

House price indexes—seasonality matters! Econoday Short Take – October 28, 2009

R. Mark Rogers, Senior U.S. Economist, Econoday



House prices—heightened market attention

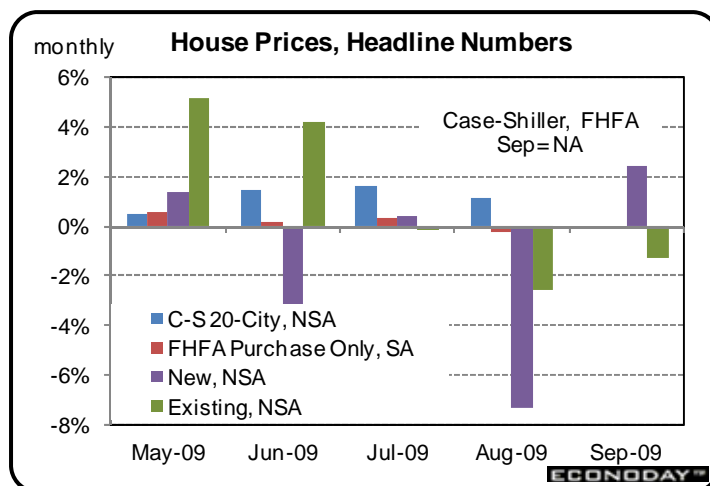
The bursting of a housing bubble led the U.S. and many economies around the world into financial crisis and recession. A recovery in housing is seen as necessary for both economic growth and the financial system to return to full strength. Key measures getting market attention are home price indicators because they show whether housing demand is healthy and whether homeowners have regained lost equity. Also, firmer house prices are needed to boost home sales because many pending home sales have fallen through as appraisals fall short of the price needed to cover the mortgage.

What has been the direction of home prices recently and have the markets been missing key information?

The big four indicators

The four main indicators for house prices are median prices as found in the National Association of Realtor's existing home sales report, median prices from the Commerce Department's new home sales report, purchases only index from the Federal Housing Finance Agency (FHFA), and the Standard & Poor's Case-Shiller Home Price Index.

The most current home price series are for existing homes and new homes. Last week it was announced that median prices for single-family existing homes fell 1.2 percent in September, following a 2.5 percent drop the month before. This negative news on prices more than offset a 9.4 percent surge in sales of existing home sales, leading in part to weakness in stock indexes that day.



In contrast, median prices for new homes sold, rose 2.5 percent in September after a revised 7.3 percent drop in August.

Other recent news on house prices has been mixed. August numbers were down for median prices for new homes and for the FHFA purchase only index—down a sharp 9.5 percent (month-ago) for the first and down 0.2 percent for the latter. The Case-Shiller 20-City Home Price Index for August was up for the fourth month in a row, including a 1.2 percent gain in August. The FHFA and Case-Shiller reports lag the other two by a month.

What's different?

These four headline numbers have some big differences between each other. First, only the FHFA index is seasonally adjusted. Case-Shiller has released seasonally adjusted numbers in its detail tables for a number of months but not in the news release—until October 27, 2009. Apparently, the Case-Shiller folks have finally realized that there is sizeable seasonality in home prices over the year and with heightened market sensitivity to home price news, it is time to bring seasonally adjusted home prices to the forefront.

There is another key difference between the four indicators. Only the FHFA and Case-Shiller indicators are based on repeat transactions. These indicators directly compared price changes for same houses. The new and existing home sales reports base median prices on whatever the mix of sales are for a given month. Some months, low end sales may dominate more than usual and other months, high end

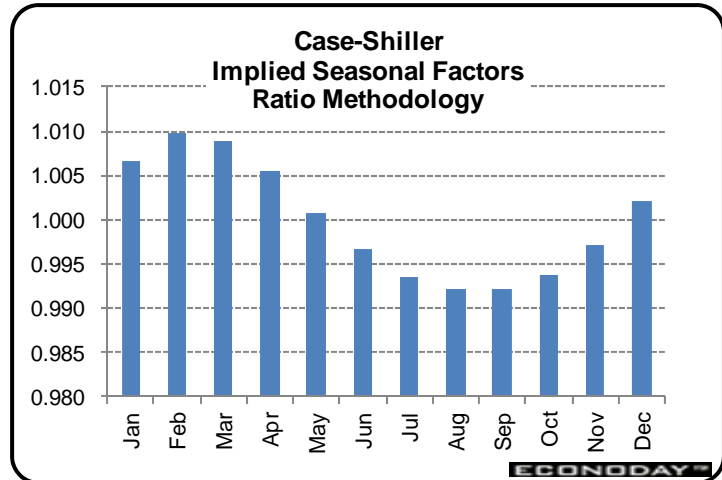
sales may take on a larger share. So, for these two series, the mix of sales by type of house and price range affects the median price—also making these two series relatively volatile.

Finally, the FHFA series is limited to sales that are originated or securitized by a federal housing agency.

