White Paper

# Are AVMs Headed for Another Regulatory Winter?

Some Inconvenient Truths and Some Solutions for an Industry at a Crossroads

By Mark Sennott

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# About the Author

*Mark Sennott has over 25 years of experience in the appraisal/valuation industry, including as a founder and CEO of several Appraisal Management Companies that served both lenders and government agencies. With deeply seated aspirations to see the industry fully modernize and address long standing challenges, Sennott is an independent consultant to banks and leading technology companies in the valuation space, including one of the leading AVM companies.*

*Automated Valuation Models (AVMs)*

- *Sennott has been a pioneer in bringing AVMs and other alternative valuations to the mortgage industry.*
- *Introduced the first commercial AVM (the Case-Schiller AVM) to Wall Street in the 1990s, enabling the capital markets to instantly conduct mark-to-market portfolio valuations for the first time.*
- *Successfully fought in state and federal courts for the approved use of AVMs and other alternative valuations for Home Equity Lending. ( See Wall Street Journal Article).*

*Hybrid Appraisals*

- *Conducted one of the first "test and learn" Fannie Mae pilots of the bifurcated appraisal with two of the top origination lenders in 2018-2019.*
- *Developed AVM and alternative valuation cascades that have become the industry standard in Home Equity lending. (See 2016 White paper).*

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# EXECUTIVE SUMMARY

Are Automated Valuation Models systemically racist? Or are they the long-awaited solution to eliminate possible bias in valuations? They cannot be both. Or can they?

The recent regulatory scrutiny of racial bias in the mortgage industry has reignited the debate about whether AVMs are a blessing or a curse when it comes to fair lending.

The notion that AVMs hold great promise to replace the subjectivity of appraisals is not as dead as many AVM critics claim, yet neither is the prospect that AVMs may be entering into a dark, regulatory winter, like what happened to the industry after the 2008-2010 financial crisis.

Newly appointed CFPB director Rohit Chopra recently called AVMs “robo-redlining.” The GSE’s, once pushing hard to expand their use of automated tools to determine appraisal waivers, are now rethinking that approach, suddenly under pressure from their regulator to explain exactly how their “black box/white box” solutions work.

And yet some of the biggest threats may come from within the AVM industry itself. In the crosshairs for regulatory scrutiny are several current industry practices:

- The big settlement services companies that deliver AVMs to lenders often advertise their independence and objectivity when selecting which top AVMs among industry competitors will be delivered to lenders. But these same AVM delivery platforms also promote and sell their own AVMs, raising conflicts of interest over which of their AVM competitors will ultimately have access to lenders.
- Some of the larger settlement services AVM providers claim that their AVMs are “independently” tested. But some of the testing may be done by the AVM providers themselves.

As questions of possible valuation and AVM racial bias continue to arise, critics say practices like these will damage the credibility of AVMs. They note that AVMs should be not only tested but certified by truly independent third parties. AVM providers should also be required to be more transparent about their methodologies and data sources. It seems that these are reasonable expectations for not only the industry but for all the downstream stakeholders impacted by the use of AVMs.

The purpose of this paper, then, is to:

