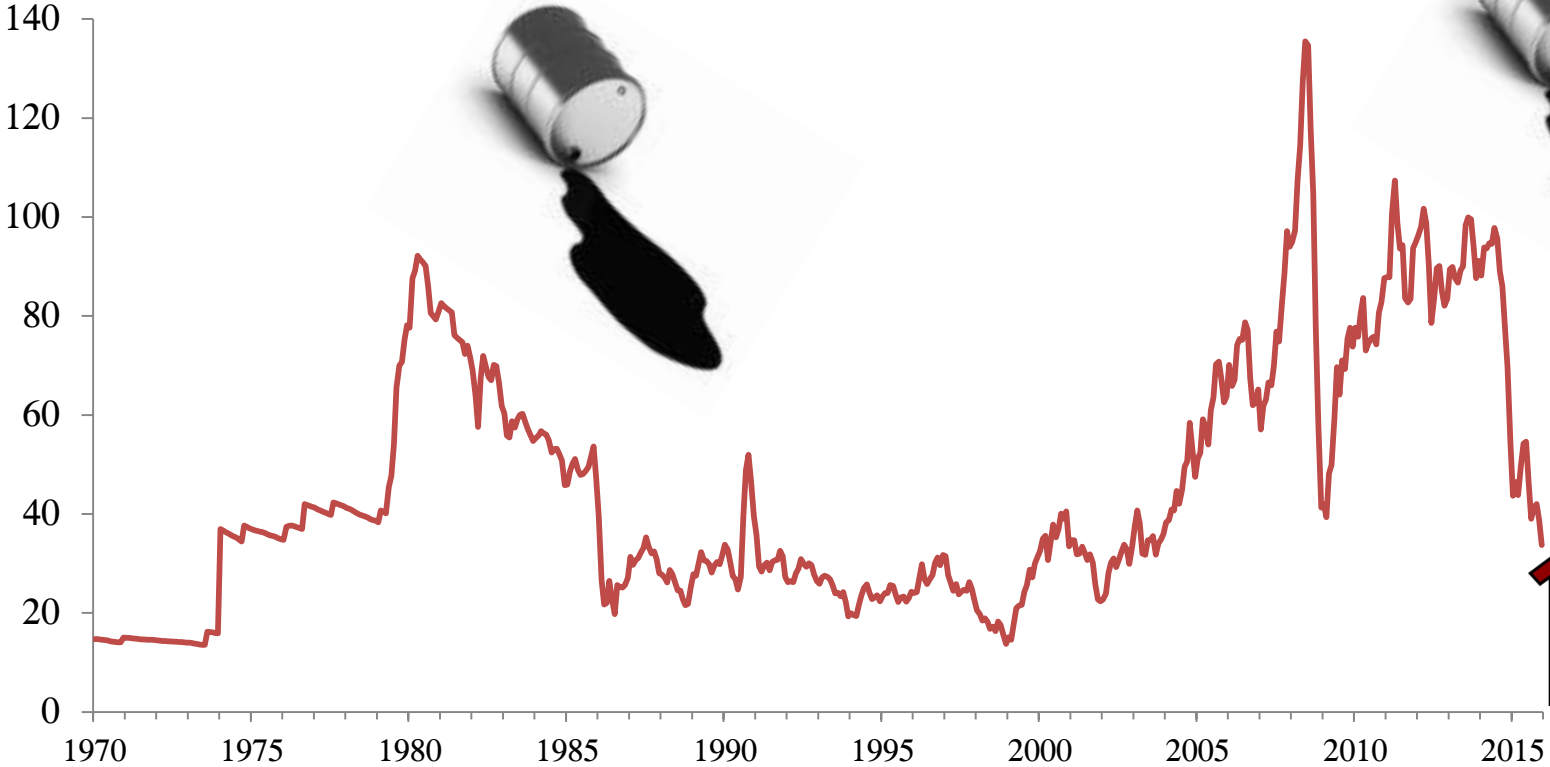


Will Texas Real Estate Bust with Oil?

