

PHILADELPHIA HOUSE PRICE INDICES

March 18, 2020



DREXEL UNIVERSITY
Lindy Institute
for Urban Innovation

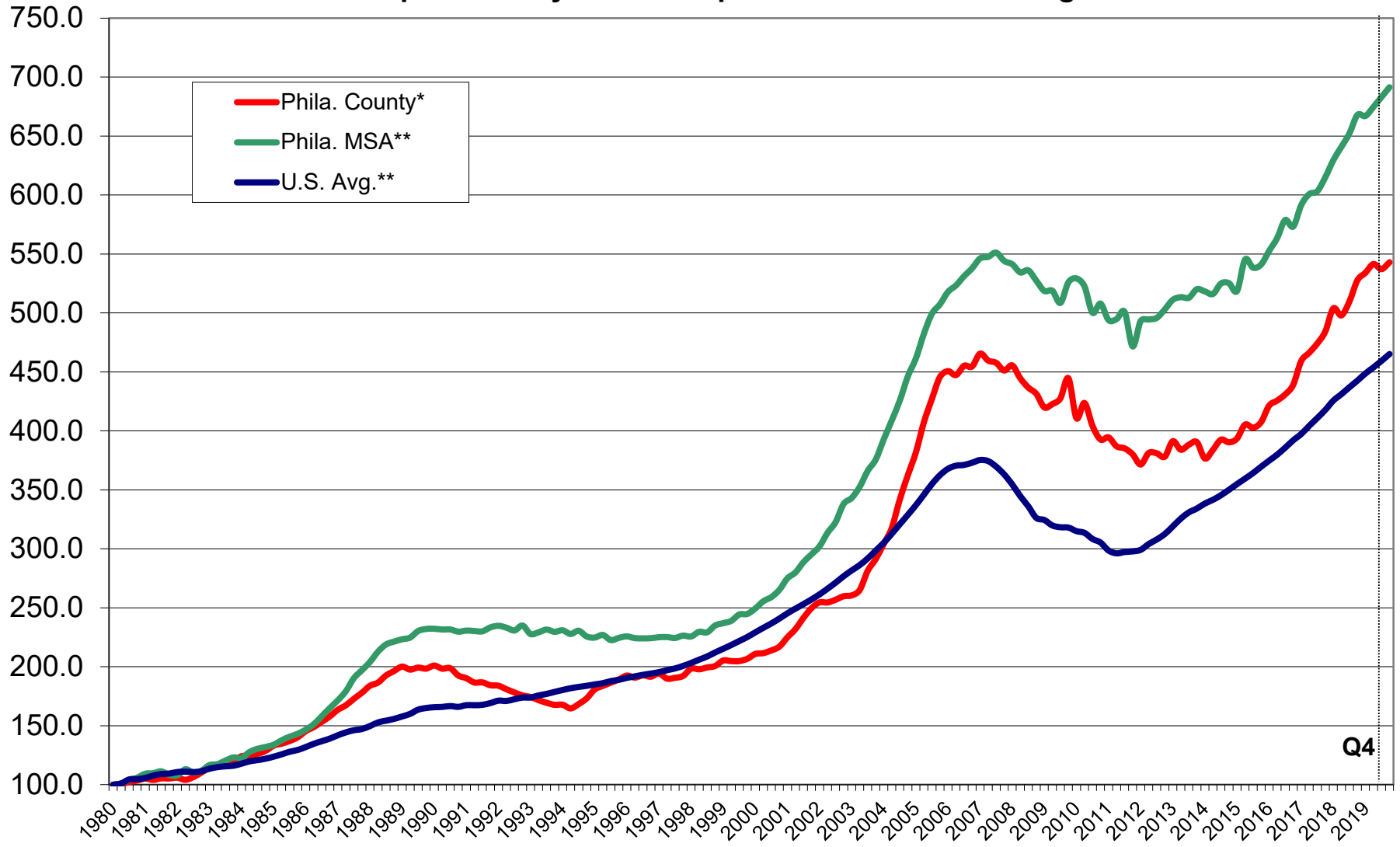
KEVIN C. GILLEN, Ph.D.

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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. © 2019, Drexel University, All Rights Reserved.*



House Price Indices 1980-2019: 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 2019Q4 only.

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

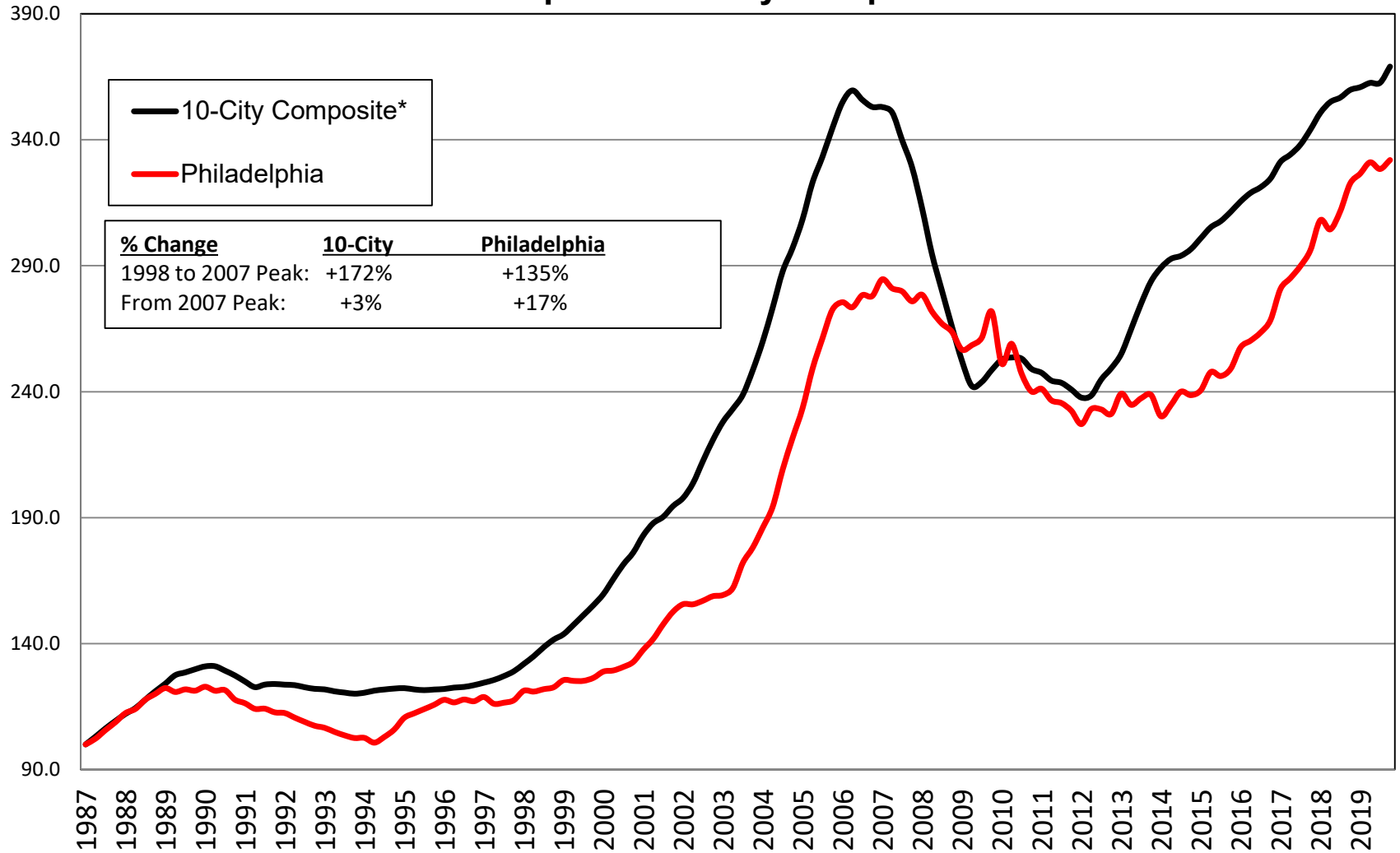
Total House Price Appreciation Rates by Geographic Market

Period	Philadelphia County*	Philadelphia MSA**	U.S.A.**
39-Year	442.9%	591.4%	365.2%
10-Year	22.1%	31.4%	46.3%
1-Year	2.9%	3.5%	5.1%
1-Quarter	1.1%	1.2%	1.3%

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

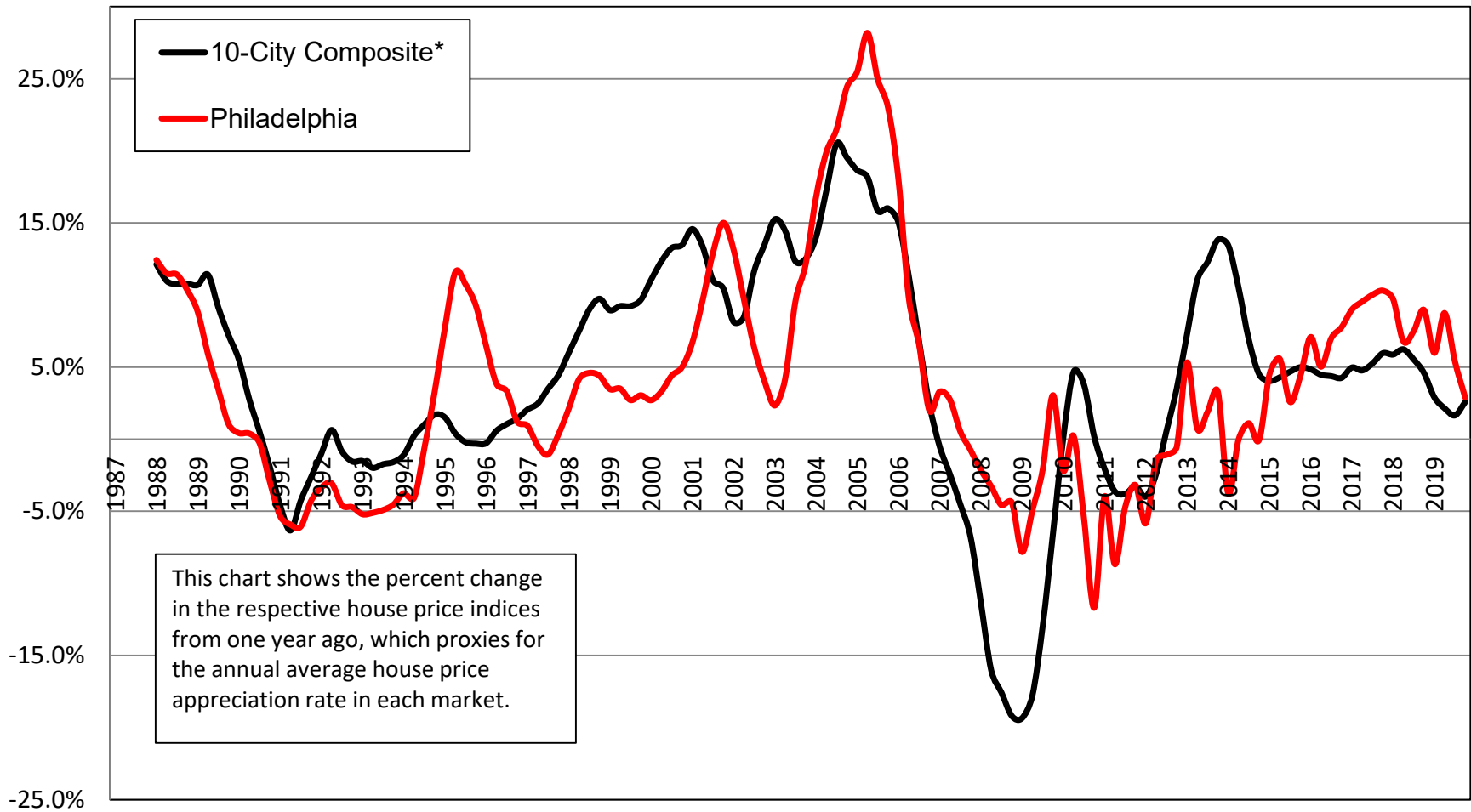
**Source: U.S. Federal Housing Finance Agency (FHFA). These numbers are through 2019Q4 only. “MSA”=“Metropolitan Statistical Area”, which is the entire 10-county region.

House Price Appreciation 1987-2019: 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.

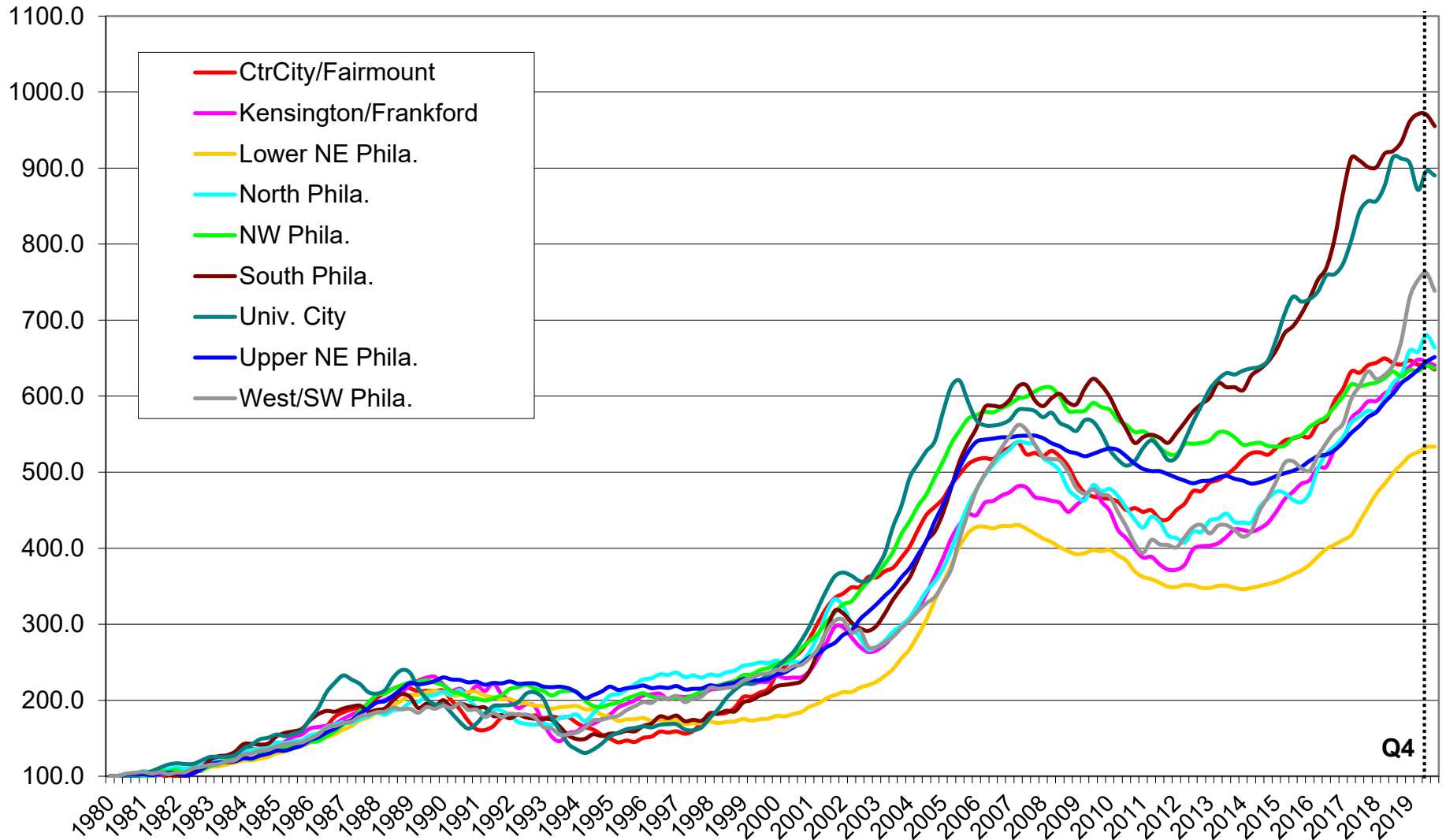
YoY House Price Change (%) 1987-2019: Philadelphia v. 10-City Composite