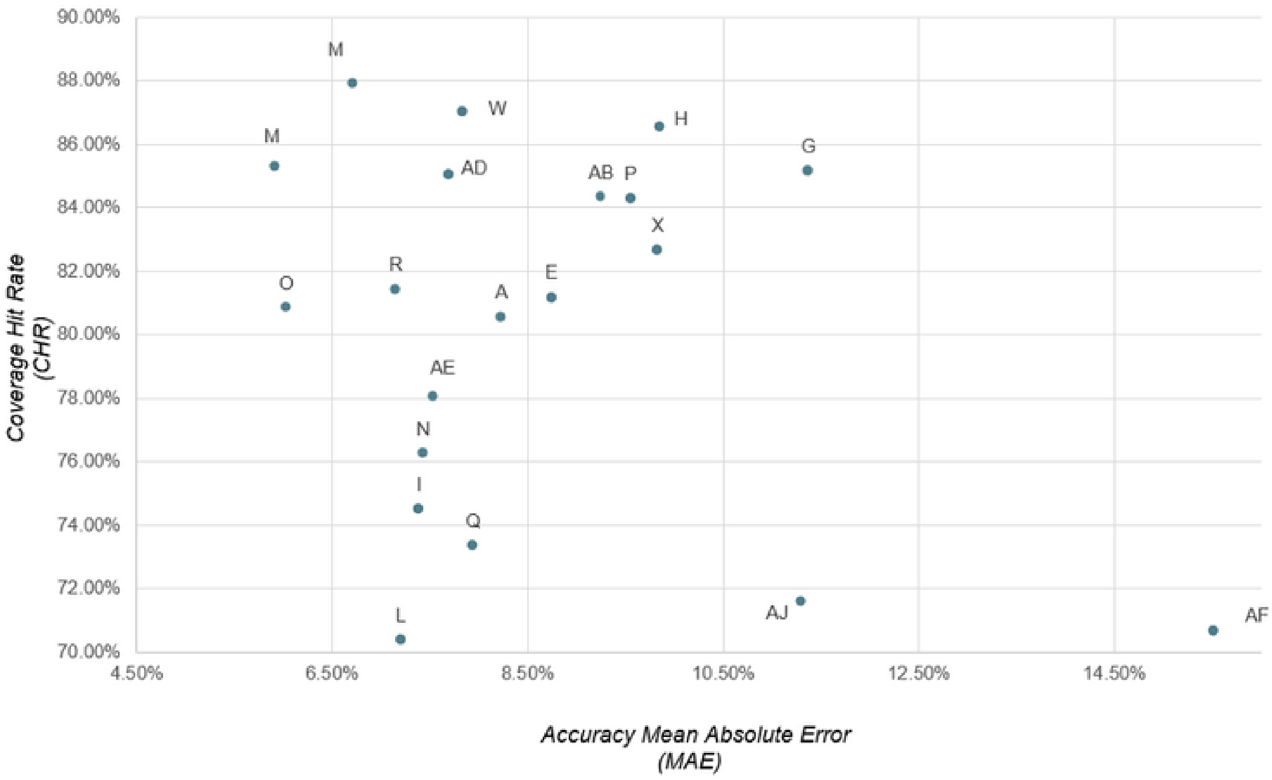
- Challenge some of the inconvenient truths about the ways AVM models are currently evaluated and implemented at many lending institutions, including approaches that may create conflicts of interest and;
- explore some opportunities for change in the AVM industry - both in the short term and the long term.

# “Independent” Testing and AVM Delivery to Lenders

## *Theory and Practice*

In theory, many AVM companies can accurately claim that their AVMs are “independently tested.” AVM companies and/or lenders often rely on AVMetrics -- a California company that is the only game in town when it comes to robust, methodical and truly independent testing of AVMs.

Each quarter, AVMetrics tests the vast majority of commercially available AVMs, using hundreds of thousands of transactions each month. The accuracy of the models is then broken down into sub categories. The result: the company creates a Model Preference Table that helps measure AVM accuracy and hit rate by geography. While a few of the biggest banks rely on their own testing of AVMs, many banks rely solely on AVMetrics to help them with AVM selection. AVMetrics does this by providing a quarterly report that ranks AVMs by Accuracy, “hit rate” and overall performance.




Ideally, lenders and AVM platform providers would leverage this type of independent testing to determine which AVMs they employ for lending purposes. Unfortunately, in real-world practice, however, that does not always happen.

When it comes to the actual delivery of the AVMs to the lenders, things change. That’s because nearly all lenders obtain their AVMs via AVM cascades or AVM delivery platforms that are often developed and controlled by larger settlement services firms that also promote and sell their own AVMs.

Under current guidance on AVMs from the office of the Comptroller of the Currency, those responsible for AVM testing *should be independent of financial interest or incentives based on the outcome of the testing.* (OCC 2010-42, and 2011-12)

The guidelines are silent, though, when it comes to the **selection and delivery** of AVMs. But they should not be. In promotional materials, some AVM delivery platforms will often highlight the use of independent testing, even referencing AVMetrics.

In practice, however, the top performing AVMs, based on independent testing performed by companies like AVMetrics, are not always the ones being delivered to lenders. The reason:  self-interest on the part of the AVM delivery platforms who also sell and promote their own AVMs.

