Fannie Mae

February 25, 2021

The Honorable Mark A. Calabria, Director
Federal Housing Finance Agency
400 7th Street, SW
Washington, DC 20219

Dear Director Calabria,

We wish to express our appreciation to you and the staff at the Federal Housing Finance Agency for your thoughtful outreach to the public in your Request for Information on Appraisal-Related Policies, Practices, and Processes (RFI) issued December 28, 2020. Fannie Mae considers this a topic of great importance. Since the loan-to-value ratio underlies our pricing model and the loan insurance requirements of our Congressional Charter, the accuracy of the property valuation is one of the key drivers of our ability to operate in a safe and sound manner.

Value is much more than a pricing tool. Accurate collateral assessment assists the homeowner in making prudent decisions about their housing choices and personal financial management. Correct information helps them obtain sustainable financing and build wealth over time. It also inspires confidence in capital markets, attracting capital and reducing risk premiums, and making financing more affordable for everyone. It helps primary market lenders make prudent lending decisions that can minimize the risks of poor loan performance, unforeseen servicing expenses, or loan repurchases.

While we would be happy to provide granular feedback on each of the questions in the RFI, our objective with this letter is to frame our vision and share our perspective on the four main themes highlighted in the RFI: appraisal modernization; the Uniform Appraisal Dataset (UAD) and the design of appraisal forms; automated valuation models (AVMs) and appraisal waivers; and valuation differences by borrower and neighborhood ethnic makeup. As we do so, it is important to acknowledge that the appraisal does not exist for its own sake but serves the more fundamental goal of collateral risk management.

Appraisal Modernization

The traditional appraisal process required by Fannie Mae serves multiple purposes, including providing a description of the collateral for the loan and an estimate of the value of that property in the current market. The process requires the primary market lender to engage an independent, skilled professional (the appraiser) to inspect the property and generate a professional opinion of value. It is rooted in practices that go back many decades, at least as far as the 1930s.

Important innovations since then include adoption of standardized paper forms in the 1970s, creation of the Uniform Standards of Professional Appraisal Practice (USPAP) along with appraiser licensing under FIRREA in the late 1980s, and aggregation of the appraiser's primary data sources (multiple listing service data (MLS) and public records) on the internet in the 1990s and 2000s. One of the most significant innovations has been the adoption of UAD-standardized appraisal data in 2011, resulting in machine-readable appraisal reports. While other incremental changes have been adopted by appraisers, such as personal computers, forms software, and digital cameras, these changes primarily encompass the ease of execution of the appraisal. The *methods* of analysis are essentially unchanged since before the digital age.

Some of the challenges facing the appraisal industry today include:

- Accuracy – As noted in the RFI, appraisal quality issues caused many repurchase requests for loans leading up to the 2008 financial crisis and contributed to the loss severity experienced in the aftermath. Even though appraisal quality and Fannie Mae's collateral risk management is much more robust than in the 2008 crisis, Fannie Mae's post-acquisition quality control process reveals that issues with appraisal quality and accuracy persist today (see Fannie Mae's Lender Letter (LL-2021-01)).

