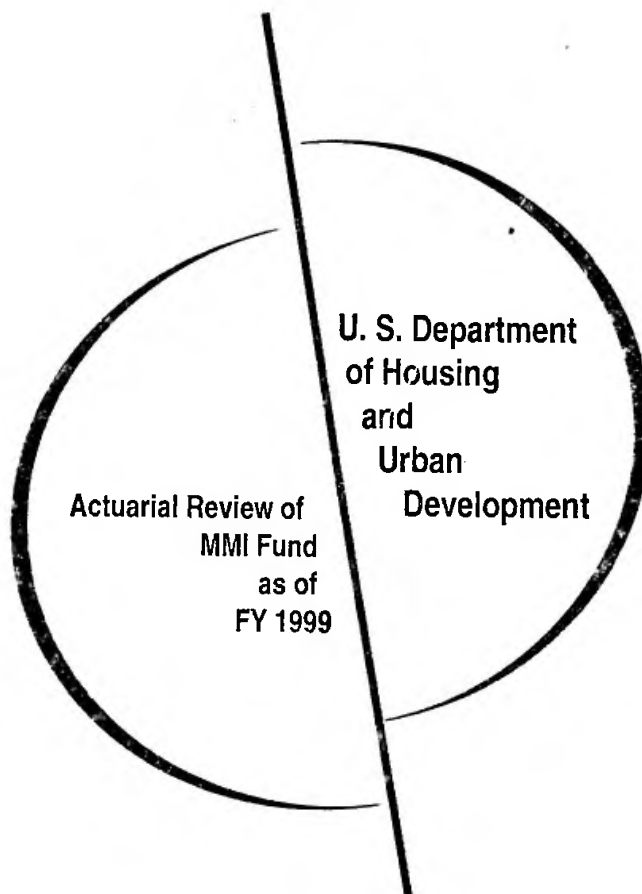




January 24, 2000

The Honorable William C. Apgar
Assistant Secretary for Housing – Federal Housing Commissioner
451 Seventh Street, SW
Room 9100
Washington, DC 20410

Dear Mr. Apgar:

We have completed the fiscal year 1999 Actuarial Review of the Mutual Mortgage Insurance Fund.

We estimate that the MMI Fund's economic value was \$16.637 billion at the end of fiscal year (FY) 1999 and that the capital ratio was 3.66 percent. We project that in FY 2000 the Fund's economic value will be \$18.918 billion and that the capital ratio will be 3.81 percent.

The estimates presented here require projections of events more than 30 years into the future. These projections are dependent upon a number of assumptions, including economic forecasts by DRI/McGraw Hill and the assumption that FHA does not change its refund and premium policies. To the extent these assumptions, or others, are not accurate, the actual experiences will vary from our projections.

If you have any questions, please feel free to call Susan Pino at (202) 879-4982, Andrew Rippert at (215) 246-2408 or Patricia Donnelly at (202) 879-5662.

Sincerely,

A handwritten signature in cursive script that reads "Deloitte & Touche LLP".

Deloitte & Touche LLP

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I. Introduction

This report is intended to satisfy the requirements of the Cranston-Gonzalez National Affordable Housing Act (NAHA) for an independent actuarial review of the economic net worth and soundness of the Federal Housing Administration's (FHA's) Mutual Mortgage Insurance (MMI) Fund. Our analysis is based on an extract from FHA's Single Family Data Warehouse as of June 30, 1999, and projects the economic value of the MMI Fund as of September 30, 1999, to be over \$16 billion. We also calculate a projected capital ratio as of September 30, 1999, of 3.66%.

This report includes an Executive Summary that provides an overview of our analysis as well as comments on the status of the fund and insights into the sources of change in the status. Exhibit I of this report shows the projections of the economic value and the capital ratio for the current and future fiscal year endpoints. The calculations in Exhibit I depend on the assumptions and calculations which are described in the Technical Appendices to this report.

The conditional claim rate model and the conditional prepayment rate model are the primary drivers of the results of this analysis. These two models are described in detail in Appendix A and Appendix B, respectively. The actual and projected claim and prepayment rates are shown in Exhibit II.

We have also included, as Appendix F and Exhibit III, the calculation of the Unearned Premium Reserve as of September 30, 1999. In the past, this calculation has been sent under separate cover.