*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 Neighborhood: 1980-2019

1980Q1=100



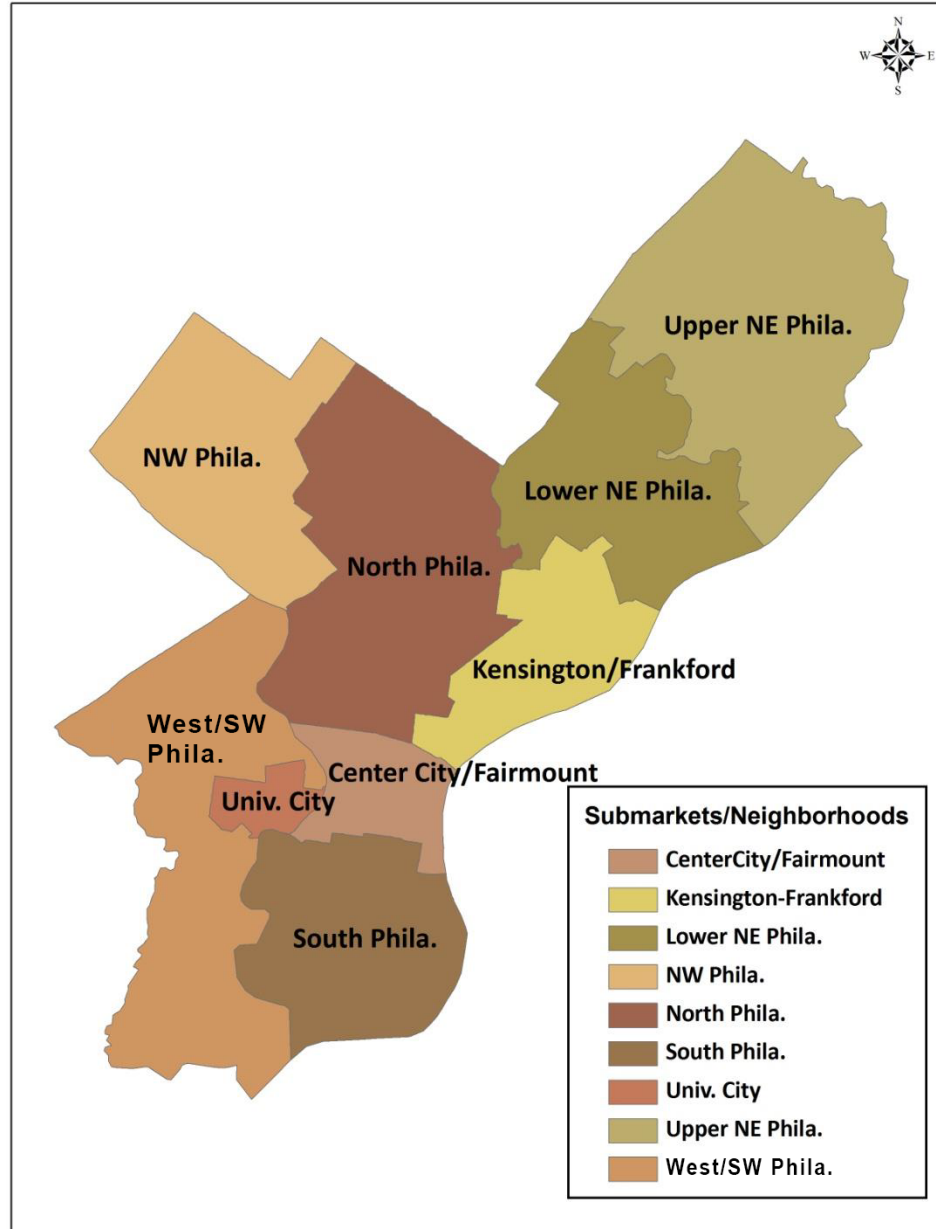
* All indices empirically estimated by Kevin C. Gillen, Ph.D.

Philadelphia House Price Appreciation Rates by Submarket

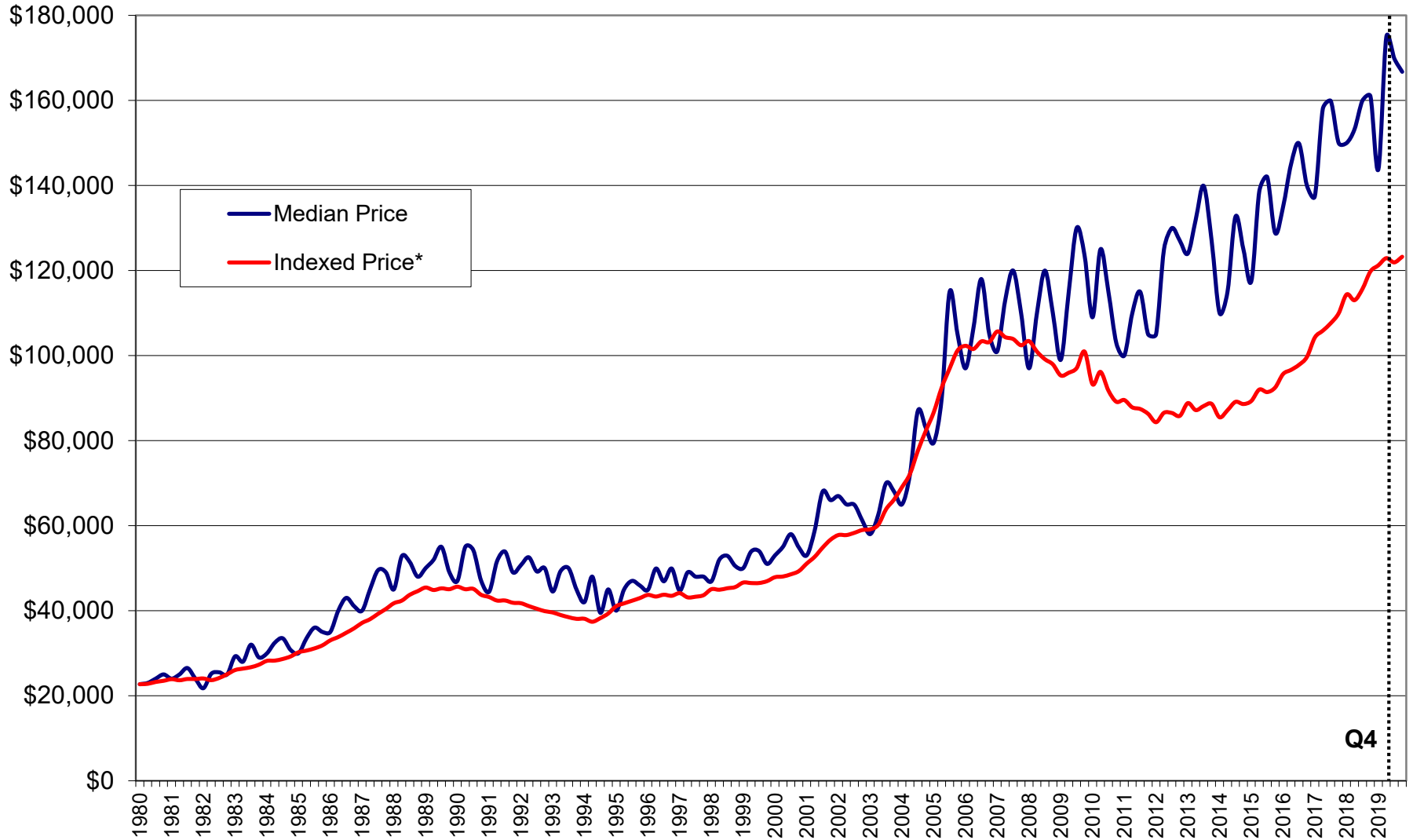
Period	Center City/ Fairmount	Kensington /Frankford	Lower NE Phila.	North Phila.	NW Phila.	South Phila.	Univ. City	Upper NE Phila.	West/ SW Phila.
39-year	534.9%	540.6%	433.6%	563.9%	536.7%	855.2%	790.2%	551.5%	638.4%
10-year	36.3%	38.9%	34.7%	39.8%	8.7%	55.5%	61.5%	23.3%	57.0%
1-Year	-1.1%	1.8%	4.6%	5.7%	1.7%	2.2%	-2.4%	5.6%	9.7%
1-Quarter	-1.0%	-0.7%	0.1%	-2.4%	-0.5%	-1.6%	-0.6%	1.0%	-3.1%

This table gives the total % change in average house values by submarket, through 2019 Q4, from different starting points in time.

