RECURSION

Comment Letter to FHFA RFI Regarding Property Inspection Waivers

On December 28, 2020, FHFA released "REQUEST FOR INFORMATION ON APPRAISAL-RELATED POLICIES, PRACTICES, AND PROCESSES"[1](RFI). This is an especially important topic, and we at Recursion Co believe that effective regulation requires the use of the most advanced data tools on the part of the most experienced market analysts to avoid "limited and inconsistent use of appropriate analysis to support appraisal conclusions"[2]. To help FHFA achieve its goals, we provide commentary below on the topics of "Policy and Process Improvement" and "Risk Management".

I. Policy and Process Improvement

Our commentary in this section has to do with monitoring the use of property inspection waivers (PIWs) in the mortgage production process. PIW policies have a profound impact on the mortgage market ecosystem, such as originators, issuers, and appraisers, and can reshape the landscape of GSE production. Some lenders can close a loan with an inspection waiver in as little as 14-16 days, reducing working capital requirements and hedging costs. However, it also inevitably raises concerns within the policy and investor communities regarding the impact on loan performance.

These are several nuances that are essential to take into consideration to adequately address this topic. These include:

1) It is of primary importance to break down the share of the market that uses PIWs between the share of the market that is eligible to use them, and the "take-up" rate, the share of eligible loans for which the appraisals are waived. The Enterprises have established rules for eligibility by product type and these need to be taken explicitly into account to provide a complete picture of the impact of PIW's in the market.

2) Fannie Mae and Freddie Mac administrate their PIW programs separately, so appraisal waiver usage must be monitored for each agency, not on a combined basis.

3) In order to obtain a clear picture of the impact of the use of PIWs on the market, it is important to monitor how the use of PIW varies by lender type, in particular between banks and nonbanks, and bigger and smaller lenders.

The GSE rules for eligibility can be found here:

Fannie Mae[3]

---

[1] https://www.fhfa.gov/Media/PublicAffairs/PublicAffairsDocuments/RFI-Appraisal-Related-Policies.pdf?utm_medium=email&utm_source=govdelivery

[2] See footnote 1 p. 6.

[3] https://singlefamily.fanniemae.com/media/5916/display. Ineligible transactions are not listed.

- One Unit properties including Condo
- Principal residences, second homes or investment properties
- Properties in high-needs rural location
- Meet LTV/CLTV and mandatory property inspection rules by loan purpose

No cash-out refinance transactions:	Principal residences and second homes	LTV/CLTV <= 90%
	Investment properties	LTV/CLTV<=75%
Cash-out refinance transactions:	Principal residences	LTV/CLTV<=70%
	Second homes	LTV/CLTV<=60%
	investment properties	LTV/CLTV<=60%
Purchase transactions:	Primary Residence and second home	LTV/CLTV <=80%
Limited cash-out refinance transactions:	Principal residences and second homes	LTV/CLTV <= 90%
	Investment properties	LTV/CLTV<=75%

Freddie Mac[4]

- One Unit properties including Condo
- Primary Residence or second home
- Automated Collateral Evaluation
- Meet LTV/CLTV and mandatory property inspection rules by loan purpose

No Cashout Refinance	Primary Residence or second home	LTV/TLTV<=90%
Cash-out refinance transactions:	Principal residences	LTV/TLTV<=70%
	Second homes	LTV/TLTV <=60%
Purchase transactions:	Primary Residence or second home	LTV/TLTV<=80%

[4] https://sf.freddiemac.com/content/_assets/resources/pdf/requirements/ace.pdf. Ineligible transactions are not listed.

Recursion Co's Cohort Analyzer has coded these eligibility rules[5] into our cloud-based analytics system using eMBS data, allowing for a more precise vision of the role that PIWs play in the market.

With the onset of the Covid-19 pandemic in the spring of 2020, mortgage rates fell to record lows and home purchases soared as households relocated away from densely populated areas. Consequently, mortgage origination and securitization reached new highs. This surge corresponds with increases in the usage rates of property inspection waivers.

