The Affordable Housing Goals, Homeownership and Risk:

Some Lessons from Past Efforts to Regulate the GSEs

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Introduction

This paper draws on my experience as a GSE regulator to address issues concerning the affordable housing goals and some related matters that are relevant to the current policy discussions.

I have had a substantial role in GSE regulation on two occasions. As Assistant Secretary for Policy Development and Research at the U.S. Department of Housing and Urban Development during 1989-1993, I created and managed a staff to support Secretary Jack Kemp in his responsibilities as the sole regulator of Fannie Mae and Freddie Mac between the passage of the Financial Institutions Reform, Recovery and Enforcement Act in 1989 and the Federal Housing Enterprises Financial Safety and Soundness Act in 1992. Later, as Assistant Secretary for Housing at HUD during 2001-2005, I received the delegation of regulatory authority from Secretaries Mel Martinez and Alphonso Jackson, to serve as "mission regulator," including the affordable housing goals, new program approval, and related matters. FHEFSSA had assigned a continuing role in GSE regulation to the HUD Secretary. He or she retained responsibility for issues other than safety and soundness. In 1993, Secretary Henry Cisneros delegated that responsibility to the Assistant Secretary for Housing, and that delegation remained in place until GSE regulation was consolidated within the new Federal Housing Finance Agency, under the Housing and Economic Recovery Act of 2008. As Assistant Secretary for Housing during 2001-2005, I therefore was responsible for managing the GSE regulatory process within HUD.

I was involved with GSE regulation when the affordable housing goals were enacted, and when they were promulgated for the 2005-2008 period. In addition, I was involved for all but five months of the period when the goals promulgated in 2000 were in effect. The goals went into effect in January 2001 and remained in place through December 2004; I became Assistant Secretary for Housing in June 2001 and held that position through April 2005.

The Affordable Housing Goals

Among its regulatory responsibilities, HUD was required to formulate the affordable housing goals for the GSEs, and to monitor their performance. These goals were established and specified by FHEFSSA (Part 2, Subpart B). They were intended to codify one of the public purposes of the GSEs, namely, "to 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)." (This statement of purpose appears in Section 301(3) of both the Fannie Mae Charter Act and the Freddie Mac Corporation Act.)

Within HUD, the process of formulating the affordable housing goals involved four offices: the Office of General Counsel, the Office of Housing, the Office of Policy Development and Research, and the Office of Fair Housing and Equal Opportunity. The goals were established through formal rulemaking, following the procedures required under the Administrative Procedures Act: a proposed rule, a comment period, a review of comments by the Department, and a final rule. As with all rules, both the proposed rule and the final rule were reviewed by the Office of Management and Budget, which also circulated the rule to other interested federal agencies and coordinated their responses.

The rule was always painstakingly developed, with extensive supporting analyses as required by both the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (FHEFSSA) and the Administrative Procedures Act. The rule and analyses issued in 2004 were more than half the length of *War and Peace*. The proposed rule and analyses occupied 266 pages of the *Federal Register*; the final rule and analyses occupied 308 pages. Like other rules, the GSE affordable housing goals rule could be challenged in court, and needed to be able to withstand a challenge.

There are three statutory goals:

(1) The Low- and Moderate-Income Housing Goal: loans to borrowers with incomes at or below the median income for the market area in which they live;
(2) The Special Affordable Goal: loans to very low-income borrowers (those with incomes at or below 60 percent of the area median income), or to low-income borrowers living in low-income areas (borrowers with incomes at or below 80 percent of the area median income, living in census tracts in which the median income of households is at or below 80 percent of the area median income);
(3) The Underserved Areas Goal: loans to borrowers living in low-income census tracts (tracts in which the median income of residents is at or below 90 percent of the area median income) or high-minority tracts (tracts in which minorities comprise at least 30 percent of residents, and the median income of residents in the tract does not exceed 120 percent of the area median income).

The goals are commonly expressed in terms of the income of homebuyers or homeowners, but they also cover rental housing. The Low- and Moderate-Income Housing Goal, for example, includes loans to multifamily housing owners for rental units that are affordable to households with incomes at or below the area median. Multifamily rental housing located within underserved areas counted toward that goal, as well as owner-occupied housing.

These are complicated definitions, because the concepts of "low-income," etc., are defined in terms of the median income in a metropolitan area or nonmetropolitan county, not in terms of national income categories, and because there are so many income categories. For perspective, it might be helpful to keep in mind that the national "poverty line" for a family of four (the usual reported figure) has generally been about 40 to 45 percent of the national median household income since 1993. All of the income levels employed as criteria in FHEFSSA are well above the poverty line.

The first goal is based on the income of the borrower or the renter; the second is based partly on income and partly on location; the third is based on location. A mortgage can count toward more than one goal; in fact, any loan that meets the Special Affordable Goal also automatically counts toward the Low- and Moderate-Income Goal. A mortgage to a very low-income borrower living in an underserved area counts toward all three.

The goals are defined in FHEFSSA (Sections 1332, 1333, and 1334, respectively). HUD is empowered to establish numerical targets for each goal: the percentage of each GSE's mortgage purchases that should count toward a goal. FHEFSSA set "transition targets" to apply for at least the first two years and then HUD issued three sets of targets, by regulation, which became effective as of 1996, 2001, and 2005, respectively. The targets are shown in Table 1. They are expressed as shares of the GSEs' mortgage purchases, including both loans purchased for portfolio and loans which serve as collateral for mortgage-backed securities issued by the GSEs.

Table 1
GSE Affordable Housing Goals, 1993-2008
(share of mortgage purchases by GSEs)

Years	Goals		
	Low- and Moderate-Income	Special Affordable	Underserved Areas*
1993-1995	30%	NA	30%
1996	40%	12%	21%
1997-2000	42%	14%	24%
2001-2004	50%	20%	31%
2005	52%	22%	37%
2006	53%	23%	38%
2007	55%	25%	38%
2008	56%	27%	39%

NA – Not Applicable: goals were set in dollar amounts for each GSE rather than percentages

* The Underserved Areas goal was determined on the basis of 1990 Census tract geography from 1993-2004, and on the basis of 2000 Census tract geography from 2005-2008.

The numerical targets are determined on the basis of activity in that part of the mortgage market which the GSEs serve – the "conventional conforming market."

The conventional conforming market <u>excludes</u>:

(1) Federally insured or guaranteed loans: FHA, VA, Rural Housing Service
(2) "B&C" loans: approximately the bottom half of the subprime market
(3) Loans above the conforming loan limit, which until HERA was enacted in 2008 was set as the 90th percentile of the distribution of loans in the conventional market. For 2008, prior to HERA, the conforming loan limit was $417,000.

