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September 8, 2014

The Honorable Mel Watt  
Director, Federal Housing Finance Agency  
400 7<sup>th</sup> St SW, Ninth Floor  
Washington, DC 20024

Re: Fannie Mae and Freddie Mac Guarantee Fees: Request for Input

Dear Director Watt:

The following is the response to *Fannie Mae and Freddie Mac Guarantee Fees: Request for Input* ("Request for Input") from the Center for Community Capital at the University of North Carolina at Chapel Hill. We appreciate your careful consideration of the complex and important issues surrounding the setting of Fannie Mae and Freddie Mac's fees.

The UNC Center for Community Capital conducts research on financial markets to help policy makers find sustainable ways to broaden economic opportunity.<sup>1</sup> Our research on homeownership finance has examined how risk factors, products and practices affect sustainability for households and lenders alike, particularly for low- and moderate- income households.

With respect to the proposed changes in guarantee fees, we favor greater risk pooling that enables more uniform pricing across the housing cycle and different housing markets. Consequently, we support removing the adverse market delivery charge and are against state-level pricing adjustments. These charges exacerbate volatility in the housing market by increasing the price of credit in housing downturns and depressed markets, which reduces demand for housing.

Similarly, we favor flattening the loan-level pricing curve by partially offsetting the risk-based components of the guarantee fee (expected losses and capital reserves) with a purpose-based return on capital for targeted segments, consistent with Enterprises' charter. We recommend that the Enterprises'

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<sup>1</sup> See for example, Quercia, Freeman and Ratcliffe, *Regaining the Dream: How to Renew the Promise of Homeownership for America's Working Families*. Brookings Institution Press, Washington DC. For a summary of our decade of research on a national conventional affordable mortgage program demonstration, see *Community Advantage Panel Study: Sustainable Approaches to Affordable Homeownership*, at <http://ccc.unc.edu/contentitems/community-advantage-panel-study-sustainable-approaches-to-affordable-homeownership/>.

Kevin Park is a doctoral candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill and has been a graduate research assistant at the Center since 2009. Janneke Ratcliffe has served as the Center's executive director since 2005, and prior to that has had extensive experience in mortgage finance, including ten years at GE Capital's mortgage and mortgage insurance subsidiary and seven years at a leading non-profit mortgage lender.

return on capital be based on the appropriate benchmarks in light of the unique structure and purpose of the Enterprises.

In terms of expected and unexpected losses, estimating the level of guarantee fees should be based on empirical information on the actual losses and populations served by the Enterprises. Further, to this end, the Federal Housing Finance Administration (FHFA) should make meaningful steps to improve the transparency of guarantee fee pricing.

Our analysis finds that there is substantial room for improving pricing, especially for high LTV, purchase money mortgages, which disproportionately serve low- to moderate- income, first-time and minority households with access to sustainable homeownership.

The first part of our commentary provides analyses and models that underpin our responses to your Request for Input. The second part provides our answers to the specific questions asked in the Request for Input.

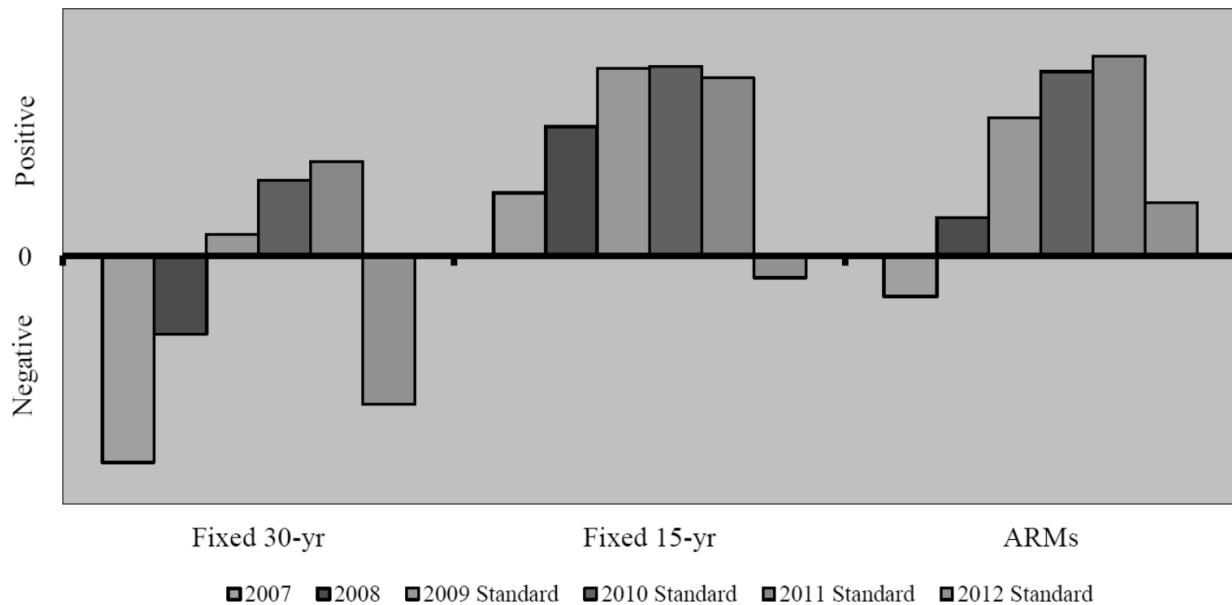
## **PART ONE**

### **Public Discussion Requires Common Understanding**

Daniel Patrick Moynihan is often credited with the aphorism, “Everyone is entitled to his own opinion, but not his own facts.” Unfortunately, the facts are often in as much dispute as their meaning. The FHFA should provide the information necessary for an informed debate on guarantee fees.

Section 1601 of the Housing and Economic Recovery Act of 2008 (HERA) requires FHFA to submit annual reports to Congress on the guarantee fees charged by Fannie Mae and Freddie Mac. The first four reports showed a negative fee “gap” that was steadily closing. For example, the 2007 and 2008 books of business showed the average effective guarantee fees for fixed-rate 30-year mortgages were not sufficient to cover expenses. By 2009, a combination of fee increases and smaller losses led to a positive balance.

**Estimated Single-Family Guarantee Fee Gap by Product Type, 2007-2012**



Source: Federal Housing Finance Agency

However, the fifth and most recent evaluation, released in December 2013, shows a dramatic reversal. The report reveals that this was not due to some poor performance of the 2012 book of business, but by revisions in how Fannie Mae estimated its necessary capital reserves: “The capital required for each loan estimated by an Enterprise’s internal costing model has not been linked directly to regulatory capital requirements or to equity measured according to GAAP, nor has FHFA approved either Enterprise’s model... Freddie Mac and Fannie Mae implemented new costing models in January and November 2012, respectively. Each Enterprise’s new model resulted in sizeable increases in the Enterprise’s estimates of the costs of guaranteeing single-family mortgages... Fee gaps in this report are not comparable to fee gaps in prior year reports due to the new costing models.”

The juxtaposition of guarantee fee gap estimates by book of business, when these estimates are not comparable, is highly misleading. In addition, the fee gap is never presented with any unit of measurement (e.g., the vertical axis on the fee gap chart). As agencies under federal conservatorship, the “internal costing models” used by Fannie Mae and Freddie Mac should be made public, especially given the large effect they have on the fee gap. Similarly, the actual credit losses suffered by the Enterprises relative to guarantee fee revenue should be presented separately from the costs of capital and administration. FHFA’s analysis of guarantee fees should be substantially improved to provide greater transparency and inform the input requested by FHFA.

Without such transparency, comments on government-supported enterprises’ guarantee fees are forced to rely on a variety of incomplete public and proprietary databases. The rest of our comments draw on the public loan-level performance data released by Fannie Mae. The data does not include information on adjustable-rate mortgages, Alt-A mortgages, Home Affordable Refinance Program (HARP) mortgages, balloon and interest-only mortgages, mortgages with prepayment penalties, mortgages with loan-to-values (LTV) ratios over 97 percent, mortgages sold with lender recourse, and

other non-standard mortgages. More importantly, the database does not include important information such as the value of homes disposed of through foreclosure or short sale, which is necessary to calculate the loss severity, and therefore total losses that the guarantee fee is meant to cover. Consequently, the analysis presented is meant to be more illustrative of the information and process FHFA should consider and make public when determining guarantee fees rather than a definitive statement on what the fees should be.

## **Estimating Appropriate Guarantee Fees Illustration**

As noted, this analysis relies on Fannie Mae’s public loan-level performance database, which is limited to 30-year fixed-rate fully-amortizing mortgages with full documentation. We further restrict the data to owner-occupied single-family homes and analyze home purchase loans separately from refinancings.

### **I. Expected Losses: Loan-Level Price Adjustments (LLPAs)**

Loan-level price adjustments, upfront fees on top of the base guarantee fee, are meant to capture differences in the expected loss rates based on a variety of borrower and loan characteristics. These charges should be based on long-term averages to distinguish credit risk specific to the loan from credit risk related to the housing cycle. A primary benefit of the Enterprises is their ability to diversify credit risk across time as well as geography, reducing the volatility in house prices.

