

Highlights

Over the past several years, particularly during the housing bust, price trends reflected in FHFA's house price indexes have diverged from those reported in other publicly available metrics. Housing bust price declines generally have been less severe when measured with the FHFA indexes as compared to the S&P/Case-Shiller indexes, the CoreLogic HPI, and the National Association of Realtors' median price series. These differences have been discussed in a number of research articles, including research papers written by FHFA.¹

A number of factors explain much of the divergence between the measures, with one of the critical causes being differences in data sources. While other measures make use of transactions price information reflected in county recorder data, the FHFA indexes are estimated using mortgage-level data supplied by Fannie Mae and Freddie Mac (the "Enterprises"). The transactions reflected in these data provide an extensive, though imperfect, indication of marketwide price trends by evaluating price developments for homes with conventional, conforming mortgages. Prices for such homes, all else equal, have held up better in the market downturn than homes with other types of financing.²

To improve public understanding of price trends in recent periods, FHFA has estimated an augmented set of indexes using both the Enterprise data and county recorder data it has licensed from DataQuick Information Systems ("DataQuick"). Home price information for houses purchased with FHA-endorsed mortgages also has been used in the estimation. The FHA data are supplied to FHFA by the Department of Housing and Urban Development on a quarterly basis to support fundamental research.

Using the same methodology used to produce the standard HPI,³ FHFA has constructed augmented House Price Indexes for the four states with the largest peak-to-current price declines: California, Arizona, Nevada, and Florida. The geographic coverage of the licensed county recorder data in these states is complete or nearly complete. Accordingly, with recorder and FHA data supplementing the usual Enterprise data, these indexes are estimated with a dataset that contains virtually every property transaction occurring in the state in the relevant periods.⁴ Appraisal data from refinance mortgages, information that is available in the Enterprise datasets and sometimes used for index estimation, is not used in the calculation of these indexes.

It should be noted that these augmented indexes are not the same as indexes that would be produced using only county recorder data. First, the Enterprise and FHA data generally extend back to earlier periods than are available in the licensed county recorder data. As a result, the combined dataset is able to make use of a longer time series of valuation data than a recorder-only series would use. Second, even for relatively recent periods when county

¹ See, for example, "Revisiting the Differences between the OFHEO and S&P/Case-Shiller House Price Indexes: New Explanations," OFHEO Research Paper, January 15, 2008, available at: www.fhfa.gov/webfiles/1163/OFHEOSPCS12008.pdf.

² See "Recent Trends in Home Prices: Differences across Mortgage and Borrower Characteristics," OFHEO Research Paper, August 25, 2008, available at <http://www.fhfa.gov/webfiles/1165/pricesandfinancing.pdf>.

³ See Calhoun, Charlie, "OFHEO House Price Indexes: HPI Technical Description" available at http://www.fhfa.gov/webfiles/896/hpi_tech.pdf.

⁴ The underlying repeat-transactions index uses sales price information for homes with multiple property transactions. As such, it should be recognized that sales prices for homes without multiple transactions, by construction, are not incorporated in the final estimation data.

recorder coverage is complete, unique transaction information is sometimes observed in the Enterprise and FHA datasets; corresponding county recorder transaction records cannot be found for all records in the Enterprise and FHA datasets.⁵

Figures 1 through 4 show seasonally adjusted quarterly price changes for the new series since the first quarter of 2000.⁶ For comparison purposes, also shown are price developments for the Enterprise purchase-only indexes, which are estimated using exclusively sales information from Enterprise-financed mortgages.

Three general observations can be made from the graphs. First, during the first five years of the decade, the series tracked each other relatively closely. Divergences are evident; for example, in Nevada in 2004, the augmented series shows much sharper price run-ups. The size of the divergences is generally small, however. Figure 5, for example, compares *levels* of the standard HPI and the augmented series for California. The peak values for both series are nearly identical.

The second notable phenomenon, which is clear in Figure 5 as well as the other graphs, is that the augmented indexes generally show significantly weaker price conditions than the standard Enterprise index during the early part of the bust. Consistent with the fact that FHFA's *national* index showed much greater strength than other *national* indexes did in that time frame, it is evident that the addition of the recorder and FHA data significantly depresses price change estimates in the four states in that period.

The third and final observation that can be made is that the price recovery in late 2009 and early 2010 was generally more pronounced in the augmented index than in the Enterprise-only series. The augmented series does not show strong price conditions, to be sure, but modest price increases were measured in some cases and price declines were generally relatively moderate.