The table below presents the loan counts delivered to the GSEs over the past 4 years, along with the number of loans eligible for PIWs and those that actually obtained waivers:

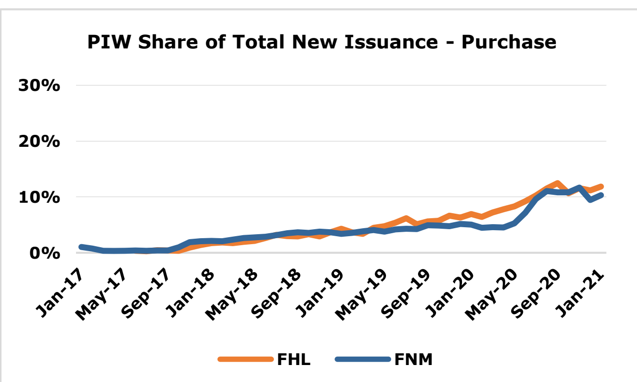
GSE loan count in Millions			
	Loans Delivered	**Loans PIW Eligible**	**Loans with PIW**
2018	3.4	1.9	0.2
2019	4.0	2.3	0.5
2020	8.5	5.9	3.2

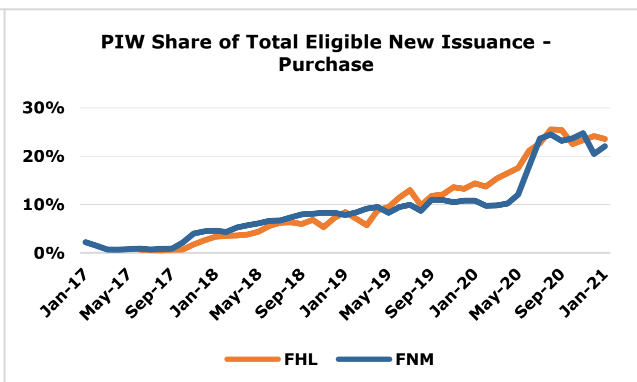
Source: Recursion Co, eMBS

As we can see, 2020 GSE deliveries more than doubled, to 8.5mm, from 2019. Of these, 5.9mm loans were eligible for PIWs according to the GSE rules in place at the time and 3.2mm of these obtained the waiver.

Below find charts that display the share of loans (by loan count) that are eligible for PIW's next to the share of eligible loans that use them by product type and agency:

Figure 1: PIW share of Purchase Loans

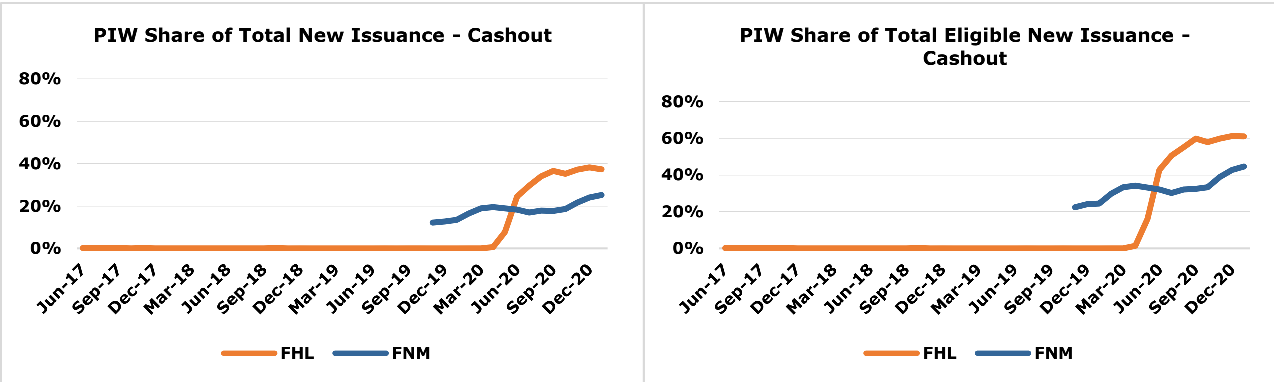




Source: Recursion Co, eMBS

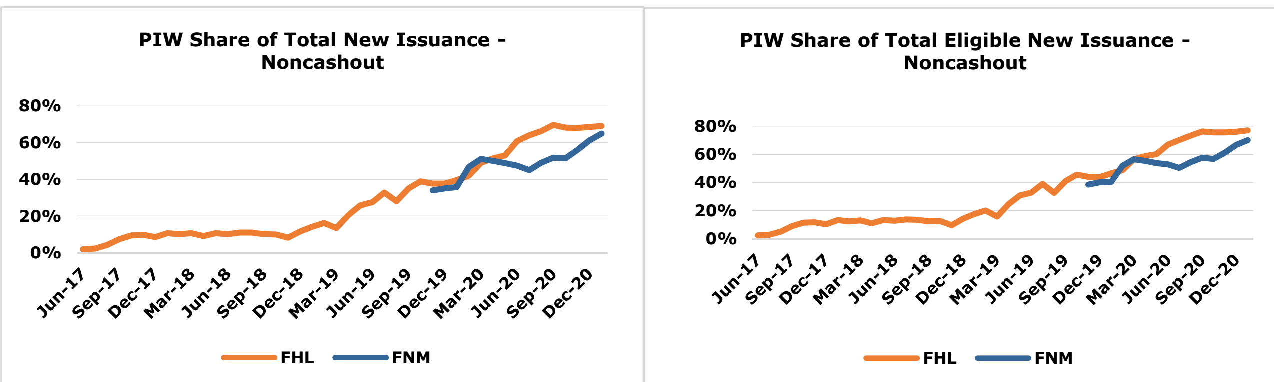
[5] The Recursion Analyzers do not have Fannie Mae high-needs rural locations or limited cashout refis coded into the system because of limitations in the agency disclosure data. This has only a minor impact on determining the eligibility of loans.

