FHFA RFI

**General Questions on Fintech and Innovation**

**A1. How do primary and secondary mortgage market participants define fintech in housing finance sector: What key factors are considered?**

Fintech (financial technology) is used to enhance or automate the delivery of financial services to consumers. In the primary and secondary mortgage market, fintech is largely focused on the collection of key consumer and property information pertinent to the mortgage lending process. Financial technology collects direct source financial data used in the origination, underwriting, post-closing and servicing cycles. For instance, when a consumer’s assets, income and employment are verified, that data collection is performed with consumer permission and retrieved directly from its source, meaning from financial institutions or from payroll providers. Collecting data direct from its source eliminates opportunities for fraud and can expedite credit decisioning.

Key factors in determining whether a technology is a “fintech” should be:

* Does it facilitate data collection or data sharing pertinent for credit decisioning purposes?
* Does it provide value to consumer, lender and investors?

**A2. How could FHFA facilitate adoption of “responsible innovation?”**

Our view is that responsible innovation must answer “yes” to the following questions:

1. Is the data standardized?
2. Is the consumer experience improved?
3. Are consumer and lender costs and risks reduced?
4. Are benefits fairly shared among all consumers?
5. Is access to affordable and sustainable lending expanded?
6. Do mortgage-backed securities experience risk reduction and performance improvement?

A responsible and forward thinking fintech will look to create efficiencies in the current market, align policies and technology progress with that of key stakeholders: regulators, investors, secondary market and advocacy groups.

In the opinion of FormFree, a fintech organization that understands where pertinent consumer data resides, how to access it safely and, critically, how to make it actionable for the lender and investor is by definition a responsible innovator.

**A3. What factors currently inhibit the adoption of fintech and innovation in the primary and secondary housing finance sector: Are there specific challenges related to privacy laws, industry standards, or current practices.**

Adoption is impacted by multiple factors.

1. **Consumer Education**: Education is paramount, specifically as to the personal use of fintech products including common sense security protocols, privacy precautions, and understanding how data is safely transmitted among mortgage stakeholders. The collection and utilization of consumer-permissioned access to bank data and payroll provider data is relatively new to the mortgage industry since the 2016 introduction of Fannie Mae’s Day 1 Certainty initiative, but has been successful in the stock and securities trading industry since the early 2000s. Notably, utilization of all consumer technology products increased significantly during the COVID pandemic, highlighting an expectation of similarly efficient, reliable communication with lenders. It bears repeating that, during the 2020-2021 refinance boom, mortgage fintech adoption facilitated efficiencies enabling unprecedented mortgage volume.
2. **Lender Adoption:** Lenders selling directly to the GSEs are deploying fintech at a faster pace than lenders who sell to aggregators, adoption driven in part by GSE efforts to educate and communicate both consumers and lenders.

However, industry change has a measured (some might argue glacial) pace, especially during high volume environments when lenders are struggling to manage production.

Further, hundreds of technology products support the mortgage process: loan origination systems (LOS), point of sale systems (POS), quality control (QC) review – each a category of product with multiple competing solutions. Industrywide adoption requires fintech innovators to forge relationships with an entire transaction ecosystem, presenting its own set of complex challenges.

1. **Data Availability:** The availability of direct source data in the analysis of risk in the mortgage process is fragmented and inconsistent. Repositories of the consumer’s financial data include financial institutions and payroll providers. Access to the data is through multiple, inconsistent mechanisms. Fidelity of the data, in terms of fields supported and history availability, varies from institution to institution. Rules regarding access to the data based on Dodd-Frank section 1033 are not in place, and so data access can be limited arbitrarily and inconsistently across fintechs.

Challenges:

1. Data Standardization Gaps: The good news is that MISMO’s work on additional standardization of data schemas will ease fintech navigation across all stakeholders: AUS, LOS and POS systems.
2. Extensible Standards: Standard formats such as those from MISMO or the GSEs are based on the capabilities of today’s systems, and generally have no mechanism for extension of new data fields or elements, curtailing the innovation fintechs can broadly deliver since their data and analytics capabilities were not contemplated when the standards were developed

**Questions on Fintech Opportunities**

**B1. What kind of fintech activities have the greatest potential to positively impact the housing finance sector? Describe several situations in which a product or service has been or could be used, the factors considered in determining importance, and associated impacts.**

Expanded access to sustainable and affordable mortgages using consumer permissioned bank data to better understand borrower ability to pay.