John V. Duca

Associate Director of Research
and Adjunct Professor of Economics, SMU

Real \$2009 per barrel,
West Texas Intermediate



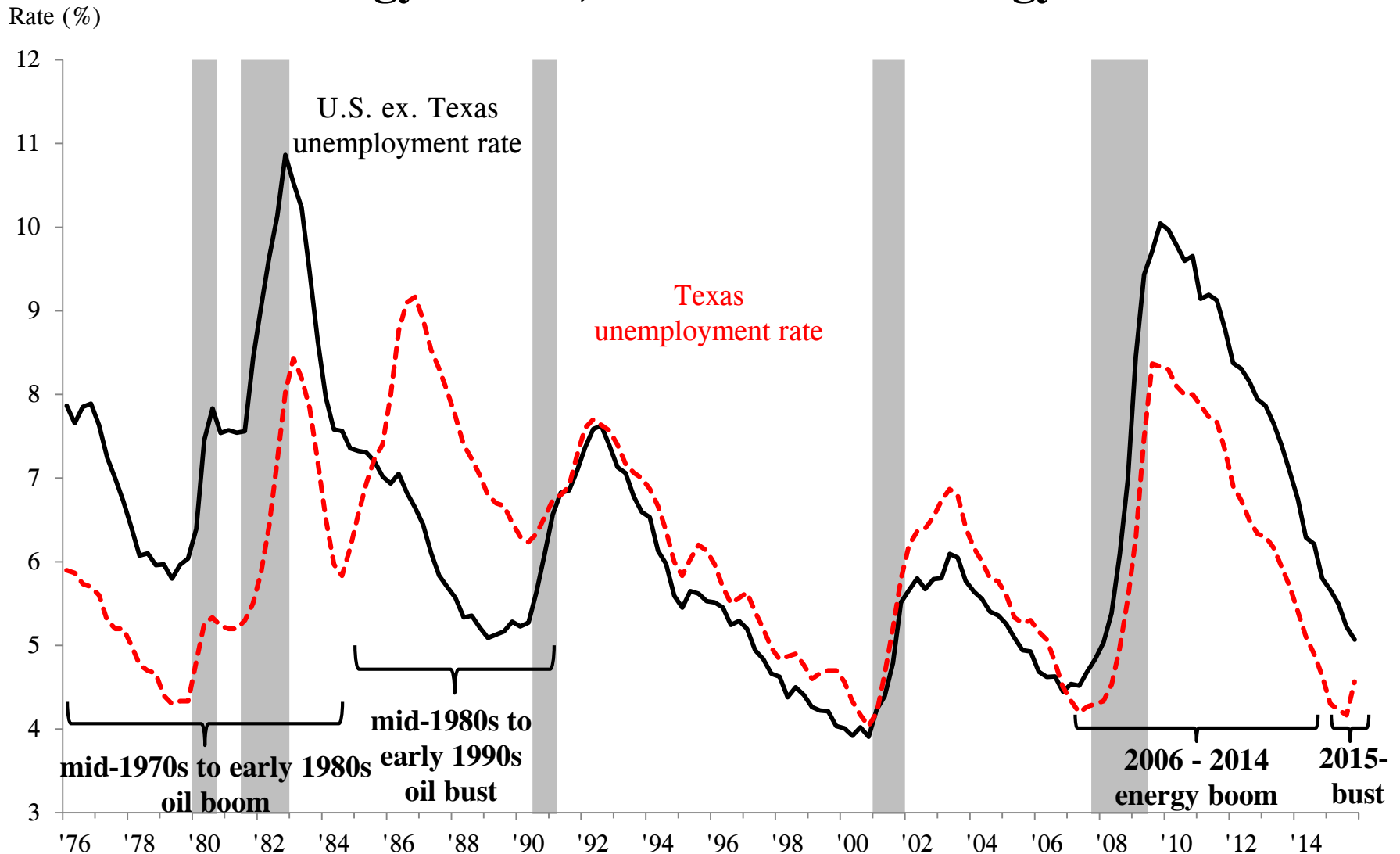
Introduction

- Oil prices down roughly 70 percent since June 2014 peak. If sustained, what would happen to Texas real estate?
- Texas real estate trends over past four decades reflect:
 - Broad-based and energy-related economic growth.
 - Faster than national long-run growth owing to low-cost environment.
 - Evolving structure of banking and mortgage finance.
- Texas real estate above its trend in energy-booms, below in busts.
- Shale boom partially behind pre-2015 strength in Texas real estate.
- Series of bank reforms and past experience will likely limit, but not eliminate, the downside risks from the recent oil bust.

Backdrop of job (economic) growth trends: boom and bust in the 1970s and 1980s

- Economy in Texas outperformed the U.S. in 1970s and early-1980s.
 - Texas job growth faster than U.S. and long-run Texas trends.
 - Oil-boom cushioned the impact of national economic recessions on Texas.
- This period of outperformance ended with the deep recession of 1982 and a bust emerged when oil prices fell in the mid-1980s:
 - To curb high inflation, Volcker-Fed raised interest rates in the early 1980s, which at first slowed the U.S. economy and hurt job growth even in Texas.
 - Many Texas jobs lost in mid-1980s; Texas unemployment rose above U.S. rate.

Unemployment rate in Texas below U.S. in energy booms, above U.S. in energy busts



NOTE: Shaded bars indicate U.S. recessions.

SOURCE: Bureau of Labor Statistics.

Flaws in banking and taxation worsened the impact of the 1980's oil bust

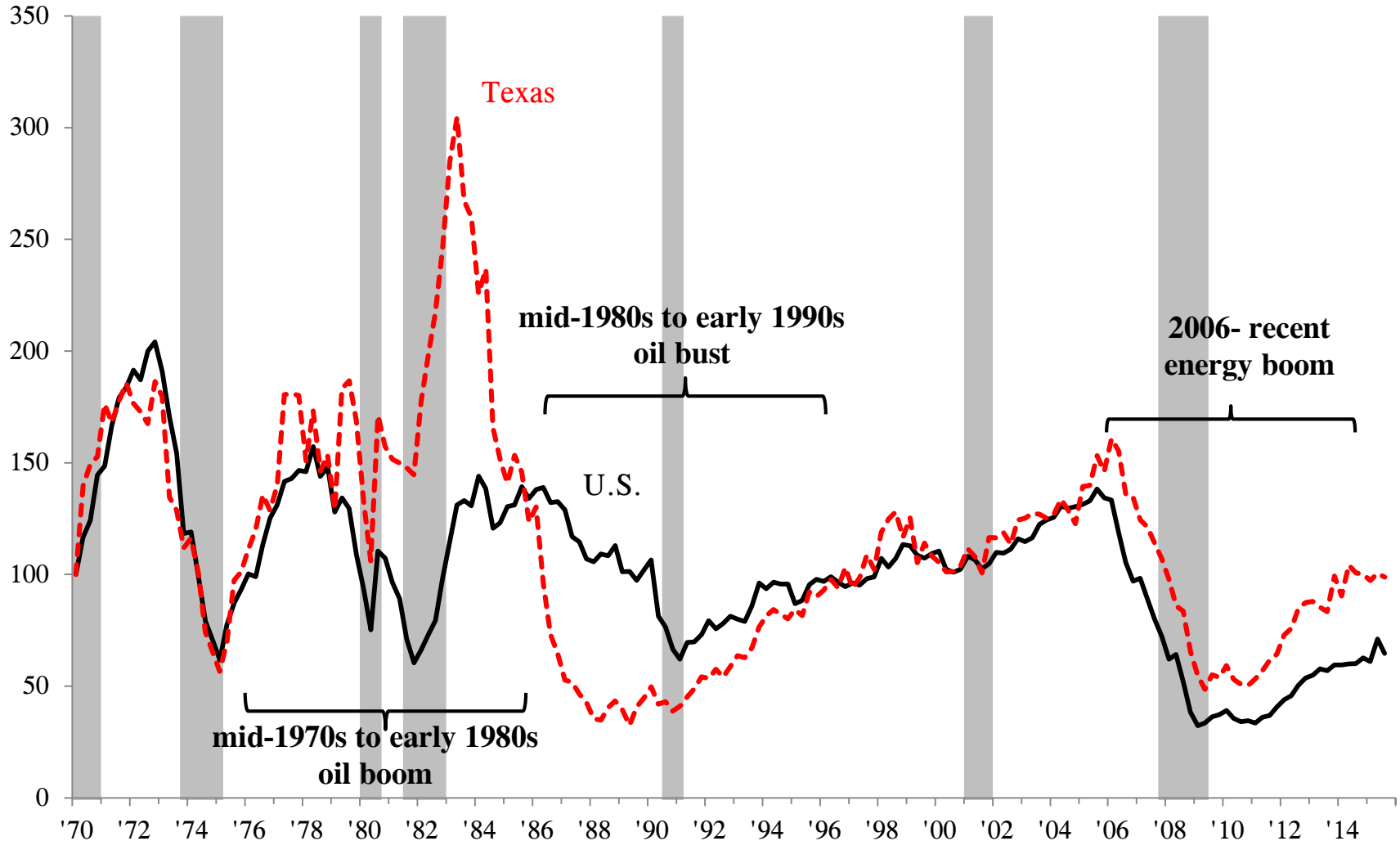
- High risk from mismatch between interest rates on assets vs. deposits.
- Deregulation of undercapitalized, high risk lenders.
- Texas banks overexposed to local economy.
- Poor regulatory structure.
- Large shifts in commercial real estate taxation.

