Appraisal Modernization

Fannie Mae

AI Annual Summit
July 2019
Topics we’ll discuss today

**MISSION**
What is Fannie Mae’s mission?

**CHALLENGES**
What challenges do we face in the housing market?

**MODERNIZATION**
How is Fannie Mae looking to modernize?

**PLAN**
What is our future state?
Our mission
Our single-family business

Providing liquidity to the housing market and investment options to investors.

Proceeds from sale of MBS flow back to lender to fund new loans

Lender
Originates loans

Fannie Mae
Creates guaranteed MBS & non-guaranteed credit risk securities

MBS
Delivers loans, services loans, pays guaranty fee

Securitizes loans, guarantees principal & interest on MBS in exchange for guaranty fee

Credit Risk Securities

Interest Rate Investor
Purchases MBS & assumes interest rate risk

Credit Investor
Purchases credit risk securities & assumes portion of credit risk
Participants in Credit Risk Transfer are investing in Fannie Mae as a risk manager—the largest in the mortgage industry.

Fannie Mae was the largest issuer of single-family mortgage securities in Q3 2018.

In Q3 2018, we provided $122 billion in single-family mortgage liquidity across the country.

Approximately 38%* of the loans in our single-family conventional guaranty book of business, measured by unpaid principal balance, were included in a reference pool for a credit risk transfer transaction.

*As of September 30, 2018
We set the standards for the market

Dynamic risk management focused on sustainability as the industry evolves.

Underwriting, Eligibility, & Quality Control

- Establish/enforce robust underwriting & eligibility standards to ensure sustainable homeownership
- Continuously monitor/revise policy guidelines to ensure quality & performance
- Review of loans early in the process, supported by data & analytics, to identify defects and drive seller and servicer improvements in loan manufacturing quality

Credit Loss Management

- Require contact with delinquent borrowers more quickly
- Provide flexible modification programs for qualified distressed borrowers
- Robust servicer training and oversight based on a framework of metrics, incentives, and remedies
- Industry’s largest platform for the marketing and sale of Real Estate Owned properties

Innovation

- Focus on data to improve loan manufacturing quality and identify defects earlier in the process
- Continue to create and deploy cutting-edge data driven tools to support underwriting, property valuation, quality control, servicing, and real estate owned management
Deliver a fully electronic and secure mortgage process, leading the industry’s digital transformation

Our strategy & digital vision

Strategy

- Lenders
- Certainty
- Transparency
- Simplicity
- Servicers
- Investors

Digital vision

Legacy → Future
Responsibly supporting homeownership

Fannie Mae has a duty to serve the underserved, including expanding access to mortgage credit in nontraditional and common sense ways for creditworthy borrowers.

Our overall approach to affordable lending

• Credit standards must support **sustainable** homeownership
• **Only** creditworthy borrowers can qualify
• Improve loan access by making loans **affordable**, not compromising underwriting standards
• Leverage pilots tailored to reach specific populations to test **responsible** ways to address barriers to homeownership
• HomeReady® is Fannie Mae’s flagship affordable program
  • Underwritten to the same performance expectations as all other loans
  • Reduces mortgage costs for creditworthy lower-income borrowers
Our credit risk management strategy is bolstered by a “three lines of defense” approach to managing risk.

- **1st Line**: Business Units and Operations
  - Identify, assess, respond to, and monitor/report on risks
  - Abide by risk appetite, policies, standards, and limits/thresholds

- **2nd Line**: Enterprise Risk Management, Compliance, Support Functions
  - Set standards for 1st line of defense to manage and oversee risks
  - Perform independent oversight & monitoring of risk management and aggregate risk reports
  - Develop and maintain the Company’s integrated risk management program

- **3rd Line**: Internal Audit
  - Perform independent systematic evaluation of the effectiveness of the internal controls systems employed by management to achieve objectives

*The first line of defense comprises any group that generates risk from their business activities.*
How we support our risk culture

We use a data-centric approach to quantify and manage risk.

Risk management tools
- Collateral Underwriter®
- Desktop Underwriter®
- Condo Project Manager™
- EarlyCheck™

Data acquisition & performance modeling
- Uniform Collateral Data Portal®
- Loan Delivery

Loan Quality Center
- Post-acquisition review

Default management
- Servicing Management Default Underwriter™
- Collateral Underwriter
Risk timeline

Adding more risk controls over time.