* Additional data & analytics can be used to enhance current credit risk evaluation methods.
  + GSEs using asset data aggregated from consumer permissioned access to bank accounts to identify rental payment history, is a technique FormFree developed in 2017 requiring another 4 years prior to agency adoption.
  + FormFree aggregates consumer permissioned bank data to which it applies an added layer of intelligence, providing an intelligent, non-biased view of the consumers financial ability to repay debt.
  + Intelligence layer helps the consumer better understand their expenses.
  + Intelligence layer is a predictive tool back tested against FICO, effectively offering an alternative index that can support credit expansion without increasing risk, at the same time offering consumers who may have a low FICO or no FICO, due to the types of debt they incur. For example, a consumer who pays rent to a private landlord will not have the ability to increase their FICO score because the landlord doesn’t report to the bureaus. This bias in the scoring model continues to keep qualified borrowers out of today’s mortgage market or causes them to pay higher rates.
* Innovation continues based on rules-based data analytic tools and AI in the sense of open-ended machine-learning or “black boxes” is not being used.
  + Use consumer permissioned data with layered intelligence to determine consumer ability to pay by developing an intelligent cash flow analysis, identifying discretionary income, disposable income, and understanding consumer cash flow over time.
  + These tools can identify income from employers, gig economy income, familial income, while also categorizing consumer spending habits:
    - Committed expenses: auto, home, utilities, food, etc.
    - Discretionary expenses: dining out, travel, entertainment
  + Categorization helps the consumer understand how to adjust spending to meet monthly housing needs.
  + A **Residual Income Knowledge Index** (RIKI) has been developed to show how the consumer’s cash flow and ability to handle their obligations impact their ability to repay a mortgage.
  + These non-traditional methods of understanding the consumer, their ability to pay and mitigating lending risk to a consumer with no or low credit score can impact lending by allowing lenders to expand access to credit without taking on additional risk.

**Factors determined**

Key factors for consideration:

93.2% of Americans have paycheck direct deposit into a bank account. (2022 “Getting Paid in America” survey: <https://info.americanpayroll.org/pdfs/npw/2022_Getting_Paid_In_America_survey_results.pdf> ) This allows the intelligence system to identify income & employment from the asset data.

**Associated impacts**

* Socioeconomic equalization
* Better credit decisioning for the consumer and the lender
* Risk mitigation

**B2- What are the typical time requirements of each process within the mortgage lifecycle?**

Assuming a normal production environment (outside of refi boom or pandemic)

* Inclusive of origination, processing and underwriting- absent a progressive tech stack- industry average closing time is estimated at 38 days vs. lenders using the tech tools GSEs promote via Day 1 Certainty and AIM reduce closing times to less than 20 days.

**What are the “critical path” activities that drive the mortgage timeline and borrower expense?**

* Origination expense paid to loan officers account for 50% of the average production cost of $10,850, per MBA statistics.

**How could fintech be applied to improve efficient, reduce costs, reduce time requirements, or facilitate equitable outcomes for borrowers?**

* GSEs introduced effective time and cost savings tech tools that reduce loan manufacture time, replacing repeatable tasks with technology to save the consumer money in the cost of the mortgage. GSE’s AUS accept direct source data into the credit decisioning engines allowing for straight through processing, so humans aren’t required on specific tasks automated in GSE AUS engines.
  + Automated asset, income and employment verification create an estimated time savings of 20 days from app to close, according to the GSEs
  + Processing and underwriting reduced by 8-12 days and saves 90+ minutes per file for underwriters and processors, at a cost reduction for the consumer.
* Although these tools are available to all lenders, helping lenders embrace the tools and change their manufacturing process has been challenging, in part since the value of the rep and warrant relief is challenging to quantify.
* Suggestion to drive adoption of existing tools: Reduce g-fees for lenders who deliver loans with the direct source data, since improving pricing to lenders reduces their manufacture cost, an incentive to drive adoption.

