



A WHITE PAPER: MAXIMIZING AVM UTILITY IN HELOC

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BACKGROUND

The mortgage finance industry is adopting automation for every part of the loan lifecycle, from the borrower's application to the sale of the loan on the secondary market. This evolution is designed to increase efficiency, improve accuracy and meet borrower demand for a smoother, better mortgage experience. And amid this wave of automation, one of the hottest topics in the real estate industry is the use of automated valuation models (AVMs) for property valuation.

Mortgage and capital market participants are increasingly incorporating AVMs into their risk management underwriting workflow, from reevaluating credit risk decisions, mark-to-market portfolio assessment, refinancing, quality checks and assurance, to full valuation auditing for fraud. The exciting trend is that AVM usage is growing fast. These proven tools with high-performance track records are becoming a large part of the real estate landscape, and knowing how to maximize AVM utility will open the door to valuation, as well as overall underwriting efficiency and loan performance.

HOME EQUITY SOLUTION

Fast-rising home values combined with record low home sale listings and rising mortgage rates have more and more homeowners choosing to stay in their current homes¹. In fact, a February 2017 [LightStream Home Improvement survey](#) found that more than half (59%) of homeowners plan to increase spending on renovations during this year.² The survey also shows many homeowners will tap into varying strategies to pay for these renovations and of those strategies, 9% are expecting to use a Home Equity Line of Credit (HELOC) to pay for their home improvements.

One of the largest origination costs for lenders is the appraisal product. Many lenders have determined that the "cost" of the valuation is not commensurate with the "value" of the information in the underwriting process. This is why AVMs are returning to dominance in the valuation space for home equity lending.

Not all HELOCS are created equal

It's important to recognize that not all HELOCs are created equal. Each borrower has different credit standings which produce different requirements for the lender. Therefore, each lender will deploy varying valuation risk management policies. A riskier applicant may require additional valuation diligence, while a great credit standing applicant may be given a wider aperture in terms of property value.

Today, lenders require absolute control over their valuation workflow and credit policies. For added confidence, they require transparent risk management that creates audit trails for decision logic changes related to AVM implementation and usage.

THE AVM QUESTION

Most would agree that the value of a residential property is what a buyer and seller agree upon in the absence of fraud or duress. For years we have functioned with appraisers—equipped with the purchase price—providing their opinion of market values. In this scenario, the appraiser is protecting the borrower from overpaying and protecting the lender from over lending. Enter AVM-based solutions. Without the benefit of knowing the purchase price, top-tier AVMs can also support* the purchase agreement approximately 85% of the time.

According to the 2016 research paper by the University of Cincinnati and co-authored by members of Fannie Mae, *"...96% of appraised values in 2015 were equal to or exceeded the target transaction value. Concerns therefore persist over whether appraisers are simply confirming the purchase price of less informed buyers, and therefore leaving the housing market exposed to price volatility in the future."*³

AVMs represent the most cost-effective valuation solution for residential properties. The accuracy of these tools is well documented and readily available from a variety of sources. However, those familiar with these tools are the first to warn users about the dangers of misusing AVMs. One of the leading authorities on AVM testing is often quoted as saying *"The best thing that I can tell you about an AVM is when not to use it!"* Also, a recently retired appraiser and senior banking regulator was fond of asserting, *"Tell me if the subject property is a good candidate for an AVM—yes or no."* These assertions spotlight that AVMs perform great on certain types of properties, but when applied to other kinds of properties AVMs may not always be the right valuation tool for the assignment (just as with any valuation product or provider).

In order to address these issues, VeroPRECISION™, powered by Veros, was introduced to first determine the suitability of the property for an AVM. Where an AVM is suitable, the best AVM for that specific subject property is provided. When an AVM is not appropriate, any number of hybrid or traditional valuation tools will be used instead.

The AVM Disparity

Individuals familiar with AVM accuracy measurement will understand the concept of P10. The P10 represents the probability that the AVM estimate is within a 10% range (above or below) of a given reference value. For example, a 70% P10 means the AVM is within a 10% range of the reference value 70% of the time. AVM reference values typically come from one of two sources—either "blind" purchase prices or from recently appraised values not associated with a home purchase. Strong levels of accuracy in terms of P10 for purchase transactions is 85% plus. By contrast, strong levels of accuracy for AVMs using appraisals as reference values is about 65% P10.

Why is there such a significant disparity between AVM accuracy when compared to blind purchase transactions vs. appraised values?

