

HIGHLIGHTS - Part 2

Foreclosures and House Prices

The number of foreclosures in the U.S. has risen sharply in the last two years. During the preceding housing market boom, foreclosure rates were at very low levels, in large part because financially strapped homeowners could easily sell their homes or refinance their mortgages. With the significant market deceleration and the more recent tightening of lending policies, those options have become harder to exercise in recent quarters.

This Highlights article discusses the relationship between foreclosure activity and changes in home prices. A strong positive correlation between foreclosure filings and price declines is shown across the 50 states and the largest 100 metropolitan areas in the U.S. Using zip-code level foreclosure data, the analysis then looks within several high-foreclosure cities to determine whether prices in neighborhoods with particularly high foreclosure activity show greater price weakness. Although one might expect such neighborhood-level effects to be present, the limited empirical review suggests that price declines have been quite similar for high-foreclosure neighborhoods as compared to other areas.

Background: The Home Price-Foreclosure Relationship

The causal relationship between home prices and foreclosures is two-directional: high foreclosure activity can both cause and be caused by home price declines. Home price declines can cause foreclosures by decreasing the equity homeowners have in their properties. Mortgagors are much more likely to default on their loans if the current value of their property falls below the outstanding loan balance (i.e., their equity is zero or less). Declines in home prices will increase the frequency with which homeowners find themselves with no equity and thus may be motivated to “walk away” from the property and the mortgage.

Home foreclosures contribute to weakening prices by introducing additional supply to the inventory of unsold homes. Compounding this influence is the fact that the sellers of foreclosed homes, frequently creditors, may be strongly averse to holding onto the property for an extended period of time. As a result, they may be willing to sell for lower prices than resident homeowners.

Cross-Sectional Comparison of Appreciation and Foreclosure across States and Cities

The upshot of the interrelatedness of foreclosures and house price changes is that the empirical evidence should reveal sharp differences in measured appreciation for states and cities with higher foreclosure rates. Figures 1 and 2 in fact show such differences.

Figure 1 plots recent appreciation rates and foreclosure filings by state since the third quarter of 2006. The bars reflect the relative intensity of foreclosure activity for states, where intensity is defined as the ratio of statewide foreclosure filings to the number of households.¹ The blue

¹ The total number of foreclosure filings includes data from five quarters: 2006 Quarter 3 – 2007 Quarter 3.

squares show house price appreciation between the third quarters of 2006 and 2007. OFHEO's "purchase-only" price index, which is constructed exclusively with sales price data,² is used to estimate price changes.

The graph clearly depicts the negative correlation over the latest year. With few exceptions, states with the lowest appreciation (i.e., greatest depreciation) tended to have the most foreclosure filings. For instance, Nevada had by far the greatest relative foreclosure activity and, at the same time, showed the third largest price decline. By contrast, states with relatively few foreclosure filings, including the Dakotas and Vermont, had relatively strong price growth of between 5 and 6 percent.

Figure 2 plots the same statistics as Figure 1, but does so for the 100 largest cities in the country. As might be expected, the cities with the greatest relative foreclosure activity are largely clustered in California, Nevada, Florida, and the Midwest, where price declines have been substantial. The twelve cities with the lowest foreclosure activity all evidenced four-quarter price increases, the lowest of which was 2.5 percent (i.e., nearly three-quarters of a percentage point above the national average).

Foreclosure and prices at the neighborhood level

Because home price trends can diverge significantly across different neighborhoods in a given metropolitan area, one might expect that the same foreclosure-price association observed in Figures 1 and 2 would be evident for smaller geographic aggregations. This analysis uses zip-code level foreclosure data to determine whether high foreclosure neighborhoods have shown greater price weakness than other areas in the same city. The five metropolitan areas with the greatest relative foreclosure activity since the third quarter of 2007, Detroit, Stockton, Las Vegas, Riverside (California), and Fort Lauderdale, are the focus of the analysis.³

RealtyTrac, a private supplier of detailed foreclosure data, has provided OFHEO with time series data reporting the number foreclosure filings by zip code since early 2006. These data are used to identify the five zip codes in each metropolitan area with the greatest foreclosure intensity since the third quarter of 2006. The intensity of foreclosures is defined as the ratio of total foreclosure listings to the number of sales in the zip code between 2001 and 2005.⁴ This "normalizes" the foreclosure information so that highest foreclosure areas are not simply zip codes with the greatest number of homes. Two indexes are then constructed and compared for each city: one calibrated with the "high foreclosure" zip codes and the other computed using all other zip codes in the metropolitan area.