The conventional conforming market <u>includes</u>:

(1) Prime loans: loans rated "A"
(2) "A-minus" and "Alt-A" loans: approximately the top half of the subprime market
(3) Mortgages on manufactured homes

The Goals in Relation to the Conventional Conforming Market

By statute, the targets are to be set with reference to the performance and effort of the enterprises toward achieving the targets in previous years; the share of the conventional conforming market that is comprised of loans in a goal category; and the ability of the GSEs to lead the industry in making loans in a goal category.

The policy issue raised by these factors is whether the GSEs "lead the market" or "lag the market." This is shorthand for whether the loans in a given goal category are included in GSE purchases to the same extent that they are originated within the conventional conforming market. To give a numerical example, if loans to borrowers with incomes below the local median represent 50 percent of all loans in the conventional conforming market in a particular year, then the GSEs are "leading the market" if such loans represent 51 percent or more of their purchases, and they are "lagging the market" if such loans represent 49 percent or less of their purchases. (This simple illustration ignores both the statistical significance and the practical importance of small differences.) Under the targets established in FHEFSSA to become effective in 1993, and the targets established by rulemaking as of 1996 and 2001, the GSEs were not asked to "lead the market" in any goal category; the targets were consistently set so that they could be fulfilled even though the GSEs "lagged the market." Under the targets set as of 2005, the GSEs were asked to "meet the market." To avoid creating problems for the GSEs, the targets were phased in year-by-year over the next four years. This is different from the procedures used in 2001, when the goals were increased quite substantially from the old level to the new level in a single year, as shown in Table 1.

The relationship between the targets and the market is shown in Table 2, which compares each goal to the share of such loans in the market served by the GSEs, year by year.

Table 2 is particularly relevant to a controversy about the goals established for 2005 and later years. The GSEs argued that the goals were too high; the actual market shares of loans in each category were lower than the goals. Table 2 shows that, in fact, all of the goals were set below the market in 2005 and 2006. It was possible for the GSEs to meet the goals and still "lag the market."

Table 2
GSE Affordable Housing Goals Compared to Market Shares
(Percentages of the Conventional Conforming Market Served by the GSEs)

Year	Low- and Moderate-Income		Special Affordable		Underserved Areas*	
	Goal	Market	Goal	Market	Goal	Market
1993	30%	NR	NA	NA	30%	NR
1994	30	NR	NA	NA	30	NR
1995	30	57%	N.A.	29%	30	34%
1996	40	57	12	29	21	33
1997	42	57.5	14	29	24	34
1998	42	54	14	26	24	31
1999	42	58	14	29	24	34
2000	42	59	14	30	24	35
2001	50	55	20	26.5	31	33
2002	50	50.0	20	23.5	31	34
2003	50	53	20	24.5	31	34
2004	50	58	20	28	31	42
2005	52	57	22	28	37	44
2006	53	55	23	27.5	38	44
2007	55	52	25	24.7	38	40
2008	56	54	27	26.5	39	42

NOTE: Market shares are reported to the nearest percent except where the share is halfway between two percents (e.g., 57.5%), or where the market share is within one percent of the goal.

NA – Not Applicable: goals were set in dollar amounts for each GSE rather than percentages

NR – market shares not reported

* The Underserved Areas goal was determined on the basis of 1990 Census tract geography from 1993-2004, and on the basis of 2000 Census tract geography from 2005-2008.

SOURCES: 1993-1994, FHEFSSA, Sections 1332, 1333, 1334; 1995-2001, "2005 Proposed Rule," *Federal Register*, May 3, 2004, p. 24468.; 2002-2008, Federal Housing Finance Agency, "The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996-2009," Mortgage Market Note 10-2, February 1, 2010, Appendix B.

GSE Performance Vis-à-vis the Goals and the Market

In fact, that is what the GSEs did, annually from 1995 to 2005. Their performance is shown in Table 3, which repeats the goals and the actual market share from Table 2, and adds the actual purchases of each GSE toward each goal.

GSE performance was consistently above the goal, but below the share of the GSE market that qualified for the goal.

(1) For the Low- and Moderate-Income Goal, both GSEs' purchases exceeded the goal but fell short of meeting the market from 1995 through 2005;
(2) For the Special Affordable Goal, Fannie Mae's purchases exceeded the goal but fell short of meeting the market from 1995 through 2005, and Freddie Mac's purchases exceeded the goal but fell short of meeting the market from 1995 through 2006;
(3) For the Underserved Areas goal, both GSEs' purchases exceeded the goal but fell short of meeting the market from 1995 through 2006, with the exception of 2002, when Freddie Mac fell just short of the goal.

Freddie Mac's failure to meet the Underserved Areas goal in 2002 occurred because it double-counted loans which it had purchased in 2001 toward the goals in both 2001 and 2002. These loans covered 22,424 housing units. Correcting for the double-counting, Freddie Mac fell short of the 31 percent Underserved Areas goal by 90 loans, or 0.002 percent. There was a similar double-counting of 22,371 units toward the Low- and Moderate-Income Goal, but correcting this error did not affect Freddie Mac's performance; it continued to meet that goal in 2002. (This matter is described in the final rule for 2005-2008, which appears in the *Federal Register* for November 2, 2004, on p. 63587 and in Table 5.)

In 2006, both GSEs' purchases met the Low- and Moderate-Income Goal and also met the market. This was also true with respect to Fannie Mae's performance on the Special Affordable Goal in that year.

Table 3
GSE Performance on Affordable Housing Goals

Year	Low- and Moderate-Income				Special Affordable				Underserved Areas			
	Goal	Market	GSE Purchases FNMA	FHLMC	Goal	Market	GSE Purchases FNMA	FHLMC	Goal	Market	GSE Purchases FNMA	FHLMC
1993	30				N.A.	N.A.			30			
1994	30				N.A.	N.A.			30			
1995	30	57			N.A.	29			30	34		
1996	40	57	46	41	12	29	15	14	21	33	28	25
1997	42	57.5	46	43	14	29	17	15	24	34	29	26
1998	42	54	44	43	14	26	14.3	16	24	31	27	26
1999	42	58	46	46	14	29	18	17	24	34	27	27.5
2000	42	59	49.5	50	14	30	19	21	24	35	31	29
2001	50	55	51.5	53	20	26.5	22	23	31	33	33	32
2002	50	50	52	50.5	20	23.5	21	20.4	31	34	33	31.0*
2003	50	53	52	51	20	24.5	21	21	31	34	32	33
2004	50	58	53	52	20	28	24	23	31	42	33.5	32
2005	52	57	55	54	22	28	26	24	37	44	41	42
2006	53	55	57	56	23	27.5	28	26	38	44	43.6	43
2007	55	52	55.5	56	25	24.7	27	26	38	40	39.4	43
2008	56	53.6	53.7	51.5	27	26.5	26.4	23	39	42	42	38

Ταβλε 4 - Freddie Mac fell just short of underserved area goal in 2002, by 90 loans

NOTE: Market shares and GSE purchases reported to nearest percent except where the number is halfway between two percents (e.g., 57.5%) or within one percent of the goal, or where the purchase number is within one percent of the market share.