Simply put, the difference in accuracy levels are based upon differences in reference values themselves. Purchase prices should represent arms-length transactions between disinterested, well-informed, and typically motivated parties in an open and competitive environment. There certainly has been much debate on the subject of “purchase price” vs. “market value”, but most AVMs have been modeled on these purchases or sales prices. The availability of Multiple Listing Services (MLS) data has also helped push the accuracy of AVMs vis-à-vis purchase price. Appraisal reference values, in contrast, are most often used for studies involved in AVM performance in refinance or HELOC transactions. Notwithstanding most AVMs are not modeled on appraisals, there has similarly been much debate and studies around perceived bias in the estimate of value provided in an appraisal.

How does VeroPRECISION solve for this disparity in AVM Performance?

AVM performance is typically tested using purchase transactions and, the use of AVM products is often in non-purchase transactions. As such, VeroPRECISION is tested using appraised values in non-purchase transactions. In order to help address these disparities and to drive accuracy and usability to new heights, VeroPRECISION was developed to efficiently and intelligently select the best properties for AVM utilization. The technology is designed to minimize AVM valuation outliers, intelligently determine AVM suitability using Veros’ suitability scoring, and return valuations on subject properties with a high likelihood of 70% or greater P10.

NEXT-GEN AVM CASCADE APPROACH FOR HELOC LENDING

As the number of equity rich properties boosts the HELOC lending market, choosing whether an AVM is the best tool for a subject property can be a huge decision for lending institutions. Where do you start?

Forward thinking lenders are maximizing their AVM utilization with new valuation technology like the VeroPRECISION valuation decision engine to make the suitability determination beforehand.

VeroPRECISION is the next-gen alternative to cure the industry of the common cascade. Veros introduces the first property-specific valuation decision logic technology designed to deliver true valuation accuracy. Through suitability decisioning and data-driven automation, VeroPRECISION utilizes sophisticated data analysis to deliver the most accurate automated valuation from the industry’s top-performing AVM providers.

The three (3) fundamental principles driving VeroPRECISION

AVMs may or may not be the right valuation tool for the subject property. So, let’s make that determination immediately—and up front by applying these three principles:

1. Not all properties are suitable candidates for AVM use.

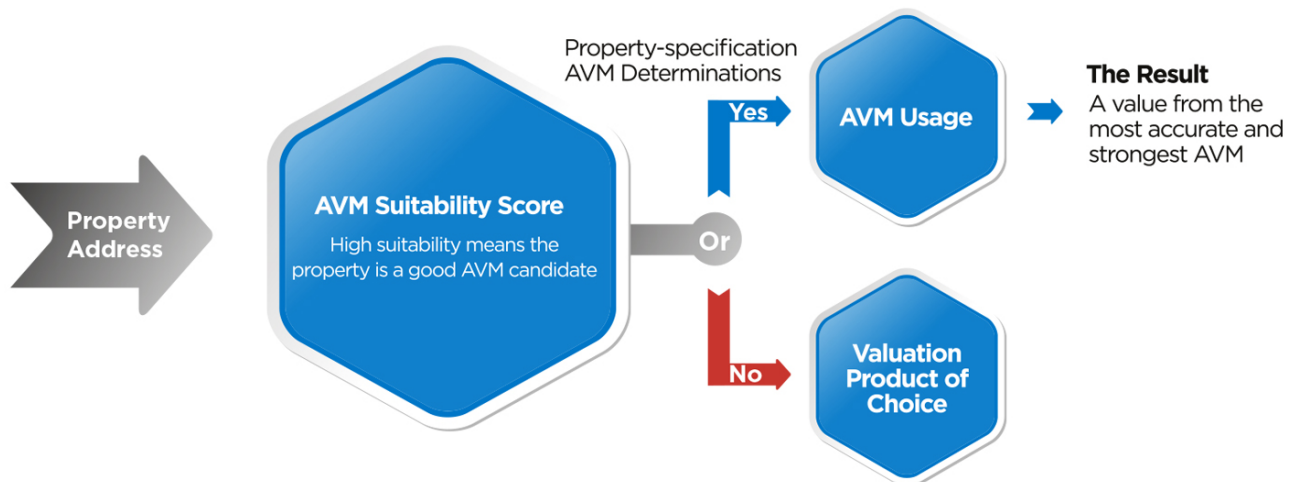
2. By eliminating non-suitable properties AVM accuracy increases significantly.
3. By eliminating valuation outliers from the AVM pool client satisfaction increases.

Once VeropRECISION identifies an AVM is suitable for a property, it then identifies which AVM most accurately values that same property. By using the market’s most accurate AVMs simultaneously, the technology can deliver the most accurate valuation figure using advanced machine learning and artificial intelligence.

Veros AVM Suitability Score

The metaphor goes that if you are carpenter, all solutions start with a hammer and a nail. For most AVM providers, all valuation solutions start with an AVM. With the **Veros AVM Suitability Score**, the paradigm has changed, as Veros will now recommend whether or not the subject property is a suitable candidate for AVM utilization. Based on Veros’ testing, approximately 70-80% of all properties are clear candidates for an AVM in lieu of an appraisal. Therefore, about 20-30% of all properties are best assessed by traditional or hybrid valuation products and services. For these properties, VeropRECISION will indicate the assignment is best suited for an appraisal or hybrid product.