**B3- What are the typical drivers of repetitive requests to borrowers or reevaluation of underwriting information by the lender in the mortgage process and what opportunities exist to automate processes?**

* When consumers use fintech applications to share their data (asset, income and employment information), there are typically no delays in the manufacturing process because the data is directly from the source (banks, payroll providers), meaning the data is accurate and immutable.
* When consumers share their data by providing paper, numerous factors could delay loan manufacturing and require multiple engagements with the consumer, requiring lender staff to repeat steps in manufacturing, further delaying closing and increasing costs.
  + Paper leads to propensity for fraud. Lenders must perform additional due diligence to ensure data is correct.
  + Electronic sharing of documents via email or uploading to portals can impact the quality of the visual acceptance of the data. If the scanned or picture of the document isn’t high quality, again it creates additional steps to confirm data, increasing human interaction, therefore increasing consumer and lender costs.

Fannie Mae and Freddie Mac technology platforms each consume digital data from lenders who engage with the consumer to share their data digitally, allowing the consumer to link their data via aggregation platforms like FormFree that collect direct source data from banks and payroll providers. Fintech providers understand where the data exists and how to gain access to it, then present it so the GSE AUS engines (DU and LP) can absorb for credit risk evaluation.

The AUS engines use the direct source data (which cannot be changed by the consumer or lender), allowing lenders to manufacture the loan faster, eliminating human interaction with the data saves time and money, again reducing lender and consumer costs.

Data aggregation speeds up the collection of required consumer information to meet GSE guidelines. Additional benefits of this utilization are:

* Complete and accurate view of the consumer’s ability to pay
* MBS securitization performance is improved, stabilizing investment and values
* Fraud reduction

Opportunities to automate the process:

* Suggestion for the GSEs credit risk models: Use cash-flow analysis captured from data aggregation with applied rules-based analysis of the asset data in the underwriting process.
  + Allowing additional reductions to manufacture time and cost of validating consumer’s ability to pay.
* Analytic model overlays: The GSEs currently develop their digital data analysis tools without input from 3rd party model creators like FormFree. In the context of a “level playing field” where each digital data provider is treated equally, the GSEs can only consume the lowest-common denominator of data. This means that any innovation that fintechs develop for the analysis of the data can be shown to the GSEs, but that innovation can’t be used to enhance the lending process until the GSEs develop that same innovation internally – and independently of any IP that the fintech as developed.
* Verifying a consumer’s employment and income from the bank direct deposit data is available today. Bank data delivers the net pay vs gross from tax returns or paystubs. Acceptance and utilization by the GSEs is limited due to the industry’s historical reliance on gross borrower income. The argument could be made that understanding the consumers true ability to pay with actual net income is a better indicator of affordability.

**B4 What are existing data challenges that most prevent data driven decision making in the mortgage lifecycle?**

* Data is available to the GSEs, but decision making utilizing that data is solely reserved for the GSEs, leading to prolonged delays in improvements to lenders’ decision-making process.
* As this technology relies on direct source consumer data, which the CFPB still asserts is owned by the consumer themselves, the holders of the data on behalf of the consumer (financial institutions and payroll providers) have in many cases made it difficult for fintechs to access the data: restricting access to certain companies, restricting the amount of data available, or blocking access to the data. If it is consumer data, the consumer decides.