How flaws in banking regulation worsened the impact of the 1980's oil bust

- Excess real estate lending in prior oil boom hurt banks, created excess supply of housing that was slow to sell, set off foreclosures hurting many lenders, and restrained new construction for years.
- Lenders over-exposed to interest rate risk and the state's energy driven boom had little resilience to survive the bust and failed.
- A massive credit crunch arose during the oil bust.
- Insufficient financing delayed Texas's economic recovery in late 1980s and early 1990s until out-of-state banks entered, local banks recovered.

Texas' per capita residential construction outpaces the U.S., particularly during energy booms

Residential Construction
Index: 1970-Q1 = 100

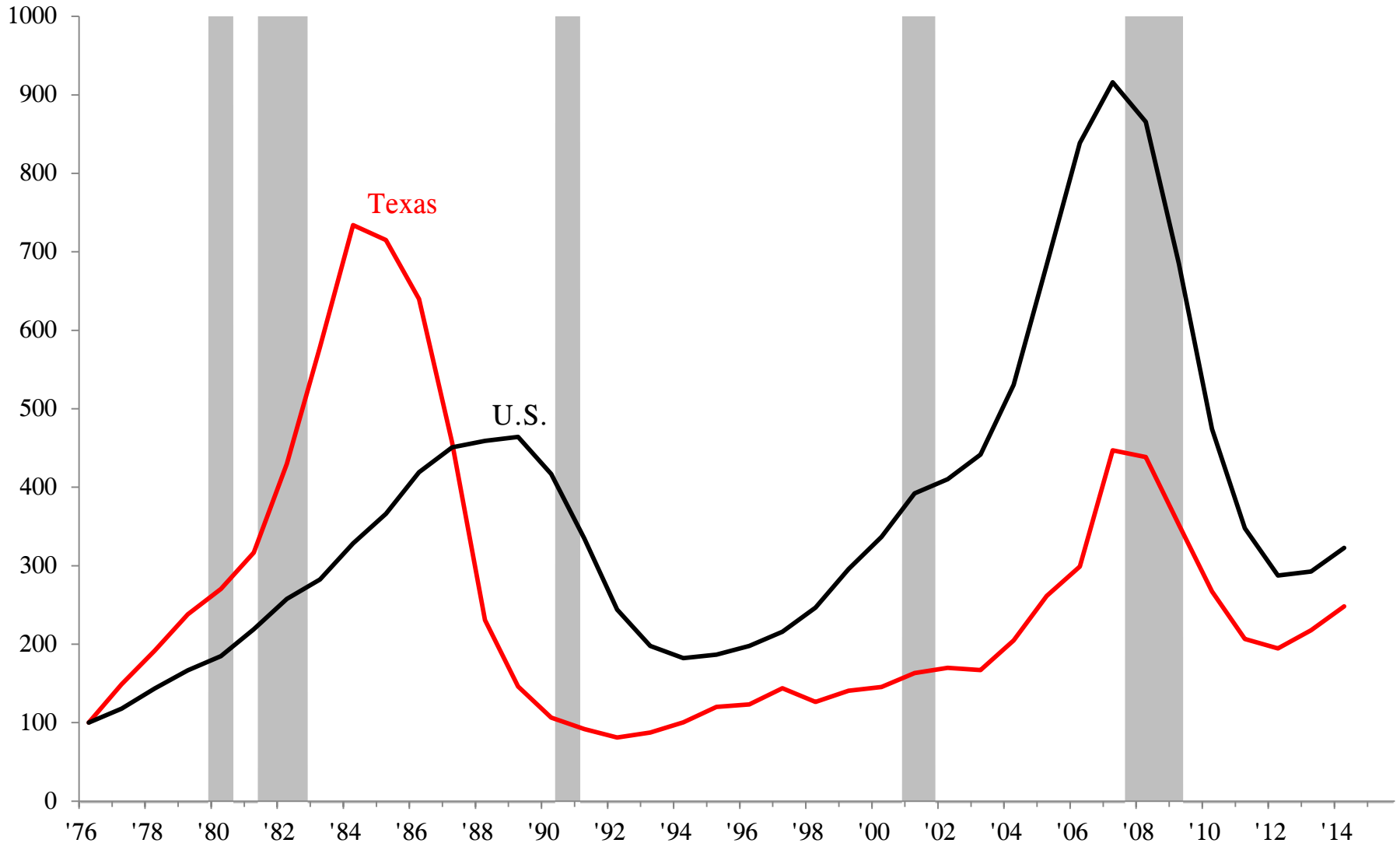


NOTE: Underlying series are seasonally adjusted. Shaded bars indicate U.S. recessions.

SOURCE: Census Bureau.

