

PHILADELPHIA HOUSE PRICE INDICES

October 24, 2018



DREXEL UNIVERSITY
Lindy Institute
for Urban Innovation

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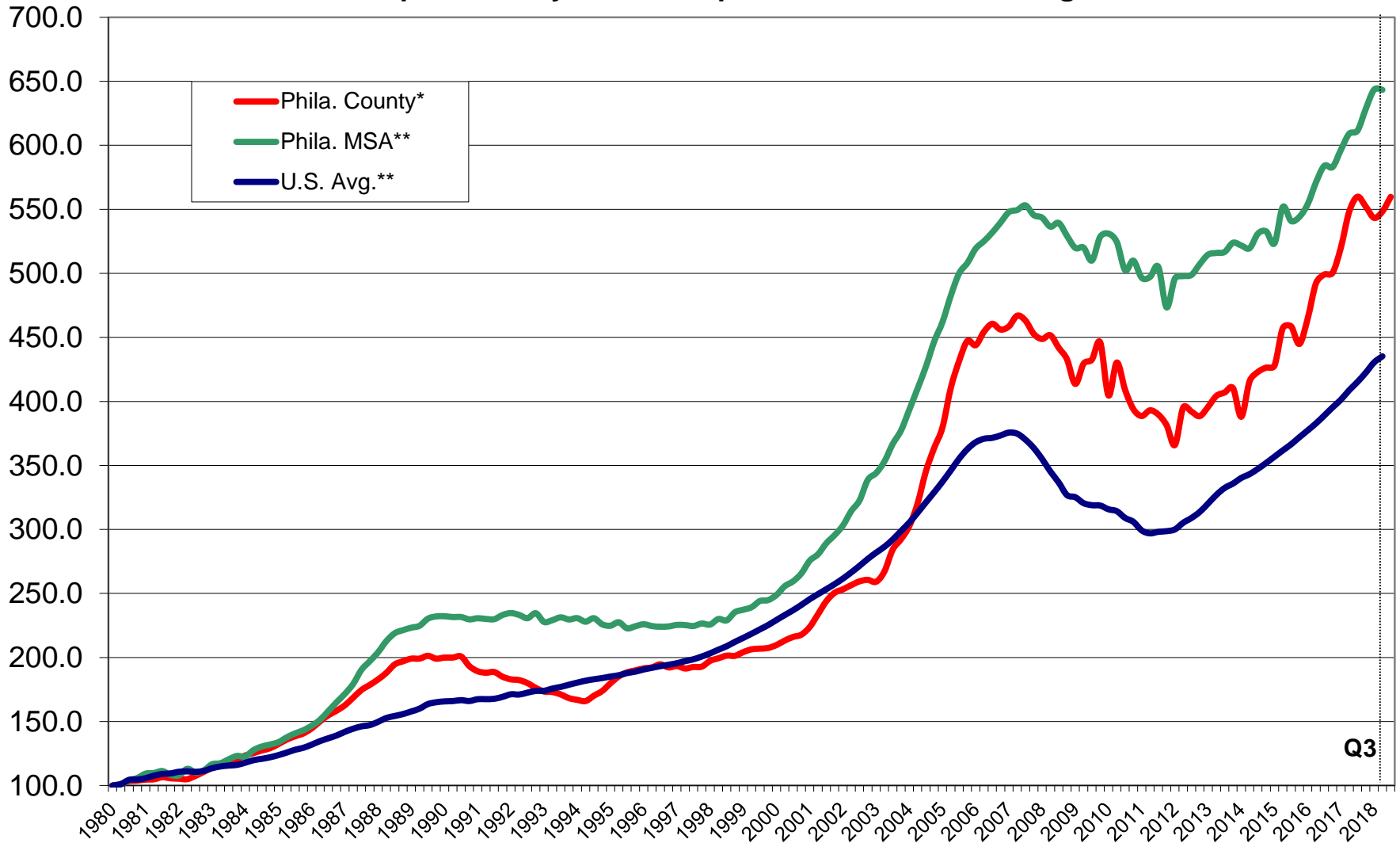
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***Disclaimers and Acknowledgments:** The Lindy Institute for Urban Innovation at Drexel University provides this report free of charge to the public. The report is produced by Kevin C. Gillen Ph.D.. The author thanks Azavea.com, the Philadelphia Office of Property Assessment, the Federal Housing Finance Agency, Case-Shiller MacroMarkets LLC, RealtyTrac, Zillow.com, Trulia.com and the NAHB for making their data publicly available. © 2016, Drexel University, All Rights Reserved.*



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House Price Indices 1980-2018: 1980Q1=100 Philadelphia County v. Philadelphia MSA and U.S. Average



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

**Courtesy of the Federal Housing Finance Agency (FHFA).

These HPIs are current through 2016Q4 only.

“MSA”=Metropolitan Statistical Area, which is the entire 10-county region.

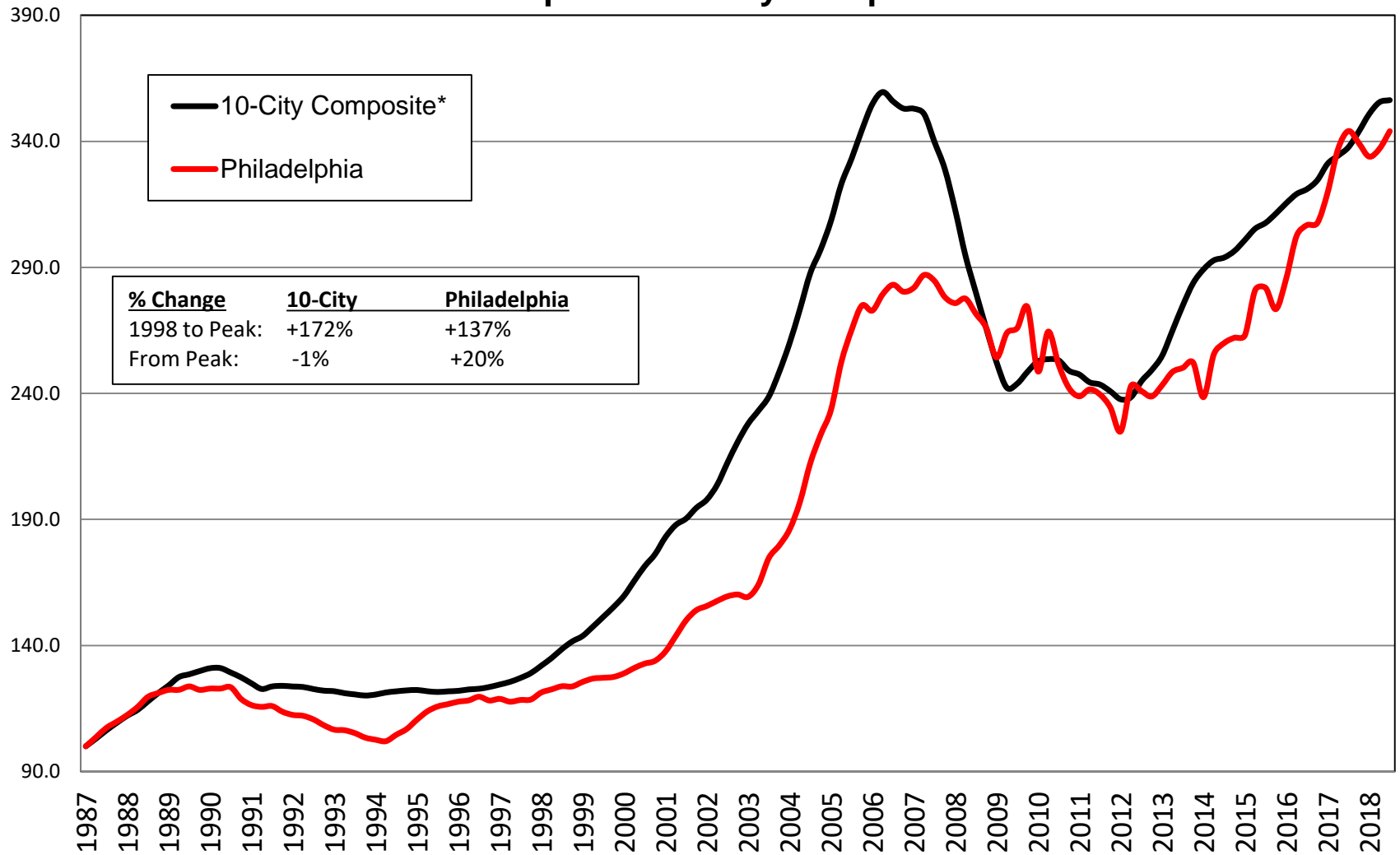
Total House Price Appreciation Rates by Geographic Market

| Period | Philadelphia County* | Philadelphia MSA** | U.S.A.** |
|------------------|----------------------|--------------------|---------------|
| 38-Year | 172.2% | 186.1% | 147.1% |
| 10-Year | 23.6% | 18.2% | 23.2% |
| 1-Year | 0.0% | 5.5% | 6.3% |
| 1-Quarter | 2.1% | 0.0% | 1.1% |

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

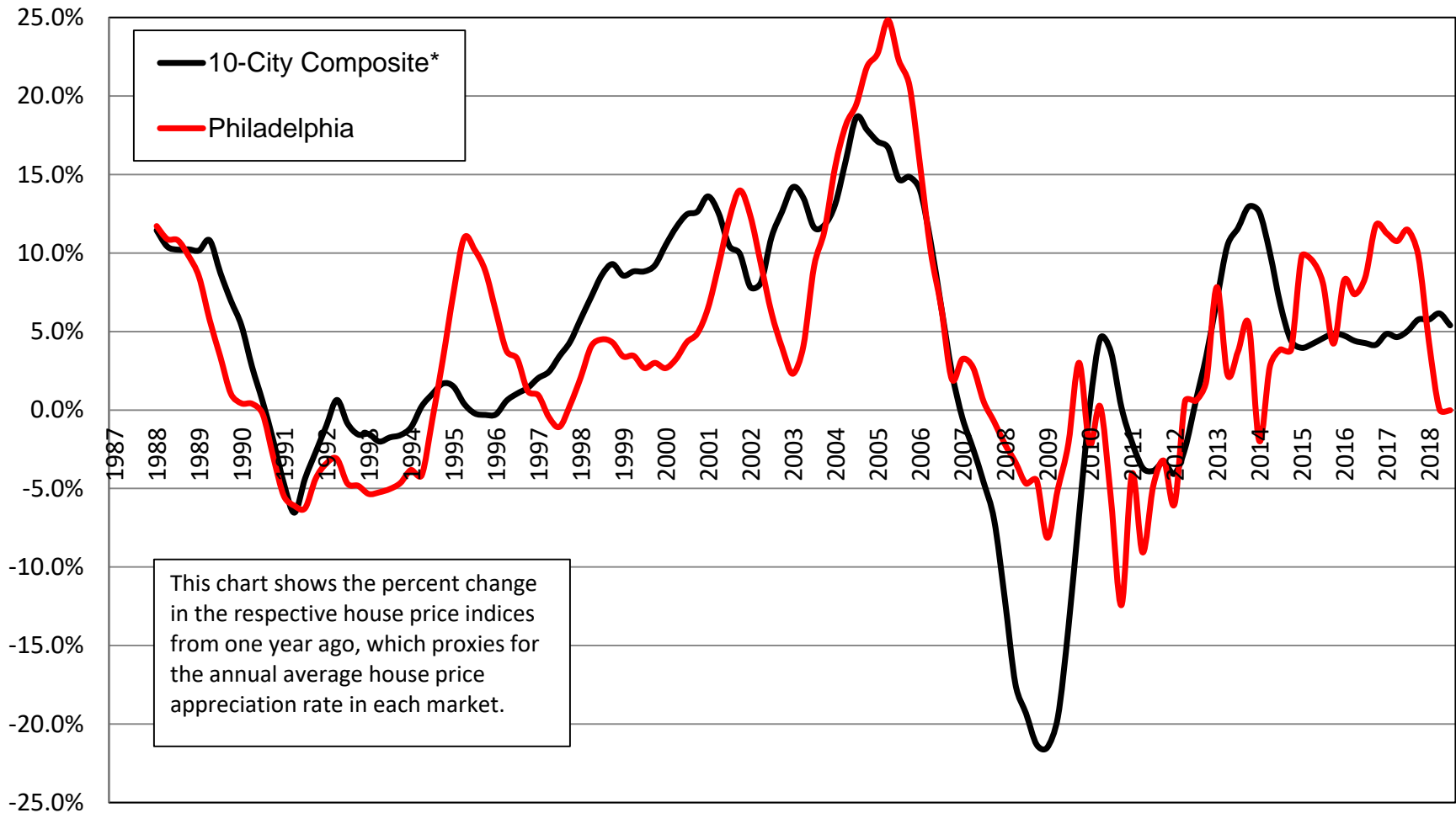
**Source: U.S. Federal Housing Finance Agency (FHFA). These numbers are through 2018Q2 only. “MSA”=“Metropolitan Statistical Area”, which is the entire 10-county region.

House Price Appreciation 1987-2018: Philadelphia v. 10-City Composite



*Source: S&P/Case-Shiller. 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.

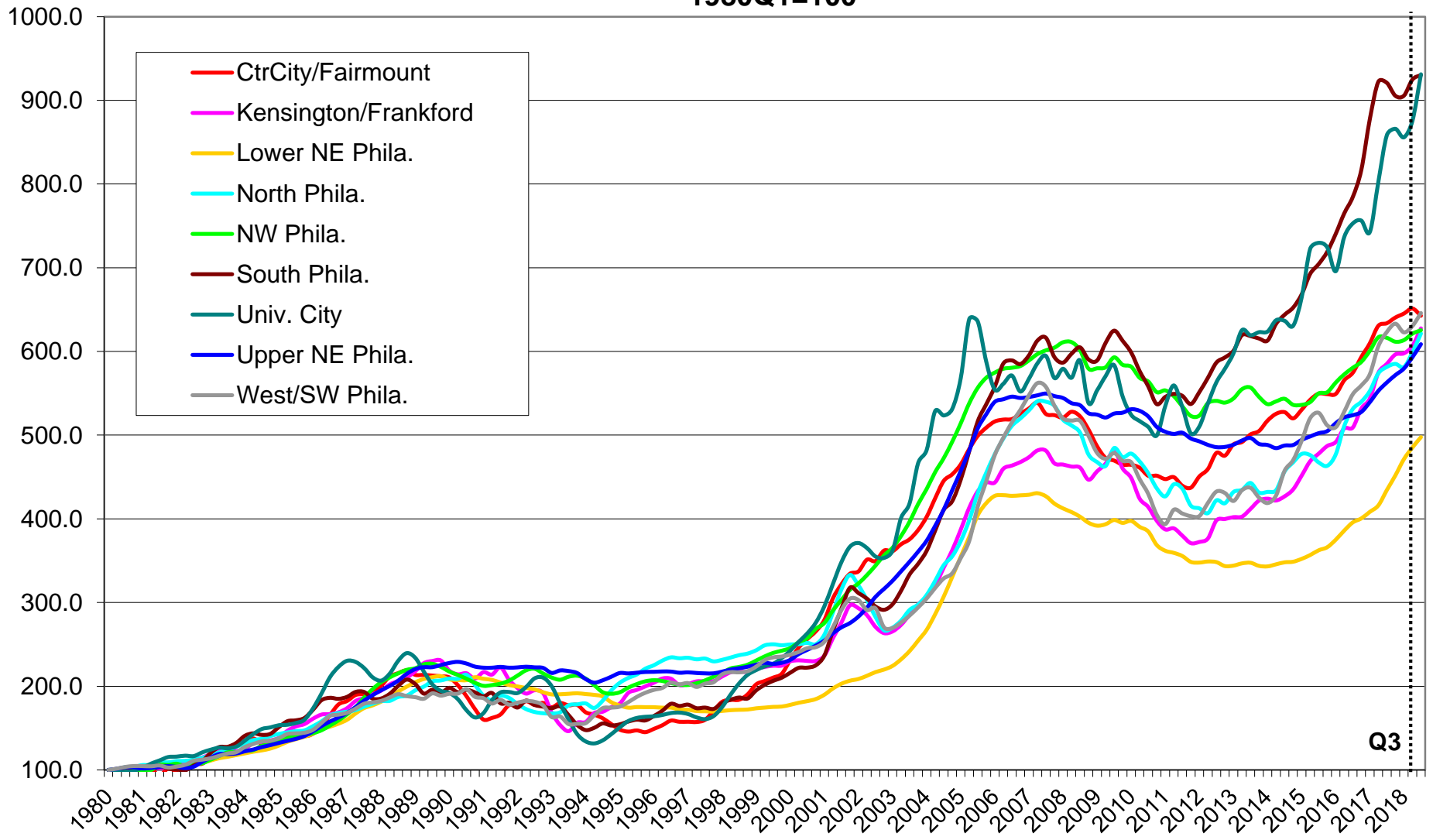
YoY House Price Change (%) 1987-2018: Philadelphia v. 10-City Composite