NA – Not Applicable: goals were set in dollar amounts for each GSE rather than percentages

SOURCE: Federal Housing Finance Agency, "The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996-2009," Mortgage Market Note 10-2, February 1, 2010, Appendix B.

What this means is that lenders other than the GSEs – lenders without the various special privileges that gave the GSEs "agency status" and the ability to borrow at preferential rates in the capital markets – consistently did a better job of serving households in each of these goal categories than did the GSEs. Since loans to low- and moderate-income borrowers, for example, were a smaller share of GSE purchases than they constituted in the conventional conforming market, other lenders must have been buying a larger share of loans to low- and moderate-income borrowers than the GSEs. Those loans were a larger share of their portfolios than they constituted in the portfolios of the GSEs.

In short, the concern expressed by the GSEs that they could not meet the goals for 2005 and later because they were "too high" was not borne out by the actual market shares available to meet each goal, or by their purchases, during 2005 and 2006. .

The situation was different in 2007, and the GSEs responded to it differently, as will be discussed later.

The Goals and the Subprime Mortgage Market

It has sometimes been asserted that the affordable housing goals established in 2005 are substantially responsible for the GSEs' collapse in 2008. For example, former Fannie Mae senior officials expressed this view in testimony this spring before the Financial Crisis Inquiry Commission,[1] as did the former CEO of Freddie Mac earlier (Duhigg, 2008).[2] It also appears to be the "sense of Congress," as expressed in the Dodd-Frank Wall Street Reform and Consumer Protection Act (Subtitle H, Section 1491), though the statute does not quite say so.[3]

In fact, the GSEs had been buying A-minus and Alt-A loans since the later 1990s, according to analyses during the process leading up to the 2000 rule (Bunce and Scheessele, 1998; Bunce, 2000). They increased their subprime activity in 2003, before the new goals were proposed for comment in May 2004, and for that matter before Freddie Mac's accounting problems came to light (Inside Mortgage Finance Publications, 2009, p. 26). There is direct evidence on the extent to which the GSEs were buying subprime mortgages, both before and after the 2005 rule went into effect. This evidence indicates that the affordable housing goals had little if any impact on GSE activity in

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[1] Financial Crisis Inquiry Commission, 2010. The witnesses were Robert J. Levin, former vice president and chief business officer, and Daniel H. Mudd, former president and chief executive officer.

[2] But see also Gavin, 2008, and Syron, 2008, where Syron states that the cause of Freddie Mac's problems is the collapse in the housing market, rather than the affordable housing goals.

[3] The text of the Dodd-Frank Act can be found at http://thomas.loc.gov/cgi-bin/query/F?c111:6:./temp/~c1113tyqqF:e2676629:

these markets. Instead, it appears that the GSEs were responding to the same factors in the mortgage market as other lenders.

Table 4 reports the dollar values of subprime and Alt-A mortgage purchases by the GSEs during 2001-2007. As mentioned earlier, but they began buying subprime mortgage-backed securities (MBS) heavily in 2002. Their subprime MBS purchases doubled between 2002 and 2003, and doubled again in 2004 – from $38 billion to $81 billion to $176 billion. All this of course happened before the housing goals were changed in 2005. After the new goals went into effect, their subprime MBS purchases actually declined slightly, to $169 billion, and then dropped sharply to $110 billion for 2006. Their share of the subprime MBS market rose from 19 percent in 2002 to 33 percent in 2004; then it declined to 27 percent in 2005 and further to 18 percent in 2006, after the new goals were in place.

Essentially, what happened is that the market for subprime MBS took off in the early years of the decade, and the GSEs became active in that market for a couple of years. Then they began pulling back, at the same time that the affordable housing goals were increased.

Table 4
Subprime and Alt-A Purchases by the GSEs, 2001-2006
(Dollar amounts in billions)

Year	Subprime Loans and MBS		Alt-A loans
	Dollar amount	Share of Market	Dollar Amount
2001	N.A.	N.A.	$ 15
2002	$ 38	19%	$ 66
2003	$ 81	26%	$ 77
2004	$176	33%	$ 64
2005: new affordable housing goals go into effect			
2005	$169	27%	$ 77
2006	$110	18%	$157
2007	$ 60	31%	$178

SOURCE: OFHEO annual reports, “Mortgage Markets and the Enterprises.”

The loan data come from a series of annual reports by the Office of Federal Housing Enterprise Oversight (OFHEO), the GSE safety and soundness regulator, entitled “Mortgage Markets and the Enterprises.” From these reports, it also appears that OFHEO did not think that these purchases posed a risk. In each report, the discussion of subprime purchases was followed immediately by a section on overall single-family mortgage credit risk in which OFHEO concluded that the risk was not great. Indeed, in the report for 2007, issued July 21, 2008, a week after the Bush Administration offered a plan to rescue the GSEs and nine days before HERA was enacted, the discussion was entitled, “Enterprises Continue to Manage Single-Family Credit Risk.” In the 2006 report, issued June 25, 2007, four months after subprime mortgage problems were widely reported, the discussion of subprime purchases was followed by a section entitled, “Enterprise Single-Family Credit Risk Remains Low.” Similar discussions appeared in earlier reports, going back to 2001.

Table 4 also reports on Alt-A mortgages – loans where the borrower does not supply full documentation in support of the application. Often the borrower does not provide income data. Traditionally these were loans to higher-income borrowers with irregular incomes, such as the self-employed. In recent years, they were extended to borrowers with much lower incomes.

The table shows that Alt-A purchases by the GSEs increased very sharply from 2001 to 2002, then fluctuated through 2005 (the first year of the new goals), and then doubled between 2005 and 2006. This might suggest that Alt-A purchases were influenced by the goals, at least in 2006. But Alt-A loans typically lack information on the borrower’s income, and two of the three goals are based on income. Alt-A loans could qualify directly for the underserved area goal, but not for the other two.

Indeed, in both the 2001 and 2005 rules, HUD set forth criteria for counting Alt-A loans toward the goals.[4] As of 2001, the GSEs could exclude mortgages to homeowners without income data, and mortgages for rental properties without tenant income data and rent data, from both the numerator and denominator of the Low- and Moderate-Income Goal and the Special Affordable Goal calculations, but only up to a maximum of one percent of all home mortgage purchases and five percent of all rental mortgage purchases. The 2005 rule added a second option. The GSEs could choose to include Alt-A loans in a given census tract toward the goals, in the same proportion as their mortgage purchases on owner-occupied homes located in that tract, for which income data was reported, counted toward a housing goal. If half the home loans with income data in a given tract counted toward a goal, then half the Alt-A loans in that tract could count toward the goal as well. The 2005 rule also allowed the same methodology for mortgages on rental properties, which lacked either income or rent data. The GSEs could choose either of these methodologies in a given year. In addition, the 2005 rule allowed the GSEs to use other methodologies, subject to HUD approval.