Philadelphia Submarket Boundaries

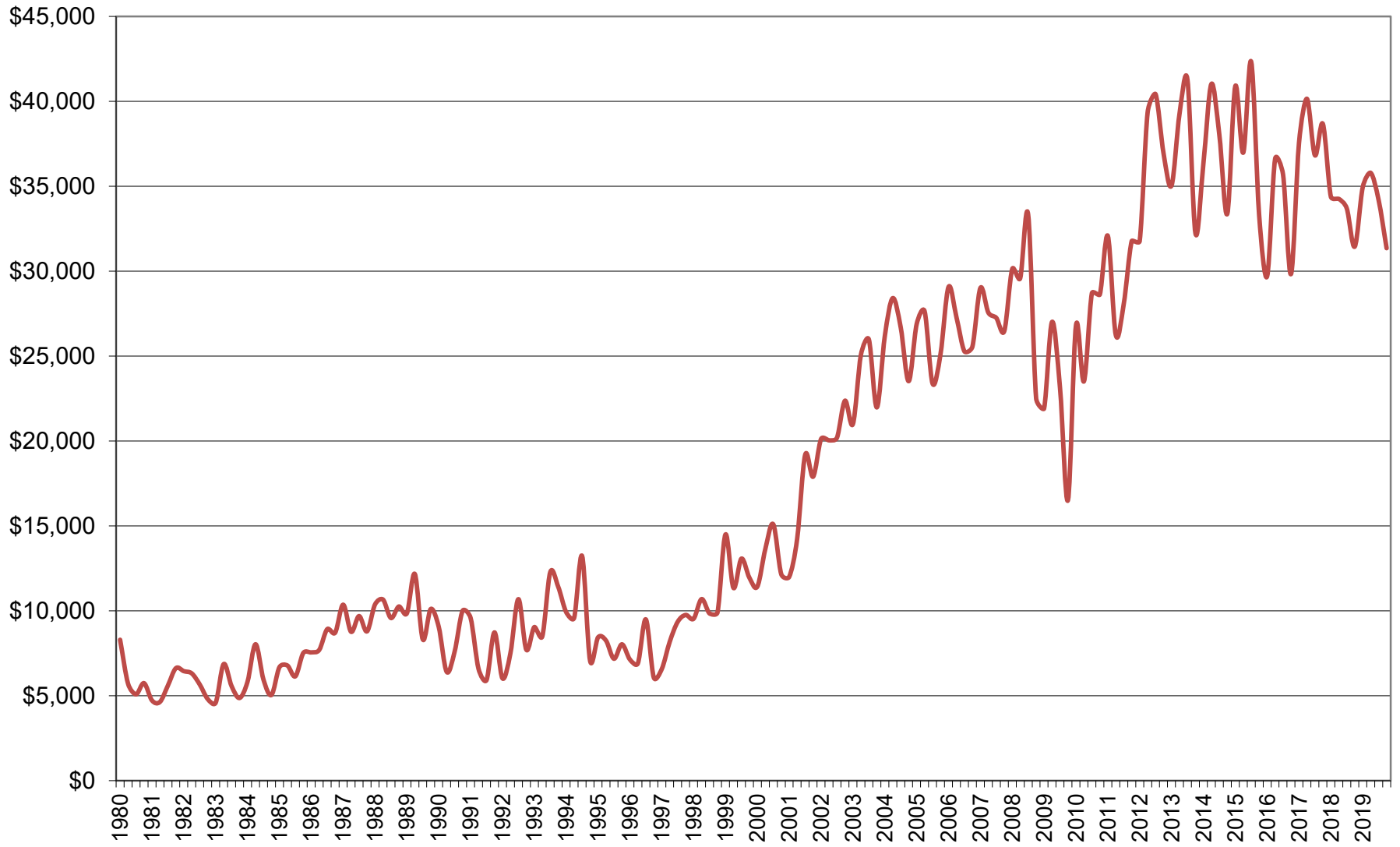


Median Philadelphia House Price v. Indexed Philadelphia House Price 1980-2019

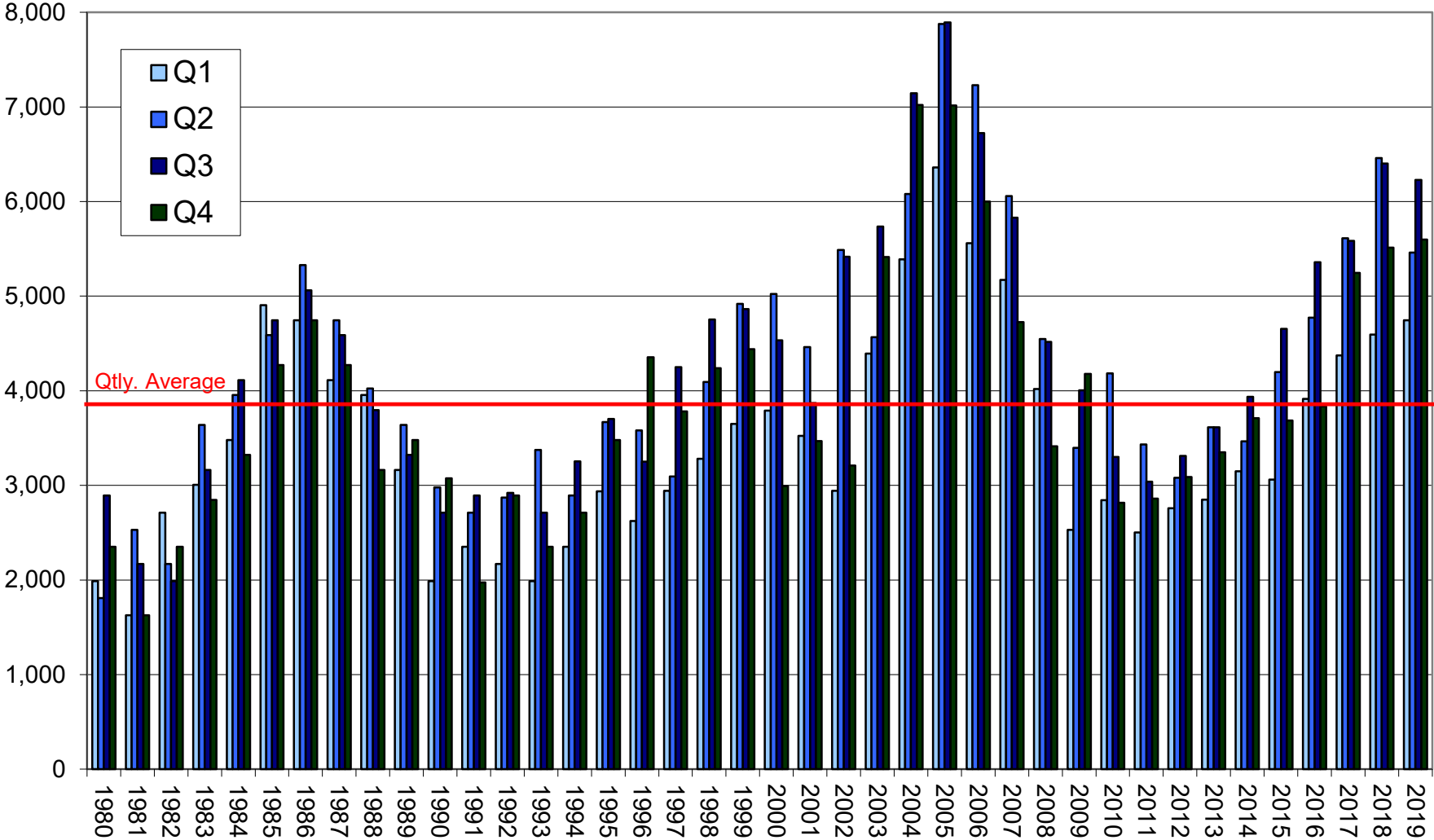


* Empirically estimated by Kevin C. Gillen, PhD

Average House Price Minus Median House Price: 1980-2019

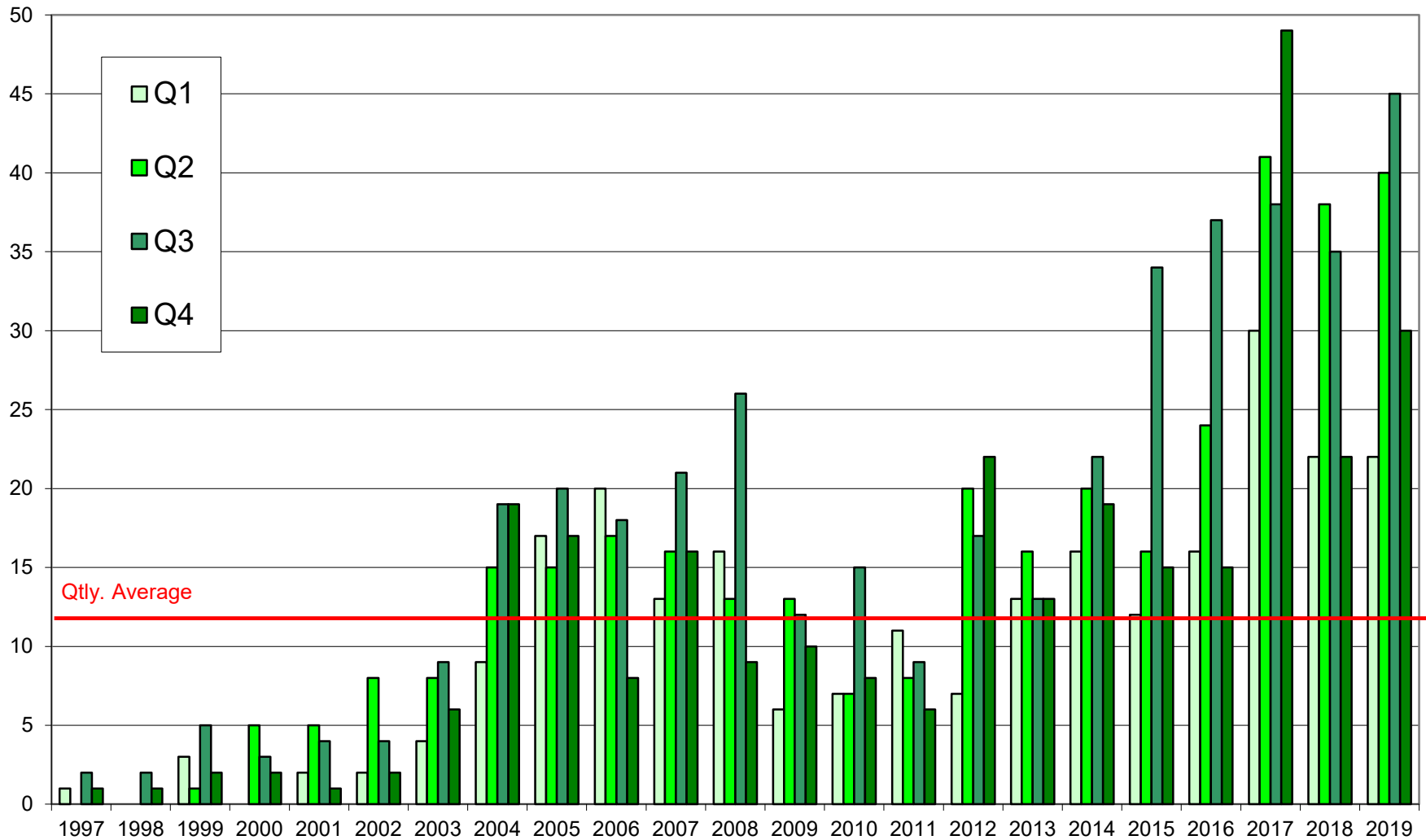


Number of Philadelphia House Sales* per Quarter: 1980-2019



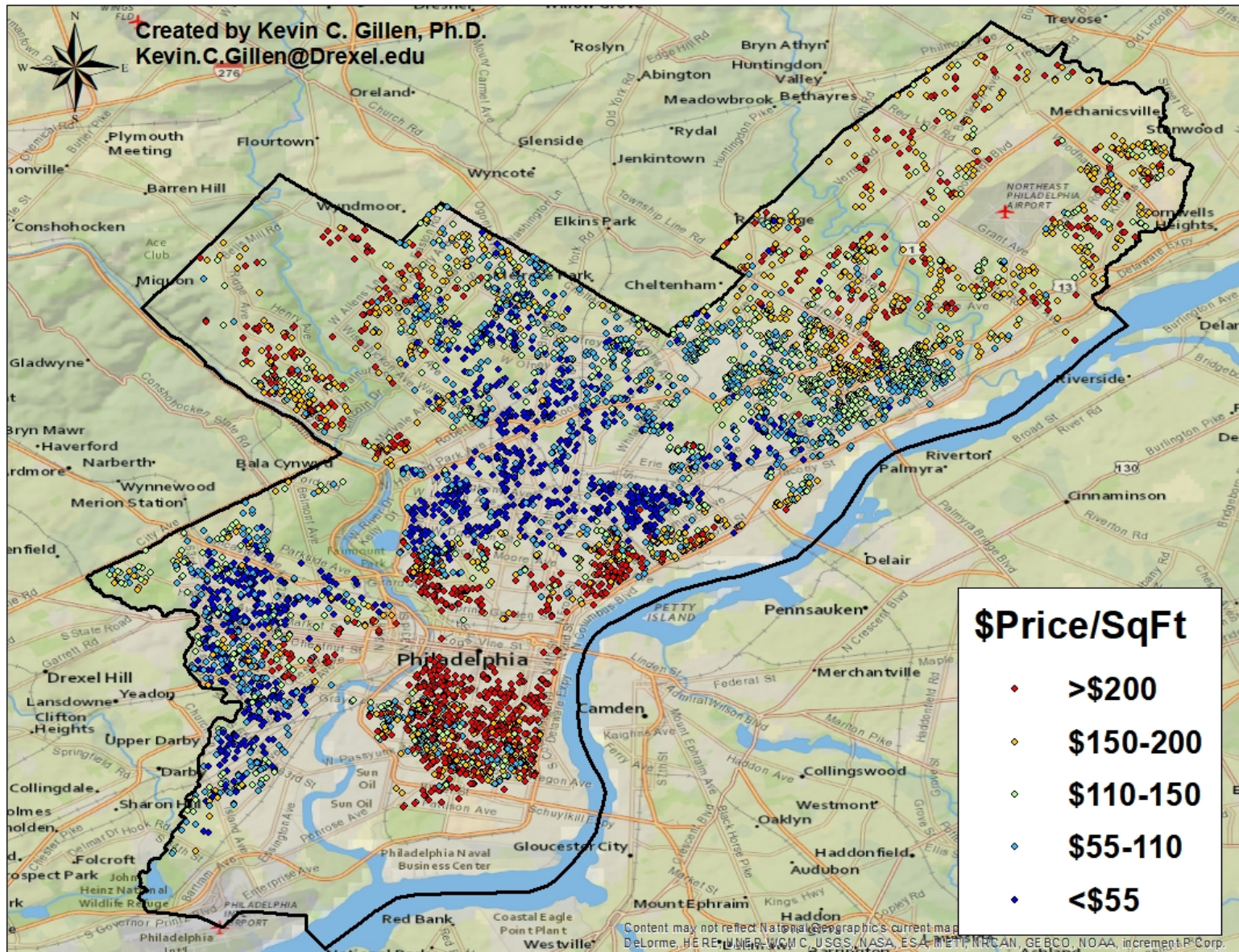
*Only arms-length transactions between private sector entities were included in these numbers.

Number of Philadelphia House Sales* per Quarter with Price >=\$1 Million: 1997-2019



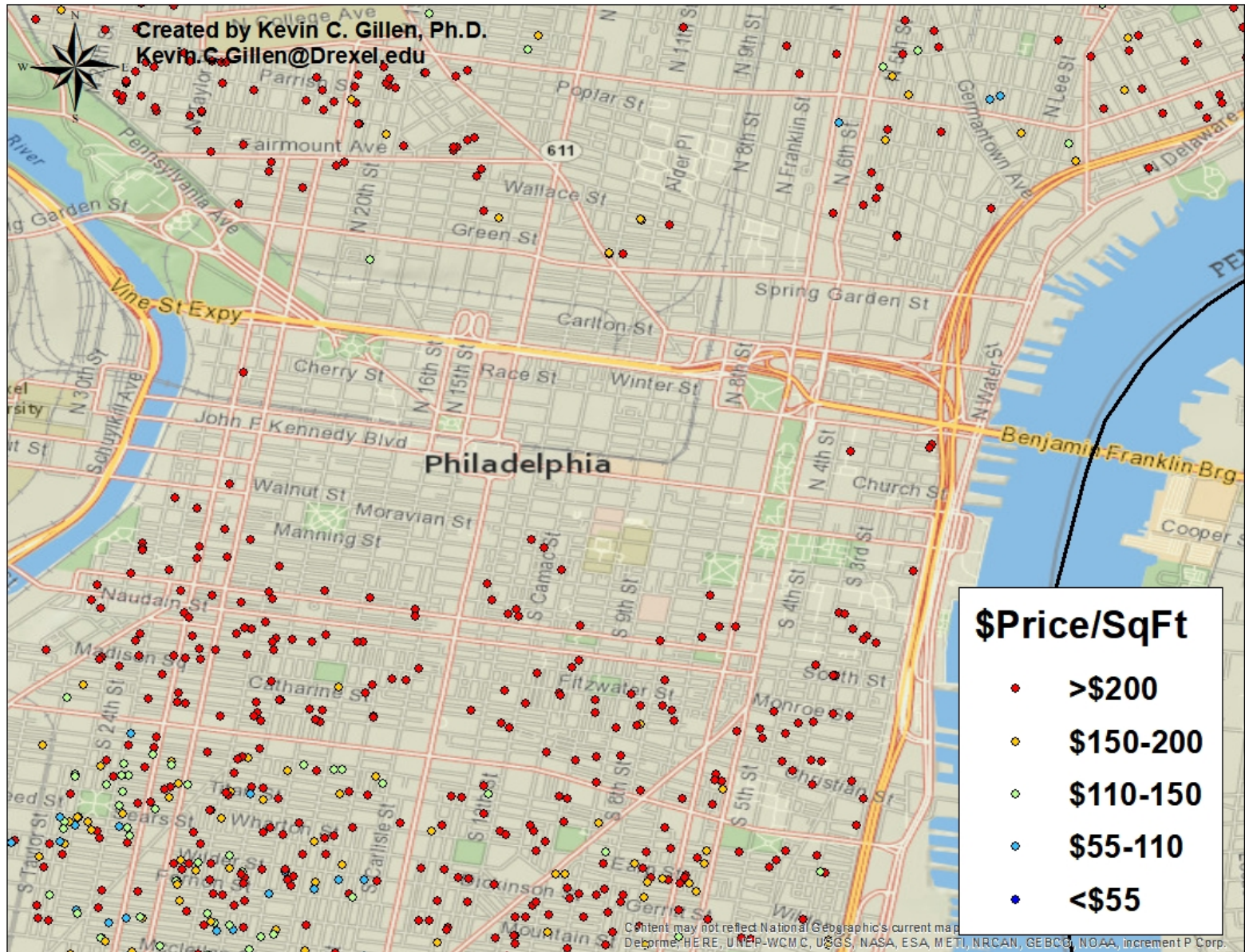
*Only arms-length transactions between private sector entities were included in these numbers.

Philadelphia House Sales in 2019 Q4

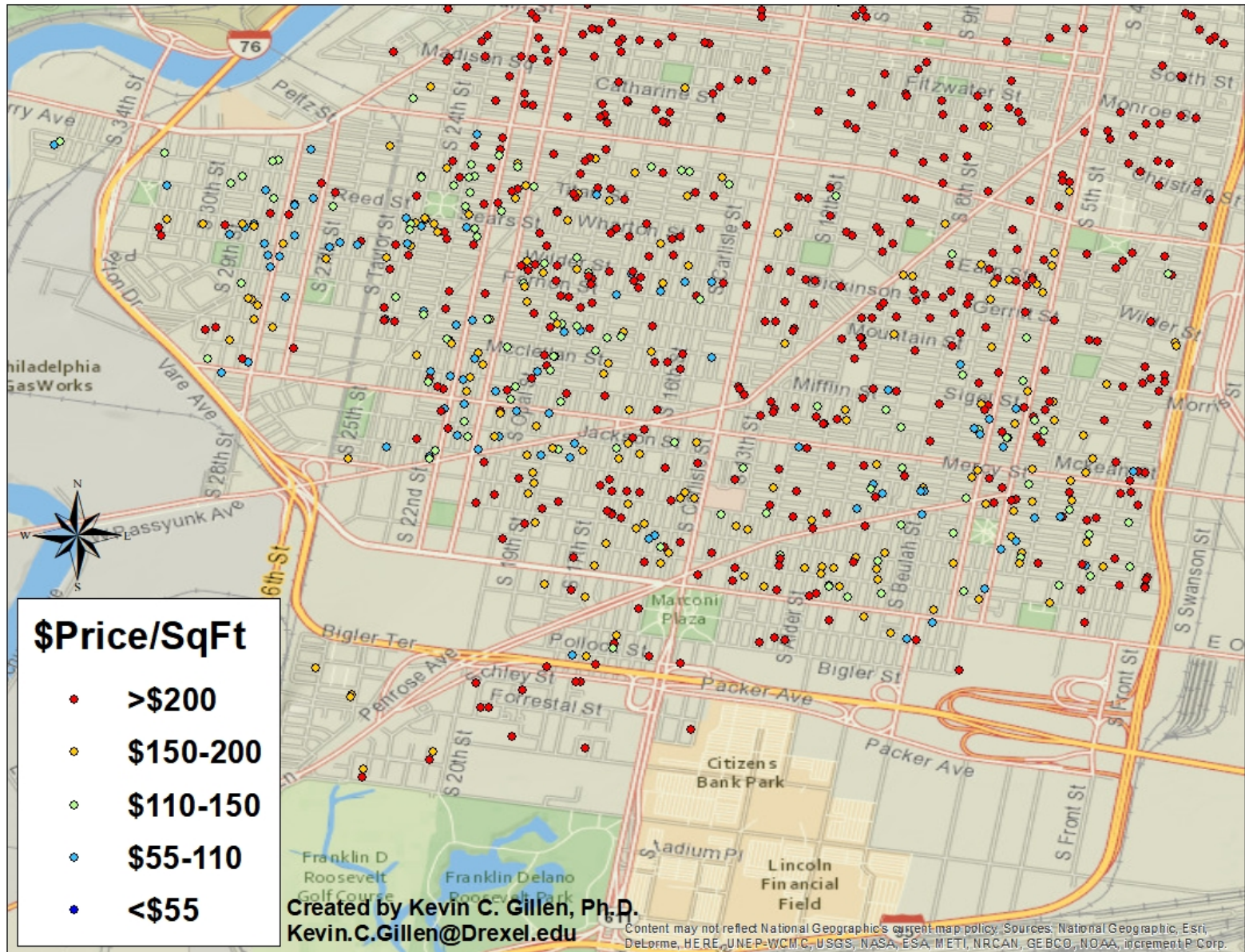


Note: Sales are color-coded by the quintiles of the distribution of \$Price/SqFt. Hence, each of the five categories covers exactly 20% of all sales.

