THE LOAN SERVICING EDITION

Are Properties Ever Unsuitable for an AVM?

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VEROS REAL ESTATE SOLUTIONS

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A White Paper about **A**utomated **V**aluation **M**odeling

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Note from the Author

This is the second in a series of white papers about VeroPRECISION™, a superior new alternative to the traditional AVM cascade approach for Lenders and Servicers. The first white paper, entitled "Choosing AVM Accuracy and Suitability over the traditional AVM cascade," addresses the reality that traditional cascade logic is about hit rate and not accuracy. Focusing on hit rate and relying on multiple AVMs to value properties that are inappropriate for AVM use results in a significant loss in valuation accuracy.

This second white paper entitled, "Are Properties Ever Unsuitable for an AVM?" focuses on the reality that, while traditional AVM cascades can provide a value on a property, that value will be unreliable for business use in many cases. The problem most users have is that they can't easily identify the individual AVM property values they should or should not use; therefore, they wind up delaying decisions while they seek and pay for additional property valuation data in the form of a BPO, opinion of value, or a variety of hybrid and traditional appraisal products. The inherent delays and additional costs associated with this process increase loan origination and servicing expenses, as well as causing production and servicing delays, which adversely impact customer service levels and increase risk.

WHEN AN AVM ISN'T A SUITABLE VALUATION TOOL

For many years, equity lenders and loan servicers, among others, have used AVMs and AVM cascades to value properties for driving lending decisions or value-based business decisions. Clearly, AVMs have served the community well by saving a great deal of time and money compared to other forms of valuations like Broker Price Opinions, opinions of value, or appraisals.

The strategy of the AVM cascade has also served the industry well by generating geographic coverage and reasonable levels of valuation accuracy using Macro level data. The more recent the available sales or listing data is in an MSA, the higher probability that the model can impute a value for a property of similar characteristics. At the most basic level, an AVM cascade is the selection of different AVM products that have been tested and have been shown to be reasonably accurate at the county level. For example, AVMs A, B and C may each return values for properties in Orange County, California, but AVM product C, on average, seems to get closer to the true value of a property more often than products A or B. Therefore, Product C will typically be run first, followed by AVM product A and AVM product B in a cascade if Product C doesn't deliver a value or "hit." The resulting AVM, be it C in first position, or products A or B in subsequent positions within the cascade, is then delivered to the Servicer.

> Wouldn't it be nice if home values were always consistent and that data at the Macro level always translated to its accuracy at the property level? Unfortunately, it does not.

UNDERSTANDING THE NATURE OF NON-SUITABLE PROPERTIES.

At Veros, we asked the question, "what if we could identify individual properties that are unsuitable for an AVM, and tell our clients which properties those are, and then only charge them for those AVMs completed for AVM suitable properties?"

This is a novel concept, correct? What AVM technology tells you, "Don't use an AVM on this property," and does not charge you for this information? The answer is VeroPRECISION!

VeroPRECISION is the only valuation decision engine that does not use county look-up tables. Instead, VeroPRECISION evaluates individual properties one at a time to make a binary decision. Is the subject property suitable for AVM analysis, yes or no? What does it mean for a property to be suitable for AVM use?

AVMs are voracious users of data. The ability to consume and utilize such a high quantity of data so quickly is one of the AVM's biggest assets. In general, the more data that is available about the subject property in terms of physical characteristics, recent sales and MLS listing history, the more suited for AVM analysis the property becomes. Having similar data on surrounding properties is also extremely useful. The major challenge to this scenario comes when one of two things happens. First, it is possible that in a given property situation there is a lack of data on the subject property and recent comparable sales for some unknown reason. Alternatively, the subject property could be a very unique property for its immediate area. Both of these situations can cause an AVM to have valuation challenges, not unlike all other forms of property valuations, and thus have a greater probability of producing an erroneous valuation estimate. Rather than impute a value on properties with these conditions and lull you into believing that you can rely on that value, VeroPRECISION will tell you that an AVM is not the right tool to provide a property value suitable for business use. This allows you to proactively pursue an alternative valuation product rather than discovering later that 'something doesn't look right' and having to then place and wait on an order for a BPO or other valuation offering.

How do we know this works?

VeroPRECISION is tested on more than 30,000 properties per month in our continuous due diligence process. To illustrate the predictive valuation power of the VeroPRECISION suitability engine, we took a recent order, and evaluated 107 of the properties where VeroPRECISION identified them as unsuitable for AVM use. We then ran AVMs on those properties using five industry leading AVM products to see the level of accuracy or non-accuracy AVMs can achieve when used for properties that VeroPRECISION determined were unsuitable for AVM analysis. *We then assessed the AVM accuracy in relation to recent appraisals (within plus or minus 10 percent(P10)) on those same 107 properties. The results were eye-opening.*

Generally speaking, P10 represents the percentage of observations within plus or minus 10 percent of a recent appraised value and is a common benchmark to determine the accuracy of an AVM. MDAE is the Median Absolute Error rate as a percentage of the difference of the AVM value in comparison to the appraised value.

