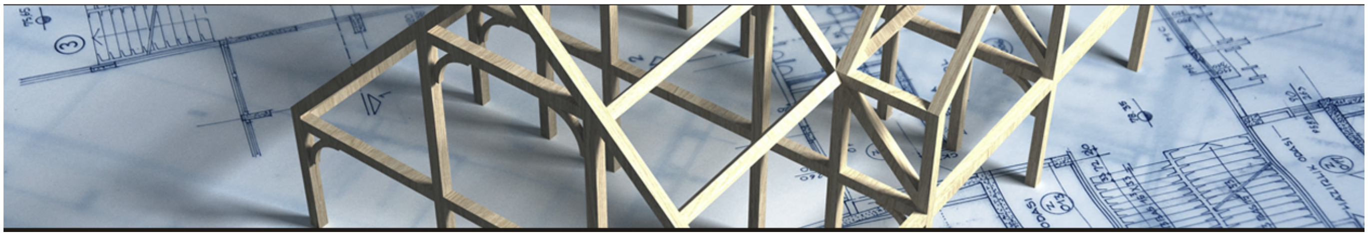

The Long-Awaited Housing Recovery

Regionally, Housing Rebound Depends on Jobs, Local Supply Tightness

by John V. Duca

After swinging from exuberant boom to epic bust over a decade, many local U.S. housing markets began a long-awaited housing recovery in 2012. The pace of house price change varied across metropolitan areas, mainly reflecting how local builders reacted to increased demand.

In areas with a readily available supply of land on which to construct new homes—either because of geography or few land-use restrictions—builders have been sensitive to increases in local demand and existing-home prices. When existing houses rise in price relative to the cost of new homes, prospective buyers are willing and able to buy new units.

Supply conditions determine how house price and construction react to shifting demand. When housing demand rises—perhaps due to rising incomes, lower mortgage interest rates or easier credit standards—the outward shift in demand produces sharply higher house prices with a small increase in the supply of newly built units in areas with less-plentiful land. By comparison, when there is a more-plentiful land supply, the amount of housing is more supply sensitive and a rise in demand results in a less-pronounced rise in house prices and a greater increase of newly constructed homes. As a result, house prices rise less in these supply-sensitive areas during booms and they fall less in downturns.[1] Similarly, prices swing more and homebuilding varies less in regions with less-sensitive housing supply.

Variation Across Four Primary Regions

Regional patterns of housing activity illustrate this. Among the four census divisions, single-family building permits move more over time in the South (*Chart 1*), where land for building homes is more plentiful, with the exception of some coastal areas in the South Atlantic region.[2] By comparison, homebuilding barely budges in the Northeast, where population density is much higher and land supply is more constrained by geography, building codes and zoning laws. Median existing-house prices have more-pronounced swings in the less-supply-sensitive Northeast and West than in the more-supply-sensitive South and Midwest census divisions (*Chart 2*).

Patterns Across Major Metro Areas

Variation in house prices may also suggest differences in supply. Major metro areas' supply sensitivity can be categorized as low, medium or high using data categories that researcher Albert Saiz proposed.[3] The analysis here focuses on 17 of the 19 largest metro areas for which the Bureau of Labor Statistics has long time-series apartment-rent data used to assemble the Consumer Price Index.[4] These rent data are used to calculate and plot house price-to-rent ratios. Of these 17 cities, seven have low supply sensitivity and 10 have medium to high sensitivities. Simple averages of inflation-adjusted house prices reveal that prices swing much more in major cities where supplies have low price sensitivity (*Chart 3*).[5]

Indeed, between year-end 1997 and the housing peak in third quarter 2006, inflation-adjusted house prices rose by twice as much in areas with low sensitivity of supply as in areas with medium to high sensitivity. In the past year or so, house prices have risen faster in low-supply-sensitive areas, aided mainly by low mortgage interest rates and a modest labor income recovery.

Why the Housing Recovery Appears Sustainable in Texas

Dallas house prices were elevated during the energy boom of the late 1970s and early 1980s when strong income growth boosted demand. Prices fell for many years following the energy collapse in 1986 and did not bottom out until late 1997, when the months' supply of existing homes had finally narrowed to six months, generally considered a point of market balance. Since then, overall prices have mirrored the pattern of other cities with medium to high sensitivity of supply, as shown in Chart 3. Dallas house prices did not rise quite as much as those of its peer grouping during the mid-2000s, partly because it is a city with a very high sensitivity of housing supply—even among medium- to high-sensitivity cities. Nonetheless, Dallas house prices have been stronger than this benchmark since 2010.

Dallas has likely benefited from a mini-energy boom associated with the expansion of natural gas production from area shale formations. This interpretation is consistent with Houston house prices (*Chart 4*). Because Houston is a center of energy extraction equipment and services, it has benefited even more than Dallas from the shale energy revolution, experiencing stronger growth in both income and house prices. Comparisons with cities having similar sensitivities of supply suggest that pricing in Dallas and Houston is not notably out of line with fundamentals.