1. 2005
   MORAA
   Launch application to evaluate lender compliance with our guidelines and assess operational risks

2. 2008
   FHFA
   Federal Housing Finance Agency becomes GSE conservator/regulator

3. 2010
   AIR
   GSEs implement Appraiser Independence Requirements, mandating that lenders separate appraisal management from lending operations

4. 2010
   UAD
   GSEs create Uniform Appraisal Dataset to standardize data definitions and appraisal language

5. 2011
   UCDP
   Launch Uniform Collateral Data Portal to facilitate machine readable appraisal reports
Risk timeline (cont.)

Adding more risk controls over time.

2012

- **CU**
  - Launch Collateral Underwriter application to automate risk analysis, review triage, and manual review utility

2012

- **MRM Monitoring**
  - Model Risk Management independently audits Fannie Mae modeling applications, including CU

2013

- **Rep & Warrant**
  - Changed sampling approach in post acquisition reviews to focus on performing loans, along with change in rep & warrant framework

2013

- **AQM**
  - Appraiser Quality Monitoring implemented to monitor individual appraiser behaviors and targeted educational outreach
Credit box: then & now

Some examples of how the credit box has evolved.

2008

Vulnerable

• Negative amortization
• Interest-only
• No documentation

2018

Resilient

• Ability to repay
• Validated data source
Challenges in housing
Limited supply, increasing demand

Limited supply and increasing demand are causing home costs to rise.

- **Record low supply**: Single-family homes available for sale are at an all-time low.*
- **Strong housing demand**: Record employment** and more consumers looking to buy or rent*** are contributing to higher demand.
- **Affordability challenges**: The median home price has increased significantly since 2012.****

*Fannie Mae ESR Analysis - Date through Q1 2018
***Joint Center for Housing Studies at Harvard University, "State of the Nation’s Housing," 2018
****Federal Housing Finance Agency, House Price Index
Affordable housing issue

Lack of affordable housing is an issue across the country, even for median income households.

Percentage of homes considered affordable for median income households

- Under 25%
- 25-50%
- 50-75%
- 75% or over

Source: Joint Center for Housing Studies at Harvard University, "State of the Nation's Housing," 2018
Inventive design and materials are making homes more affordable.

ACCESSORY DWELLING UNITS
Built on the same lot as the primary home, these units add affordable supply and generate a new income source.

$20,000

HOMES FOR LESS
Auburn University’s Rural Studio created the “$20,000 home,” blending beautiful design with lower cost building materials.

Source: Rural Studios
The future of factory-built housing

Manufactured and modular homes can help increase housing supply and provide alternatives to traditional homes with affordable financing.

**MANUFACTURED HOUSING**

- Designed to HUD standards
- Comes with modern, high-quality finishes
- 35-47% cheaper than traditional housing*

**MODULAR HOUSING**

- 1/2 the time to construct
- Can be 20% cheaper to develop
- Has 50% less waste than conventional building projects


**WSP USA, "Modular Construction for Multifamily Affordable Housing," February 2018, p. 4.
“Going green” is good business

Fannie Mae’s green financing helps developers make energy and cost-savings upgrades, which reduces utility bills for homeowners.

Our HomeStyle® Energy mortgage helps borrowers improve the comfort, efficiency, and resiliency of their homes. HomeStyle Energy is open to all Fannie Mae lenders; no special approval needed.

“Green developments use 14% less energy per square foot.”

“We’re focused on the triple bottom line, good for the owner, good for the community, good for the [homeowner].”

-Bob Simpson, VP Affordable & Green Financing, Fannie Mae
Appraisal modernization
Uniform data standards and collection together with Fannie Mae’s advanced analytics are transforming the industry by identifying higher-risk appraisals earlier in the lending process.

Robust appraisal analytics improve assessment of collateral risk:

• Automated data checks identify data quality & eligibility issues at time of submission
• CU-generated messages give lenders real-time feedback on critical valuation risks
• CU provides context behind messages along with additional validation data & tools to assist in managing risks
• We leverage CU analytics in our post-purchase QC process to uncover valuation defects and enhance our discretionary QC sampling
• Appraiser Quality Monitoring detects and manages collateral risk issues at the appraiser level

Advanced data helps to inform policy enhancement, leading to more effective appraisal policies and enabling modernization of appraisal processes.
Current state of appraisals

Lender perspective

Appraisal Results

Timeline

Appraisal QC
Current state of appraisals

Appraiser's role

Adjustment rates

Appraisal forms

Data gathering tools
Current state of appraisals

Appraiser’s business

- Appointment scheduling
- Aging appraiser industry
- Appraiser business model
QC landscape

The appraisal has several QC checkpoints.