In the latest quarter, which generally reflects conditions after the expiration of the mortgage tax credit, both measures show substantial price declines. The augmented series, in particular, estimates very large declines, especially in Arizona and Florida where prices fell by more than 5 percent on a seasonally adjusted basis. In analyzing the latest data, however, it should be recognized that index estimates can be revised significantly as new data become available.

The underlying index data used to construct Figures 1-4 are available for download at [here](#). FHFA is considering releasing similar augmented indexes in the future. If those data are released, they will be made available on the "Downloadables" page for HPI-related data: <http://www.fhfa.gov/Default.aspx?Page=87>.

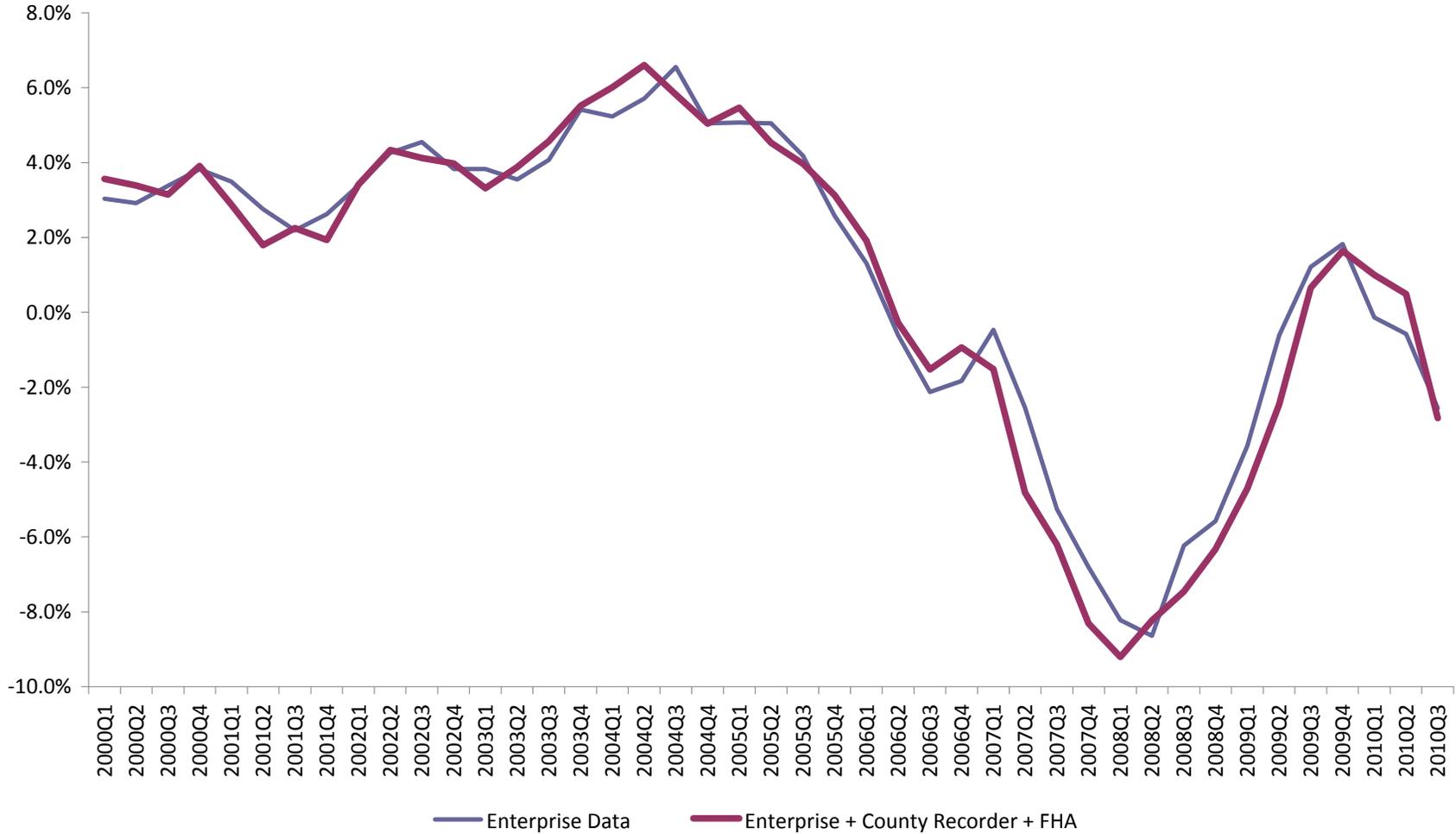
⁵ The difference between the sample sizes of the Enterprise+FHA+county recorder series and the recorder-only series tends to be around 5 percent in recent periods, with the former sample size of course being larger.