- Bias – Several studies[1,2] have been published demonstrating a tendency towards anchoring bias in appraisal results. Even more troubling are allegations of racial bias mentioned in the RFI.
- Data Science – Improvements in data science now enable users of appraisal reports to view them in greater context. When appraisers lag their customers in adoption of more advanced analytics, it can lead to gaps and inconsistencies that reduce the credibility of the appraisal.
- Quality Control – Appraisals are subjected to more quality control processes today than ever before. An appraisal for a loan sold to Fannie Mae typically passes through at least six and sometimes as many as a dozen quality control procedures including checks by the appraiser's software at creation, checks by the Appraisal Management Company (AMC) or lender at delivery, checks upon submission to the Uniform Collateral Data Portal® (UCDP®) and Collateral Underwriter® (CU®), underwriting reviews, post-closing reviews, and post-acquisition reviews. These checks add considerable time, expense, and inefficiency to the appraisal process.
- Inspection Tools – Most appraisers continue to rely on manual inspection tools such as tape measures and note pads. This results in descriptions of properties that are not easily auditable and that are subject to human error.
- Inflexibility – Tradition, habit, regulation, and standardized forms all contribute to the problem of rigidity in the appraisal process. The prescribed scope of work may not align with need based on loan level risk analysis.
- Capacity – Despite Fannie Mae initiatives such as the Appraiser Diversity Initiative and other efforts to recruit new professionals into residential appraisal careers, James Park, Executive Director of the Appraisal Subcommittee (ASC), has stated publicly that the number of appraisers on the National Registry has been in long term decline. For the past decade, the decline has been around 1% annually even though demand for appraisal products has increased. This trend is expected to continue or even accelerate due to demographics; the median age of today's appraiser is in the upper 50s and many appraisers are at or near retirement age. One consequence of capacity constraints is that wait times for appraisals can become prolonged in times of high lending volumes. We've heard many anecdotes of wait times of 1-2 months, or longer, in some markets during the current refinance boom.
- Access to property data – Residential appraisers typically rely on personal inspection to gather or validate subject property data but cannot universally inspect the interiors of comparable properties, limiting their ability to make informed comparisons. The need for social distancing due to COVID-19 has exacerbated this issue in some cases by limiting the appraiser's ability to personally inspect the subject property.

Appraisal modernization can help us meet these challenges by giving lenders and appraisers more sophisticated analytical tools for market analysis, improved data collection tools, more flexibility in fitting the appraisal scope of work to the risk position of the loan, and more objective and transparent appraisal reports. New or improving technologies such as 3D imagery, machine-generated floor plans, image recognition, machine learning analytics, application programming interfaces, remote sensing, virtual inspection tools, and AVMs offer tremendous promise for application to collateral risk problems. We also acknowledge that adoption of new technologies for collateral risk management may expose Fannie Mae to new risks. It is important to carefully assess the opportunities, the risks, and the tradeoffs by asking questions such as:

- What risk is the technology or process intended to mitigate?
- How can we test the effectiveness of the technology or process?
- How does the traditional appraisal process mitigate that risk?
- What challenges may exist today (or in the future) in our continued reliance on the traditional appraisal process?
- What costs or barriers to adoption exist?

Our vision of the future of collateral risk management is a risk-based cascade of data-driven options. For lower risk transactions where we have an abundance of information and high confidence analytics, an appraisal waiver or AVM may be suitable. As the risk associated with the loan or the uncertainty in data or analytics increases, we envision specific solutions targeting specific risks. For example, we may require a virtual inspection or property data collection to ensure that we have a

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[1] Eriksen, Michael D. & Fout, Hamilton B. & Palim, Mark & Rosenblatt, Eric, 2019. "**The influence of contract prices and relationships on appraisal bias**," Journal of Urban Economics, Elsevier, vol. 111(C), pages 132-143.

[2] Contract Price Confirmation Bias: Evidence from Repeat Appraisals: Michael D. Eriksen & Hamilton B. Fout & Mark Palim & Eric Rosenblatt, 2020. "**Contract Price Confirmation Bias: Evidence from Repeat Appraisals**," The Journal of Real Estate Finance and Economics, Springer, vol. 60(1), pages 77-98, February.

reliable description of the property. For some scenarios, a desktop appraisal informed by the virtual inspection or property data collection might be required. In the highest risk or most uncertain scenarios, we may require the traditional appraisal process enhanced by sophisticated inspection tools or analytics. Testing and monitoring of the accuracy, precision, and reliability of alternative approaches is essential.

One headwind to realizing the full potential of innovation is the issue of adoption. For example, at an appraiser conference in 2019, the audience was asked whether they use electronic means like a tablet or paper to record their inspection results. About 60% responded that they continue to use paper and pen. Incentivizing appraisers to adopt new technologies is a key facet of appraisal modernization.