Figure 2: PIW Share of Cashout-refi Loans



Source: Recursion Co, eMBS

Figure 3: PIW Share of Noncashout Refi Loans



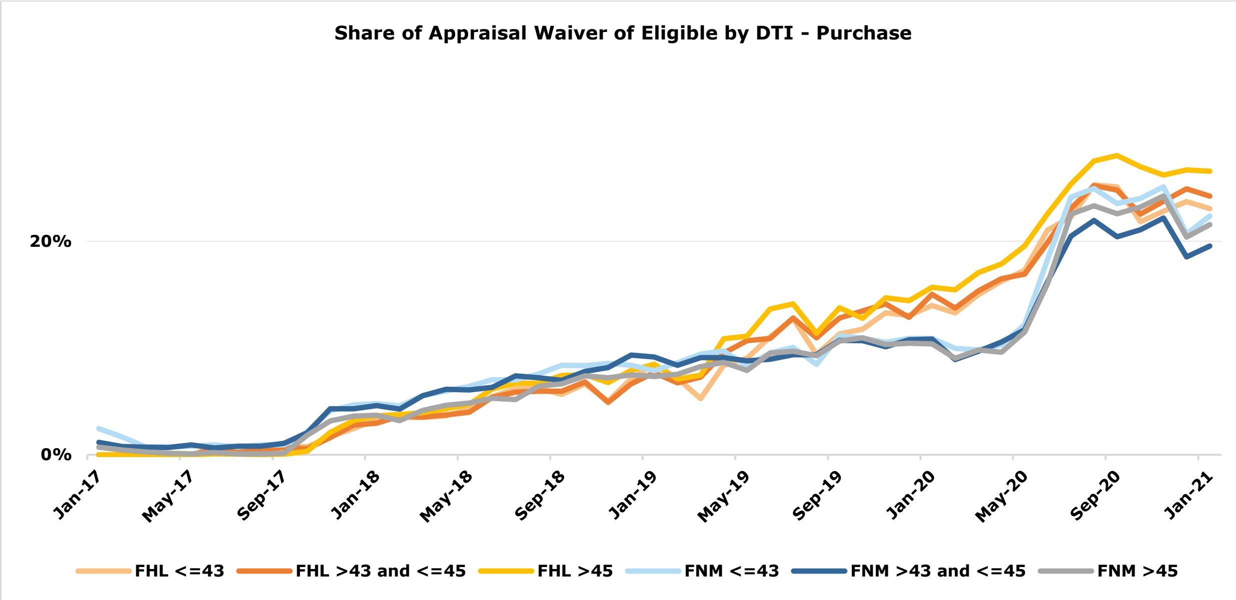
Source: Recursion Co, eMBS

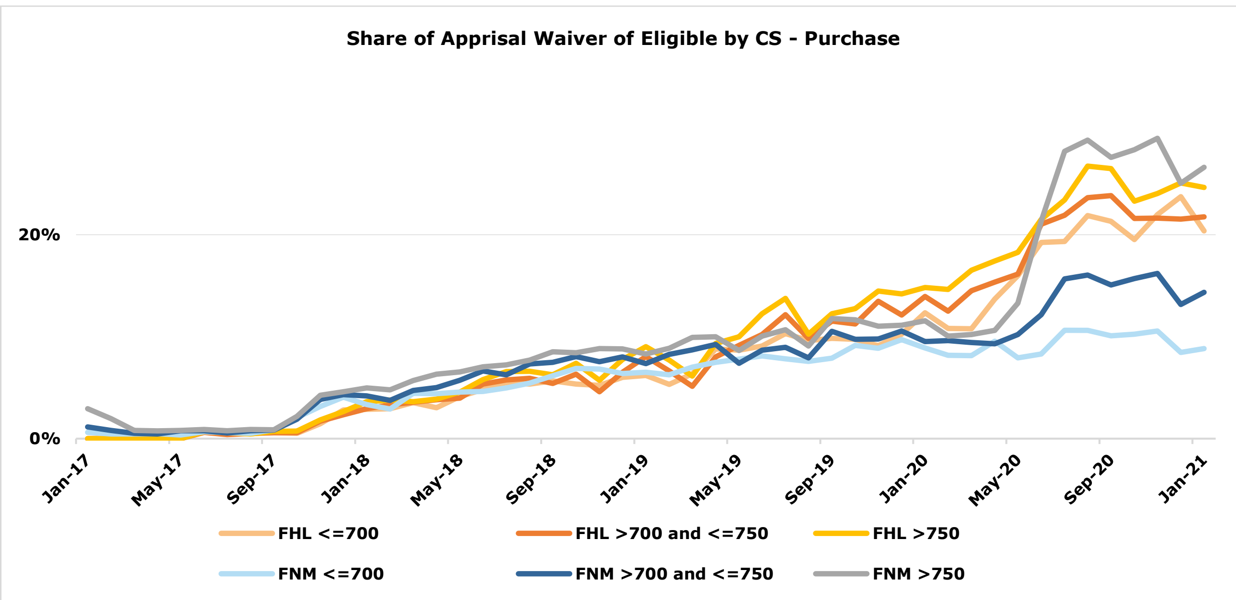
These charts provide views into PIW-related market trends that are far more transparent than the charts in the RFI.

Figure 4 in the RFI that plots the share of loans with PIWs by LTV categories is particularly muddled since it mixes product types with different LTV-based eligibility characteristics. Of more interest would be charts showing the takeup rate[6] of PIW's from the eligible population based on other underwriting characteristics. Below find charts of these for purchase mortgages by credit-score and DTI categories:

Figure 4: Share of loans with PIWs by Credit Score and DTI for purchase mortgages

