Federal Housing Finance Agency
Office of Inspector General

Enterprise Use of Automated Verifications of Borrower Employment, Income, and Assets

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Executive Summary

As part of the mortgage underwriting process, a borrower's income, employment, and assets are verified to ensure that the borrower can repay the mortgage loan.

Over the last few years, Fannie Mae and Freddie Mac (the Enterprises) each launched an automated verification program related to income, assets, and/or employment that offers relief to lenders from representation and warranty exposure for those components that are verified through the program. Fannie Mae's program is called Desktop Underwriter (DU) validation service and uses data sourced by approved third-party vendors from institutions such as banks or the Internal Revenue Service to independently validate borrower income, employment, and asset data on conventional mortgages. Freddie Mac's program is called Loan Product Advisor (LPA) asset and income modeler and uses approved third-party data vendors to independently assess borrower income and asset data for conventional mortgages.

According to Fannie Mae data, of its $118.5 billion total mortgage purchases in the first quarter of 2017, 3.8% ($4.5 billion) had all employment, income, and/or assets needed for the transaction validated through DU validation service. In the first quarter of 2019, this volume increased to 13.8% ($11.8 billion) of Fannie Mae's $84 billion in mortgages purchased. For first quarter 2019, DU validation service validated all employment on 11.7% of Fannie Mae's purchases, all income on 5.5% of purchases, and all assets on 2.1% of purchases needed for the transaction (by unpaid principal balance). According to Freddie Mac data, about 1% ($272 million) of the total number of loans funded by Freddie Mac in April 2019 used LPA asset and income modeler for income and received associated representation and warranty relief, and 1.9% ($444 million) for asset verification.

An FHFA official told us that the Enterprises' automated verification programs provide another layer of risk management because the automated underwriting system proprietary to each Enterprise (DU and LPA) has virtually the same data as the lenders receive from approved third parties when the mortgages are being underwritten. The Enterprises' underwriting systems can perform their own assessments of the borrower income and assets and information provided by the lender in the respective underwriting system. Further, the Enterprises reported to us that their lenders claim that use of the automated verification programs reduces the time needed for the underwriting process. They also represented to us that borrowers favor less paperwork in applying for a mortgage.

According to Fannie Mae, "Automation of the process for confirming borrower income, asset, and employment data and validation of the data up front in the process" mitigates certain risks that can occur in a manual process, but it "creates new risks and challenges…requiring the need for diligent risk management."

FHFA officials reported to us that the Agency views the primary risk from automated verification programs as the counterparty risk from the use of third-party vendors to provide borrower data electronically. According to the Enterprises, vendor data inaccuracies and/or lack of consistent borrower data could result in the Enterprise purchasing loans that are inconsistent with its risk standards and ultimately incurring credit losses because lenders are relieved of certain representation and warranty repurchase liability on the verified components. Additionally, third-party vendors could be subject to data breaches. The Enterprises maintain that they have established controls designed to mitigate the risks presented by the vendors, including review processes prior to authorization and ongoing performance monitoring and enforcement.

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ABBREVIATIONS

DHMG	Division of Housing Mission and Goals
DU	Desktop Underwriter
FHFA	Federal Housing Finance Agency
LOI	Letters of Instruction
LPA	Loan Product Advisor
OIG	Federal Housing Finance Agency Office of Inspector General

BACKGROUND

Most homebuyers in the United States use a mortgage to purchase their home. The lender uses the underwriting process to evaluate the borrower's ability to repay a mortgage. According to a senior FHFA official, a mortgage borrower's employment, income, and assets are core tenents of underwriting as they are used to determine whether a borrower can repay their mortgage loan. Fannie Mae and Freddie Mac have underscored the importance of verifying a borrower's income, employment, and assets to ensure that a borrower can repay a mortgage loan.

Historically, mortgage lenders collected and reviewed documents submitted by the borrower but typically prepared by other parties, such as W-2 forms and pay stubs prepared by the borrower's employer. Lenders also verified information directly, such as calling borrowers' employers to verify employment and salary. Lenders that sought to sell mortgages to the Enterprises made **representations and warranties** that the mortgages adhered to applicable standards relating to income, assets, and employment. For example, these representations and warranties included the calculations of borrowers' income and asset amounts to qualify for the loan as well as borrowers' employment status at closing.