But is the price rise sustainable for the two cities and others with similar supply sensitivity? Contrasting house price-to-rent ratios with real (inflation-adjusted) after-tax mortgage interest rates suggests that it likely is. Interestingly, indexes of the price-to-rent ratios for Dallas–Fort Worth and the medium to high supply-sensitive category are not far apart and are not at notably high levels (*Chart 5*). Mirroring the relative patterns of inflation-adjusted house prices in Chart 3, the price-to-rent ratio in Dallas is slightly above that of medium to high supply-sensitive cities, with Houston's ratio exceeding that of Dallas.

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Comparing the rate of appreciation in inflation-adjusted house prices and the months' supply of existing homes provides additional confirmation that prices are sustainable (*Chart 6*). Even after Dallas house prices recently rose nearly 8 percent faster than inflation, the months' supply for sale remained extremely low—at three months—suggesting that house prices could rise at an even faster rate if inventories remain so low. The same can be concluded about Houston from data plotted in Chart 7.

Affordability Across Metropolitan Areas

Finally, despite low inventories and relatively high price-to-rent ratios, do income and mortgage interest rate data tell a different story about local markets? Put another way, are house payments sustainable in terms of household income?

The Housing Opportunity Index from the National Association of Home Builders and Wells Fargo is available for metro areas as well as for states and the nation. During the boom years, this measure of the percentage of homes sold in an area that are affordable to a median-income family fell sharply in coastal cities but declined little in southern, non-Atlantic cities such as Dallas, Houston and Atlanta (*Table 1*). Housing affordability rose in all listed cities after late 2006. Lower mortgage rates aided affordable inland cities, while falling house prices also helped in coastal cities and some struggling inland ones.

For the U.S. and all these cities, the affordability index readings were generally higher in 2012 and early 2013 than in second quarter 2013, when mortgage interest rates rose by about 1 percentage point and affordability dipped. Even with the second-quarter fallback, affordability generally remains in the high and sustainable range seen in the mid- and late-1990s for the U.S. and most inland cities. Among coastal cities, the recent fallback poses more concern given the low percentages of homes affordable to the median-income family in those metros.

Job and economic growth are also important. For example, house prices are above late-2006 levels in Dallas and Houston, where affordability has not declined much because the energy boom has raised incomes. The two cities also experienced less of the recession and more of the recovery in recent years than many inland areas. By comparison, Atlanta house prices have fallen since 2006 even though affordability was high, according to the Housing Opportunity Index. The difference likely is attributable to weaker current labor market conditions, with a notably higher unemployment rate than in Dallas or Houston during fall 2013. Relatively high unemployment in Chicago is also likely a factor in the large decline in house prices there since 2006.

These patterns of local prices underscore the importance not only of whether homes are affordable to median-income families, but also of the risk of becoming unemployed. The combination of modest price-to-rent ratios, low inventory ratios, high affordability and lower-than-average unemployment rates suggests that the housing recovery is sustainable and will continue for some time in Texas' two largest cities. Indicators are similarly positive for Austin and for the state as a whole.

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Although prospects for a continued housing construction recovery are strong in Texas and good for the U.S. in general, homebuilding may continue to be constrained in areas where the outlook for economic growth is very weak or where the inventory of distressed homes for sale remains high and many homeowners still owe more than their homes are worth (negative net equity or “underwater” homeownership).[6]

In these sluggish areas, further price increases may be needed to reduce the share of underwater homeowners and the inventory of distressed homes to levels that would support increased rates of construction. In contrast, Houston and Dallas had the lowest share of homeowners with negative net equity (3.8 percent and 4.7 percent, respectively) among the 25 largest metro areas in December 2013.

At the national level, the combination of measures to resolve bad mortgages, the enhanced ability to refinance existing mortgages, ongoing household deleveraging and the turnaround in house prices has lowered estimates of U.S. homeowners with negative net equity to 13.3 percent in December 2013 from 25.2 percent in December 2011, according to data from analytics firm CoreLogic. As a result, the share of underwater homeowners in late 2013 exceeded 20 percent in just three states: Nevada, Florida and Arizona. Continued declines in the national share of underwater mortgages seem likely and will help reinforce the housing recovery in many areas of the country.