[6] The share of PIW loans of total PIW eligible population

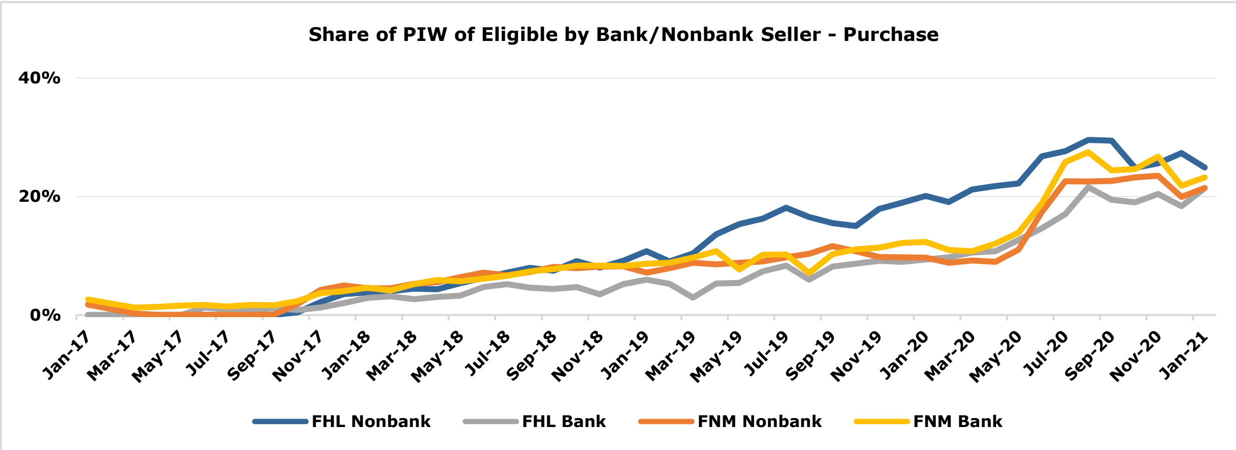


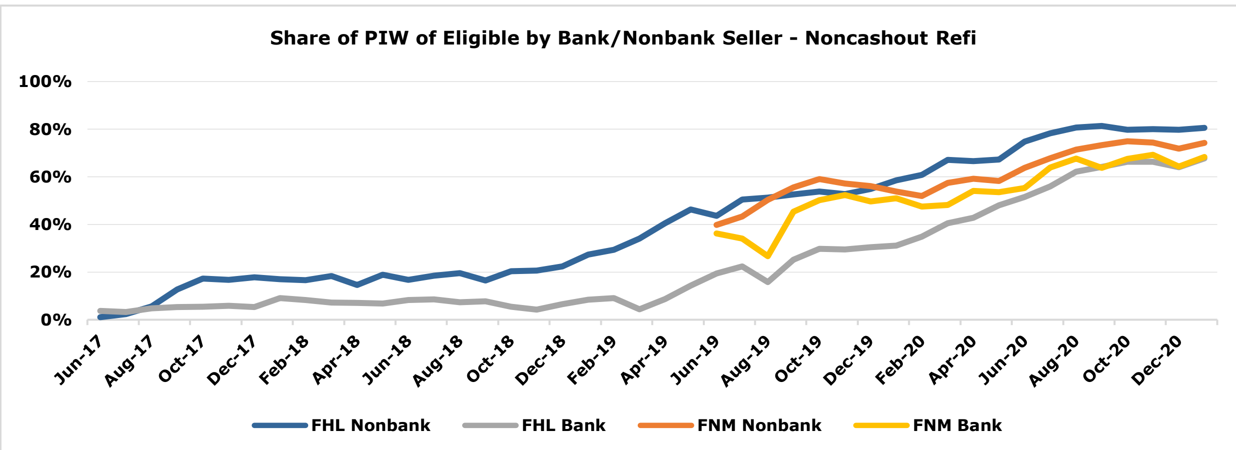


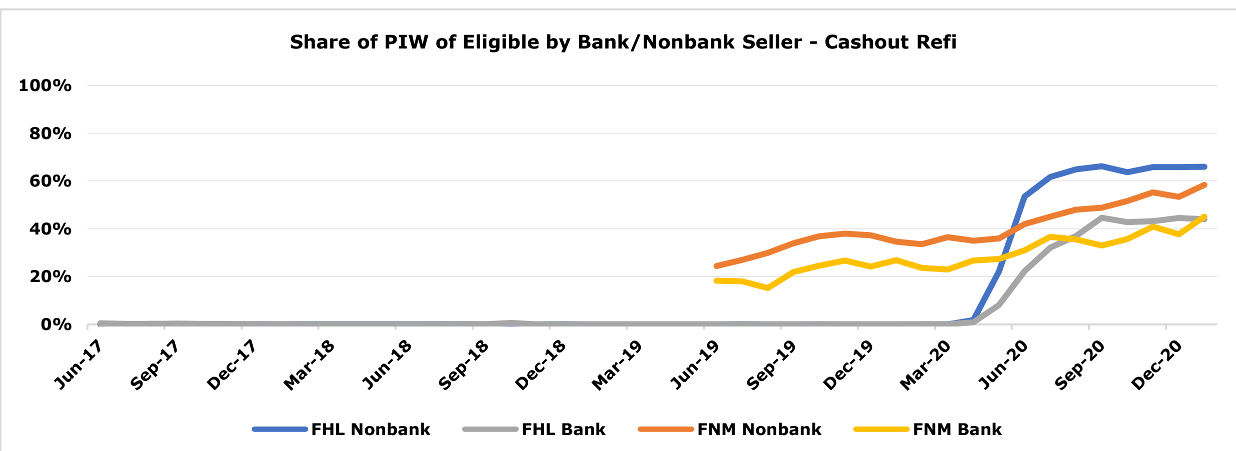
Source: Recursion Co, eMBS

It is interesting to see that within the eligible purchase loan universe, borrowers with lower credit scores and higher DTIs are less likely to get PIWs, maybe because the lenders want to be extra careful about loans with less certain property values for such borrowers.

Another important distinction that should be monitored is the take-up rate broken down between banks and nonbanks.







Source: Recursion Co, eMBS

It is not a surprise that nonbanks are more aggressive in acquiring PIWs in the refi space (both cashout and noncashout) for loans delivered to both Fannie and Freddie. It is interesting that banks are achieving higher shares of PIW in eligible Fannie purchase loans than nonbanks.