**B5- What are the existing regulatory and policy barriers to adopting and implementing fintech within the mortgage lifecycle?**

* The GSEs will only accept lowest-common denominator raw data and will not use as part of the decision-making process any enriched analytics the fintech has layered with the data.
* In general, it is challenging to run a fintech in the United States, where, instead of a single federal regulatory framework governing all personal information, there are a matrix of laws, regulations and regulators imposing various privacy and data security requirements on different parts of the industry. Further, fintechs must also remain aware of requirements under the ever-expanding network of state data protection laws – that’s a lot to keep up for a fintech doing business across all 50 states.
* To expound on the ever-diversifying privacy laws as it relates specifically to FFHC direct-source data type of services, these expanding regulations make it difficult for us to rely on the fact that we know we will have “x” number of consumers’ data to rely on for our RIKI product development and implementation. As states beyond California expand their consumer privacy laws and their reach into our organization and what we’re allowed to keep, the certainty that we can rely on knowing our research data is safe and ours to keep is dubious. This state privacy map illustrates current states with existing specific laws and upcoming ones looking to expand their regulation: <https://iapp.org/media/images/resource_center/State_Comp_Privacy_Law_Map.png>
* Additionally, in speaking with industry colleagues regarding GLBA and data privacy hot button issues the biggest topic where fintechs feel unheard by regulatory entities as relates to privacy is that one size does not fit all. There should be more consideration into exemptions – which we are seeing in other states like Virginia and Colorado as they work through their new framework. But again, keeping up with federal regulations and potentially 50 individual states makes modernization more difficult, creates complexity in our process and causes an unknowable amount of friction for anyone trying to innovate in the space.

**Equitable Access to Credit**

**C1. What new fintech tools and techniques are emerging that could further equitable access to mortgage credit and sustainable homeownership? Which offer the most promise? What risks do the new technologies present?**

* Implementing Paragraph 43(c)(2)(vii) of 12 CFR Part 1026 (Regulation Z) – the Dodd-Frank Ability to Pay rule. The FormFree Ability to Pay suite of analytics culminating in the RIKI index was

specifically designed to accommodate determining a consumer’s ability to repay a mortgage based on their residual income.

* Cash flow underwriting model
* Consumer facing application allowing the consumer to control the use of their financial data.
* Alternate-credit tools like Passport/RIKI assist consumers in qualifying for loans vs traditional FICO qualification that leaves out entire communities that have some ability to repay a loan.
* Risk: We don’t know how these tools match up to FICO’s index and most lenders only frame of reference today is minimum FICO scores. The data is there to create context, but it’s locked inside FICO’s black box.

**C2. What emerging technologies are available to facilitate or evaluate fintech compliance with fair lending laws? What documentation, archiving, and explainability requirements are needed to monitor compliance and to facilitate understand of algorithmic decision making?**

* FormFree approaches this from a different angle. By using a specifically non-interpretive analysis of a consumer’s income and expense, and then mathematically calculating residual income, the ATP model cannot introduce any biases as contemplated by fair lending laws. The output of ATP is purely computational.
* Tools like risk3sixty, ServiceNow GRC, LogicGate, etc., partner with organizations to assess policies and procedures and provide knowledgeable recommendations and access to subject matter experts who can help work through nuances specific to applicable industries. The utilization of a GRC platform and its expert assessments/analyses is going to be the most efficient way to assess a fintech’s due diligence documentation for risks in Fair Lending.

As far as fintech tools:

* Suspicious activity monitoring and reporting tools/vendors allow for automated assessment of a wide range of topics and potential issues that fintechs encounter, and make it easier to investigate and report SARs correctly and completely. Additionally, regulation change library tools with the ability to map existing and new regulations to risk control testing make it infinitely easier to keep up with ever-changing regulations and help us ensure our processes, procedures and policies are contemporary.
* In terms of understanding algorithmic decision making, data access documentation along with data quality documentation must be understood beyond a simple compliance check box. Policies and procedures are not enough - evidence must be gathered to ensure fintechs are following procedures. Often, this is achieved through a SOC or ISO certification process by the fintech which audits whether the fintech is a good steward of regulations and data.

**C3. Are there effective ways to identify and reduce the risk of discrimination, whether during development, validation, revision, and/or use fintech models or algorithms? Please provide examples if available.**

FormFree’s approach is to stop discrimination at the source, i.e., not implementing types of modeling that would be susceptible to unwanted discrimination in the first place.

