Is Something Wrong
with Texas Home Prices?
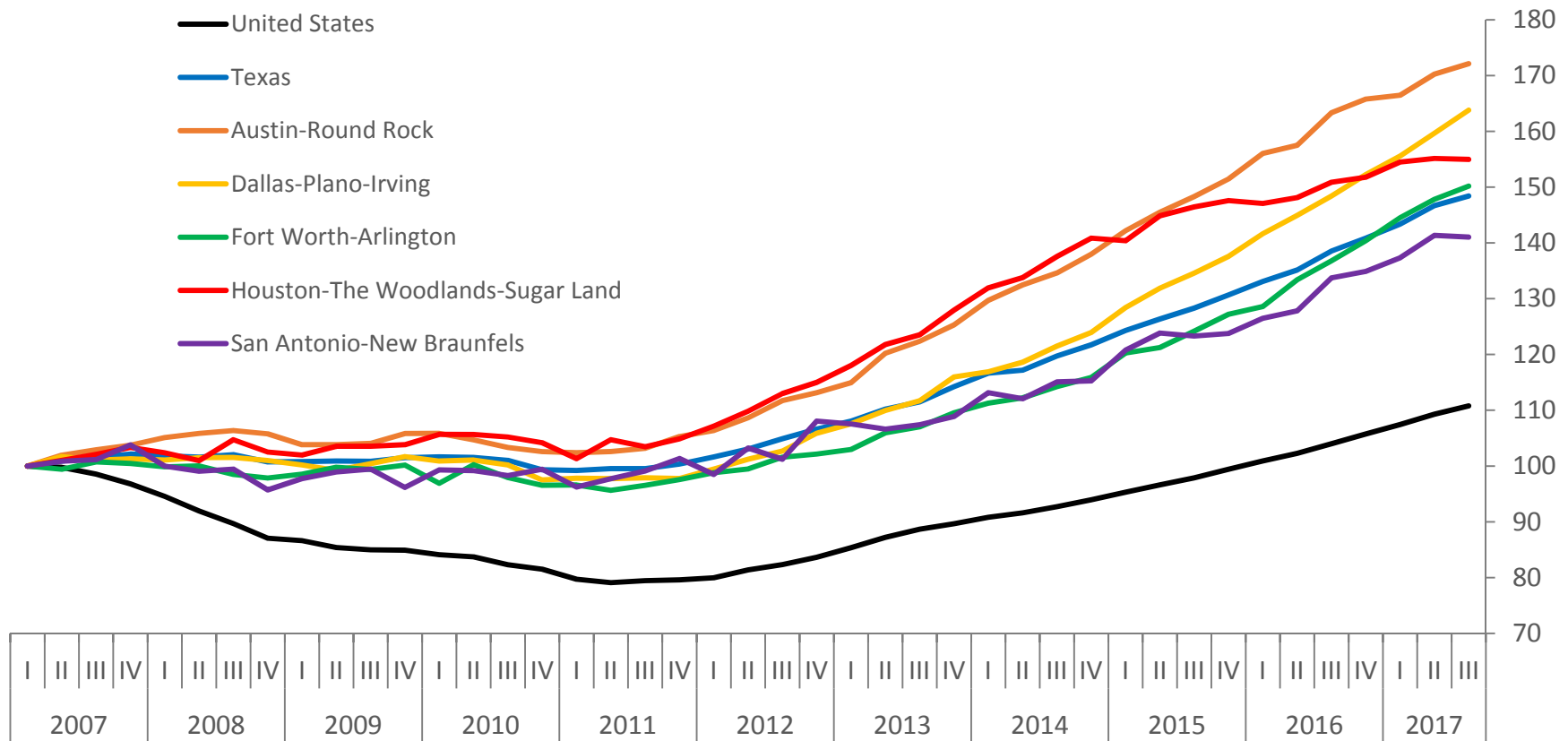
Finding Shelter: Affordability Squeeze in a Tight Texas Housing Market

Dallas Federal Reserve

February 23, 2018

A|M | REAL ESTATE CENTER
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Constrained supply plus strong demand = accelerated price gains

House Price Index
(Index 1Q2007=100)

Legend:
- United States
- Texas
- Austin-Round Rock
- Dallas-Plano-Irving
- Fort Worth-Arlington
- Houston-The Woodlands-Sugar Land
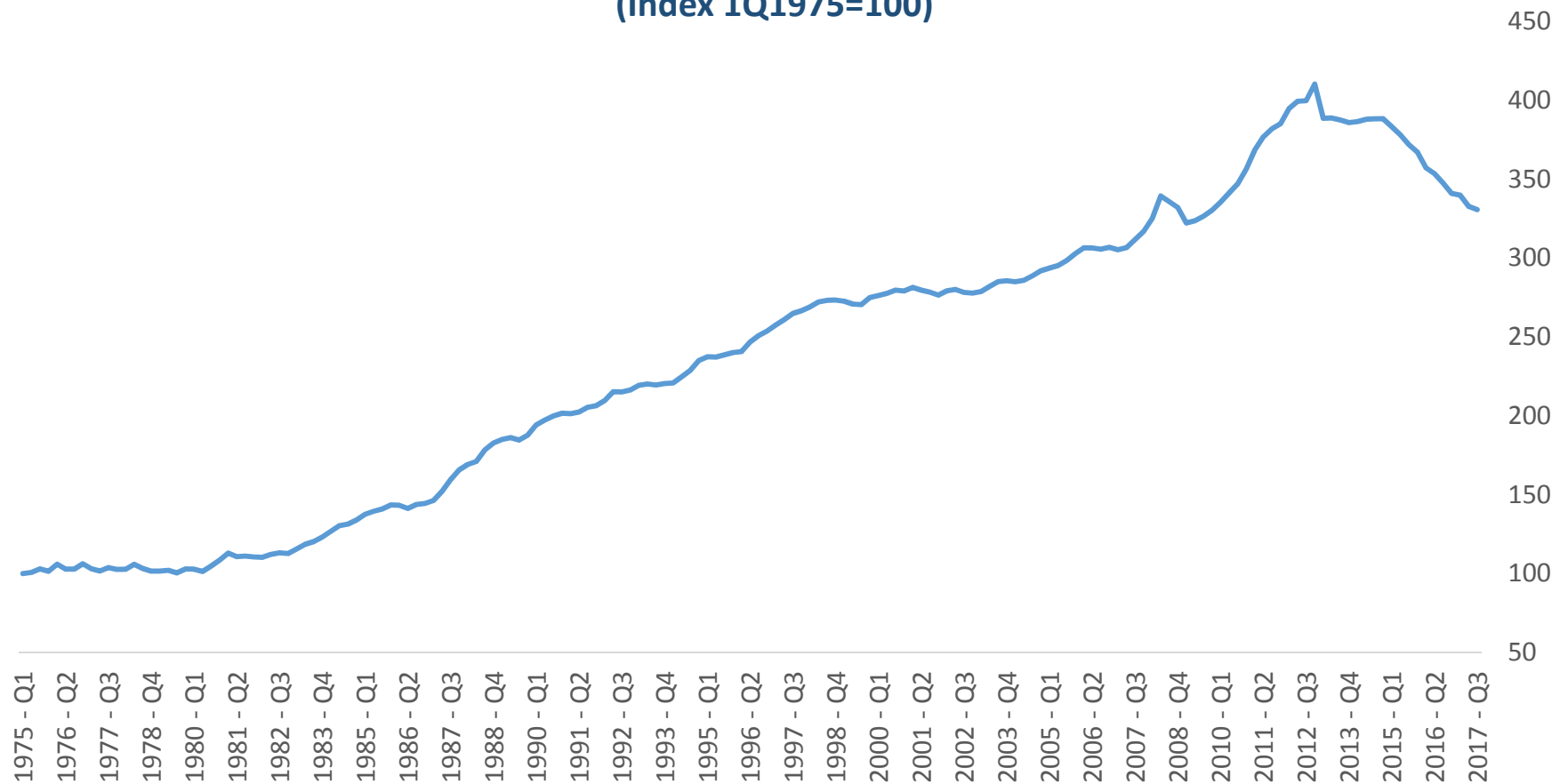- San Antonio-New Braunfels