*Source: S&P/Case-Shiller. 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 House Price Indices by Submarket: 1980-2018

1980Q1=100



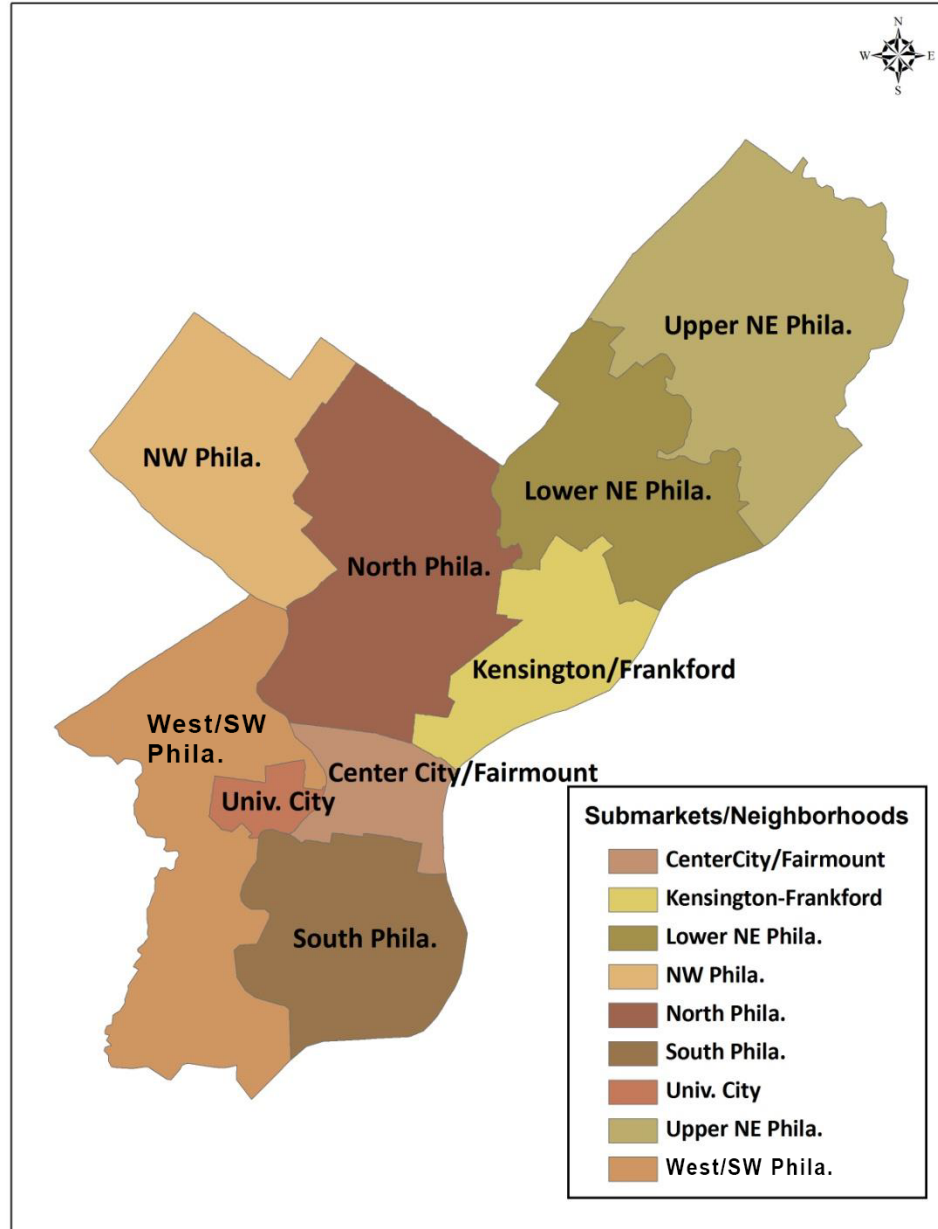
* All indices empirically estimated by Kevin C. Gillen, Ph.D.

Philadelphia House Price Appreciation Rates by Submarket

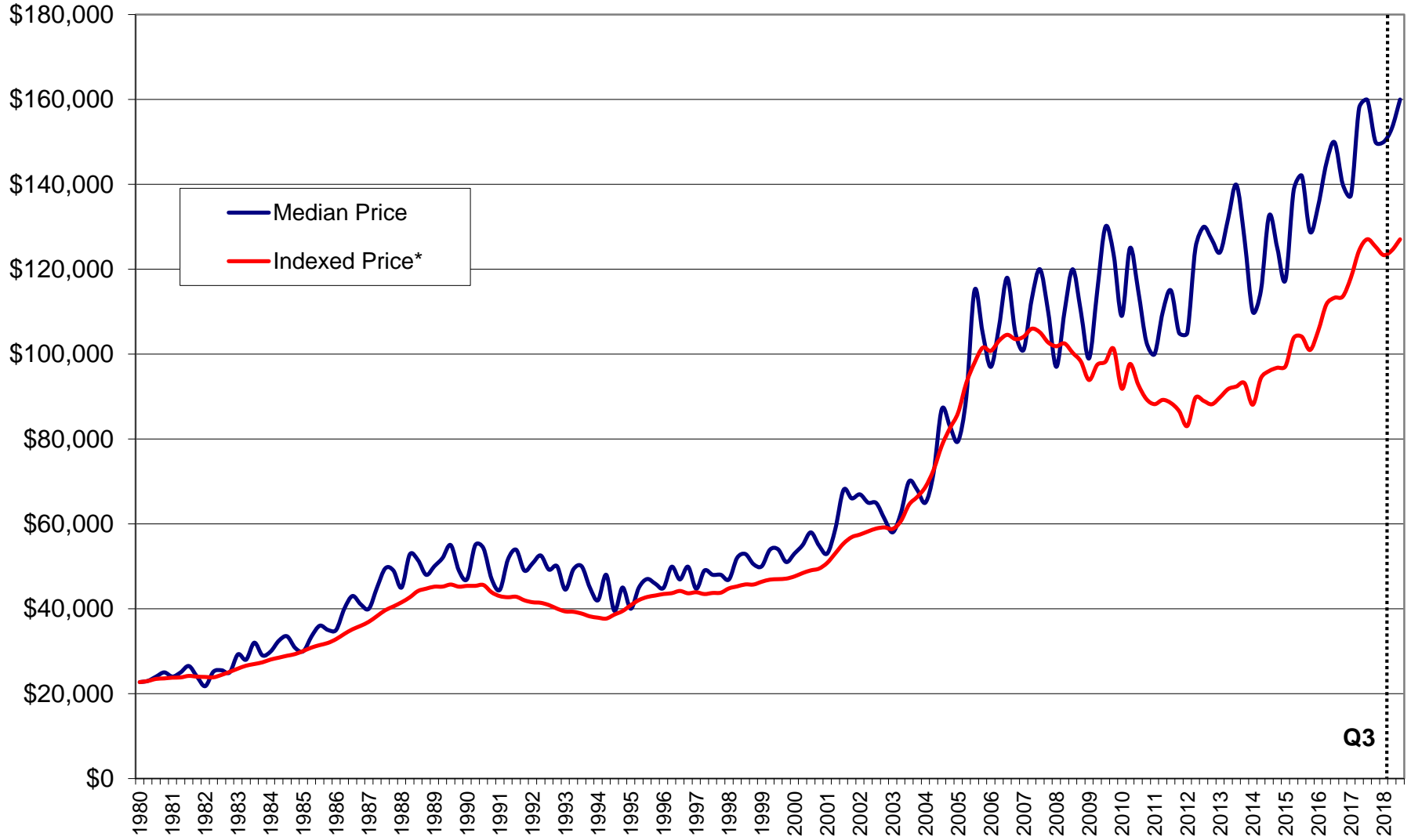
| Period | Center City/ Fairmount | Kensington /Frankford | Lower NE Phila. | North Phila. | NW Phila. | South Phila. | Univ. City | Upper NE Phila. | West/ SW Phila. |
|------------------|---------------------------|--------------------------|--------------------|-----------------|---------------|-----------------|---------------|-----------------------|-----------------------|
| 38-year | 186.0% | 183.7% | 160.5% | 182.7% | 183.3% | 223.0% | 223.1% | 180.6% | 186.5% |
| 10-year | 20.7% | 30.8% | 21.2% | 21.1% | 3.9% | 43.0% | 45.8% | 12.8% | 22.2% |
| 1-Year | 1.4% | 7.0% | 13.6% | 6.6% | 1.5% | 1.0% | 8.1% | 7.8% | 3.6% |
| 1-Quarter | -1.3% | 3.4% | 2.5% | 3.7% | 0.7% | 0.6% | 6.2% | 2.6% | 2.4% |

This table gives the total % change in average house values by submarket, through 2018 Q3, from different starting points in time.

Philadelphia Submarket Boundaries



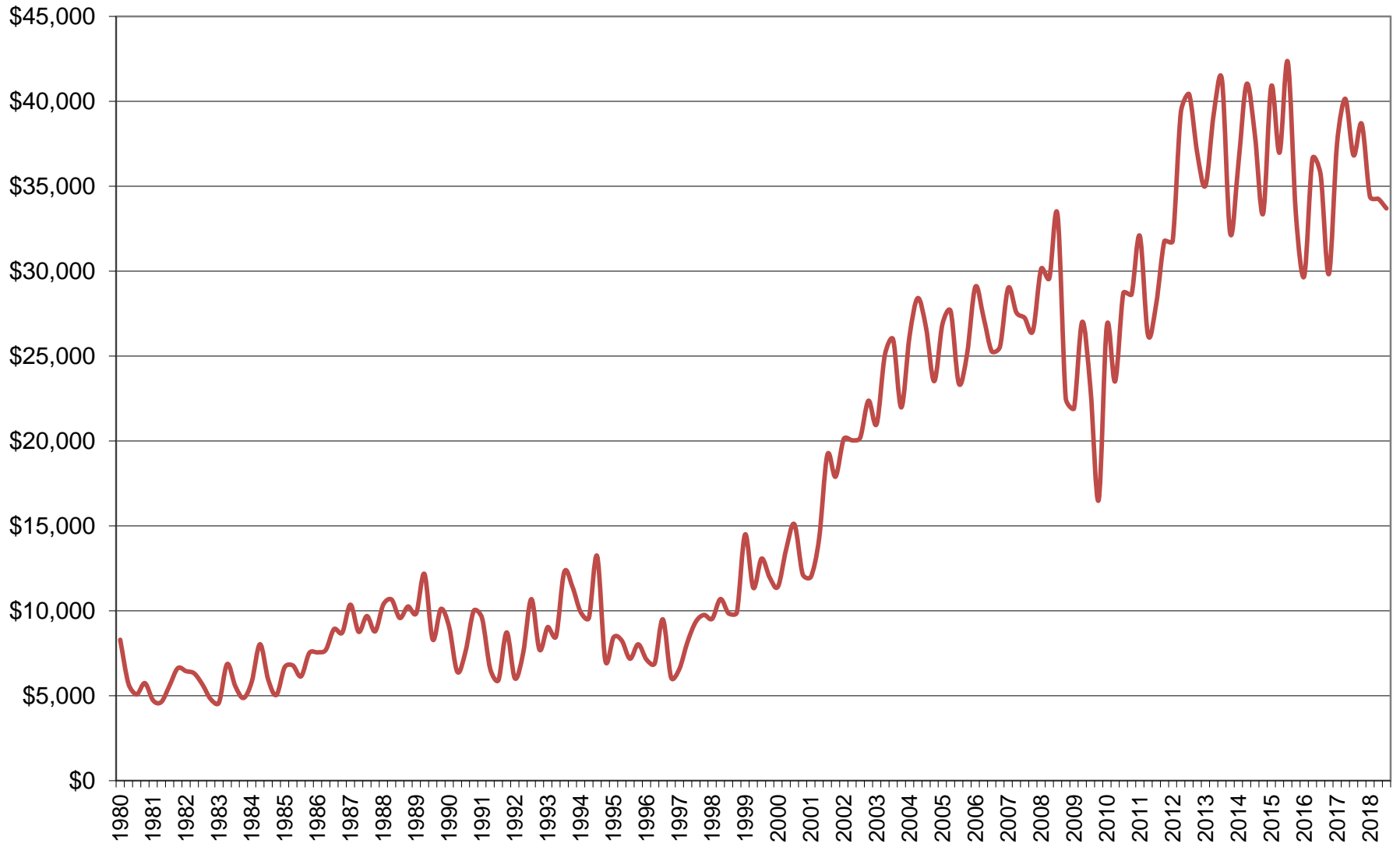
Median Philadelphia House Price v. Indexed Philadelphia House Price 1980-2018



