>
<td>138%</td>
<td>150%</td>
<td>137%</td>
<td>163%</td>
<td>124%</td>
<td>118%</td>
<td>134%</td>
<td>112%</td>
</tr>
<tr>
<td>10-Year</td>
<td>19.3%</td>
<td>-2.4%</td>
<td>0.3%</td>
<td>-12.3%</td>
<td>-6.5%</td>
<td>-13.5%</td>
<td>-11.2%</td>
<td>-24.6%</td>
<td>-29.1%</td>
<td>-20.9%</td>
<td>-43.3%</td>
</tr>
<tr>
<td>1-Year</td>
<td>10.6%</td>
<td>6.6%</td>
<td>4.0%</td>
<td>4.5%</td>
<td>5.5%</td>
<td>3.6%</td>
<td>4.3%</td>
<td>2.0%</td>
<td>1.7%</td>
<td>-0.9%</td>
<td>1.2%</td>
</tr>
<tr>
<td>1-Quarter</td>
<td>2.9%</td>
<td>0.0%</td>
<td>-0.3%</td>
<td>1.7%</td>
<td>0.6%</td>
<td>0.1%</td>
<td>3.2%</td>
<td>3.7%</td>
<td>-1.1%</td>
<td>0.1%</td>
<td>7.9%</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 2017 Q3 in order to reflect its growth (or depreciation) rate relative to other counties.
Median Regional House Price v. Indexed Regional House Price:
1980-2017

*Empirically estimated by Kevin C. Gillen, Ph.D.
Median House Price by County: 1980-2017

- New Castle
- Mercer
- Burlington
- Camden
- Gloucester
- Salem
- Bucks
- Chester
- Delaware
- Montgomery
- Philadelphia
The price data was smoothed by applying a 3-period moving average, in order to eliminate seasonal noise.
Number of Regional House Sales per Quarter: 2005-2017

- Q1
- Q2
- Q3
- Q4

Qtly. Average

© 2017 Kevin.C.Gillen@Drexel.edu
Philadelphia Region House Sales in 2017 Q3

(created by Kevin C. Gillen, Ph.D.
Kevin.C.Gillen@Drexel.edu)

$Price/SqFt
- >$180
- $150-180
- $120-150
- $85-120
- <$85

Note: the categories for $price/sqft are based upon the quintiles of its distribution. Hence, exactly 20% of all sales fall into each one of the five categories.)
Chester County House Sales in 2017 Q3

$Price/SqFt

- >$180
- $150-180
- $120-150
- $85-120
- <$85
Delaware County House Sales in 2017 Q3

Created by Kevin C. Gillen, Ph.D.
Kevin.C.Gillen@Drexel.edu

$Price/SqFt
- >$180
- $150-180
- $120-150
- $85-120
- <$85

© 2017 Kevin.C.Gillen@Drexel.edu
New Castle County House Sales in 2017 Q3

Created by Kevin C. Gillen, Ph.D.
Kevin.C.Gillen@Drexel.edu

$Price/SqFt
- >$180
- $150-180
- $120-150
- $85-120
- <$85
Burlington County House Sales in 2017 Q3

$Price/SqFt

- >$180
- $150-180
- $120-150
- $85-120
- <$85
Gloucester County House Sales in 2017 Q3

Created by Kevin C. Gillen, Ph.D.
Kevin.C.Gillen@Drexel.edu

$Price/SqFt
- >$180
- $150-180
- $120-150
- $85-120
- <$85
+$1 Million Dollar House Sales in 2017 Q3
Philadelphia Region Houses Listed For Sale: Inventory v. Sales Rate

Source: TrendMLS

# Houses Listed For Sale
% Absorbed

Source: TrendMLS

% Sold = (#Sales/#Listings)
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. 5-7 months is considered the typical norm.
1 out of every 1,105 homes in Philadelphia is currently in the process of foreclosure, which is down from 1 out of every 1,062 homes in the previous quarter.

In the entire Commonwealth, 1 out of every 1,912 homes in Pennsylvania is in the process of foreclosure, which is also down from 1 out of every 1,895 homes in the previous quarter.

Source: http://www.realtytrac.com/statsandtrends/foreclosuretrends/pa
© 2017 Kevin.C.Gillen@Drexel.edu
South Jersey’s foreclosure rate continues to remain the highest in the region, and also showed further deterioration this quarter.

The six counties in Southern NJ (excluding Cape May) collectively have a foreclosure rate averaging one in every 285 homes. This is well above the statewide average of 1 in every 559 homes.

And, the foreclosure rate for South Jersey increased this quarter, up from its previous level of 1 in every 343 homes in the previous quarter.
The length of each bar below the horizontal axis represents the total % decline in house prices in each major U.S. metro area from peak to trough. The total rebound (to date) in house prices is represented by the blue component of each bar, with the remainder represented by the red component. A red bar that is above the horizontal axis indicates a metro area which has fully erased its losses and whose house price levels are now above their peak during the bubble. For example, Philadelphia County's house prices fell by an average of 22% from peak to trough. To date, they have rebounded by 42% and are now 20% higher than their previous peak. By contrast, Philadelphia's suburbs fell by a similar amount, yet have only recovered 11% and thus need to rise another 12% to completely erase their losses.

*Empirically estimated by Kevin C. Gillen, Ph.D. All other metros courtesy of S&P Case-Shiller.