Notes

1. In each type of area, the long-run supply curves are also more elastic than the short-run supply curves, except in extreme cases.
2. Construction shifted a good deal in the West, but much of this occurred inland from the Pacific Coast (for example, California’s “Inland Empire” and Nevada and Arizona) and was induced by larger house-price swings than were generally seen in most of the South (outside of the South Atlantic, where housing supply became tight). Although homebuilding varied less in the Midwest than in the West, there was relatively less variation in house prices in the Midwest than in the West. Construction can vary in areas of low sensitivity of supply if prices shift enough, while smaller house-price changes accompany a given swing in homebuilding in areas with a high sensitivity of supply (“Supply Restrictions, Subprime Lending and Regional U.S. Housing Prices,” by André Kallåk Anundsen and Christian Heebøll, paper presented at “Housing, Stability and the Macroeconomy: International Perspectives,” a conference sponsored by the Federal Reserve Bank of Dallas, the International Monetary Fund and the *Journal of Money, Credit, and Banking*, Dallas, Nov. 14–15, 2013).
3. “The Geographic Determinants of Housing Supply,” by Albert Saiz, *Quarterly Journal of Economics*, vol. 125, no. 3, 2010, pp. 1253–96. Metro areas with a Saiz supply elasticity index of at least 1 are classified as having a high or medium sensitivity of housing supply, and areas with values below 1 as having a low sensitivity of supply. The former include Atlanta (omitted for missing rent data), Cincinnati, Cleveland, Dallas, Detroit, Houston, Kansas City, Milwaukee, Minneapolis, Philadelphia, Pittsburgh, Portland and St. Louis. The low-sensitivity group includes Boston, Chicago, Los Angeles, Miami, New York, San Diego, San Francisco and Seattle (omitted for missing rent data). For the importance of housing supply, also see “Housing Supply and Housing Bubbles,” by Edward L. Glaeser, Joseph Gyourko and Albert Saiz, *Journal of Urban Economics*, vol. 64, no. 2, 2008, pp. 198–217; and “Where Are the Speculative Bubbles in U.S. Housing Markets?” by Allen C. Goodman and Thomas G. Thibodeau, *Journal of Housing Economics*, vol. 17, no. 2, 2008, pp. 117–37.

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4. Likely owing to major redefinitions of metro areas and data limitations, the Bureau of Labor Statistics does not have data on rents for Atlanta and Seattle, which were excluded from the calculations shown in Charts 2 and 3.
5. House prices were deflated by the national chain price deflator for personal consumption expenditures. Real house prices are indexed to equal 100 in fourth quarter 1997, a year-end quarter in which the months' supply of existing homes was near the "neutral threshold" of six months for the U.S. and Dallas. This avoids distorting the data plotted by indexing to a date when the supply and demand conditions in the housing market were balanced at prevailing prices.
6. Distressed homes for sale include listed repossessed homes, homes in the process of being foreclosed, or homes being sold by troubled mortgage borrowers (including short sales) to avoid foreclosure. For example, CoreLogic estimates a high share (over 20 percent) of negative net equity homeowners in some large metro areas (core based statistical areas), such as Chicago–Joliet–Naperville, Tampa–St. Petersburg–Clearwater and Orlando–Kissimmee–Sanford, where there was also a high months' supply of distressed homes for sale (above nine months) in early fall 2013 (*The Market Pulse*, CoreLogic, vol. 2, no. 11, November 2013).

About the Author

Duca is a vice president and associate director of research in the Research Department at the Federal Reserve Bank of Dallas, adjunct professor of economics at Southern Methodist University, and executive director of the International Banking, Economics, and Finance Association.

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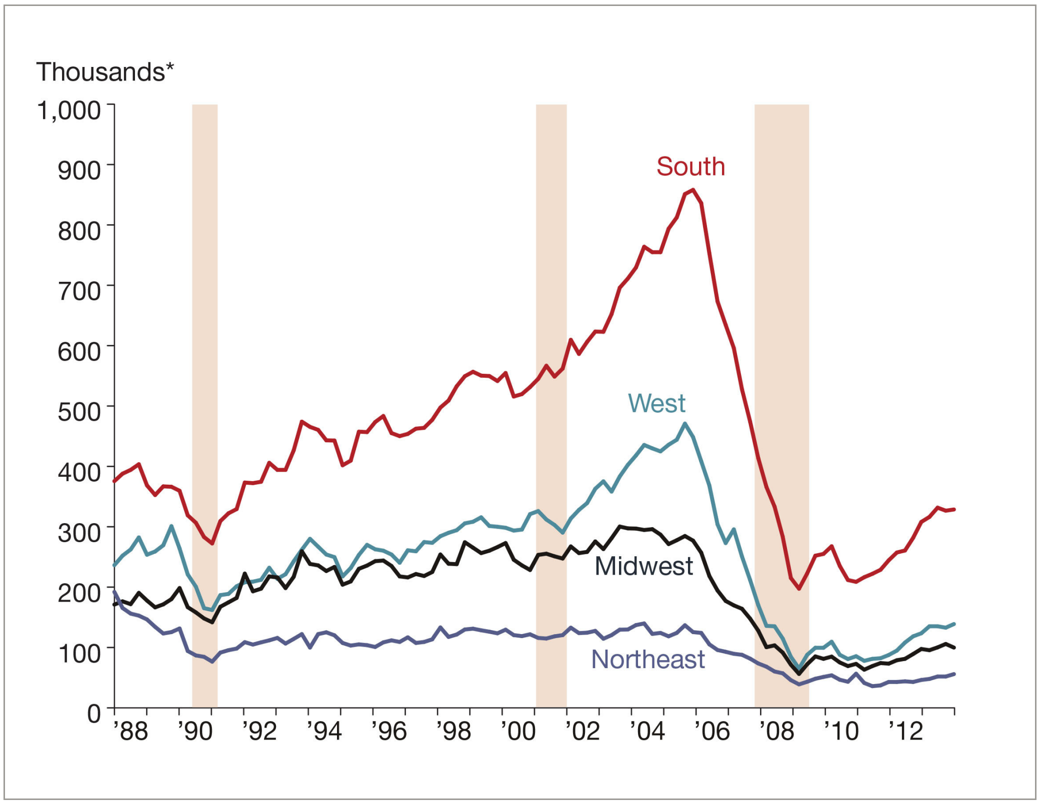
Chart 1:
Single-Family Permits More Changeable in Land-Plentiful South Than in Northeast