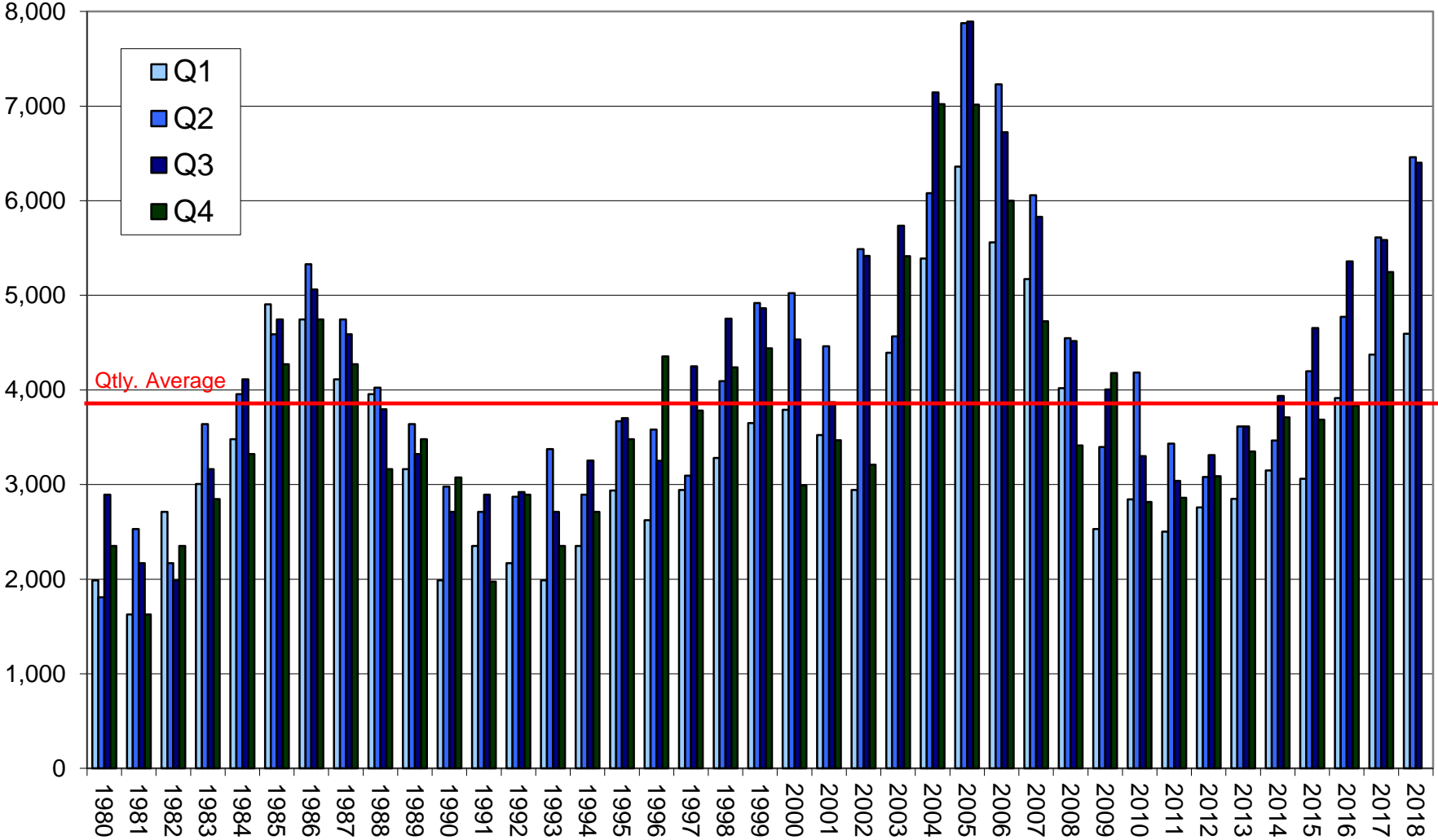
* Empirically estimated by Kevin C. Gillen, PhD

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Average House Price Minus Median House Price: 1980-2018

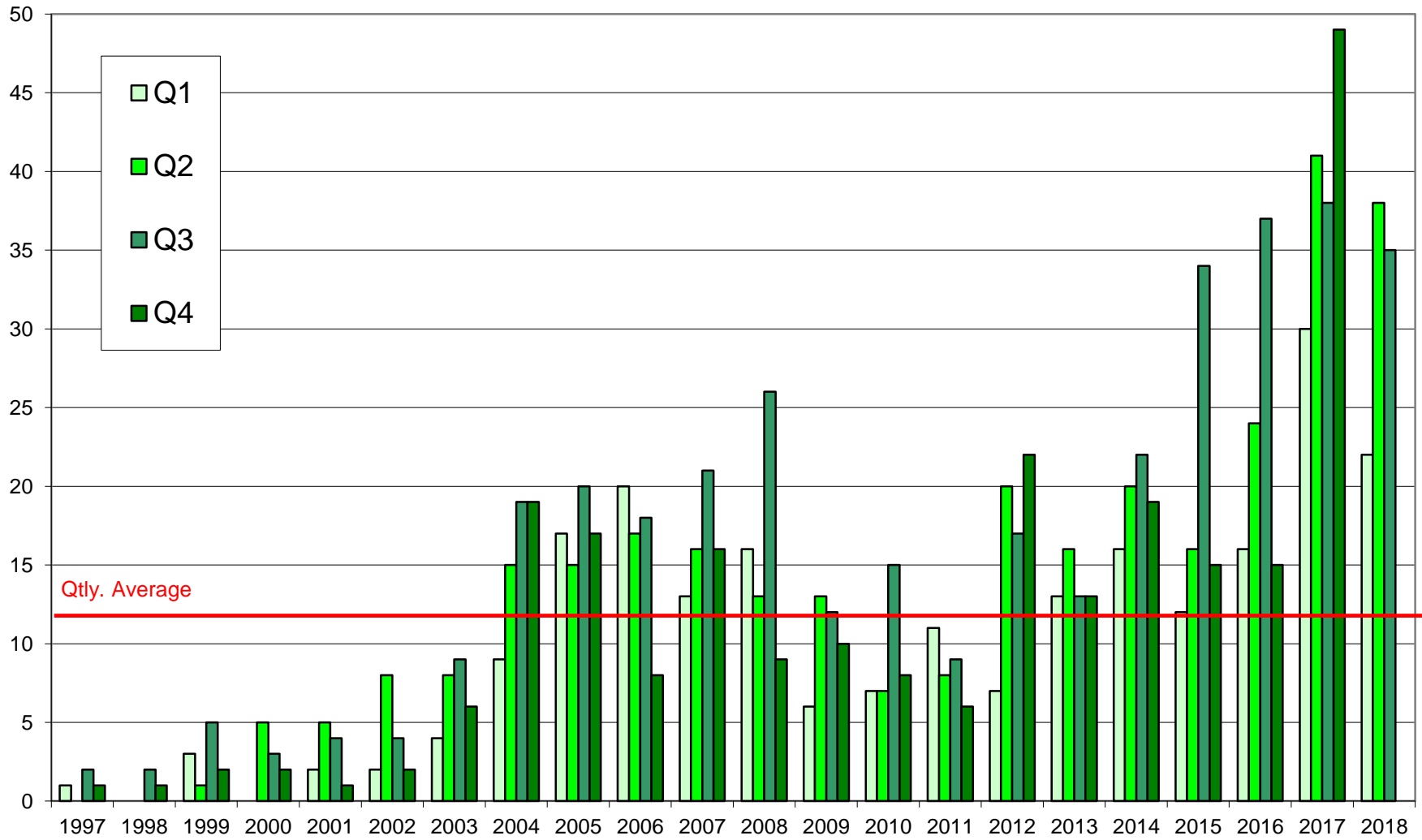


Number of Philadelphia House Sales* per Quarter: 1980-2018



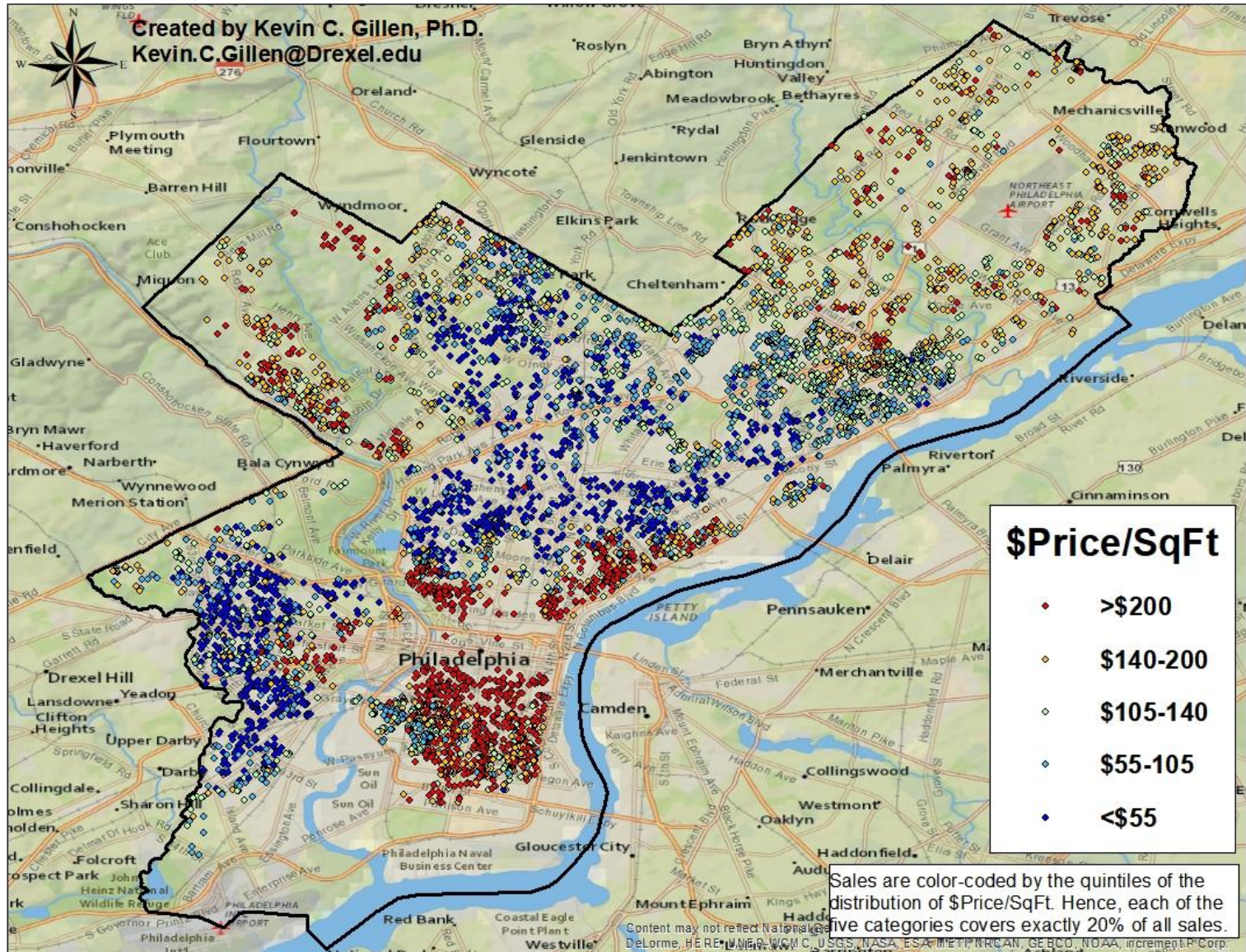
*Only arms-length transactions between private sector entities were included in these numbers.

Number of Philadelphia Home Sales* per Quarter with Price \geq \$1 Million: 1997-2018

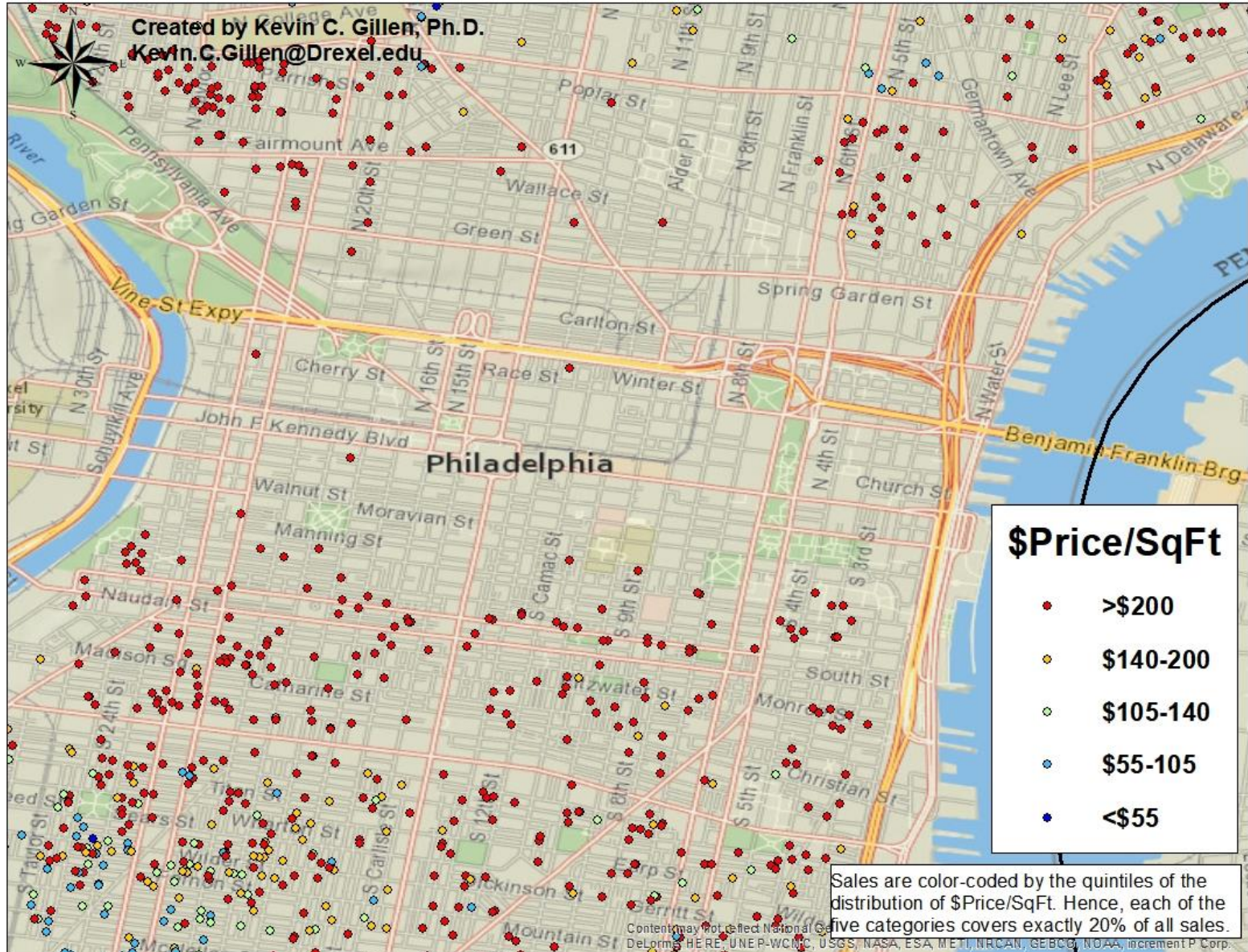


*Only arms-length transactions between private sector entities were included in these numbers.