VeroPRECISION: Valuation Decision Engine



How does the Veros AVM Suitability Score work?

The Veros AVM Suitability Score looks at the subject property, including the immediate environment, and makes some basic assessments:

- How much does the AVM know about the subject property's physical characteristics from both public records and MLS data?
- Is the subject property similar to other recently sold properties in the immediate area?
- Are there recent sales and listings for similar properties near the subject?

As you can imagine, if these statements are true the AVM Suitability Score increases.

Many folks have likened the AVM Suitability Score to an AVM Confidence Score. Clearly, this is not the situation. A well thought out AVM Confidence Score measures the degree of variability associated with the point value estimate of the particular AVM. By contrast, the Veros AVM Suitability Score uses case-based reasoning to assess the subject property's fitness for AVM utilization. Essentially, it's an intelligent decisioning assessment. Therefore, the AVM Suitability Score will yield accurate AVM values for the subject properties being targeted for AVM usage. The properties that are eliminated from AVM consideration are properties best suited for another valuation approach.

VeroPRECISION, NOT a Traditional AVM cascade

AVM cascades were originally invented to maximize AVM geographic coverage back when few, if any models were truly available nationwide. From there, AVM cascades morphed into multi-product model preference tables designed to maximize both hit rate and accuracy. In 2017 large lenders pride themselves on their analytic acumen to produce multi model AVM cascades. Smaller lenders also use simple cascades that are "pre-packaged" by a handful of providers. Smaller lenders are sometimes reticent to use cascades based upon a perception that it takes an "army" of analysts equipped with the latest test data to keep up with internal model governance, as well as regulatory scrutiny.

For all but the largest lenders, the cost of multiple AVM utilization was not commensurate with the associated implementation and compliance costs. Nevertheless, AVM cascades represented "best in class" thinking for the first decade of this century. Since that time, two classes of AVM cascades have evolved. The first are cascades that are tested and implemented by independent testing firms. The second and predominant cascade approach features, either exclusively or largely, in-house AVM brands supported by internally generated due diligence. Neither of these approaches generate a property-specific valuation. Sure, the selected AVM is supposed to be property specific, but the rules and criteria used to select a given AVM are not – they are typically generated at a county or state level. Further, these traditional cascades do not address the question of whether or not the property is even appropriate for an AVM.

Today's AVMs have evolved substantially and are far more accurate than their predecessors. A great deal is known about the relative performance among AVM brands in the general user community. By using AVM brands that are consistently identified as the most accurate in the category, combining this strategy with an analysis of available data sources, and then applying advanced machine learning and artificial intelligence to determine suitability and select the most accurate value, Veros is able to deliver the next-generation cascade solution.

VeroPRECISION starts by making sure the subject property is a viable candidate for AVM utilization. When this is the case, the nation's top-tier AVMs will simultaneously run inside Veros' proprietary AVM management platform, VeroSELECT™. From there, Veros uses machine learning and artificial intelligence techniques to select the most accurate valuation for the specific target_property.

SUMMARY

VeroPRECISION is a new concept in AVM utilization. VeroPRECISION uses the latest technologies combined with sound logic based on regulatory guidance to achieve highly accurate and fully-supported and documented results. If this approach sounds interesting to you, we invite you to take "The Precision Challenge" by putting your existing cascade/model preference table to the test.

For more information on VeroPRECISION, VeroSELECT or to discuss The Veros Challenge, contact us at Communications@veros.com or call 1.866.458.3767.

Sources:

1. <https://research.realtor.com/housing-shortage-boomers/>
2. <http://blog.lightstream.com/2017-home-improvement-survey/>
3. <http://www.fanniemae.com/resources/file/research/datanotes/pdf/working-paper-102816.pdf>

**within +/- 10% range*

ABOUT THE AUTHORS

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David Rasmussen, senior vice president, operations for Veros, is responsible for the operational logistics of Veros' numerous valuation analytic and system strategies. With more than 18 years experience in the mortgage industry, he has directed Veros' advancement of mortgage-related enterprise risk management systems and collateral valuation services. Focusing on customer-centric business development and product deployment strategies, Mr. Rasmussen has worked to expand industry understanding and access of these tools for workflow efficiencies through innovative and practical business applications. Mr. Rasmussen graduated from Brigham Young University and is MCSE certified. He may be reached at 866.458.3767 or DRasmussen@veros.com.

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About Veros Real Estate Solutions

Mortgage technology innovators 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. For more information, visit www.veros.com.



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