Advances in financial technology can provide positive developments for consumers, reducing time and expense for transactions and improving convenience overall. Yet the application of new technology to housing finance without proper consideration and safeguards can increase the possibility of consumer fraud, unlawful discrimination, poor data protections, financial risk, regulatory risk, legal risk, reputational risk, and other negative outcomes. Given the potential for harms to consumers and financial systems by processes that can be too fast, too opaque, insufficiently secure, and potentially discriminatory, the FHFA should approach new innovations in mortgage origination (mortgage tech); researching, transacting, and managing real estate, (proptech); and regulation and compliance (regtech) with due caution and deference to consumer protections.

We propose several principles for consideration by FHFA and the Office of Financial Technology when evaluating whether to incorporate new aspects of financial technology in housing finance:

- Maintain all existing consumer and fair lending protections;
- Protect consumers from harms particular to fintech, particularly electronic records that replace writing requirements, and ensure high standards for security procedures for electronic signatures;
- Incorporate strong protections against algorithmic bias;
- Incorporate housing counseling in mortgage applications and provide credit to borrowers who participate in housing counseling;
- Ensure strong tenant protections in property tech; and
- Employ skepticism about the prospect of conducting real estate transactions on the blockchain.

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Maintain all existing consumer and fair lending protections:

The use of novel forms of fintech must not be used to justify weakening or ignoring any existing consumer protections. In the housing finance space, innovations in fintech are generally an application of new technologies to the provision of goods and services that already exist, such as mortgage lending or property management. For example, technological innovation has made it possible to apply for a mortgage and receive an approval online, without speaking to a person.

Recommendation: While these advances in technology may make processes move faster and easier, the underlying product has not changed, nor have the regulations governing mortgage lending, data privacy, data security, data transparency, language access, and fair lending. It is essential, therefore, to maintain any and all consumer and fair lending protections as they exist currently without establishing fintech exceptions.

Protect consumers from fraudulent practices enabled by fintech:

In addition to preserving existing consumer and fair lending protections for consumers, regulators should also look at the specific potential for harm caused by the application of new technology to financial products and services. Consumer advocates report significant problems with the provision of electronic records in place of paper writings, as well as electronic signatures, which are legally equivalent to handwritten signatures when certain criteria under the federal E-Sign Act have been met.2

One source of these problems is the lack of high-speed internet for many consumers, limiting the extent that fintech can be used to provide consumer-facing services. The role of technology in housing finance will be a very different experience for those with limited to no access to home internet service or mobile broadband connectivity through a smartphone. This digital divide has been a persistent divide by income, geography, race and ethnicity, age, education and other factors.3

The FDIC has surveyed the access to technology by the unbanked and found 66% of the unbanked do not have internet access at home and while smartphone adoption is increasing, one

3 The Pew Research Center has a large body of research on the Digital Divide. See e.g., Sara Atske and Andrew Perrin, “Home broadband adoption, computer ownership vary by race, ethnicity in the U.S.” (July 16, 2021); Emily A. Vogels, “Digital divide persists even as Americans with lower incomes make gains in tech adoption” (June 22, 2021); Emily A. Vogels, “Some digital divides persist between rural, urban and suburban America” (August 19, 2021).
The troubled Property Assessed Clean Energy (PACE) program in California used home improvement contractors to conduct door-to-door solicitations of homeowners for PACE financing. Most financing applications, disclosures, and contract execution took place electronically whether or not the homeowner had access to their own computer hardware, internet or even an electronic mail address. Most transactions took place with both parties standing in the same physical space, but with no paper disclosures actually provided and the financing documents executed electronically through DocuSign. Reports of fraudulent or exploitative behavior began to surface soon after the initial program started, with seniors and people with limited English proficiency particularly impacted. A number of PACE loan borrowers reported that they did not understand that they were signing for a large loan that could result in foreclosure, instead believing they were enrolling in a free government program. For example, the California Department of Financial Protection ("DFPI"), issued a cease and desist order against a PACE solicitor when their investigation revealed the solicitor electronically executed the financing applications and financing contracts without the consumers’ knowledge while promising the homeowners it was a “free government program.” In 20 of the 22 complaints, the homeowner denied ever signing the PACE financing contract and, in the other two complaints, the homeowners recalled signing contracts on an iPad but the contracts were written in English, while the homeowners primarily spoke Spanish. The DFPI also moved to revoke the license of the largest originator of PACE assessments in California, Renovate America, when they found fake email accounts had been created and