Note: Seasonally adjusted.
Sources: Federal Housing Finance Agency and Real Estate Center at Texas A&M University.

Since 2012, Texas housing prices have been rising faster than incomes

Ratio Texas Personal Disposable Income Per Capita to House Prices
(Index 1Q1975=100)

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.

Fundamentals influence price movements in housing markets

Supply side:

- Building permits
- Housing starts
- Land costs
- Construction costs
- Regulation

Demand side:

- Demographics
- Income growth
- Employment growth
- Interest rates
- Locational characteristics (schools, work centers, and transportation)

Comparing estimated values to actual prices might show price misalignments

- The Federal Housing Finance Agency (FHFA) house price index.

- Methodology used by Case-Shiller (2003) applied to Texas and major MSAs (Austin, Dallas-Fort Worth, Houston, and San Antonio).

- Methodology was one of first to point out formation of a housing bubble in U.S. housing market.

# Estimates confirm Case-Shiller results from 1Q2004 to 2Q2011 leading to housing boom and subsequent bust

Case-Shiller U.S Home Price Estimates
(Index 1Q1975=100)
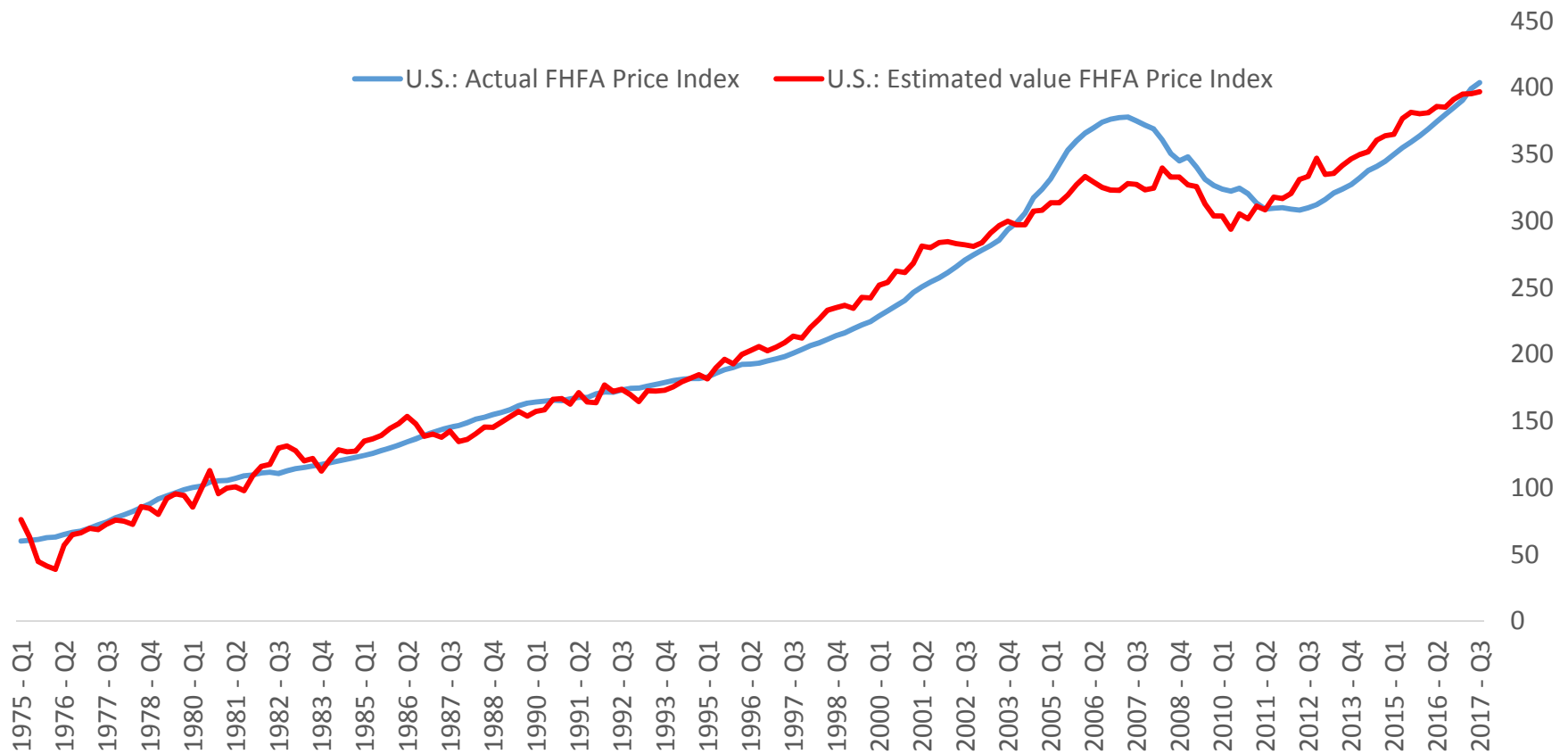
Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.