*Seasonally adjusted, annualized rate

NOTE: Shaded bars indicate recessions.

SOURCE: Census Bureau, with Haver seasonal adjustments.

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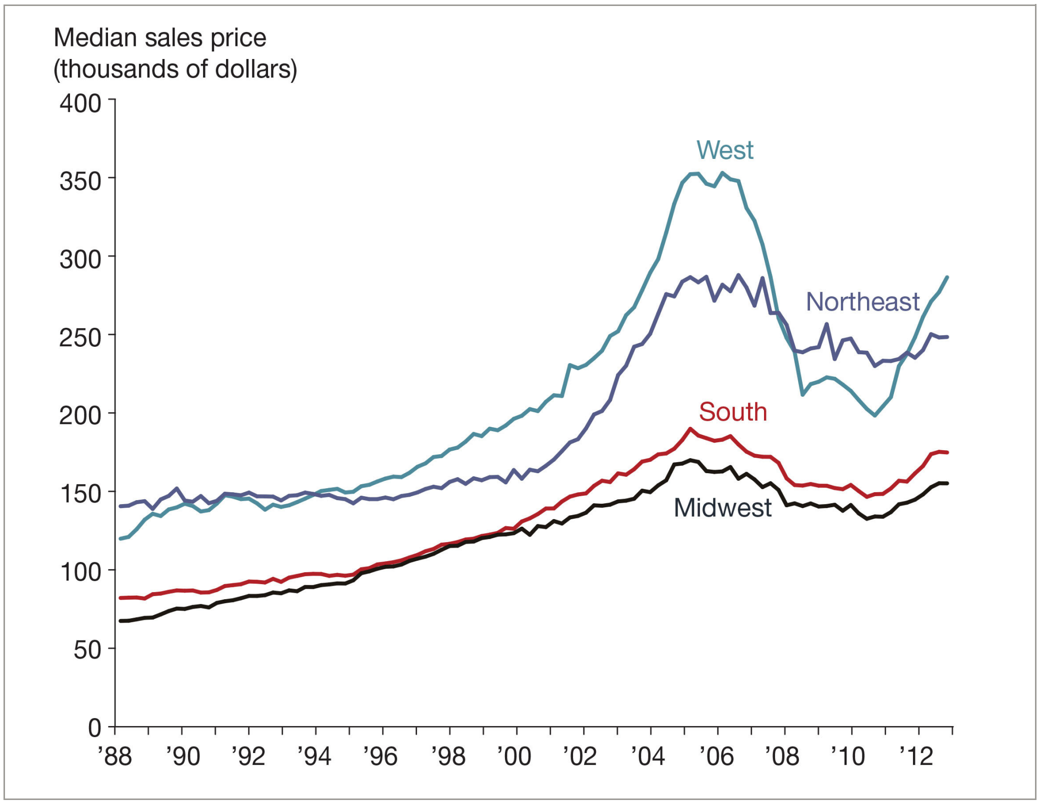
Chart 2:
Sales Price for Single-Family Home More Volatile in Coastal Regions



SOURCE: National Association of Realtors, with Haver seasonal adjustments.