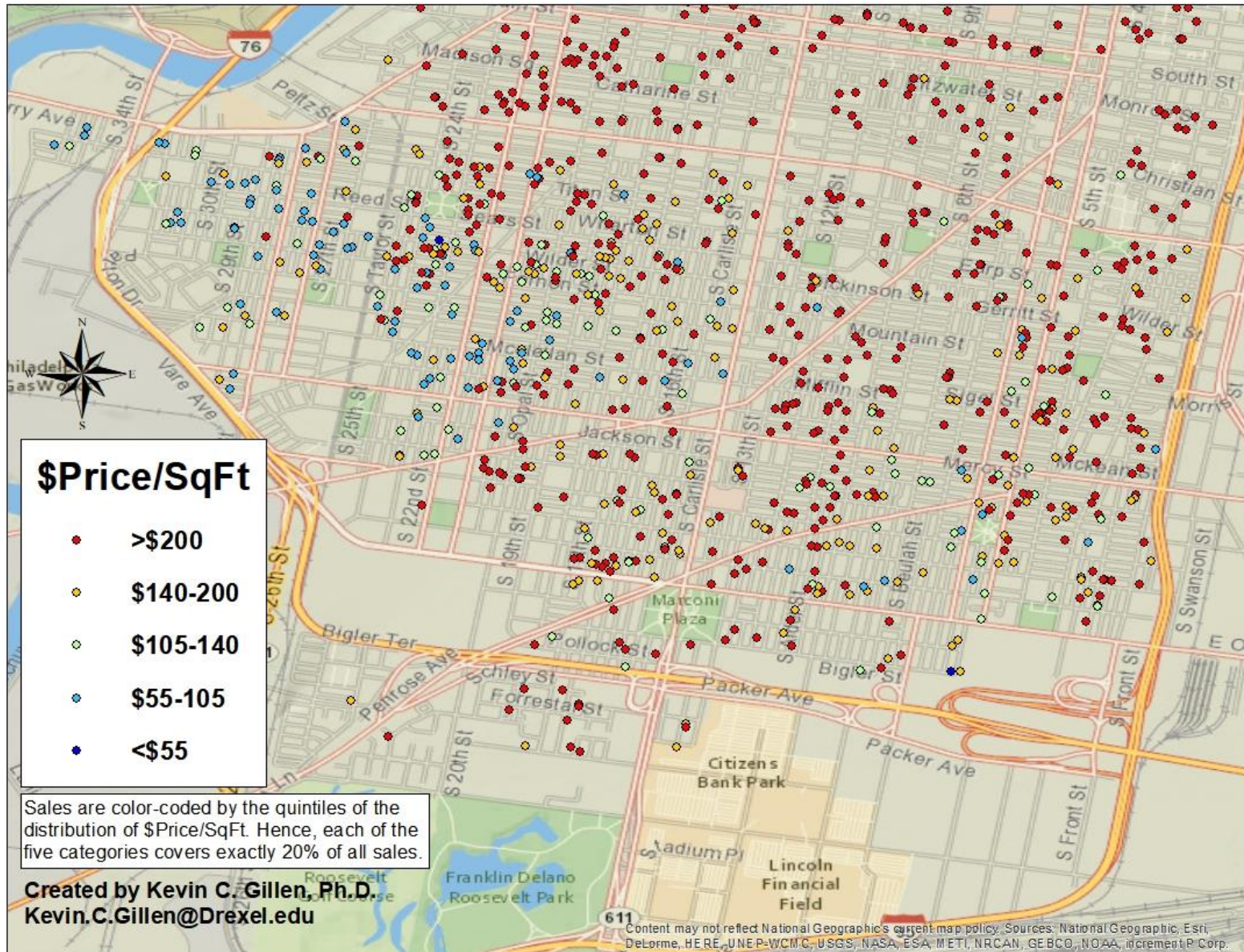
Philadelphia House Sales in 2018 Q3



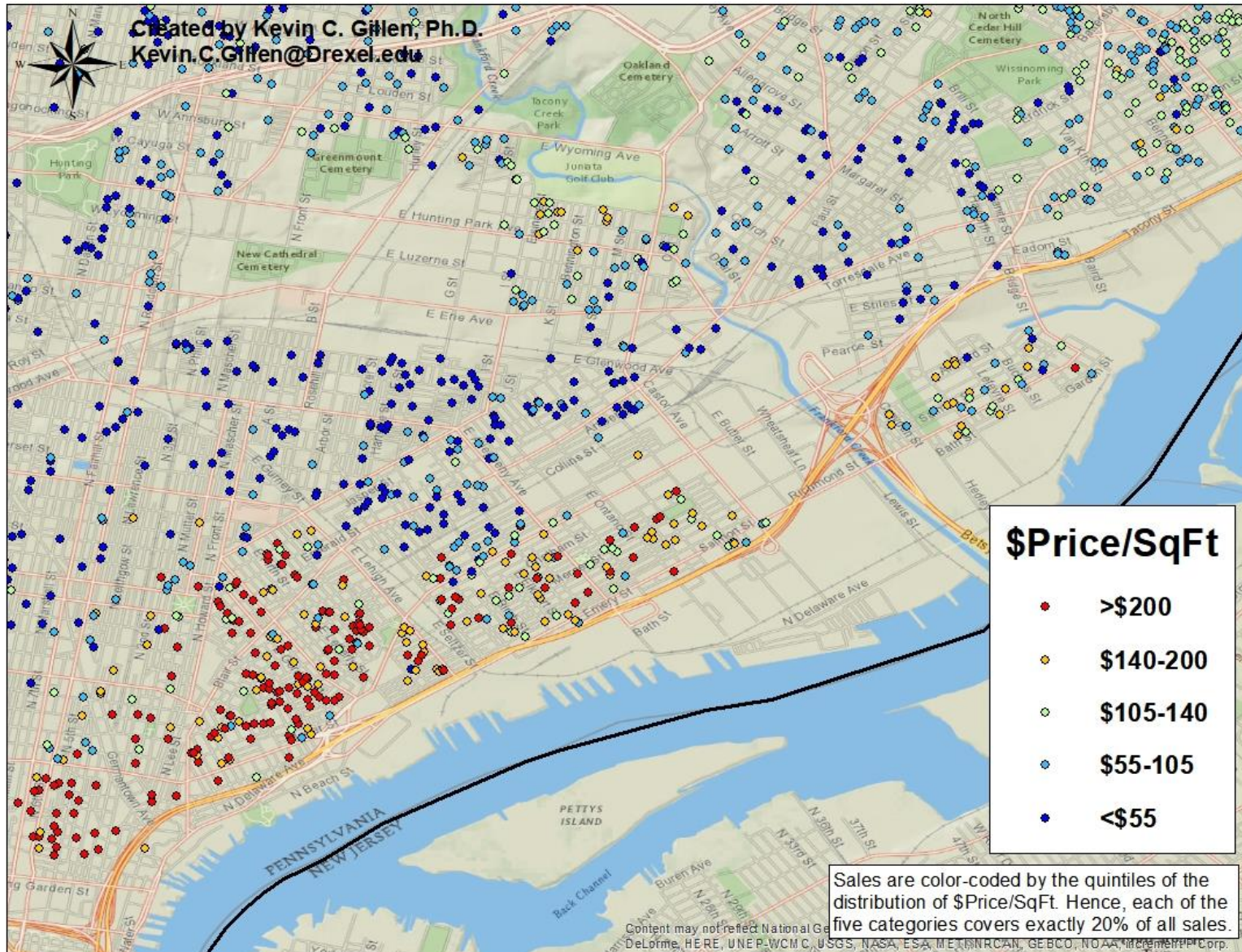
Center City House Sales in 2018 Q3



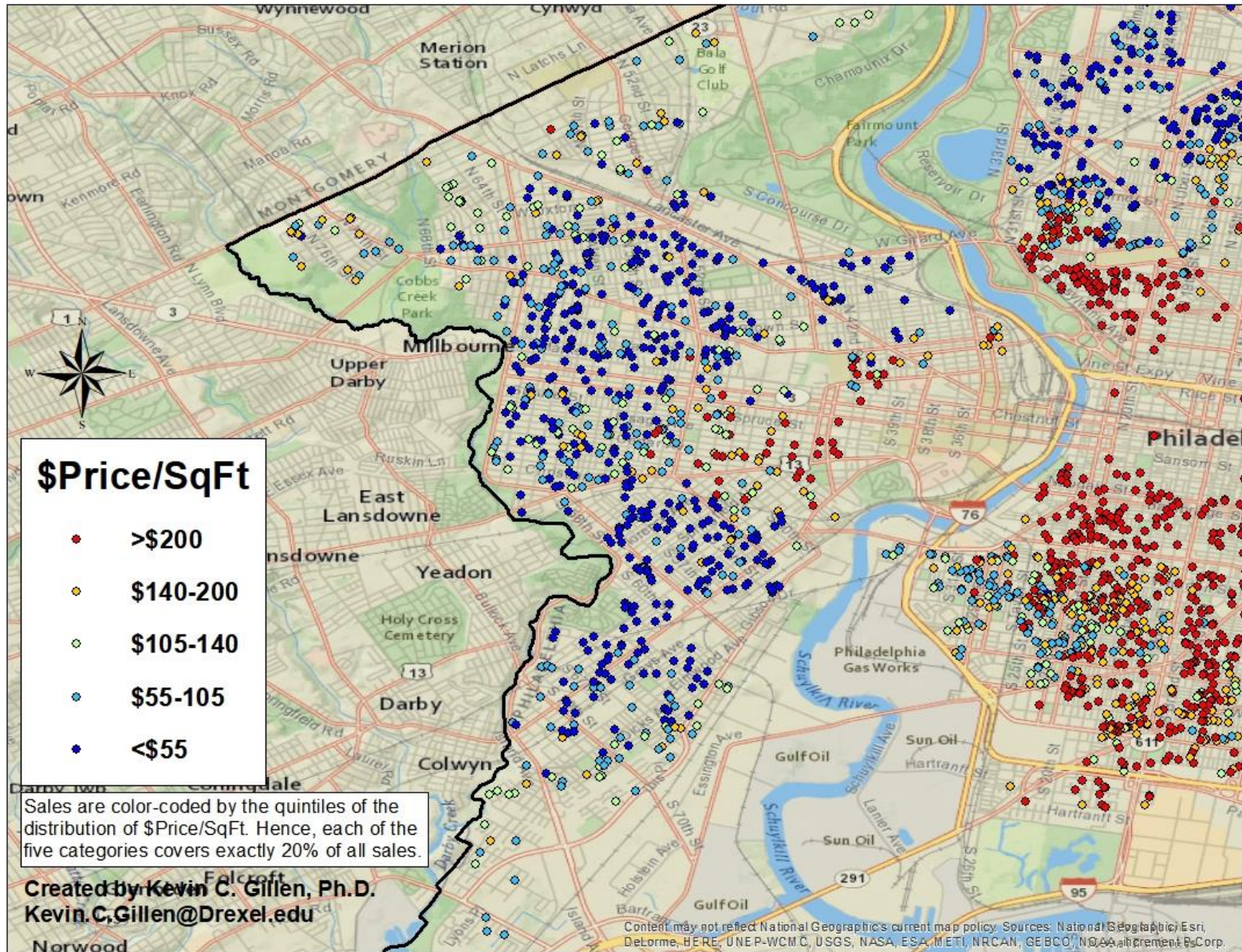
South Philadelphia House Sales in 2018 Q3



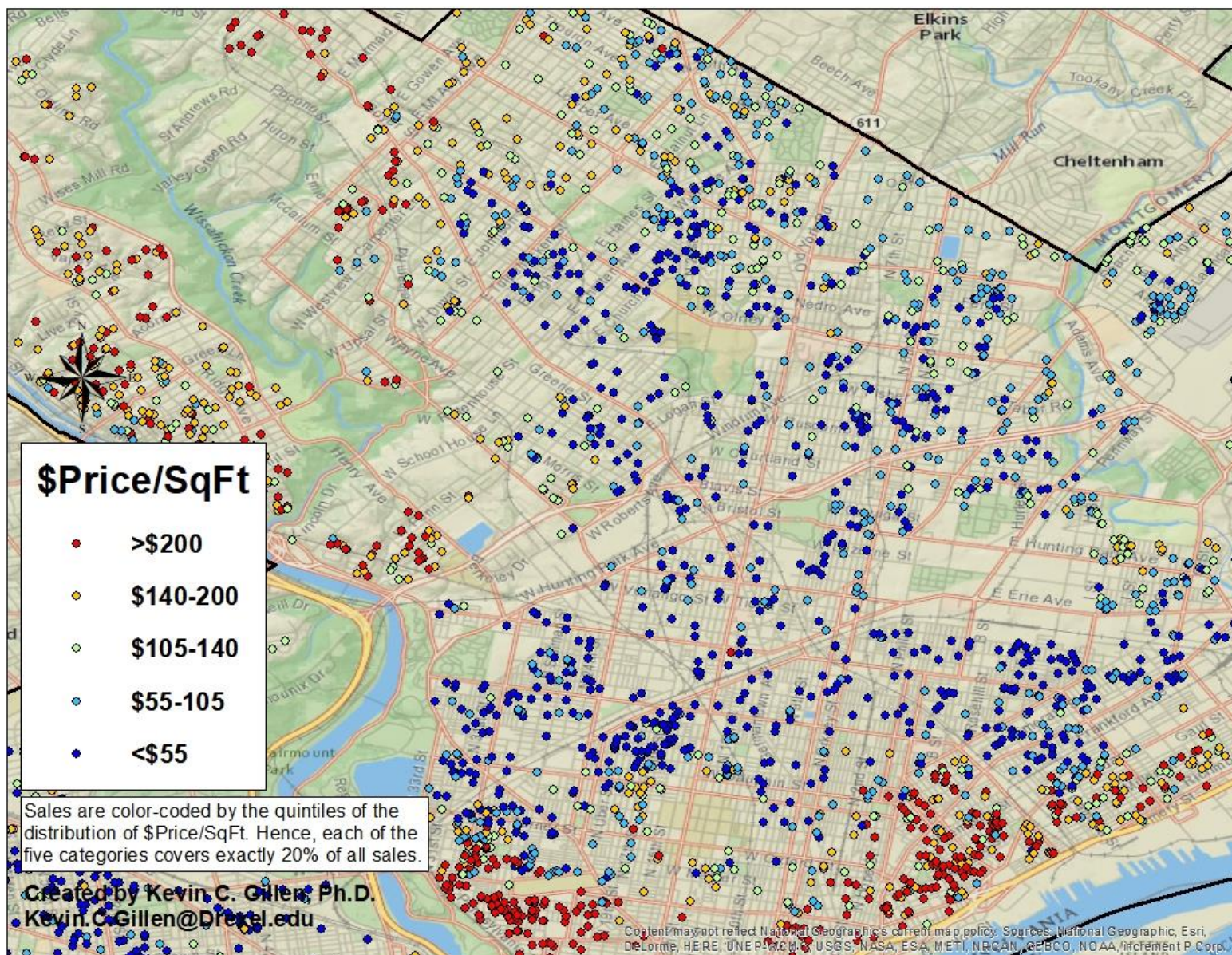
Kensington/Frankford House Sales in 2018 Q3



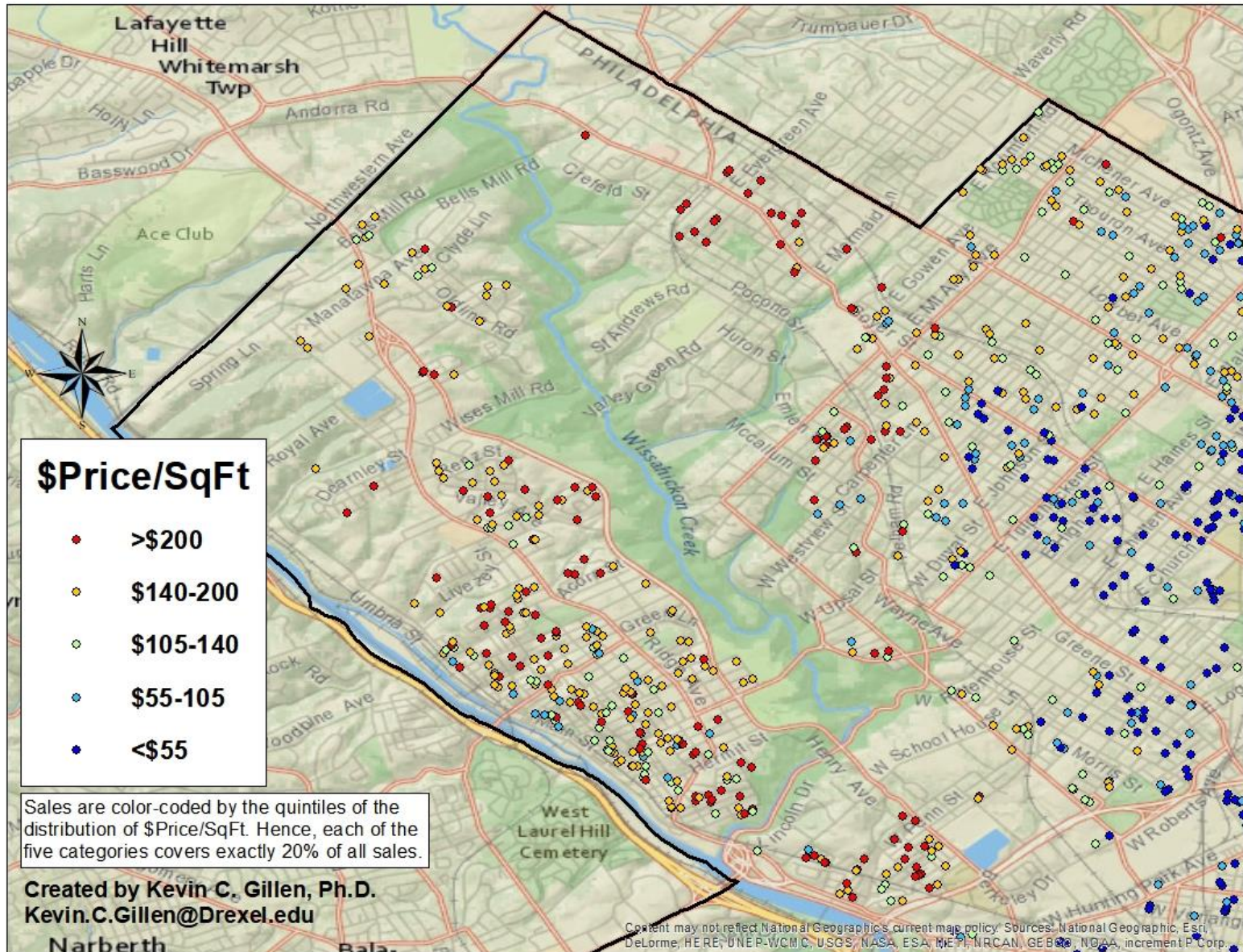
West/SW Philadelphia House Sales in 2018 Q3