1. Appraiser’s desktop software
2. AMC review
3. Lender review
4. Fannie Mae quality review
Confirmation bias

Appraisal is more likely to support borrower estimate at key pricing/eligibility thresholds.
Appraisal modernization

Timeline

**Uniform Appraisal Dataset (UAD) and Uniform Collateral Data Portal (UCDP)**
- **2011**
  - Launched to enhance appraisal data quality and consistency and promote the collection of electronic appraisal data

**Collateral Underwriter (CU) for Fannie Mae**
- **2012**
  - Assessment of appraisal quality and risk designed as an internal risk management tool after delivery to Fannie Mae

**Collateral Underwriter (CU) for Lenders**
- **2015**
  - Rolled out to lenders to support proactive management of appraisal quality and address potential issues before delivery to Fannie Mae

**Value Verify™**
- **Future**
  - Leveraging CU to modernize both the property data collection process and the assessment of value
Collateral risk management vision

Leverage data and technology to increase certainty around collateral value and eligibility, improve the customer experience, and reduce cycle time.

**CURRENT**
- Rigid
- Forms-driven
- Limited market insights

**FUTURE**
- Dynamic
- Data-driven
- Transparent
What change do we envision?

Expand valuation scope according to varying levels of risk and complexity.

Current: Binary valuation

New: Align valuation product with risk and complexity
Value Verify™ framework

Property data collection (PDC) can be separated from the appraisal process.

Traditional Appraisal

- Perform PDC and appraisal

Value Verify #1: Data & Done

- Perform PDC

Value Verify #2: Data & Appraisal

- Perform PDC
- Perform appraisal
Property data collection

Property data collection (PDC) can be separated from the appraisal process.

Robust set of specific data elements

Multiple audiences

Not strictly designed for an appraiser

Calibration Data
- Quality Rating
- Condition Rating

Observational Data
- 84 Data Elements
- 24 Elements Required for CU Model

Exhibits
- 45 Photos
- Dimensioned Floor Plan

Fannie Mae

Appraiser
Property data collector qualifications

✓ Affiliated with eligible vendor
✓ Completed background check
✓ Bonded or insured
✓ Trained through contracted vendor/lender
✓ Ongoing QC by vendor/lender/Fannie Mae
## Appraisal form certifications

**Revising language**

<table>
<thead>
<tr>
<th>Section</th>
<th>Current Text</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of Work #1</strong></td>
<td>“perform a <strong>complete visual inspection</strong> of the interior and exterior areas of the subject property,”</td>
</tr>
<tr>
<td><strong>Assumptions &amp; Limiting Conditions #2</strong></td>
<td>“The <strong>appraiser has provided a sketch</strong> in this appraisal report to show the approximate dimensions of the improvements....”</td>
</tr>
<tr>
<td><strong>Appraiser’s Certification #2</strong></td>
<td>“I <strong>performed a complete visual inspection of the interior and exterior areas of the subject property</strong>. I reported the condition of the improvements in factual, specific terms. I identified and reported the physical deficiencies that could affect the livability, soundness, or structural integrity of the property.”</td>
</tr>
</tbody>
</table>
Product cascade

PDC is a standalone product completed *prior* to deciding whether or not an appraisal is needed.

- Appraisers routinely consider data generated by third parties (e.g., surveyor, appraiser, structural inspector, home warranty inspector, radon tester)
- Our policy requires appraisers to comply with USPAP. We allow the lender to share the property data with the appraiser and to request a desktop appraisal, but the appraiser is accountable for the scope of work decisions, the appraisal process, and the report content.
- Our observation is that appraisers typically find the property data to be credible and are able to rely on it to perform the desktop appraisal. The appraisal report must disclose the scope of work and any extraordinary assumptions stemming from use of the property data.
Appraisal products that rely on third parties

Estate/Retrospective
- HELOC
- Form 2055
- Hybrids (Servicing, Bulk Deals)

Supervisory Appraiser
- FM Pilot
- Standard 3 Review
- Proposed Construction
Appraisers consume data from third parties
Real World Example

How one appraiser ingested the data collection and did additional research to provide a complete and accurate view of the subject property.

Inspection called out waterfront location but subject did not include parcel adjacent to the canal:

<table>
<thead>
<tr>
<th>Location Description Type</th>
<th>Location Description (Other)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INLAND_SALTWATER_FRONT_NO_Beach</td>
<td></td>
</tr>
</tbody>
</table>
Real World Example (cont.)

Data collection provided additional information even though calling out waterfront location.
Real World Example (cont.)

A desktop appraisal was required, wherein the appraiser correctly identified that the subject is not Waterfront but has a Canal View in a 1004P.