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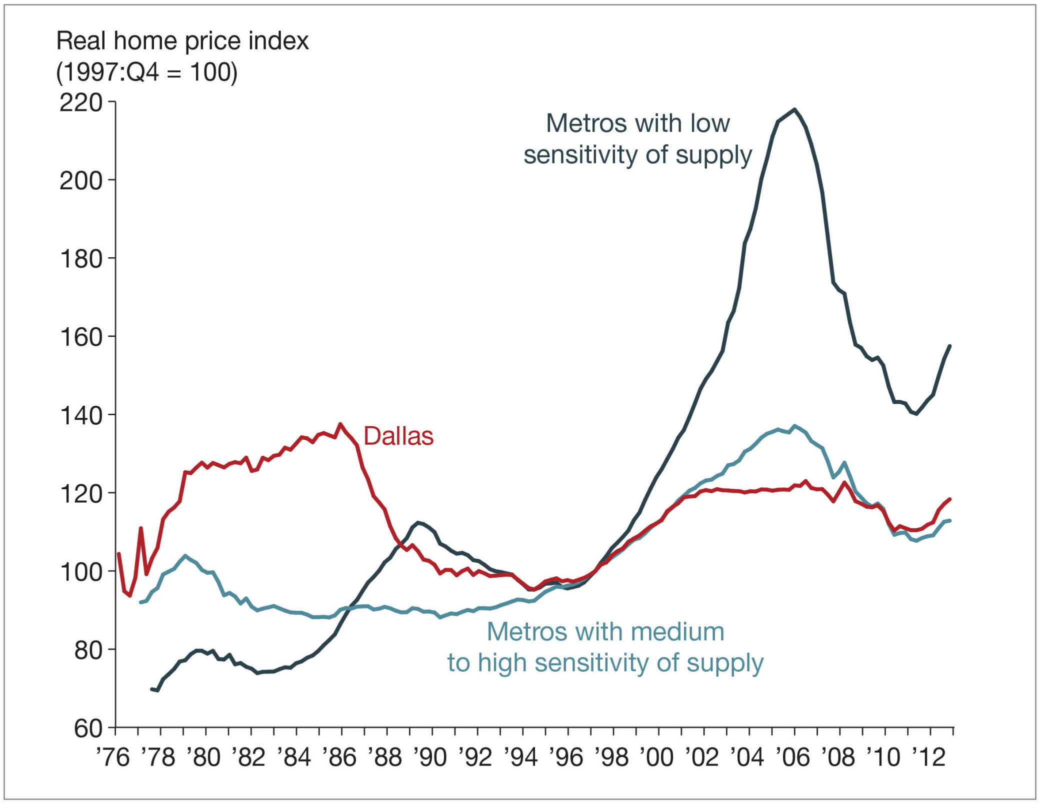
Chart 3:
Dallas House Prices in Line With Those of Metros Showing High Sensitivity of Housing Supply



SOURCES: Federal Housing Finance Agency; Bureau of Economic Analysis; "The Geographic Determinants of Housing Supply," by Albert Saiz, *Quarterly Journal of Economics*, vol. 125, no. 3, 2010, pp. 1253–96; author's calculations.

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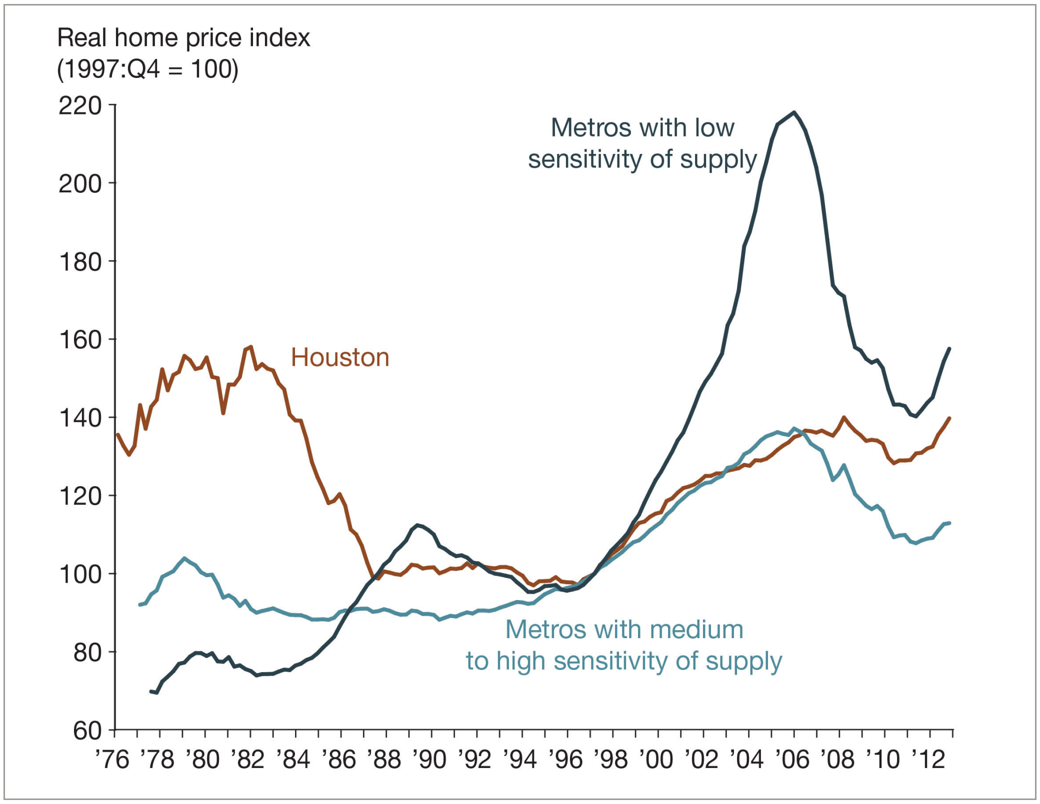
Chart 4:
House Prices in Energy-Driven Houston Outpace Those of Metros Displaying High Sensitivity of Housing Supply



SOURCES: Federal Housing Finance Agency; Bureau of Economic Analysis; "The Geographic Determinants of Housing Supply," by Albert Saiz, *Quarterly Journal of Economics*, vol. 125, no. 3, 2010, pp. 1253–96; author's calculations.