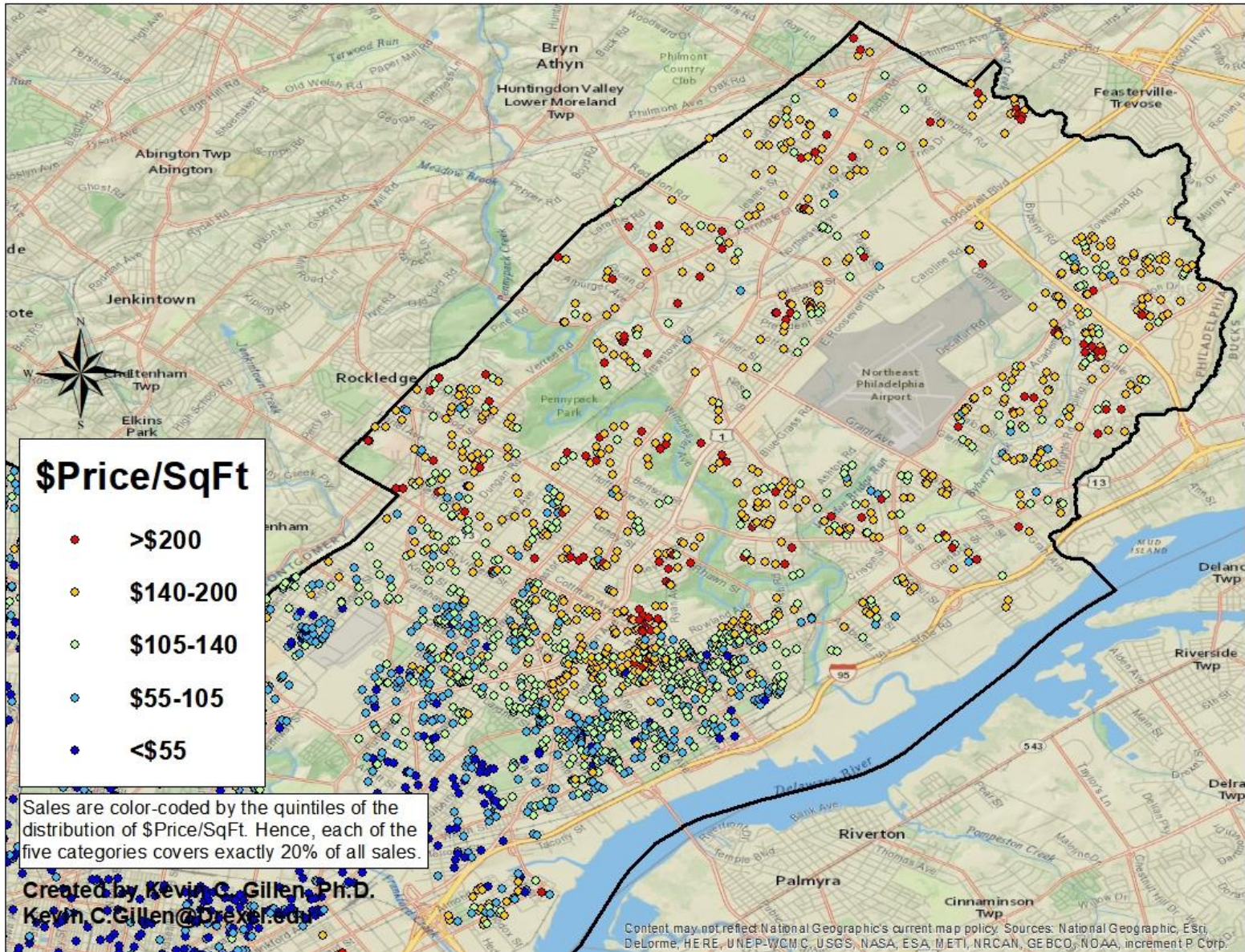
North Philadelphia House Sales in 2018 Q3



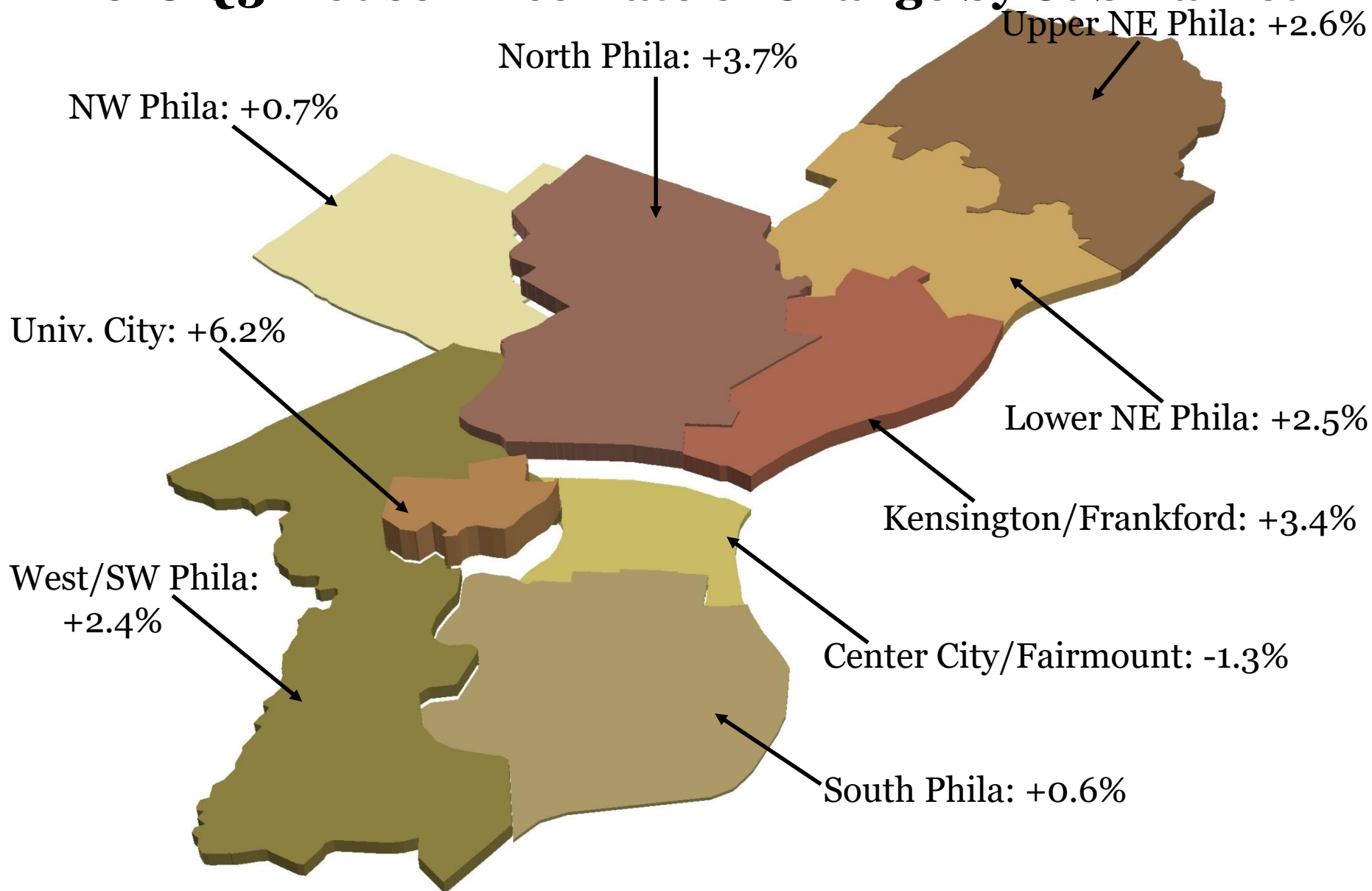
Northwest Philadelphia House Sales in 2018 Q3



Northeast Philadelphia House Sales in 2018 Q3

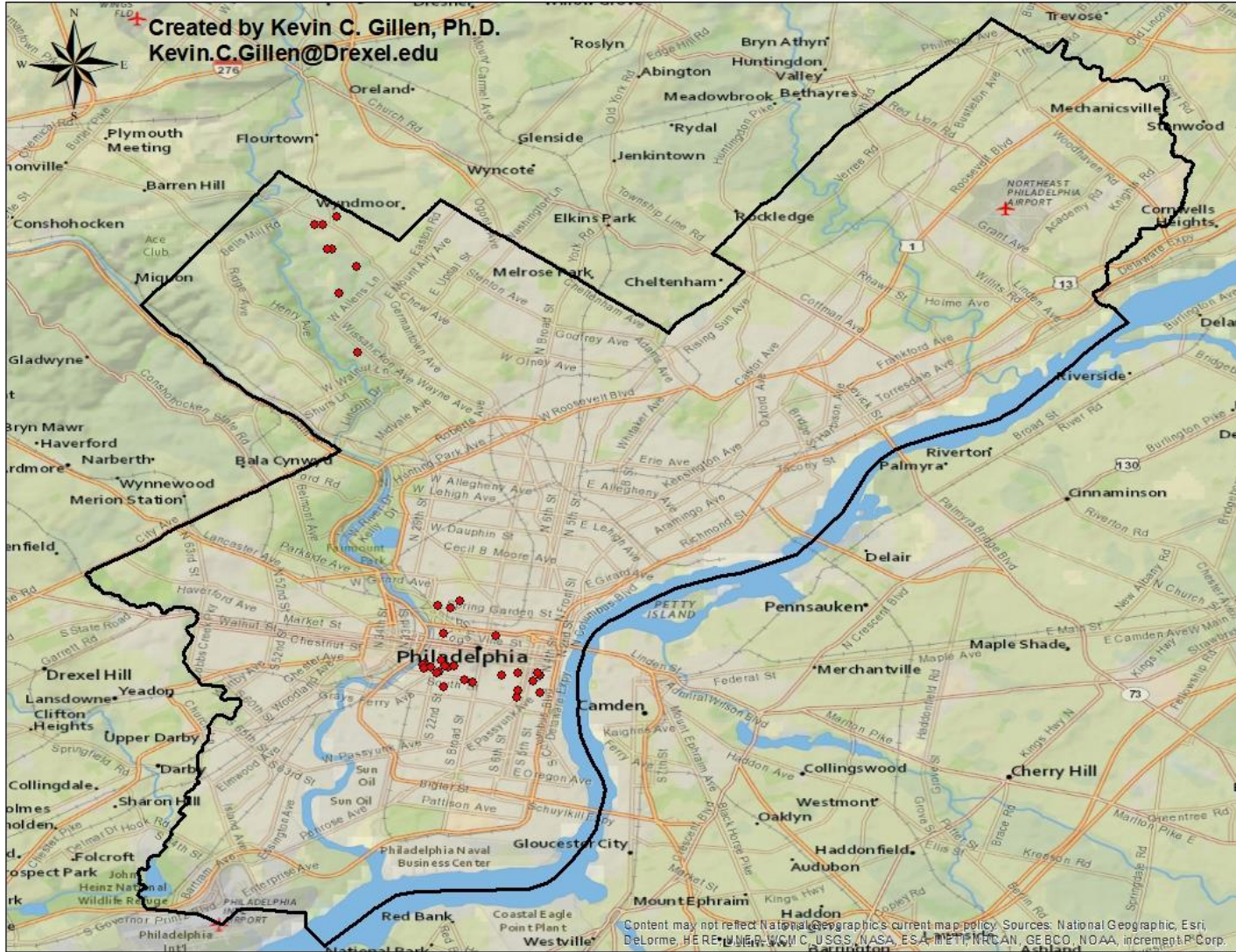


2018 Q3 House Price Rate of Change by Submarket



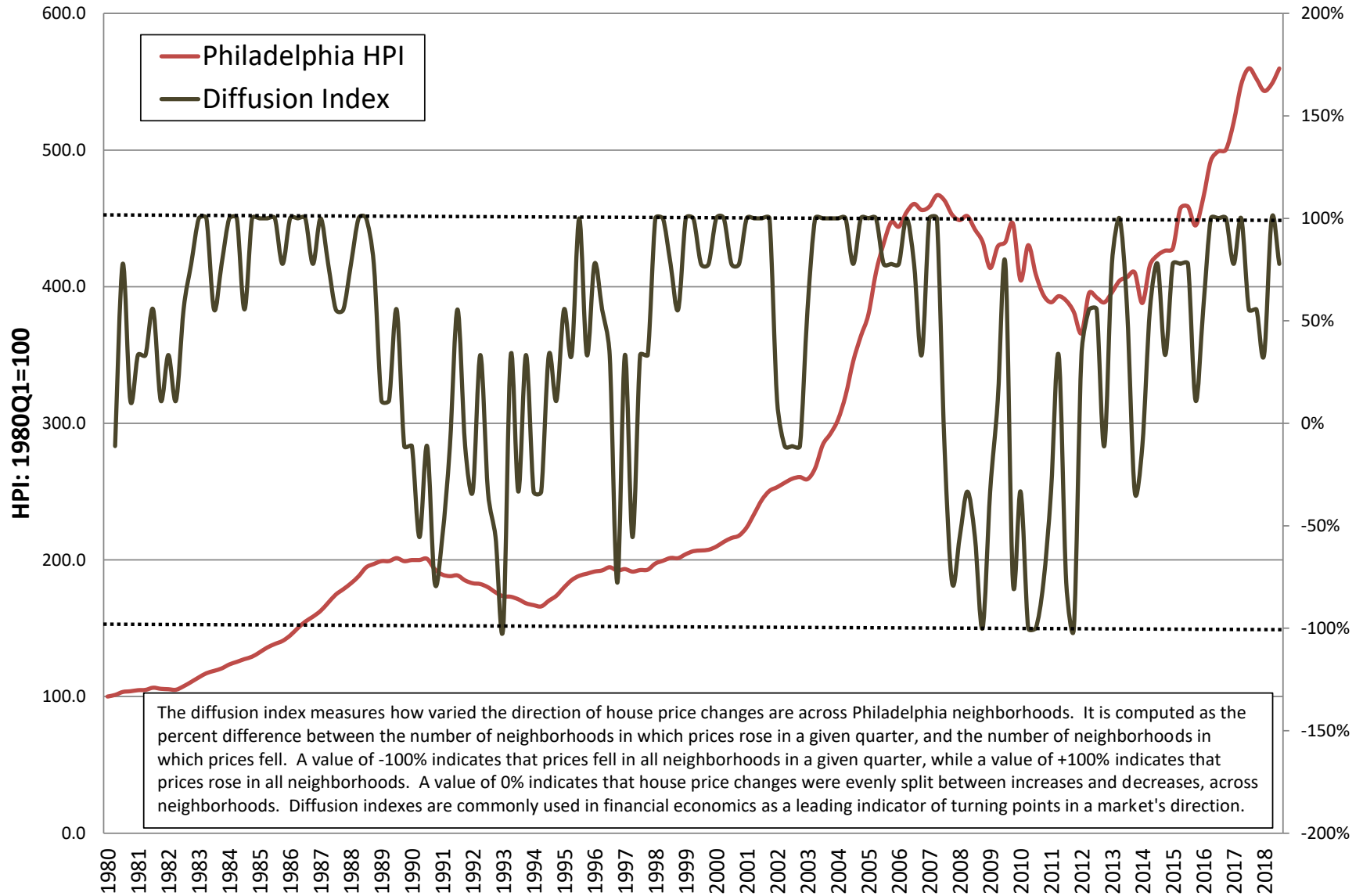
Note: Each submarket is extruded by its average change in house values during 2018 Q3 in order to reflect its growth (or depreciation) rate relative to other neighborhoods.