Representations and Warranties: A mortgage lender's assurances that the mortgages it sells to the Enterprises comply with certain standards, such as underwriting and documentation standards. Violations of a representation or warranty entitle the Enterprise that purchased a loan to pursue certain remedies, including having the lender buy back, or repurchase, the loan.

While mortgage lenders continue to verify information relating to a borrower's income, employment, and assets and make representations and warranties to the Enterprises in connection with the sale of mortgages, technology may be changing the verification process. An FHFA official explained to us that since 2009, the mortgage industry has been using more automated methods to underwrite loans rather than relying on a manual review of physical loan documents, and FHFA holds the view that automated processes can improve the quality of underwriting.

ENTERPRISE AUTOMATED VERIFICATION PROGRAMS ....

Each Enterprise has launched an automated verification program[1] related to income, assets, and/or employment that offers relief to lenders from representation and warranty exposure for those components that are verified through the program. These programs are a component of the Enterprises' automated underwriting systems – Desktop Underwriter (DU) for Fannie Mae and Loan Product Advisor (LPA) for Freddie Mac. According to FHFA, part of the reason for automated verification programs and technical innovation more generally is borrower demand for more financial technology.

Fannie Mae Automated Verification Program

Fannie Mae initiated a pilot program for automated verifications in 2015. Following FHFA review and non-objection,[2] Fannie Mae's pilot was converted into a program called DU validation service and the full program was made available to all lenders in December 2016.

How it Works

DU validation service uses data sourced by approved third-party data vendors from institutions such as banks or the Internal Revenue Service to independently validate borrower income, employment, and asset data on conventional mortgages.[3] According to Fannie Mae, DU validation service uses its own logic to calculate and verify borrower information based on the underwriting policies contained by Fannie Mae's Selling Guide. For a conventional loan where a lender seeks to use DU validation service to verify borrower income, assets, or employment, the lender must first obtain the borrower's consent for an eligible verification report. Once such consent is provided, the lender orders the verification report from an approved third-party vendor, reviews the report, and enters and submits the information into DU. DU then obtains a duplicate copy of the data from the third-party vendor and performs

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[1] Although Fannie Mae refers to lenders obtaining verification reports from approved vendors, the Enterprise describes its process as validating the information. Freddie Mac indicates that it uses third-party verification service providers in its automated assessment program. For ease of discussion, this paper uses the term automated verifications when discussing the programs.

[2] *See* OIG, *FHFA Letters of Instruction to the Enterprises* (July 23, 2018) (WPR-2018-004) (online at www.fhfaoig.gov/sites/default/files/WPR-2018-004.pdf).

[3] Department of Veterans Affairs, Federal Housing Administration, and Department of Agriculture loans are excluded. Data availability from vendors shapes other restrictions. For example, information is available on base salary and commissions, but Fannie Mae does not have a partner with self-employment data, therefore, the Enterprise does not offer automated validation for most self-employment income. In some instances, such as gift funds, vendors can provide data, but Fannie Mae is unable to validate the information with a sufficient degree of certainty; therefore, gift funds are not eligible for automated validation.

its own income and asset calculations to validate what the lender submitted; DU can also validate the submitted employment status.

Representation and Warranty Relief

Historically, lenders were subject to repurchase liability under the representation and warranty framework for the life of the mortgage.[4] Beginning in 2012, FHFA announced changes to the representation and warranty framework, potentially shifting some risk from lenders to the Enterprises.[5]

As conservator for the Enterprises, FHFA has issued Letters of Instruction (LOI) to define the scope of delegated and undelegated authorities. Under Part C of the 2012 LOI, then in place, Fannie Mae was required to notify FHFA of its proposed DU validation service prior to implementing that service and to obtain an affirmative response (non-objection) from FHFA. As part of its DU validation service proposal, Fannie Mae sought to relieve participating lenders from their obligation to repurchase mortgages sold to it that are later found to contain errors or misrepresentations with respect to employment status and income and asset data and calculations that were validated by the DU validation service. While Fannie Mae represented that this proposed representation and warranty relief associated with the DU validation services would benefit lenders, it also asserted that the program would benefit Enterprise credit risk management with insights into loan quality. (See below for additional information on the benefits and risks articulated by Fannie Mae.) FHFA provided a non-objection determination on October 6, 2016, to Fannie Mae's DU validation service proposal.