II. Executive Summary

The Cranston-Gonzalez National Affordable Housing Act (NAHA) requires an independent actuarial analysis of the economic net worth and soundness of the Federal Housing Administration's (FHA's) Mutual Mortgage Insurance (MMI) Fund. This report presents our findings with respect to this required analysis for fiscal year (FY) 1999 using data as of June 30, 1999.

The primary purpose of this review is to estimate

- The economic value of the MMI Fund, defined as the sum of existing capital plus the net present value of current books of business, and
- The current and projected capital ratio, defined as the economic value divided by the total insurance inforce (IIF).

Status of the Fund

NAHA mandated that the MMI Fund achieve a capital ratio of at least 1.25 percent by fiscal year 1992 and a capital ratio of at least 2.00 percent by FY 2000. Last year's Actuarial Review estimated that the MMI Fund's capital ratio at the end of FY 1998 was 2.71 percent, the fourth consecutive year it exceeded the 2.00 percent year 2000 requirement. This year, we estimate that the FY 1999 capital ratio has increased to 3.66 percent. We also estimate that the FY 2001 capital ratio will be 4.06 percent and that the FY 2006 capital ratio will be 5.29 percent. Table II-1 provides our estimates of the Fund's current and future economic values and capital ratios.

In defining the capital ratio, NAHA stipulates the use of unamortized insurance inforce. However, "unamortized insurance inforce" is defined in the legislation as "the remaining obligation on outstanding mortgages" – a definition generally understood to apply to amortized IIF. Deloitte & Touche (D&T) uses the unamortized IIF measure (as generally defined) in calculating the capital ratio. However, it is also instructive to consider the capital ratio based on amortized IIF, which is the basis the General Accounting Office has used in its previous reports on the status of the Fund. Our estimate of the FY 1999 capital ratio using amortized IIF is 4.01 percent, our estimate of the FY 2001 capital ratio is 4.62 percent, and our estimate of the FY 2006 capital ratio is 6.11%. Unless stated otherwise, all references to the Fund's capital ratios in this report refer to the ratio computed using unamortized IIF.

Sources of Change in the Status of the Fund*Change in Economic Value from FY 1998 to FY 1999*

We estimate the economic value of the MMI Fund (the Fund) to be \$16.637 billion at the end of FY 1999; this is an increase of \$5.277 billion over the FY 1998 estimate reported last year. Our \$16.637 billion estimate of the Fund's economic value is comprised of an estimate of Total Capital Resources as of fiscal year end 1999 of \$15.331 billion and the present value of future cash flows for inforce business of \$1.306 billion. Please note, the estimate of \$15.331 billion for the Total Capital Resources was derived from the 1998 Actuarial Review – this was necessary since the actual amount of Total Capital Resources is not yet available. This 46.5 percent increase in the estimated economic value of the MMI Fund is accompanied by an 8.3 percent increase in the unamortized IIF. These changes resulted in the capital ratio increasing by 35.2 percent from 2.71 percent to 3.66 percent for FY 1999.

Table II-1

Projected MMI Fund Performance for FYs 1999 through 2006 (\$ Millions)						
Fiscal Year	Economic Value of the Fund*	Capital Ratio	Volume of New Endorsements	Insurance Inforce	Economic Value of New Book of Business	Interest on Fund Balances
1999	\$16,637	3.66%	\$84,743	\$454,184	\$2,693	\$722
2000	\$18,917	3.81%	\$74,787	\$496,367	\$1,891	\$838
2001	\$21,769	4.06%	\$73,970	\$536,495	\$2,351	\$986
2002	\$25,322	4.32%	\$84,387	\$586,035	\$2,948	\$1,130
2003	\$29,012	4.57%	\$85,776	\$635,419	\$2,966	\$1,293
2004	\$32,615	4.80%	\$83,251	\$679,033	\$2,747	\$1,464
2005	\$36,337	5.04%	\$83,049	\$720,360	\$2,720	\$1,646
2006	\$40,195	5.29%	\$84,341	\$759,911	\$2,703	\$1,832

*All values are as of the end of each fiscal year. The economic value for future years (FYs 2000 through 2006) is equal to the economic value of the Fund at the end of the previous fiscal year, plus the interest earned on the Fund's balances in the current year, plus the economic value of the new book of business.

Current Estimate of FY 1999 Economic Value Compared with the Estimate Presented in the FY 1998 Actuarial Review

This year's estimate of the FY 1999 economic value is \$3.750 billion higher than the economic value projected for FY 1999 in the FY 1998 Actuarial Review. This increase in the Fund's value is comprised of several factors. While we can estimate the impact of each of the following changes, it is impossible to state with certainty their magnitude since Deloitte & Touche does not have the data or software used in the 1998 Review by PricewaterhouseCoopers.