To calculate expected loss for this demonstration, we use the data on loans purchased by Fannie Mae between 2000 and 2010.

The following table shows the distribution of default rates. Defaults are defined as loans ending in delinquency, short sale, or deed-in-lieu, as well as loans more than 90 days late at the end of 2013.<sup>2</sup>

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<sup>2</sup> Once a loan is more than 180 days delinquent, the balance is reduced to zero and recorded as ending in delinquency. Per the code book: “Loan performance activity for a mortgage loan will no longer be published after a Zero Balance Code event is triggered. In the activity month that a loan becomes 180 days or more delinquent, the actual UPB of the mortgage loan will be reported instead of being defaulted to zero.”

### A. Average Default Rates (Percent)

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	10.1	11.0	11.3	11.0	11.1	11.7	13.6	17.7	12.2
	620 to 639	6.0	7.6	8.5	8.9	9.5	10.4	12.0	14.2	10.2
	640 to 659	4.1	5.6	6.2	7.2	8.1	9.0	10.1	11.4	8.3
	660 to 679	3.2	4.0	4.6	5.8	6.3	7.1	8.0	8.8	6.4
	680 to 699	1.9	2.7	3.5	4.4	4.4	5.8	6.4	7.7	5.0
	700 to 719	1.2	2.2	2.7	3.2	3.4	4.3	5.0	6.2	3.7
	720 to 739	0.9	1.5	1.8	2.4	2.5	3.2	4.0	4.8	2.7
	740 to 759	0.6	1.0	1.2	1.7	1.7	2.5	3.0	3.9	1.9
	760 or Higher	0.3	0.6	0.8	1.1	1.3	1.9	2.6	3.4	1.2
	Average	1.3	2.1	2.5	3.0	3.8	4.7	6.2	8.0	3.8
Refinance										
Credit Score	Under 620	11.9	15.3	13.1	13.0	13.7	15.4	16.6	19.9	13.6
	620 to 639	8.5	12.5	11.2	12.6	14.2	17.4	17.0	14.2	12.2
	640 to 659	6.5	10.3	9.7	11.3	12.7	15.3	15.1	16.0	10.6
	660 to 679	4.5	7.9	7.7	9.6	11.0	12.6	13.1	11.6	8.5
	680 to 699	3.1	5.8	5.8	7.6	8.8	10.2	9.8	8.0	6.5
	700 to 719	2.2	4.5	4.5	5.8	7.0	8.3	7.5	10.3	4.8
	720 to 739	1.5	3.1	3.2	4.3	5.2	6.6	5.5	7.3	3.5
	740 to 759	1.0	2.2	2.3	3.1	4.2	5.3	4.4	5.4	2.4
	760 or Higher	0.4	1.1	1.2	1.8	2.9	3.9	3.5	5.3	1.2
	Average	2.3	5.0	4.9	5.7	8.0	9.6	9.1	10.0	4.9

Default rates generally rise with LTV ratio and fall with credit score. Note that refinance mortgages were approximately 64 percent more likely to default than purchase mortgages with similar credit scores and LTV ratios.

Because the Fannie Mae data do not include the information necessary to calculate loss severities and actual losses, we estimate the final price of homes disposed of in foreclosure or short sale.<sup>3</sup> The following table shows the distribution of gross loss rates (not factoring in private mortgage

<sup>3</sup>Even the original sales price must be imputed using the original loan amount and LTV ratio. We adjust this price using FHFA's house price index for the appropriate metropolitan statistical area or, if not available, the state in which the property is located. We apply a 20 percent haircut on distressed mortgages for the costs of foreclosure and for the fact that foreclosed properties often sell at a discount. If the final sales price, even with a foreclosure discount, exceeds the outstanding loan amount, then a loss of zero is recorded (i.e., no profit is made from default). In a review of empirical research, Clauretje and Daneshvary (2009) state most studies find a 20 percent discount associated with foreclosure status, but argue that most of these estimates are biased upwards.

insurance coverage), which is the difference between the estimated final sales price from the remaining loan balance on defaulted loans expressed as a share of the original loan amount for all loans.

**B. Average Loss Rates Without Mortgage Insurance (Percent)**

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	0.08	0.36	0.47	0.78	0.68	1.18	1.50	1.81	0.99
	620 to 639	0.13	0.35	0.61	0.95	0.89	1.38	1.53	1.82	1.15
	640 to 659	0.09	0.32	0.55	0.90	0.98	1.31	1.43	1.31	1.04
	660 to 679	0.06	0.28	0.48	0.80	0.81	1.19	1.25	1.07	0.88
	680 to 699	0.06	0.24	0.38	0.70	0.59	1.06	1.16	1.06	0.77
	700 to 719	0.05	0.21	0.31	0.52	0.55	0.78	0.91	0.78	0.57
	720 to 739	0.04	0.12	0.24	0.37	0.35	0.63	0.78	0.60	0.43
	740 to 759	0.03	0.10	0.15	0.28	0.21	0.49	0.61	0.54	0.31
	760 or Higher	0.02	0.06	0.11	0.20	0.19	0.39	0.54	0.56	0.20
Average		0.03	0.13	0.23	0.41	0.43	0.74	0.98	0.97	0.49
Refinance										
Credit Score	Under 620	0.23	0.95	0.98	1.23	1.23	1.87	1.64	1.86	0.92
	620 to 639	0.20	0.92	0.94	1.46	1.68	2.61	2.33	2.21	1.14
	640 to 659	0.17	0.82	0.88	1.40	1.50	2.37	2.16	3.51	1.09
	660 to 679	0.14	0.70	0.73	1.29	1.48	1.93	1.99	2.60	0.96
	680 to 699	0.10	0.51	0.60	1.06	1.24	1.63	1.60	2.01	0.76
	700 to 719	0.08	0.45	0.50	0.83	0.95	1.34	1.20	1.96	0.58
	720 to 739	0.05	0.30	0.34	0.60	0.77	1.09	0.98	1.52	0.42
	740 to 759	0.04	0.21	0.25	0.45	0.66	0.91	0.82	1.30	0.30
	760 or Higher	0.01	0.11	0.12	0.25	0.49	0.72	0.72	1.46	0.14
Average		0.06	0.39	0.43	0.72	1.02	1.48	1.37	1.93	0.49

The total loss rates for purchase and refinance loans are similar; however, when similar LTV ratios and credit scores are compared, refinance loans have a loss rate approximately 80 percent higher. Again, losses are related to LTV ratios and inversely related to credit scores.

For loans with LTV ratios over 80 percent, the Enterprises require by charter an approved credit enhancement (12 USC § 1717). The most common form of credit enhancement is private mortgage insurance (PMI). Private mortgage insurance covers the first loss on a mortgage up to a given percentage based on original LTV and the Enterprise’s required coverage for that LTV. The data provided by Fannie Mae indicates the actual coverage amount for each loan. If private mortgage insurance

coverage exceeds the difference between the distressed sales price and the outstanding loan amount, then a loss of zero is recorded.<sup>4</sup>

**C. Average Loss Rates With Mortgage Insurance (Percent)**

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	0.08	0.36	0.47	0.78	0.33	0.28	0.24	0.37	0.43
	620 to 639	0.13	0.35	0.61	0.95	0.48	0.36	0.26	0.37	0.52
	640 to 659	0.09	0.32	0.55	0.90	0.54	0.37	0.25	0.24	0.51
	660 to 679	0.06	0.28	0.48	0.80	0.46	0.35	0.24	0.21	0.48
	680 to 699	0.06	0.24	0.38	0.70	0.32	0.30	0.22	0.20	0.43
	700 to 719	0.05	0.21	0.31	0.52	0.32	0.23	0.19	0.17	0.34
	720 to 739	0.04	0.12	0.24	0.37	0.20	0.20	0.18	0.13	0.26
	740 to 759	0.03	0.10	0.15	0.28	0.13	0.16	0.15	0.11	0.19
	760 or Higher	0.02	0.06	0.11	0.20	0.11	0.13	0.15	0.14	0.14
	Average	0.03	0.13	0.23	0.41	0.24	0.22	0.20	0.20	0.27
Refinance										
Credit Score	Under 620	0.23	0.94	0.98	1.23	0.66	0.35	0.22	0.59	0.79
	620 to 639	0.20	0.92	0.94	1.46	0.87	0.51	0.29	0.30	0.88
	640 to 659	0.17	0.82	0.88	1.40	0.81	0.51	0.30	1.00	0.84
	660 to 679	0.14	0.70	0.73	1.29	0.85	0.44	0.32	0.91	0.76
	680 to 699	0.10	0.51	0.60	1.06	0.69	0.38	0.29	0.39	0.61
	700 to 719	0.08	0.45	0.50	0.83	0.50	0.33	0.22	0.44	0.48
	720 to 739	0.05	0.30	0.34	0.60	0.42	0.29	0.21	0.27	0.34
	740 to 759	0.04	0.21	0.25	0.45	0.35	0.25	0.19	0.26	0.25
	760 or Higher	0.01	0.11	0.12	0.25	0.29	0.24	0.18	0.38	0.12
	Average	0.06	0.39	0.43	0.72	0.56	0.35	0.24	0.47	0.40

Among high LTV loans that require credit enhancement, PMI reduces losses by over 73 percent. It reduces overall losses for the entire portfolio by nearly 27 percent on average.