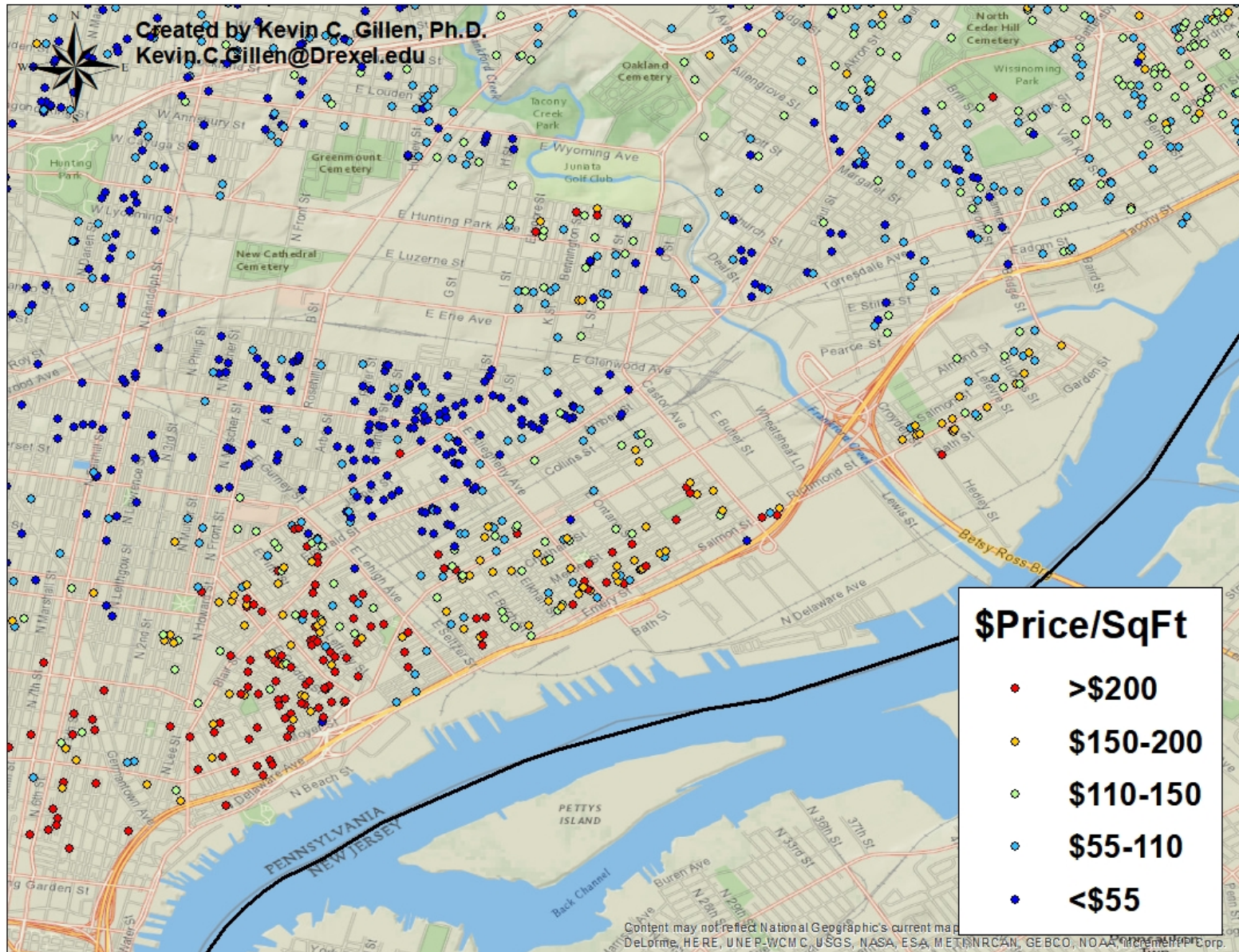
Center City House Sales in 2019 Q4



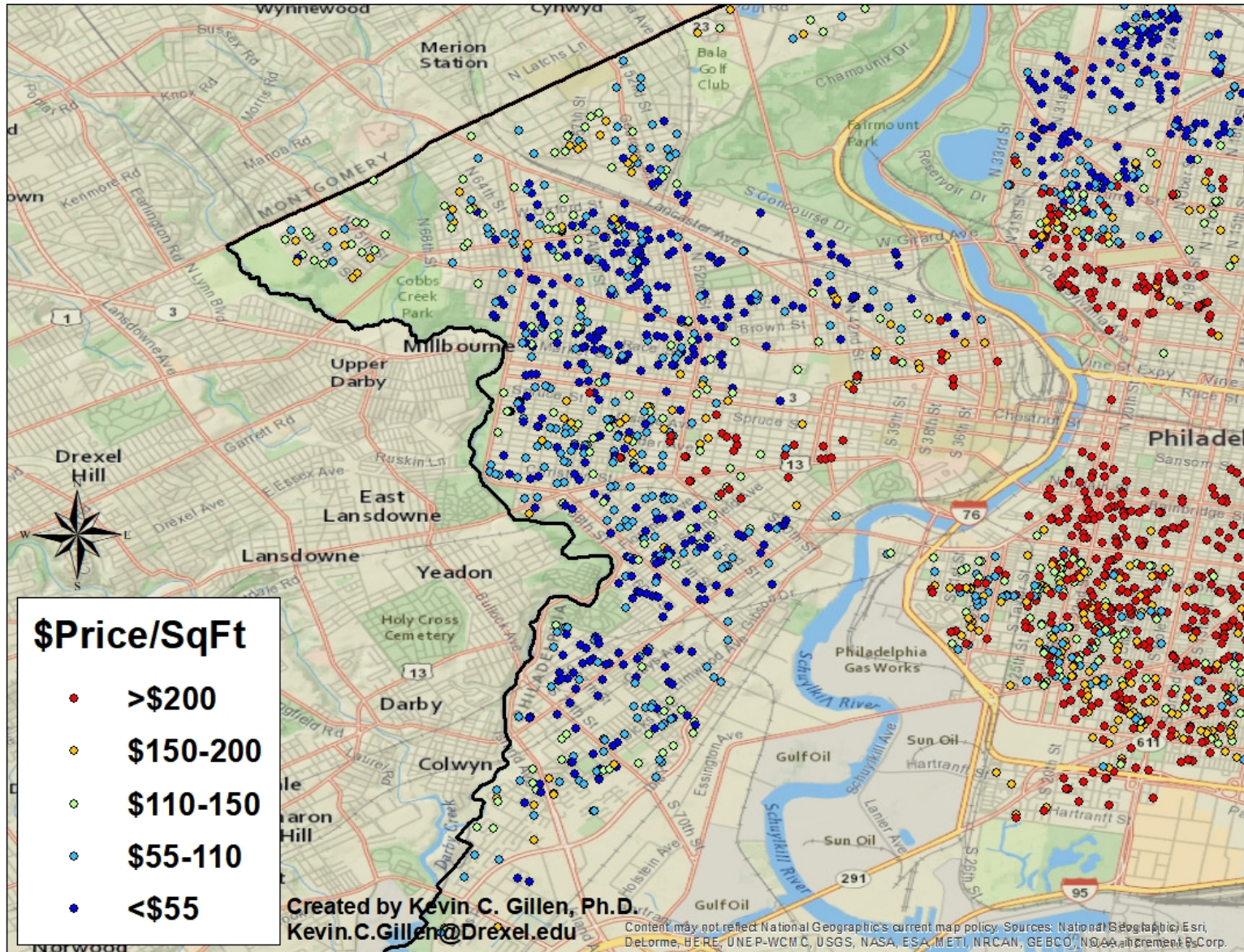
South Philadelphia House Sales in 2019 Q4



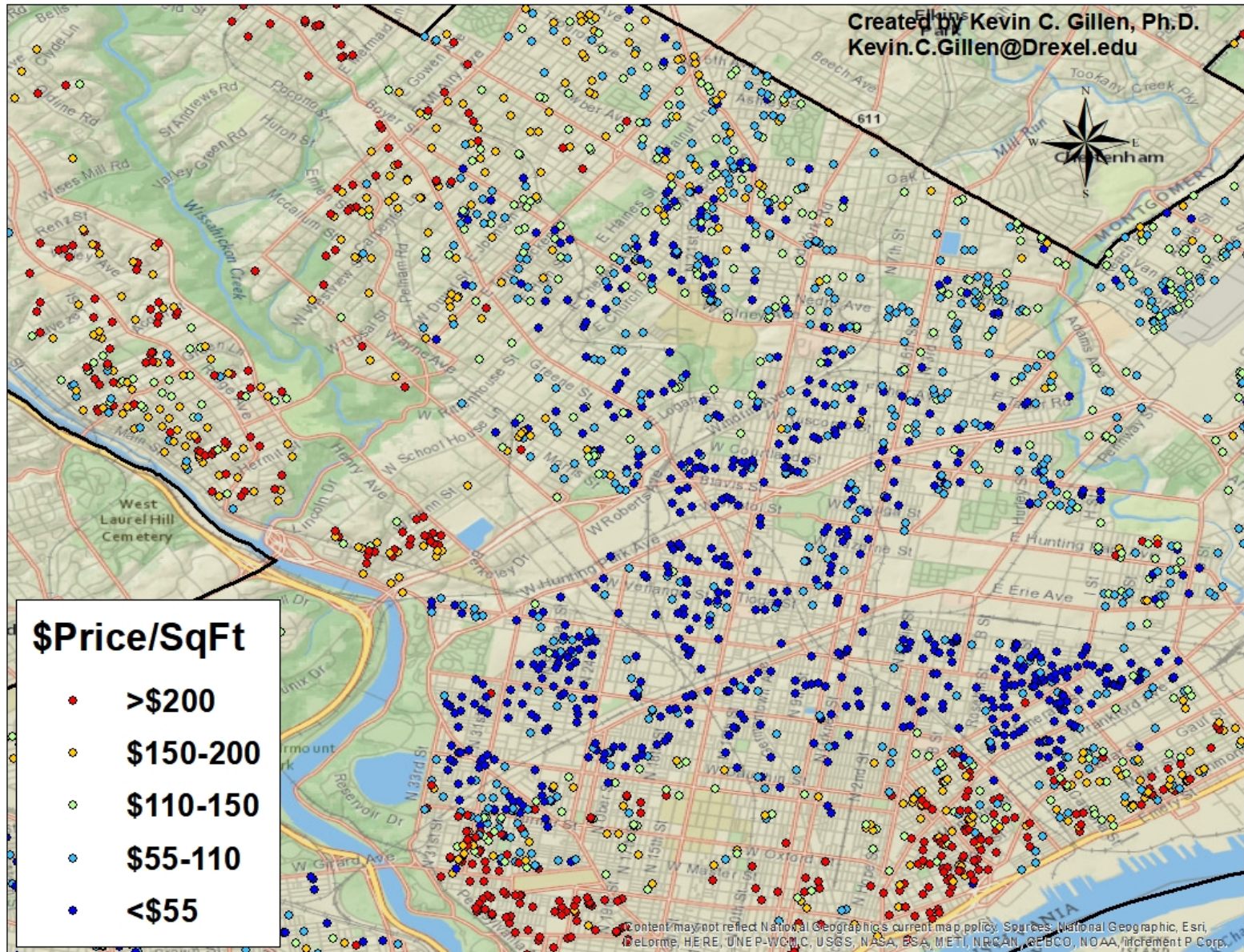
Kensington/Frankford House Sales in 2019 Q4



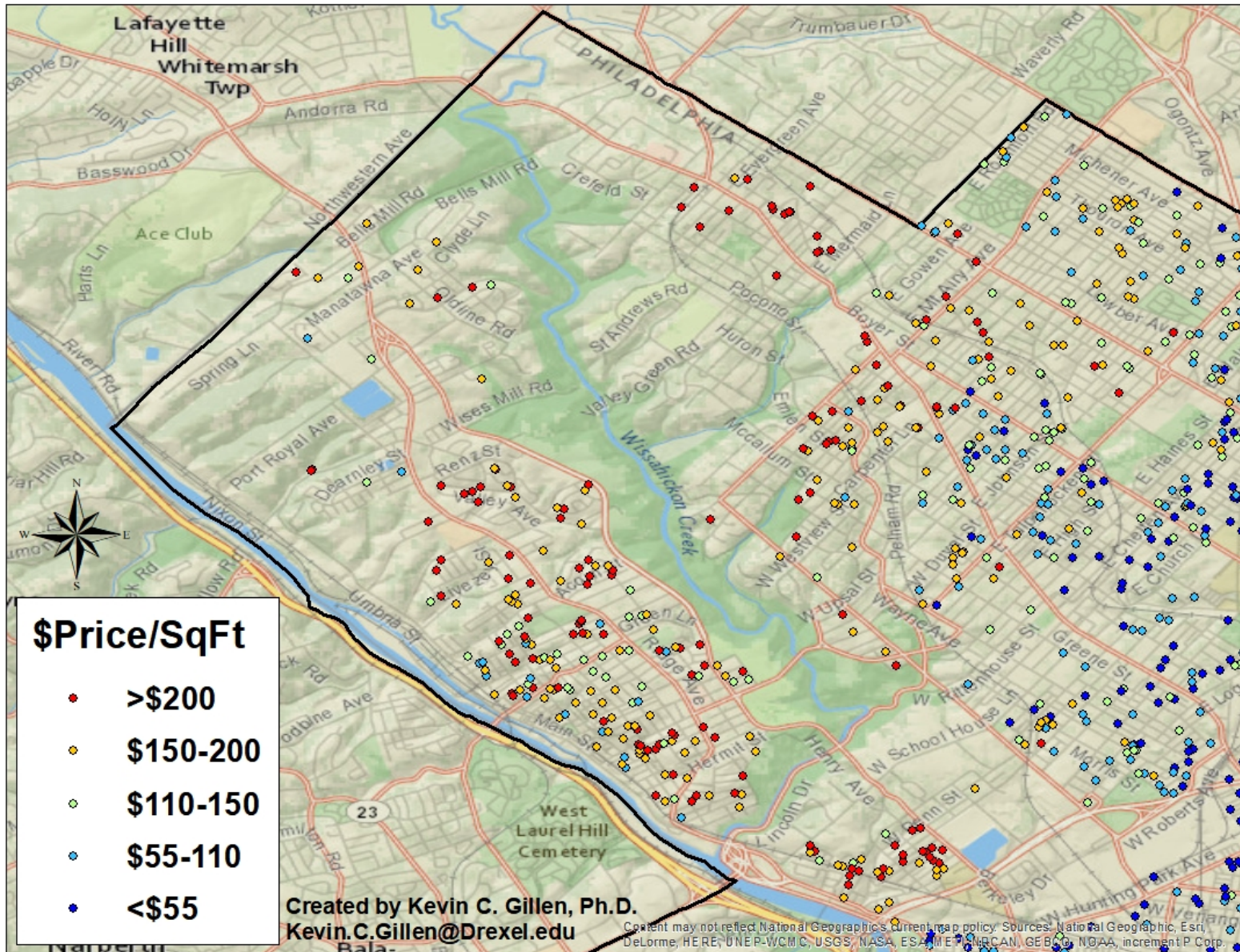
West/Southwest Philadelphia House Sales in 2019 Q4



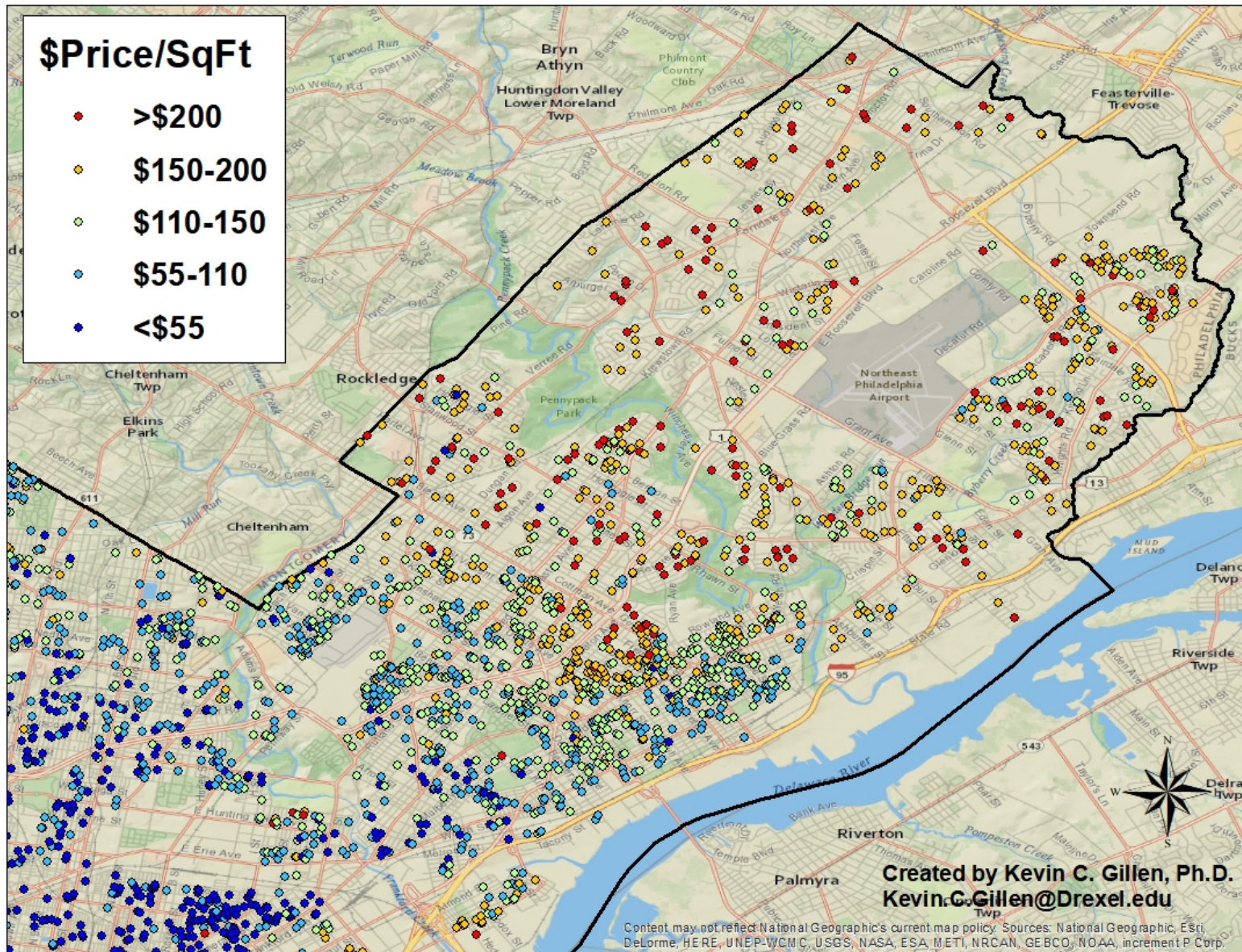
North Philadelphia House Sales in 2019 Q4