Under those criteria, the more Alt-A loans that the GSEs have bought, the harder it has been for them to meet the Low- and Moderate-Income Goal and the Special Affordable Goal.

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[4] 24 CFR Secs. 81.15(d) and 81.15(e). As noted earlier, the rule appears in the *Federal Register* for November 2, 2004. The discussion of Alt-A loans appears on pp. 63626-63627. The rule language appears on pp. 63641-63642.

GSE Purchases of Subprime Mortgage-Backed Securities.

In addition to the series of reports on "Mortgage Markets and the Enterprises," OFHEO and FHFA have issued "Annual Reports to Congress," which include historical tables for GSE activity: mortgage purchases, securitizations, delinquencies, enterprise profits, etc. In 2008, these reports began to include detailed information on GSE purchases of subprime and Alt-A mortgage-backed securities, though not on purchases of subprime or Alt-A mortgages for portfolio. Data for Fannie Mae are reported back to 2002, but data for Freddie Mac are only available since 2006.

Fannie Mae's reported purchases are shown in Table 5, disaggregated into subprime, Alt-A, and "other," and within each category separated into fixed-rate and adjustable-rate. The pattern is similar to Table 4. Total subprime and Alt-A MBS purchases rose from $7 billion in 2002 to $33 billion in 2003 and to $89 billion in 2004. Then the new goals went into effect at the beginning of 2005. Purchases dropped by more than 50 percent that year, to $41 billion. There was a modest increase to $47 billion in 2006, still not much more than half the 2004 total. This pattern is driven by subprime ARM MBS purchases, which amount to over 70 percent of the total in each year except 2005, but each of the other categories shows a marked decline between 2004 and 2005.

Table 5

Private Label MBS Purchases by Fannie Mae, 2002-2007
(dollars in billions)

Year	Subprime		Alt-A		Subprime &	Other SF		Total*
	FRM	ARM	FRM	ARM	Alt-A Total	FRM	ARM	
2002	0.2	5.0	1.8	0	6.9	**	0.4	7.4
2003	0	25.8	7.7	0.4	33.9	0.1	0	34.0
2004	0.2	66.8	7.1	14.9	89.0	0.2	1.5	90.8
2005	0	24.5	3.6	12.5	40.6	0.1	0.6	41.4
2006	0	35.6	1.5	10.5	47.6	0	0.5	57.8
2007	0.3	15.6	**	5.2	21.3	0	0.2	37.4

* Total exceeds sum of subprime, alt-A and other SF because of omitted categories (manufactured housing, multifamily)

** Less than $50 million

SOURCE: FHFA, "Report to Congress: 2008," Table 1b. Fannie Mae Purchases of Mortgage-Related Securities - Part 2, Private-Label Detail – revised from first edition.

Underwriting Changes and the Affordable Housing Goals

Further evidence from a different perspective on GSE behavior comes from an analysis by HUD staff economists, published in the August 2008 issue of HUD's periodical, "U.S. Housing Market Conditions." This study reports the distribution of mortgage-to-income ratios for the GSEs and other lenders during 2001-2006. Higher ratios indicate greater risk of default – mortgage payment burdens that will be a particularly large share of the borrower's income. The data are shown in Table 6, for loans in the 90th percentile of the mortgage-to-income ratio – close to the riskiest loans being made. To illustrate more directly the effect of the changes, the table also shows comparable mortgage principal amounts for a family with an income of $60,000, close to the median family income for mortgage borrowers during 2004-2006.

Table 6
Risk-Taking by the GSEs and Other Lenders, 2001-2006
(for the 90th percentile of the distribution of home purchase loans)

Panel A – ratio of mortgage principal to income

	Before the housing goals were increased:				New goals:	
	2001	2002	2003	2004	2005	2006
GSEs	335%	356%	383%	390%	397%	380%
Portfolio Lenders	322%	348%	376%	403%	389%	392%
Private Mortgage Pools	328%	352%	384%	393%	388%	365%

Panel B – mortgage loan amount for family with $60,000 annual income
(dollar amounts in thousands, rounded to nearest thousand)

	Before the housing goals were increased:				New goals:	
	2001	2002	2003	2004	2005	2006
GSEs	$201	$214	$230	$234	$238	$228
Portfolio Lenders	$193	$209	$226	$242	$233	$235
Private Mortgage Pools	$197	$211	$230	$236	$233	$219

SOURCE: "Using HMDA and Income Leverage to Examine Current Mortgage Market Turmoil," *U.S. Housing Market Conditions*, Second Quarter 2008, published by the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

The GSEs began making significantly riskier loans to homebuyers beginning in 2002, offering larger loans to families with a given income level; they took still more risk in 2003. Beginning in 2004, their appetite for increased risk subsided, but their mortgage-to-income ratios remained high, and very nearly constant, through 2006.

The GSEs were not alone, as Table 6 shows. Beginning in 2002, other lenders were also taking more risk by relaxing underwriting standards. These lenders – both portfolio lenders such as commercial and community banks, and issuers of private mortgage pools – began taking more risk in 2002 and continued to do so until 2005. They were not subject to the affordable housing goals, but they behaved in the same way as the GSEs.

For homeowners who refinanced their mortgages, the GSEs relaxed their standards to a much greater extent, beginning in 2002 and continuing through 2006. These data are shown in Table 7.

Table 7
Risk-Taking by the GSEs and Other Lenders, 2001-2006
(for the 90th percentile of the distribution of home refinance loans)

Panel A – ratio of mortgage principal to income

	Before the housing goals were increased:				New goals:	
	2001	2002	2003	2004	2005	2006
GSEs	331%	338%	347%	385%	423%	429%
Portfolio Lenders	314%	331%	346%	402%	408%	394%
Private Mortgage Pools	346%	366%	388%	434%	455%	438%

Panel B – mortgage loan amount for family with $60,000 annual income
(dollar amounts in thousands, rounded to nearest thousand)

	Before the housing goals were increased:				New goals:	
	2001	2002	2003	2004	2005	2006
GSEs	$199	$203	$208	$231	$254	$257
Portfolio Lenders	$188	$199	$208	$241	$245	$236
Private Mortgage Pools	$208	$220	$233	$260	$273	$263

SOURCE: Same as Table 6.

This is particularly relevant because refinances are less likely to count toward the affordable housing goals; in general, homebuyers have lower incomes than homeowners who are refinancing, and homebuyers are more likely to live in "underserved" areas. If the GSEs were being driven by the new affordable housing goals, they would have relaxed their standards more for home purchase loans and less for refinances. Instead, they did the opposite. Again, other lenders, not subject to the goals, followed the same pattern as the GSEs.

