Forecast Standard Deviation & AVM Confidence Scores

The Forecast Standard Deviation (FSD) denotes confidence in an AVM estimate and uses a consistent scale and meaning to generate a standardized confidence metric. The FSD is a statistic that measures the likely range or dispersion an AVM estimate will fall within, based on the consistency of the information available to the AVM at the time of estimation. If you think of an archery target with the AVM estimate as the bull’s eye, the FSD tells you into which ring around the bull’s eye the actual value of a property is likely to fall, as shown in Figure 1.

The FSD can be used to create confidence that the true value has a statistical degree of certainty. The GeoAVM™ Cascades by CoreLogic® employ FSDs because of their clear statistical meaning and standardization across AVMs within the cascade.

Lower FSDs are better. Using the target analogy, a low FSD indicates that the AVM estimate is more accurate and the actual value lands closer to the bull’s eye, with the bull’s eye being the AVM estimate. The FSD translates to the percentage amount above and below the actual value the estimate will fall. On a scale from 0 to 1, an FSD typically ranges between .01 and .3. FSDs very close to zero (.001) and above .3 are rare. For simplicity, the decimal point is usually dropped and the FSD is reported as a whole number, so that .01 becomes 1 and .3 becomes 30.

Because statistical certainty is rare, a confidence interval is used to indicate the level of statistical certainty associated with an FSD. In this case, a confidence interval of 68 percent is used, meaning that one can say with 68 percent statistical accuracy that the true value lies within the upper and lower values. If for example, an AVM returns an estimate of $100,000 with an FSD of 10, one can say with 68 percent statistical certainty that the value lies between $90,000 and $110,000. If the FSD is 50, one can say with 68 percent statistical certainty that the actual value will be somewhere between $70,000 and $130,000. Clearly confidence is lower on the AVM estimate with the higher FSD, as shown in Figure 2.

GeoAVM Cascades accept estimates with an FSD less than or equal to 25. Using the example above of a $100,000 AVM estimate, the GeoAVM Cascades only accept a confidence interval of 68 percent certainty that the value is between $75,000 and $125,000. AVM estimates with an FSD greater than 25 are considered to lack sufficient confidence and are treated as AVM no-hits in the development dataset. If an AVM within the cascade returns an estimate that does not meet the FSD criteria, it is treated as a no-hit and the cascade proceeds to the next level AVM. The GeoAVM Precision Cascade further enhances this confidence interval to increase model precision.
AVM confidence scores

Automated Valuation Models (AVMs) estimate a residential property's market value at a specific point in time. These model estimates are subject to error, so AVM providers also produce performance metrics called confidence scores, which assess the accuracy and quantify the AVM provider's confidence in those estimates of value. This section describes how each of the AVM brands by CoreLogic derives a confidence score.

► PASS®
The PASS confidence score is a measure of the extent to which sales data, property information, and comparable sales support the property valuation analysis process. The confidence score range is 60–100. Clear and consistent quality and quantity of data drive higher confidence score while lower confidence scores indicate diversity in data, lower quantity and quantity of data, and/or limited similarity of the subject property to comparable sales.

► PowerBASE®6
The PowerBASE 6 confidence score indicates the probability that a given valuation is within 10% of the true value based on how recent the comparable sales are, the proximity of the comparable sales to the subject property, and consistency of the assessed values, indexed values, median prices and price per square foot. The confidence score range is 0–100.

► Home Price Analyzer® (HPA®)
The HPA confidence score indicates the probability that a given valuation is within 10% of the true value based on how recent the comparable sales are, the proximity of the comparable sales to the subject property, and consistency of the assessed values, indexed values, median prices and price per square foot. The confidence score range is 40–100.

► ValuePoint®4
The ValuePoint4 confidence score is specifically designed to address issues of over-valuation. Its confidence score represents the probability that the value is no more than 10% greater than the true value of the property. For example, a score of 80 indicates that there is an 80% probability that the AVM value is no more than 10% greater than the property value. The confidence score range is 66–100.