5 Monica Anderson and John B. Horrigan, “Smartphones help those without broadband get online, but don’t necessarily bridge the digital divide” (October 3, 2016).
6 “[S]olicitor agent would ask the homeowner for personal financial information such as tax statements, paycheck stubs, and driver’s license in order to determine if the homeowners qualified for the “free government program.” After taking a picture of the documents on a cell phone or iPad, the employee would leave. Then, the PACE Administrator would receive an application for PACE financing from the homeowner. All 22 complaints arise out of assessment contracts that were e-signed by DocuSign. In 20 of the 22 complaints, the homeowner denies ever signing the PACE financing contract between [PACE Administrator] and the homeowner. In the two complaints where the homeowners do recall signing contracts on an iPad, the contracts were written in English, while the homeowners primarily speak Spanish.”
phone numbers forged to execute the contracts. This case was not just one solicitor but a rampant problem within the industry as was uncovered by the litigation *In re Renovate Finance Cases* which showed “none@herofinancing.com” or “none@heroprogram.com” were the designated email address for homeowners in over 6,300 transactions. Because the transactions and disclosures were conducted electronically, critical information about the true costs and risks of the transactions was never actually provided to the consumers. Too many homeowners remain saddled with debt that they cannot afford and remain at risk of losing their homes due to unaffordable payments. Due to these consumer protection issues, Los Angeles County announced in 2020 that it had discontinued its residential PACE program.

● In the automobile financing space, less-sophisticated consumers are too often tricked into applying their signature electronically to a contract on a tablet or hardware owned by the auto dealer, even though the parties are in the same room at the dealership. In some cases the terms of the contract to which the signature was applied are quite different from the terms to which the consumer actually agreed.

● Additionally, there have been stories of insurance brokers who have submitted multiple annuity applications for customers without their knowledge, by creating fake email addresses for them and then using those email addresses to electronically forge their signatures on the applications through DocuSign.

● Last summer, FINRA said that reports of digital forgery and falsification were on the rise, including reports of representatives forging both clients’ and supervisors’ signatures through digital means. Existing two-factor authentication protections were found to be

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8 In re Renovate America Finance Cases, Third Supplemental Declaration of Cameron R. Azari, Esq on Implementation and Adequacy of Class Notice, No. RICJCCP4940 (Superior Court of the state of California, County of Riverside, 2018).


11 See, e.g. the discussion on this point in recently filed comments with the FTC on automobile financing problems, in § V.E at page 68. Available at https://www.nclc.org/wp-content/uploads/2022/09/FTC_auto_add_on_comment.pdf.

inadequate, as representatives can circumvent them when they have clients’ personal information on file.\(^\text{13}\)

These examples illustrate the risk of fraud associated with e-signatures and the lack of paper disclosures, with vulnerable populations such as seniors and people with limited English proficiency particularly impacted. When determining whether to approve new applications of fintech, regulators must exercise extreme caution and consider the potential for fraud. This includes setting strict standards for full compliance with the E-Sign Act requirements for consumer consent before electronic records can satisfy requirements for writings, and ensuring that signatures applied electronically are truly verified with the strictest security procedures available on the market.\(^\text{14}\) The E-Sign consent provision requires that the consumer consent electronically “in a manner that reasonably demonstrates that the consumer can access information in the electronic form that will be used to provide the information.”\(^\text{15}\) This means that consumers must demonstrate, not just affirm, that they have access to the equipment and programs necessary to receive, open, and read the relevant electronic documents.\(^\text{16}\)

**Recommendation:** We recommend that regulators expressly prohibit lenders from providing electronic records in lieu of paper when writings are required unless borrowers have their own, pre-existing email addresses and computer hardware that allows them to view all required disclosures so that they are clear and conspicuous,\(^\text{17}\) and ensures that the disclosures are capable of retention.\(^\text{18}\) The complicated disclosures required for home mortgage transactions can not be considered to have been provided in a clear and conspicuous manner if they are viewed only on the relatively small screen of a smart telephone. And there is no readily available way for a smart telephone to retain documents in a way that they can meet E-Sign’s retention requirements.\(^\text{19}\) Moreover, lenders and servicers should be reminded that E-Sign prohibits the provision of

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14 In consumer transactions, E-Sign requires a specific electronic consent process before an electronic notice may replace a written document that must be provided to the consumer. 15 U.S.C. § 7001(c). This consent process was explicitly added to protect consumers in real-world transactions from unfair and deceptive practices. As Senators Hollings, Wyden, and Sarbanes noted when passing E-Sign, “the validity of a consent obtained as the result of an unfair or deceptive practice can be challenged and found to be invalid, in which case any records which were provided electronically will be deemed to not have been provided to the consumer.” 146 Cong. Rec. S5229 (daily ed. June 15, 2000).