Let's talk about seasonality in house prices

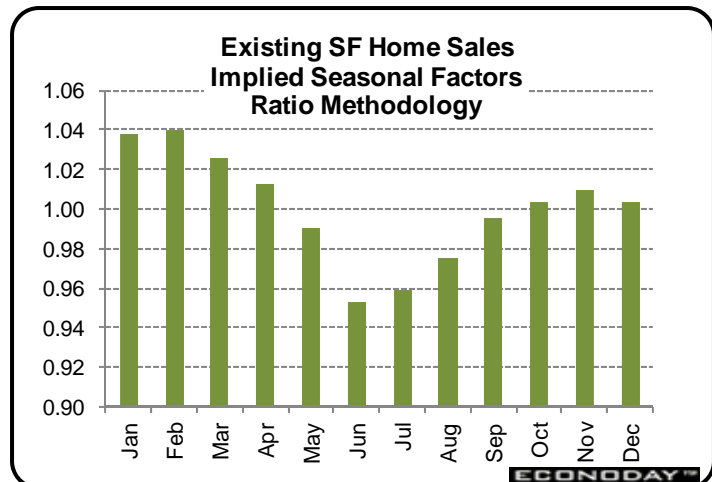
Any realtor will tell you that business for home sales is a lot better in late spring and through late summer—which is prime moving season with school not in session. This boost in seasonal demand passes through to prices. Also, housing sales dip in winter months because homebuyers do not enjoy shopping in snowy or very rainy weather. If you want to sell your house in the winter, you are likely going to have to make a price concession.

What do seasonal factors look like? There is more than one way to seasonally adjust economic time series. One way is to see what any month's (all Januarys, all Februarys, etc.) levels compare to a trend or average level. Seasonal adjustment would (as an oversimplification) convert not seasonally adjusted numbers by dividing them by the typical proportion they are of the average level.



This chart to the right shows implied seasonal factors for the Case-Shiller 20-City Home Price Index. It is the ratio of the seasonally adjusted indexes divided by the not seasonally adjusted indexes, averaged over the 2000 through 2008 period. The seasonal factors are above “1” during winter months because actual prices are typically below then annual average those months and the factors are below “1” during summer months since not seasonally adjusted Home Price Indexes are typically above trend those months. The seasonal adjustment factors discount typical seasonal strength and weakness so what are left are cyclical movement—and also irregular movement—in the data.

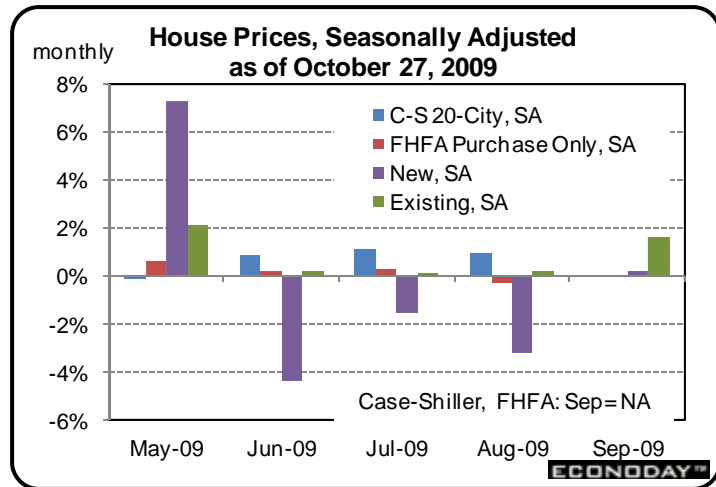
One can also look at the implied seasonal factors for existing home sales median prices as seen to the right. The pattern for new single-family existing home sale median prices is similar to those for Case-Shiller. However, there is a sharper drop in the implied seasonal adjustment factor in June (meaning a higher jump in not seasonally adjusted data). Also, the seasonal strength recedes faster for the median home price series over the summer and through September than for Case-Shiller. This quicker monthly change can impact the difference between the headline median existing price for September versus a seasonally adjusted one.



Seasonally adjusted home prices in recent months

Even though neither the NAR nor the Commerce Department seasonally adjusts their median home price series, there is significant seasonality (and also significant irregular movement). One can seasonally adjust those numbers with standard software based on the Census Bureau's X-11 or X-12 seasonal adjustment procedure. Econoday shows seasonally adjusted numbers in the following chart using X-11.

After seasonal adjustment for September, the median price for single-family existing home actually rose 1.7 percent instead of falling 1.2 percent according to the headline number. So, financial markets may have had a different take on the existing home sales report if the price series had been seasonally adjusted.



The latest number for median prices for new home sales rose 0.2 percent in September, following a 3.2 percent decline the month before. Here, seasonal adjustment smoothed some of the recently sharp swings in prices. The seasonally adjusted fall in August was not as severe as unadjusted. But the seasonally adjusted rise in September was not as strong as the unadjusted boost.

We already have seen that the FHFA seasonally adjusted index—used as a headline number—slipped 0.2 percent in August. But the Case-Shiller seasonally adjusted numbers have been up three months in a row.

Overall, home prices were not as strong or as weak, depending on the home price indicator, as some believed over the summer but it also appears that prices are not softening in late summer and may well still be edging up. Both the existing and new home sales price measures are up in September. Two of the four price measures were up in August; three of four were up in May, June, and July.

Bottom Line

Home prices are still soft. On a year-ago basis, prices are still down roughly 8 to 12 percent, depending on the price measure. But the seasonally adjusted evidence suggests that home prices on average have hit bottom and have turned up. Nonetheless, that finding is at risk if homebuyer tax credits are not extended. Also, rising unemployment and foreclosure rates indicate that home price gains are going to be slow for some time.