Real per capita construction and land development bank loans

Index, 1976 = 100

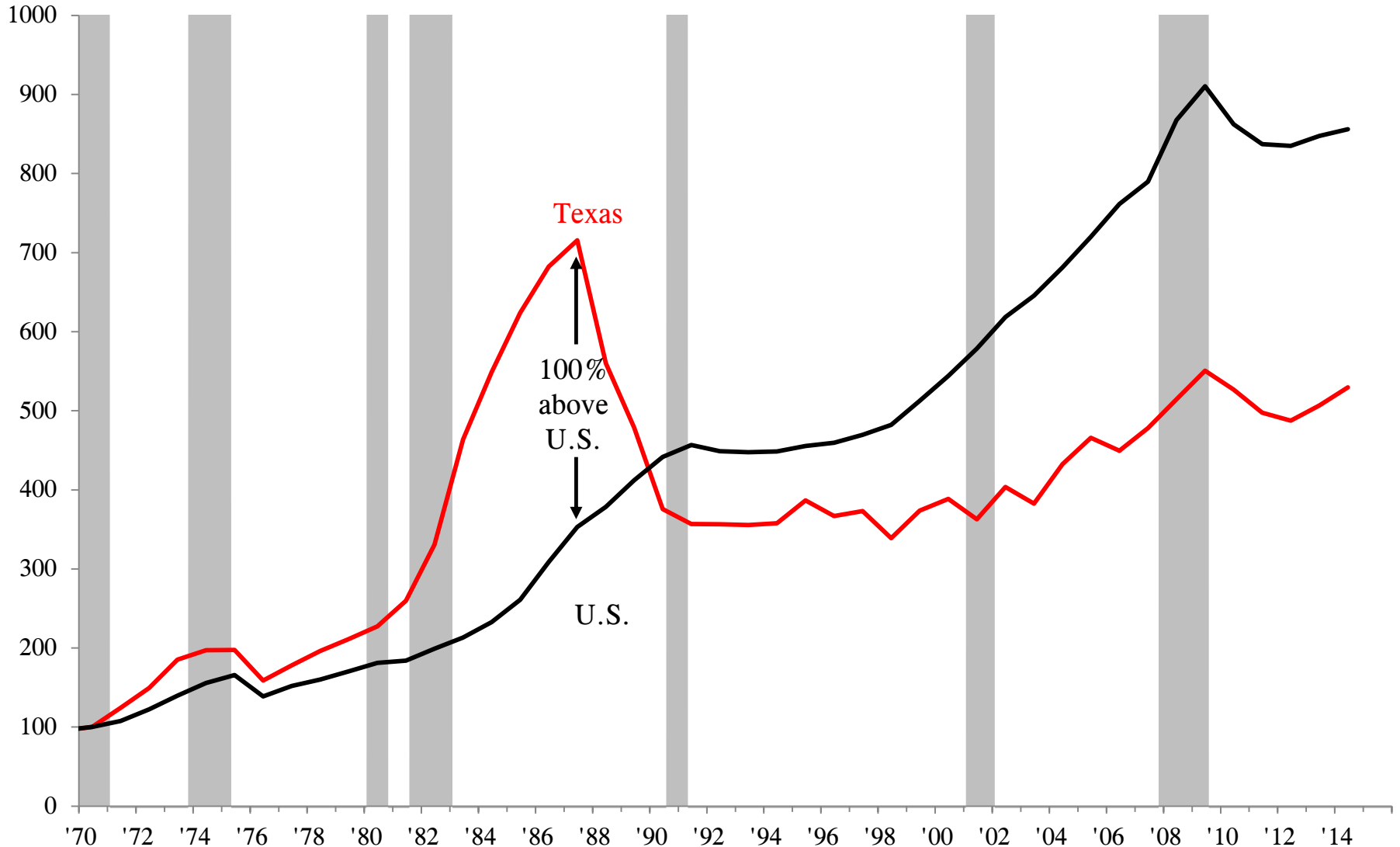


NOTE: Shaded area indicate U.S. recessions.

SOURCE: Federal Deposit Insurance Corporation.

Real per capita non-farm, non-residential real estate bank loans

Index, 1970 = 100



NOTE: Shaded areas indicate U.S. recessions.

SOURCES: Federal Deposit Insurance Corporation and author's adjustment for Comerica's 2007 relocation to Texas.

In the 1990s, housing recovery, financial reform

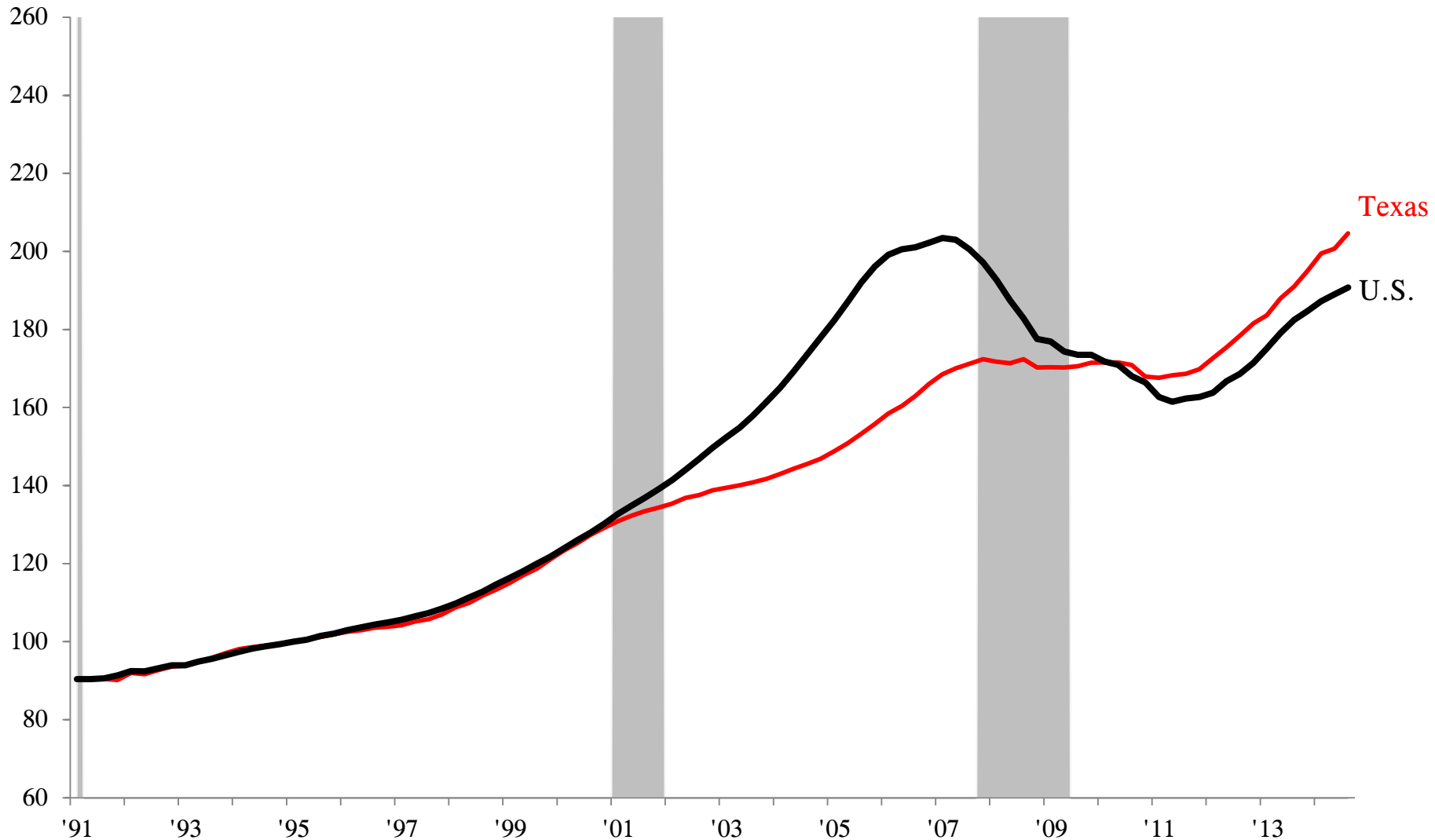
- **Recovery in the early to mid-1990s:**
 - Local banks recapitalize and out-of-state banks enter in the early-1990s.
 - Economy aided by growth from low-cost environment.
 - Overhang of homes fall in early 1990s, setting stage for a recovery in construction.
- **Reforms make Texas banking and real estate more resilient:**
 - Capital and interest-rate risk regulation improved in early 1990s.
 - Prime mortgage securitization, interstate banking diversify much real estate risk.
 - TX home equity limits balance families' need for liquidity with financial stability.
- **Real estate aided by broad recovery and tech boom in late 1990s**