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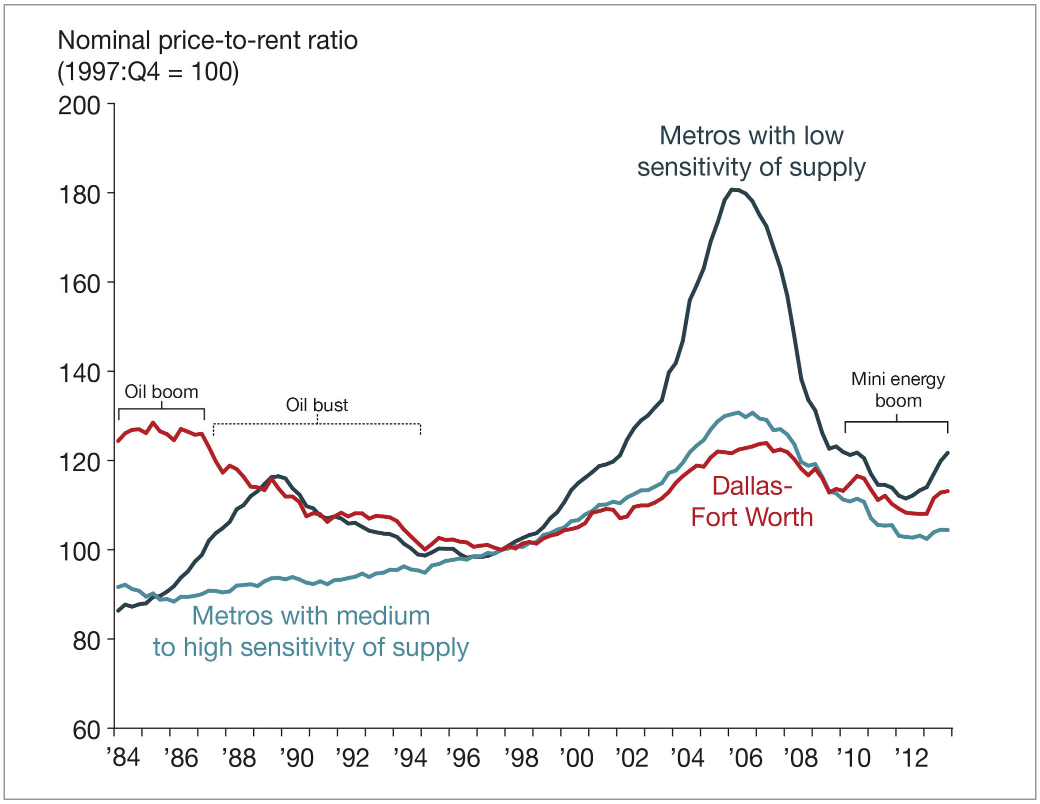
Chart 5:
Price-to-Rent Ratios in Dallas Now Near Those of Major Metros With Medium to High Sensitivity of Supply



SOURCES: Federal Housing Finance Agency; Bureau of Labor Statistics; "The Geographic Determinants of Housing Supply," by Albert Saiz, *Quarterly Journal of Economics*, vol. 125, no. 3, 2010, pp. 1253–96; author's calculations.