Figure 3, which plots four-quarter price changes by quarter since 2000, shows the two indexes for Detroit, the city with the greatest foreclosure intensity. The graph depicts similar rates of price deceleration across "high foreclosure" and other areas in recent periods. Since the third

² Appraisals from refinance mortgages have been omitted from the modeling sample.

³ In most cases, these metropolitan area names are significantly abbreviated from their official designations. The full names are: Detroit-Livonia-Dearborn (a Metropolitan Division), Stockton, Las Vegas-Paradise, Riverside-San Bernadino, and Fort Lauderdale-Pompano Beach-Deerfield Beach (a Metropolitan Division).

⁴ Ideally, it would have been preferable compare total foreclosures to the housing stock in the zip code. Unfortunately, housing stock data were unavailable and thus sales activity is used as a proxy.

quarter of 2006, for example, prices fell 5.3 percent in the high foreclosure zip codes and 6.3 percent in other zip codes. Comparing prices in the first quarters of 2006 and 2007, the index estimates suggest that prices were 5.6 percent lower in high foreclosure areas and 3.6 percent lower in other neighborhoods.

Results for other cities are broadly consistent with the estimates for Detroit. Table 1 reports recent price changes for high foreclosure and other areas in Detroit and the four other cities with the most significant foreclosure activity. The empirical estimates suggest similar deceleration paths, with somewhat greater deceleration in areas outside of the high-foreclosure zip codes. Las Vegas is the only city in which prices deteriorated at a much greater pace for high-foreclosure zip codes. Prices fell approximately 5.4 percent over the latest four quarters in the most foreclosure-prone areas, more than double the pace of price declines elsewhere.

Comments and Conclusions

The failure of the neighborhood analysis to find localized effects contrasts with prior (more detailed) research studies showing a clear negative relationship between prices and foreclosures. Prior modeling efforts, for example, have used factor pricing models (known as hedonic models) and have found that individual property values decline with proximity to foreclosed homes.⁵

