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# 4 Considerations For Residential Mass Appraisal Valuation

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Litigation involving residential real estate often involves estimating the value of properties using statistical tools that can instantaneously value many different properties. Take residential mortgage-backed securities (RMBS) litigation, for example, which, as of today, has entailed the valuation of hundreds of thousands of residential properties as collateral for mortgages originated during the real estate boom of the mid-2000s.

To deal with the sheer scale of the matters, litigants have used mass appraisal tools, specifically automated valuation models (AVMs), to allege that property appraisals prepared by certified appraisers at the time of mortgage origination were inflated. AVMs are powerful tools, providing objective value estimates cheaply and quickly, if used correctly, but have limitations that attorneys must take into consideration.

For example, in a recent real estate-related litigation matter, the plaintiff relied on an appraisal valuation tool that returned a value of over \$1.3 million for a property that had sold for one-seventh that amount<sup>1</sup>. The valuation tool in that case used miscoded data for the property in question: a single property was improperly coded as a “group of single-occupancy units.” Fixing that error caused the revised value to be drastically lower than \$1.3 million (and closer to the sale price).

**A short background on AVMs:** AVMs are computer programs that statistically determine the relationships between publicly available characteristics of properties and their sales prices. When there is sufficient data to generate a value, most AVMs provide a single estimate of value (“point estimate”), the AVM provider’s confidence in that point

estimate, and a range of “high” and “low” value estimates whose width is affected by the confidence in the point estimate. There are currently at least seven commercial AVM providers, some of which offer multiple AVMs. Additionally, experts have specifically developed AVMs for use in litigation.

Following are four takeaways for attorneys to consider when dealing with AVMs mass appraisal valuation tools in the context of residential real estate litigation. As we’ve seen in our work with law firms trying these cases, when used appropriately, AVMs can be powerful tools to build – or challenge – a claim.

## The Four Takeaways

**First, consider the admissibility of AVMs and their results.** Several federal and state courts (“Courts”) have weighed in on the admissibility of AVMs as reliable evidence of property values. A survey of these cases reveals that the use of AVM point estimates as evidence of property values has survived initial motions to dismiss. Courts have ruled that arguments critical of AVMs are premature at the motion to dismiss stage, and should instead wait until after the discovery phase<sup>2</sup>.

Courts have relied upon two primary grounds for allowing the use of AVMs past the motion to dismiss stage. First, they have noted that mortgage professionals use AVMs in real-world settings, for example, when originating loans and preparing loans for securitization<sup>3</sup>. However, in the case of RMBS litigation, Courts generally have not distinguished between the common, real-world use of AVMs – to screen appraisal opinions of value to determine whether additional valuation steps are needed – and how AVMs have been used in RMBS litigation – to supplant appraised values with AVM point estimates and recalculate loan-to-value (LTV) ratios for loans<sup>4</sup>.

Next, Courts generally have noted that the data used in AVMs (e.g., comparable property sales, county assessor and tax records) are the same type of data used by appraisers when valuing a property<sup>5</sup>. While both use similar property data, however, appraisers are required to perform a visual inspection and “verify and analyze data from reliable public and/or private sources<sup>6</sup>. In the example above, the appraiser’s opinion of value reflected that the property was a single unit rather than a group of units. This, among others, is a common reason for disparity between AVM and appraisal values.