The increase in leveraging between 2001 and 2004 is far too large to be accounted for by the decline in mortgage rates over those years. The decline in rates was about 110 basis points, which is enough to permit about a 30-basis point increase in the mortgage-to-income ratio without increasing the risk of default. For both home purchase loans and refinances, the increase in the ratio for the GSEs was about 55 basis points during those years. In addition, GSE mortgage-to-income ratios for refinances increased from 2004 to 2005 even though interest rates were stable; and they remained at about the 2005 level even though mortgage rates increased by over 50 basis points in 2006.

The GSEs relaxed their underwriting standards and began investing heavily in subprime mortgage-backed securities well before the goals were increased in 2005. After the goal increase, the GSEs maintained about the same underwriting standards, at least for home purchase loans, the most likely to count toward any of the housing goals. Despite the increase in the goals, the GSEs did not take further underwriting risk in order to meet them.

What Happened in 2007?

By the beginning of 2007, problems in the housing and mortgage markets were becoming evident. New home construction began to contract in mid-2006, and house prices as measured by the Case-Shiller Index started to drop at about the same time. Prices as measured by the OFHEO repeat-sales index – an index based on the homes on which the GSEs had actually bought the mortgages – were still rising, but more slowly than earlier; the OFHEO index began to decline in the second quarter of 2007. At the same time, there were growing problems in the subprime market. In early February, HSBC and New Century reported unexpectedly large losses on subprime mortgages; they were the subjects of front-page stories in the *Wall Street Journal* on consecutive days (Mollenkamp, 2007; . From that point, subprime mortgage problems were regularly in the news. The subprime market began to shrivel.

By the end of 2006, lenders were tightening their standards for subprime loans. The financial regulators issued guidance to financial institutions on nontraditional mortgage product risks in October 2006, and followed it with proposed guidance on subprime lending in March 2007, and final guidance in June (Board of Governors of the Federal Reserve System 2006; Board of Governors of the Federal Reserve System 2007). The earlier guidance urged institutions to recognize that non-traditional mortgages are "untested in a stressed environment," and that they require strong risk management and capital standards and loss reserves commensurate with the risk. The later guidance expressed concern about the "heightened risks" to lenders as well as borrowers from subprime ARMs with teaser rates such as 2/28 and 3/27 loans, loans with very high or no payment or rate caps, low-doc and no-doc loans, and substantial prepayment penalties, and stated that institutions should develop strong control systems in order to manage the risks.

This guidance also applied to Fannie Mae and Freddie Mac, but with a lag. OFHEO notified Fannie Mae and Freddie Mac in December 2006 that they were required to comply with the guidance on non-traditional mortgage product risks, but the GSEs did not agree to comply until July 2007, and even then indicated that they would continue to buy non-traditional mortgages until September 2007 (Lockhart 2007). Similarly, OFHEO told the GSEs in March 2007 that they must follow the later statement on subprime mortgage lending, but the GSEs did not agree to comply until September.

The actions of OFHEO and the other financial regulators would have been a perfect opportunity for the GSEs to ask HUD for relief from the 2007 affordable housing goals. The subprime market was in the process of shrinking by almost 70 percent from the 2006 level, and the safety and soundness regulator was telling the GSEs that they should get out of that market. The section of FHEFSSA establishing the housing goals states that the Secretary of HUD must consider “the need to maintain the sound financial condition of the enterprises.” (This appears as Section 1332 (b)(6), Section 1333 (a)(2)(E), and Section 1334 (b)(6).) HUD could hardly have insisted that the GSEs continue to buy A- subprime loans – the top half of the subprime market – as the total subprime market shrank, even if house prices were not dropping.

But the GSEs apparently did not make such a request to HUD, nor did they ask OFHEO to do so. The OFHEO director at that time told the FCIC that he had no knowledge of any such request by either GSE directly to HUD (Financial Crisis Inquiry Commission, 2010).[5]

Instead, the GSEs continued to buy subprime mortgages. In 2007, their share of the subprime market increased to 31 percent, close to the 2004 level.

The GSEs made the decision to continue buying subprime mortgages, despite the efforts of their regulator to compel them to get out of that market. They did not seek relief from the affordable housing goals. They apparently thought there were profits in the subprime market, and they stayed in it.

The Affordable Housing Goals and Homeownership

[5] The director was James Lockhart, speaking in response to a question. In December 2007, HUD notified both GSEs that it found a substantial probability that the GSEs would fail to achieve two home purchase subgoals for 2007, and each GSE responded that it considered those subgoals infeasible. In April 2008, HUD formally determined that the subgoals were infeasible (Montgomery 2008a; Montgomery 208b). In March 2008, Richard Syron, then CEO of Freddie Mac, told an interviewer that “officials at the Department of Housing and Urban Development seem receptive to his suggestions that they change the affordable housing goals” for Fannie Mae and Freddie Mac (Shenn, 2008). All of these events occurred after both GSEs had continued to buy suibprime loans, against the guidance of their financial safety and soundness regulator, for most of a year.

The GSEs were established to serve several public purposes, and the affordable housing goals were intended to delineate some of those purposes and quantify the extent to which the GSEs were in fact serving them. This section addresses the effectiveness of the affordable housing goals and GSE activity more generally in achieving one major policy objective, promoting homeownership, which is particularly relevant to the issue of whether the goals contributed to the collapse of the GSEs.

The affordable housing goals were not established in terms of the race or ethnicity of the borrower; nor with respect to whether the borrower is buying a first home, refinancing a mortgage, or buying a home for the second or third time – or, more broadly, whether the mortgage is being made to a homeowner, homebuyer, or investor. Nonetheless, there has long been policy interest in the extent to which borrowers are first-time homebuyers, and the extent to which they are members of minority groups; indeed, GSE radio commercials during 2004 frequently featured minority employees describing their satisfaction from promoting homeownership for minority families. In the policy discussions and analysis prior to the promulgation of the 2005 affordable housing goals, HUD analyzed the extent to which the GSEs were serving first-time homebuyers.

A summary of the analysis appears as Table 8. There are two quite different sources of information, showing the same result.

Panel A is based on the GSEs' own data on the loans they purchase, which was provided to HUD in its capacity as the GSE mission regulator; these GSE data are compared to overall market data from the American Housing Survey (conducted biennially by the Census Bureau for HUD) and the Home Mortgage Disclosure Act filings of lenders. During the years 1999-2003, about 38 percent of all home purchase loans were to first time homebuyers, while only 26 percent of the home purchase loans that the GSEs bought were to first-time buyers.