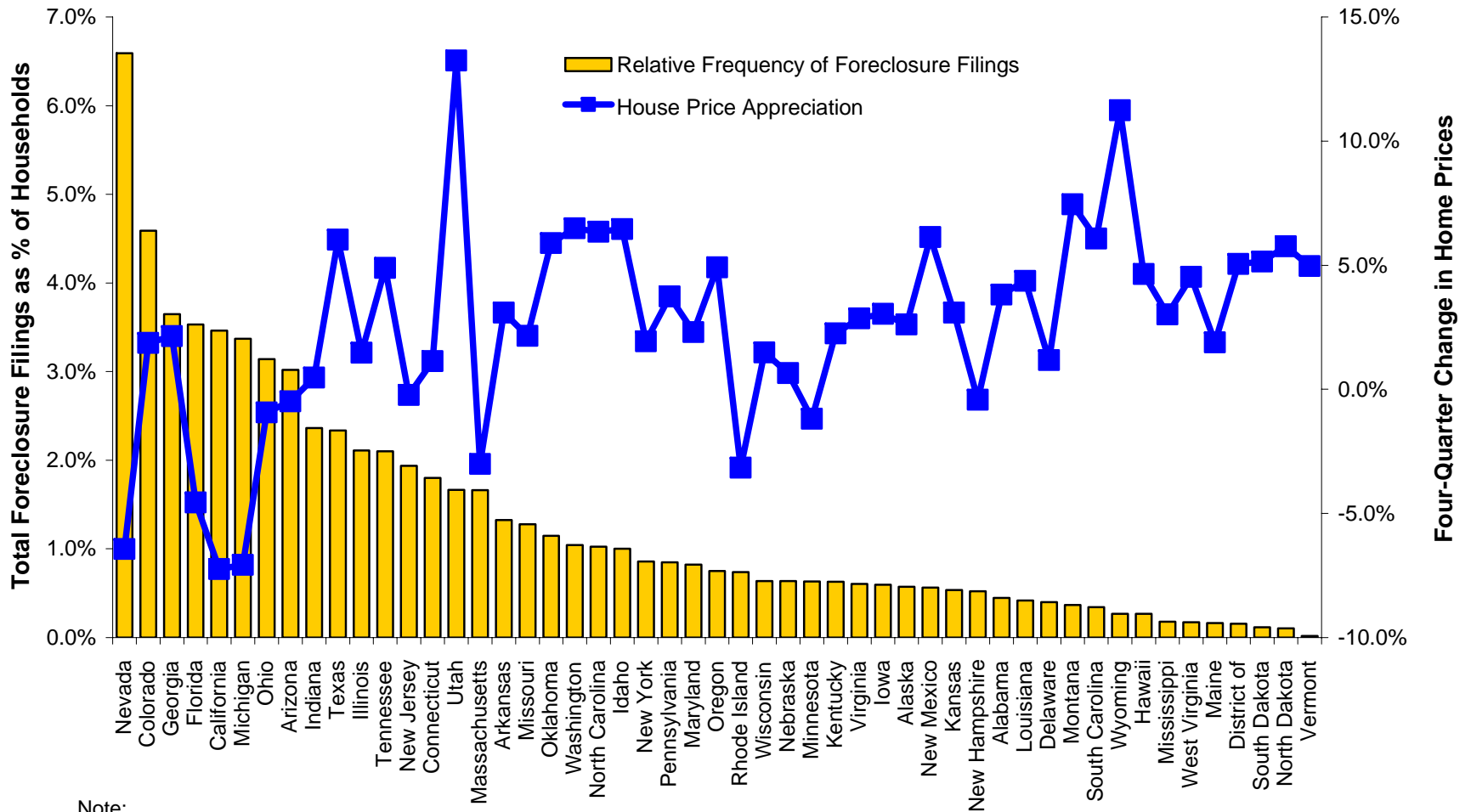
A number of confounding factors and measurement problems may explain the failure of the model to find the foreclosure-price relationship. One significant empirical issue is that a given zip code can cover a very large and quite diverse geographical area.⁶ Zip code-level indexes thus may hide divergent market trends for underlying areas. Another problem is that confounding demand and supply-side factors may be obscuring the relationship. A more rigorous analysis would need to control for short or long-term influences that may affect price and systematically differ between the high-foreclosure and other areas. For example, in four of the five cities, the high-foreclosure zip codes appear to have homes at the lower end of the price spectrum. Consequently, the smaller price declines for high foreclosure areas may simply reflect better market conditions at lower end of the price spectrum. Other confounding factors include market variables such as shifts in population, introduction of new housing supply, and variations in demand for homes at different distances to the city center.

In conclusion, it should be recognized that house prices are very hard to track in housing market downturns. Empirical evidence has consistently shown that homeowners are hesitant to sell their homes for losses, often leaving their homes on the market for long periods awaiting the “right” price. Price declines may appear muted, as inventories of for-sale properties grow sharply and the properties that do sell may not fully reflect price declines that have occurred. In this environment, if the inventory of unsold properties is relatively large in high-foreclosure areas, then it may take some time for the association between foreclosures and price trends to reveal itself within cities. The best empirical estimates will only become available after the market normalizes and excess inventory has been sold.

⁵ See, for example, Immergluck, Dan and Geoff Smith, “There Goes the Neighborhood: The Effect of Single-Family Mortgage Foreclosures on Property Values,” Woodstock Institute Report, June 2005 (available at: www.woodstockinst.org/content/view/104/47/).

⁶ Indeed, technically speaking, zip codes do not necessarily cover a contiguous geographic area.

