

A Reprint from *Tierra Grande*

WHEN DATA COLLIDE

By JAMES P. GAINES



Conflicting real estate data seem to be the norm rather than the exception, especially when markets change rapidly. Lately, national services report widely varying changes in home prices around the country and within Texas. The reports are often more confusing than helpful.

So what are home prices in Texas doing? Are they increasing, decreasing or staying relatively constant? The answer depends on which measure is used.

Fortunately, over time and within a reasonable range, the trends tend to be generally similar. But in the short run, they can often be divergent.

Home Price Measurement Methods

Several home price sources receive the majority of attention and reporting. These sources measure price trend data in different ways with sometimes widely differing results. There is no official nationwide home price reporting system (as is true for most real estate and housing-related series). States differ substantially in required sales reporting, so all of the measures are limited in one way or another, with little or no segmentation by the type, purpose or nature of the transactions or by variations in property characteristics.

Over the years, two primary methods of measuring home price trends have evolved. The simplest method uses the rate of change in the average or median price of current sales to measure trends. Usually, this method is tied to sales reported through a local Multiple Listing Service (MLS) and may be defined by price per square foot, by local geography, by new versus existing home sales or some other property characteristic, depending on data availability.

The National Association of Realtors (NAR) and the Real Estate Center report average and median prices for sales occurring through a local MLS. The Census Bureau reports median and average prices for new homes.

The second most common method is by matched-pair repeat sales. This technique requires an extensive database of properties over a long period (perhaps decades) and measures the change in price or appraised value of the same property each time it is sold or refinanced. Percent change is computed based on the elapsed time between events or by the change in a computed price index.

Both techniques have advantages and disadvantages. Both rely on the accuracy and scope of current sales reported and the extent of data about the property and the transaction. Distressed sales, foreclosure sales and other non-arms-length transactions can affect either measure's overall effectiveness. For these reasons analysts typically edit the sales data in an attempt to achieve greater accuracy and consistency.

The change in average or median price is simpler and easier to understand but suffers from its dependency on the nature of current sales and market conditions. During a given period, sales could be dominated by lower- or higher-priced properties or by new versus existing properties. Sales could be concentrated geographically or unduly influenced by other temporary conditions to give a misleading indication. Such conditions might include:

- a short-term interest rate drop,
- builders offering major concessions or

- a simply coincidental higher number of sales in a specific price range.

Each period (typically a month or quarter) is reported independently so a true trend can be discerned only after several periods.

An aggregate average or median price also fails to reflect potential differences within submarkets. New homes, for example, may have a higher or lower average or median price (or price per equal foot) than existing homes and, more significantly, may be trending in a different direction or at a different rate. Homes in one geographic area may be increasing in value while in another area values may be falling. In today's complicated mortgage market, higher-priced homes relying on Fannie Mae–nonconforming conventional financing may trend differently than modest- or low-priced homes that rely on conforming loans.

Home price indexes similarly have technical and data problems that affect their reliability. Indexes are more complicated

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mathematically and often difficult to interpret. While the repeat sale technique theoretically accounts for qualitative differences by measuring the change in the price of the same property, the longer the time between sales, the greater the probability of a real difference in the property.

Further, an index that relies on appraised values from refinancing introduces potential inaccuracy from the appraisal process. Obviously, the repeat sales method does not include new home sales and also does not include differences by location, age, size or other market dynamics unless separate indexes are estimated.

Primary sources of home price trend information are:

- Local Realtor Associations (and the Real Estate Center at Texas A&M University)
- National Association of Realtors (NAR)
- Federal Housing Finance Agency (FHFA) Home Price Index (HPI)
- Standard & Poor's/Case-Shiller Home Price Index
- U.S. Census Bureau
- Federal Home Loan Mortgage Corporation (FHLMC) Conventional Mortgage Home Price Index (CMHPI)
- National finance companies (First American Core-Logic, for example)

Table 1. Alternative Sources of Home Price Data

Measure	Methodology	Home Type	Frequency	Geography	Data
Local Realtor Associations	Average and median price	Existing	Monthly	Local MLS area	Current sales
NAR	Average and median price	Existing	Monthly	Regions and metro areas (quarterly)	Current sales
FHFA HPI	Matched pair repeat sales	Existing	Quarterly	Divisions, states, metro areas	Conventionally financed sales and appraisals
FHFA P-O	Matched pair repeat sales	Existing	Quarterly	National, states	Conventionally financed sales
S&P/Case-Shiller	Matched pair repeat sales	Existing	Quarterly	20 selected metro areas	Sample of current sales
Census Bureau	Average and median price	New	Monthly	Regions (quarterly)	Survey of new home sales
Census Bureau Constant Quality Index	Hedonic	New	Quarterly	Regions	Survey of new home sales
FHLMC CMHPI	Matched pair repeat sales	Existing	Monthly	Divisions, states, metro areas	Conventionally financed sales and appraisals
First American CoreLogic Home Price Index	Matched pair repeat sales	Existing	Monthly	States and core based statistical areas and selected counties	Sales within their portfolio database

Sources: Indexes listed and Real Estate Center at Texas A&M University

Table 2. Home Price Series and Indexes Sample Coverage

	High-priced properties included	Conventional loans only	Refinanced properties included	Condos included	Repeat sales included
FHFA HPI	No	Yes	Yes	No	Yes
FHFA P-O	No	Yes	No	No	Yes
S&P/Case-Shiller	Yes	No	No	No	Yes
Census Median New Home Price	Yes	No	No	No	No
NAR/MLS Median Existing Home Price	Yes	No	No	Yes	No
FHFB Average Home Sales Price	Yes	No	No	Yes	No
Census Constant Quality Home Price	Yes	No	No	No	No
FHLMC Conventional Mortgage Home Price Index	No	Yes	Yes	No	Yes

Sources: Freddie Mac, 2008, "A Comparison of House Price Measures" and Real Estate Center at Texas A&M University

All sources (Table 1) offer realistic price change indications but are limited by their methodology or data included.