We were advised that FHFA's Division of Housing Mission and Goals (DHMG) and Conservatorship Committee reviewed Fannie Mae's DU validation service proposal. We requested documentation of FHFA's review and studied the materials produced by FHFA. We found that those materials included an FHFA document summarizing the program and restating some of the benefits articulated by Fannie Mae in its program description and FHFA meeting notes observing the low pull-through rate in Fannie Mae's pilot program, possible technological risk, and restating some of the benefits articulated by Fannie Mae. We found no evidence that FHFA analyzed the possible costs to Fannie Mae from the proposed representation and warranty relief or quantified the benefits to it.

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[4] For more information, see OIG, *FHFA's Representation and Warranty Framework* (Sept. 17, 2014) (AUD-2014-016) (online at www.fhfaoig.gov/sites/default/files/AUD-2014-016.pdf).

[5] At present, a lender can receive representation and warranty relief if a mortgage has established an acceptable payment history, generally 36 months of on-time payments after purchase, subject to certain exclusions, or if it has satisfactorily completed a post-purchase quality control review.

FHFA's non-objection determination means that Fannie Mae, not the lender, will hold the risk for potential losses on mortgages processed through DU validation service that are subsequently found to contain an error or misrepresentation with respect to:

- Income calculations – the calculation of the income amount used to qualify the borrower when that income is validated by DU (per borrower, per income type);
- Employment status at closing – the borrower's employment, through the time of closing, when that status is validated by DU;
- Asset calculations – the accuracy of the amount of assets relied upon to satisfy the total amount of assets required to be verified by DU (loan-level), when that amount of assets is validated by DU; and
- The integrity of the data provided on the eligible report obtained from the report vendor.

This representation and warranty relief does not apply to other mortgage underwriting information, such as the loan-to-value ratio or the borrower's debt-to-income ratio.

Results

Although Fannie Mae's loan purchases validated through the DU validation service constitute a relatively small percentage of its overall loan purchases, the program has grown since its implementation in December 2016. According to Fannie Mae data, of its $118.5 billion total mortgage purchases in the first quarter of 2017, 3.8% ($4.5 billion) had all employment, all income, and/or all assets needed for the transaction validated through DU validation service. In the first quarter of 2019, this volume increased to 13.8% ($11.8 billion) of Fannie Mae's $84 billion in mortgages purchased. For first quarter 2019, DU validation service validated all employment on 11.7% of Fannie Mae's purchases, all income on 5.5% of purchases, and all assets on 2.1% of purchases needed for the transaction (by unpaid principal balance).

A Fannie Mae official reported to us that Fannie Mae is working with lenders to expand use of automated verifications.

Freddie Mac Automated Verification Program

Freddie Mac initiated an automated verification pilot program in 2017. Following review by FHFA, the pilot was converted to a program called LPA asset and income modeler available to all lenders using LPA in December 2018.

How it Works

Freddie Mac's LPA asset and income modeler uses approved third-party data vendors to independently verify borrower income and asset data for conventional mortgages.[6] LPA asset and income modeler automates the assessments of borrower assets and income for conventional mortgages. When a lender seeks to use LPA asset and income modeler, it must first obtain consent from the borrower. Once consent is obtained, the lender requests a verification report of the borrower's asset and/or income information from an approved third-party service provider. When the third-party service provider verifies the borrower's asset and/or income information, the lender submits the loan to LPA. LPA, in turn, asks the vendor to provide the same asset and/or income data provided to the lender and LPA assesses if the validated income and/or assets meet the underwriting requirements.

Freddie Mac does not offer automated verification of employment information.[7]

Representation and Warranty Relief

Under the LOI issued in 2017, FHFA directed each Enterprise "to provide timely notice of activities that represent a significant change in current business practices, operations, policies, or strategies" not addressed elsewhere in the LOI. FHFA then has 15 days in which to determine whether it would escalate the matter to issue a decision as conservator. In November 2018, Freddie Mac notified FHFA of its proposal to convert its automated verification pilot program to a program now called LPA asset and income modeler, which included relief to participating lenders from their obligation to repurchase mortgages that were later found to contain errors or misrepresentations with respect to income and asset data and calculations. Freddie Mac asserted that its ability to see and assess the mortgage data and conduct its own due diligence made the Enterprise comfortable giving up the representations and warranties under the program. Freddie Mac made a presentation about its proposal to agency officials on November 5, 2018, with additional information. (See below for additional information on the benefits and risks articulated by Freddie Mac.)