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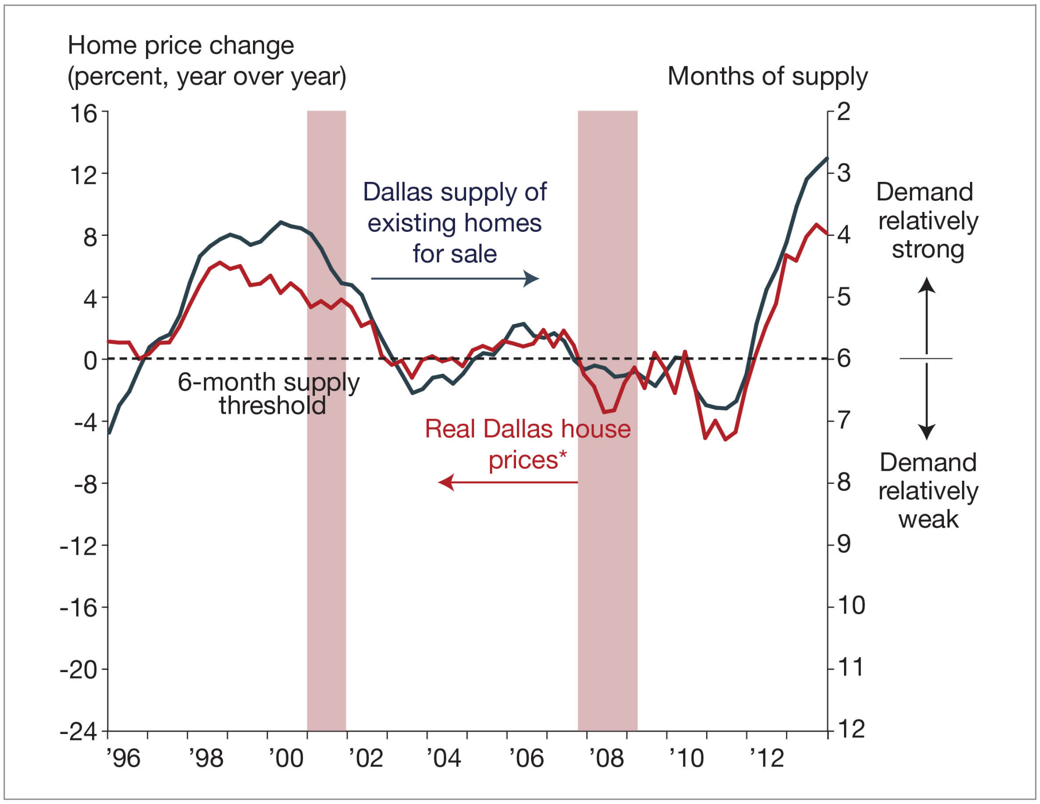
Chart 6:
Low Inventories Consistent With Rising Inflation-Adjusted House Prices in Dallas



*Seasonally adjusted

NOTE: Shaded bars indicate recessions.

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

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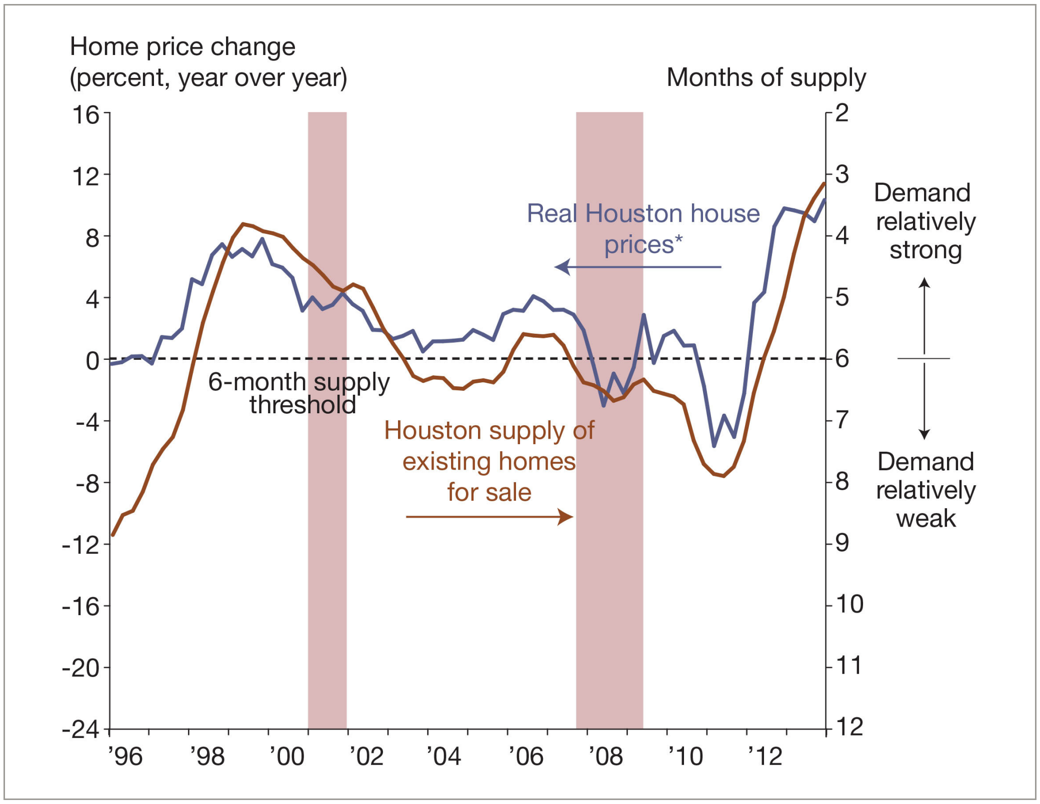
Chart 7:
Low Inventories Consistent With Rising Inflation-Adjusted House Prices in Houston



*Seasonally adjusted

NOTE: Shaded bars indicate recessions.