Misalignment since 1Q2015 suggests recent price changes cannot be explained by Supply and Demand
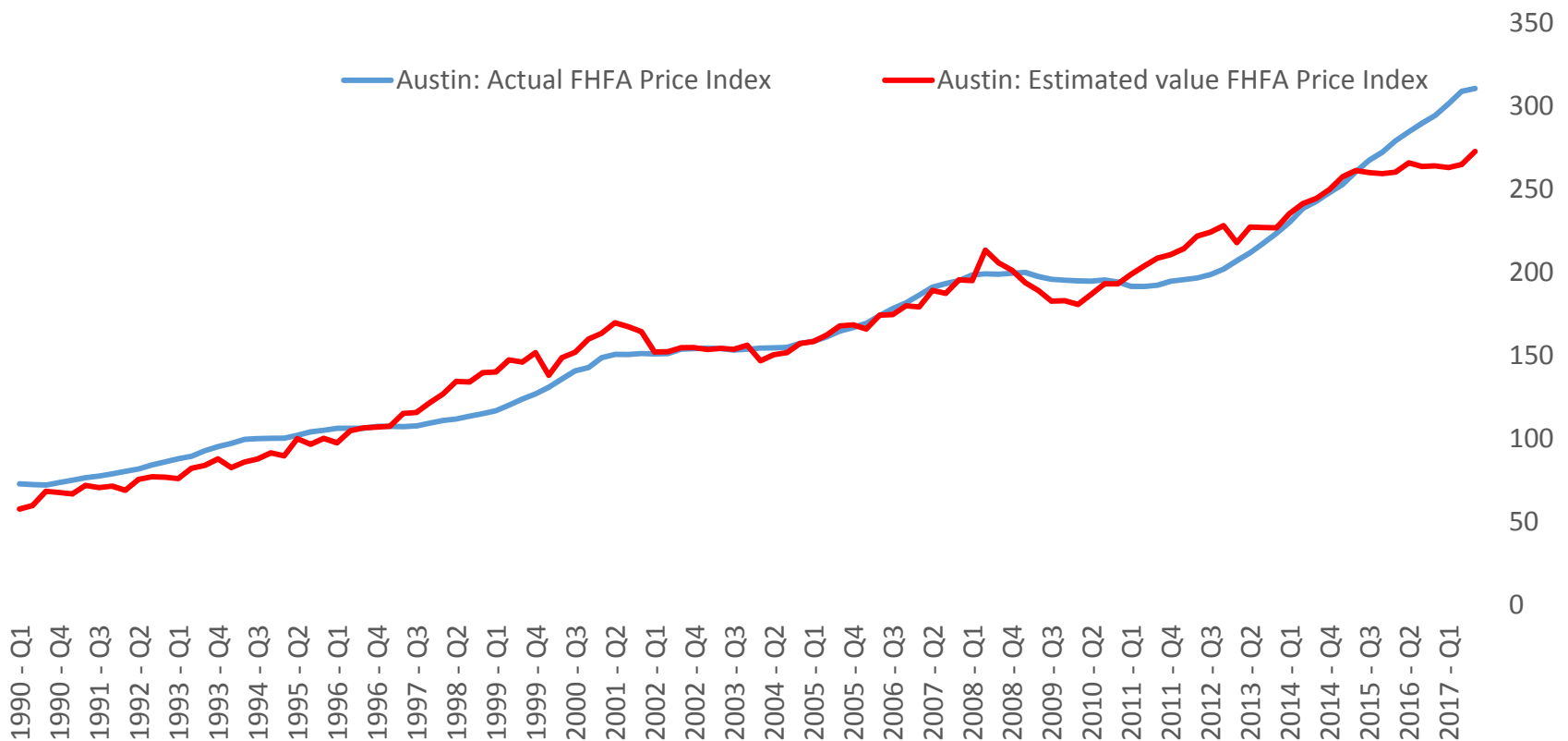
Case-Shiller Texas Home Price Estimates
(Index 1Q1975=100)
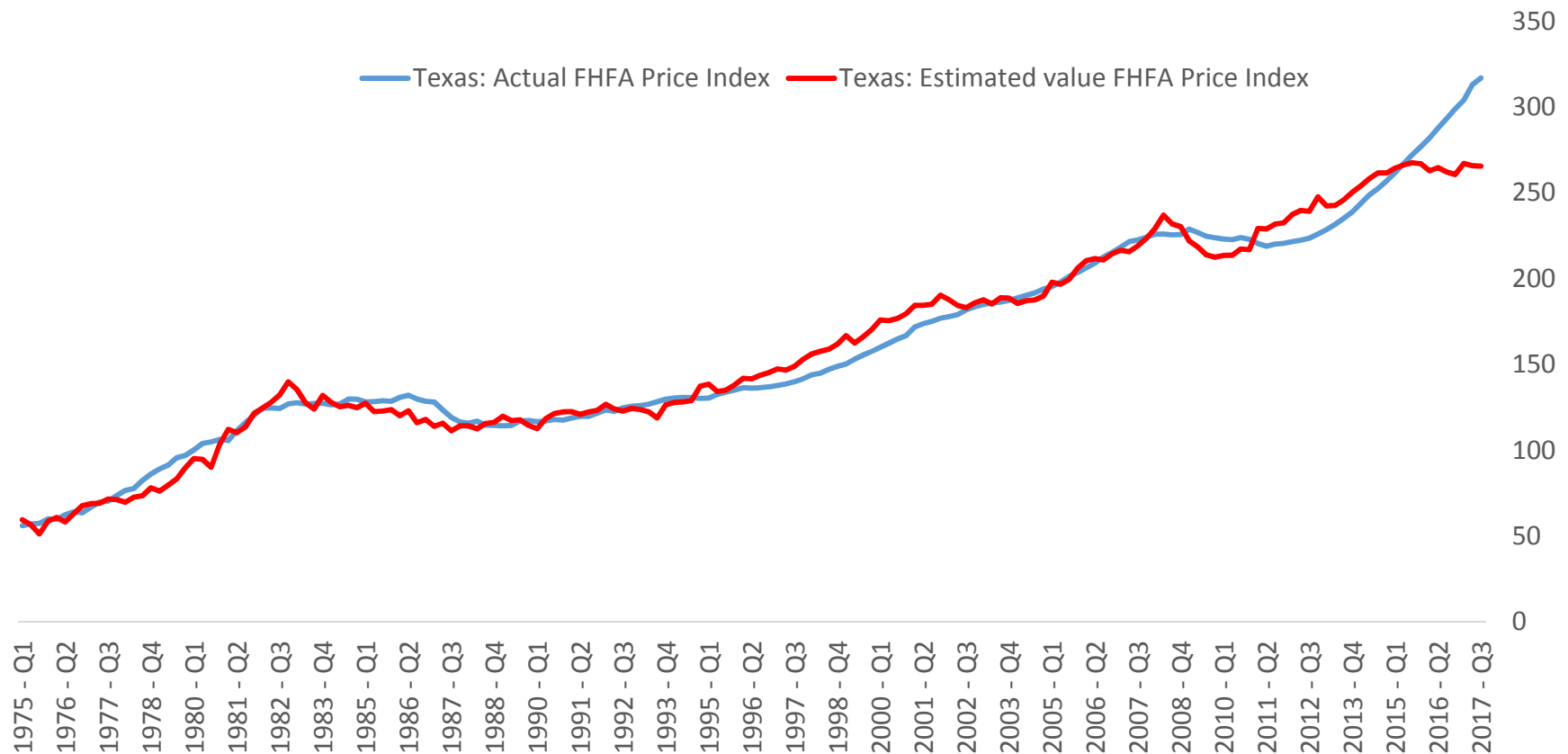
— Texas: Actual FHFA Price Index   — Texas: Estimated value FHFA Price Index