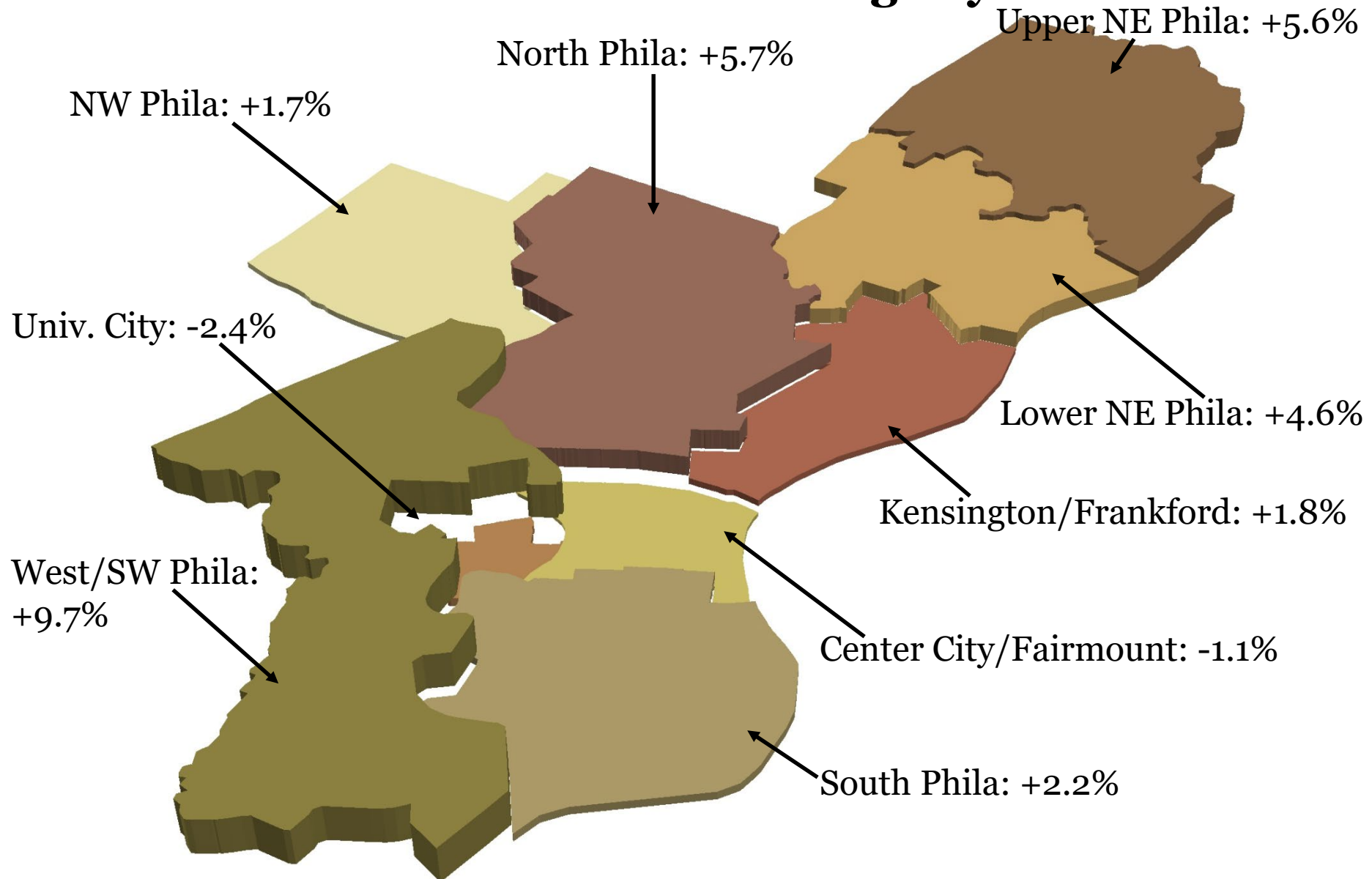
Northwest Philadelphia House Sales in 2019 Q4



Northeast Philadelphia House Sales in 2019 Q4

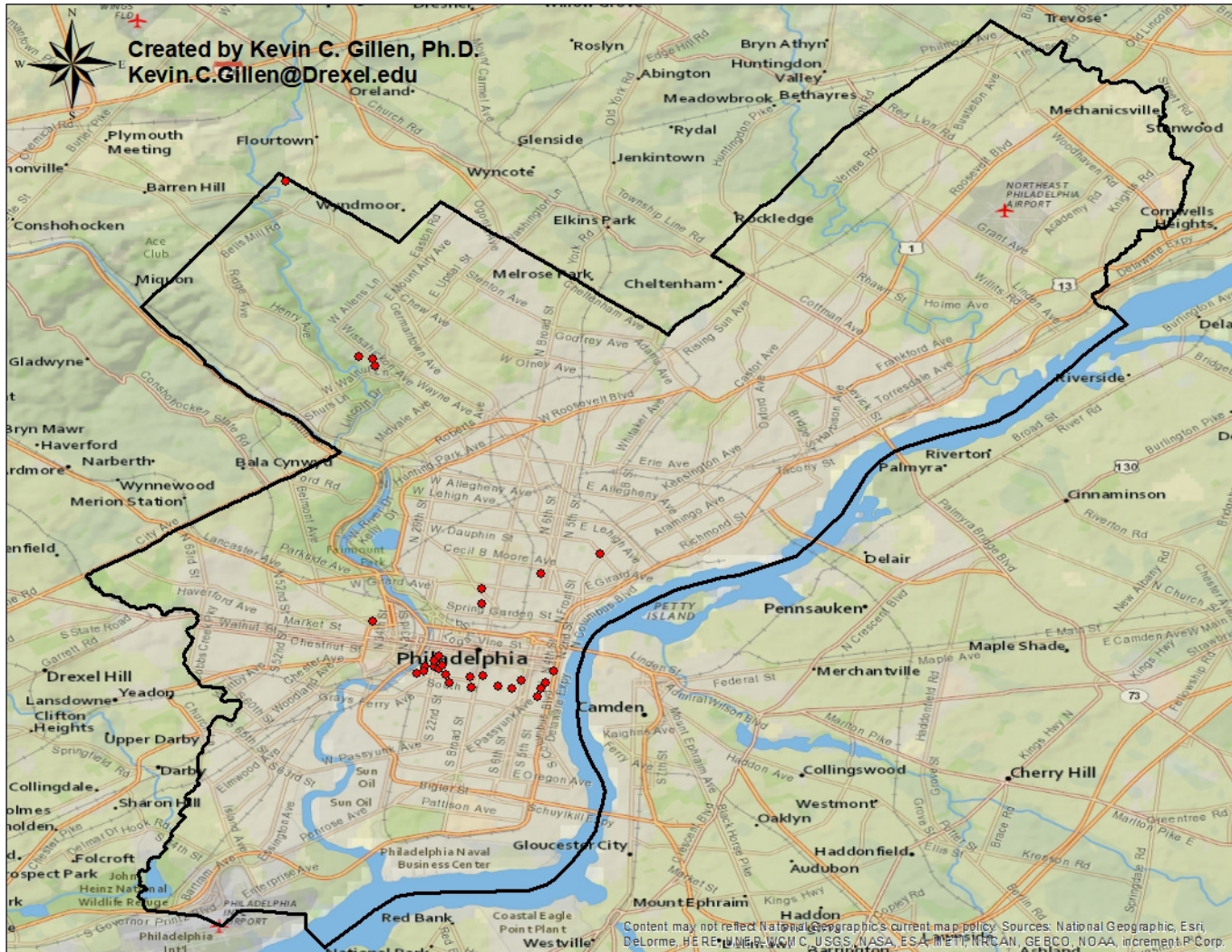


Annual House Price Rate of Change by Submarket



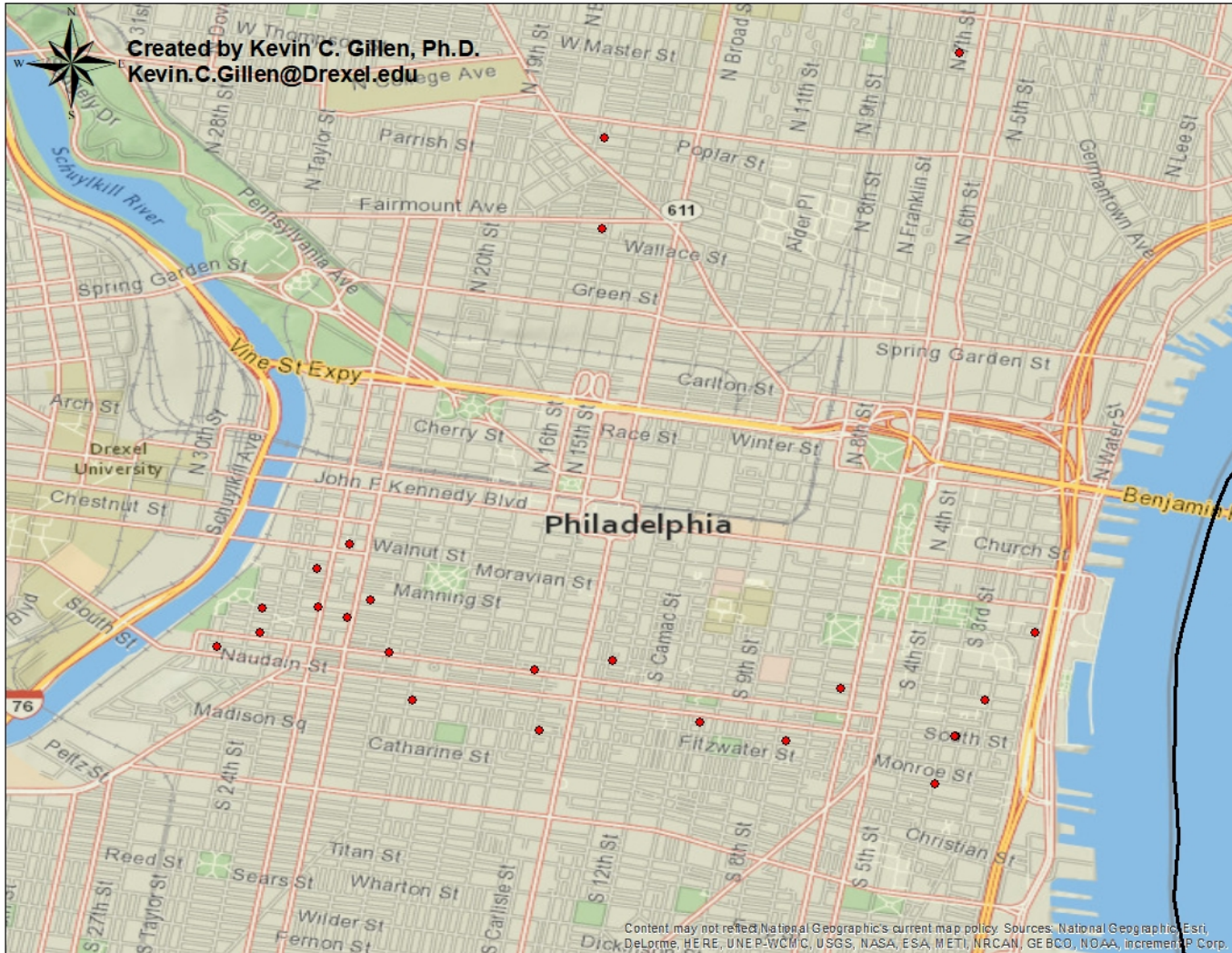
Note: Each submarket is extruded by its average change in house values over the course of the past year (from 2018 Q4 to 2019 Q4) in order to reflect its growth (or depreciation) rate relative to other neighborhoods.

+ \$1 Million Dollar House Sales in 2019 Q4



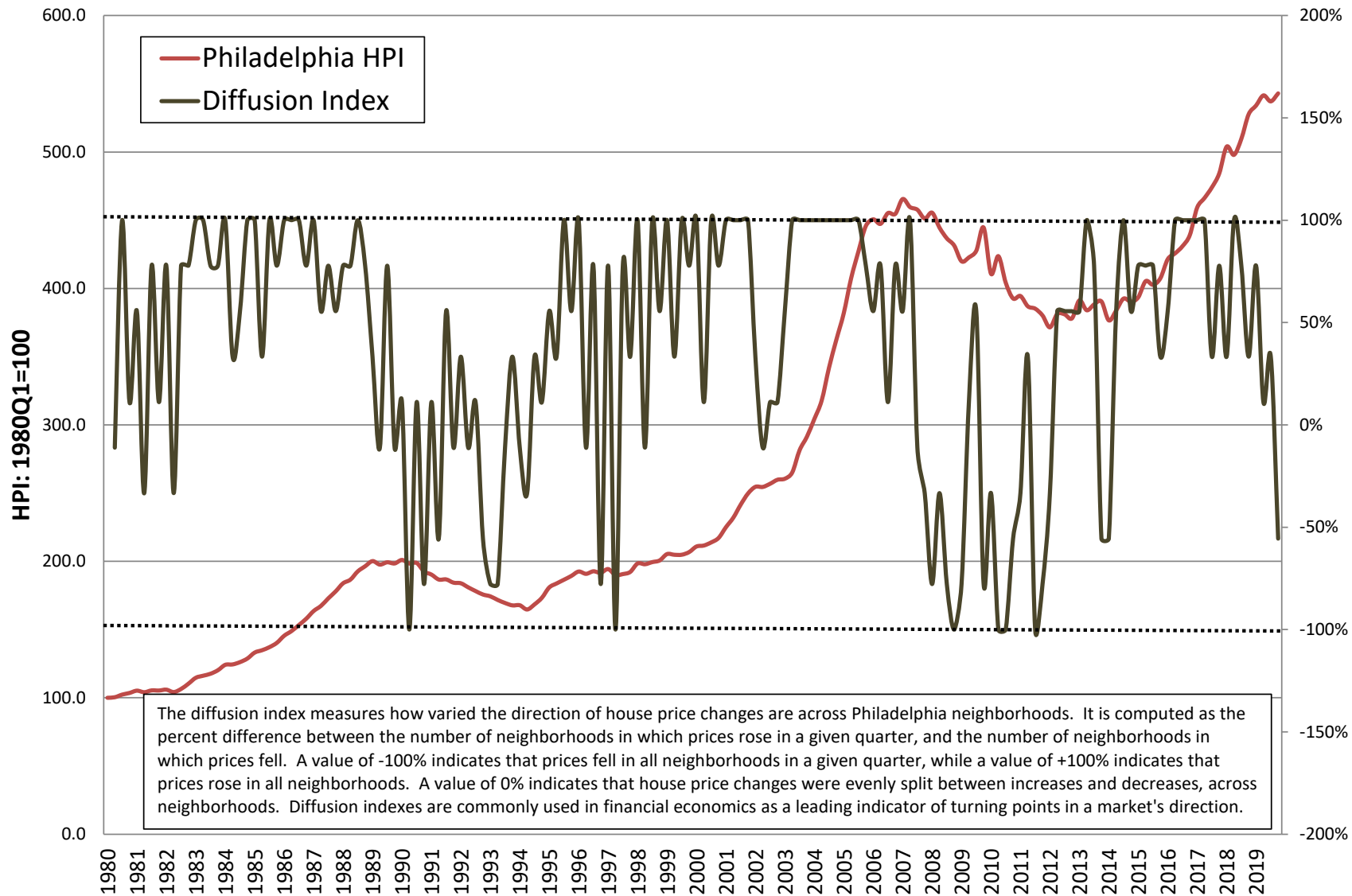
Price	Address
\$1,000,000	2122 E DAUPHIN ST
\$1,010,000	1010 W UPSAL ST
\$1,015,000	636 N 16TH ST
\$1,050,000	124 S VAN PELT ST
\$1,100,000	1528 N MARSHALL ST
\$1,138,000	1636 CAMBRIDGE ST
\$1,150,000	703 S 19TH ST
\$1,175,000	220 GASKILL ST
\$1,175,000	2215 LOCUST ST
\$1,190,000	6601 WISSAHICKO AVE
\$1,200,000	1003 KATER ST
\$1,200,000	2201 DELANCEY PL
\$1,200,000	429 S 20TH ST
\$1,225,000	210 ERDENHEIM ST
\$1,300,000	324 S 21ST ST
\$1,320,000	2408 WAVERLY ST
\$1,350,000	252 MONROE ST
\$1,350,000	2416 DELANCEY PL
\$1,360,000	1513 LOMBARD ST
\$1,372,043	2031 SPRUCE ST
\$1,400,000	739 BAINBRIDGE ST
\$1,420,000	140 S FRONT ST
\$1,500,000	1433 FITZWATER ST
\$1,505,000	3706 HAMILTON ST
\$1,600,000	6706 SPRINGBANK ST
\$1,725,000	617 PINE ST
\$1,730,000	218 GASKILL ST
\$1,800,000	2600 NAUDAIN ST
\$1,860,000	1321 PINE ST
\$2,150,000	200 DELANCEY ST

