The Houston Experience
FHA Originations During 1981-1984

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Purpose

During the 1980s the price of a barrel of oil fell from a high of approximately $50 to around $10. This precipitous drop contributed to major declines in single-family home prices in many areas (of the United States) whose local economies were tied closely to the health of the energy industry. One of the areas hardest hit was the area in and around Houston, Texas.[1] The purpose of this study is to revisit and update the termination experience of single-family mortgages originated during the early 1980s under the purview of the Federal Housing Administration's (FHA) Houston, Texas office and insured under FHA's Mutual Mortgage Insurance Fund (MMIF). Because of a number of issues with the quality of the data, we had to make a number of assumptions before we could do any analysis. We summarize this part of our study at the end of this work. This work was, in part, inspired by Brian Chappelle's [1991] paper about "The FHA Facts."

[1] Black [2005; 114] argues that at this time "Texas, Arkansas, Arizona, and Louisiana were suffering from severe real estate recessions that were being aggravated by [renegade savings and loans who were] lending in the teeth of the glut." By "renegade savings and loans" Black meant a savings and loan "run by a criminal who uses it as a weapon and shield to defraud others and makes it difficult to detect and punish the fraud." Black [2005; 114] characterizes roughly 5 percent of the savings and loan industry in Texas at this time as meeting this definition.

The Data

In Table 1 below, we summarize the termination experience of the mortgages having a begin amortization date between January 1, 1981, and December 31, 1984. The results show extremely high cumulative claim termination rates of roughly 45 percent for each of these four origination years.

TABLE 1
Termination Experience of FHA Loans Originated in House Office During 1981-1984
Experience Through July 31, 2008

Year of Origination	Number of Claims	Number of Non-Claims	Number of Loans In-force	Number of Originations	Claim Termination Rate
1981	3,913	4,642	70	8,625	45.4%
1982	4,405	5,195	44	9,644	45.7%
1983	6,838	7,480	157	14,475	47.2%
1984	2,689	3,535	71	6,295	42.7%

We also observe that a number of those who originated mortgages during these four years had very high contract interest rates which peaked in 1981 at around 17 percent. Such high interest rates caused monthly payments to be high relative to the face amount of the mortgage. As a consequence, many of these borrowers refinanced their mortgages as interest rates declined from their 1981 peak in order to reduce their monthly mortgage payments to more manageable levels. Unfortunately, for many of these borrowers, the reduction was not sufficient to allow them to keep current on their mortgages, with the end result being that many of these refinanced mortgages ended up as claim terminations for FHA. A question that we pose here is how high would the above claim termination rates be if we redefined a claim as being one based on the termination result of the refinanced mortgage rather than that of the initial mortgage for those who refinanced their FHA-insured mortgage back with FHA.

To do this we devised two record linkage schemes to estimate the number of single-family mortgages that met the following three conditions:

1. FHA originated the initial mortgage during the years 1981 through 1984,

2. The initial mortgage was subsequently refinanced into another FHA-insured mortgage, and

3. The refinanced FHA mortgage resulted in an insurance claim termination.

In our first scheme, we assume that the mortgage case record matched the refinanced case record if (1) the first 12 alpha-numeric characters of the insured property's street address on each pair of mortgage records matched exactly and (2) the borrower's name on each pair of mortgage records matched. This involved an examination of each pair of mortgage records that matched on the property address but did not match exactly on at least the four characters of the borrower's name. We summarize the results in Table 2 below. We observe that this caused an increase in the claim termination rates of approximately 5 percent -- from about 45 percent to roughly 50 percent.

TABLE 2
Termination Experience of FHA Loans Originated in Houston Office During 1981-1984
Experience through July 31, 2008

Year of Origination	Number of Claims	Number of Non-Claims	Number of Loans In-force	Number of Originations	Claim Termination Rate
1981	4,292	4,263	70	8,625	49.8%
1982	4,972	4,624	44	9,640	51.6%
1983	7,142	6,990	157	14,289	50.0%
1984	3,011	3,192	71	6,274	48.0%

We summarize the two sets of claim termination rates of Tables 1 and 2 in Table 3 below:

TABLE 3
Summary of Results of Tables 1-2

Year of Origination	Source of Claim Termination Rates	
	Table 1	Table 2
1981	45.4%	49.8%
1982	45.7%	51.6%
1983	47.2%	50.0%
1984	42.7%	48.0%

In our second scheme, we assume that the mortgage case record matched the refinanced case record if only the first twelve alpha-numeric characters of the insured property's street address on each pair of mortgage records matched exactly. In other words, we drop the condition involving the borrower names. We omit the detailed results but note that this would have resulted in another increase in the cumulative claim rates of approximately 5 percent, bringing each of the four rates to roughly 55 percent.

Another question that arises is: Exactly when did the claims occur?

We summarize the answer to this question in Table 4 below.