Panel B is based on a completely separate data source, the 2001 Residential Finance Survey (RFS), conducted by the Census Bureau as a supplement to the decennial Census of Housing. The RFS asked both borrowers and lenders about each loan in its sample. Borrowers were asked, for example, whether they were first-time homebuyers; lenders were asked if they sold the loan to a GSE. Panel B shows very similar results from very different data; according to the RFS, 37 percent of all home purchase loans in the conventional conforming market were to first-time homebuyers, compared to only 29 percent of the GSEs' home purchase loans.

The results for minority first-time homebuyers, also shown in Table 8, are similar. Some 11 or 12 percent of homebuyers in the conventional conforming market were minority families buying their first home, compared to only 7 or 8 percent of GSE home purchase loans. Other lenders were doing a better job than do the GSEs in serving first-time homebuyers, even though these other lenders did not have agency status.

By contrast, the GSEs did much better in serving homeowners who were buying a home for the second or third time – both white and minority homeowners. And they did a better job in serving borrowers who were refinancing. (These data are not shown in the Table.)

To my knowledge, these are the most recent data. HUD's only later report, covering 2004-2005 and published in 2007, does not include data on first-time homebuyers (Bunce 2007). FHFA has not addressed this issue.

The subprime mortgage crisis is largely seen as a problem of loans to first-time buyers who did not know what commitments they were making. At least through 2003, the GSEs were not particularly active in serving first-time homebuyers.

Table 8
The GSEs and First-Time Homebuyers, 1999-2003
(market shares)

Panel A: GSE, AHS, and HMDA data, 1999-2003

	Market	GSEs
All First-time Homebuyers	38%	26%
Minority First-time Homebuyers	11%	7%

Panel B: RFS data, 2001

	Market	GSEs
All First-time Homebuyers	37%	29%
Minority First-time Homebuyers	12%	8%

SOURCE: Harold L. Bunce and John L. Gardner, "First-Time Homebuyers in the Conventional Conforming Market – The Role of the GSEs: an Update," unpublished paper; U.S. Department of Housing and Urban Development, Office of Policy Development and Research, October 2004.

At the same time, however, the overall national homeownership rate was rising to unprecedented levels. In 1994, the national homeownership rate stood at 64.0 percent; it had been within 0.2 percent of that rate for a decade, since 1985. The highest rate on record was 65.6 percent in 1980, after 15 years of erratically accelerating inflation. In 1995, the homeownership rate increased sharply to 64.8 percent; it reached a new record of 65.7 percent in 1997, and it continued to rise through 2004, to 69.0 percent. The data in Table 8 indicate that the GSEs' purchases of loans to first-time homebuyers did not play a major role in that increase, at least for half of the period. During 1999-2003, the national homeownership rate increased by two percentage points, from 66.3 percent in 1998 to 68.3 percent in 2003; over those years, the GSEs were lagging the market in mortgages for first-time homebuyers.

Table 9

National Homeownership Rate, 1994-2007

Year	Homeownership Rate
1994	64.0%
1995	64.8
1996	65.4
1997	65.7
1998	66.3
1999	66.8
2000	67.3
2001	67.8
2002	68.0
2003	68.3
2004	69.0
2005	68.9
2006	68.8
2007	68.2

SOURCE: U.S. Bureau of the Census, Series H-111, "Housing Vacancy Survey," reported by Haver Economics.

There was a homeownership boom during the decade 1994-2004, and the GSEs were by far the largest buys of home mortgages in that decade, but they were not particularly buying mortgages to first-time homebuyers.

Risk: Capital Standards and Stress Tests

If the affordable housing goals are not relevant to the collapse of the GSEs in 2008, what did cause it? This question can perhaps be answered by looking at another regulatory issue, this one dating from the period between FIRREA and FHEFSSA when HUD was the sole regulator of both GSEs (1989-1992).

The Secretary of HUD became the regulator of Fannie Mae when it was chartered as a privately managed corporation in 1968. In 1984, the Secondary Mortgage Market Enhancement Act required the Secretary to submit annual reports on Fannie Mae's activities (Section 309(h) of the FNMA Charter Act). FIRREA transferred regulatory authority for Freddie Mac to the Secretary of HUD in 1989, and also required annual reports on its activities (Section 731(c)(4)). Preparation of these reports was the responsibility of the Office of Policy Development and Research, and within that office, the responsibility of the Financial Institutions Regulatory Staff (FIRS), which Secretary Kemp directed me to establish.

To establish and manage this staff, the Department brought in a well-known business economist, Ben E. Laden, who had been chief economist for T. Rowe Price and president of the National Association of Business Economists in 1982. Laden put together a very small staff of competent professional economists with educational and professional credentials in housing markets, housing finance, and financial markets generally. This staff never numbered more than four, including Laden himself. Some additional support was provided by other HUD economists, all of whom had other policy issues or HUD programs as their first professional responsibility.

It is worth pointing out, and emphasizing, that HUD never received funding or staff allocations from Congress for its GSE regulatory responsibilities. From 1968 through 2008, HUD was expected to use money and personnel that were part of its regular appropriation (which includes an overall staff ceiling). This was true even when HUD was given responsibility for both Fannie Mae and Freddie Mac in FIRREA – which for good measure also put the Secretary of HUD on the Federal Housing Finance Board ex officio as the deciding partisan vote, also with no HUD funding or staff support. FHEFSSA left HUD with specific responsibilities for the affordable housing goals, new program approval, fair housing, and "general regulatory authority," again with no funds or dedicated staff for those purposes. It has often been remarked that OFHEO was the only financial regulator without authority to charge the regulated entities for the cost of regulation, being forced to rely on annual appropriations from Congress. This was an important reason for its weakness relative to other regulators. It has rarely been noticed that HUD did not even have an appropriation.

A further complication is that the overall HUD personnel ceiling was steadily reduced from the late 1970s through the early 2000s, even though HUD's program activities were expanding beginning in the early 1980s.

The Capitalization Study: Judging GSE Safety and Soundness

This small staff was responsible for producing the annual reports to Congress for the years 1989, 1990, and 1991. In addition, FIRS conducted a "Capitalization Study of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation," published in November 1991 (U.S. Department of Housing and Urban Development 1991). This study reported the results of a "stress test" to calculate the amount of capital which each GSE had at the time, and the amount it would need to survive a serious economic downturn. In the aftermath of FIRREA and the complicated process of resolving failed savings and loan associations, Congress was very concerned about the capital adequacy of all mortgage lenders.

The stress test was based on a scenario developed by Moody's – a "Depression Scenario" which Moody's used to rate private mortgage insurers. This was a 10-year scenario. To summarize, it basically consisted of one year of flat housing prices, then four consecutive years of falling house prices at an annual rate of 10 percent, and finally five years of stable to very slightly rising prices. There was no further price decline after the fifth year, but no recovery in prices, either.

The Capitalization Study concluded that Fannie Mae could survive between seven and eight years of this scenario, and Freddie Mac could survive between six and seven years.