⁶ The indexes are seasonally adjusted using the Census Bureau's X-12 procedure, as implemented in SAS.

Figure 1: Quarterly Price Changes (Seasonally Adjusted) Since 2007Q1

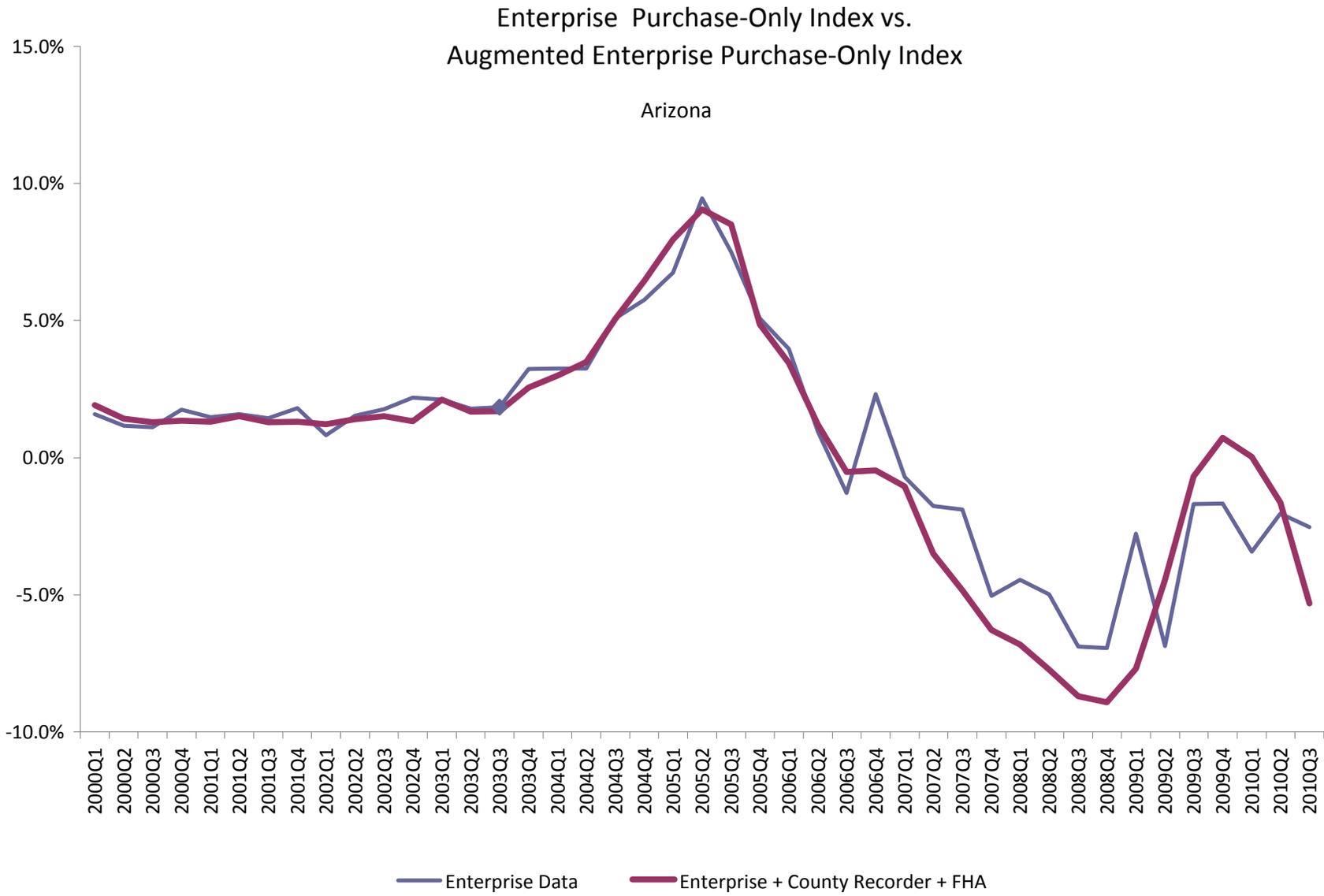
Enterprise Purchase-Only Index vs.
Augmented Enterprise Purchase-Only Index

California



Source: Fannie Mae and Freddie Mac HPI submissions, licensed county recorder data from DataQuick, mortgage-level data from FHA.