Finally, it is important to monitor the usage rate of PIW's moves over time for individual large banks and nonbanks, and between large and small institutions within each group. Below find a table for the year 2020 for the purchase loan product type by agency.

Fannie Mae

Top 10 Banks *	PIW Loan Count	Eligible Loan Count	Total Loan Count	PIW % of Eligible Population	Eligible % of Total New Issuance
WELLS FARGO	15,998	68,770	135,261	23%	51%
JP MORGAN	3,563	13,996	21,892	25%	64%
US BANK	3,317	11,714	32,020	28%	37%
FLAGSTAR BANK FSB	2,509	8,363	16,649	30%	50%
TRUIST BANK	1,776	7,317	15,374	24%	48%
CITIZENS BANK	1,315	5,983	13,142	22%	46%
USAA FSB	673	1,379	2,910	49%	47%
THE HUNTINGTON NATL BANK	659	3,332	7,802	20%	43%
FED HOME LOAN BANK OF CHICAGO	655	6,738	13,895	10%	48%
FIFTH THIRD BANK	614	2,446	4,532	25%	54%
Total	**47,400**	**235,328**	**478,878**	**20%**	**49%**
Top 10 Share of Total Purchase Loan					**55%**
Top 10 Share of Total PIW Loan					**66%**

Top 10 Nonbanks	PIW Loan Count	Eligible Loan Count	Total Loan Count	PIW % of Eligible Population	Eligible % of Total New Issuance
UNITED SHORE FIN SERVICES	7,326	27,895	63,418	26%	44%
QUICKEN LOANS	6,459	22,367	62,350	29%	36%
PENNYMAC	5,009	33,323	76,477	15%	44%
FAIRWAY INDEPENDENT MTGE CORP	3,100	15,477	39,934	20%	39%
CALIBER HOME LOANS INC	2,840	11,070	25,057	26%	44%
HOME POINT FIN CORP	2,456	10,887	26,301	23%	41%
LOANDEPOT.COM	2,387	8,788	20,698	27%	42%
GUILD MTGE CO	2,000	8,385	20,400	24%	41%
MOVEMENT MTGE LLC	1,725	13,795	33,425	13%	41%
GUARANTEED RATE INC	1,652	8,195	18,110	20%	45%
Total	**76,627**	**425,750**	**992,427**	**18%**	**43%**
Top 10 Share of Total Purchase Loan					**39%**
Top 10 Share of Total PIW Loan					**46%**

*The top 10 is ranked by PIW loan counts
Source: Recursion Co, eMBS

The top-10 institutions in each category make up a substantial share of the total by agency and servicer type. The top 10 banks delivered 55% of Fannie purchase loans in 2020, while they delivered 66% of PIW purchase loans among all the banks. For the top 10 nonbanks the numbers are 39% and 46%, respectively. Apparently, nonbanks are more fragmented for Fannie Mae purchase loans than is the case for banks.

Freddie Mac

Top 10 Banks	PIW Loan Count	Eligible Loan Count	Total Loan Count	PIW % of Eligible Population	Eligible % of Total New Issuance
WELLS FARGO	10,396	42,465	88,775	24%	48%
JP MORGAN	4,369	37,844	76,946	12%	49%
FLAGSTAR BANK FSB	2,596	12,952	24,637	20%	53%
PRIMELENDING/PLAINSCAPITAL BANK	1,973	10,365	23,310	19%	44%
TRUIST BANK	1,565	20,182	41,960	8%	48%
TEXAS CAPITAL BANK	1,396	7,391	13,917	19%	53%
US BANK	1,343	18,287	44,916	7%	41%
CITIZENS BANK	1,204	12,021	23,938	10%	50%
FIFTH THIRD BANK	1,024	4,658	9,616	22%	48%
NORTHPOINTE BANK	664	4,544	8,328	15%	55%
Total	**38,166**	**242,178**	**505,657**	**16%**	**48%**
Top 10 Share of Total Purchase Loan					**70%**
Top 10 Share of Total PIW Loan					**70%**