<table>
<thead>
<tr>
<th>Location</th>
<th>N Res.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leasethold/Fee Simple</td>
<td>Fee Simple</td>
</tr>
<tr>
<td>Site</td>
<td>8000 sf</td>
</tr>
<tr>
<td>View</td>
<td>Canal View</td>
</tr>
<tr>
<td>Design (Style)</td>
<td>DT2 Colonial</td>
</tr>
<tr>
<td>Quality of Construction</td>
<td>Q4</td>
</tr>
<tr>
<td>Actual Age</td>
<td>61</td>
</tr>
<tr>
<td>Condition</td>
<td>C3</td>
</tr>
<tr>
<td>Above Grade</td>
<td></td>
</tr>
<tr>
<td>Room Count</td>
<td>8 3 2.0</td>
</tr>
<tr>
<td>Gross Living Area 40</td>
<td>1,732 sq ft</td>
</tr>
<tr>
<td>Basement &amp; Finished</td>
<td>0sf</td>
</tr>
<tr>
<td>Rooms Below Grade</td>
<td></td>
</tr>
<tr>
<td>Functional Utility</td>
<td>Average</td>
</tr>
<tr>
<td>Heating/Cooling</td>
<td>HWBB/CAC</td>
</tr>
<tr>
<td>Energy Efficient Items</td>
<td>Thermals</td>
</tr>
<tr>
<td>Garage/Carport</td>
<td>2 ga2dw</td>
</tr>
<tr>
<td>Porch/Patio/Deck</td>
<td>Deck,Porch</td>
</tr>
<tr>
<td>Fireplace</td>
<td>1 Fpl</td>
</tr>
<tr>
<td></td>
<td>Fence</td>
</tr>
</tbody>
</table>
Key Success Measures

All participants may contribute key performance metrics to quantify impact on customer experience and data/appraisal quality relative to traditional appraisal process.

<table>
<thead>
<tr>
<th>Success Measure</th>
<th>Key Performance Metrics</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraiser Independence</td>
<td>Value bias and Confirmation bias at key pricing/eligibility thresholds (refinance and purchase)</td>
<td>Fannie Mae</td>
</tr>
<tr>
<td>Time Effectiveness</td>
<td>Reduced overall cycle-times, time in underwriting</td>
<td>Lender/Vendor</td>
</tr>
<tr>
<td>Appraiser Capacity</td>
<td>Average property data collections/day, average appraisals/day</td>
<td>Lender/Vendor</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>Loan performance, default prediction, etc.</td>
<td>Fannie Mae</td>
</tr>
</tbody>
</table>

Key learnings and success metrics from the pilot will inform future discussion with industry stakeholders about broader adoption of new processes and products.
Future state
3D Scan

Ground Floor Total Living Area – 1,347 Sq. Ft.

Second Floor Total Living Area – 1,530 Sq. Ft.
What does the future look like for appraisers?

- **Change** is inevitable.
- Appraisers will continue to do traditional appraisals, but there will also be **opportunities to specialize**.
- Appraisers may benefit from **adopting new tools & techniques**. USPAP provides flexibility in developing the scope of work.
- In the future, the appraiser’s role will be **focused on market analysis** rather than the historical role of data gatherer.
Appendix
Additional resources

1. “Inspections & Hybrid Appraisal Assignments” video, The Appraisal Foundation, Oct. 9, 2018

2. USPAP advisory opinions AO-2, AO-28, AO-29

3. Fannie Mae’s March 2019 Appraiser Newsletter

4. Fannie Mae Appraiser page, fanniemae.com/appraisers
Questions about appraising properties with solar panels?

Watch our new video to learn:

- Differences between appraising properties with leased or owned solar panels
- How to determine if the panels are real property or personal property
- And more

https://www.youtube.com/watch?v=3Q5tgnRwGi4&feature=youtu.be
fanniemae.com/appraisers

Contact us

Newsletters

Appraiser Update March 2019
The March 2019 edition features an overview of our appraisal modernization efforts, MH Advantage training resources, and more.

What's New

MH Advantage Training for Appraisers
View our new eLearning to discover more about MH Advantage requirements, roles and responsibilities, and more.

UAD and Forms Redesign Update
Fannie Mae and Freddie Mac have engaged with stakeholders over the past several months to gather input. An executive summary of our preliminary findings is now available.

Guide Resources

Access Guide
Selling Guide
Selling Guide | Part B (See B4-1: Appraisal Requirements and B2-3: Property Eligibility)
AllRegs.com

Lender Announcements & Letters

UAD Overview

Uniform Appraisal Dataset (UAD)
The UAD is a component of the Uniform Mortgage Data Program® (UMDP®), jointly established by Fannie Mae and Freddie Mac under the direction of the Federal Housing Finance Agency to provide common requirements for appraisal and loan delivery data.