In this simulation, PMI lowers Fannie Mae’s losses by nearly \$3 billion dollars for loans purchased between 2000 and 2012, reducing overall loss rates from 0.49 percent to 0.36 percent. And that is likely a drastic underestimate. U.S. Mortgage Insurers (USMI), an organization representing mortgage insurance companies, states the industry has paid \$42 billion in claims on Enterprise loans just

<sup>4</sup> In practice, a profit is possible.

since the Enterprises entered conservatorship, so this simulation may well underestimate the losses borne by the mortgage insurers.<sup>5</sup>

The cumulative loss rates in Table C can be converted into an annual guarantee fee. One method would simply divide the loss rates (with mortgage insurance) by an annualization factor (e.g., five years). However, loans typically associated with greater risk (e.g., higher LTV ratio, lower credit score, etc.) are often prepaid more slowly, meaning the Enterprises can collect more guarantee fees before the loan is prepaid or goes into default. Using the actual average maturity of loans creates the following estimates for appropriate risk-based guarantee fees for expected losses:

***D. Average Annual Loss Rates With Mortgage Insurance (Basis Points)***

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	2	9	12	20	8	7	6	9	11
	620 to 639	3	9	16	24	13	10	7	9	14
	640 to 659	2	9	15	23	15	10	7	6	13
	660 to 679	2	8	13	21	13	10	6	6	13
	680 to 699	2	6	11	19	9	9	6	5	12
	700 to 719	1	6	9	14	9	7	5	5	9
	720 to 739	1	3	7	10	6	6	5	4	7
	740 to 759	1	3	4	8	4	5	4	3	6
	760 or Higher	0	2	3	6	3	4	4	4	4
Average		1	4	7	11	7	6	5	5	7
Refinance										
Credit Score	Under 620	6	24	26	30	16	9	5	14	20
	620 to 639	5	22	25	36	21	12	7	6	22
	640 to 659	4	20	22	34	20	12	7	22	21
	660 to 679	3	17	19	32	21	10	8	21	19
	680 to 699	2	12	15	26	17	9	7	9	15
	700 to 719	2	11	13	21	12	8	6	10	12
	720 to 739	1	7	9	15	11	7	5	6	9
	740 to 759	1	5	6	12	9	6	5	6	6
	760 or Higher	0	3	3	7	7	6	5	9	3
Average		1	9	11	18	14	9	6	11	10

<sup>5</sup> Some reasons that partly explain this gap could include 1) the estimate of \$3B is for Fannie Mae only and does not include Freddie Mac, 2) the data used excludes many loans that likely had higher default rates (e.g., Alt-A loans) that may have had MI coverage, and 3) the actual loss severities may have been higher than modeled.



The cumulative effect of considering loss rates net of mortgage insurance and differences in the persistency of loans is that the distribution of expected losses is much flatter than the table of default rates (Table A) seems to imply.

## II. Unexpected Losses: Capital Reserves

The loan-level price adjustments capture the differences in risk within a typical book of business, but not all books of business have the same experience. Some will face particularly adverse market conditions and will perform substantially worse than the typical book of business and losses will exceed what the price adjustments anticipated. In such instances, it is important that the Enterprises have sufficient capital reserves to continue paying claims and guaranteeing new loans. The following charts present the most extreme loss rates, after accounting for private mortgage insurance, suffered by a given combination of credit score and LTV ratio for loans purchased in any quarter between 2000 and 2010.

### *E. Maximum Loss Rates With Mortgage Insurance (Percent)*

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	0.99	1.91	3.45	3.76	3.17	2.13	2.07	5.37	2.80
	620 to 639	1.00	3.26	4.83	4.14	3.93	2.08	1.63	3.76	2.88
	640 to 659	1.48	1.70	3.74	3.66	4.83	1.97	1.62	2.17	2.59
	660 to 679	0.58	3.10	2.95	3.24	4.62	1.79	1.74	2.51	2.52
	680 to 699	0.58	1.60	2.30	2.85	2.64	1.69	1.40	2.75	2.14
	700 to 719	0.84	1.18	2.36	2.53	3.05	1.57	1.82	2.72	2.08
	720 to 739	0.31	0.93	1.58	1.98	1.59	1.67	1.50	2.55	1.64
	740 to 759	0.53	0.87	1.11	1.56	1.97	1.35	1.10	3.38	1.35
	760 or Higher	0.12	0.48	0.72	1.10	0.90	1.02	0.79	2.22	0.84
Average		0.38	1.02	1.61	1.96	2.37	1.53	1.42	3.19	1.62
Refinance										
Credit Score	Under 620	0.91	3.54	5.27	5.31	3.71	1.69	3.03	7.99	3.54
	620 to 639	0.96	3.80	4.75	6.04	3.87	1.92	1.62	3.17	3.84
	640 to 659	0.81	3.27	4.59	5.82	4.06	2.02	1.25	4.77	3.67
	660 to 679	0.90	3.46	4.64	5.46	3.45	1.72	2.00	10.42	3.63
	680 to 699	0.72	2.63	4.21	5.12	3.50	1.59	2.24	4.19	3.21
	700 to 719	0.50	2.71	3.97	4.46	2.96	1.57	2.14	4.71	2.84
	720 to 739	0.57	2.33	3.70	4.01	2.59	1.73	2.36	10.69	2.61
	740 to 759	0.37	2.01	2.92	3.61	2.86	1.61	1.72	2.71	2.20
	760 or Higher	0.17	1.16	1.58	2.27	2.49	1.66	2.15	6.15	1.16
Average		0.42	2.25	3.30	4.00	3.16	1.70	2.04	6.05	2.39

Of course, some of these losses are expected and already accounted for in the loan-level price adjustments. Capital reserves are meant to cover the difference between these extreme losses and those expected losses presented in Table C.

***F. Maximum Loss Rates in Excess of Avg. Loss Rates with Mortgage Insurance (Percent)***

		Loan-to-Value Ratio								
		60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Purchase										
Credit Score	Under 620	0.91	1.55	2.98	2.98	2.84	1.85	1.83	5.00	2.37
	620 to 639	0.87	2.91	4.22	3.19	3.45	1.72	1.37	3.39	2.36
	640 to 659	1.39	1.38	3.19	2.76	4.29	1.60	1.37	1.93	2.08
	660 to 679	0.52	2.82	2.47	2.44	4.16	1.44	1.50	2.30	2.04
	680 to 699	0.52	1.36	1.92	2.15	2.32	1.39	1.18	2.55	1.71
	700 to 719	0.79	0.97	2.05	2.01	2.73	1.34	1.63	2.55	1.74
	720 to 739	0.27	0.81	1.34	1.61	1.39	1.47	1.32	2.42	1.39
	740 to 759	0.50	0.77	0.96	1.28	1.84	1.19	0.95	3.27	1.16
	760 or Higher	0.10	0.42	0.61	0.90	0.79	0.89	0.64	2.08	0.70
	Average	0.34	0.89	1.38	1.55	2.12	1.31	1.23	2.99	1.35
Refinance										
Credit Score	Under 620	0.68	2.60	4.29	4.08	3.05	1.34	2.81	7.40	2.74
	620 to 639	0.76	2.88	3.81	4.58	3.00	1.41	1.33	2.87	2.95
	640 to 659	0.64	2.45	3.71	4.42	3.25	1.51	0.95	3.77	2.83
	660 to 679	0.76	2.76	3.91	4.17	2.60	1.28	1.68	9.51	2.86
	680 to 699	0.62	2.12	3.61	4.06	2.81	1.21	1.95	3.80	2.60
	700 to 719	0.42	2.26	3.47	3.63	2.46	1.24	1.92	4.27	2.37
	720 to 739	0.52	2.03	3.36	3.41	2.17	1.44	2.15	10.42	2.27
	740 to 759	0.33	1.80	2.67	3.16	2.51	1.36	1.53	2.45	1.95
	760 or Higher	0.16	1.05	1.46	2.02	2.20	1.42	1.97	5.77	1.04
	Average	0.37	1.87	2.87	3.28	2.59	1.35	1.80	5.57	2.00

On the other hand, the worst performing book of business will not be held in isolation, but in a portfolio with older books of business. Seasoned books of business typically perform better, which ameliorates the overall risk to the Enterprises at any point in time. For more discussion of the portfolio approach to capital reserve, see the guarantee fee comments submitted by Molesky and Goldhaber.