Top 10 Nonbanks	PIW Loan Count	Eligible Loan Count	Total Loan Count	PIW % of Eligible Population	Eligible % of Total New Issuance
UNITED SHORE FIN SERVICES	12,568	23,348	43,250	54%	54%
GUARANTEED RATE INC	6,611	17,568	34,446	38%	51%
QUICKEN LOANS	5,165	12,230	32,248	42%	38%
PENNYMAC	4,716	20,450	41,568	23%	49%
CALIBER HOME LOANS INC	4,632	18,442	43,920	25%	42%
FAIRWAY INDEPENDENT MTGE CORP	4,109	16,216	35,863	25%	45%
LOANDEPOT.COM	2,433	10,348	22,659	24%	46%
AMERIHOME MTGE COMPANY LLC	2,286	18,058	41,332	13%	44%
NEWREZ LLC	2,077	9,140	19,364	23%	47%
GUILD MTGE CO	1,464	4,022	8,084	36%	50%
Total	**71,862**	**283,507**	**614,601**	**25%**	**46%**
Top 10 Share of Total Purchase Loan					**53%**
Top 10 Share of Total PIW Loan					**64%**

*The top 10 is ranked by PIW loan counts
Source: Recursion Co, eMBS

For Freddie Mac, market activity across all categories is more concentrated in the top 10 bank and nonbank institutions than is the case for Fannie Mae.

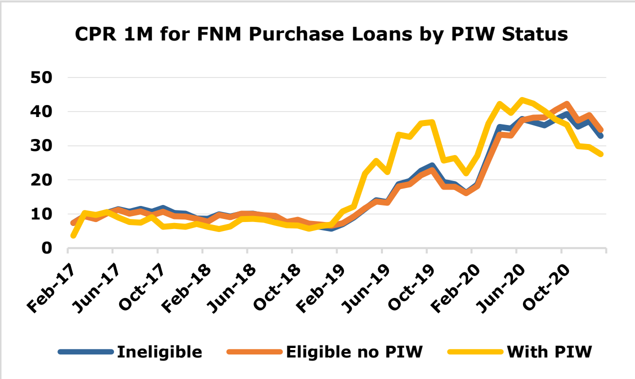
2. Risk Management

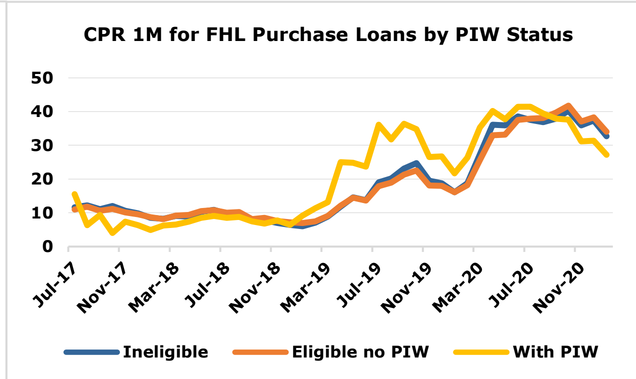
The RFI mentions several types of risks that are of concern to the financial markets and policymakers. In this section, we examine several of these and make suggestions for the proper analytic framework to address them. The examples given are not designed to offer any specific recommendations but instead provide guidance for the conduct of more systematic analysis.
Based on the analysis presented in Section 1 above, Policy and Process Improvement, we demonstrate that it is essential to assess market risks associated with PIWs based on an analysis that compares the performance of loans across different categories of PIW usage. The Recursion

Cohort Analyzer allows for taking these considerations into account across these categories in its quantitative assessment of market risks.

a. Prepayment speeds

Below find charts of 1-month prepayment speeds for purchase market mortgages for 3 groups: loans with PIW's, eligible loans without PIWs, and ineligible loans for both Fannie Mae and Freddie Mac:





Source: Recursion Co, eMBS

Loans with PIWs prepaid faster than those without, whether eligible or not, from January 2019 through July 2020, but experienced burnout over the August-December period, and speeds fell below the loans without waivers.