+ \$1 Million Dollar House Sales in 2018 Q3

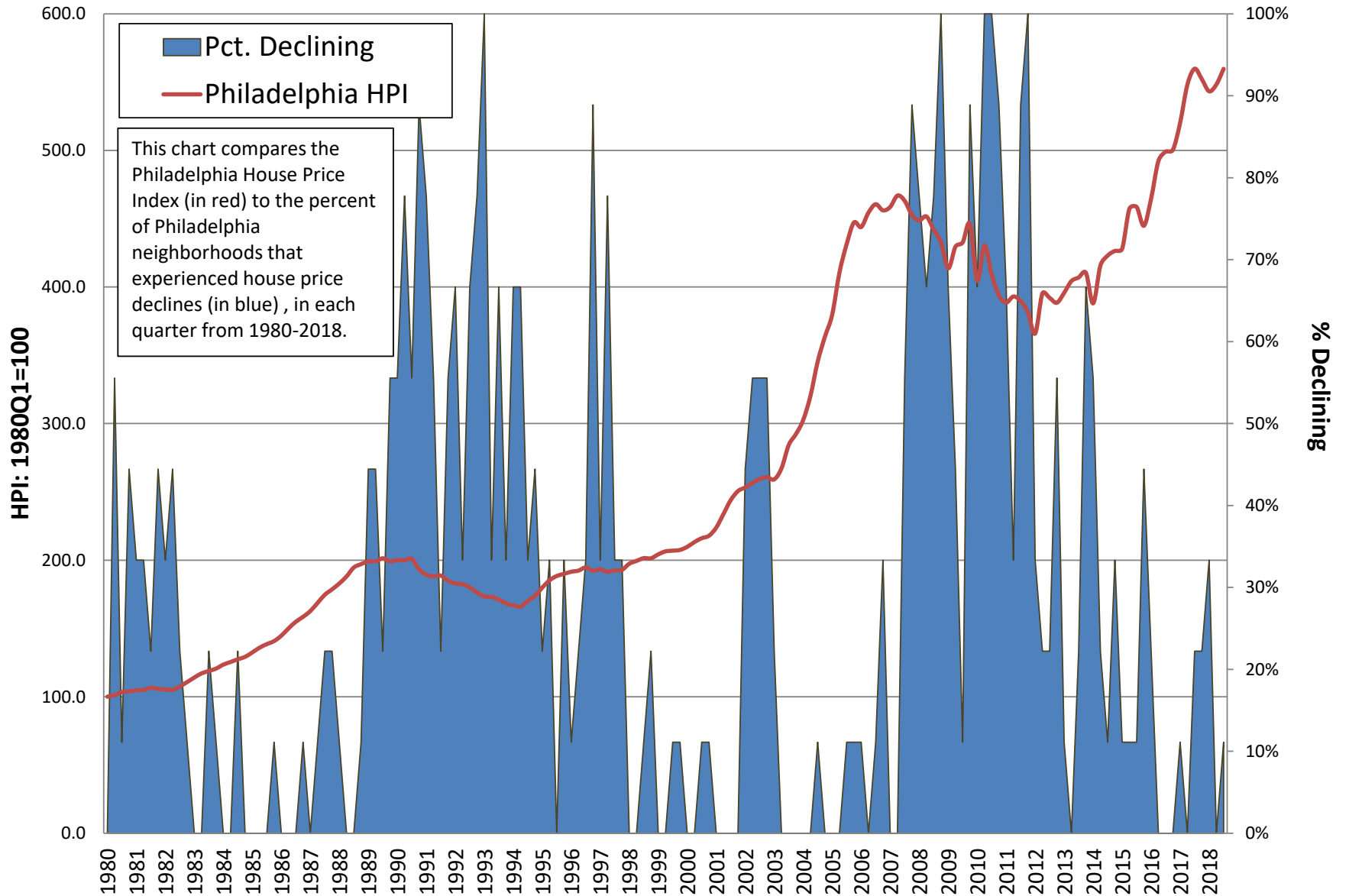


| PRICE | ADDRESS |
|-------------|----------------------|
| \$1,000,000 | 7703 LINCOLN DR |
| \$1,000,000 | 2007 NORTH ST |
| \$1,025,000 | 613 PEMBERTON ST |
| \$1,025,000 | 7612 CHEROKEE ST |
| \$1,050,000 | 2428 PINE ST |
| \$1,050,000 | 1601 KATER ST |
| \$1,070,000 | 801 S 20TH ST |
| \$1,150,000 | 2122 GREEN ST |
| \$1,161,500 | 352 S 04TH ST |
| \$1,189,578 | 708 S AMERICAN ST |
| \$1,200,000 | 8300 NAVAJO ST |
| \$1,218,000 | 31 SUMMIT ST |
| \$1,235,000 | 2112 LOMBARD ST |
| \$1,237,618 | 1923 DELANCEY PL |
| \$1,250,000 | 622 CATHARINE ST |
| \$1,310,000 | 2061 LOMBARD ST |
| \$1,320,400 | 1831 SPRUCE ST |
| \$1,370,000 | 1232 SUMMER ST |
| \$1,375,000 | 8319 SEMINOLE AVE |
| \$1,500,000 | 316 S 10TH ST |
| \$1,500,000 | 18 LAUGHLIN LN |
| \$1,510,000 | 1012 WESTVIEW AVE |
| \$1,514,000 | 2420 SPRUCE ST |
| \$1,520,000 | 1433 BAINBRIDGE ST |
| \$1,525,000 | 262 S 03RD ST |
| \$1,530,000 | 318 SAINT JAMES PL |
| \$1,550,000 | 2101 LOCUST ST |
| \$1,663,000 | 20 W CHESTNUT HI AVE |
| \$1,727,300 | 2221 PINE ST |
| \$1,865,500 | 711 SPRUCE ST |
| \$1,875,000 | 2130 RACE ST |
| \$2,400,000 | 2324 GREEN ST |
| \$2,503,000 | 2502 DELANCEY PL |
| \$2,750,000 | 713 SPRUCE ST |
| \$2,905,000 | 2016 SPRUCE ST |

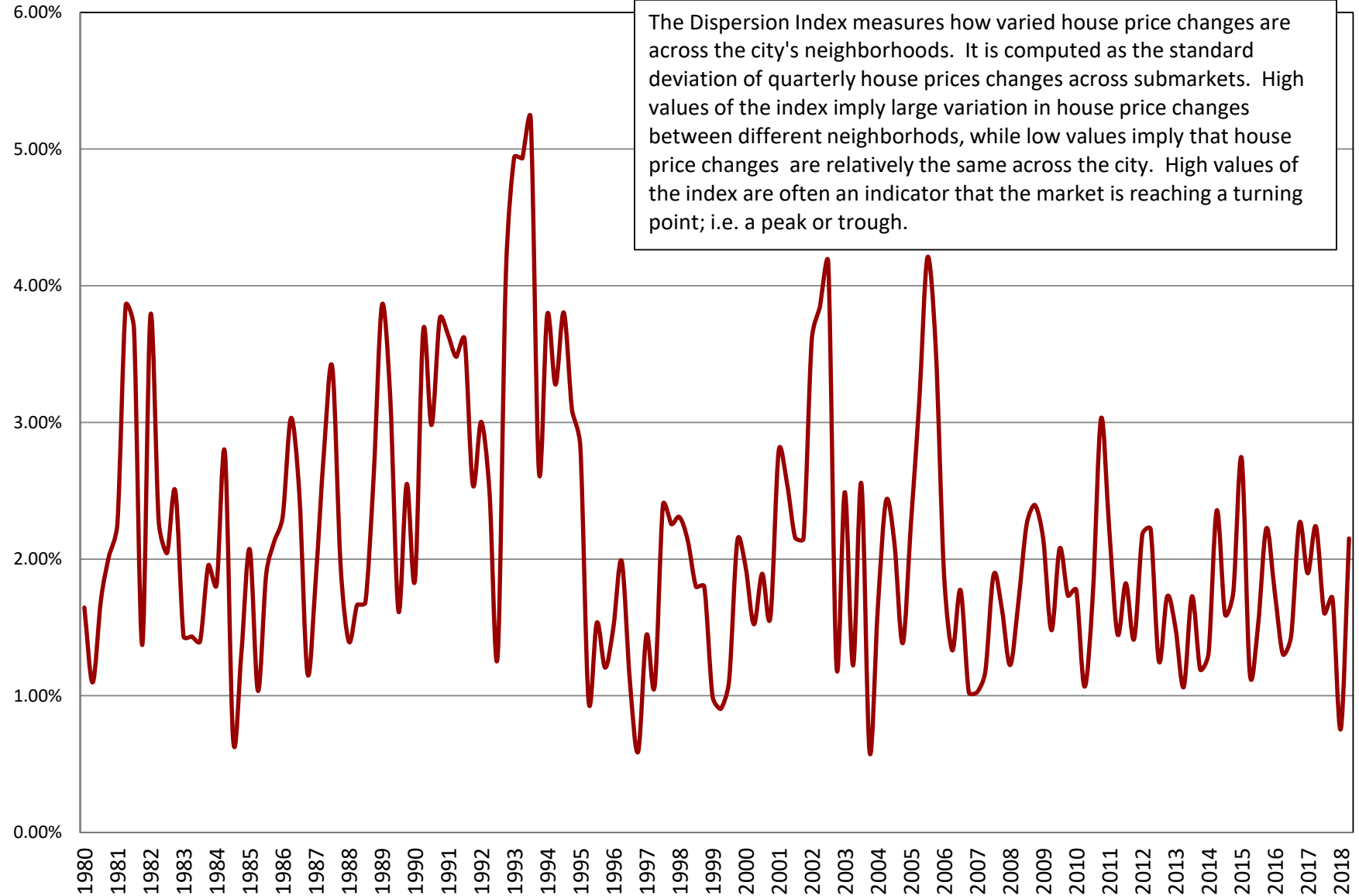
Philadelphia House Price Diffusion Index 1980-2018



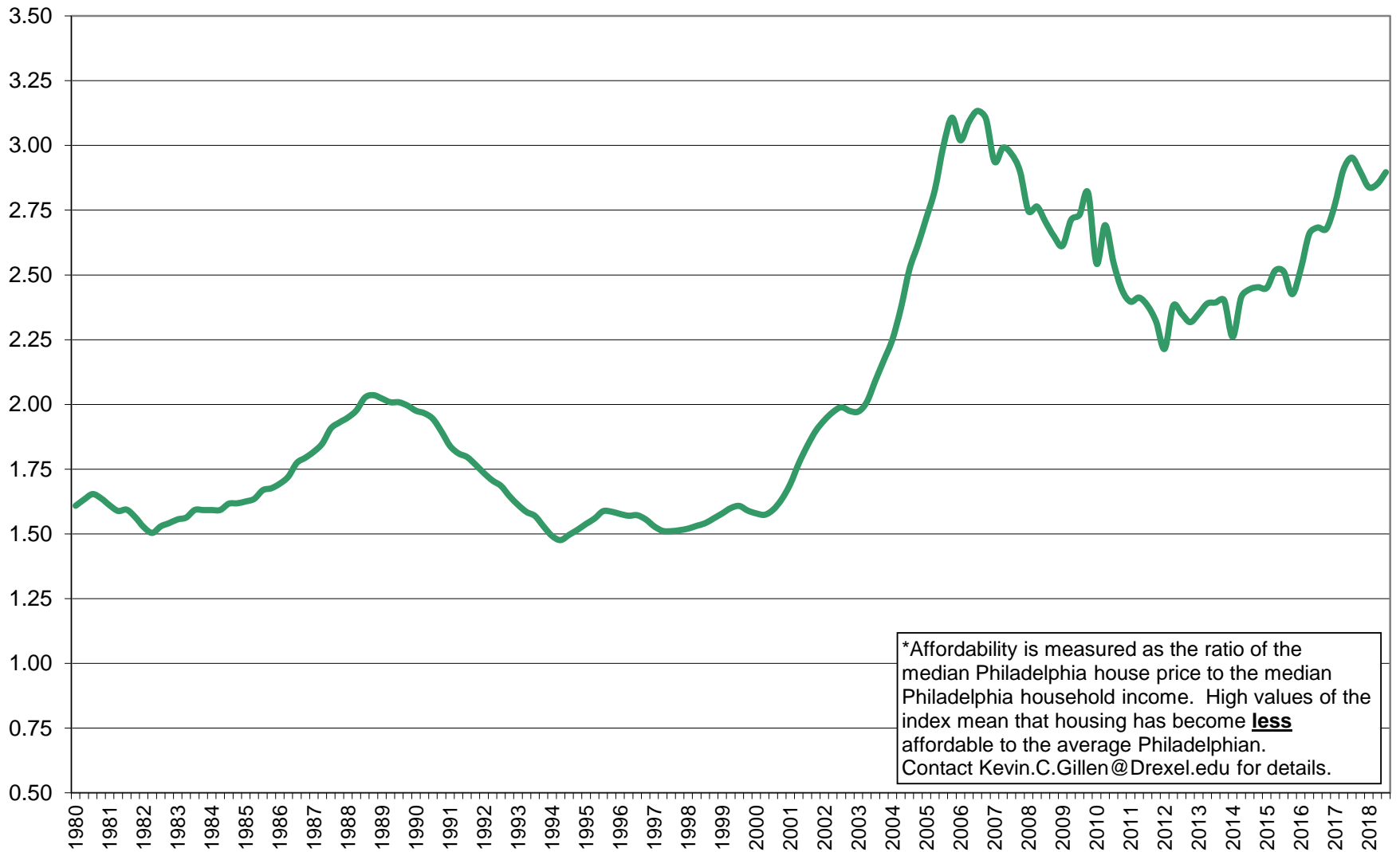
Philadelphia House Prices 1980-2018: Declines v. House Price Index