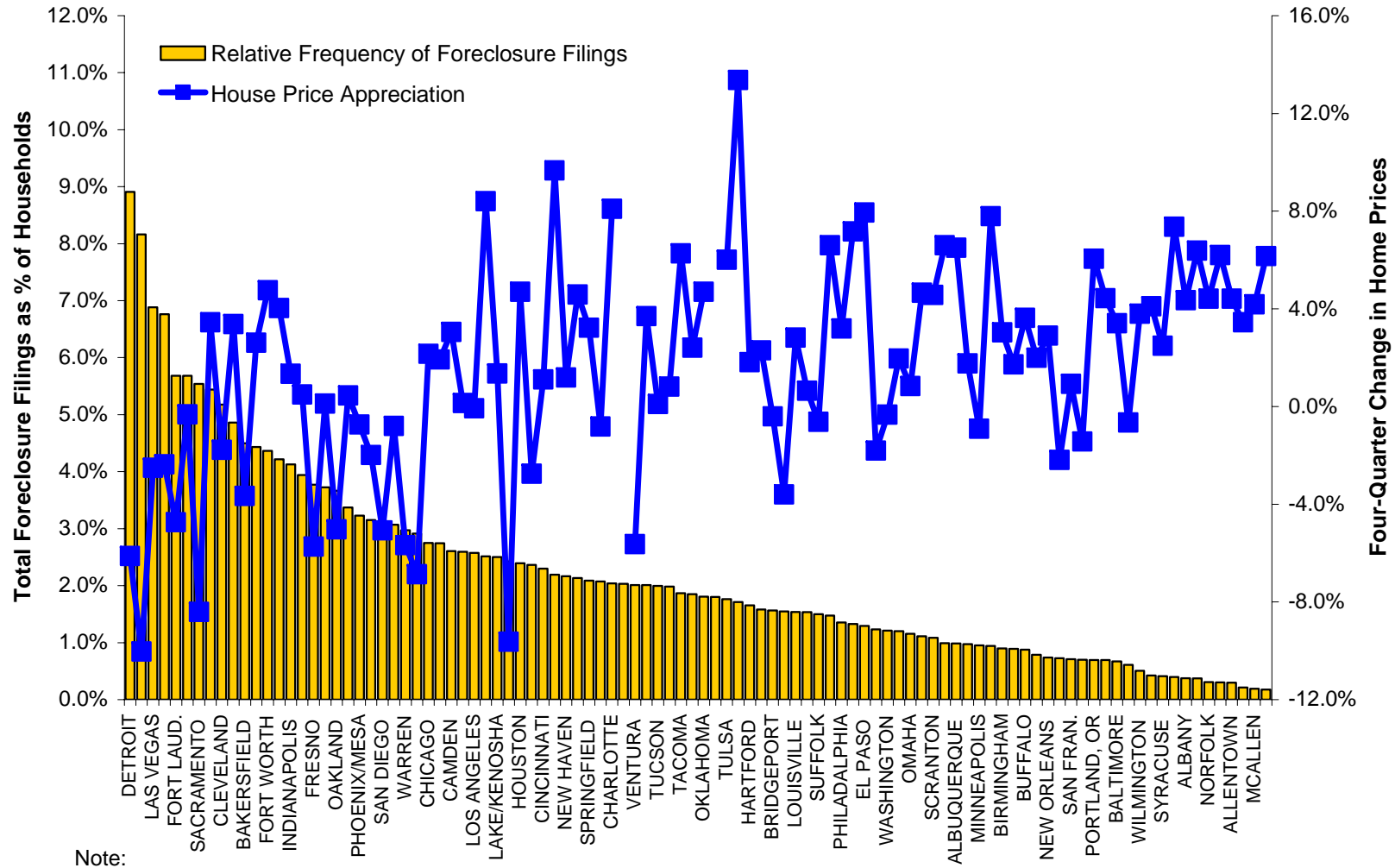
Figure 1: House Price Appreciation and Foreclosure Activity by State
2006Q3-2007Q3



Note:

1. Foreclosure data and household counts were supplied by RealtyTrac
2. OFHEO's "purchase-only" house price indexes are used to estimate appreciation (no appraisal valuations are used in index calibration).

Figure 2: House Price Appreciation and Foreclosure Activity for 100 Largest Metropolitan Areas
2006Q3-2007Q3



Note:

1. Foreclosure data and household counts were supplied by RealtyTrac.
2. OFHEO's all-transactions house price indexes are used to estimate appreciation.