+ \$1 Million Dollar House Sales in 2019 Q4



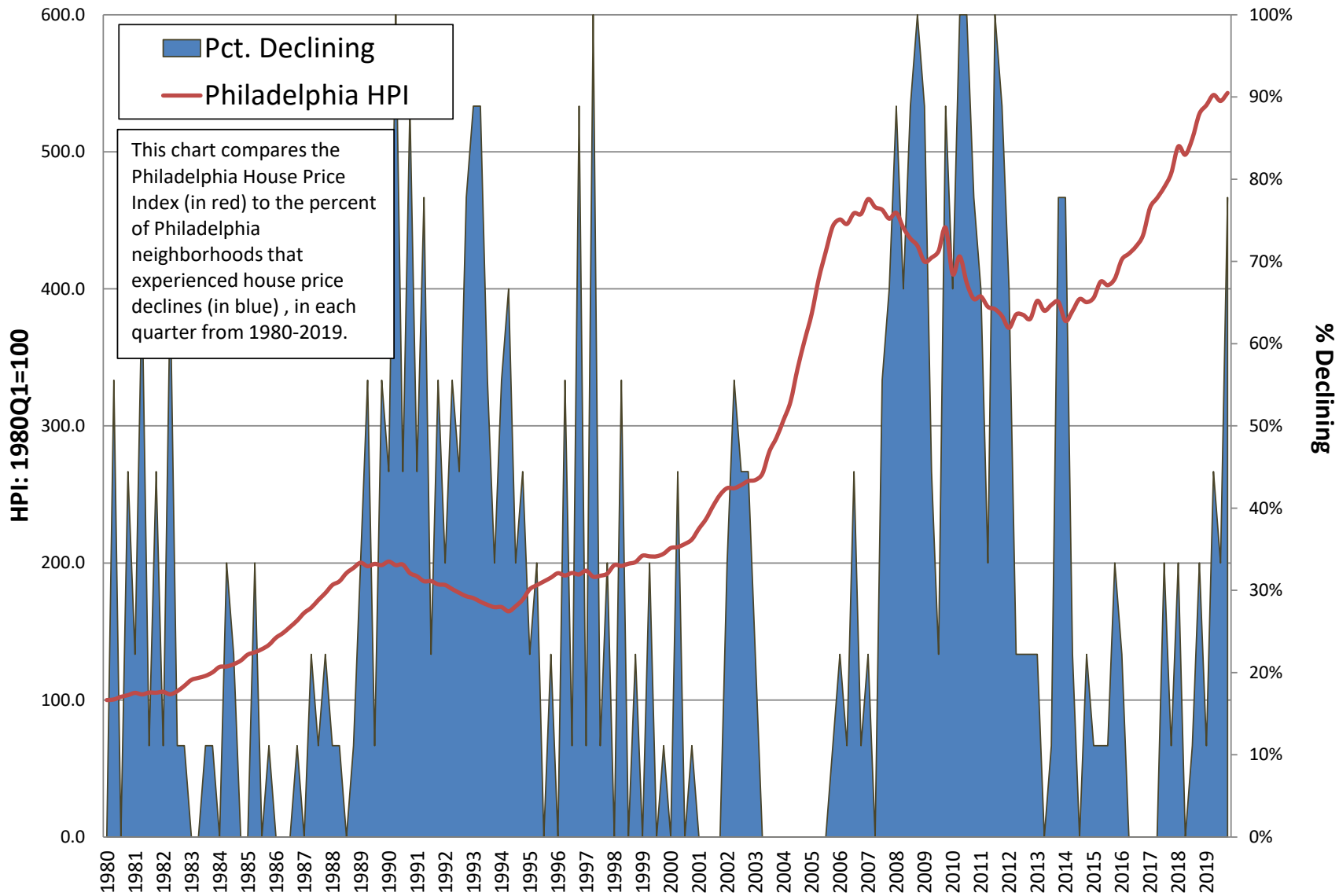
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Philadelphia House Price Diffusion Index 1980-2019

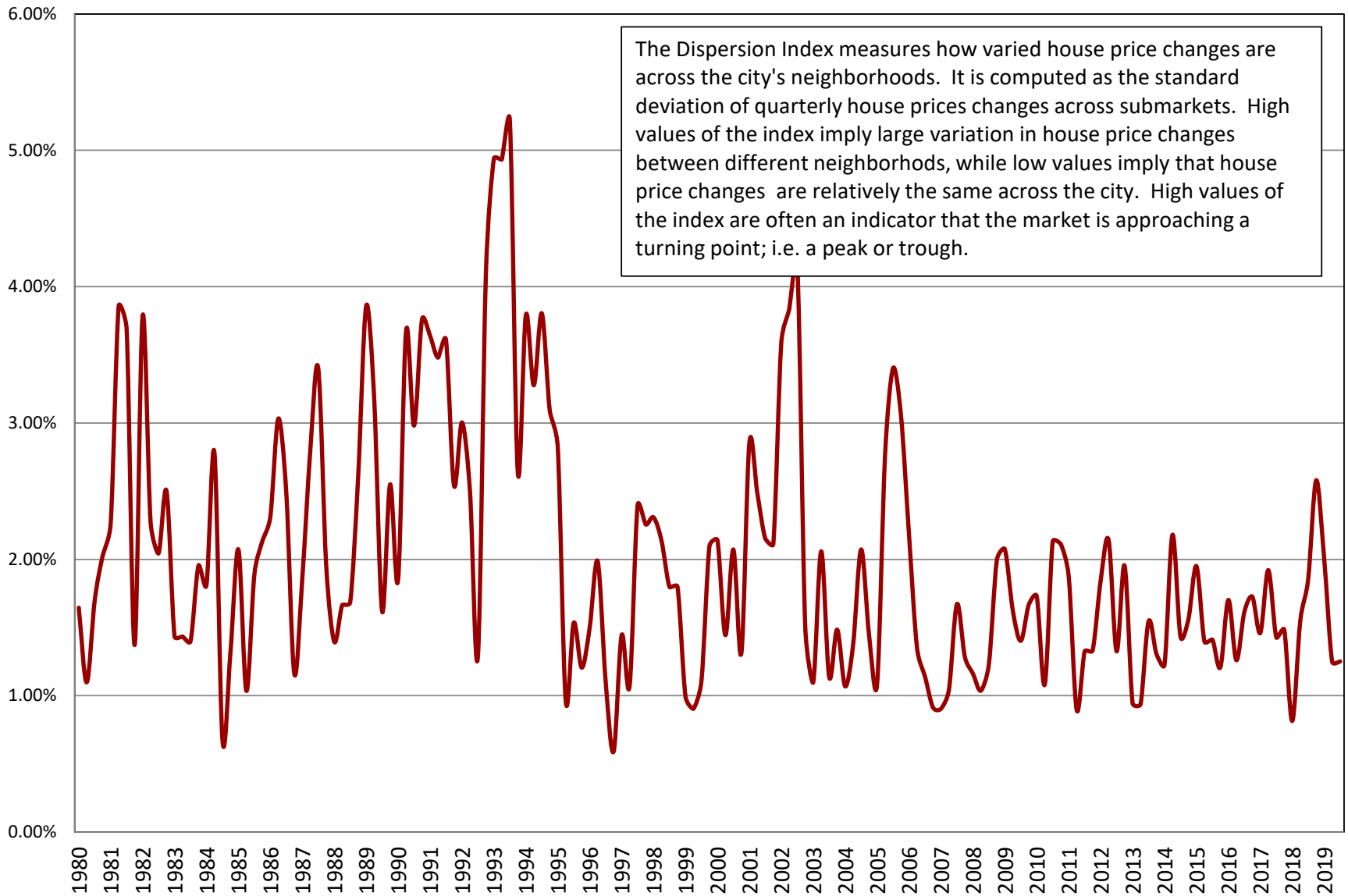


The diffusion index measures how varied the direction of house price changes are across Philadelphia neighborhoods. It is computed as the percent difference between the number of neighborhoods in which prices rose in a given quarter, and the number of neighborhoods in which prices fell. A value of -100% indicates that prices fell in all neighborhoods in a given quarter, while a value of +100% indicates that prices rose in all neighborhoods. A value of 0% indicates that house price changes were evenly split between increases and decreases, across neighborhoods. Diffusion indexes are commonly used in financial economics as a leading indicator of turning points in a market's direction.

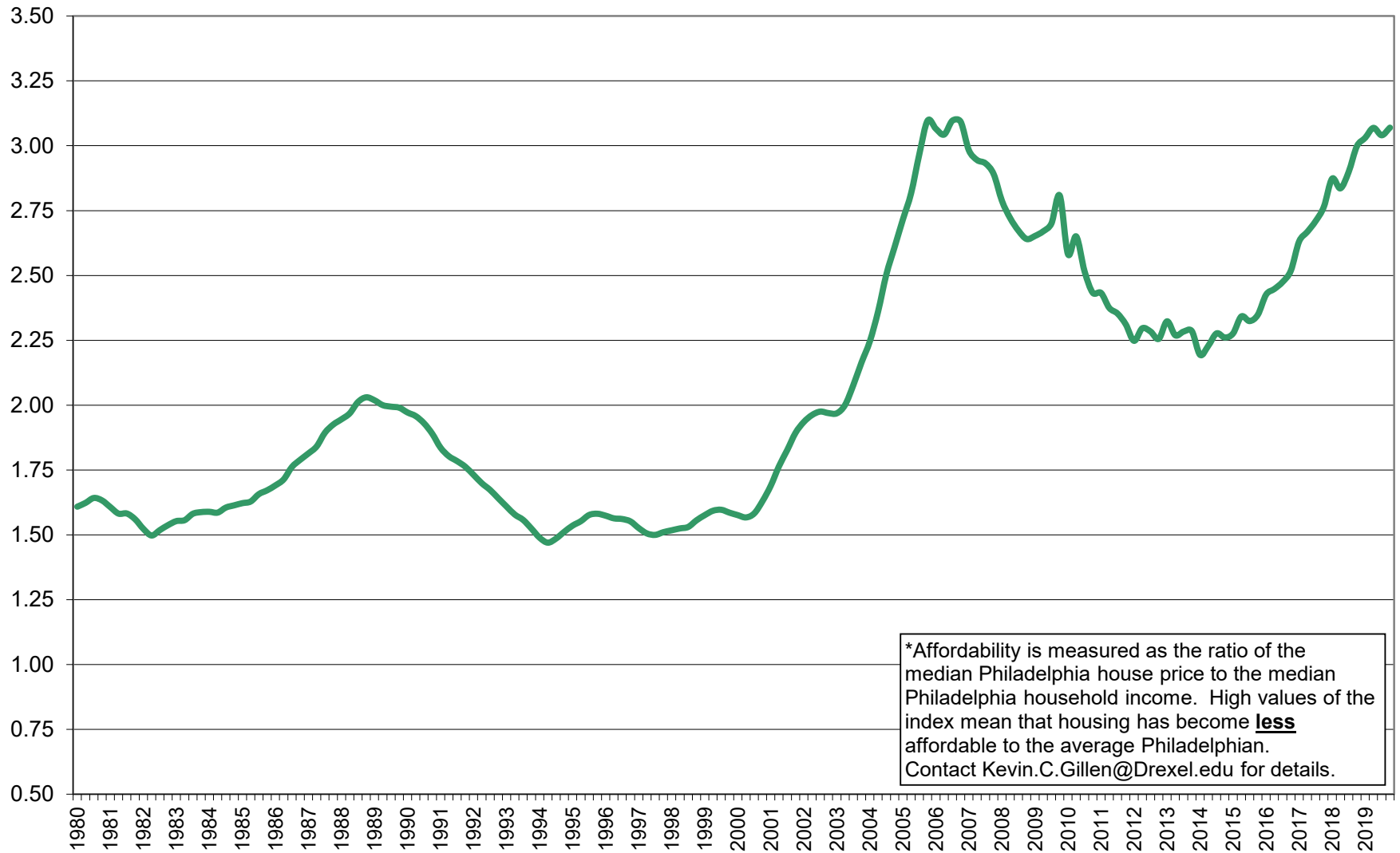
Philadelphia House Prices 1980-2019: Declines v. House Price Index



Dispersion Index of Philadelphia Housing

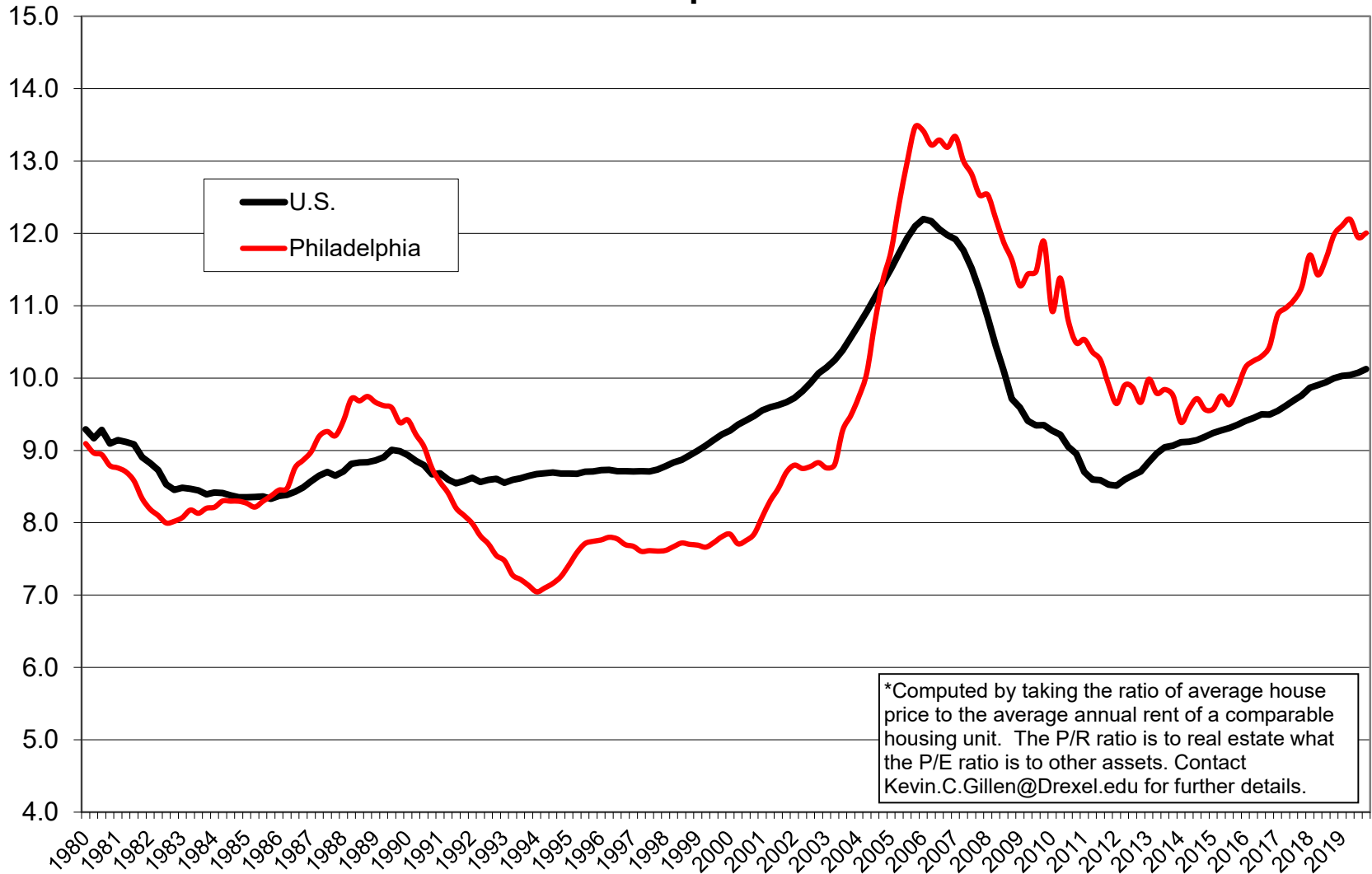


Philadelphia Housing Affordability* Index: 1980-2019



*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.