Great Recession and energy-related rebound

- **Supply and demand limit Texas housing decline in Great Recession.**
 - Texas entered the national Great Recession with supply near demand.
 - Housing inventories rise some (but by less than elsewhere in U.S.), inducing limited declines in inflation-adjusted house prices over 2008-11.
- **Housing demand outstrips supply in recent shale boom:**
 - Housing demand surges, supply response not enough to prevent inventories from falling and house prices from rising notably faster than inflation.
- **Bank reforms and the memory of the 1980s' limit the risk of overbuilding compared to 1970s oil boom.**
 - TX residential construction did not boom as much after the Great Recession as it did in the early 1980s.
 - Nor did commercial real estate lending surge as much.

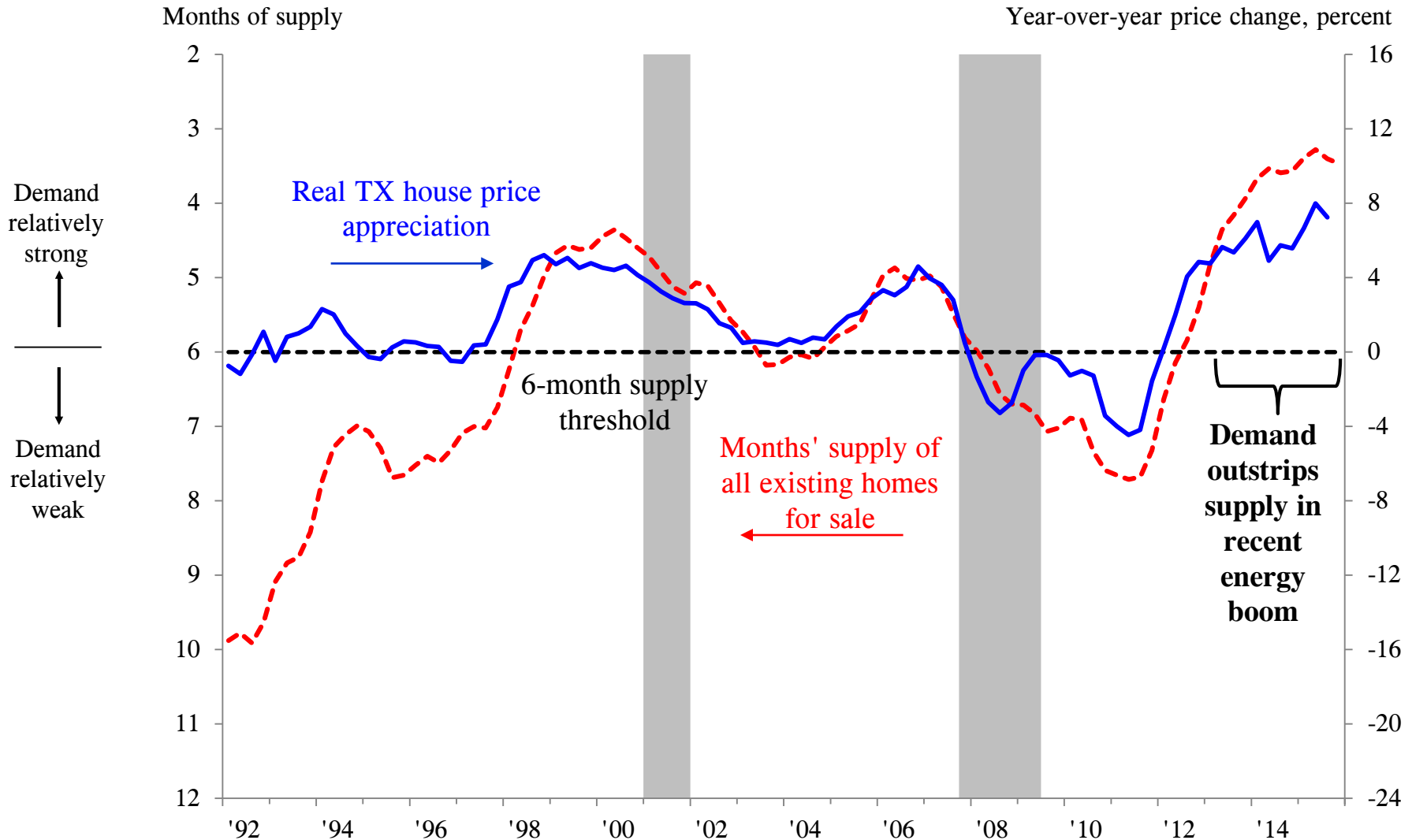
Texas house prices swing less than U.S. during the subprime boom and bust

Index, 1995:Q1 = 100



SOURCE: Federal Housing and Finance Association purchase-only house price index, seasonally adjusted.