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.

Same misalignment observed in Austin since 2Q2014 . . .

Case-Shiller Austin Home Price Estimates
(Index 1Q1975=100)

Legend: Austin: Actual FHFA Price Index — Austin: Estimated value FHFA Price Index

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.
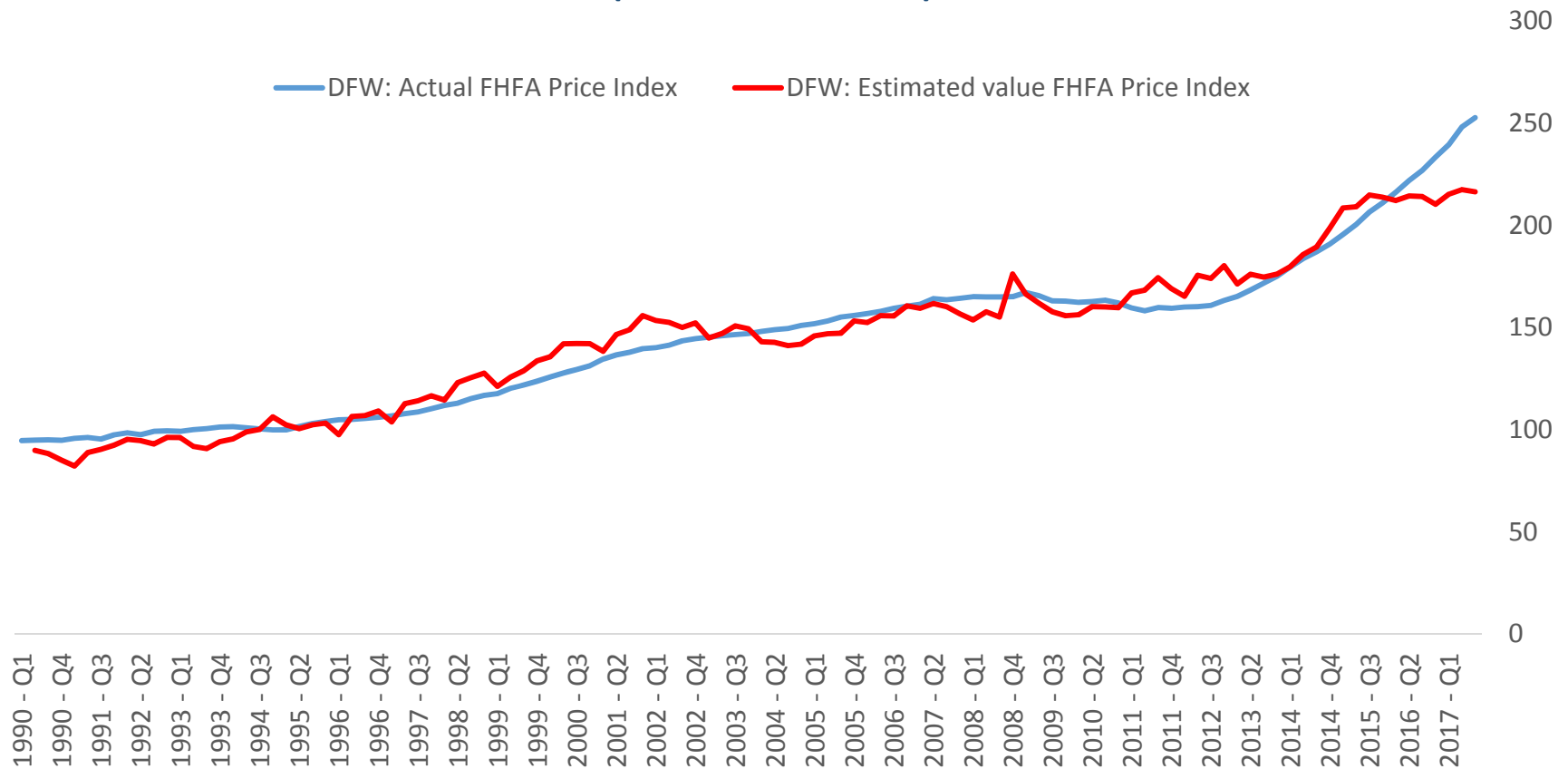
. . . in DFW since 1Q2014

Case-Shiller DFW Home Price Estimates
(Index 1Q1975=100)

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.