On November 14, 2018, FHFA notified Freddie Mac that it had closed the submission. By that notice, FHFA chose not to escalate the matter and require a conservator decision, which allowed Freddie Mac to move forward with its LPA asset and income modeler proposal.

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[6] Department of Veterans Affairs, Federal Housing Administration, and Department of Agriculture loans are excluded. Freddie Mac told OIG that the Enterprise does not have program or product exclusions and there are no borrower restrictions. There are, however, some restrictions on the type of assets and income that may be assessed automatically. For example, gift funds cannot go through the automated program, nor can earnings of a borrower employed by a family member or someone related to the transaction.

[7] Freddie Mac offers automated income calculation for self-employed borrowers based on tax return data.

We were advised that FHFA's DHMG reviewed Freddie Mac's LPA asset and income modeler proposal. We requested documentation of FHFA's review and studied the materials produced by FHFA. We found that those materials included a program summary and a high-level restatement of selected benefits. An FHFA item contained the assertion that "[e]nhancing LPA to assess assets and income from [Freddie Mac]-approved third party providers (rather than borrower providing documentation via lender) should increase data quality and reduce risk of misrepresentation or fraud." However, we found no independent analysis by DHMG of the costs and benefits of Freddie Mac's proposed program, including the possible costs to Freddie Mac from the associated representation and warranty relief.

FHFA's determination to allow Freddie Mac to move forward with LPA asset and income modeler means that Freddie Mac, not the lender, will hold the risk for potential losses on mortgages processed through LPA asset and income modeler that are subsequently found to contain an error or misrepresentation with respect to:

- Sufficiency of verified assets – the borrower has sufficient verified assets to meet the underwriting requirements for the mortgage;
- Asset verification report information – the accuracy and integrity of the data represented on the asset verification report;
- Income calculations – the accuracy of the income calculations related to eligible income sources on the income verification report; and
- Income verification report information – the accuracy and integrity of the data represented on the income verification report.

As with Fannie Mae, this representation and warranty relief does not apply to other mortgage underwriting information, such as the loan-to-value ratio or the borrower's debt-to-income ratio.

Results

As Freddie Mac's automated verification program was first introduced in December 2018, the track record of the program is quite modest. According to Freddie Mac data, about 1% ($272 million) of the total number of loans funded by Freddie Mac in April 2019 used LPA asset and income modeler for income verification and received associated representation and warranty relief, and 1.9% ($444 million) for asset verification.

According to an FHFA official, the component most commonly verified from among those verified in the two Enterprise automated systems is borrower employment verification, which Freddie Mac's program does not offer.

According to a Freddie Mac official, Freddie Mac anticipates that lender participation in its program will increase over time.

BENEFITS OF AUTOMATED VERIFICATION, AS ARTICULATED BY FHFA AND THE ENTERPRISES[8] ....

Improved Credit Risk Management

An FHFA official told us that the Enterprises' automated verification programs provide another layer of risk management because the automated underwriting system proprietary to each Enterprise (DU and LPA) has virtually the same data as the lenders receive from approved third parties when the mortgages are being underwritten. The Enterprises' underwriting systems can perform their own assessments of the borrower income and assets and information provided by the lender in the respective underwriting system.

According to Fannie Mae and Freddie Mac, for most mortgages, the Enterprises do not independently verify all information reported by lenders. The Enterprises report that they rely on lender representations and warranties that the information provided is accurate and complies with applicable standards when they purchase mortgages. They contend that the automated verification programs provide the Enterprises up front with virtually the same income, asset, and/or employment data used by the lender during the origination process, which enables them to validate the income, asset, and employment information provided by the lender against an independent data source prior to purchasing a mortgage. In part because the Enterprises are able to validate the information prior to purchase and are not reliant on the information reported by the lenders, they have elected to grant representation and warranty relief for the components they verify. As of March 31, 2019, Fannie Mae had granted representation and warranty relief on $112.5 billion in unpaid principal balance under the DU validation service and Freddie Mac had granted relief on $1.2 billion in unpaid principal balance under LPA asset and income modeler.

