



AVM Testing Service

Independent Verification • Risk Control • Compliance

What is AVM Testing?

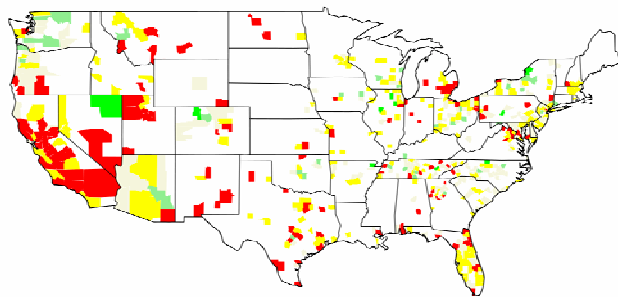
Residential automated valuation models (AVMs) are vital to commercial banks, mortgage insurers and other non-bank lenders for deriving market value estimates for residential properties. It is important to periodically test or validate the performance of AVMs in order to determine whether the models' valuation estimate persists over time as a reliable indicator of actual sales prices across various geographies, property types and pricing tiers. Based on the test results, lenders can assess their potential exposure or risk and, accordingly, adapt AVM usage to their lending programs.

Origins and Types of Model Error

Modeled market values are imperfect statistical estimates of value. Model reliability is dependent on the quality of the data used to derive the value, as well as the number of transactions in the area, the heterogeneity of the local housing stock and market dynamics. In addition, AVM designers make numerous decisions during the model-building process that influence how model estimates relate to market prices across the entire spectrum of the residential housing stock. For example, most models have a sweet spot – a part of the distribution of error on which the model is best calibrated for performance. As prices increase or decrease relative to this median value, AVMs tend to lose efficacy to the point that they are dramatically less reliable for residential properties at extreme ends of the market. Thus, AVM performance invariably depends on geography, pricing tier and property type.

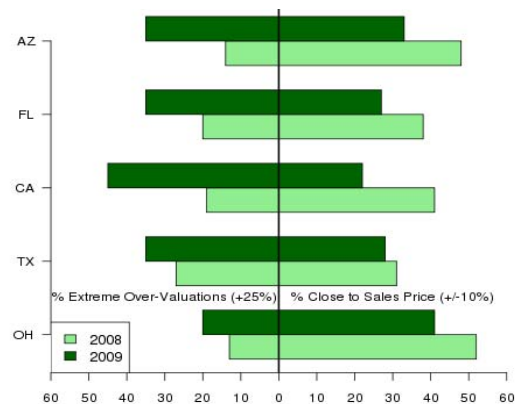
AVMs typically feature **confidence scores** to help explain model error and guide lenders in appropriate AVM use. Confidence scores are usually an effective indicator of error, but rarely is one sufficient. Though indicative of reliability, the scores may convey a false sense of comfort that may exceed their utility. See two sample illustrations of model error below.

Concentrations of Model Error Types Across U.S.



Red and yellow colors are associated with greater AVM over-exposure risk. Green reflects under-exposure.

Changes in Model Error in Selected States over Time



Why an Independent Testing Consultant?

- Many AVM providers furnish users with periodic test results on model performance. However, such vendor-supplied tests invariably rely on the same assumptions about housing prices, property type, etc., that underpin the models themselves, thus compromising the test results.
- Models perform better “in the lab” than they do “in the wild.” Markets are messy, and it is in such challenging environments that lenders will actually have to rely on valuations.



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Why an Independent Testing Consultant? - Continued

- AVM tests should mirror lender usage of the product. Lending programs, and risk tolerance in lending policies, can vary significantly among users. Given the importance of collateral valuation in the current market, a “one-size-fits-all” approach to testing is insufficient.
- Out-of-sample test designs are essential for generating optimal results. Such blind tests, which ensure that AVM value estimates do not incorporate the most recent sales transactions, can only be assured through independent validation studies.
- Prudent risk management thus suggests that AVM testing by a skilled independent consultant can best help lenders manage their substantial lending and financial exposures. The consultant can also help commercial bank staff navigate through oversight agency policies and recommendations for AVM use.

🔗 About Boxwood Means, Inc.

Boxwood Means, Inc. is a Stamford, CT-based real estate research and consulting firm focused on quantitative solutions for client business needs. Founded in 2003 by veteran analysts Michael Taylor and Randy Fuchs, Boxwood harnesses massive databases of real estate property and market data, and economic-demographic information to furnish clients with independent analyst insight and actionable advice. We offer counsel on investment strategies, valuations and risk management for a range of debt, equity and capital markets topics. The firm’s specific expertise encompasses financial/risk modeling including automated valuation models (AVMs), AVM testing, portfolio analytics, REIT analytics and small-balance loan/property research.

🔗 Contacts

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