. . . in Houston since 4Q2014

Case-Shiller Houston Home Price Estimates
(Index 1Q1975=100)

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.
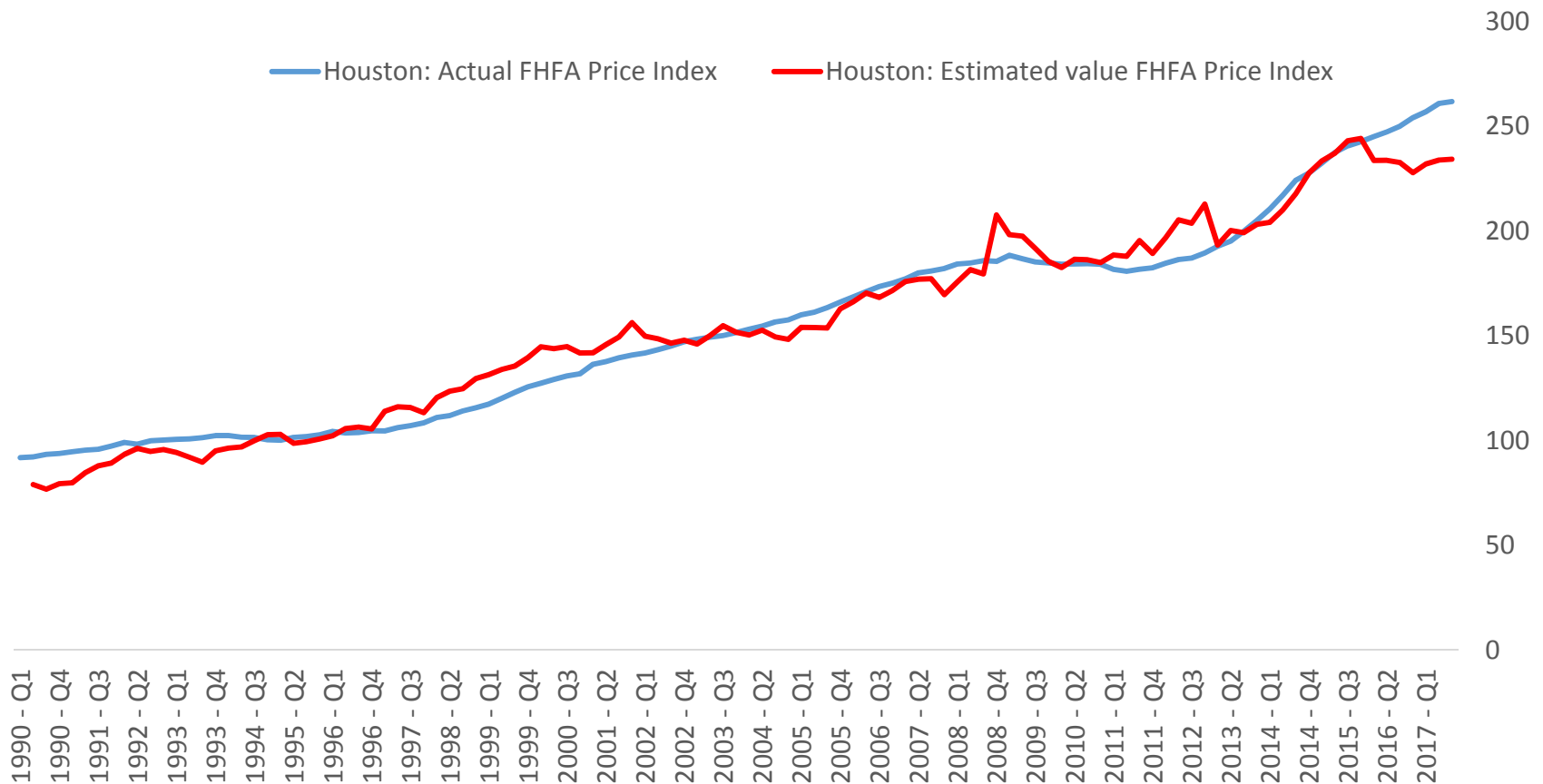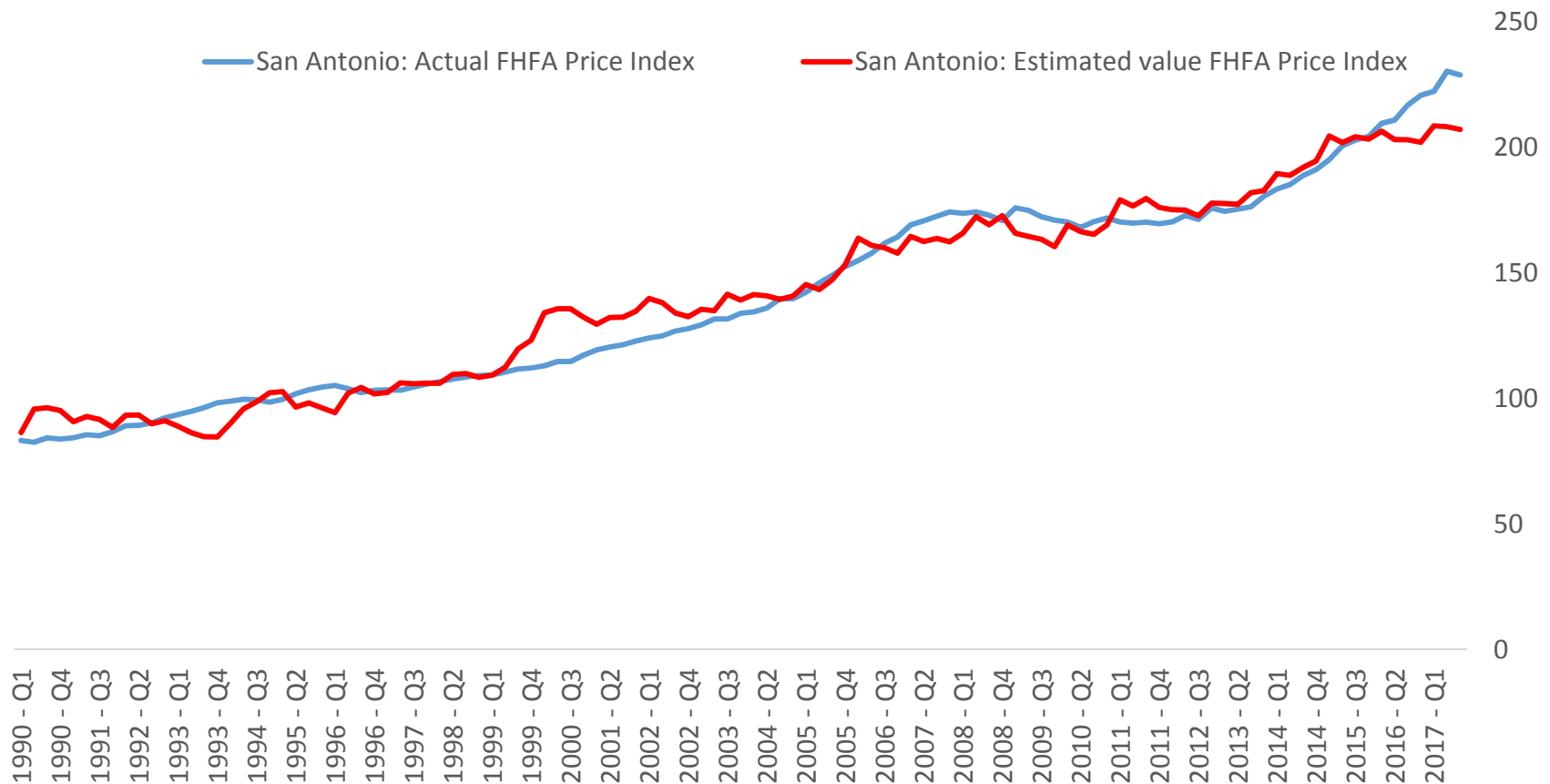
. . . in San Antonio since 2Q2015 Possible overvaluation of home prices at state and MSA levels