This very troubling delta between posture and operating practice had to be confronted first-hand by one of the lenders for which I provide guidance. What at first blush appeared as a straightforward exercise for the lender in vetting a platform provider’s cascade against AVMetrics independent testing results, became a ponderous journey to overcome contractual headwinds against a simple assurance the provider would indeed provide the highest scoring AVM model per AVMetrics recommendations. This was not the first time I experienced this apparent conflict of interest. As one AVM delivery platform company executive once stated, “Oh, we’ll put the best tested AVM in a cascade, but we are not going to deliver it or promote that AVM unless lenders specifically ask for it.”

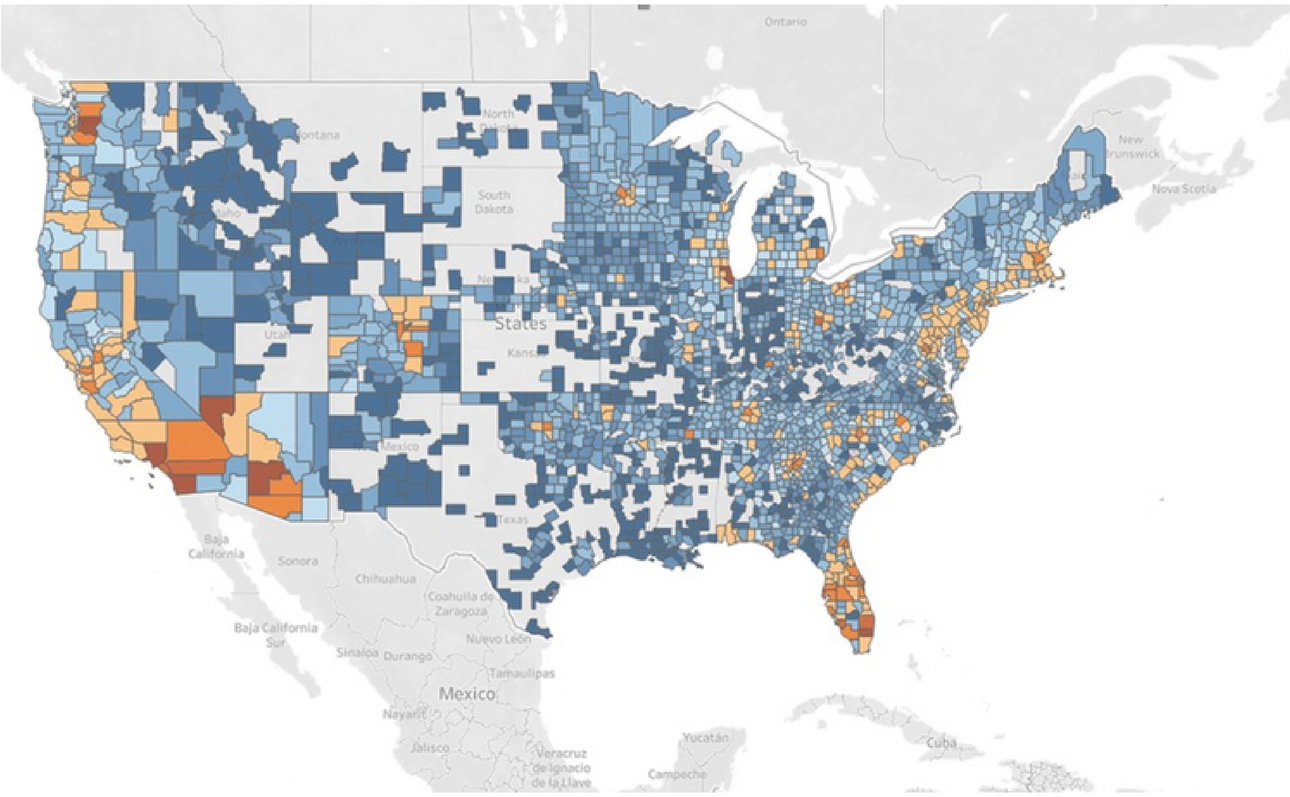
# What Is the Number One AVM in the US?