TABLE 4
Number of Claims on 1981-1984 Originations by Year of Occurrence
Experience through July 31, 2008
As Reported in the FHA Single-family Data Warehouse

Year of Occurrence	Number of Claims	Cumulative Number of Claims	Cumulative Percentage of Claims
1981	4	4	-
1982	88	92	.5
1983	365	457	2.5
1984	1,016	1,473	8.1
1985	2,688	4,161	23.0
1986	4,379	8,540	47.2
1987	4,546	13,086	72.3
1988	2,188	15,274	84.4
1989	998	16,272	90.0
1990	546	16,818	93.0
After 1990	1,271	18,089	100.0

From the above table we observe that (1) almost all (i.e., 93 percent) of the claims occurred by December 31, 1990 and (2) almost 50 percent of the claims occurred during two years – 1986 and 1987.

Finally, to give a broader perspective, we summarize the Houston office's claim experience for 1978-1989 originations in Table 5 below. This table, like Table 1, omits our adjustments for refinancings.

TABLE 5
Claim Termination Experience of FHA Single-Family Mortgages
Originated in Houston Office During 1978-1989
Experience Through July 31, 2008

Year of Origination	Cumulative Claim Termination Rate
1978	21.8%
1979	28.8%
1980	40.6%
1981	45.4%
1982	45.7%
1983	47.2%
1984	42.7%
1985	33.1%
1986	20.3%
1987	10.5%
1988	7.9%
1989	6.7%

We note that after the extraordinary high cumulative claim rates on the 1978-1987 books of business, the claim rates on the 1988 and 1989 books were at much more sanguine levels for FHA.

Data Quality Issues

Over the years we have done much work (see Herzog, Scheuren and Winkler [2007], especially Chapter 14) analyzing and improving the quality of the data in FHA's single-family data warehouse.

Despite major efforts to improve these data, there are still approximately 20,000 "active" mortgage records that lack a property address. We recently obtained about 5,000 such addresses by linking a database of GNMA mortgage records to the FHA's single-family data warehouse. Our view on these records is that most are duplicate records resulting from the erroneous manual data entry of FHA case numbers. Consequently, we decided to exclude such records from our study. These totaled 656 mortgage records for the 1981-1984 origination years. We also excluded 15 other case records whose property address was listed as "X," "XX" or "XXX."

Additionally, we excluded all 74 of the mortgage records with origination years 1981-1984 whose street address was either 12300 Brookglade Circle or 12400 Brookglade Circle. These records represented townhouses whose addresses were in many instances incomplete as they lacked a unit number. This made it too difficult for us to attempt to link identical units.

We also excluded all 18 mortgage records whose termination code was "14." Such records represent loans whose mortgage insurance is "canceled." In all 18 cases we determined that such case records were duplicates of other case records in our database. Of these 18 mortgage records, six lacked a property address as well.

There are about 80,000 mortgages records on "active" MMIF mortgages that have apparently not paid a required periodic mortgage insurance premium since August of 1999. Such mortgage records have a servicing lender number of "99995." There were 275 additional such mortgage records in our study. Because we felt that the bulk of such records represent loans that have terminated by prepayment but whose servicing lender did not so inform HUD, we changed the termination status of these 275 records from "active' to "terminated" by prepayment. Some of these records represent duplicate records – for the reasons given in the second paragraph of this section. So, this data adjustment may cause a slight under-estimate in our claim termination rates because the denominators may be too high.

Finally, we note that of the 271 "active" case records from originations years 1981-1983, 148 or 55 percent have Midland Mortgage listed as the servicing lender whereas Midland only accounted for 7.1 percent of the originations in these three years.

References

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Chappelle, B., “The FHA Facts,” *Mortgage Banking*, Mortgage Bankers Association, Washington, D.C., October, 1991, pages 89-96.

Herzog, T.N., F.J. Scheuren, and W. E. Winkler, *Data Quality and Record Linkage Techniques*, Springer, New York, 2007.

Lessons

1. Home prices can go down as well as up. See Houston paper.

2. Goal needs to be not to put people in houses but to put people in houses and to keep them there. Do not take attitude that you need to keep your reo staff busy. There is an upper limit on the proportion of the population that should be in homes. It is not all bad to have people living in dense, congregate housing. This can be beneficial in terms of land and energy use, transportation, etc.

3. Limit exotic mortgage products, especially to low-income home-buyers.

4. Charge insurance premiums explicitly rather than implicitly as was done on sub-prime mortgages.

5. Do mortgage insurance in mutual context to ensure equitable treatment of policyholders. Excessive premiums are essentially taxes. This is particularly bad when the bulk of the borrowers are low-income people.

6. Understand that you are dealing with an economic risk that is not diversifiable – one in which the law of large numbers does not apply.

7. Make all parties who originate and/or lend money have skin in the game. (See Jack Guttentag column on this topic – March 19, 2008.)

8. Enact and enforce strict underwriting standards. (Require large down-payments from home-buyers. Examine 245(a) versus 245(b)) (Do not relax over time by taking on more and more risk.)

9. Need appropriate moral suasion (bully pulpit) from knowledgeable national leaders. Bush told people to buy a house. Greenspan told people to get an adjustable rate mortgage.

10. Change U.S. tax code in order to discourage home-owners from being highly leveraged. Do not give deduction for mortgage interest payments. Do not charge capital gains tax on long-time owner-occupants. For example, you might exempt 40 percent of capital gain on those in a house for three years, 60 percent for those in a house for four years, 80 for those in a house for five years, and 100 percent for those in a house six or more years.

11. Note: I believe only item 7 has been widely proposed elsewhere.