An open-ended machine-learning system might try to model risk based on all available information, and might, for instance, pick up indirect indications of ethnicity such as choice of hairdressers. Then, given the way machine learning works, this would be used in the model as if it were just as financially valid as bank balance or number of overdrafts. Approaches like this are common in fintech AI, but FormFree does not operate this way.

FormFree also does not try to estimate demographic information about consumers, such as whether they are married, have children, or are young or old. While some of this information might be evident from the set of transactions, FormFree’s software does not extract it.

Rather than try to model risk based on all available variables, or on demographic variables that might be both fallible and potentially discriminatory, FormFree controls the flow of information within the software so that, for instance, at the point where ability-to-pay is calculated, the consumer’s overall amount of discretionary spending is known, but details such as choice of restaurants or hairdressers, or even relative spending on restaurants vs. hairdressers, or groceries vs. child care, is not available for use.

FormFree’s interpretation of numerical data is done by a rule-based system which, although based on statistical analysis, does not train itself on individual borrowers and thus cannot be misled, in real time, by chance patterns in the data.

**Questions on Fintech**

**D1. What risks do fintech and fintech firms present to the economy and the financial sector? To the housing finance sector? To FHFA regulated entities? To counterparties of FHFA regulated entities and other third parties? To mortgage borrowers and consumers?**

* As a conduit for consumer financial data from the systems of record of a consumer’s data to the parties in the housing sector, the fintechs must be held to the highest standards of data integrity and data security. Independent audits and audits by the regulated entities are a given. Consumer control of their data needs to be the central tenet by which all data usage is governed. Thus, FormFree advocates the use of a customer-centered mobile application to provide access to the data, and just as importantly revoke access to the data.
* The most present threat in the mind of consumers and lenders that we interact with is data security. With access to lots of information comes the weight of responsibility for fintechs. It is a sobering fact that data breaches cost our economy and our consumers significant tangible dollars. In 2022, the average cost of a data breach has reached a record high of US $4.35 million, according to the 2022 cost of a data breach report by IBM and the Ponemon institute.
* They also cost intangible “headaches” working through the process of rebuilding financial worlds and information security frameworks once a breach has occurred.

**D2. What risk management practices do industry participants use to address the risks posed by fintech and innovation in housing finance?**

Again, consistent usage of a GRC platform along with a minimum of quarterly risk register reviews with fintechs goes the furthest to mitigate fintech risk. Ensuring the use of SOC or ISO certified fintechs means these companies prioritize their ability to prove to third party auditors that we do what we say we do and mitigate risks appropriately.

**D3. What risks to consumer privacy have been associated with fintech? What practices are being used to manage these risks?**

Risks: Data access controls along with data retention and privacy.

Vendor due diligence assessments and usage of GRC platforms are the best practice methodologies to mitigate data risks as follows: Collect appropriate documentation. Do it on a consistent basis. Document that you do it and make sure that you’re doing it each year with the most recent risks in mind. Again, using a SOC or ISO certified fintech demonstrates a commitment to data privacy. These certification processes are rigorous and expensive. If you’re working with a fintech who jumped through all those hoops and illustrated the financial commitment to proving their data security as well, you are doing your part to protect the information of which you’re a liaison.

**Questions on Regtech**

**E1. What are the most promising areas for applying technology to regulatory and compliance functions? Please describe opportunities for “regtech” to simplify or improve compliance with FHFA, Enterprise, or FHLBank requirements.**

**No response provided. Outside FormFree’s focus.**

**Questions on Stakeholder Engagement**

**F1. What forms of stakeholder engagement are most effective in facilitating open, timely, and continuous discussions on the challenges and opportunities presented by the application of fintech to housing finance?**

* In person and virtual forums that allow technology providers opportunities to showcase new innovations.
* Monthly cadence calls with leading innovation providers.

**F2. What are some topics for a housing finance “tech sprint “and how could FHFA encourage participation?**

* Use of consumer permissioned data to change current credit risk evaluation policies at the GSE level.
* Expand access to credit for consumers who have been negatively impacted by credit scoring models that don’t account for the full view of the consumer’s ability to pay.