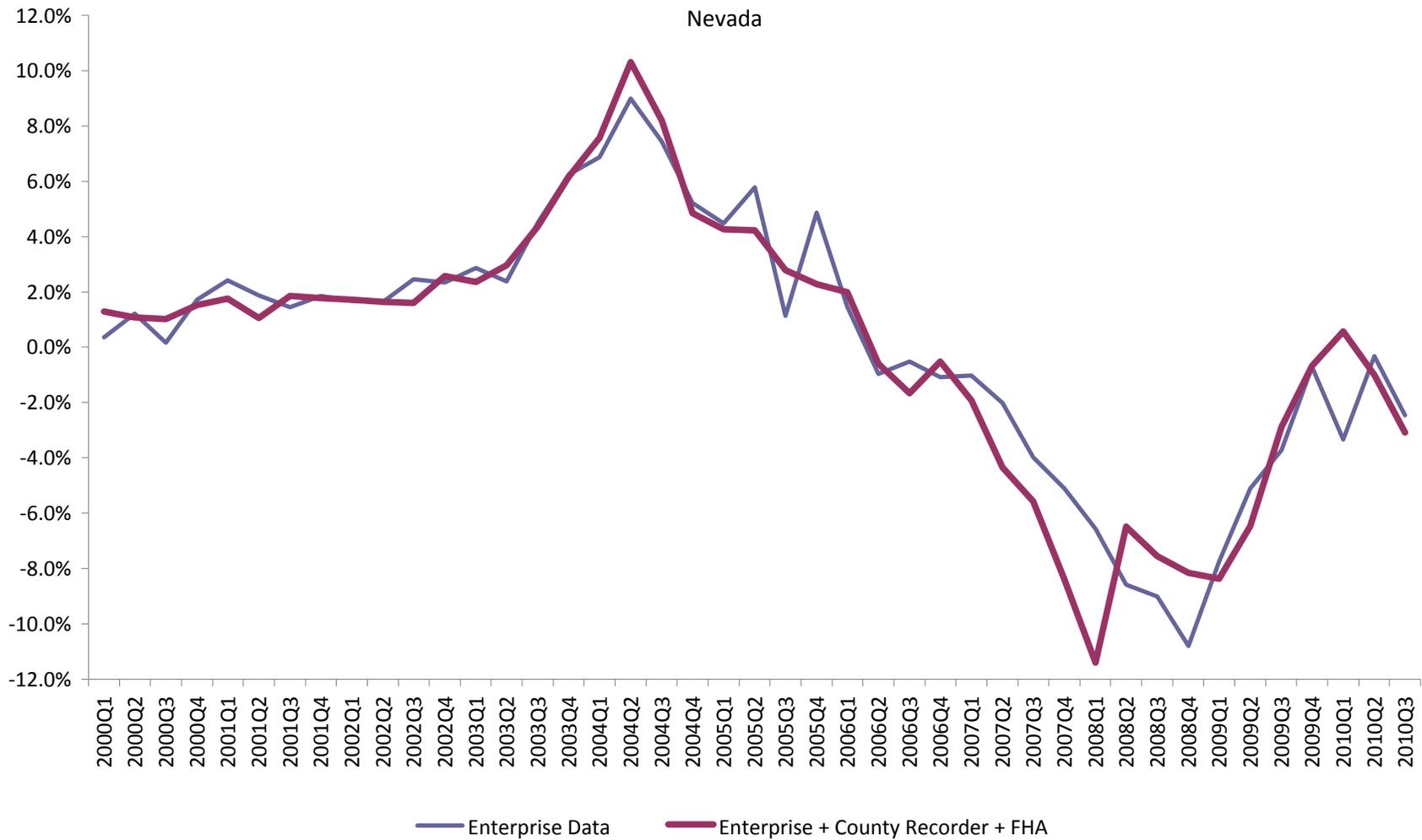
Figure 2: Quarterly Price Changes (Seasonally Adjusted) Since 2007Q1



Source: Fannie Mae and Freddie Mac HPI submissions, licensed county recorder data from DataQuick, mortgage-level data from FHA.