Dispersion Index of Philadelphia Housing

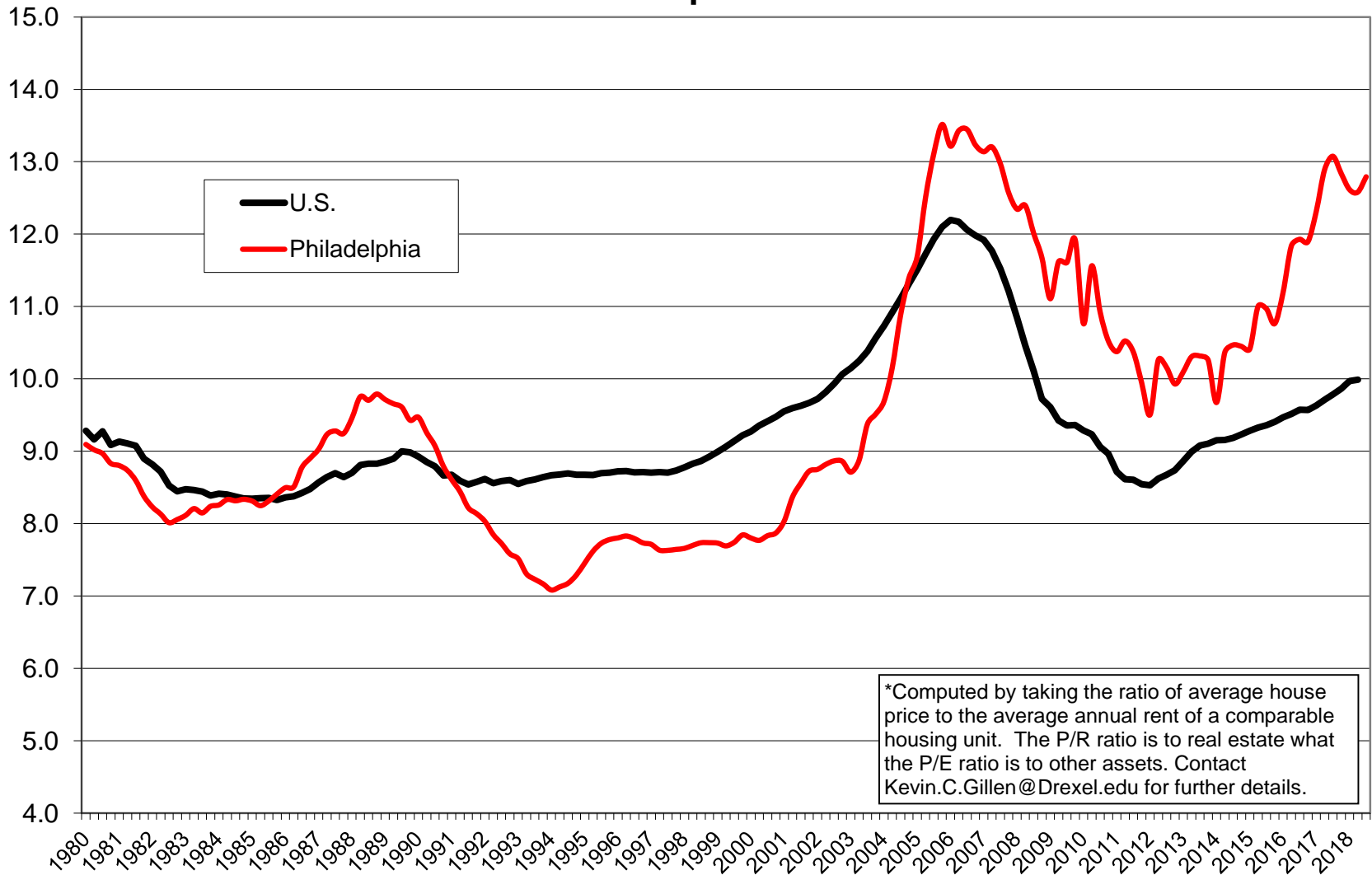


Philadelphia Housing Affordability* Index: 1980-2018



*Affordability is measured as the ratio of the median Philadelphia house price to the median Philadelphia household income. High values of the index mean that housing has become **less** affordable to the average Philadelphian. Contact Kevin.C.Gillen@Drexel.edu for details.

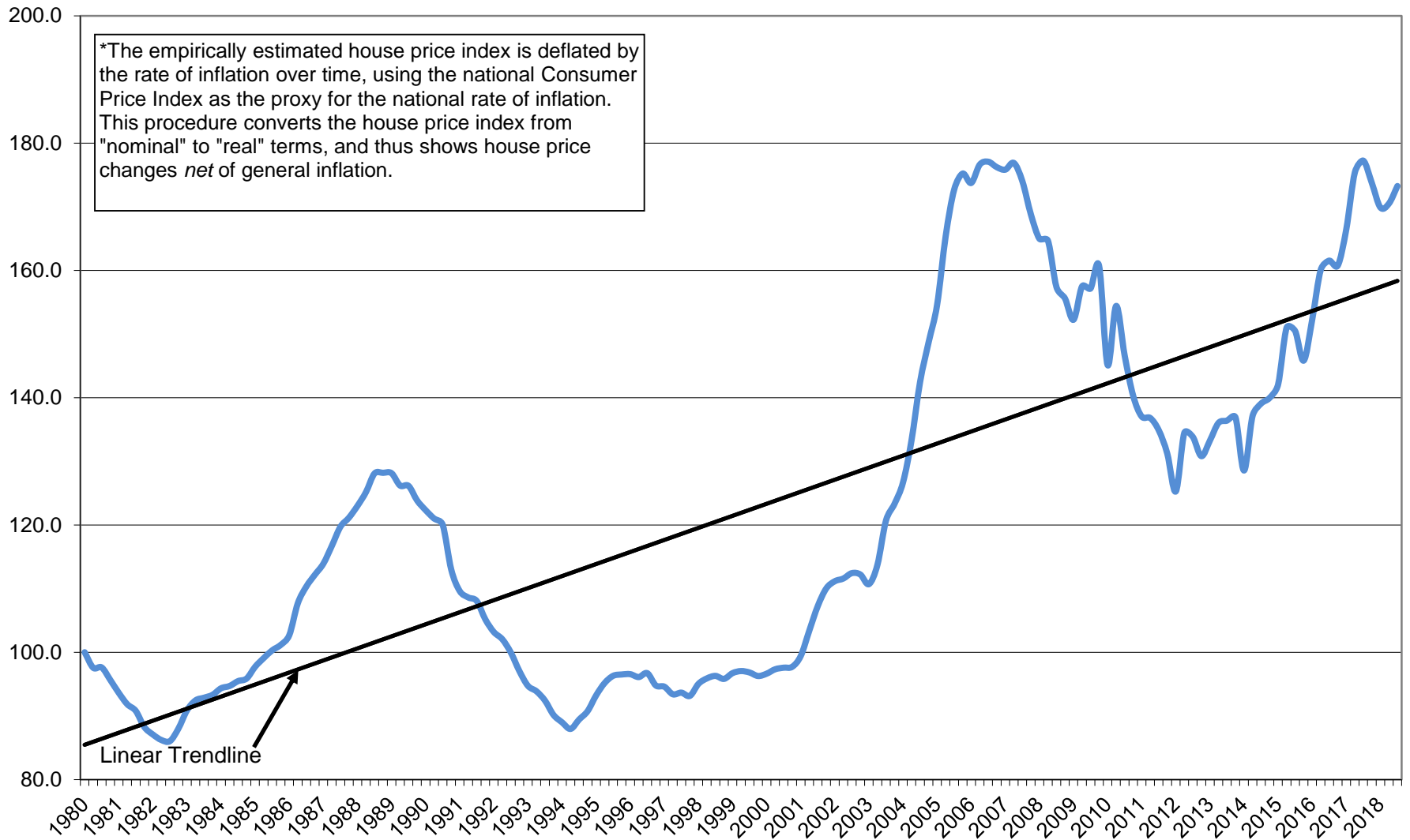
Average House Price-to-Rent Ratios*: 1980-2018 Philadelphia v. U.S.



*Computed by taking the ratio of average house price to the average annual rent of a comparable housing unit. The P/R ratio is to real estate what the P/E ratio is to other assets. Contact Kevin.C.Gillen@Drexel.edu for further details.

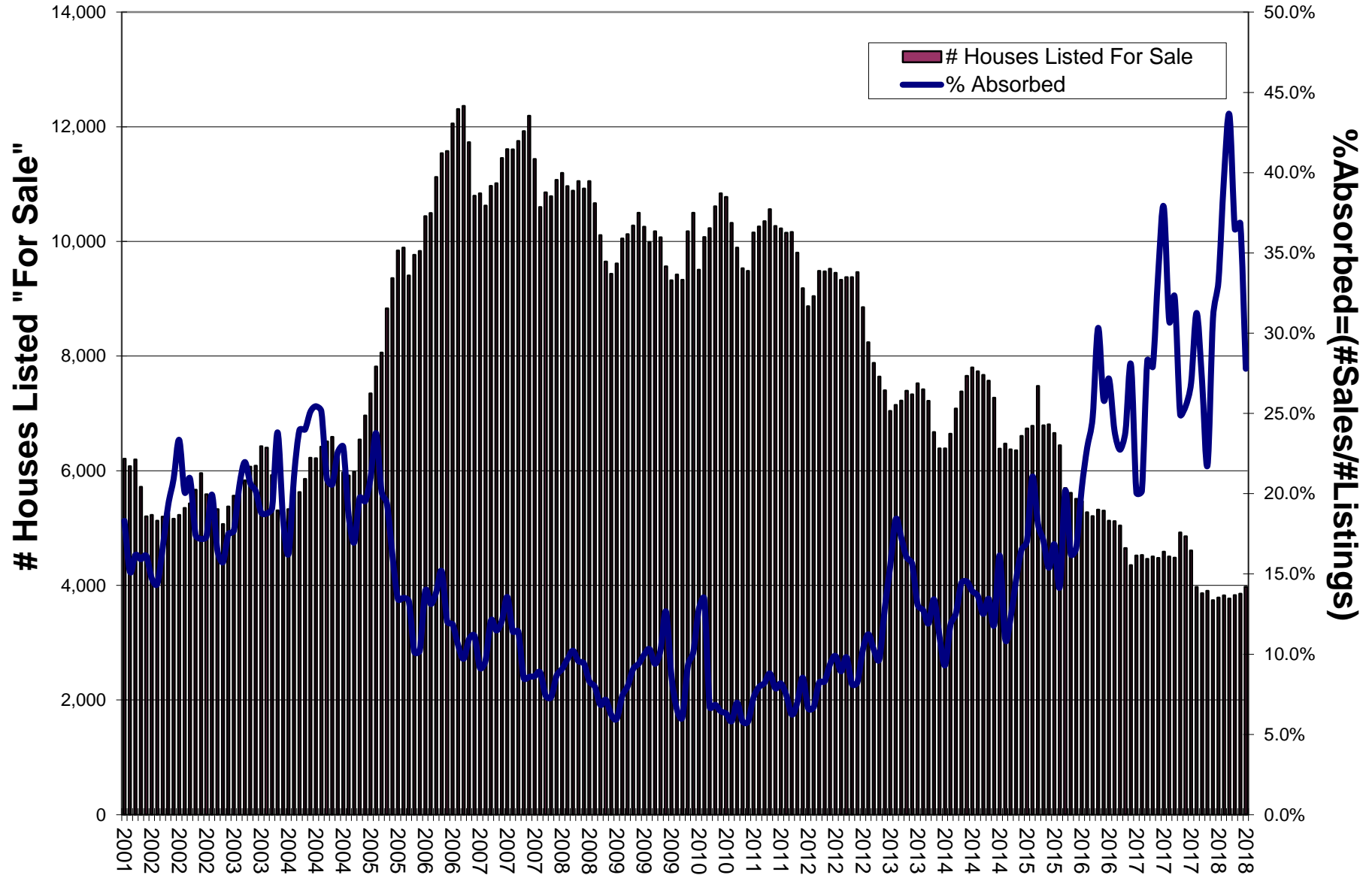
Inflation-Adjusted* Philadelphia House Price Index 1980-2018

1980Q1=100



Source: US Bureau of Labor Statistics

Philadelphia Houses Listed For Sale: Inventory v. Sales Rate

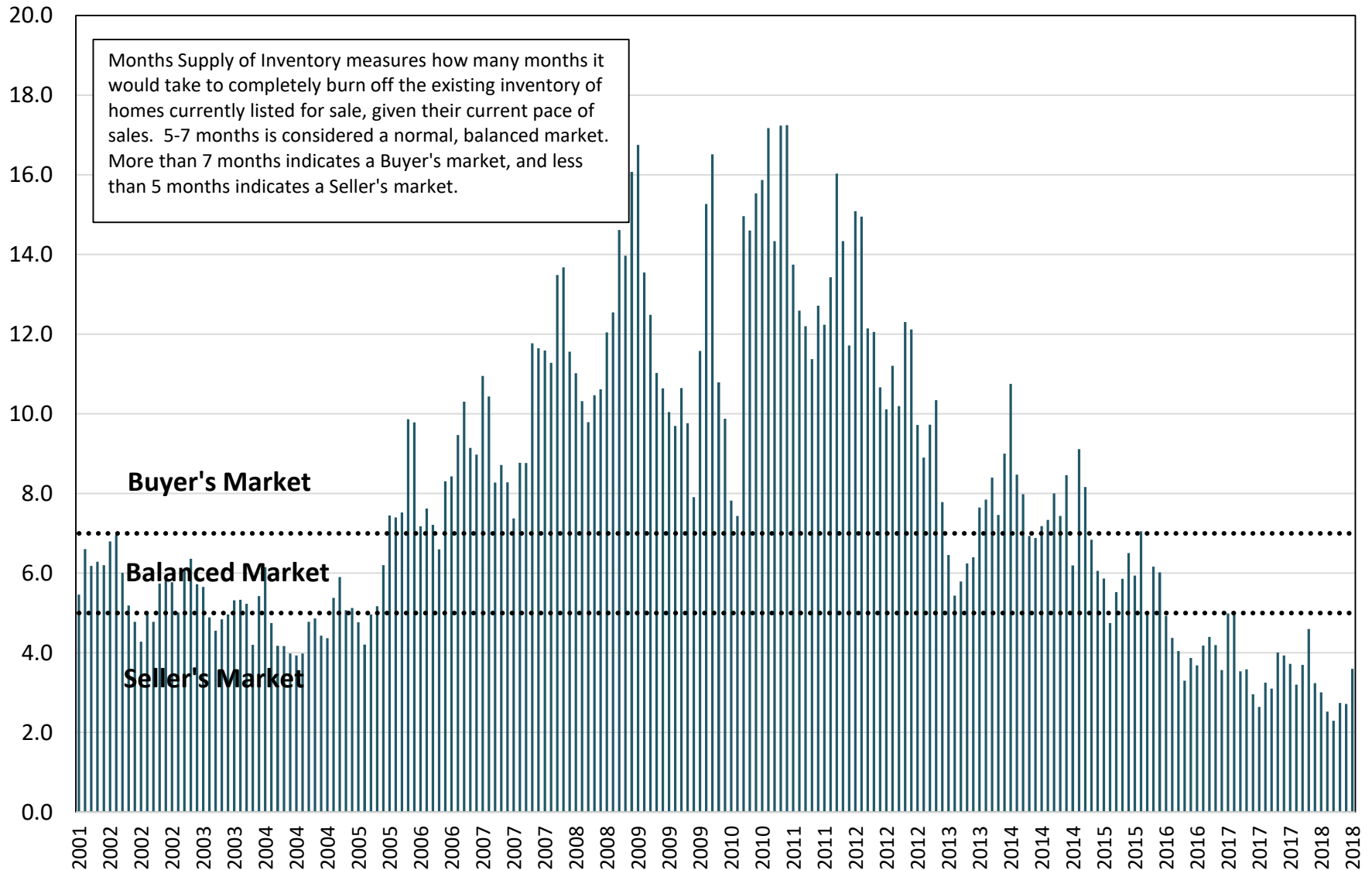


“%Absorbed” is defined as the percent of homes listed for sale in a given month that also sold in that same month.