Figure 3: Four-Quarter Appreciation Rates for High-Foreclosure and Other Zip Codes

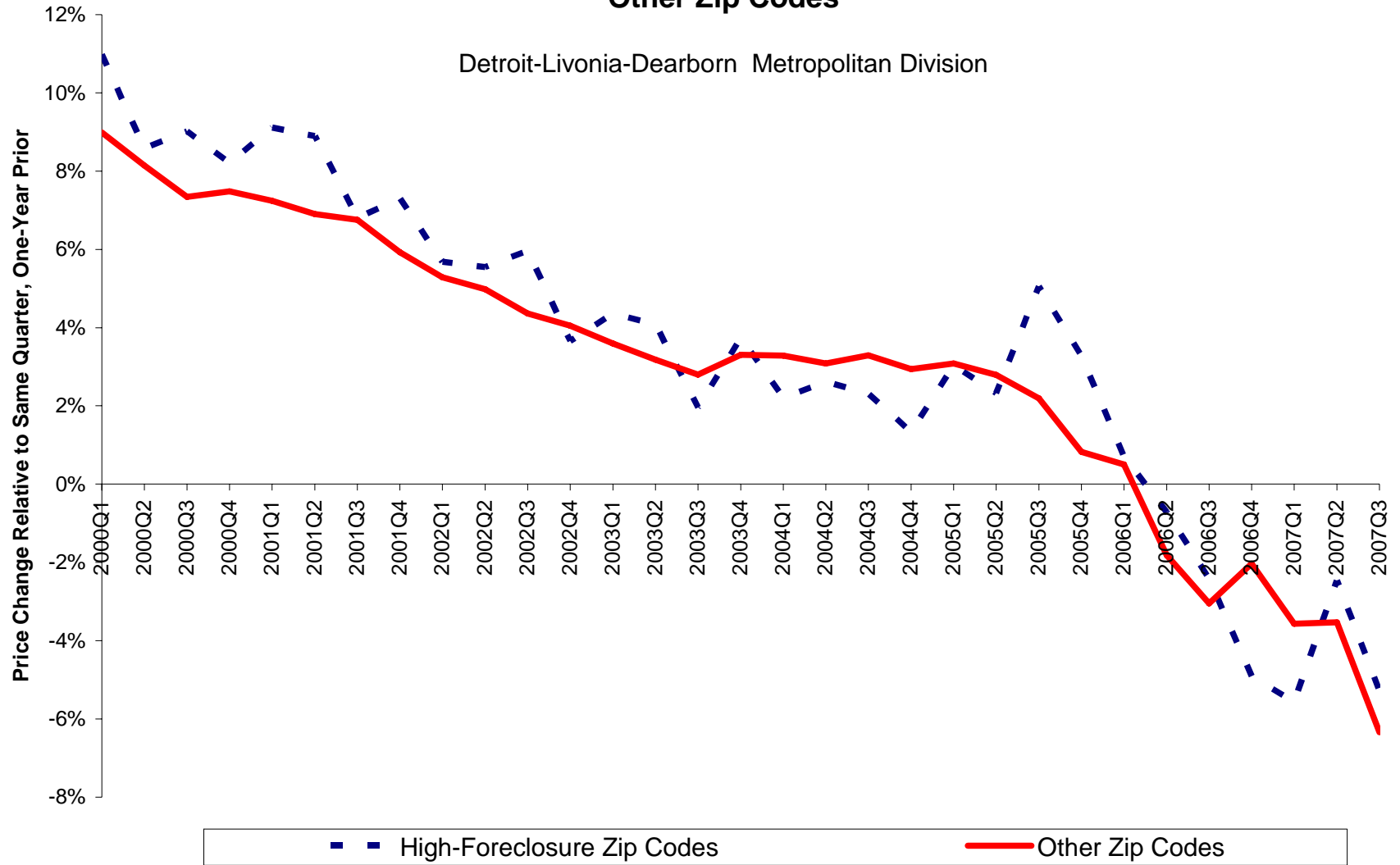


TABLE 1
Recent Price Trends for High Foreclosure and Other Zip Codes by Metropolitan Area

	Four-Quarter Price Change (2006Q3 - 2007Q3)		Two-Quarter Price Change (2007Q1 - 2007Q3)	
	High Foreclosure Zip Codes	Other Zip Codes	High Foreclosure Zip Codes	Other Zip Codes
Detroit (Metropolitan Division)	-5.3%	-6.3%	-0.2%	-5.8%
Stockton	-8.9%	-10.5%	-6.6%	-7.5%
Las Vegas	-5.4%	-2.3%	-3.8%	-2.5%
Riverside	-1.4%	-2.5%	-1.5%	-2.8%
Ft. Lauderdale (Metropolitan Division)	-1.7%	-5.1%	-5.7%	-4.3%