Case-Shiller San Antonio Home Price Estimates
(Index 1Q1975=100)

San Antonio: Actual FHFA Price Index
San Antonio: Estimated value FHFA Price Index

Sources: Federal Housing Finance Agency (FHFA), U.S. Bureau of Economic Analysis, and author's calculations.

Housing starts represent supply fundamentals

- Are they capturing the supply constraints faced by homebuilder?

- In aftermath of 2008–09 Great Recession, housing supply held back by lack of developed land resulting in upward pressures on land costs for homebuilders.

- Other constraints:
  - high costs of labor and materials
  - reduced profit margins
  - incentive to construct homes priced more than $300,000.

Single-family construction has not recovered causing low inventories

Texas Single Family Permits Per Capita and Months of Inventory
(Index Jan2005=100, Months)

Legend: Permits Per Capita (Left Axis) — Months of Inventory (Right Axis)
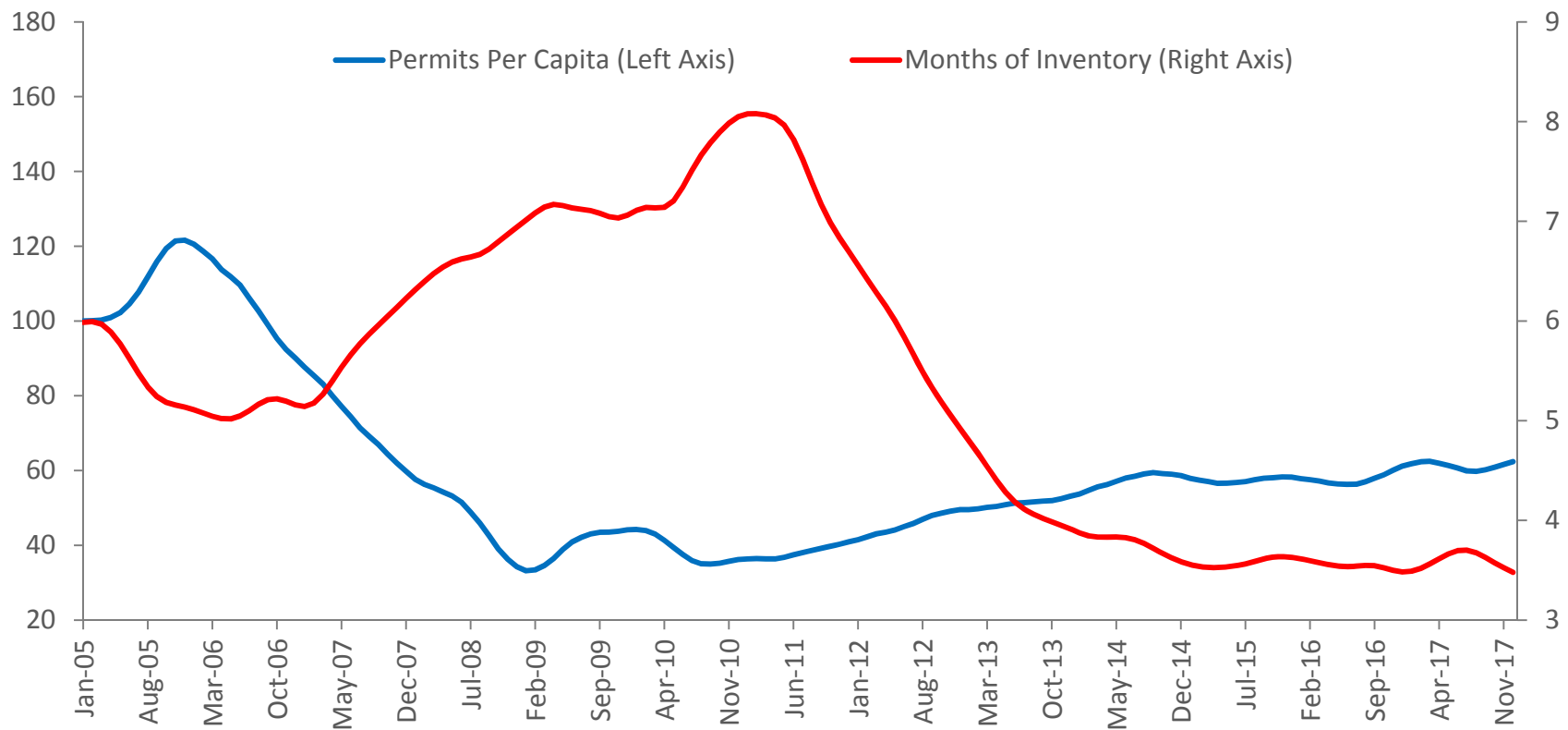
Note: Seasonally adjusted and detrended.
Source: Bureau of Economic Analysis and Real Estate Center at Texas A&M University.