Moreover, the Enterprises have an important social purpose which may be hampered by excessive capital reserves. A comparison could be made to the Federal Housing Administration’s Mutual Mortgage Insurance Fund. The first actuarial review of the Fund argued, “[T]he value of the Fund need not be sufficient to withstand all conceivable future economic conditions. We do not believe it is possible to build MMI’s equity to a level needed to cover catastrophic risk. To do so would require premiums at levels that would impair MMI’s social purposes. Catastrophic risk is implicitly covered through the backing of the U.S. Treasury.” Given the charter of the government sponsored enterprises

(12 USC § 1716) lists “provide stability in the secondary market for residential mortgages” first among its declared purposes, it is reasonable that a similar argument should apply in some form to the capital reserves of the enterprises.

Consideration of the Enterprises’ overall portfolios and social purpose suggests that required capital reserves based on the worst experience of a single book of business is a conservative approach. Consequently, the estimates presented here are likely higher than necessary.

### **III. Return on Capital**

In Question 3, FHFA’s Request for Input explicitly states, the “target return on capital and the amount of capital largely determine required g-fees.” You then ask, “What factors should FHFA and the Enterprises consider in setting target return on capital and amount of capital required? How should the Enterprises allocate capital across risk buckets?” The Enterprises should aim to make a return on their capital reserves, which are currently largely in the form of a U.S. Treasury backstop. At a minimum, then, this return should be similar to the United States government’s cost of capital. For example, the yield on a 10-year Treasury security is currently 2.4 percent and has averaged approximately 3.5 percent since 2004. At the other end, it would not be reasonable to mandate a return greater than that of a fully private financial institution. Figure 2 in FHFA’s Request for Input simulated a lower return of 9 percent and a higher return of 15 percent. The higher return of 15 percent appears to be extreme given that Wells Fargo has had an average return on equity of 13.7 percent since 2004, according to their annual reports to investors.

Between the government’s cost of capital and the market return on equity, the Enterprises have some flexibility to allocate different returns. In fact, the charter of the Enterprises explicitly states that “activities relating to mortgages on housing for low- and moderate-income families” should involve “*a reasonable economic return that may be less than the return earned on other activities*” (12 USC § 1716). This mandate was reaffirmed by the Housing and Economic Recovery Act of 2008 (12 USC § 4513). Given this purpose, one simple rule for setting required return on capital might be to calculate a weighted average of returns for each combination of LTV ratio and credit score categories based on the share of borrowers that are underserved or for whom there is some public interest in serving.

For example, the following table shows the share of loans to first-time homebuyers, which is a proxy for target segments that we use to illustrate this principle.

### ***G. First-Time Home Buyer Share of Purchase Loans (Percent)***

	Loan-to-Value Ratio								
	60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	Average
Credit Score									
Under 620	28.4	26.4	25.8	28.4	23.5	26.6	33.0	51.6	30.5
620 to 639	25.8	27.4	25.4	28.9	25.3	28.0	34.5	48.5	31.4
640 to 659	23.5	24.7	25.5	28.5	23.0	27.8	33.6	45.9	30.4
660 to 679	21.2	23.2	24.9	28.7	24.5	28.1	33.4	43.5	29.8
680 to 699	18.6	21.7	24.3	28.6	25.2	29.7	33.5	43.5	29.5
700 to 719	17.2	20.2	23.8	28.7	26.0	30.8	33.8	43.5	29.2
720 to 739	16.9	20.4	23.5	29.0	28.2	32.6	34.9	44.5	29.5
740 to 759	15.1	19.5	22.0	28.7	27.5	32.8	35.4	44.2	28.6
760 or Higher	13.6	17.7	21.3	27.0	27.7	33.0	34.0	42.5	25.2
Average	16.3	20.0	22.9	28.1	26.5	31.1	34.1	44.7	28.2

From the chart, it is clear that first-time homebuyers are associated with mortgage loans considered greater risk. Over 36 percent of purchase loans with downpayments of less than 10 percent went to first-time homebuyers compared to less than 25 percent of loans with downpayments of 20 percent or more.

If these shares are used as the weight for the government’s cost of capital relative to the market return, we can derive a weighted, purpose-based return on capital. For example, if there were no first-time homebuyers within a given combination of credit score and LTV ratio, then the Enterprises should be required to meet a market return on capital, which we assume as 13.7 percent for the purposes of illustration. On the other hand, if a cell was entirely filled with first-time homebuyers, then a purpose-based return on capital (in this illustration, 3.5 percent) would be used. In this example, returns on capital by risk bucket would range from a low of roughly 8 percent to a high of 12 percent. That is, some categories of loans would require a return on capital nearly 40 percent below the market return— not because they are higher risk but because they have a public benefit.

The financial returns we calculate here are high considering first-time homebuyers was the only underserved population considered. When low- and moderate-income borrowers are also included, the weight given to the government’s cost of capital will increase, which would bring down the required return on capital to a more reasonable level. For comparison, the return on equity for the Federal Home Loan Bank of Atlanta, another government-sponsored enterprise, between 2006 and 2013 ranged between 2.95 percent and 6.59 percent with an average of 4.4 percent. In addition, other underserved populations will also affect the rate of return on refinance loans<sup>6</sup>

## **IV. Total Guarantee Fee**

As noted, the three major components of the total guarantee fee are expected losses, capital reserves, and the return on capital. In addition, the guarantee fee must cover general and administrative

<sup>6</sup> Fannie Mae’s loan-level performance data categorizes 71 refinance loans as to first-time homebuyers— undoubtedly a coding error.

expenses (7 basis points) as well as a 10 basis point fee that is passed on to the Department of Treasury as mandated by the Temporary Payroll Tax Cut Continuation Act (12 USC § 4547). Following Figure 2 in FHFA’s Request for Input, these components can be combined to determine the total required guarantee fee.

**H. Total Required Guarantee Fee on Purchase Loans (Basis Points)**

	Loan-to-Value Ratio								Average
	60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%	
Missing	48	91	164	47	346	120	51	329	101
Under 620	34	52	80	86	75	56	52	91	67
620 to 639	35	75	105	94	89	55	45	72	69
640 to 659	43	49	86	86	107	54	46	50	64
660 to 679	28	74	72	78	101	51	47	55	63
680 to 699	28	48	61	71	65	48	42	59	57
700 to 719	33	40	61	65	72	46	48	58	55
720 to 739	23	35	47	54	46	46	43	55	47
740 to 759	27	34	38	46	52	41	36	66	42
760 or Higher	19	26	31	38	33	35	31	51	33
Average	24	37	48	54	60	45	42	64	47

The overall average guarantee fee on 30-year fixed-rate home purchase mortgages with a distribution of credit scores and LTV ratios similar to those purchased by Fannie Mae between 2000 and 2010 comes to approximately 47 basis points using our illustrative approach. Refinance loans likely require a higher guarantee fee given their higher average and maximum losses. The higher loss rates associated with refinance loans confirms the analysis presented by Molesky and Goldhaber in their guarantee fee commentary. In addition, we believe refinance loans are less vital to the health of housing markets in the United States than ensuring the continual availability of credit for new homebuyers.

These estimated guarantee fees can be compared to those implied by the base guarantee fee and annualized loan-level price adjustments currently in place.

***I. Implied Current Guarantee Fees Less Est. Required Fees on Purchase Loans (Basis Points)***

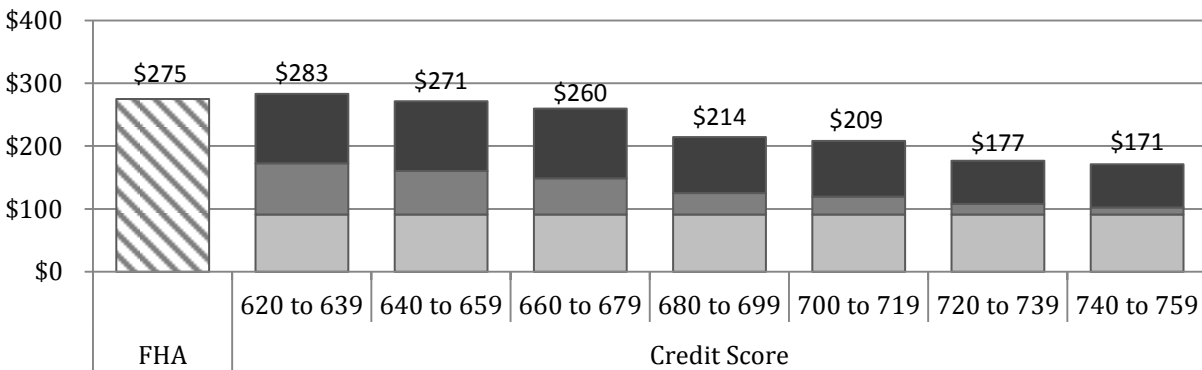
	Loan-to-Value Ratio								Average	
	60% or Less	61% to 70%	71% to 75%	76% to 80%	81% to 85%	86% to 90%	91% to 95%	Over 95%		
Credit Score										
	Under 620	27	34	47	37	57	78	79	34	54
	620 to 639	26	13	22	31	47	80	88	50	55
	640 to 659	18	33	29	39	31	70	78	55	53
	660 to 679	21	2	31	35	23	60	63	40	42
	680 to 699	21	15	23	24	24	36	42	17	28
	700 to 719	9	23	9	12	5	33	30	20	18
	720 to 739	19	14	9	9	18	18	21	9	13
	740 to 759	15	15	11	10	5	16	20	-10	12
	760 or Higher	23	23	18	18	23	21	24	5	20
	Average	20	20	18	19	21	34	43	21	24