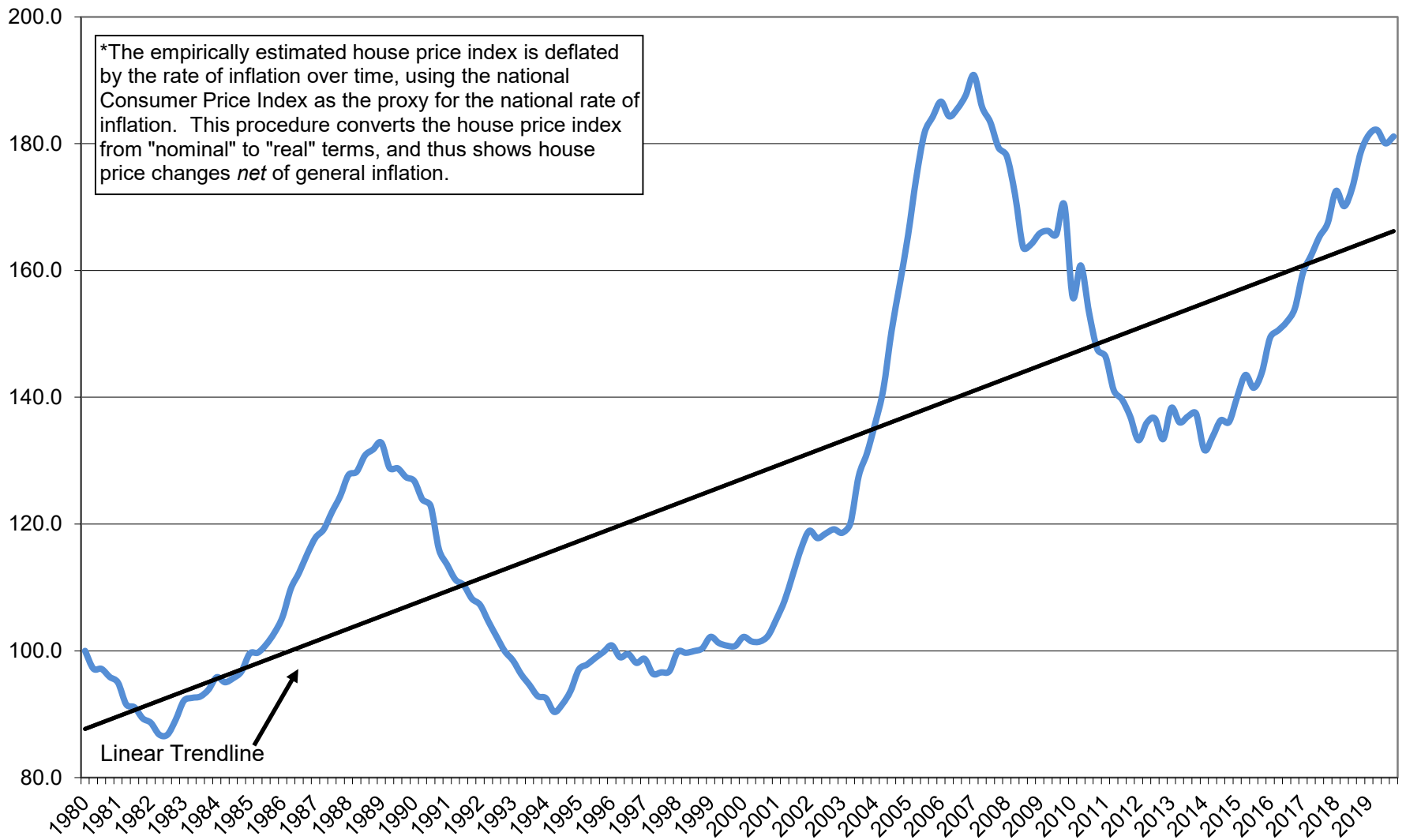
Average House Price-to-Rent Ratios*: 1980-2019 Philadelphia v. U.S.



*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.

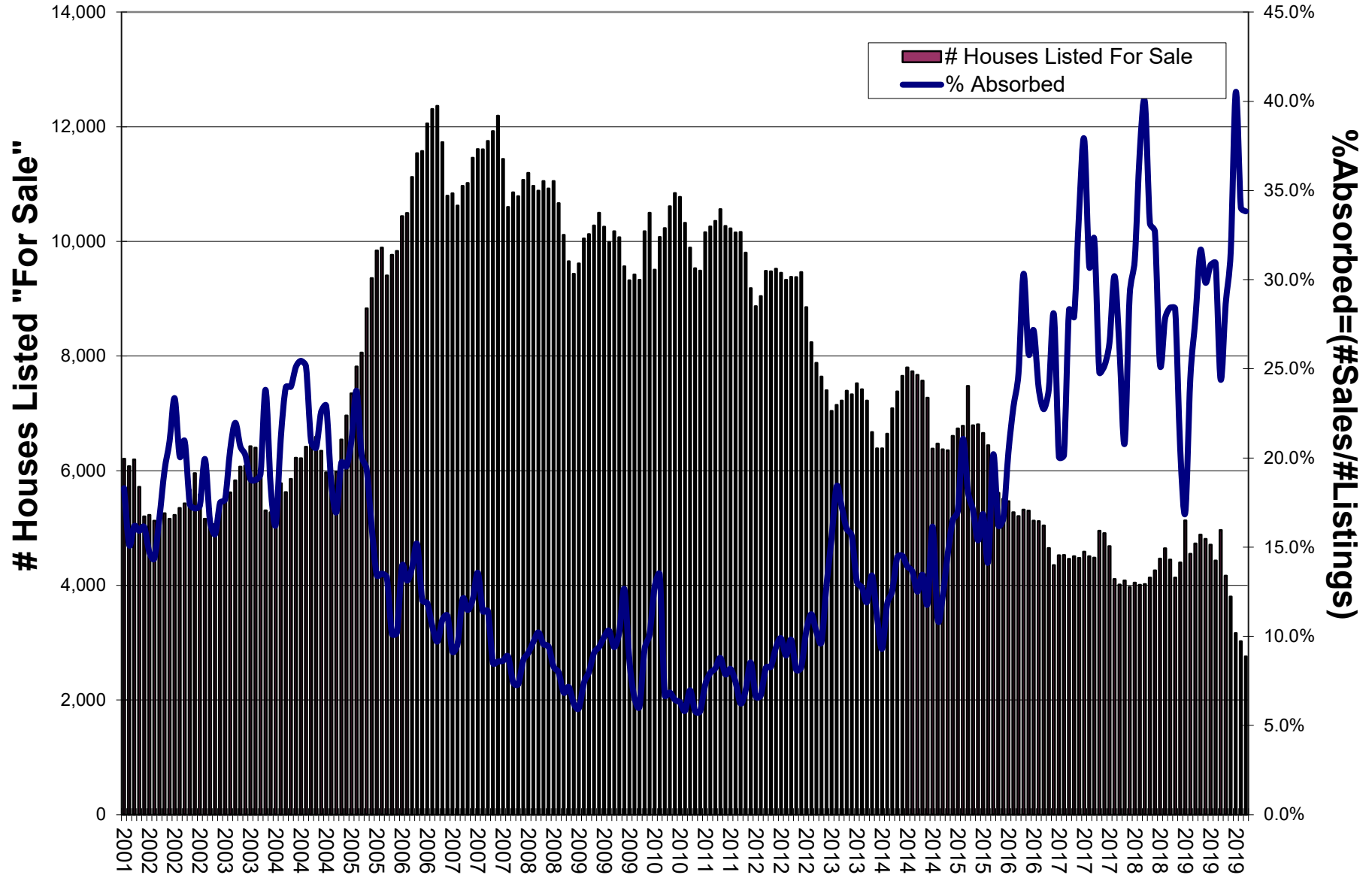
Inflation-Adjusted* Philadelphia House Price Index 1980-2019

1980Q1=100



Source: US Bureau of Labor Statistics

Philadelphia Houses Listed For Sale: Inventory v. Sales Rate

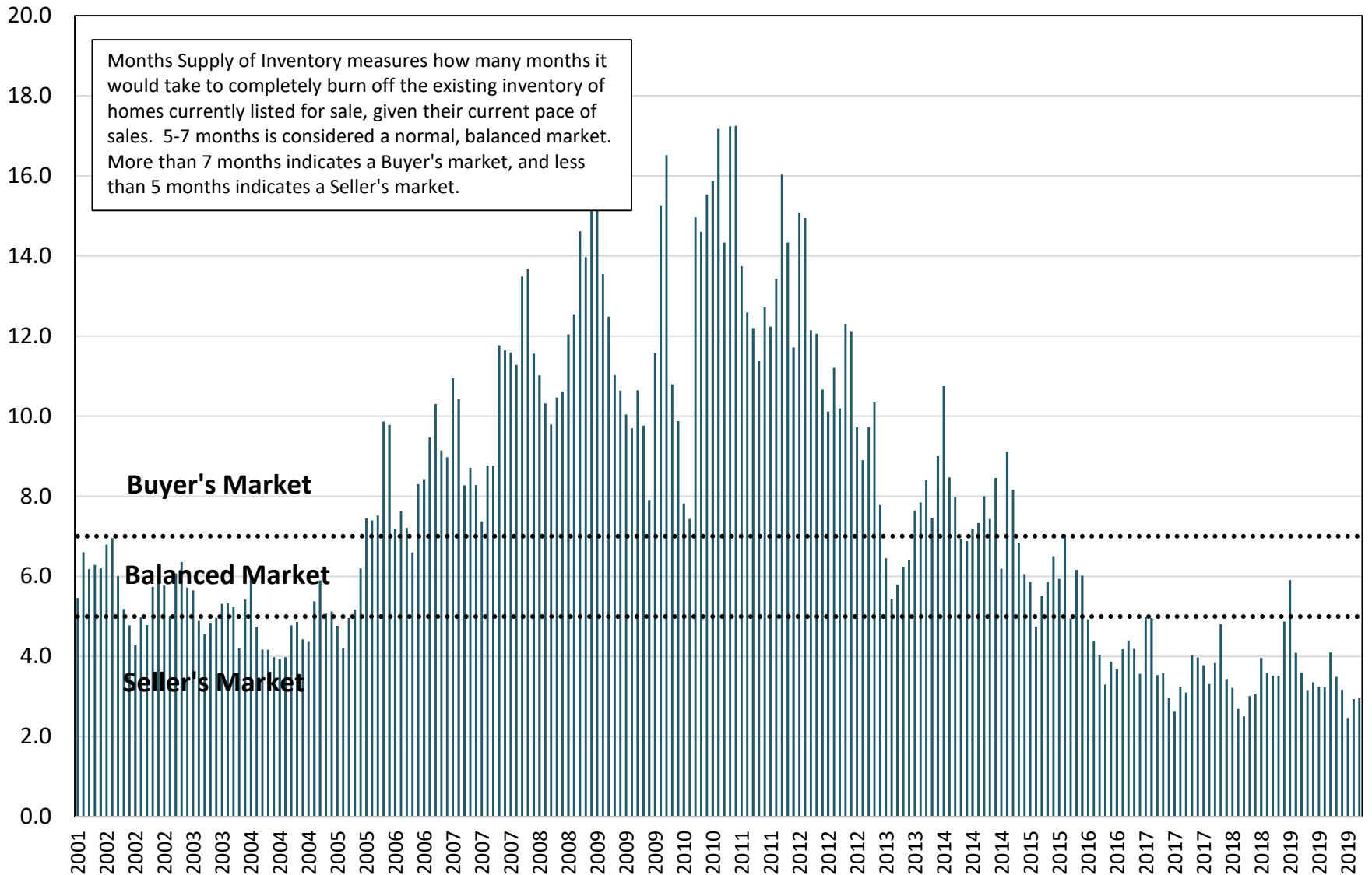


“%Absorbed” is defined as the percent of homes listed for sale in a given month that also sold in that same month.

Source: Trend MLS



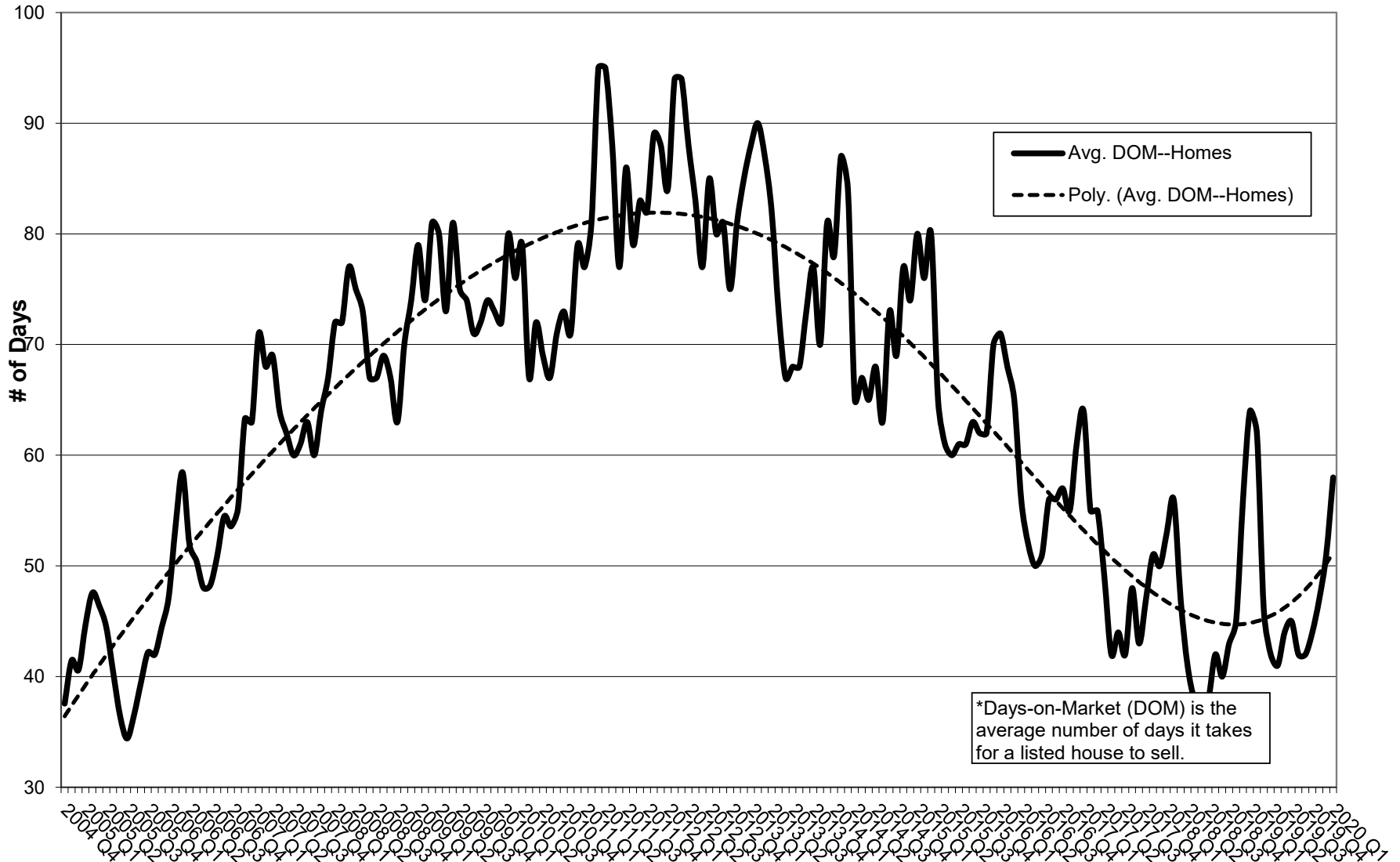
Months Supply of Inventory in Philadelphia