Months of inventory for housing: less than $250,000, at historical lows

Texas Months of Inventory by Price Cohort
(Months)

Legend:
- $0-$199,000
- $200,000-$299,999
- $300,000-$399,999
- $400,000-$499,99
- $500,000+
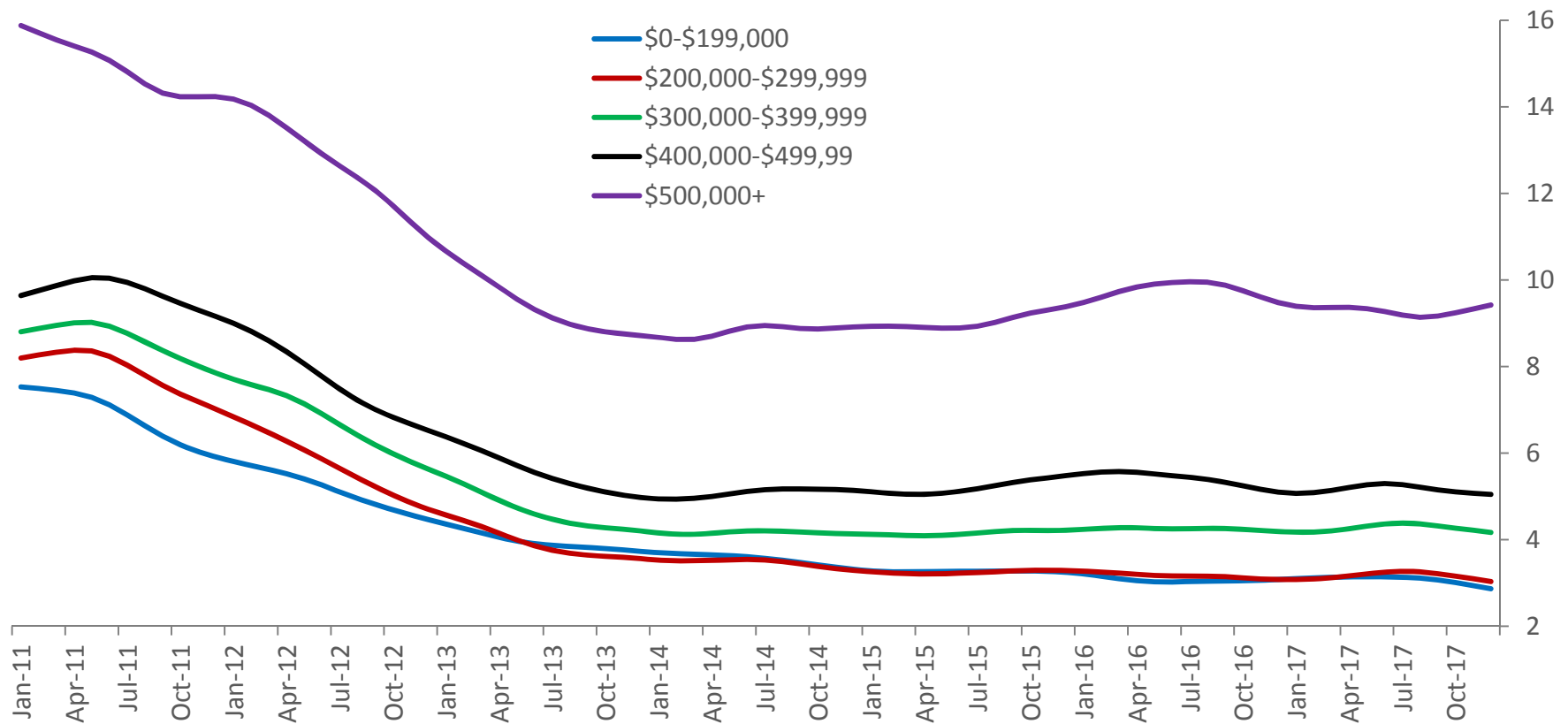
Note: Seasonally adjusted and detrended.
Source: Real Estate Center at Texas A&M University.

Identifying home price misalignments: not easy and even more difficult "bubbles"

- No sure way of knowing what prices "should be"

- No single methodology offers complete confidence.

- No certainty to say home prices overvalued or undervalued or if price bubble is forming.

- Various methodologies can be used to complement each other.

Evidence regarding Texas' 25 MSAs record episodes of "explosive behavior" in house price

MSAs Exhibiting Explosive Behavior 1Q2016 to 1Q2017
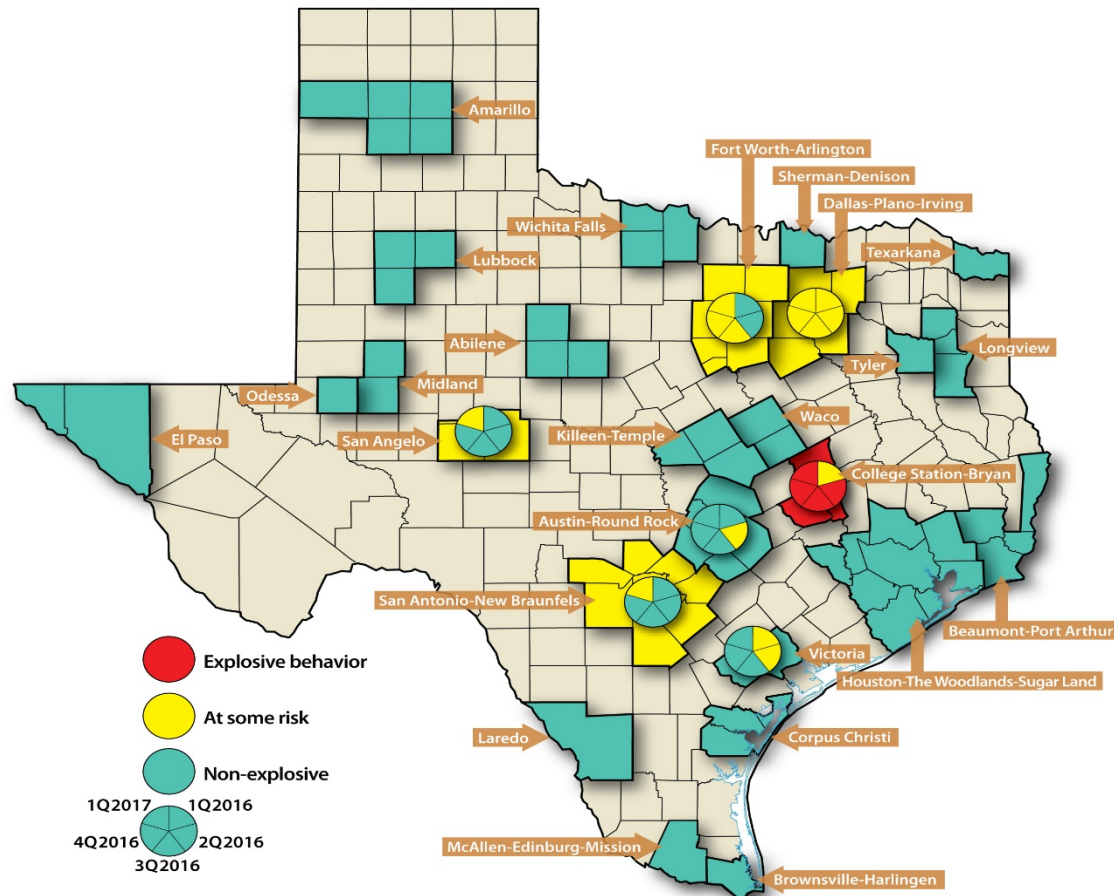
Note: Red, above 95 percent critical value. Amber, 80-95 percent critical value. Green, below 80 percent critical value. Pie charts indicate the share spent within each range over the past five quarters (from 1Q2016 to 1Q2017). See: Torres, Luis B., Martínez-García, Enrique and Valerie Grossman (2016): "Curb Your Enthusiasm: Keeping an Eye on Home Prices." Journal of the Real Estate Center at Texas A&M University Tierra Grande, Vol. 23, July 2016.
Source: Freddie Mac, BLS, and authors' calculations.