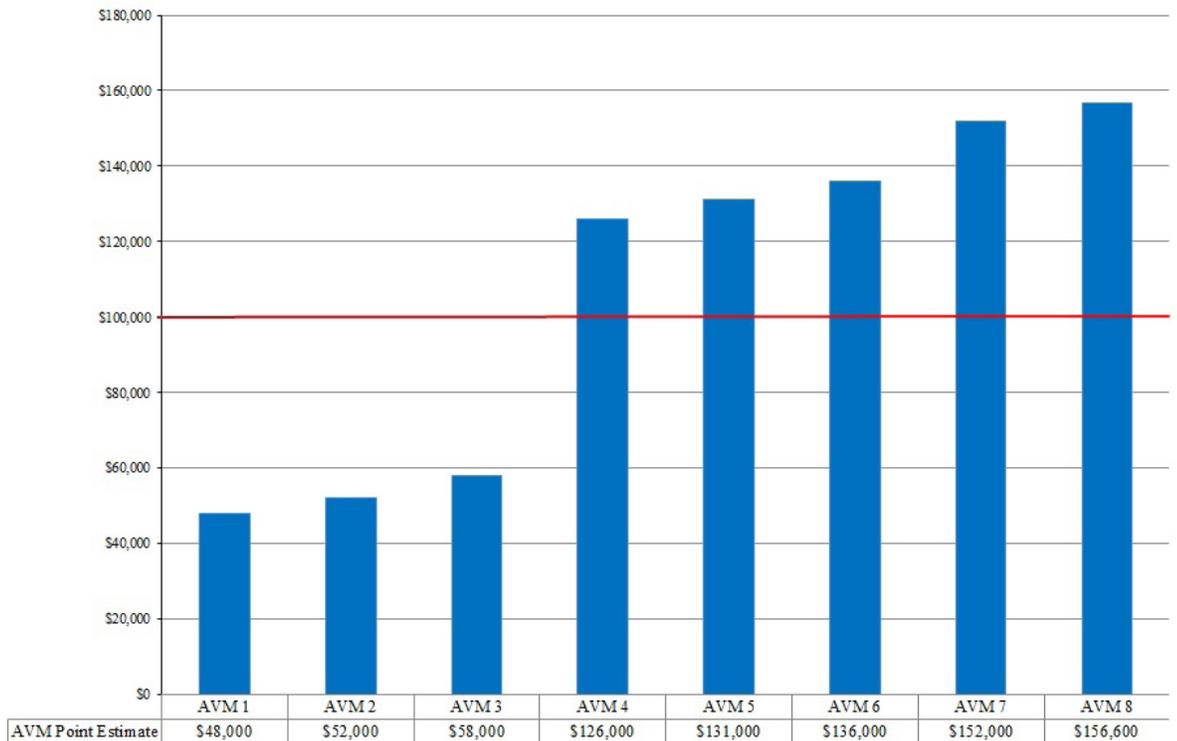
Notwithstanding the above, AVM point estimates are only as good as the models and data that generate them, and yet the inner workings of commercial models – their data, assumptions, algorithms, equations, variables and/or coefficients – are unavailable to the Courts and the litigating parties<sup>7</sup>. As a result, the inability to replicate the AVM values on which expert opinions are based prevents opposing parties from checking whether that expert’s analysis conflicts with federal court requirements that expert testimony “is the product of reliable principles and methods, and the expert has reliably applied the principles and methods to the facts of the case<sup>8</sup>,” and that the theory or technique on which that expert opinion is based is falsifiable, refutable, testable, and subject to peer review and publication<sup>9</sup>.

Like other statistical models, AVMs could be subject to bias in the AVM results or errors that would likely remain undetected if the model and data were unobservable. The bias could come from model misspecification (e.g., omitting important variables and/or including unimportant variables, and/or inaccurately capturing the relationship between property values and property characteristics) and/or violation of assumptions upon which the statistical analysis is based (e.g., property characteristics are correlated with one another in ways that affect the measurement of their relationship with sale prices). The errors could also come from incorrect data.

**Second, determine whether to rely on AVM results from a single AVM, which may be rebutted by results from other AVMs.** Different commercial AVMs can generate drastically different point estimates for the same property and valuation date, depending on each AVM’s statistical specification and data. For example, the chart below presents actual point estimates of eight different commercial AVMs for the same property and valuation date.<sup>[10]</sup> Given that the point estimates ranged between \$48,000 and \$156,600 (a range of \$108,000), one could draw quite different conclusions about an appraisal value of \$100,000 depending on the specific AVM used: an appraisal value of \$100,000 could be deemed inflated if compared to the AVM that produced the \$48,000 point estimate, and undervalued if compared to the AVM that produced the \$156,600 point estimate.

In a comparison of the point estimates from the same eight AVMs for a sample of 40 properties, the highest point estimate was, on average, almost two times higher than the lowest (see chart below).