15 15 U.S.C. § 7001(c)(1)(C)(ii). See also 146 Cong. Rec. S5224 (June 15, 2000) (statement of Senators Hollings, Wyden, and Sarbanes) (“The Act requires that consumers consent electronically—or confirm their consent electronically—in either case, in a manner that allows the consumer to test his capacity to access and retain the electronic records that will be provided to him.” (emphasis added)).

16 See 146 Cong. Rec. S5216 (June 15, 2000) (comments of Senator Wyden) (“Reasonably demonstrates means just that. It means the consumer can prove his or her ability to access the electronic information that will be provided.”).

17 E-Sign’s consent requirement requires that the disclosures that must be provided to consumers before electronic records can replace writing requirements must be “provided in a clear and conspicuous” manner. 15 U.S.C. 7001(c)(1)(B).


19 Id.
Incorporate strong protections against algorithmic bias:

The use of automated decision making systems in mortgage lending have been found to perpetuate racial discrimination in several recent analyses. For example, a 2019 analysis by UC Berkeley found that lenders charged Latinx and Black borrowers 5.3 basis points more in interest for purchase mortgages and 2.0 basis points more for refinance mortgages originated on FinTech platforms. A 2021 study found that Black and Hispanic borrowers are more likely, relative to similarly qualified white borrowers, to be given subprime loans at both fintech and traditional lenders.

Recommendation: The NAACPLDF has submitted detailed recommendations for combatting algorithmic bias, which we support. Specifically, we recommend requiring independent auditing of fintech algorithms at every stage of their lifecycle. Additionally, lenders should notify borrowers when they are using automated decision-making systems to assess the borrowers and plain language reasons should be provided in writing for denials that will give borrowers the opportunity to correct incorrect information. Lenders should be required to archive the data sets used to develop and test their algorithm, maintain copies of previous versions of their algorithm, and other information that can be used to assess fair lending violations.

The National Fair Housing Alliance has submitted comprehensive recommendations on how bias and discrimination risks of algorithmic systems including statistical models, machine learning models and AI solutions developed by FinTech may be mitigated to reduce consumer risks. We support those comments. Specifically, we recommend that the use of algorithmic systems should ensure non-discriminatory and equitable outcomes for all who participate in the financial services market; algorithmic systems should be subject to existing civil rights laws and policies that provide a framework for the Agencies to analyze fair lending risk in AI and to engage in supervisory or enforcement actions, where appropriate.

Finally, the Supervisory Guidance on Model Risk Management (MRM Guidance) considers a model to be a quantitative method that uses statistical, mathematical, economic, or financial
principles to extract insights or intelligence from data. The MRM Guidance aims to provide comprehensive guidance to banks on how to manage risks. Since many banks rely on innovations from the FinTech community or from their FinTech subsidiaries, by extension the document serves as a working framework that many FinTech companies rely on to manage risks associated with their models which derive from techniques not yet conceived when the MRM Guidance was written. Moreover, the document defines “model risk” to focus on the financial institution rather than the consumer by stating that “model risk can lead to financial loss, poor business and strategic decision making, or damage to a bank's reputation”.

24 We recommend that FinTechs have appropriate Compliance Management Systems that effectively identify and control risks related to their models, products, and services, including the risk of discriminatory or inequitable outcomes for consumers.

We also recommend that the MRM Guidance should be expanded to incorporate fair lending risk and consumer risks, not just model risk. Fair lending risk assessment of model risks and algorithmic risks would not only ensure that there are legitimate reasons for including variables in the models or algorithms, but it would also ensure that FinTechs proactively search for least discriminatory models without compromising model performance. In addition, assessing models for potential consumer risks would limit or eliminate factors that specifically increase the risk of deceptive, abusive acts or practices in products or services being marketed to consumers.