On average, the current guarantee fee on 30-year fixed-rate home purchase loans appears to be higher than necessary for nearly every combination of LTV ratio and credit score and about 24 basis points higher than necessary on average. This is despite the fact that our illustration has been conservative in the amount of capital reserves required and the return on capital. More troubling, it appears to be the categories where first-time homebuyers are concentrated that are being the most overcharged. Loans with LTV ratios over 80 percent are being over-charged by 36 basis points on average and those over 90 percent by 39 basis points. Borrowers with credit scores under 660 are being over-charged by an astonishing 54 basis points. Again, these estimates may be imprecise, but demonstrate the information and process that FHFA should consider when setting guarantee fees.

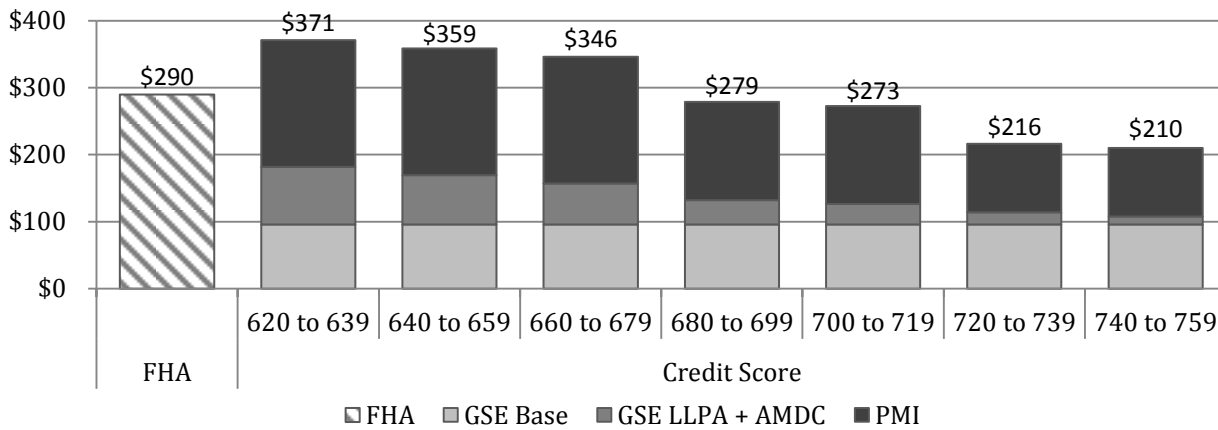
When estimating the effect of the guarantee fees on the Enterprises' market share and cost to consumers, the fees on high LTV loans must be placed in context with private mortgage insurance premiums. The charts below show how the monthly premiums from a typical mortgage insurance company are layered on top of Fannie Mae's current loan-level price adjustments, and compare the cumulative costs to those of using Federal Housing Administration (FHA) insurance.

## J. Total Monthly Costs for Loans with High Loan-to-Value Ratios

90 Percent Loan-to-Value Ratio



95 Percent Loan-to-Value Ratio



Based on median sales price for a single-family house in 2013 (\$207,750) and a 30-year mortgage with a 4.2% fixed interest rate. Adapted from a model developed by Genworth. Up-front fees are annualized by dividing by 5 years.

Despite the fact that private mortgage insurance is in a first loss position, the combined cost of the Enterprise's base fee, adverse delivery market charge and loan-level price adjustments accounts for 57 to 61 percent of the total insurance costs for loans with LTV ratios of 90 percent. Further, the changes in guarantee fees proposed by former FHFA Director Ed DeMarco in December 2013 would increase the total costs between \$12 and \$43 per month for loans with LTV ratios greater than or equal to 90 percent.

FHA already offers lower insurance prices for some borrowers and more will find the government mortgage insurance program preferable if the Enterprises' guarantee fees continue to rise. Moreover, private mortgage insurance premiums are also likely to increase given the higher capital requirements and other changes being considered in the new private mortgage insurance eligibility requirements (PMIERS). It is important to recognize that private mortgage insurance *is* private capital. Whenever the Enterprises guarantee a high LTV mortgage, private capital enters the market. The alternative is either fully public mortgage insurance through the FHA or a general lack of credit availability for wealth constrained households.

In practice, some private mortgage insurance companies have not been able to withstand the level of claims experienced in the Great Recession. Some have been forced to declare bankruptcy; others can only issue new policies through regulatory forbearance after exceeding their mandatory risk-to-capital ratios. However, counterparty risk should be addressed through the private mortgage insurance eligibility requirements (PMIERS), which are currently under review, not in loan-level price adjustments. Please refer to our comments on PMIERS.

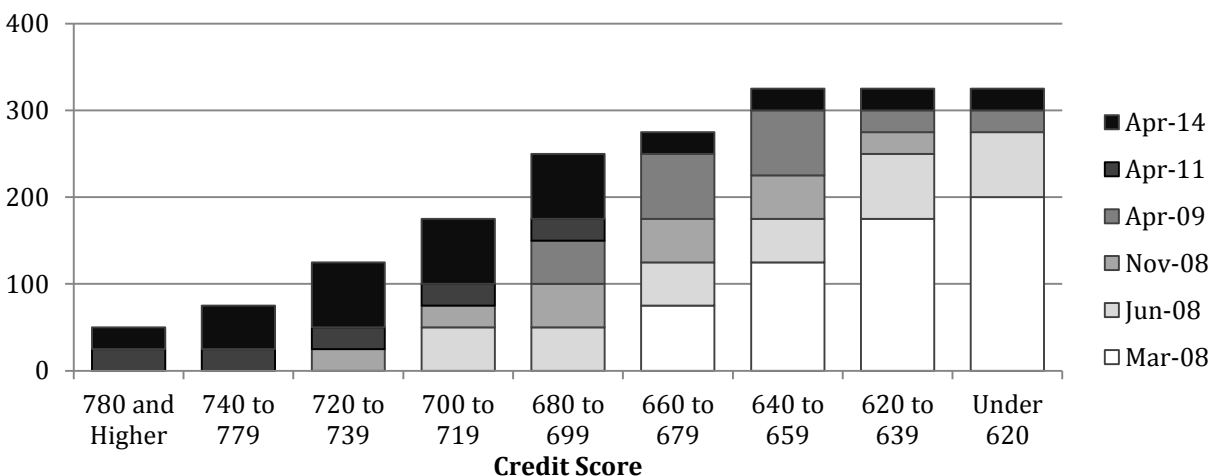
## Risks of Risk-Based Pricing

Overcharging borrowers considered higher risk is very troubling because of a peculiar feature of credit markets—risk is endogenous to its price. In auto insurance, for example, a young male pays more because he is at greater risk for an accident. But he is not more likely to have an accident because his insurance is more expensive. By contrast, borrowers with lower credit scores or lower downpayments typically pay higher rates. These higher rates increase the burden of any given level of debt, making it more difficult to repay and therefore increasing the likelihood of default. Risk-based pricing is often a self-fulfilling prophecy.

The feedback loop created by risk-based pricing is destabilizing to financial markets. Credit risk was underpriced in 2006, when rising house prices had suppressed default rates in recent loan vintages. When the housing bubble burst, financial institutions, including the Enterprises, increased rates and fees charged to borrowers, if they were willing to lend at all. In addition to the “Adverse Market Delivery Charge” in late 2007, Fannie Mae ratcheted up its level price adjustments (see figure below). Fewer households, particularly younger households that might become first-time homebuyers, had enough savings to meet higher closing costs or enough income to finance them. Consequently, there was less demand for housing, which contributed to the decline in house prices.

### ***K. Loan-Level Price Adjustment Increases by Credit Score (Basis Points)***

Example: Loan-to-Value Ratios Between 75.01% and 80.00%



Does not factor in Adverse Market Delivery Charge (25 basis points).



This policy of instituting a surcharge during a credit crunch stands in marked contrast with our countercyclical monetary and fiscal policy. The Federal Reserve's Open Markets Committee is supposed to "take away the punch bowl just as the party gets going" and stimulate growth during recessions by raising or lowering its target interest rate. This principal led Congress to enact the Housing and Economic Recovery Act, the American Recovery and Reinvestment Act, and a variety of measures designed to stimulate growth in weak economy. But these changes have been partially offset by pro-cyclical credit policies. This may explain why efforts to fight the recession in financial markets have not translated into the real economy. Relating the cost of capital and return on capital of the Enterprises to the yield on Treasury bonds would help the Enterprises better serve their counter-cyclical function.