**Value Estimates from Eight Commercial AVMs for a Property in Las Vegas, Nevada**

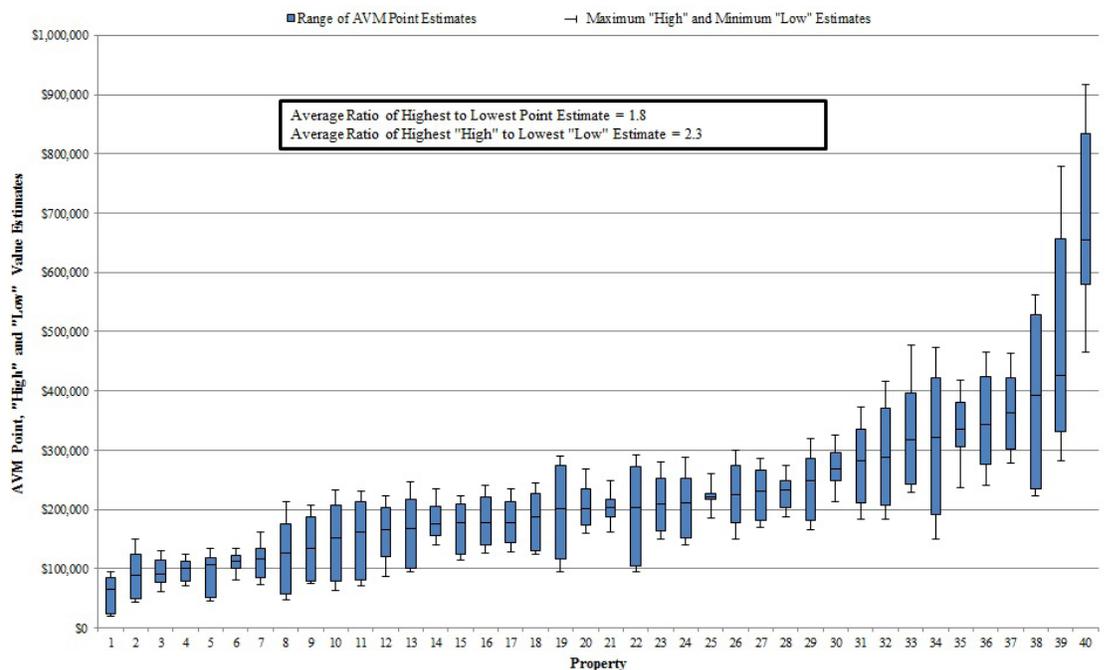


**Third, determine whether to rely on AVM point estimates without taking into account the stated margin of error of those estimates, which may result in unsupported conclusions.** Because AVM point estimates are derived using statistical models, they are subject to error, a factor that must be taken into account. In other words, one cannot simply compare an AVM point estimate with an appraisal value and make determinations about the validity of the appraisal value without allowing for deviations in the statistically derived value that would be reasonable to expect.

Generally, when underwriting industry participants compare point estimates from AVMs and appraisals, they consider the margin of error inherent in both sources<sup>11</sup>. According to Freddie Mac, a deviation of 5 to 10 percent between AVM and appraisal values would be “reasonable ... to expect” and “a greater difference could signal a greater risk of bias<sup>12</sup>. The Appraisal Institute, a professional organization of appraisers, also accepts a 10 percent deviation as a gating threshold for reviewing discrepancies between appraisals<sup>13</sup>. Thus, an AVM user who considers the AVM’s margin of error would be unlikely to find the appraisal value to be inflated if it is only 4 percent greater than the AVM point estimate.

The chart below, in which AVM point estimates for a sample of 40 properties from eight different AVM providers are compared, illustrates the potential impact of the variation and margin of error in AVM point estimates on the results of any analyses that employ them in litigation<sup>14</sup>. Taking into account the AVMs’ margin of error as implied in the “high” and “low” AVM estimates that bracket AVM point estimates makes the highest of the “high” estimates across all AVMs, on average, more than two times higher than the lowest of the “low” estimates<sup>15</sup>.

**AVM Point, “High” and “Low” Value Estimates from Eight Commercial AVMs for a Sample of 40 Properties**



**Fourth, be aware of the limitations of AVMs when compared to traditional appraisals.** Inaccuracies in the data that are used in an AVM can lead to incorrect AVM values. AVMs assume, without confirming, that the publicly available property characteristics are accurate. Outdated and/or incomplete public records and proprietary data can cause discrepancies between the AVM source data and the data collected by appraisers, who visit, inspect and, in many cases, physically measure subject properties and/or check comparable property data. Data anomalies can arise, for example, when owners modify properties without notifying the assessor's office.