Except for short-lived tech boom, modest swings in inventories and house prices from mid-1990s to 2012, recently tight supply

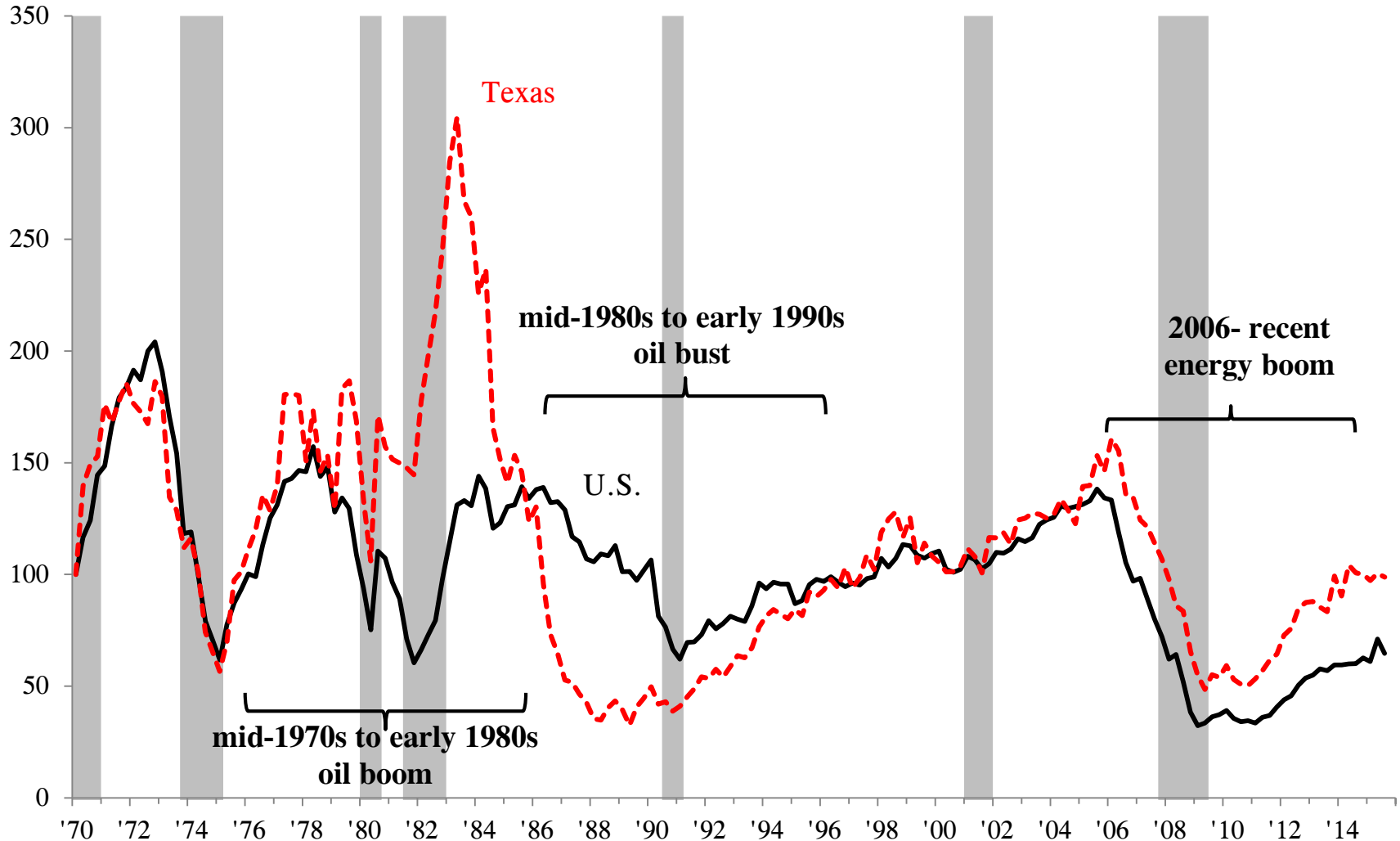


NOTE: Shaded bars indicate U.S. recessions.

SOURCES: Federal Housing Finance Agency; Bureau of Economic Analysis; Texas A&M Real Estate Center; author's calculations.

Texas' per capita residential construction outpaces the U.S., particularly during energy booms