Both GSEs took great exception to these conclusions. They stated that they could survive for the full ten years.

This was much more than a technical argument. It mattered both economically and politically. Under the Moody's stress test, a company was rated AAA if it survived the test for the full ten years. If it only survived for seven years, it was rated AA. The GSEs had recently had an argument with Standard & Poor's, which had rated both of them AA in the absence of their implicit government guarantee. The outcome was that S&P pulled back from its rating. But the GSEs did not want this issue raised again.

The HUD analysis was based on the assumptions that the GSEs would continue to buy mortgages for two years after the economic downturn started. After two years they would stop buying mortgages, but they would lose money on the mortgages they owned, including the mortgages they bought after the start of the downturn, and eventually they would go bankrupt, in about seven years. The HUD analysis also assumed that the GSEs would maintain their fee structure throughout the ten-year period.

The GSEs argued that they would stop buying mortgages immediately – as soon as the downturn started. In addition, they would raise their guarantee fees and their service charges. And they would therefore survive for the full ten years.

HUD responded that the beginning of an economic downturn is generally not recognized until some time has passed: "like many other businesses and observers of the economy, FNMA and FHLMC could have difficulty diagnosing the beginning of a downturn and even more difficulty distinguishing the beginning of a recession from the beginning of a Depression. Therefore, it is foreseeable that FNMA's or FHLMC's management would not take corrective action with respect to pricing or underwriting until the economy was many months, or even years, into the Depression." HUD also questioned how raising fees and ceasing to purchase mortgages could be consistent with the GSEs' legislative requirement to have a continued presence in the secondary mortgage market. (The first stated purpose of each GSE is to "provide stability in the secondary market for residential mortgages," according to the Fannie Mae Charter Act and the Freddie Mac Corporation Act.)[6]

The Outcomes

HUD lost the argument, politically. In 1992, Congress passed FHEFFSA, and established a stress test for the GSEs, but that stress test was much less severe than the Depression scenario. Instead, it was based on the Oil Patch downturn of the early 1980s. Congress also established a 2.5% minimum capital requirement for on-balance sheet assets and 0.45 percent of the outstanding principal balance of mortgage-backed securities. These minimum capital levels were intended as a temporary requirement until the new independent regulator created in FHEFSSA could put the stress test in place, and determinate how much additional capital each GSE should hold. The stress test was complicated; the new financial safety and soundness regulator (OFHEO) spent more than five years putting it in place and evaluating the GSEs. Then it turned out that the enacted stress test was so weak that the required capital level to be "adequately capitalized" was less than the 2.5% minimum capital, for each GSE. This result was not what Congress expected in 1992.

Almost twenty years later, the outcome of that controversy is now clear. We now know that HUD won the analytical argument. In fact, it turns out that HUD was optimistic. Neither GSE could survive <u>three</u> years of a severe economic downturn; they could barely survive <u>two</u> years. House prices flattened out in the second quarter of 2006, according to the Case-Shiller national index, or in the second quarter of 2007 according to the OFHEO home purchase index (now the FHFA index). According to both indices, prices declined by 4-6% annually – far less than 10% - through the summer of 2008. By that time, the GSEs were in great trouble and by the fall of 2008 they were in conservatorship.

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[6] The argument between HUD and the GSEs is summarized in the Capitalization Study, "Overview," Section III, especially pp. 8-9. The full analysis of the stress test, including alternative scenarios, appears in Chapter II.

The GSEs certainly did not stop buying mortgages when the downturn started – and they did not have enough capital to last three years. They did raise their guarantee fees in late 2008, however.

Policy Implications

The history of the affordable housing goals since FHEFSSA carries several lessons for public policy.

First, while public policy goals can be advanced in the context of broader housing policy objectives, the process is complicated and probably not the most effective way to achieve the policy goals. The affordable housing goals were set "below the market," meaning that lenders other than the GSEs were buying more loans that met the goals than did the GSEs themselves. For at least half of the recent homeownership boom, the GSEs were concentrating on loans to homebuyers who already owned a home, and loans to homeowners who were refinancing their mortgages. The extent to which the goals achieved the public policy purpose of promoting homeownership is therefore somewhat problematical.

Second, the affordable housing goals exemplify a basic conflict between public purpose and private profit. The GSEs were privately-owned corporations whose stockholders expected that they would be profitable; in fact, they were told to expect high and rising returns by GSE management. At the same time, they were required to devote resources to achieving public policy objectives. In that tug-of-war between those objectives, private profit consistently won. This was the case for both the affordable housing goals and the capital requirements. The GSEs made no effort to address HUD's concern about the inherent conflict between its Charter Act responsibility to support the secondary mortgage market in times of stress, and its strategy for surviving a serious economic downturn.

Third, the GSEs will not hold any more capital than they are forced to hold. The HUD stress test indicated that Fannie Mae should have about 35 percent more capital than it had, and Freddie Mac should have twice as much. The GSEs did not want to hold anything like that amount; they wanted to rely on their then-implicit government guarantee to borrow cheaply, instead of subjecting themselves to the discipline of the financial markets. That incentive will remain for any reconstitution of the GSEs, with either an implicit or explicit guarantee. Within the GSE framework, it is very difficult to design "incentives to encourage appropriate alignment of risk bearing in the private sector" or;" to promote market discipline," issues raised in the Treasury Department's invitation to comment on the future of the GSEs last summer.

Fourth, it is virtually impossible for Congress to formulate an appropriate stress test. Legislation prescribing the details of such a test is not an effective way of regulating the GSEs. Econometric modeling is a complicated and highly technical process. The serious and well-meaning effort of 1991-1992 resulted in a test whose results ran directly counter to Congress' expectations, and which failed to identify the GSEs' burgeoning problems in a timely manner. In a sense, Congress was fighting the last war. In the early 1980s, Fannie Mae was significantly underwater; interest rates rose sharply and Fannie Mae had a large portfolio of low-interest loans from the 1970s. Eventually the disinflation that resulted from a more stable monetary policy began to bring down

Conclusion

If the affordable housing goals don't account for the GSEs' purchases of high-risk subprime mortgages and their subsequent financial collapse, what does? The best explanation is the simplest. The GSEs badly misjudged the risk of subprime and Alt-A mortgages. They thought there were large profits to be made in the growing subprime market, and they sought to maintain and expand their share of the home mortgage market. They were not alone in misjudging the risks of subprime mortgages; so did other lenders. Indeed, the GSEs were by no means the first lenders to run into problems with their non-prime portfolios; HSBC and New Century were front-page news in February 2007. But the GSEs, because they were bigger – and were required to hold less capital – took the biggest risks and had the most spectacular problems.

The GSEs have made other misjudgments than threatened their solvency. Economists have often analyzed risk for financial institutions along three dimensions: interest rate risk, credit risk, operations risk. The GSEs have experienced all three.