When compared to the recent non-purchase appraisal benchmark values, here are the results:

Brand	P10*	MDAE (median absolute error)
AVM1	43%	16.9%
AVM2	51%	12.6%
AVM3	43%	17.9%
AVM4	40%	20.8%
AVM5	50%	20.1%
AVG	**45%**	**17.6%**

*P10 represents the percentage of observations within plus or minus 10% of a recent appraised value.

In other words, this customer would have paid for 107 AVM property values, and assuming that they used the industry best AVM, they would have used a value that was off by almost 18% (+/-) on over half of those properties! So, in addition to paying for those 107 AVM values, those values would not have been flagged as suspect and instead would have been ingested back into the Servicer's technology platform and used to drive value-based business processes and decisions! This data illustrates several key facts about the VeroPRECISION suitability decision engine.

1. VeroPRECISION finds the tough-to-value properties and channels them away from AVM utilization at no cost to the end user. Would you knowingly use an AVM on a set of properties that had such poor test results? Absolutely not. Instead, VeroPRECISION will automatically send these properties to another valuation tool of the lender's choice. This escalation process is similar to the AMCs' practice of routing appraisal assignments to the appropriate appraiser based upon the nature of the property and corresponding appraiser skillset.

2. This data illustrates the concept of adverse selection in AVMs. VeroPRECISION has elected not to provide a valuation on these properties, yet in a cascade environment, these properties may be valued by the second or third AVM in the cascade. Clearly, this data illustrates the potential valuation dangers surrounding cascade logic with the second- and/or third-tier AVMs.

3. VeroPRECISION will provide the best AVM end-user experience possible by valuing the straightforward, "easy" properties and routing the more difficult properties to other valuation experts. We can all visualize properties that appeared straightforward to value, but were then ultimately valued erroneously by an AVM. (Typically, these are the AVM values provided from a lower position within a cascade.) VeroPRECISION will not completely eliminate this phenomenon, just like all other valuation approaches on occasion provide unfitting valuation estimates. But VeroPRECISION will surely mitigate these improper valuations a great deal.

TO AVOID "UNSUITABLE-FOR-AVM" PROPERTIES ALTOGETHER, USE VEROPRECISION.

As stated previously, VeroPRECISION provides a vastly superior AVM user experience by only providing values for properties that are deemed suitable for AVM use. And again, there is no charge for the notification that another valuation approach is suggested. **The customer is only charged when VeroPRECISION provides the AVM value.**

For Loan Servicers who are regularly inspecting properties securing loans in default, Veros can use those inspection results to further enhance the VeroPRECISION decision engine, as well as re-purpose that data to quickly provide a Desktop Opinion of Value as an alternative to an AVM.

SUMMARY:

1. VeroPRECISION uses the notion of AVM suitability, before ever running an AVM, to determine if the subject property is a good candidate for AVM analysis. If VeroPRECISION determines the property is not well-suited for an AVM, this notification is provided back to the user FREE of charge.

2. VeroPRECISION takes properties that are strong AVM candidates and produces superior valuation accuracy by running two top-tier AVMs simultaneously on the subject property and selecting the value that is determined to be the most accurate for that property. VeroPRECISION does not contemplate the use of "old school" county level look-up tables to determine the property value.

3. VeroPRECISION helps users avoid running AVMs on properties that are probably inappropriate for AVM use. To support that notion, we ran five independent AVMs on 107 "unsuitable-for-AVM" properties. The results clearly showed that unsuitable properties were properties characterized by sub-standard levels of AVM accuracy. With VeroPRECISION, these "unsuitable" properties are routed immediately to the end-users' valuation product(s) of choice, including but not limited to desktop valuations, drive-by appraisals and the like.

4. For Loan Servicers who are regularly inspecting properties securing loans in default, Veros can use those inspection results to further enhance the VeroPRECISION decision engine, as well as repurpose that data to quickly provide a Desktop Valuation as an alternative to an AVM.

ABOUT THE AUTHOR

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With more than 20 years in the analytics and automated valuation space for residential real estate, Robert Walker has built a solid reputation for product innovation, providing market insight, and anticipating customer needs. In his current role of Vice President of Sales for Veros, Mr. Walker is responsible for leading the company's sales team and market strategy and for driving innovation and creating a disruptive force in the market. Mr. Walker holds a BS in Economics from Vanderbilt University and received an MBA from Columbia University Graduate School of Business. He also has the rare honor of holding both the Certified Mortgage Banker® (CMB®) and the Certified Mortgage Technologist (CMT) Designations. Mr. Walker may be reached at **1.866.458.3767** or **RWalker@veros.com**.

ABOUT VEROS REAL ESTATE SOLUTIONS

A mortgage technology innovator since 2001, Veros is a proven leader in enterprise risk management and collateral valuation services. The firm combines the power of predictive technology, data analytics, and industry expertise to deliver advanced automated solutions that control risk and increase profits throughout the mortgage industry, from loan origination to servicing and securitization. Veros' services include automated valuation, fraud and risk detection, portfolio analysis, forecasting, and next-generation collateral risk management platforms. Veros is also the primary architect and technology provider of the GSEs' Uniform Collateral Data Portal (UCDP). For more information, visit www.veros.com or call 866-458-3767.

For additional information on VeroPRECISION, contact us today.

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