**Incorporate housing counseling into the mortgage borrowing process and give borrowers credit in automated underwriting systems:**

The application of fintech to housing finance often results in faster transactions, which can benefit both consumers and lenders. However, when making the major financial decision to purchase a home, there are benefits to offering the purchaser the opportunity to receive beneficial pre-purchase counseling.

**Recommendation:** Borrowers should receive credit in Automated Underwriting Systems used by Fannie Mae and Freddie Mac for successfully completing housing counseling. Currently these systems treat low downpayment mortgage applicants with good but not the highest credit score as higher risk applicants. Because Black and Brown applicants often come from lower wealth communities, they are more likely to have lower down payments, and as a result can receive higher pricing or higher decline rates. AUS should include credit for the successful completion of housing counseling by the applicants, which might partially offset the higher prices otherwise triggered by the lower down payments. In cases where there is an applicant with a low down payment, housing counseling should be treated as a compensating factor, their rating on the risk

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24 See Federal Reserve Board and OCC, Supervisory Guidance on Model Risk Management, SR 11-7 at 3 (Apr. 4, 2011) (“MRM Guidance”) (defining “model risk” to focus on the financial institution rather than the consumer by stating that “[m]odel risk can lead to financial loss, poor business and strategic decision making, or damage to a bank's reputation”).
tiers should be improved, and they should have any loan level price adjustment pricing increase waived.

**Ensure strong tenant protections in property tech:**

Recent applications of fintech have been used to allow large, geographically-disparate groups of people to purchase property jointly with very low individual contributions. One startup promises to “make you a landlord for $5” and is facilitating the joint purchases of rental properties in New York City and Atlanta by pools of investors through the creation of LLCs. Other tech startups are incorporating blockchain technology to facilitate shared ownership of rental properties. For example, Lofty AI will allow members of the public to invest as little as $50 to buy a digital token representing a share of ownership in the LLC that owns this property.

While these new models may be enticing for investors, the potential ramifications for tenants, who generally have no say in who owns their home, are extremely concerning. These tenants must contend with an LLC owned by potentially limitless numbers of individuals, all of whom may have a very low financial stake in their home and likely do not live in their community. This raises concerns about responsiveness to home repair and other day-to-day tenant needs as well as what would happen if there is a dispute between the tenant and their LLC landlord. In the existing system, tenants often have trouble even establishing ‘who' owns or controls the corporate entity that owns their rental property, much less establishing that those individuals may be liable for the entity’s failure to meet their obligations. Further obfuscation of ownership through a blockchain or a distributed autonomous organization (DAO) where the 'owners' may not even have names, but are merely a string of alphanumeric characters associated with a digital asset 'wallet', is likely to create even greater legal hurdles for tenants seeking to hold such property owners accountable.

**Recommendations:** While fintech may make it possible for an individual to become a landlord for just $5, perhaps the more relevant concern is whether it should be possible to make anyone a landlord for a buy-in as low as $5. As real estate crowdfunding models proliferate, tenants must be able to rely on strong protections at the local, state, and federal levels. Regulators and the Enterprises should insist on the integration of tenant protections as a prerequisite for investment in an application of crowdfunding or blockchain technology to facilitate shared ownership by groups of individuals. At the very least, the FHFA should not provide financing for these models.

**Employ skepticism about the prospect of conducting real estate transactions on the blockchain:**

25 Mary Ann Azevedo, Landa can make you a landlord with just $5, 2022. Available at: https://techcrunch.com/2022/08/31/real-estate-fintech-landa-investment-rental-properties-proptech/
26 ABC News, Crypto boom opens door to a new class of landlords, 2022. Available at: https://www.nbcnews.com/tech/crypto/crypto-real-estate-investment-landlords-rcna20029
The proliferation of digital assets and blockchain-based applications—despite ongoing concerns about the risks such assets and tools pose to consumers, investors and the financial system at large—has led to claims that such technology can provide benefits to the real estate industry. We remain highly skeptical of these arguments and urge the agency to conduct thorough due diligence on such proposals before determining whether there is real benefit for consumers and whether any benefits outweigh the costs.

Proponents argue that the distributed ledger systems that make up blockchain platforms might be used to capture, store and distribute real estate data more easily, quickly and securely, and that such technology might also offer a more secure means of facilitating real-estate related transactions.