Source: Trend MLS



Average Days-on-Market* for Philadelphia Homes

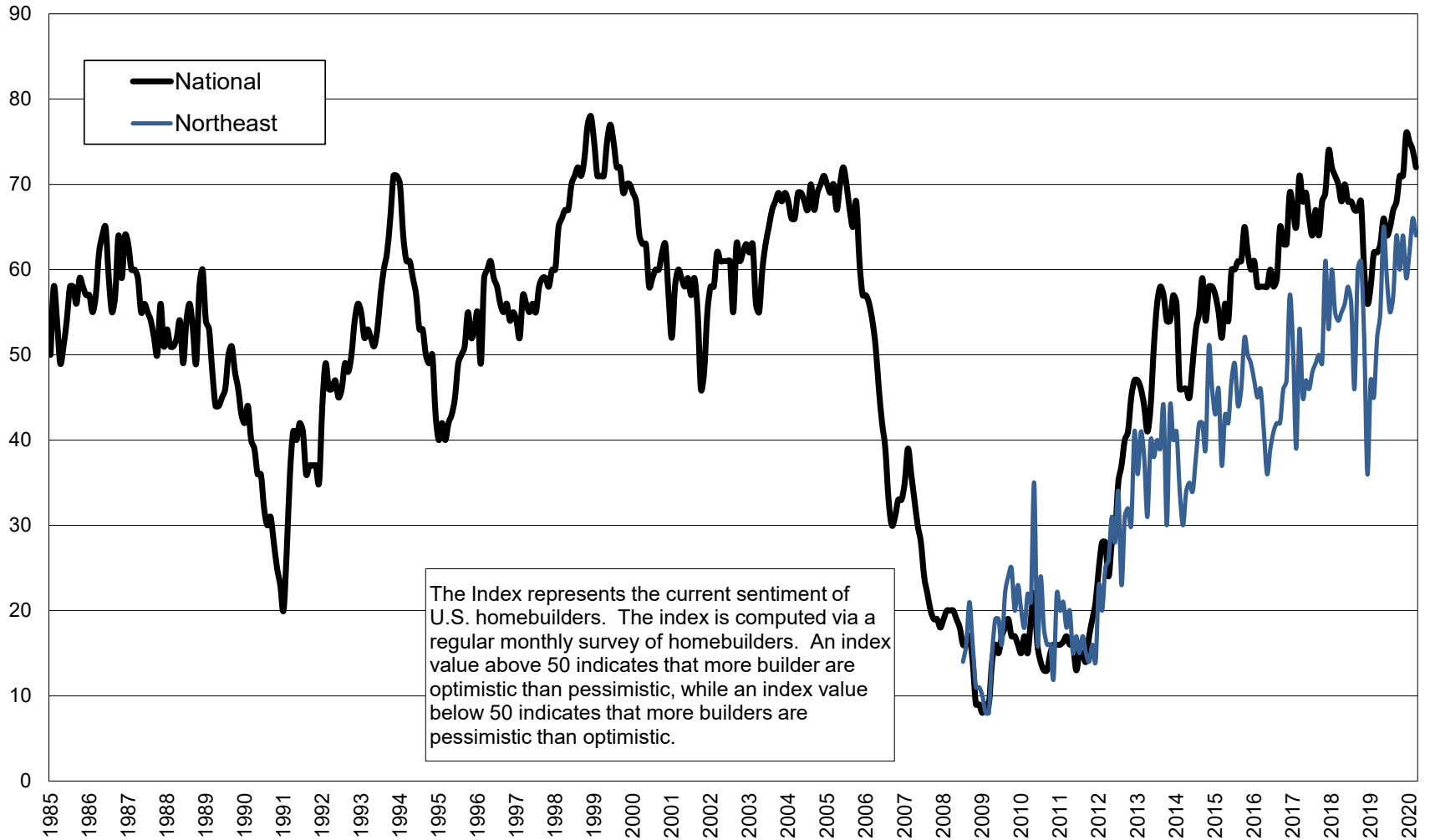


*Days-on-Market (DOM) is the average number of days it takes for a listed house to sell.

Source: Trend MLS

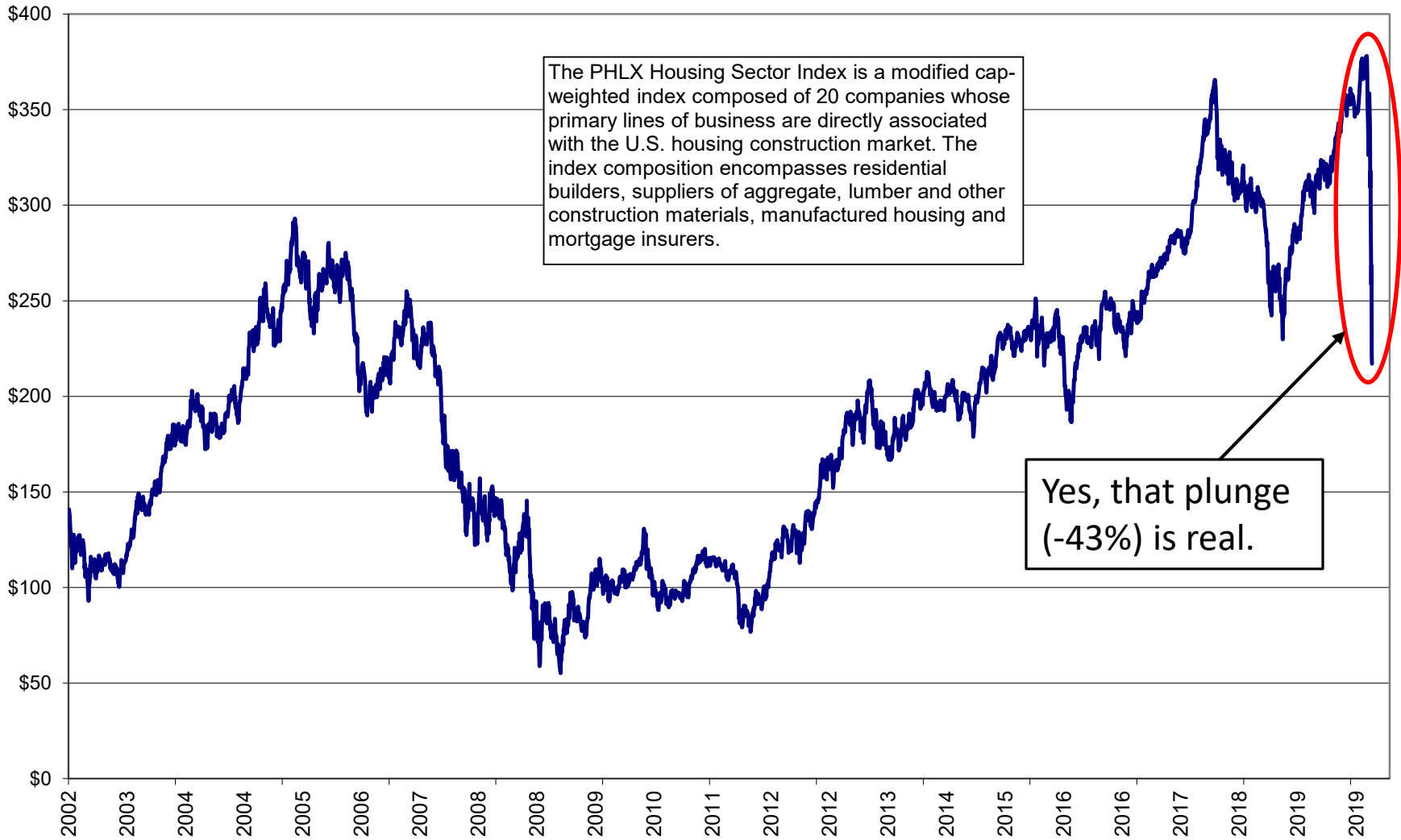


Index of Homebuilder Sentiment: 1985-2019 (Seasonally Adjusted)



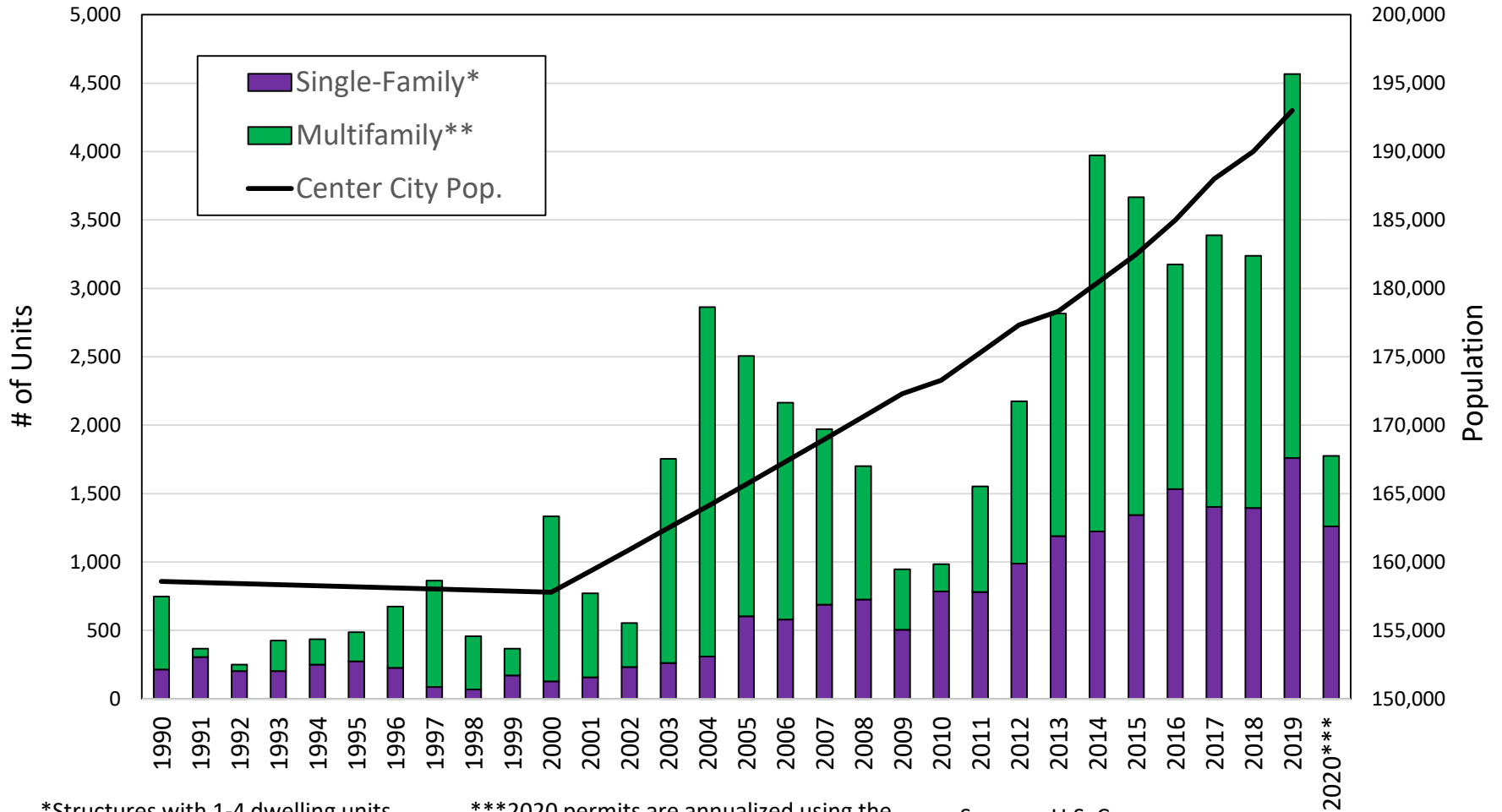
Source: National Assoc. of Homebuilders (NAHB)/Wells Fargo

Philadelphia Stock Exchange Housing Sector Index: 2002-2020



Source: finance.yahoo.com

Building Permits Issued for Construction of Residential Units in Philadelphia 1990-2019: Single-Family v. Multifamily



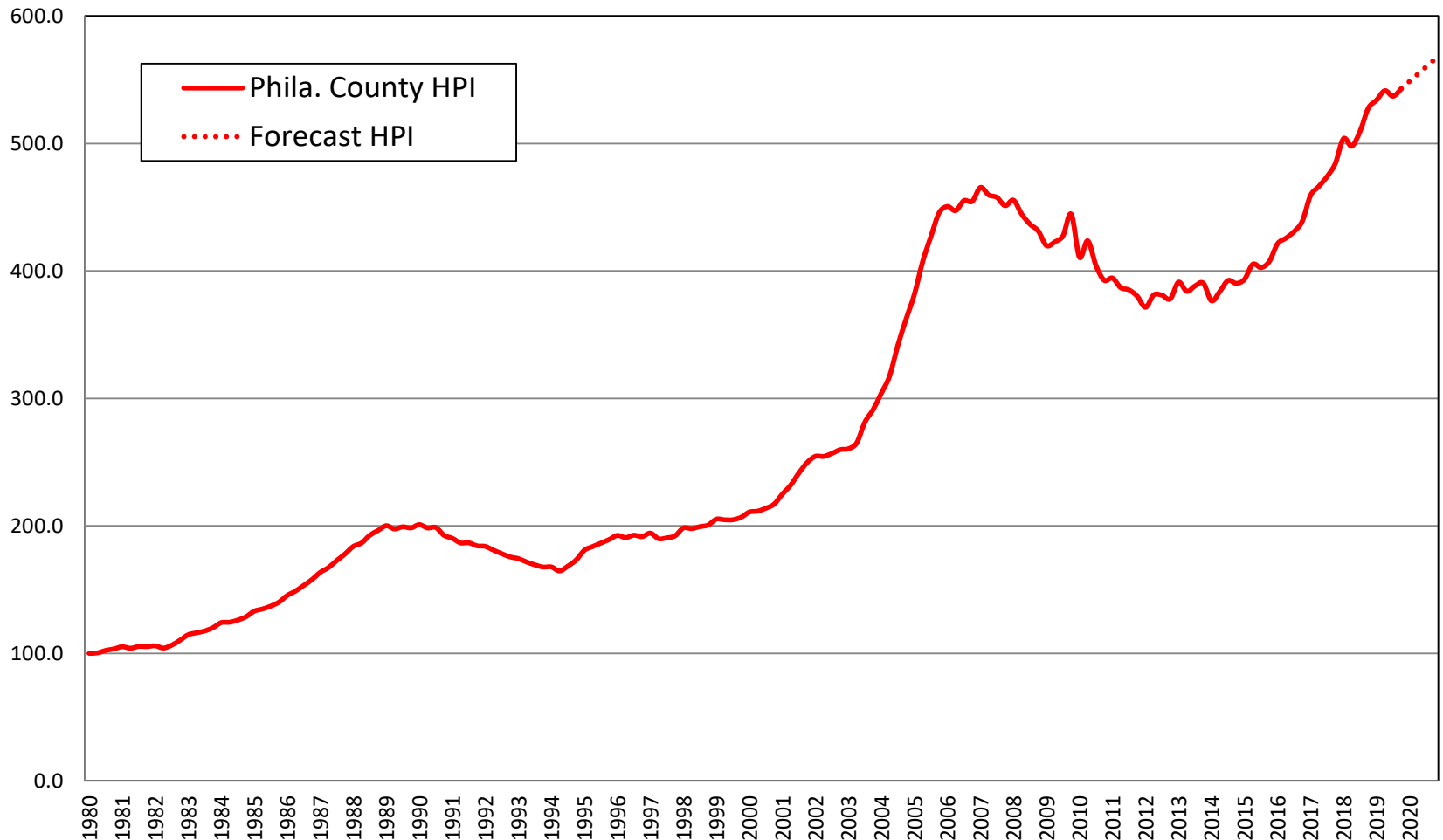
*Structures with 1-4 dwelling units
 **Structures with >=5 dwelling units

***2020 permits are annualized using the number of permits filed YTD.

Sources: U.S. Census, Center City District

Philadelphia House Price Index and 1-Year Forecast

Philadelphia House Price Index: Actual v. Forecast



Zillow's most recent forecast of Philadelphia house prices projects positive appreciation of 4.1% over the next 12 months. As recently as six months ago, Zillow was projecting negative price appreciation (i.e. declining house prices) over the next 12 months. Curiously (and rather contradictorily), Zillow has simultaneously downgraded its rating of Philadelphia's housing market temperature from "Very Hot" to "Hot". Source: <http://www.zillow.com/philadelphia-pa/home-values/>