Residential Construction
Index: 1970-Q1 = 100

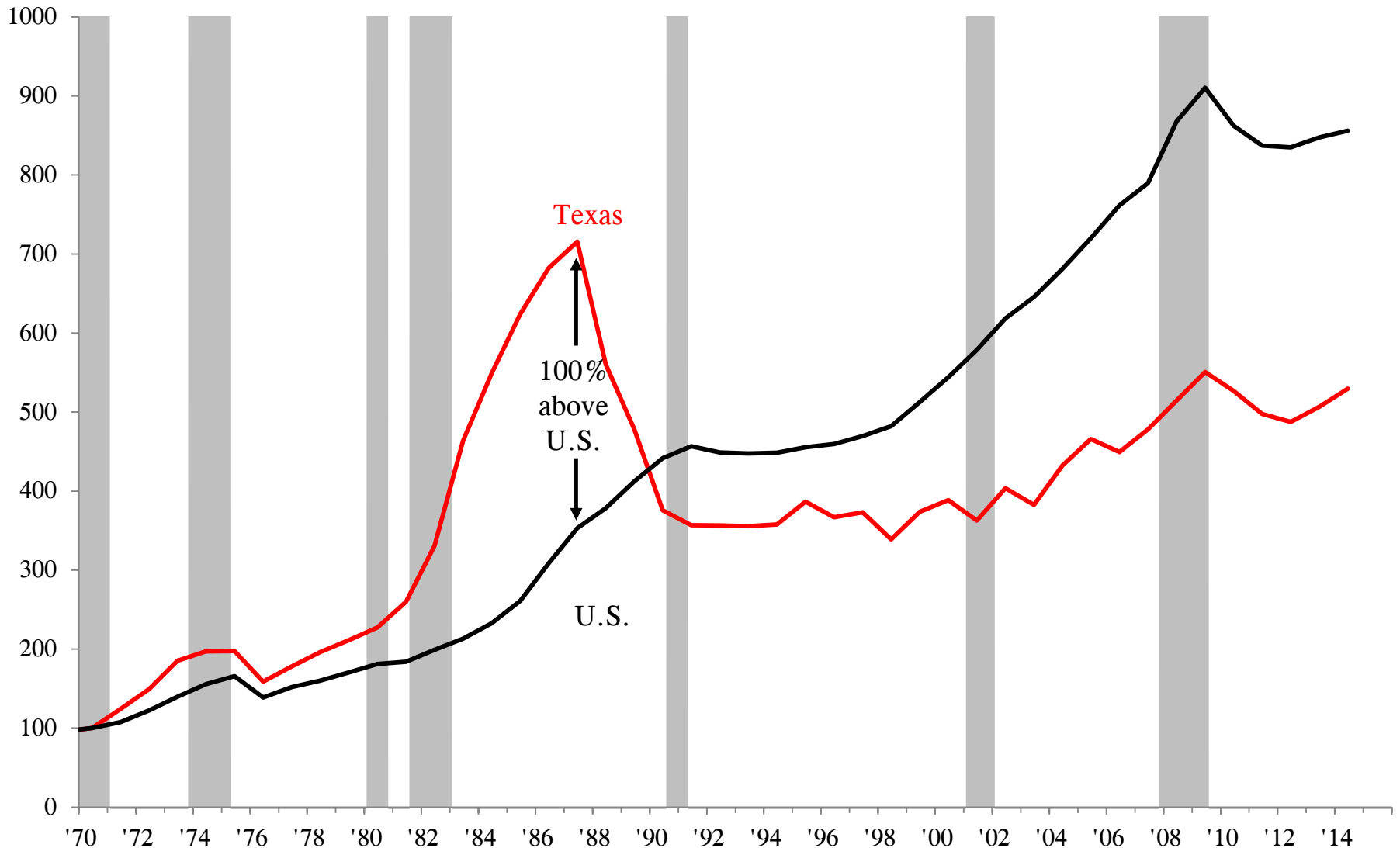


NOTE: Underlying series are seasonally adjusted. Shaded bars indicate U.S. recessions.

SOURCE: Census Bureau.

Real per capita non-farm, non-residential real estate bank loans

Index, 1970 = 100



NOTE: Shaded areas indicate U.S. recessions.

SOURCES: Federal Deposit Insurance Corporation and author's adjustment for Comerica's 2007 relocation to Texas.

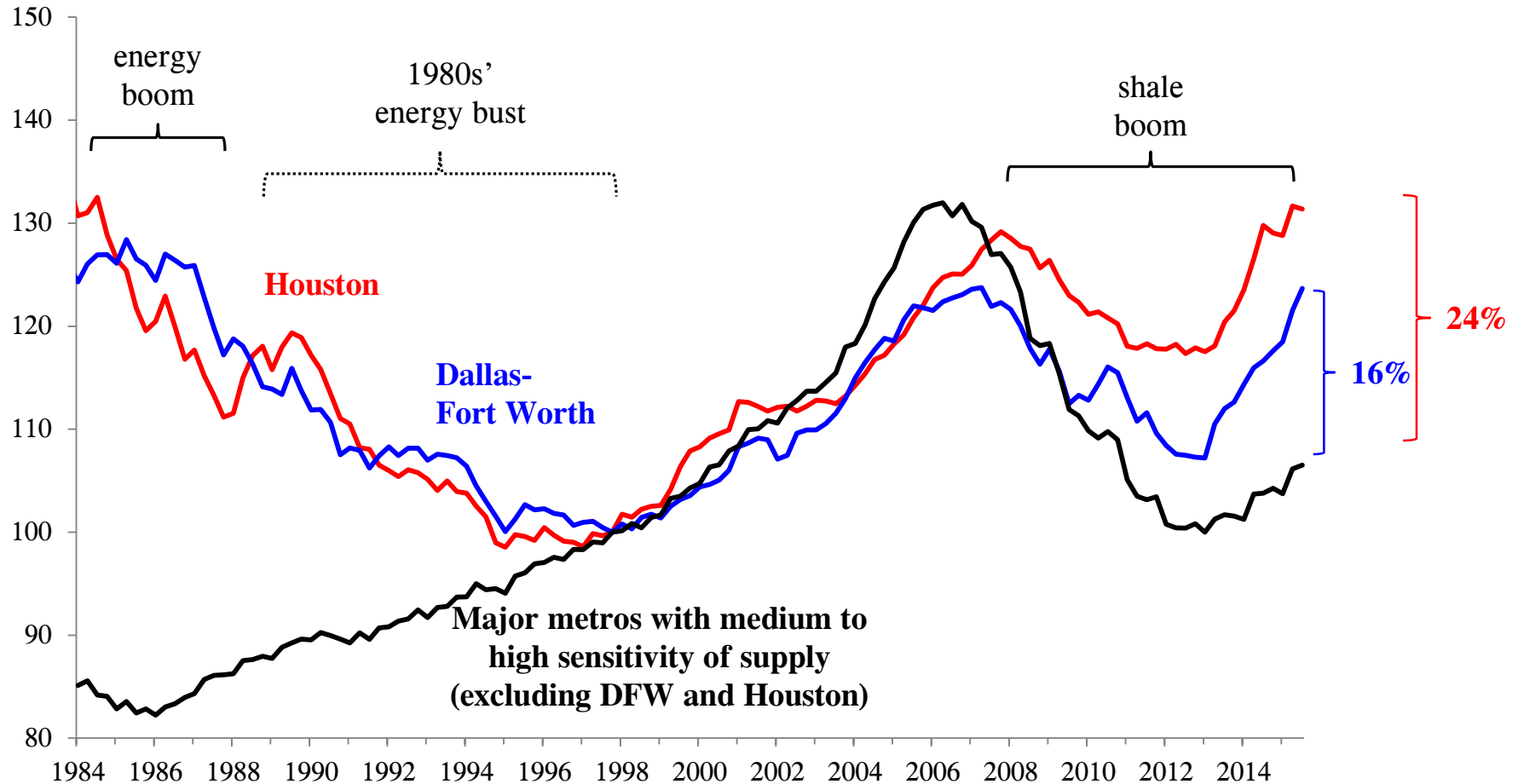
Are Texas' house prices overvalued?

What two yardsticks suggest

- House price-to-rent ratios in Dallas and Houston above similar non-energy cities in oil booms, reverse in busts. For most cities, price-to-rent benchmark in line with fundamentals in mid-2014, DFW and Houston prices about 16% and 24% above.
- Housing affordability has recently declined. Normal for U.S., San Antonio, and El Paso; somewhat below normal for Dallas and Houston, implying elevated prices in the latter two cities.
- Suggest about 10% to 15% overvaluation if TX returns to a non-oil boom and non-bust condition and economy weathers oil declines. If so, a return to normal Texas house prices could occur with combination of slower house price appreciation, continued rent and income growth.
- But if oil bust conditions persist, could see house prices decline, especially if state economy hurt badly.