## *That Depends on Whom You Ask*

The Dodd-Frank Wall Street Reform and Protection Act of 2010 defines an automated valuation model as *any computerized model used by mortgage originators and secondary market issuers to determine the collateral worth of a mortgage secured by a consumer's principal dwelling.*

AVMetrics, which is independently owned and does not offer its own AVM to the marketplace, constantly tests more than 20 commercially available AVMs. The company has long been an advocate of lenders performing independent testing. The company also warns lenders not to rely on the use of a single AVM. That's because "the number one AVM' in the US will often change from quarter to quarter, depending upon geographic location and each quarter's testing results completed by the company.

The company recently created a heat map showing the top-ranked AVM in each county in the US going back eight quarters.




**"This graphic demonstrates why we never recommend using a single AVM, said Lee Kennedy, CEO of AVMetrics. "There are 18 AVMs in the most recent quarter {testing results} that are "tops" in at least one county!**

AVMetrics does not allow AVM companies to openly publish the AVMetrics testing results. Instead, the testing company will provide the results to individual lenders for a fee and an agreement not to distribute the results outside the bank. Perhaps the best way to distinguish the very top AVMs is to combine their accuracy and "hit rate" for an overall performance rating. AVMetrics does this. And clearly, there are indeed just a select handful of AVM companies that, using test results averaged over several years and in all geographies, consistently come out on top.

However, many AVM companies still "cherry pick" test results (using accuracy only or hit rate only or highlighting only certain geographies) that are favorable to their AVM and then claim to be a "top-ranked" AVM.

Another issue/challenge for lenders who are trying to determine the best AVMs is the different methodologies AVM companies use to come up with an estimate of value for a property. Some companies rely most heavily on "repeat sales indexes" which track prices for the same property sold over time, or a hedonic model, which is a type of statistical regression model driven from property and market characteristics. Many companies use multiple methodologies and combine and filter the results. However, there are currently no industry or government standards on AVM methodologies.

This lack of standards has led some to call AVMs "the wild, wild west" of valuations.  This can be especially true regarding the disparate use of MLS data. When AVMetrics tests the accuracy of AVMs, the company must compare the AVM estimate against some kind of benchmark. Most industry stakeholders, when considering what is the source of truth, or benchmark for assessing an AVM's performance accept a property's recorded sale price as most meaningful. Likewise, AVMetrics will use an arm's length public record or MLS sale price against a property estimate of value produced by the AVM company. However, prior to submitting their test results to AVMetrics, some AVM companies have access to property "list prices" in the MLS.

Those companies with access might use this list price (some call it "cheating" or the appraiser equivalent of chasing contract price), to build analytics and AVM results that predominately rely on the list price - instead of a methodology that, while it may consider list price, functions very well independent of the list price. The legitimate concern here for AVM customers is whether the real world performance of a model will approximate its performance within test scenarios where list price is available.

Kennedy of AVMetrics says he is well aware of these issues and says his company is taking steps and making recommendations to the industry to resolve them. He says he is developing new AVM testing protocols that require AVM companies to forgo the use of MLS list price in determining an estimate of value. Kennedy was also part of the Appraisal Foundation Industry Advisory Council Automated Valuation Model (AVM) Task Force which recently issued a report to the Appraisal Foundation.

According to the report, "*An AVM needs to be accurate in the absence of MLS data. An AVM that performs well only after it is informed of a property characteristic, or more significantly, of a property's listing price, is not as valuable as an AVM that can perform in the absence of such leading data.*"

Among the other recommendations from the task force: Move toward an industry model in which all AVMs are independently **certified** via a set of industry standards that all AVM companies must follow.

"*We should not solely rely on self-reported model quality and performance from model vendors and a few independent testing firms that operate without standards, the report said. Instead, we must develop both industry-wide standards, as well as create the impetus for centralized testing units and entities, ensuring proper comparative metrics and instilling faith in the numbers for users.*"

# Are AVM Models Inherently Biased?

AVM proponents can and do argue that AVMs are actually preferable to a valuation or appraisal estimate that has been produced by a human being.