Source: Trend MLS



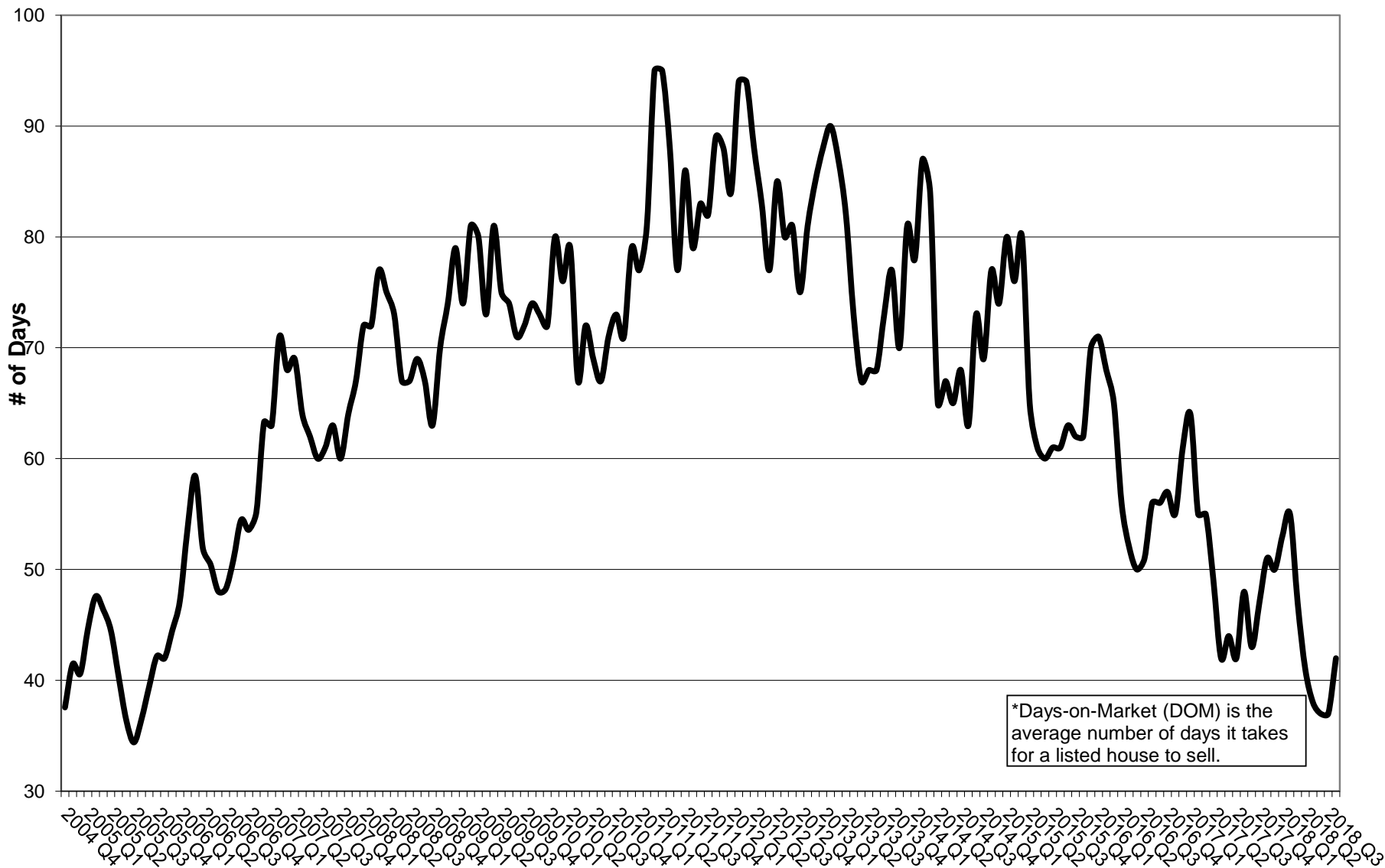
Months Supply of Inventory in Philadelphia



Source: Trend MLS



Average Days-on-Market* for Philadelphia Homes

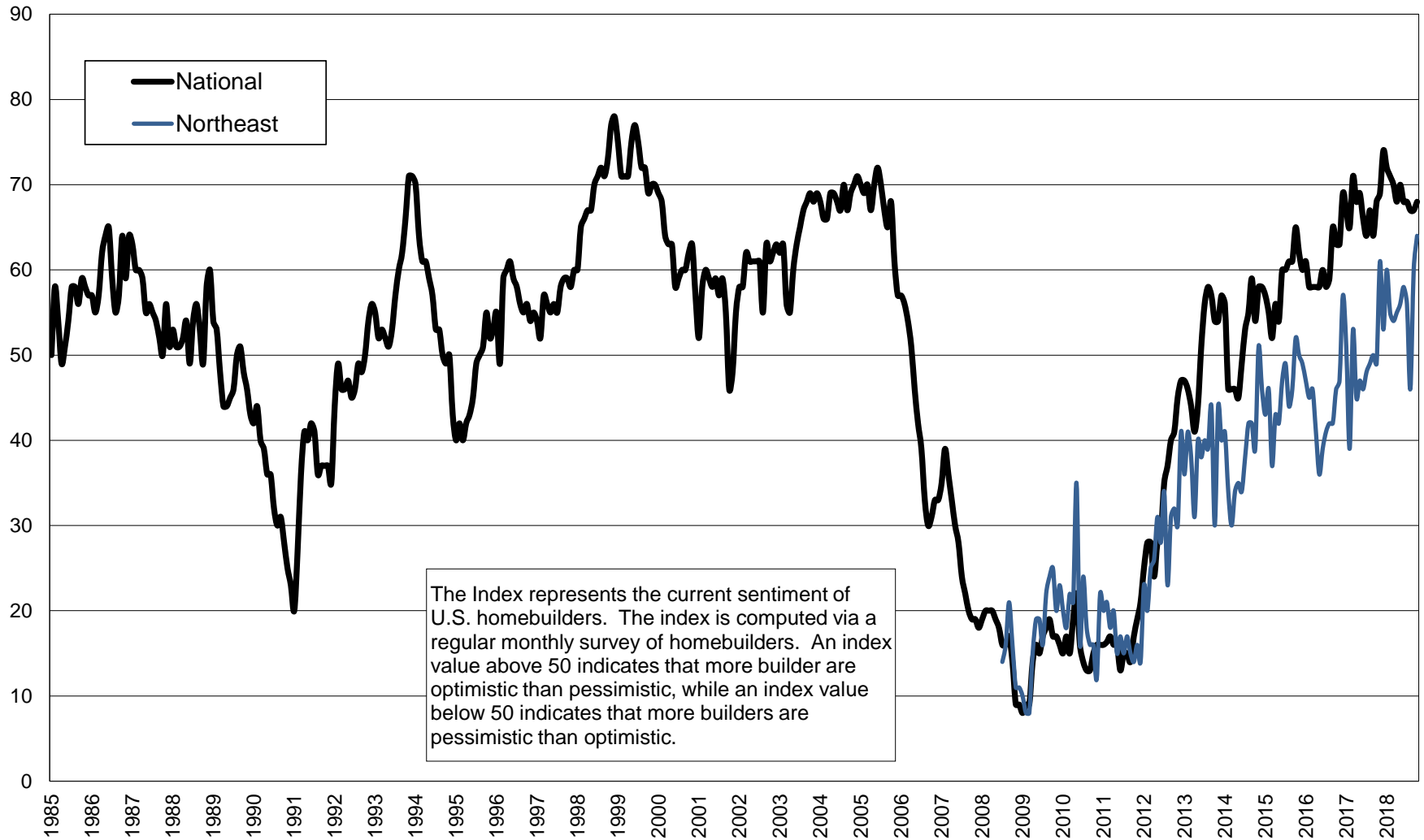


*Days-on-Market (DOM) is the average number of days it takes for a listed house to sell.

Source: Trend MLS



Index of Homebuilder Sentiment: 1985-2018 (Seasonally Adjusted)



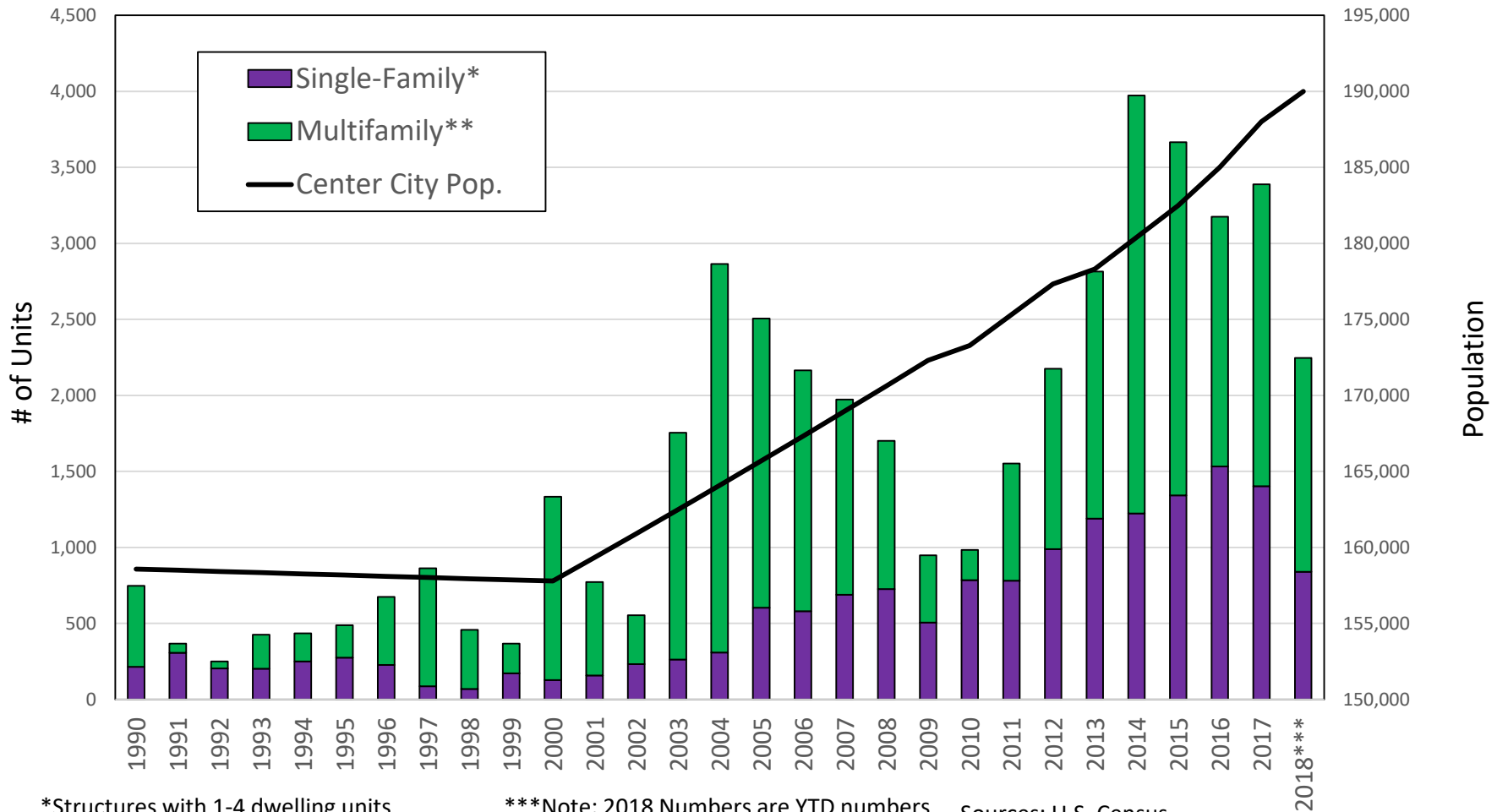
Source: National Assoc. of Homebuilders (NAHB)/Wells Fargo

Philadelphia Stock Exchange Housing Sector Index: 2002-2018



Source: finance.yahoo.com

Building Permits Issued for Construction of Residential Units in Philadelphia 1990-2018: Single-Family v. Multifamily



*Structures with 1-4 dwelling units

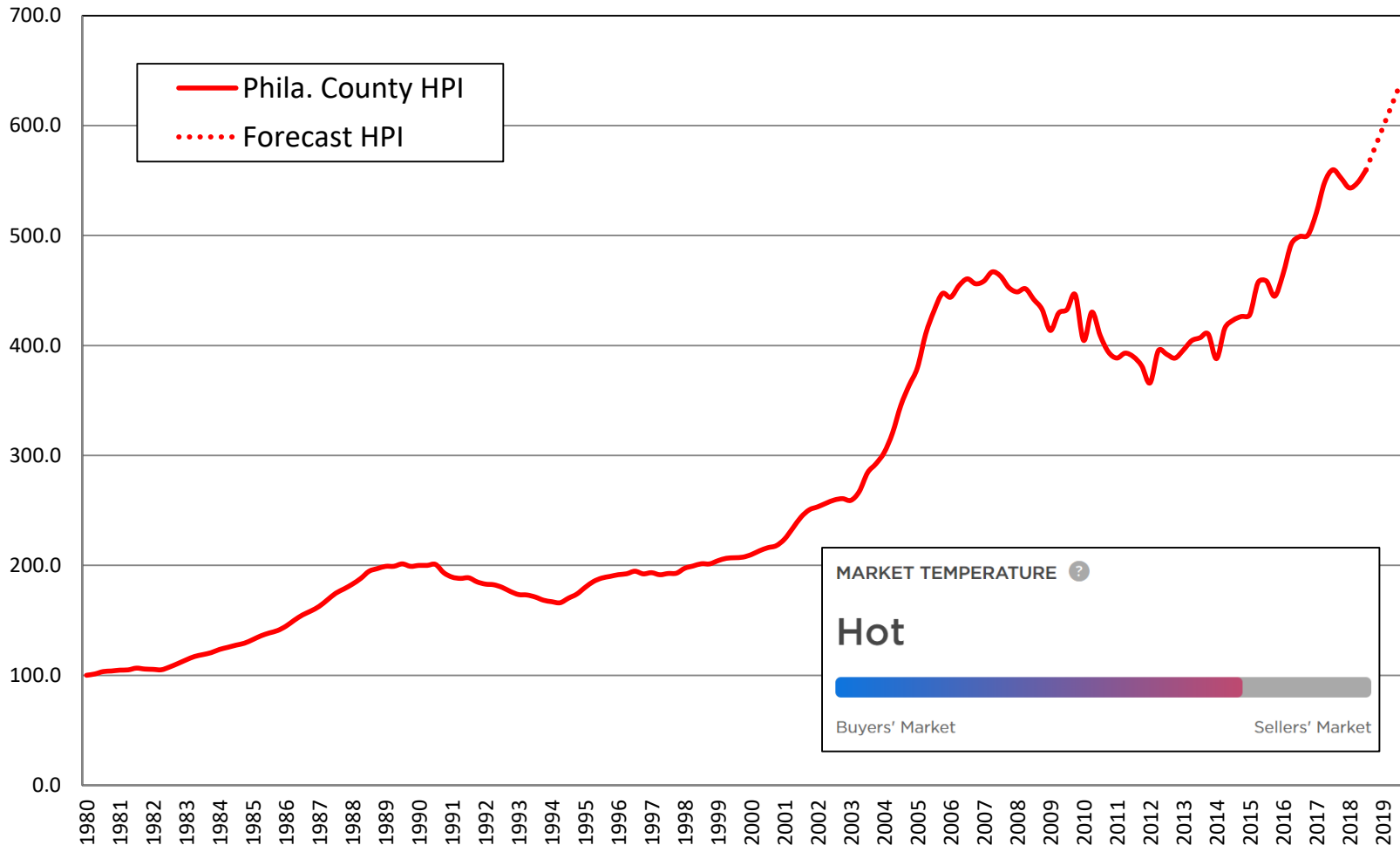
**Structures with >=5 dwelling units

***Note: 2018 Numbers are YTD numbers through August 2018.

Sources: U.S. Census, Center City District

Philadelphia House Price Index and 1-Year Forecast

Philadelphia House Price Index: Actual v. Forecast



Zillow.com is currently forecasting Philadelphia house prices to rise an average of 12.8% over the course of the next twelve months. This is a slight downgrade from its previous forecast of 13.4% made three months ago. Zillow also currently rates the temperature of Philadelphia's housing market as "Hot", but its level of hotness is slightly less than its level of three months' ago.

Source: <http://www.zillow.com/philadelphia-pa/home-values/>