COVID-19 Experience

Due to the COVID-19 pandemic and the need to manage collateral risk in the face of social distancing and various shelter-in-place restrictions, on March 23, 2020, the GSEs launched exterior-only and desktop appraisals for certain loan types. This temporary flexibility has resulted in many appraisals created with alternatives to the traditional GSE appraisal scope of work, and an opportunity for a real-world test of some alternatives to the traditional appraisal. It sparked the creation of innovative technologies within the valuation service sector including virtual inspection technology. AMCs and software providers developed technology to enable the homeowner or occupant to use a smart phone or similar device to assist the appraiser in obtaining interior property data and photos.

This type of technology is ideal for a situation like a pandemic where a traditional interior/exterior inspection is not feasible and may also be appropriate for some lower risk transactions. It warrants further study, particularly as to how to manage these associated risks:

- Property measurement (dimensions, floor plan) to accurately ascertain the gross living area and functional utility.
- Identification of structural issues, damage, deferred maintenance, or other adverse conditions that a homeowner may not have the expertise or incentive to disclose.

One curious observation from our study of COVID-19 appraisal flexibilities is that appraisers performing desktop appraisals were more accurate in identifying negative externalities (locational influences) than appraisers performing traditional assignments. This illustrates how technologies such as aerial imagery can effectively mitigate risk exposure from not “being there.” It seems likely that appraisers reallocated some time saved from reduced field work towards greater analysis of locational influences.

This observation, along with our other quality control results for the COVID-19 appraisal flexibilities, suggests that alternatives to the traditional appraisal scope of work can be used effectively in the loan origination process even during normal times. Borrower benefits may include elimination of the inconvenience of scheduling to meet the appraiser, faster results, expedited loan closings, and possibly cost savings. It also produces benefits for the appraiser such as increased capacity due to reduction in field work possibly leading to completion of more assignments and increased income.

Uniform Appraisal Dataset

One of the root causes of the appraisal issues noted in reference to the 2008 financial crisis was the GSE’s lack of transparency into the actual content of the appraisal reports. Since that time, the GSEs have implemented numerous collateral risk management innovations starting with creating a digital, machine readable appraisal report through the UAD. In the decade since the UAD was first developed, we have learned a lot from our experience with the digital data.

Digitization of appraisal reports has enabled Fannie Mae to aggregate and analyze appraisal data and was instrumental in the creation of CU. CU is one of the most visible manifestations of the digital transformation of the mortgage industry. It has become the tool of preference for many appraisal reviewers, underwriters, QC specialists, aggregators, mortgage insurers, and other users of appraisals. Some benefits of CU are:

- Enables Fannie Mae to automatically assess appraisals backing acquired loans.
- Gives lenders real-time feedback on appraisal submissions, assisting them in correcting valuation issues.
- Gives confidence to investors as to the quality of the appraisals underlying our Credit Risk Transfer (CRT) transactions and Mortgage-Backed Securities (MBS).

- Drives due diligence operations for Fannie Mae and lenders including sample selection, routing, resource allocation, and scope.
- Provides validation data and context for manual appraisal review.
- Encourages appraisers and lenders to pay closer attention to the quality of the appraisal.
- Strengthens our appraisal waiver offering by screening out high-risk prior appraisals.

At the same time, our experience with UAD has illuminated some challenges. For example, there is subjectivity and inconsistency in how appraisers derive condition, quality, view, and location ratings. Some significant property amenities such as accessory dwelling units, other outbuildings, energy features, and swimming pools are not captured in the dataset. The Mortgage Industry Standards Maintenance Organization® (MISMO®) data standard has continued to evolve while the UAD has not.

As a result of these challenges, the GSEs are working jointly to update the UAD and redesign the appraisal forms. This will align the dataset with a future version of the industry standard MISMO Reference Model and overhaul the uniform appraisal forms to establish a more flexible, dynamic structure for appraisal reporting.

The UAD redesign aims to facilitate improvement in the evaluation of appraisal quality by lenders, AMCs, government agencies, the GSEs, and other investors by digitizing many of the existing data points included in appraisals that currently are not UAD-compliant. This enhancement will permit, for example, the establishment of more objectively documented property characteristics, opportunities for the assessment of appraisal quality on additional property types (e.g., manufactured housing), reduced reliance on subjective condition ratings for property eligibility, and the potential for new messaging to help improve understanding of the actual condition of the collateral and to report potential risks and issues.