As noted previously, under the representation and warranty framework, a mortgage can receive relief if it has satisfactorily completed a post-purchase quality control review. Both Fannie Mae and Freddie Mac compared the quality control relief and the relief available under DU validation service and LPA asset and income modeler. Both assert that their automated verification programs essentially move up the quality control process for asset,

[8] OIG has not reviewed or conducted testing of the accuracy of the vendors' automated verifications. Therefore, we take no position on the benefits or risks involved with this initiative.

income, and/or employment and, accordingly, the eligibility for limited representation and warranty relief is accelerated.[9]

According to FHFA, use of automated verifications assists in the management of credit risk in two additional areas.

Reduction of Existing Small Risk of Forged Borrower Documents and of Out-of-Date Documents

Under the traditional verification system, there is a possibility that borrowers could alter key documents, such as pay stubs, to improve fraudulently their ability to qualify for a mortgage. Use of an approved third-party to obtain such information mitigates the risk. Freddie Mac acknowledged that this risk is small because, according to the Enterprise, borrower misrepresentations of income, employment, and asset documentation are extremely low. Fannie Mae reported to us that defects related to altered or forged income or asset documentation made up a small percentage of recent identified defects.

The traditional verification system requires borrowers to provide sufficiently recent documentation such as pay stubs. Automated verification systems rely on the third-party vendor to obtain and provide the most current documentation, which mitigates the risk of getting stale documents. However, both Enterprises asserted that this risk is not significant and that mortgages approved on outdated documents are rare.

Efficiencies and Cost Savings in the Mortgage Application Process

Both Enterprises reported to us that their lenders claim that use of the automated verification programs reduces the time needed for the underwriting process. While Fannie Mae projects that the time savings could run six to eight days, a Freddie Mac official explained to us that time savings are difficult to quantify and would vary by lender. In a published interview, a Freddie Mac official estimated that the automated verifications of income and assets could shorten the timeline by 10 to 12 days and save as much as $1,300.

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[9] The representation and warranty relief available under the framework also differs from that under automated verifications. Quality control reviews generally look at the full mortgage file and provide broad representation and warranty relief, with limited exceptions. By contrast, the DU validation service and LPA asset and income modeler specifically verify assets, income, and employment, and the associated relief is on these components only. Additionally, only a small percentage of mortgages receive post-purchase quality control reviews, while DU validation service and LPA asset and income modeler review each loan in the programs.

Improved Borrower Experience

Both Fannie Mae and Freddie Mac represented to us that borrowers favor less paperwork in applying for a mortgage. Automated verification programs can eliminate the need to provide a W-2 form and paystub.

RISKS OF AUTOMATED VERIFICATION, AS ARTICULATED BY FHFA AND THE ENTERPRISES ....

According to Fannie Mae, "Automation of the process for confirming borrower income, asset, and employment data and validation of the data up front in the process" mitigates certain risks that can occur in a manual process, but it "creates new risks and challenges…requiring the need for diligent risk management."

Risks from Use of Vendors

FHFA officials reported to us that FHFA views the primary risk from automated verification programs as the counterparty risk from the use of third-party vendors to provide borrower data electronically. Specifically, these counterparty risks include the following:

Operational and Representation and Warranty Relief-Related Credit Risks

Both Enterprises acknowledge that inaccuracies regarding borrowers' income, assets, or employment in the electronic data provided by third-party vendors is an operational risk that raises associated credit risk. Vendor data inaccuracies and/or lack of consistent borrower data could result in an Enterprise purchasing loans that are inconsistent with its risk standards and ultimately incurring credit losses because lenders are relieved of certain representation and warranty repurchase liability on the verified components.

A Freddie Mac official explained that there is also operational risk because Freddie Mac's rules and logic for mitigating risk may not be implemented correctly. For example, the borrower income calculation could be coded incorrectly during software development for its automated service, although the official maintained that Freddie Mac could detect the error prior to the software's release.

Another operational risk identified by FHFA and Fannie Mae is that vendor information systems may not provide on demand service for lenders or the Enterprises. That is, the vendors' systems may not be able to provide borrower data when it is needed by lenders for loan underwriting purposes.