Figure 3: Quarterly Price Changes (Seasonally Adjusted) Since 2007Q1

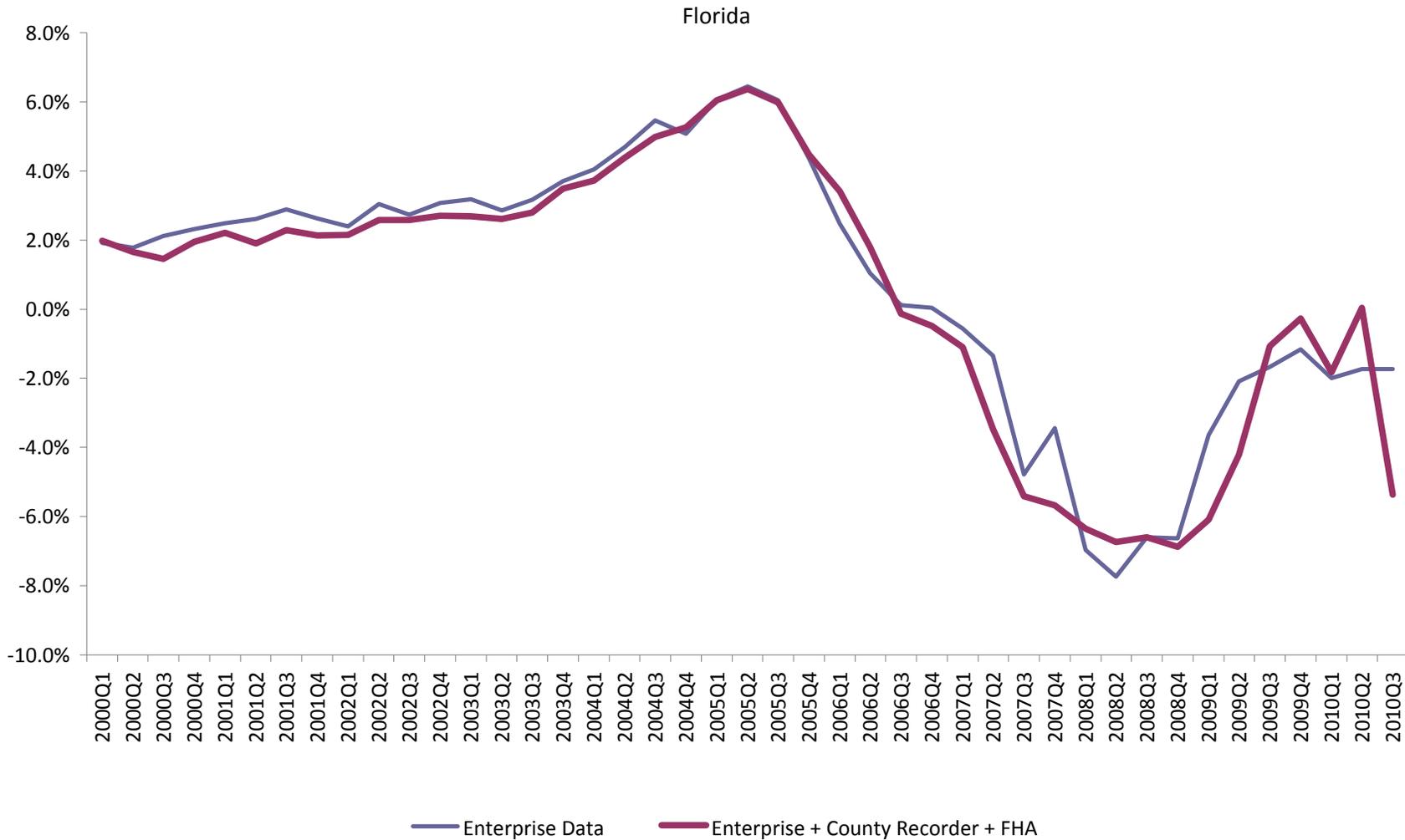
Enterprise Purchase-Only Index vs.
Augmented Enterprise Purchase-Only Index



Source: Fannie Mae and Freddie Mac HPI submissions, licensed county recorder data from DataQuick, mortgage-level data from FHA.