**"At the core of what they do, AVMs can't be biased. They are machines. They don't know the skin color of the borrower or the seller," said Rob Walker, VP National Sales Manager at Veros valuations, which offers both AVMs and AVM cascades to lenders. "None of the inputs to an AVM model can be biased because they are based on factual information about the property or its historical price history."**

One company, House Canary, issued a white paper in 2021 attempting to demonstrate that its AVM model is free from racial bias. The company, which analyzed 10,000 transactions, said that "according to our analysis, we found no evidence of racial bias in (our) automated comp and AVM tools." https://www.housecanary.com/wp-content/uploads/2021/12/Reducing-Racial-Bias-in-Home-Appraisals-Using-Automated-Valuation-Technology-December-2021.pdf

Not everyone agreed with the company's assessment. Critics quickly pointed to the small sample size, the lack of third-party testing and many of the assumptions used in the analysis.

In a 2021 study conducted by the Urban Institute, a non-profit research organization, the group conceded that, "hypothetically, by limiting the human assessment element and potential racial bias, AVMs could provide a more accurate picture of a home's value in majority-Black neighborhoods, which could hold promise for closing the racial wealth gap."

But the report was also quick to point out that a wider use of AVMs, on their own, will not eliminate the racial homeownership or wealth gap. In fact, they could make the problem worse.

While the study found that, according to their analysis, the dollar error of AVMs in minority neighborhoods is lower than in white neighborhoods, the proportional difference was substantial.

"*The absolute dollar value error might be less in these (white) neighborhoods,*" the report said. "*But the proportional size of the error is larger because the average home price in majority-Black neighborhoods is much lower. For example, the percentage difference between a $100,000 AVM estimate and a $115,000 sales price (15 percent) is higher than the percentage difference between a $400,000 AVM estimate and a $415,000 sales price (4 percent), even though the absolute difference ($15,000) is the same.*"

The report went on to say, "*This is a systematic undervaluation issue: homes in majority-Black neighborhoods have a lower value than homes in majority-white neighborhoods partly due to systemic racism's effects on housing. But AVM inaccuracy compounds the problem by providing proportionately less accurate estimates for homes in majority-Black neighborhoods. This inaccuracy could make neighborhood-wide disparities even worse when these homes are used as comparable sales in the transaction of another property.*"

Herein, for an industry currently undergoing an inflection point of introspection and rightfully so, the Urban Institute report presents an inconvenient truth for those convinced of the notion that a non-sentient AVMs assures a bias-free approach to property valuation.

For these and other reasons, the CFPB and others have begun moving toward proposing new AVM guidelines. As the CFPB has stated in a recent announcement, "AVMs can pose fair lending risks to homebuyers and homeowners. [It] is particularly concerned that without proper safeguards, flawed versions of these models could digitally redline certain neighborhoods and further embed and perpetuate historical lending, wealth, and home value disparities."

Among several recommendations, the CFPB has proposed using a "*fifth factor*" to measure Fair Lending implications for AVMs. The Fifth Factor would introduce an AVM non- discrimination quality control factor into the use of AVMs. The proposed CFPB action is just one example of how regulatory scrutiny will have dramatic impact on how AVMs are used. Whether the CFPB will prevail or not is still open to question. But there is no doubt that regulators and Congress are listening to AVM critics: The US House of Representatives has already held several committee hearings on possible valuation and AVM bias.

# CONCLUSIONS

Based on all the above, industry stakeholders - such as lenders, AMCs, and AVM Vendors - can now expect “a new world order” from regulators when it comes to the testing, selection, delivery and use of AVMs.

Gone, and justly so, will be the halcyon days when “tickets to the Masters” should help decide which AVM company is employed, or in lieu of independently tested and ranked models allowing economic self-interest that creates conflicts of interest over how AVMs are chosen. In other words, lenders should expect the OCC, the Feds and state regulators to start asking tougher questions when it comes to the use of AVMs in lending.

In the long term, more transparency is needed, both on the type of data employed by AVMs and the rationale for AVM use. Also needed is the adoption of industry standards that lead to AVM certification, which importantly are followed through to operational practices.

In the short term, lenders should play it by the book when it comes to the testing and use of AVMs. This means relying on truly independent testing, contractually requiring AVM delivery companies to strictly adopt the results of independent AVM testing and being open to those who want the industry to challenge itself when it comes to fair lending and AVMs.

Otherwise, AVM proponents who hope to ride out the storm and keep the status quo, as well as those who would eliminate AVMs altogether, may be jeopardizing a once-in-a-lifetime opportunity to credibly address conscious or unconscious racial bias in the housing and mortgage industry.