The same problems with risk-based pricing are evident by geography. Regions are often at different points in their housing and economic cycles, creating geographic differences in credit markets similar to the larger macroeconomic variations over time. In a survey of urban mortgage financing before the Great Depression, the Brookings Institution noted wide disparities in interest rates created by mismatches in local supply and demand for credit. The authors' recommendation was the creation "through special Federal charter for a new organization to finance urban real estate." "By making it possible, however, for borrowers everywhere to obtain money on good security at low rates, it would do all that can be done to accomplish [bringing the loan rates of local lenders all over the country to a uniform level] and would complete the work of existing inter-sectional lending agencies in connecting the local mortgage loan market with the great financial reservoirs of the country. It might, in addition, serve as a central market for the purchase and sale of high-grade mortgages with great benefit to the liquidity of this type of security" (Gray and Terborgh 1929).

The creation of the Federal National Mortgage Association in many ways fulfilled this proposal and created a liquid, national mortgage market. But the movement towards risk-based pricing has again opened up regional disparities in credit markets. In 2007, Fannie Mae adopted a policy that required lenders to offer financing at LTV ratios five percentage points below the maximum ratios allowed for selected mortgage products if the property was located in an area identified as declining. And in addition to the general adverse market charge, Fannie Mae also set state-based charges applicable to Connecticut, Florida, New Jersey and New York.

Finally, what is true over time and across geographies is also true among individual borrowers. The subprime mortgage mess demonstrates the folly of trying to compensate credit risk with higher prices. And attempts to offset higher prices with loan products designed to shift greater risk to the borrower, such as adjustable interest rates, balloon payments, and prepayment penalties, often compounds the risk. This is the primary reason subprime loans proved so costly to the borrowers that received them and ultimately the financial system as a whole. UNC Center for Community Capital research finds that after accounting for all other observed characteristics, borrowers receiving subprime loans are three to five times more likely to default (Ding et al. 2011). Subprime mortgages combined with adjustable interest rates or prepayment penalties have even higher risk.

Disparate treatment of borrowers can therefore create the very differences in credit history used to justify a two-tiered market. Spader (2010) models the segmentation of a hypothetical

population with identical underlying risk characteristics but disparately assigned mortgage products associated with different default risks. Spader states, "Implicit in the simulated model is a feedback loop by which credit scores impact future credit options and thus also the individual's future credit characteristics and score." Brevoort and Cooper (2010) provide empirical support in the recent financial crisis. Their analysis of a panel of individual credit records finds that the credit scores of one-third of prime borrowers never fully recover six years after a foreclosure. The persistence of low credit scores can be partially attributed to ongoing financial distress. While only about 10 percent of prime borrowers were delinquent on a credit obligation five years before foreclosure, the delinquency rate for those same borrowers was twice that level eight to ten years after foreclosure. Brevoort and Cooper argue, "[T]he foreclosure process may alter a borrower's financial circumstances in a manner that makes future delinquencies more likely. Mortgage delinquency and foreclosure lower borrower credit scores, thereby reducing access to credit or increasing the costs of access."

## **A Model of Market Segmentation**

Coming out of the Great Depression, the original architects of the FHA and the Federal National Mortgage Association were keenly aware of the dangerous feedback loops possible in financial markets. We introduce a model to show how government-supported housing finance agencies can bend the risk-based pricing curve in order to pool risk and to do so without incurring adverse selection. In this model (Figure M), all borrowers are arrayed by credit risk, with higher-risk households towards the right of the chart. The vertical axis shows the price of mortgage credit, incorporating both a required return on capital and a risk premium. Specifically, the dashed lines indicate the return on capital required for each segment of the market. The solid lines indicate the total cost of mortgage credit, which rises with credit risk.

The first chart in Figure M illustrates how the private market might respond if it were the only source of mortgage capital. The price of credit reflects the market return on capital and a premium precisely tailored to the estimated level of risk at every point in the distribution of households (i.e., risk-based pricing). This price of mortgage credit is extended through the chart to demonstrate the cost of the private sector serving the rest of the market. As credit risk rises, so too must the price of credit. This embodies the concept of the subprime mortgage market. However, there will still be a segment of the population for whom it is too risky for the private market to profitably serve. The risk tolerance of the private market varies with the recent performance of loans, leading to volatility in credit availability and house prices.

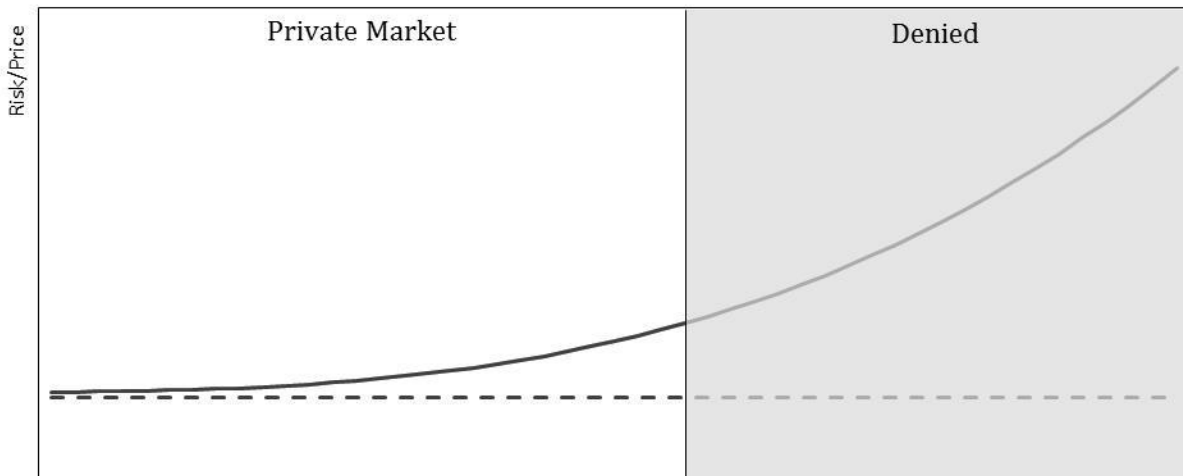
The second chart in Figure M illustrates how government-supported housing finance agencies can lower the price of credit, reducing the risk of lending and expanding the opportunity for homeownership to a broader segment of society. This chart is helpful in considering Questions 4 through 7 in the Request for Input.

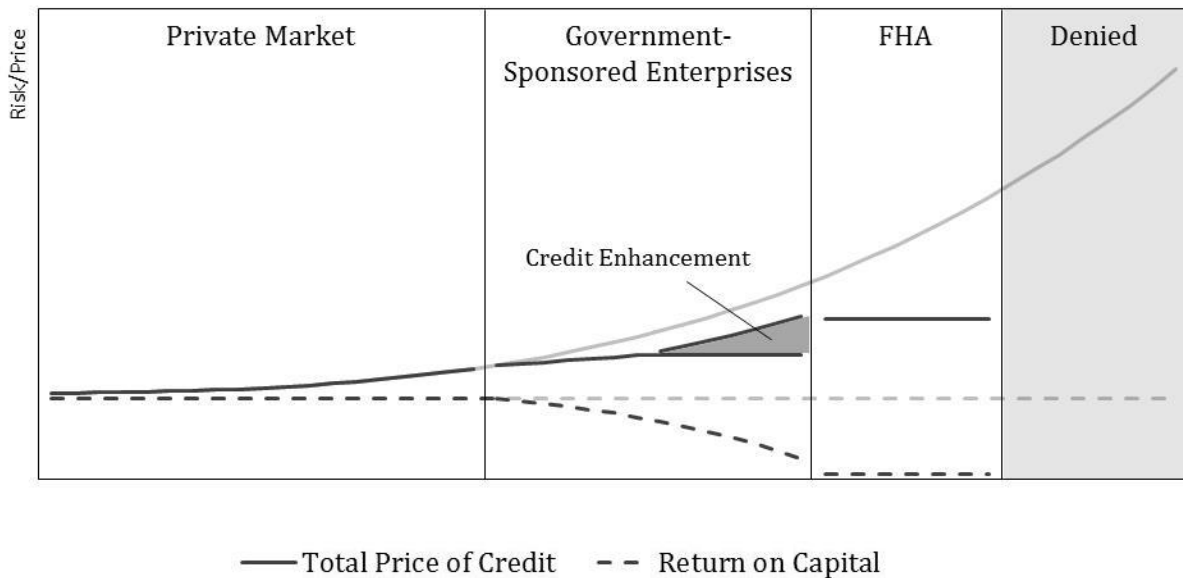
Because of their government support, the Enterprises do not need the same return on capital as the private market. In fact, the mere size, liquidity and diversification of the Enterprises means there is no true comparison for an appropriate return on capital. If the Enterprises were to charge the market

price of credit, defined as a market return on capital and risk premium, it would create excessive profits. Indeed, Passmore (2005) found the implicit subsidy enjoyed by the Enterprises was worth an estimated \$122 to \$182 billion, of which shareholders retained between \$53 and \$106 billion. This also explains why the Enterprises (as privately-held, profit motivated entities) had to be directed to serve broadly through such devices as the housing goals.