Yet, despite the commonly held narrative that blockchains offer a highly secure means of storing data safely and securely via the consensus-based mechanisms used to verify the creation of new blocks in the chain, the reality is that hacks are commonplace in digital asset ecosystems. Recently, the blockchain analytics firm Chainalysis labeled October 2022 as “the biggest month in the biggest year ever for hacking activity,” despite this statement coming not more than half way through the month. Their analysis shows that 11 different hacks on decentralized finance platforms resulted in theft of nearly $718 million in digital assets just in the first half of the month.27 Given that blockchains, as well as the automated programs layered on top of them, are the product of computer code, the security of these platforms is only as good as the code. That code often contains bugs, core design flaws, or even exploits planted by their creators to facilitate “inside jobs.”

Accordingly, claims that critical or sensitive real estate data can be securely and safely stored on a public blockchain should be viewed with skepticism. Using blockchain-based technology as a means of recording real-estate related data or to conduct real-estate related transactions is no guarantee of better protections against the types of fraud, theft or security breaches that consumers already face in housing markets. Indeed, the technology may present risks unique to the technology, or may simply present new risks to consumers because of people’s general unfamiliarity with the technology.

Additionally, digital asset purveyors argue that they may be able to provide financial services, such as lending or loan securitization, that might benefit consumers seeking financing for a home purchase. In theory, there could be, at some point in the future, a lending product provided by or via a digital asset purveyor or platform that offered some comparative advantage to home purchasers and homeowners. However, current lending practices found on crypto platforms in

general are not subject to the same consumer protections or standards as other lenders, lending services or products. The same is true for those offering investment products, such as securitized debt, on crypto platforms.

The recent crypto crash has provided prime examples of the harm consumers have faced in general, as a result of these lack of protections. For example, the crypto lender Celsius was once considered one of the more successful companies within the decentralized finance sector, with allegedly 1.7 million users and assets under management of $11.7 billion. The company was intended to operate somewhat like a traditional bank (despite not being supervised by prudential banking regulators or offering customers insured deposit accounts), and at one point made more than $8 billion in loans, with extremely high annual percentage yields, up to 17%. However, the company had become overleveraged, accruing too much debt, and the crypto market downturn combined with the collapse of the Terra/Luna stablecoin, ultimately led to Celsius freezing its customer accounts and filing for bankruptcy. Observers believe that Celsius customers are unlikely to recoup much of what they are owed, in part due to the fact that Celsius customers also lacked bankruptcy protections in the event of Celsius’ insolvency. While Celsius did not provide home loans, digital currency promoters have at times encouraged digital asset holders to borrow against their digital asset holdings to facilitate real estate purchases. It doesn't take much imagination to envision how a similar crash could occur with a digital asset ‘home lender’ under current circumstances. To put a finer point on it, right now anyone seeking to finance the purchase of a home using a digital assets, either through a digital asset meant to offer a mortgage lending style product or service, or even simply by seeking a loan of digital assets to convert to fiat currency for a downpayment (using other digital assets as collateral for a loan), is likely doing so without the protections afforded to consumers who pursue home loans through more traditional means of finance, and as such may be exposed to a number of potential risks that could cause consumer harm. Those risks could include solvency issues with respect to the issuer of the digital asset and lack of fair, honest and timely disclosures regarding the issuance and terms of any loans.

**Recommendation:** Unless or until a robust regulatory framework is established and enforced for digital assets products, services, and actors that is at least commensurate with the existing framework for lenders in traditional finance, we urge FHFA and the Enterprises to forego serious consideration of products, services or programs that actively promote the use of digital assets as a means of facilitating lending or loan securitization in real estate, and to instead prioritize efforts to educate property owners about the risks present in the digital asset industry and how to protect themselves from risky or potentially fraudulent offerings they may encounter.

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Additionally, we urge the Agency to orient any of its efforts to enhance data quality, accessibility, privacy and transparency within the real estate industry toward approaches that are appropriately designed to solve data challenges and that rely on tested and reliable technological platforms, as compared to approaches that seek to make use of blockchain technology.

Thank you for the opportunity to provide comments in support of strong consumer and fair lending protections in the application of fintech to housing finance. For more information, please contact Caroline Nagy at caroline@ourfinancialsecurity.org.

Sincerely,

Americans for Financial Reform Education Fund

Consumer Action

National Consumer Law Center (on behalf of its low-income clients)

National Fair Housing Alliance

National Housing Law Project

National Housing Resource Center

Public Citizen