Map indicates a misalignment in North Texas home prices relative to their fundamental-based normative values.

**MSAs Exhibiting Explosive Behavior
3Q2016 to 3Q2017**
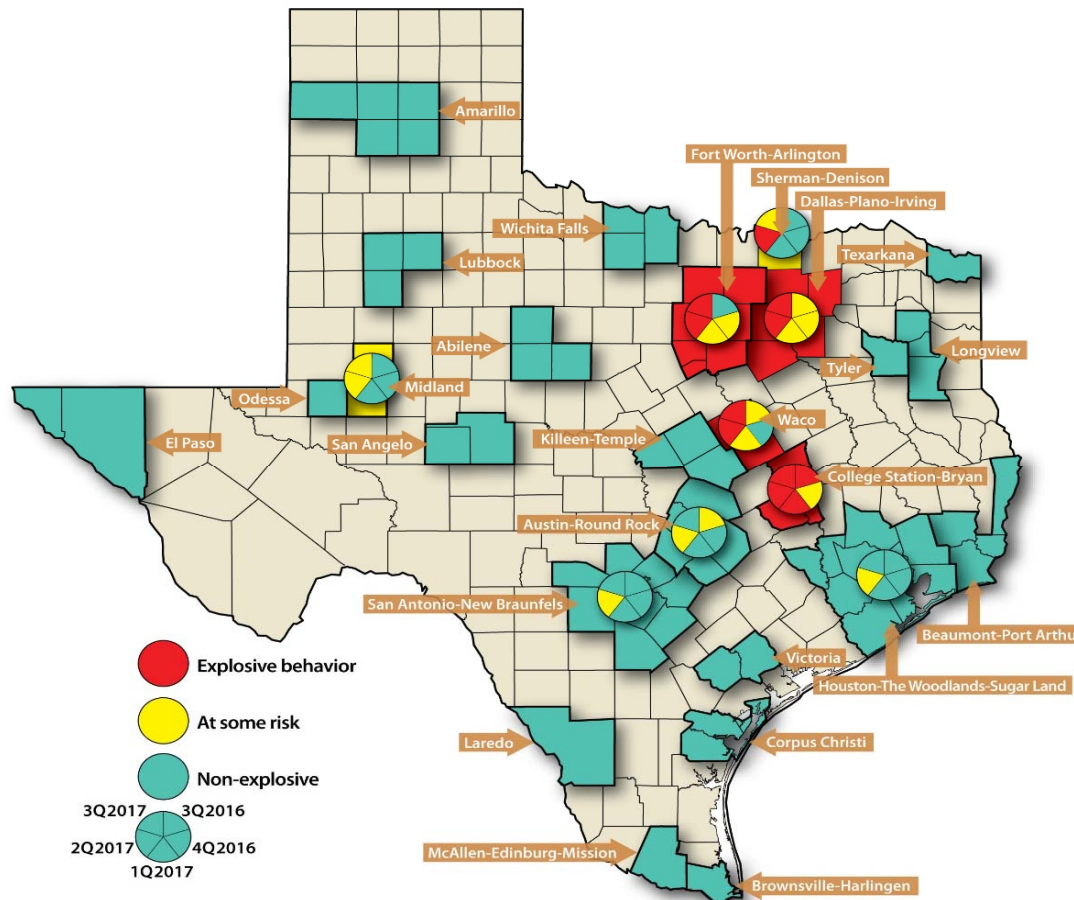
Legend:
- 🔴 Explosive behavior
- 🟡 At some risk
- 🟢 Non-explosive

Pie chart legend:
- 3Q2017, 3Q2016
- 2Q2017, 4Q2016
- 1Q2017

Map labels: Amarillo, Fort Worth-Arlington, Sherman-Denison, Dallas-Plano-Irving, Wichita Falls, Texarkana, Lubbock, Abilene, Longview, Odessa, Midland, Tyler, El Paso, San Angelo, Killeen-Temple, Waco, College Station-Bryan, Austin-Round Rock, San Antonio-New Braunfels, Victoria, Beaumont-Port Arthur, Houston-The Woodlands-Sugar Land, Laredo, Corpus Christi, McAllen-Edinburg-Mission, Brownsville-Harlingen

Note: Red, above 95 percent critical value. Amber, 80-95 percent critical value. Green, below 80 percent critical value. Pie charts indicate the share spent within each range over the past five quarters (from 3Q2016 to 3Q2017). See: Torres, Luis B., Martínez-García, Enrique and Valerie Grossman (2016): "Curb Your Enthusiasm: Keeping an Eye on Home Prices." Journal of the Real Estate Center at Texas A&M University Tierra Grande, Vol. 23, July 2016.
Source: Freddie Mac, BLS, and authors' calculations.

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During U.S. housing bubble, homebuyers motivated to invest by strong expectations in future price changes

- Homebuyers generally perceived little risk of a possible fall in housing prices.

- Emotional, casual word-of-mouth factors played important roles in home-purchasing decision.

- These conditions difficult to measure and based on feedback and comments of housing market participants.

Purchasing home for investment purposes, perceived little risk of falling home prices, etc.

- Seem not to be present currently in Texas housing market or in major Texas MSAs.

- At same time, market did not face a significant supply constraint causing sale inventory levels to fall to historical low.

- Major contributor to current possible misalignment in home prices appears to be significant supply constraint in Texas housing market.

- RECenter will continue to monitor and analyze.

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www.recenter.tamu.edu