In these comments, we have outlined how the risk-based components of the Enterprises' guarantee fees should be partially offset by the public purpose they serve. Specifically, the expected losses and capital reserves should be based on empirical information on actual losses (net of mortgage insurance). However, losses should be placed in context of the overall housing cycle in order to diminish macroeconomic volatility. Further, the return on capital should reflect the extent to which a category of loans are typically used by underserved populations. The connection to underserved populations should also be based on empirical evidence—credit risk should not be subsidized just for its own sake. We still acknowledge that first-time homebuyers and underserved populations often have higher LTV ratios and lower credit scores associated with higher risk. In the figure below, these higher risks are offset by lower returns on capital, bending the curve representing the total price of credit below its market rate.

***L. Model of Market Segmentation***





Conceptually, the lower average return on capital required of the Enterprises enables them to pool risk. Typically, pooling risk—or charging based on the average risk of a portfolio—overcharges lower risk borrowers. Consequently, financial institutions that use risk-based pricing will be able to underprice institutions that use average-risk pricing for these lower risk borrowers. The remaining borrowers in the average risk pool will be disproportionately higher risk, requiring higher prices, which only exacerbate the so-called “adverse selection” problem. However, a below market return on capital allows the average-risk pricing institution to continue to compete for some of the lower risk borrowers while effectively cross-subsidizing the higher risk borrowers. Nevertheless, some borrowers, those of the highest credit quality, will still remain most efficiently served by the private sector. Conforming loans limits also carve out a space for the private market.

The Federal Housing Administration is the purest example of how the lower return on capital enables risk pooling. FHA essentially has no required return on capital. Premiums must simply be sufficient to cover credit losses and maintain reserves in the Mutual Mortgage Insurance Fund. The absence of a required return allows FHA to serve the highest risk segment of the market without resorting to risk-based pricing. This lack of risk-based pricing helps FHA function effectively as a counter-cyclical agency. For example, geographically uniform premiums allow borrowers in foreclosure hit neighborhoods the same access to credit on the same terms as households in strong housing markets. The position of Fannie Mae and Freddie Mac is somewhere between FHA and the private market.

By setting terms and standards, the Enterprises and FHA can also make loans safer and more affordable for any given borrower, further bending the risk curve and expanding the market safely. Finally, there will still be some households for whom homeownership is simply too risky. These households are denied mortgage credit or require subsidy to be appropriately served. Alternatively, the financial condition of many of these households requires more attention through affordable rental housing policies.

## **PART TWO**

### **1. Are there factors other than those described in section III – expected losses, unexpected losses, and general and administrative expenses that FHFA and the Enterprises should consider in setting g-fees?**

These traditional components for setting the insurance premiums such as the guarantee fees are generally the right factors. We have specific concerns, however, about how you derive some of these.

As your Request for Input states, “expected losses” refers to the losses the Enterprises might expect to bear “on-average, as a result of failure of borrowers to make loan payments” and represents and actuarial, micro-economic risk driven by individual loan and borrower characteristics. On average, you indicate these to be about 4 basis points. Using loan-level information on loan performance through 2013 for a decade of loan purchases made by Fannie Mae, our independent analysis suggests average expected losses are approximately 0.36 percent of the original loan balance (0.27 percent for purchase loans, 0.40 percent for refinance), which can be annualized to 9 basis points (7 and 10 basis points, respectively). However, these expected losses are a trivial portion of the 55 basis point guarantee fees being charged today.

The “unexpected losses” component is assumed to refer to the capital buffer that should be held against stress conditions, which represent more of a macroeconomic risk. As you note, the capital reserves along with the required return on capital account for the bulk of the guarantee fees being charged today. Our analysis based on the most extreme loss rates in excess of average expected loss rates for any book of business suggest that capital reserves of 179 basis points would be sufficient, which is below the 200 to 500 basis points used in the Request for Input. One reason for this difference may be that FHFA is not giving sufficient credit for the loss mitigation benefits of private mortgage insurance on high LTV loans.

We have no concerns over the general and administrative component of 7 basis points.

Your question does not reference the 10 basis points required by the Temporary Payroll Tax Cut Continuation Act. The fee is unavoidable until October 2021; however, we bring this up because we oppose the inclusion of extraneous elements in the pricing. The housing market is too important, and the Enterprises too integral to our system of housing finance, for pricing to become a vehicle for achieving unrelated and often confounding objectives. Distortions created by efforts to “crowd in private capital” or pay for unrelated items reduce the effectiveness of the Enterprises to combat housing downturns while remaining financially solvent.

## **What goals should FHFA further in setting g-fees?**

The goals that FHFA should further in setting guarantee fees are the same as those described as the purpose for the Enterprises in their charter (12 USC § 1716):

- provide stability in the secondary market for residential mortgages;
- respond appropriately to the private capital market;
- provide ongoing assistance to the secondary market for residential mortgages (including activities relating to mortgages on housing for low- and moderate-income families involving a reasonable economic return that may be less than the return earned on other activities) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing;
- promote access to mortgage credit throughout the Nation (including central cities, rural areas, and underserved areas) by increasing the liquidity of mortgage investments and improving the distribution of investment capital available for residential mortgage financing; and
- manage and liquidate federally owned mortgage portfolios in an orderly manner, with a minimum of adverse effect upon the residential mortgage market and minimum loss to the Federal Government.

Of course, the taxpayers should be protected against stress-loss scenarios and should receive some return for their support. The text of our commentary offers one framework for balancing the risks of providing insurance against the public purpose of providing stability, liquidity and access to the mortgage market that is the reason for the government sponsorship of the government-sponsored enterprises.

### **2. Risk to the Enterprises increases if the proportion of higher-risk loans increases relative to the proportion of lower-risk loans. This change in mix can occur if lower-risk loans are retained on bank balance sheets instead of being sold to the Enterprises, if more higher-risk loans are sold to the Enterprises, or if the overall mix of originated loans changes. What alternatives, other than risk-based pricing, should be considered? What are the pros and cons of each alternative?**

Higher guarantee fees for higher risk borrowers may be partially offset by a lower return on capital if the group of loans is found to serve some populations of interest, but guarantee fees should generally be sufficient to cover expected and unexpected losses. The possibility of adverse selection where lenders retain loans that are lower risk in some way unobservable to the Enterprises cannot be addressed by pricing on observable risk characteristics.

### **3. Currently, target return on capital and the amount of capital largely determine required g-fees. What factors should FHFA and the Enterprises consider in setting target return on capital and amount of capital required?**

An insurer such as the Enterprises should hold sufficient capital to protect against macro-economic shocks and stress-scenarios. Your Request for Input assumes capital requirements between

200 and 500 basis points. As noted, our analysis suggests that capital reserves of just 179 basis points would be sufficient. Moreover, we provide several reasons why even this number may be conservative. First, the overall market environment in which the Enterprises operate will hopefully be more stable after implementation of the Qualified Mortgage and other rules that will purge the market of unsustainable loan markets. The performance of loans guaranteed by the Enterprises should be improved without the deleterious neighborhood effects of foreclosures brought about by subprime and other loan products. Second, the most extreme losses of a single book of business do not take into account the cross-temporal diversification of Enterprises' risk. Seasoned books of business typically perform better, reducing the amount of capital needed. See the comments submitted by Molesky and Goldhaber for more discussion of the portfolio approach to capital reserves. Finally, the government support of the Enterprises means that their capital base is effectively supplemented by the US Treasury. Given that the status quo is likely to remain in place for an extended period, the question is: what is the right way to establish the "unexpected losses" component, given the status and purpose of the Enterprises?

In addition, we believe these ranges of after-tax return on capital used in the Request for Input are too high. The appropriate range for the Enterprise's return on capital is between the yield on Treasury securities and the market return on equity. For a benchmark, Wells Fargo's return on equity since 2004 has averaged 13.7 percent, below the 15 percent upper-bound used in the Request for Input. The yield on a 10-year Treasury security has averaged approximately 3.5 percent since 2004, well below the 9 percent lower-bound used in the Request for Input. An appropriate comparison would be the return for another government-sponsored enterprise— the Federal Home Loan Banks. The return on equity for the Federal Home Loan Bank of Atlanta has averaged 4.4 percent since 2004.