Additionally, AVMs do not typically take into account a property's physical condition and relative marketability (e.g., higher desirability because it is close to public transportation, and is the penthouse unit in a secured building with doorman service) – aspects of a property that can impact property values and are generally considered and evaluated by an appraiser who conducts an in-person property and neighborhood inspection as part of a traditional appraisal. Instead, AVMs assume that each property is in average condition and has average marketability. This assumption would cause AVMs to generally undervalue properties in better-than-average condition and/or in a better-than-average location.

## Conclusion

AVMs are powerful and useful tools, but litigators need to be aware of their limitations when using, or considering using, AVM results as estimates of residential property values in litigation. Caveat emptor rules here, too.

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## Endnotes

- 1 Fed. Hous. Fin. Agency v. Nomura Holding Am., Inc., No. 11-cv-6201, 2015 U.S. Dist. LEXIS 61516, at \*151 (S.D.N.Y. May 11, 2015).
- 2 See, e.g., CMFG Life Ins. v. RBS Securities, No. 12-cv-037, 2013 U.S. Dist. LEXIS 116933, at \*28 (W.D. Wisc. Aug. 19, 2013); Capital Ventures Int'l v. J.P. Morgan Mortgage Acquisition Corp., No. 12-10085, 2013 U.S. Dist. LEXIS 19227, at \*15 (D. Mass. Feb. 13, 2013); Cambridge Place Inv. Mgmt., Inc. v. Morgan Stanley & Co., Inc., 30 Mass. L. Rep. 594; 2012 Mass. Super. LEXIS 272, at \*55 (2012). In Federal Housing Finance Agency v. Countrywide, the court opined that “[a]ny questions or challenges to the results reached by the AVM, rather than the choice of inputs, are inappropriate on a motion to dismiss.” Fed. Hous. Fin. Agency v. Countrywide Fin. Corp., 932 F. Supp. 2d 1095, 1108 (C.D. Cal. 2013).
- 3 For example, in Federal Housing Finance Agency v. Nomura Holding America, Inc., the court admitted the AVM proposed as evidence at trial because it “performed at least as reliably as those [AVMs] on which defendants and other in business typically rely in making important decisions.” Nomura, 2015 U.S. Dist. LEXIS 61516, at \*156.
- 4 Jacqueline Doty, vice president at the commercial AVM provider CoreLogic testified that AVMs should not be “used to determine whether an appraiser actually inflated or deflated an opinion of value.” Affidavit of Jacqueline Doty in Support of Motion to Exclude Expert Testimony of Dr. Marcia J. Courchane, Document No. 225-1 filed 6/19/13, CMFG Life Ins. Co. et al. v. RBS Securities, Inc. (Case No. 3:12-cv-00037 W.D. Wisc.).

- 5 See, e.g., *Capital Ventures Int'l v. UBS Sec.*, No. 11-11937, 2013 U.S. Dist. LEXIS 102751, at \*17-18 (D. Mass. July 23, 2013).
- 6 See, e.g., Fannie Mae Forms 1004, 1025, 1073 and 2055, available at <https://www.fanniemae.com/content/guide/selling/b4/1.2/01.html>.
- 7 At most, commercial AVM providers give short descriptions of the methodology and data they use, often citing competitive reasons for not giving greater detail.
- 8 See Rule 702 of Federal Rules of Evidence.
- 9 *Daubert v. Merrell Dow Pharm.*, 509 U.S. 579 (1993).
- 10 Data were obtained from multiple AVM providers.
- 11 AVMs are subject to a margin of error because they are statistical models; appraisals are subject to a margin of error because they are subjective opinions of value.
- 12 *Fed. Hous. Fin. Agency v. HSBC North Am. Holdings Inc.*, 33 F. Supp. 3d 455, 464 (S.D.N.Y. 2014) (emphasis added).
- 13 *Nomura*, 2015 U.S. Dist. LEXIS 61516, at \*133.
- 14 Data were obtained from multiple AVM providers.
- 15 While the AVMs publish the "high" and "low" values, another generally published measure – the forecast standard deviation – captures uncertainty in the point estimates and should be used when conducting an analysis of the confidence in the point estimate.

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