Cyber Risk

Third-party vendors could be subject to data breaches. For example, Equifax, one of the primary verification vendors, was subject to a large breach in recent years.[10]

Reputational Risk

A disruption of service or security breach at a vendor could impact lenders' perceptions of the Enterprise, according to Fannie Mae and FHFA. Freddie Mac told us that it does not view LPA asset and income modeler as having reputational risk.

Risk Mitigants Related to Vendors

The Enterprises maintain that they have established controls designed to mitigate the operational and representation and warranty credit risks and other risks presented by the vendors that offer automated verification services as described below.

Initial Vendor Approval

Both Enterprises described formal processes for reviewing vendors prior to authorizing them to participate in DU validation service or LPA asset and income modeler. These include pre-qualification requirements, product demonstrations, risk assessments of the vendors' data quality and operations/systems, and vendor reviews. Fannie Mae asserts that its structured process and guidelines for determining eligible verification reports mitigates the risk assumed by it in providing representation and warranty relief on validated loan components. Freddie Mac told us that it has risk controls through multi-faceted vendor assessments prior to engagement.

Ongoing Vendor Performance Monitoring

The Enterprises must follow FHFA's third-party oversight requirements, set forth in Advisory Bulletin 2018-08. That Advisory Bulletin instructs that the Enterprises must monitor their vendors over time, both financially and systematically, and test the sufficiency of the vendors' services. According to the Enterprises, they conduct ongoing vendor performance monitoring efforts to ensure that vendors meet performance standards on an ongoing basis and that the

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[10] On July 22, 2019, the Federal Trade Commission announced a settlement with Equifax that included at least $300 million and potentially up to $425 million to help consumers recover from Equifax's 2017 data breach. This included $31 million for alternative cash payments of up to $125 per affected consumer, if these consumers opted not to select a free credit monitoring option. The Federal Trade Commission subsequently cautioned that consumers selecting the alternative cash payment option will get "[n]owhere near the $125 they could have gotten if there hadn't been such an enormous number of claims filed" and advised consumers to select the credit monitoring services instead.

quality of their data is consistent. Both Enterprises can suspend and terminate vendors for poor performance, and one Enterprise noted the option to seek redress through litigation.

Enterprise Quality Control Programs

FHFA, Fannie Mae, and Freddie Mac officials also cited the Enterprises' quality control programs as mitigating the credit and other risks associated with automated verification programs. Under these programs, the Enterprises reported that they review loan underwriting documentation for compliance with their standards for both random and targeted samples.

FHFA Oversight of Automated Verification Programs

FHFA's DHMG receives periodic reports from the Enterprises on their automated verification programs, such as volume of purchases where borrower income, assets, and/or employment was verified.

FHFA's Division of Enterprise Regulation is responsible for examining the Enterprises' vendor management programs. According to information provided by FHFA, since 2016, the Fannie Mae examination team has not conducted any targeted examinations or ongoing monitoring of Fannie Mae's oversight of third-party vendors specific to automated verification of borrower income, assets, and employment. FHFA reported to us that it is working to get more information on the performance of mortgages for which the DU validation service was utilized.

CONCLUSION...

Each Enterprise has launched an automated verification program related to income, assets, and/or employment that offers relief to lenders from representation and warranty exposure for those components that are verified through the program. Automated verification gives the Enterprises virtually the same income, employment, and asset data as the lenders receive from approved third parties when the mortgages are being underwritten. This allows the Enterprises' underwriting systems to perform their own assessments of the borrower income and assets and information provided by the lender in the respective underwriting system. However, this adds risk from the use of third-party vendors to provide borrower data electronically, namely that vendor data inaccuracies and/or lack of consistent borrower data could result in the Enterprises purchasing loans that are inconsistent with their risk standards and ultimately incurring credit losses because lenders are relieved of certain representation and warranty repurchase liability on the verified components. As stated by Fannie Mae, these risks require the need for diligent risk management.

OBJECTIVE, SCOPE, AND METHODOLOGY ....

The objective of this white paper was to provide background information on the Enterprises' automated verification services for borrower income, assets, and employment data. To achieve this objective, we reviewed internal FHFA, Fannie Mae, and Freddie Mac documents as well as publicly available documents. We also interviewed FHFA, Fannie Mae, and Freddie Mac officials.

We provided FHFA with the opportunity to respond to a draft of this white paper. We appreciate the cooperation of FHFA staff, as well as the assistance of all those who contributed to the preparation of this white paper.

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