In the early1980s, Fannie Mae faced enormous interest rate risk problems. It had purchased large volumes of mortgages carrying low interest rates in the later 1970s; it then had to fund those mortgages with expensive borrowing in the 1980s. The low-rate portfolio was colloquially termed the "block of granite." Fannie Mae tried to chip away at it whenever it was possible. But until mortgage rates turned down in the mid-1980s, Fannie Mae was significantly underwater. The market value of its assets was less than the market value of its liabilities.

In the early 2000s, both GSEs incurred operations risk on a large scale. Freddie Mac's accounting problems first came to public attention in 2003; it had been smoothing out its reported earnings, to persuade investors that it was "steady Freddie" – a good investment regardless of market conditions. In 2004, it became known that Fannie Mae had a policy of manipulating earnings so that its top executives would get very large bonuses.

The credit risk problems leading to the conservatorship of 2008 are the most recent example. The GSEs bought risky loans that went bad, not understanding the risks they were taking. When their financial position became precarious, it was much more convenient for the GSEs to blame the affordable housing goals, than to admit to mistakes made by their own choice.

Many years ago in graduate school I studied economic history under a distinguished expert in the history of banking and finance, the late Earl J. Hamilton. He once observed that financial reform in the United States had occurred under three circumstances: during wars, during depressions, and during the first term of President Woodrow Wilson. Since then, he would have found it necessary to add: during inflations, to account for the collapse of the housing finance system as a result of the unprecedented peacetime inflation of the late 1960s and 1970s. The common feature of all these circumstances is that they were periods of extreme economic stress. (The reforms under President Wilson were a reaction to the depression of 1907 and the recognition that the National Banking System had outlived its ability to serve the economy effectively.)

The extraordinary collapse of the GSEs does not fit into this pattern. It occurred during a period of economic growth, with low inflation. This is a unique experience in our history.

It occurred because the GSEs were able to build up substantial political clout, as witnessed by the weak regulatory structure established in FHEFSSA. A significant component of that regulatory structure concerned the capital standard; the GSEs did not have to hold capital to the same extent as other mortgage lenders. The GSEs were politically strong enough to stave off financial reform legislation after their accounting problems were identified, and after they became bywords for incompetence.

Fundamentally, the structure of the mortgage market after FIRREA - two large institutions sponsored by the federal government with competitive advantages over other lenders – generated the problems that we confront today.

REFERENCES

Board of Governors of the Federal Reserve System, "Federal Financial Regulatory Agencies Issue Final Guidance on Nontraditional Mortgage Product Risks," September 29, 2006, http://www.federalreserve.gov/newsevents/press/bcreg/20060929a.htm.

Board of Governors of the Federal Reserve System, "Federal Financial Regulatory Agencies Issue Final Guidance on Subprime Mortgage Lending," June 29, 2007, http://www.federalreserve.gov/newsevents/press/bcreg/20070629a.htm.

Bunce, Harold, "The GSEs' Funding of Affordable Loans: A 1999 Update," U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Housing Finance Working Paper HF-012, December 2000.

Bunce, Harold L., "The GSEs' Funding of Affordable Loans: A 2004-2005 Update," U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Housing Finance Working Paper HF-018, June 2007.

Bunce, Harold L. and Gardner, John L., "First-Time Homebuyers in the Conventional Conforming Market – The Role of the GSEs: an Update," unpublished paper; U.S. Department of Housing and Urban Development, Office of Policy Development and Research, October 2004.

Bunce, Harold L. and Scheessele, Randall M., "The GSEs' Funding of Affordable Loans: A 1996 Update," U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Housing Finance Working Paper HF-005, July 1998.

Duhigg, Charles, "At Freddie Mac, Chief Discarded Warning Signs," *New York Times*, August 5, 2010.

Federal Housing Finance Agency, "Report to Congress: 2008," May 18, 2009.

Federal Housing Finance Agency, "The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996-2009," Mortgage Market Note 10-2, February 1, 2010.

Financial Crisis Inquiry Commission, "Hearings and Testimony: Subprime Lending and Securitization and Government-Sponsored Enterprises, Day 3," April 9, 2010, http://www.fcic.gov/hearings/04-09-2010.php.

Gavin, Robert, "Syron's Side of the Story," *Boston Globe*, August 6, 2010.

Inside Mortgage Finance Publications, "The Rise and Fall of the Subprime Market," 2009.

Lockhart, James B., III, “Housing, Subprime, and GSE Reform: Where are we headed?” speech to the Exchequer Club of Washington, DC, July 18, 2007.

Mollenkamp, Carrick, "In Home-Lending Push, Banks Misjudged Risk: HSBC Borrowers Fall Behind on Payments; Hiring More Collectors," *Wall Street Journal*, February 8, 2007, p. A1.

Montgomery, Brian D., “Letter to Daniel H. Mudd,” April 24, 2008, http://www.fhfa.gov/webfiles/349/HMG_MAE_-_2007_Feasibility_-_April_2008.pdf. (2008a)

Montgomery, Brian D., “Letter to Richard F. Syron,” April 24, 2008, http://www.fhfa.gov/webfiles/353/HMG_MAC_-_2007_Feasibility_-_April_2008.pdf. (2008b)

Office of Federal Housing Enterprise Oversight, “Mortgage Markets and the Enterprises in (200y);” annual reports for 2000-2007 (no report for 2002), http://www.fhfa.gov/webfiles/1164/MME2007revised.pdf; http://www.fhfa.gov/webfiles/1550/62507OFHEOMMEin2006.pdf; http://www.fhfa.gov/webfiles/1159/mme2005.pdf; http://www.fhfa.gov/webfiles/1155/mme2004report.pdf; http://www.fhfa.gov/webfiles/2253/MME2003.pdf; http://www.fhfa.gov/webfiles/1141/MMin2001r.pdf; http://www.fhfa.gov/webfiles/1556/72601MMEin2000.pdf.

Shenn, Jody, “Rules Let Too Many Poor People Buy Houses, Syron Says (Update 2),” March 13, 2008. http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aRGiT9IV3UC0.

Syron, Richard F. “Statement before the Committee on Oversight and Government Reform, U.S. House of Representatives,” December 9, 2008, http://oversight.house.gov/images/stories/Hearings/110th_Congress/Fannie_Freddie/Testimony_Richard_F._Syron.pdf.

U.S. Department of Housing and Urban Development, “Capitalization study of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation,” November 1991.

U.S. Department of Housing and Urban Development, Office of Policy Development and Research. “Using HMDA and Income Leverage to Examine Current Mortgage Market Turmoil,” *U.S. Housing Market Conditions*, Second Quarter 2008. The authors are listed as William J. Reeder and John P. Comeau, in a note at the end of the paper.