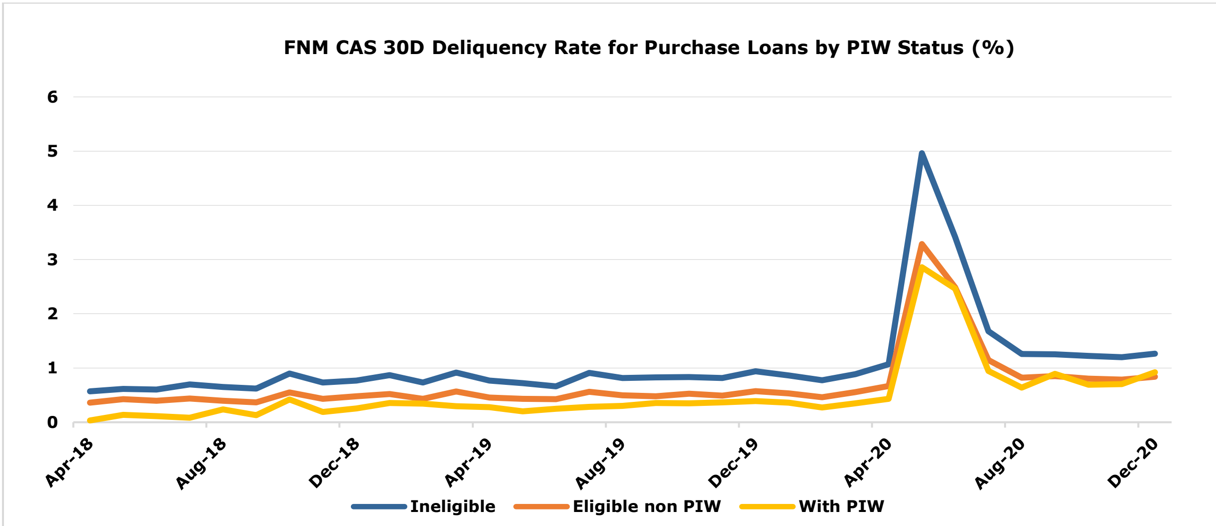
Again, a proper analysis of the impact of PIW's on prepayments would involve the inclusion of many factors, including note rate, underwriting characteristics, bank vs nonbank servicer, geography, and others. These charts are not designed to make policy recommendations but present a framework for more comprehensive analysis.

b. Delinquency rates

Analysis of the impact of PIWs on conforming loan credit performance is complicated because as of the date that comment letters are due for this RFI the Enterprises do not release delinquency data at the loan level in their monthly disclosures[7]. However, Fannie Mae provides delinquency data and the PIW status of the loans contained in the reference pools for its Credit Risk Transfer (CRT) program Connecticut Avenue Securities (CAS). These loans account for about a quarter of the total loans contained in their outstanding agency pools. Below finds a chart of the 30-day

[7] Beginning in March 2021, Enterprise monthly loan-level disclosures will be enhanced through the inclusion of data on delinquency and Borrower Assistance Plan designations (such as forbearance). This will allow for more comprehensive analysis of the impact of PIWs on loan performance. See http://www.freddiemac.com/mbs/docs/f386news.pdf.

delinquency rate for purchase market mortgages in reference pools in the CAS program in three categories: loans with PIWs, eligible loans without PIWs and ineligible loans.



Source: Recursion Co, eMBS

In this case, delinquencies are higher for the ineligible population than for eligible loans as the ineligible cohort is high-LTV and intrinsically riskier than loans that are eligible. The delinquency rates for loans in this population that are eligible for a PIW have recently been very similar whether they do or do not use this facility or not. As is the case with prepayment speeds, this chart cannot be taken as sufficient grounds for policy formulation, but only serves a guidepost for the conduct of further analysis.

a. Other Policy Issues

The RFI refers to other risk factors in the mortgage market, including discrimination against minority borrowers. The analytical challenge here is that the Enterprise disclosure data do not contain demographic data such as income or race, or geographic data below the state level. A large dataset that contains such information is the Home Mortgage Disclosure Act (HMDA) data[8]. One approach that can be taken to examine the role of PIW on valuation disparities in lower income and minority neighborhoods is to conduct a matching exercise between the HMDA and Enterprise disclosure data to obtain a dataset that contains a wide set of characteristics and can be used for the analysis of social issues. Recursion Co has developed a proprietary matching algorithm that has been utilized in previous studies[9] and can be adapted in a straightforward way to assess the use of appraisal waivers in such neighborhoods compared to others. This data set contains over half the loans produced in a given year.

An additional useful line of inquiry would be to use such a dataset to examine one other issue. It would be very interesting to explore the issue of safety and soundness of the system of mortgage

[8] https://www.consumerfinance.gov/data-research/hmda/

[9] https://www.urban.org/urban-wire/new-data-confirm-urgency-addressing-expiration-gse-patch

finance with respect to climate change. Prior research has shown that banks are selling flood risk to the Enterprises[10]. Insofar as PIWs are associated with greater uncertainty regarding valuations, looking at the rate of PIW usage in flood zones vs other areas could provide valuable insight into this behavior. HMDA data goes down to the Census Tract level, and these can be overlaid with FEMA designated flood zone areas (or other sources) to conduct this analysis.

[10] http://www.ouazad.com/resources/paper_kahn_ouazad.pdf