Local MLSs and NAR report the average and median prices of sales from the previous month. Some local services provide average and median prices by type of property, age of property or some other characteristics; others do not.

NAR reports condo sales separately as well as a composite by region. The data do not differentiate sales by type of financing or other characteristics of the property, such as by buyer and seller motivations or by the nature of the transaction.

Most large, local listing services provide price data by geographical area, either zip code or local MLS areas defined by the local association. Changes in average and median prices give a general indication of the trend in home values, but this measure relies completely on the composition of the properties that happen to sell during the period covered. Also, reported

closings typically occur 30 to 60 days after the agreement to sell is signed, which is when the price was agreed upon.

The FHFA HPI is a broad measure of the movement of single-family house prices. The HPI is a weighted, repeat-sales index, meaning that it measures price changes in repeat sales or refinancing on the same properties. The data are obtained from repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975. The FHFA HPI does not include any FHA- or VA-financed homes.

The S&P/Case-Shiller Index is similar to the FHFA index but samples different sales data and edits the sales to eliminate prices believed to not reflect market value or to contain obvious or suspected data errors. The FHLMC CMHPI and the First American CoreLogic HPI employ a similar repeat sales technique applied to their specific sales data set. The website for each index provides extensive explanations and descriptions

Table 3. Annual Percent Change (2008–2009)

Measure	U. S.	Texas	Austin	Dallas	Houston	San Antonio
NAR/REC Current Median Home Price ¹	-14.9	-2.8	-0.9	-4.8	-1.0	-3.6
NAR/REC 12-Month Moving Average Median Home Price ¹	-11.3	-2.2	0.0	-3.7	-2.2	-0.7
FHFA HPI ²	-3.4	2.1	1.5	2.2	3.8	1.7
FHFA P-O Index ²	-7.1	-0.6	NA	-0.1	-1.3	NA
S&P/Case-Shiller Index ³	-19.1	NA	NA	-5.6	NA	NA
First American CoreLogic HPI ⁴	-12.6	1.4	2.3	0.9	3.0	-0.6
FHLMC Conventional Mortgage Home Price Index ⁵	-4.0 -8.4	2.7	1.6	3.0	4.5	1.9

¹ NAR for U.S. median price; Real Estate Center at Texas A&M University for state and local median prices as of April 2009.

² 1Q2009; Federal Housing Finance Agency (FHFA) replaced Office of Federal Housing Enterprise Oversight (OFHEO) in 2008. Purchase-only index values are not seasonally adjusted.

³ Case-Shiller covers only 20 selected metropolitan areas; the U.S. figure is the reported composite for the 20 areas. Percentages shown are as of March 2009.

⁴ March 2009 percent change in the First American CoreLogic HPI series.

⁵ FHLMC data are for 1Q2009. U.S. rates reflect the total index and the purchase-only index respectively; all others are changes for the total index.

Sources: Indexes listed; compiled by Real Estate Center at Texas A&M University

of the statistical techniques employed. Data and home prices included in each source are shown in Table 2.

Current U.S. and Texas Home Price Trends

At the national level, there is little question that home prices have declined significantly for more than a year. The most recent indices, the NAR March median price, the S&P/Case-Shiller Index, the FHFA purchase-only index and the First American Index indicate overall declines of 14.9 percent, 19.1 percent, 7.1 and 12.6 percent, respectively (Table 3). The NAR 12-month moving average, which removes seasonality from the monthly median price data, indicates an 11.3 percent decline in U.S. home prices. The NAR monthly decline may be overstated as the median price measures include a substantial amount of foreclosure activity (as much as 45 percent according to some reports).

Unlike FHFA, which covers the entire country and reports the smallest decline, the Case-Shiller Index includes only 20 major metropolitan areas, most of which experienced the brunt of the housing turmoil (markets where the boom was greatest and the bust has been the deepest), and therefore tends to depict the greatest variation in the total change.

The price change data vary considerably for Texas. The most recent data suggest that Texas home prices are changing at an annual rate somewhere between -2.8 percent and +2.7 percent. The short-term (monthly) data suggest generally falling home prices as measured from fourth quarter 2008.

Results for major Texas metro areas are also mixed. The current median prices reflect overall decline, but the index values from FHFA, First American and FHLMC are more favorable, with generally positive value changes. The Case-Shiller Index value for Dallas (the only Texas city included) showed the largest annual decline at -5.6 percent.

Recent median prices from NAR and local real estate associations include a substantial number of foreclosure and distress sales, which may account for the significant percentage declines in the reported medians. The price indexes measured by FirstAmerican, FHLMC and FHFA, however, are not as susceptible to foreclosure and distress sale data and therefore look far more positive.

As the data for Texas and its metro areas reveal, there is no single measure or source of home price changes that is right or wrong. The alternative sources use different data and measure change in different ways to address the changes in the market. As markets experience more pronounced short-term changes, the various measures will vary by greater amounts.

At times one particular market circumstance may render one technique more or less meaningful than another, but over time they do tend to come together. For example, since 1990, the percentage change in the Texas median price and the reported percentage change in the FHFA HPI have both been around 4.1 percent per year. ➔

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THE TAKEAWAY

Tracking trends in home prices is a challenge because methods of measuring price changes differ widely. Some methods track only new homes sales, while others track both new and existing homes. Some do not include distressed property sales. In the end, results of any one method may be skewed.



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