

AVMs Stand the Test of Time

As automated valuation models gain acceptance, originators can conduct automated performance testing

By **Arturo Garcia**, executive vice president, PLATINUMdata Solutions

NOT LONG AGO, AUTOMATED VALUATION models (AVMs) were viewed with disdain by most appraisers, with skepticism by many lenders and with uncertainty by brokers on the whole. During the refinance rush, however, AVMs proved their worth by providing inexpensive early verification of collateral value ranges and in speeding underwriting on home-equity products.

Further indicating broadening institutional AVM acceptance, a leading ratings agency recently revised its criteria for rating residential-mortgage-backed securities backed by properties that are valued solely with an AVM. Previously, it had discounted them by 10 percent to 15 percent in some regions. This past June, the agency said it will no longer discount the value based on location but will instead apply new guidelines to evaluate each originator's program and process.

AVM acceptance is gaining strength and credibility. This past August, a Mortgage Bankers Association (MBA) issue paper recommended that the "industry standardize investor acceptance requirements, standardize how AVMs interface with fraud-detection systems and standardize the underlying data information, including refresh rate."

Standardization by the investor community will likely evolve, as do most investor practices. Standardization of the AVM-fraud-detection-systems interface is in the works among next-generation providers, and they should be making their progress known in the next few months. The issue of standardization of underlying data information, "including refresh rate," however, is of urgent interest and must be resolved most immediately.

Mid- to large-sized brokers, as well as brokers becoming bankers, are rapidly adopting AVM products. As such, brokers of all sizes would be well-served by having a more-than-rudimentary understanding of AVM testing.

Understanding AVM testing

AVM-performance-testing procedures are in their infancy and leave much to be desired. Current procedures involve performing repeated, manual, time-consuming analyses that can breed erroneous and stale results. Depending on this procedure can lead to inaccurate loan-to-value ratios (LTVs), which can provide a false sense of confidence in origination and lending decisions. This can ultimately result in monetary or reputation losses.

The future of AVM-performance testing involves using automated real-time analysis that is fully integrated with the organization's AVM-ordering workflow. Using technology in this way enables the use of the most-current data, minimizes the risk of human error and allows originators to place more confidence in AVM valuations and their associated LTVs — and ultimately, to minimize their losses.

Currently, progressive midsize originators review the performance of their contracted AVM vendors on an annual or semiannual basis. Because their manual review typically takes two to three months to deploy the AVM-ordering workflow, more-frequent reviews are prohibitive.

In addition, with the lack of experience in this field, the task often falls on employees who don't have the requisite background in statistics. This breeds a testing procedure that is often rooted

in ad-hoc spreadsheets based on rudimentary calculations. Much of the analyst's time is spent manually looking at various cross-sections of the data that correspond to the parameters the originator determines to be critical, such as region, property type and price tier.

This analysis can carry on for weeks or months, so the AVM valuation data on which it is based grows stale. Further, any miscalculation affects the final results. Even with the final results at hand, there often is a cumbersome integration step involved to deploy these results into the production AVM-ordering workflow.

In its current form, AVM testing is practically pointless. It cannot keep pace with a dynamic real estate market and may not benefit users of any type.

The importance of refresh times

The "current state" testing procedure also introduces an unacceptable amount of risk and an unnecessary expense, as the property data on which AVM vendors base their valuations is refreshed at predetermined intervals. Each refresh introduces new data into the valuation engines and purportedly results in more-accurate valuations. AVM vendors are constantly in competition with one another to incorporate the latest data and to improve the accuracy of their algorithms.

As a result, when you drill down to a particular cross-section in a given region, the vendor with the most-optimal valuations can change with each data-refresh cycle.

The long analysis times inherent in the current state of performance testing far exceed the AVM vendors' data-refresh cycles. By the time the results are used in a production environment, the data on which they were based are out-of-date and don't reflect the state of the vendor's performance.

AVMs are valuable because they save time and money. But without assurances of their accuracy, brokers and lenders will be less likely to lean on them for anything but the most preliminary valuation estimate.

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Long analysis times also mean higher human-resource requirements. It is expensive to hire qualified statisticians to perform these calculations during these long periods. If this grunt work could be lifted off their shoulders, they could instead concentrate on the bigger picture and improve the quality metrics of their analysis. Further, if brokers and lenders — even the small ones — had a more automated approach, they might choose to outsource the analytical considerations to a third-party expert.

The future of performance testing

The future of AVM-performance testing involves using technology to eliminate or minimize each of these problems inherent in today's procedures with the goal of providing more-accurate valuations and of improving the bottom line.

The first step is to forgo ad-hoc analysis methods in favor of a dedicated AVM-performance-testing platform. The general concept behind the platform is to feed it raw performance-testing data, to perform the necessary analysis on that data and to output a set of optimal AVM cascades according to business requirements.

The implied challenge here is how the platform calculates the optimum cascade. After all, each institution has its own performance-testing guidelines, and each statistician has a qualified opinion of how to measure performance. Guidelines will change within each institution as its market develops. Each statistician's definition of optimal also will change as the discipline of AVM-performance testing matures.

The key to any such platform, therefore, is in its ability to be expanded and customized over time.

To support that, it is necessary to formalize the steps a statistician takes in making an analysis. There are several common performance metrics that measure the relative accuracy of an estimate to its true value. They are based on basic mathematical concepts that include, among others, means, medians and standard deviations. These concepts form the basis for performance metrics — yardsticks by which to measure AVM performance.

Each metric may contain its own set of configurable parameters or thresholds that impact its calculations. By simply building support for these metrics into the platform at development time and by allowing users to control those parameters, the burden of calculating these figures is lifted from the broker or lender.

Devil in the details

In addition to common metrics, statisticians commonly will filter out problematic data points from the raw inputs that would otherwise skew the results. Adding conditional support for these filters into the platform makes them available to all users and eliminates the need for users to massage the raw data.

A major function of the AVM-performance-testing platform is to provide users with analysis tools, graphs and reports. With the right combination of metrics, rules and parameters, the statistician's job is complete. The parameters only need to be set once and refined only as the institution's requirements change. Analysis time and human-resource costs can be reduced, opportunities for introducing errors into the analysis can be minimized and the statistician is free to focus on the big picture.

With a platform that reduces the time to complete a performance-testing cycle, the analysis can be performed more frequently. Instead of annual or biannual reviews, originators can perform it real-time. Instead of running a test batch each time they want to perform testing, they can regularly feed test data into their data pool as it becomes available — daily, hourly or even minute-by-minute.

As new data streams in, the same preconfigured metrics, rules and parameters are used to reassess the optimum cascade for each property. As each vendor's data-refresh cycles roll around, new data samples are fed into the system that directly impacts its performance.

Having a platform that provides optimum cascades in real-time is pointless if those cascades are not used when the originator is pulling AVM reports. To remedy this, the performance-testing platform must be combined with the organization's AVM-ordering workflow. Integrating the two ensures that the optimal AVMs are ordered for each property based on the latest test data.

A solid, dedicated platform that marries these two aspects has several other benefits. Platform users can get an instant snapshot of their current definition of "optimal." This can be provided to the institution's business unit to defend its lending practices to its investors or to regulatory organizations, such as the Office of the Comptroller of the Currency.



For brokers who want to meet the requirements of their wholesale lenders or for broker-bankers who must always be aware of investor preferences, performance testing is paramount when AVMs are the primary valuation tools. Now that automated performance testing is avail-

able in the context of a next-generation AVM platform, the barriers have been lowered. Once again, thanks to technology-based automation, the playing field for brokers and broker-bankers is being leveled. ■