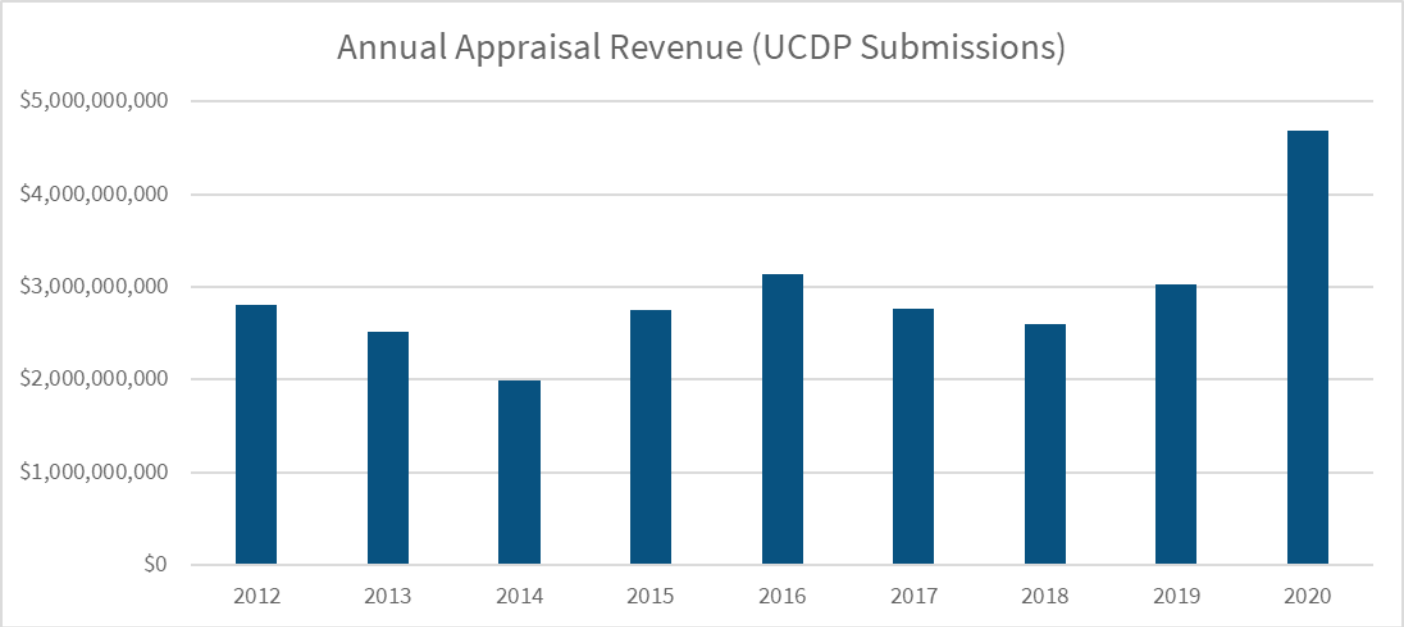
Additionally, moving key data from unstructured text into discrete data fields results in a more efficient presentation and uniformity of data, reducing the amount of time required to both create and review the report. It should also reduce the number of report revision requests, helping alleviate a major pain point and reducing operational costs for all parties. Reducing revision rates also reduces cycle time, enhancing the experience for lenders, appraisers, and consumers. It could also enable more certainty in the quality of the appraisal and greater precision in assessment — leading to fewer appraisals being flagged as higher risk.

Automated Valuation Models and Appraisal Waivers

For more than two decades, Fannie Mae has allowed lenders to waive the requirement to obtain an appraisal for some lower risk transactions. The risk analysis that we use to determine which loans are eligible for the waiver has evolved over time. Our principal methodology deployed since December 2016 relies on having an acceptable prior appraisal less than six years old received through UCDP. Earlier versions relied on an AVM. One guiding principle behind our waiver program is to focus on transactions with lower sensitivity between credit risk and collateral valuation (lower loan to value ratios). Another guiding principle is to focus on those properties where we have the most information such as the prior appraisal, with carve-outs for uncertainties such as areas that have experienced recent natural disasters. Lower risk transactions such as rate/term refinances are more likely to get an appraisal waiver, while higher risk transactions such as cash-out refinances or high loan-to-value (LTV) purchases are less likely to get an appraisal waiver.