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

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Table 1:
Metro House Price Changes Since 2006 Reflect Affordability, Unemployment

	Housing Opportunity Index*			Home price change 2006:Q4-2013:Q4 (percent)	Unemployment rate December 2013 (percent, seasonally adjusted)
	2000:Q1	2006:Q4	2013:Q4		
U.S.	63	42	65	-8	6.7
Pacific and Atlantic coastal metros					
Los Angeles	40	2	21	-21	9.2
New York	42	5	23	-14	7.8
San Francisco	10	8	14	+17	5.0
Miami	59	10	52	-32	7.5
Chicago	62	47	66	-21	8.6
Non-Atlantic southern metros					
Atlanta	75	68	77	-8	7.1
Dallas	65	62	60	+18	5.9
Houston	66	56	60	+33	5.9

*The Housing Opportunity Index is the percentage of homes sold in an area that are defined as affordable to families earning the median income of that area, assuming they finance home purchases using 30-year conventional mortgages with a 10 percent down payment and that the resulting mortgage payments are no higher than 28 percent of median income.

SOURCES: National Association of Home Builders/Wells Fargo Housing Opportunity Index; Federal Housing Finance Agency purchase-only, seasonally adjusted home price index; Bureau of Labor Statistics.

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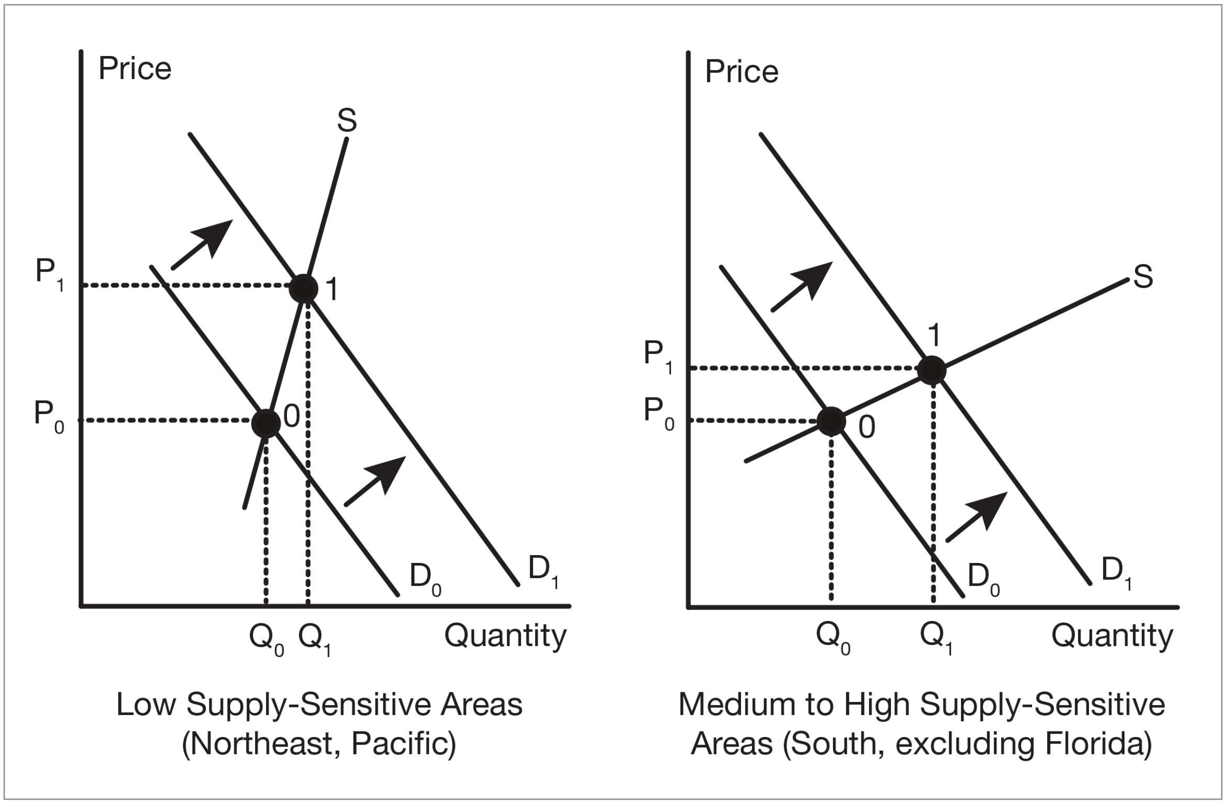
Supply Conditions Affect House Price Response to Higher Demand



The left-hand panel shows a relatively steep supply curve for areas where land is less plentiful, and the right-hand panel shows a relatively flat supply curve for areas where supply is highly sensitive to prices.

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Video: Region's Economic Prospects Propel New Demand

The region's strong economy attracts job seekers and enhances housing demand. A planned national consolidation of State Farm Insurance operations to the Dallas suburb of Richardson, Texas, exemplifies the impacts.

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http://www.dallasfed.org/microsites/fed/annual/2013/e2.cfm