Understanding Forecast Standard Deviation (FSD)

At ValueCheck, we measure the accuracy of our automated real estate property valuations (or AVMs) using forecast standard deviation (FSD). Below, we have defined how to interpret the FSD and outlined how the FSD is calculated and validated.

Interpretation — Establishing a Confidence Estimate

Forecast Standard Deviation identifies how confident the valuation model is in a particular value. The smaller the FSD number, the higher the confidence for that value.

The level of confidence is based on the likely percentage error in the predicted value. The likely percentage error, expressed by the FSD, identifies a range in which the true market value of the property can be expected to fall. Consider the following examples:

Example 1: AVM = $200,000; FSD = 8

The likely percentage error is +/- 8% of $200,000.

So, the likely value range would be $184,000 – $216,000.

Example 2: AVM = $200,000; FSD = 18

The likely percentage error is +/- 18% of $200,000.

So, the likely value range would be $164,000 – $236,000.

Calculation — Iterative Comparable Sales Analysis

A multi-step approach is used to iterate through and analyze the comparable sales for the subject property. This approach is outlined below:

- **A.** Assume the subject property has N number of comparable sales available in the model.
- **B.** Pick one of the comparable sales (Comp 1).
  - **I.** Using the valuation model for the subject, use the remaining N-1 comparable properties to model the value for Comp 1.
  - **II.** Collect the deviation of the modeled value of Comp 1 from sales price of Comp 1.
- **C.** Repeat step "B" for each comparable sale (Comps 1-N).
- **D.** Use collected deviations from steps "B" and "C" to compute the standard deviation for the model.
- **E.** As the subject property has not sold, the standard deviations of the local comparable sales analysis are modeled into a Forecast Standard Deviation for the subject.

Validation — Testing for Out-of-Sample Sales

FSD accuracy is continuously validated using out-of-sample blind tests. Sales defined as "out-of-sample" are typically the most recent sales transactions which have not yet been incorporated into the property database. The goal is to have FSD meet the expected performance as defined by a normal distribution standard deviation. FSDs below 15 have been demonstrated to over perform in accuracy.

ValueCheck, serving the real estate industry with data and software solutions since 1997.

Learn More...

To learn more about any of our data and software solutions, please contact Tom Kammer.

We look forward to speaking with you.

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