AVMs and similar analytics can be beneficial because, when trained correctly, they have the potential to remove human error and bias from the collateral analysis. They are also very fast and inexpensive, resulting in lower costs for borrowers and faster loan closings. On average, consumers save ~13% of their total costs to close when an appraisal waiver is executed. In the last two years, we estimate that consumers have saved ~$1 billion in appraisal costs due to appraisal waivers.

Despite these savings for consumers, 2020 appraiser revenue topped $4 billion, the highest on record since the launch of UCDP even in the face of higher appraisal waiver rates. In 2020, more than 8.6 million appraisals were completed and submitted to UCDP – by far the most ever in a single year since UCDP rolled out in 2011. The highest previous year was 2019 at 6.2 million appraisals, with the annual average over the six years prior being just under 5.2 million.



The recent experience with the 2020 refinance wave, where appraisal volumes nearly doubled, demonstrates that demand for appraisals follows a cyclical pattern. However, the supply for appraisals is relatively inflexible, driven by long-term factors such as the number of active appraisers, which is expected to continue declining. This mismatch between supply and demand leads to the suboptimal outcomes. Appraisal waivers, on the other hand, act like a pressure relief valve reducing excess demand on the limited supply of appraisers during rate/term refinance booms. When refinance activity slows, our appraisal waiver offer rate naturally ebbs in proportion. **This means appraisers are deployed to where they can be of most value—to higher risk transactions—while lower risk loans may be offered an appraisal waiver and at the same time smoothing supply/demand mismatches.** Some have expressed concerns about the reliability of an AVM in comparison to an appraisal, but our observation in the aftermath of the housing crisis was that loans with appraisal waivers generally demonstrated lower loss severities than loans with appraisals and matching credit characteristics. This is not to say that AVMs should replace appraisals, but only that AVMs can be deployed strategically with equal safety and soundness. Since that time, property data, market data, and modeling techniques have improved dramatically, offering increased precision, accuracy, coverage, and reliability today.

Valuation Differences by Borrower and Neighborhood Ethnic Makeup

Media reports of cases of potential bias against minority borrowers by appraisers are deeply troubling. Not only is this morally wrong and damaging to the borrower's interests, but it also violates appraiser professional standards and Fannie Mae policy, which require the appraiser to be neutral and objective. CU may be able to help lenders identify cases of potential undervaluation possibly stemming from appraiser bias.

Fannie Mae also has processes for notifying appraisers when we see concerns with their work and notifying state appraiser licensing boards when we see potentially unprofessional appraisal reports. Fannie Mae will continue to advocate for accuracy and fairness in the appraisal process.

One of the reasons we created the Appraiser Diversity Initiative in 2018 is to help increase diversity in the real estate appraiser profession. We are partnering with the National Urban League and the Appraisal Institute on this initiative to attract new entrants to the profession and foster increased diversity through outreach, scholarships, and mentoring.

Summary

The appraisal process required for most Fannie Mae loans has not changed substantially since prior to the internet age. Innovation and modernization could reduce the risks posed by bias, inaccuracy, inefficiency, and capacity constraints. Technological enhancements in the collection, analysis, and deployment of collateral data are beginning to produce benefits for risk managers and borrowers. Change is accelerating as powerful new technologies emerge, but these have largely not been adopted by appraisers.

In the future, we envision a more dynamic suite of collateral solutions tailored to specific risk scenarios, including use of AVMs and appraisal waivers for lower risk transactions, targeted use of property data collection tools and alternative scope appraisals for intermediate risks, and continued reliance on traditional appraisals but with enhanced tools for higher risk transactions. This approach will lead to better informed, more equitable, lower cost lending solutions benefiting homeowners while providing confidence and transparency for risk investors.

We look forward to continued engagement with you on this important topic.