House price valuations in Houston, and to a lesser extent Dallas, Appear Elevated Relative to Comparable Cities

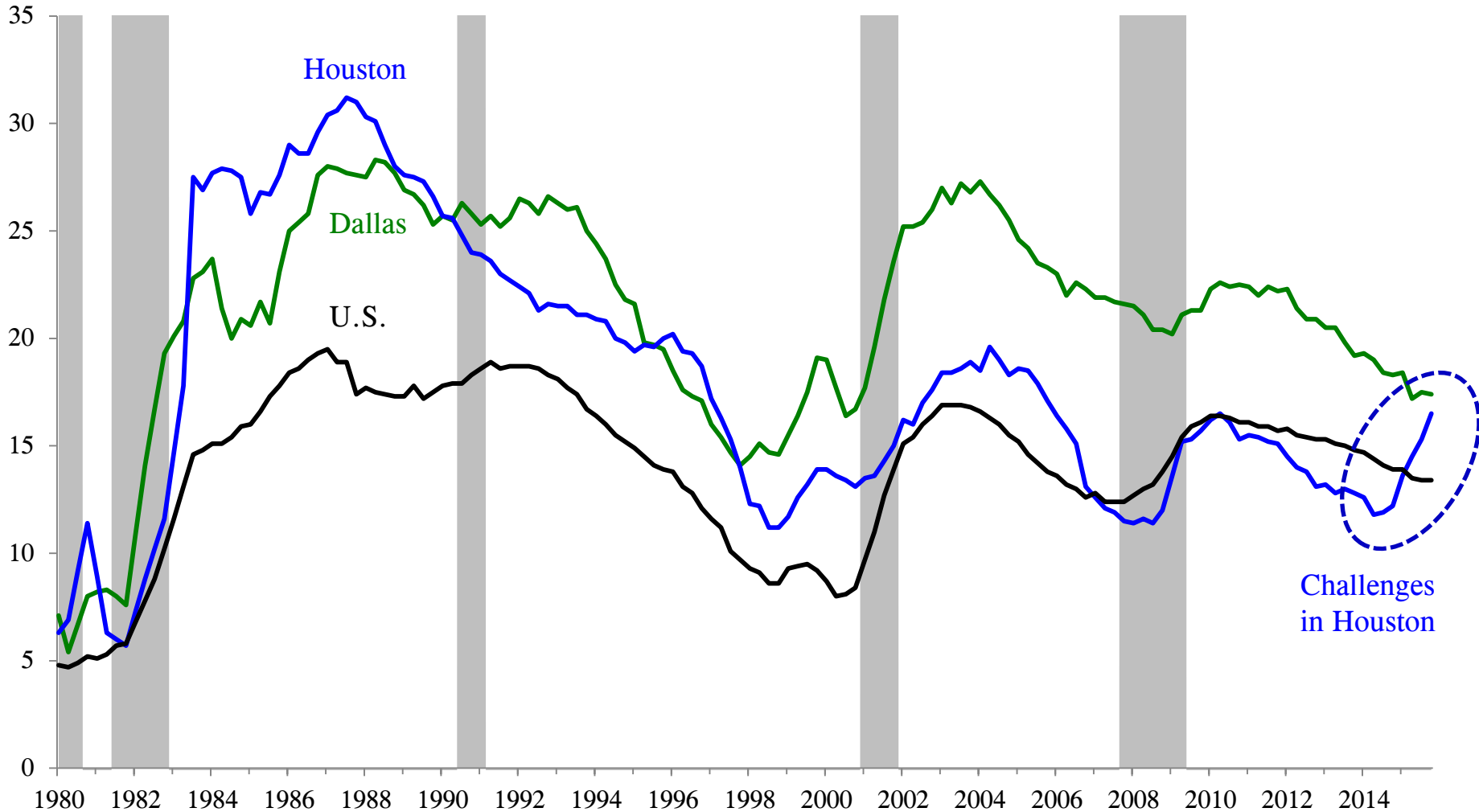
Nominal price-to-rent ratio,
(1997 Q4 = 100)



Sources: Bureau of Labor Statistics, Federal Housing Finance Administration, Duca (2013), Saiz (2008), and author's calculations.

Houston and Dallas office vacancies surge in oil bust retreated in shale boom, but recently up in Houston

Office vacancy rate, percent



NOTE: Shaded area indicates U.S. recessions.

SOURCE: CBRE.

Conclusion

- Texas real estate trends over past four decades reflect:
 - not only swings in the state's pace of economic growth,
 - but also the evolving structure of banking and mortgage finance,
 - and the impact of energy booms and busts.
- Recent robust Texas real estate aided by lagged effects of earlier strength in Texas economy. New events suggest fading of energy boom.
- Bank reforms, oil bust memory limit over-building risk vs. mid-1980s. Also Texas economy not hurt as much as in the mid-1980s. Compared to the mid-1980s, mortgage finance and real estate *more resilient, but not invulnerable* to the recent oil bust.
- History and oil prices suggest TX house price valuations likely to evolve back toward U.S. levels, depending on oil prices and its effects on state's economy. Accordingly, we are carefully monitoring real estate developments and bank exposures to them.

Some Relevant Real Estate Articles

(John V. Duca, Federal Reserve Bank of Dallas and SMU)

- **Texas Real Estate: From the 1980s' Oil Bust to the Shale Oil Boom** (with Michael Weiss & Elizabeth Organ), in *The Ten Gallon Economy*, eds. Pia Orrenius, Jesus Canas, and Michael Weiss, Palgrave MacMillan, 2015.
- **The Long-Awaited Housing Recovery** (2014 Dallas Fed Annual Report Essay) <http://www.dallasfed.org/microsites/fed/annual/2013/assets/documents/essays.pdf>
- **The Subprime Crisis** (Federal Reserve History Gateway Essay, Dec. 2013) <http://www.federalreservehistory.org/Events/DetailView/55>
- **When Will the U.S. Housing Market Stabilize?** (Dallas Fed *Economic Letter*, August 2011, John Duca, David Luttrell, and Anthony Murphy) <http://www.dallasfed.org/assets/documents/research/eclett/2011/el1108.pdf>
- **Housing Markets and the Financial Crisis of 2007-09: Lessons for the Future** (*Journal of Financial Stability* 6, John Duca, John Muellbauer and Anthony Murphy, December 2010). <http://www.sciencedirect.com/science/journal/15723089>
- **The Rise and Fall of Subprime Mortgages** (Dallas Fed *Economic Letter*, Nov. 2007, Danielle DiMartino and John Duca): <http://www.dallasfed.org/assets/documents/research/eclett/2007/el0712.pdf>
- **Making Sense of Elevated House Prices** (Dallas Fed *Southwest Economy*, Sept./Oct. 2005, John Duca): available from <http://www.dallasfed.org/research/swe/index.cfm> select the "2000s" then select 2005, pdf of complete Sept./Oct. 2005 issue 5 (article pdf not working).