Figure 4: Quarterly Price Changes (Seasonally Adjusted) Since 2007Q1

Enterprise Purchase-Only Index vs.
Augmented Enterprise Purchase-Only Index

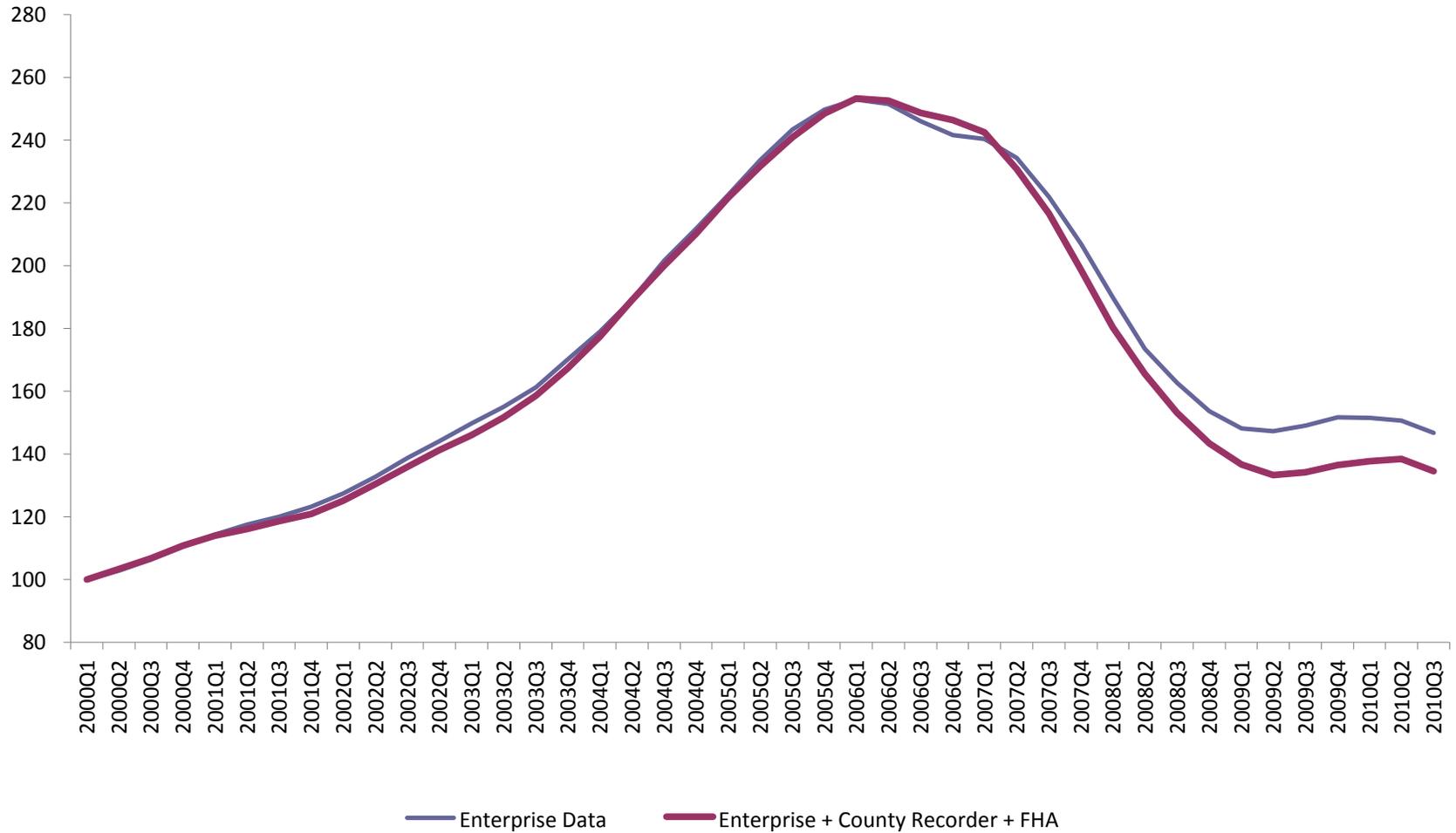


Source: Fannie Mae and Freddie Mac HPI submissions, licensed county recorder data from DataQuick, mortgage-level data from FHA.

Figure 5: Price Index Values (2000Q1 = 100)

Enterprise Purchase-Only Index vs.
Augmented Enterprise Purchase-Only Index

California



Source: Fannie Mae and Freddie Mac HPI submissions, licensed county recorder data from DataQuick, mortgage-level data from FHA.