### **How should the Enterprises allocate capital across risk buckets?**

Capital reserves should be calculated based on the empirical variation in losses around the average expected losses. Specifically, our estimate of 179 basis points is derived from the maximum rate of losses suffered by any book of business in excess of the average rate. However, capital belongs to the organization. Allocating capital by risk bucket is somewhat artificial, since capital can be drawn on differently than it was priced. This pooling of macroeconomic risk is a major benefit of the large, diversified pool of loans covered by the Enterprises.

Further, even the risk-based capital calculation should be balance by purpose-based return on capital. Within the lower-bound of Treasury's cost of capital and the upper-bound of the market return on capital, FHFA has some flexibility on setting the return on capital. Moreover, the Enterprises' charter explicitly states that returns may vary across loan categories. We propose a weighted average formula based on the degree to which a loan serves first-time homebuyers, low- and moderate-income borrowers, and other underserved populations.

**4. At what g-fee level would private-label securities (PLS) investors find it profitable to enter the market or would depository institutions be willing to use their own balance sheets to hold loans?**

As for PLS investors, it is hard to say. There are factors beyond pricing that are impeding the return of PLS investors. Even the doubling of guarantee fees has not yet caused them to return the market.

As for depositories, we note they have been using their balance sheets to serve low risk borrowers and there is nothing wrong with that, but there is a limit to which depositories can safely offer fixed-rate mortgages so they will necessarily ration to the most profitable loans and the borrowers who can best withstand the potential risks of adjustable rate mortgages.

**Are these levels the same?**

Probably not, as they are driven by quite different business models and considerations.

**Is it desirable to set g-fees at PLS or depository price levels to shrink the Enterprises' footprints, even if this causes g-fees to be set higher than required to compensate taxpayers for bearing mortgage credit risk and results in higher costs to borrowers?**

For reasons noted above, "crowding in private capital" should not be a key factor in setting pricing policy for the Enterprises under today's conditions. We caution against a sweeping view that PLS activity should be maximized. The dominance of PLS lending in the mid-2000's fueled the risky practices that triggered the foreclosure crisis. Certainly, it makes sense for the private sector to serve the lowest risk, most affluent borrowers who do not need the benefits of government-related lending. But more strategic thought should be given to the appropriate role for PLS investors.

**5. If the Enterprises continue to raise g-fees, will overall loan originations decrease? That is, will Enterprise loans decline without a commensurate increase in private capital?**

Given an elastic demand for credit, an increase in the guarantee fees will result in lower demand that will be manifest in a decrease in loan originations. This decline may be partially offset by an increase in private capital through PLS and portfolio lending. More likely, however, is that in the short-term the decline would be met with a commensurate increase *public capital* in the form of FHA. As noted, the Enterprises already encourage private capital to enter the market through the credit enhancement requirement on high LTV loans, which is often fulfilled through private mortgage insurance. By shifting business away from private insurance to FHA, you will achieve the opposite of the stated objective.



**6. Is it desirable for the Enterprises to charge higher g-fees on low credit score/high LTV loans if it causes these loans to be insured/secured through FHA/Ginnie Mae rather than through the Enterprises?**

As noted, if one purpose of raising guarantee fees is to crowd in private capital, then diverting business from private mortgage insurance to FHA and Ginnie Mae is self-defeating. Since private mortgage insurance companies are the primary providers of credit enhancements that allow the Enterprises to serve lower wealth households, the combined impact of Enterprise pricing and private mortgage insurance premiums should be considered together. In addition to your guarantee fee proposal, you also recently released a proposal regarding new private mortgage insurance eligibility requirements. This proposal understandably calls for an increase in capital requirements; however, higher capital requirements will lead to higher mortgage insurance premiums. Consequently, the total cost to consumers for high LTV loans securitized through the Enterprises is already likely to increase.

It is healthy for the Enterprise market to overlap with the FHA target market to a certain extent. This gives borrowers and communities greater options and improves healthy competition for their business. FHA also needs to have enough lower risk loans on its books so that its average pricing can be affordable and sound. It is also appropriate that there is a market that can be served only by FHA for which the Enterprises and private mortgage insurance is not competitive. See our narrative for a discussion on market segmentation.

**7. Is it desirable for the Enterprises to (a) charge g-fees on high credit score/low LTV loans if it causes these loans to be insured/secured through PLS or (b) held on depository balance sheets, rather than guaranteed by the Enterprises?**

As repeatedly stated, crowding in private capital is not a sufficient goal to raise guarantee fees. If the GSEs can most efficiently serve the market while making a market return on capital, or if there is some public benefit that merits and lower-than-market return, then the Enterprises should serve the market. The Enterprises will always be limited by conforming loan limits, which should be gradually reduced and which carve out a space for the private sector.

**8. What approaches or alternatives should FHFA consider in balancing increased use of risk-based pricing with the HERA mission requirements of (1) liquid national housing markets and (2) acceptability of lower returns on loans made for low- and moderate-income housing?**

Accounting for expected losses and maintaining adequate capital reserves is not inherently at odds with promoting a liquid national housing market and accepting lower returns on loans made for low- and moderate-income households. First, the return on capital is an entirely separate consideration from expected and unexpected losses. Fortunately, the purpose-based return on capital often acts to flatten the risk-based pricing curve, but it is not subsidizing credit risk for its own sake. A liquid national housing market can be supported by ensuring that expected losses are adjusted for the housing cycle, so that pricing does not fall during a housing boom and rise during a housing downturn and therefore exacerbate the cycle, and are geographically uniform.

**9. Are the ranges of credit score and LTV cells in the proposed credit score/LTV grids used to set upfront delivery-fees and loan level pricing adjustments appropriate? Should any of the ranges be broader or narrower and, if so, why?**

We believe the ranges of credit score and LTV used in the proposed loan-level price adjustments are too narrow. The narrower the range, the more risk “buckets” are required. The proposal would increase the number of buckets among loans with LTV ratios between 80.01 percent and 97 percent from 32 (4 LTV by 8 credit score) to 44 (4 LTV by 11 credit score). For comparison, Genworth uses only 16 bucket (4 LTV by 4 credit score) despite being in the first loss position of a private mortgage insurance company without a public mission. As loan-level price adjustments become more granular, the problems with risk-based pricing mentioned in our narrative become more acute. Moreover, pricing becomes less transparent to ordinary consumers.

**10. Should risk-based pricing be uniform across the Enterprises or should each Enterprise manage its own pricing?**

We believe that there should be no state-level pricing, that changes in pricing over time should reflect empirical estimates of cycle-adjusted risk, and that loan-level pricing should be less granular than it is currently. Within these bounds, we are indifferent to whether risk-based pricing is uniform across the Enterprises. One method might be to set a number of risk buckets for each Enterprise to use (fewer than currently used), but that each Enterprise be responsible for managing the delineation of each bucket and the pricing used within each bucket. That might allow a degree of flexibility and competition to ensure the Enterprises adequately and sustainably serve the market.

**11. Taking into consideration that FHFA has previously received input on state-level pricing adjustments, do the g-fee changes proposed in December 2013 have any additional implications that should be considered in deciding whether to price for the length of state foreclosure timelines, unable to market periods or eviction timelines? Are there interaction with other pricing components under consideration that FHFA should consider in making decisions on state-level adjustments?**

Similar to our concern that the Adverse Market Delivery Charge exacerbates housing market volatility, we feel that state-level pricing compounds regional differences in credit availability. Cheap credit pours fuel on the fire in over-heated housing markets while further depressing distressed markets. This phenomenon flies in the face of the original purpose of a federal mortgage association to increase liquidity for the entire country. Consequently, we oppose any state-level pricing.

**12. Are there interactions with the Consumer Financial Protection Bureau’s Qualified Mortgage definition that FHFA should consider in determining g-fee changes?**

We did not address this in our commentary, but clearly the QM and other regulatory changes will improve the overall safety and soundness of the mortgage market and prevent a return to the risky practices that triggered the foreclosure crisis. This reduced risk level should be reflected in setting pricing.

## **Conclusion**

The discussion over guarantee fees suffers from a lack of transparency on the actual losses of loans guaranteed by the Enterprises. However, based on loan-level performance data provided by Fannie Mae, it appears that the current guarantee fees are already too high. The changes proposed by former FHFA Director DeMarco would further increase guarantee fees. Higher fees would make the GSEs less competitive with FHA, effectively putting more taxpayer money at risk. Moreover, the distribution of guarantee fees disproportionately punishes borrowers considered higher credit risks. This may be because the guarantee fees do not adequately consider the loss mitigation benefits of private mortgage insurance or the greater persistency typical of higher credit risk loans. Often, higher risk borrowers are first-time homebuyers, lower-income households, or other underserved populations that the Enterprises are explicitly directed to serve, even if it means accepting lower returns. We demonstrate how the risk-based components of the guarantee fee should be partially offset by a purpose-based return on capital to flatten the guarantee fee pricing structure. In general, the Enterprises' ability to pool risk across borrowers, region and especially time periods enables them to diminish volatility in the market, reducing risk at both the macroeconomic and household level.

## **Sincerely**

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