1. An increase in estimated interest income on invested assets.
2. Change in estimate of the present value of endorsements originating in FY 1999.
3. Change in economic forecast.
4. Adjustments to financial and cash flow assumptions.

Actuarial Review of MMI Fund as of FY 1999

5. Revisions to econometric models for claim and prepayment rates.
6. Changes due to different data being used between the 1998 and 1999 Actuarial Reviews. The 1998 Review relied on data that was, for the most part, gathered from the A43 database. The 1999 Actuarial Review is based on data extracted from the Single Family Data Warehouse. Without having access to the data used in the 1998 Review, it is difficult to gauge the magnitude of the impact of this change.

Of these changes, the primary reason for the change in estimated economic value from last year to this year is provided by updates to fiscal origination year 1999 experience and econometric model revisions. These updates resulted in a net increase of \$2.4 billion in the estimated economic value. The economic forecast consisting of stable interest rates and higher growth in household income resulted in lower prepayment rates in the near future and increased the estimated economic value by \$543 million. In previous studies a real rate of interest was used to estimate interest income on invested assets; in the current Review we use a nominal rate of interest to be consistent with rates used in other areas of the model. This adjustment increased the economic value by \$381 million. The combined effect of all other changes, including technical refinements and adjustments to financial and cash flow assumptions, resulted in a net increase of \$426 million in the fund's estimated FY 1999 economic value. Table II-2 delineates the changes in the Fund's economic value between FY 1998 and FY 1999.

Table II-2

Summary of Changes in MMI Fund Estimated Economic Value Between FY 1998 and FY 1999 (\$ Millions)				
	Change in FY 1999 Economic Value	FY 1999 Economic Value	Change in FY 1999 Capital Ratio	Corresponding FY 1999 Capital Ratio
FY 1999 Economic Value Presented in the FY 1998 Review, Excluding the FY 1999 Book of Business		\$11,360		3.06%
Plus: Forecasted Value of 1999 Book of Business and Interest on Previous Business Presented in the FY 1998 Review	+\$1,527			
Equals: FY 1999 Economic Value Presented in the FY 1998 Actuarial Review		\$12,887		3.06%
Plus: Increase in Interest Income	+\$381	\$13,268	+0.06%	3.12%
Plus: Change in Estimate of Endorsements Originating in FY 1999	+\$1,207	\$14,475	+0.20%	3.32%
Plus: Change in Economic Forecast	+\$543	\$15,018	+0.09%	3.41%
Plus: Adjustments to Financial and Cash Flow Assumptions	+426	\$15,444	+0.07%	3.48%
Plus: Econometric Model Refinements	+\$1,193	\$16,637	+0.18%	3.66%
Equals: Estimate of FY 1999 Economic Value	+\$3,750	\$16,637	+0.60%	3.66%

Further details of these changes are provided below.

- In prior Actuarial Reviews of the MMI Fund it appears that a real rate of interest (i.e., an interest rate that has been reduced for the effect of inflation) was used to estimate interest income on invested assets. In the current review we use a nominal rate of interest equal to 5 percent, compounded semi-annually. We believe that a nominal rate of interest is appropriate since all other figures, both dollar amounts and rates, are shown on a nominal basis. The net effect of this change is a \$381 million increase in the economic value of the Fund and an increase in the FY 1999 capital ratio of 0.06%.
- The net effect of origination volume changes and FY 1999 originations was an increase in the value of Fund of \$1.207 billion. Updates to the actual volume of FY 1999 originations from the projections in the FY 1998 Review resulted in an increase of approximately \$345 million in the economic value and an increase of 0.05 percent in the FY 1999 capital ratio due to the faster growth in the economic value relative to the IIF. The FY 1999 book – through 9 months actual and projected for a full year - is larger than had been projected in the FY 1998 Review by \$19.109 billion. Updates were also made to the actual loan composition of FY 1999 originations, shifting FHA's portfolio composition toward a lower share of adjustable rate mortgages.
- The long-term macroeconomic forecast published by DRI as of June 30, 1999 differs slightly from the forecast used in the FY 1998 Review. Interest rates are slightly higher which leads to lower prepayment rates projected for the next several years. We estimate the impact of this change to be approximately a \$543 million increase in the economic value and an increase of 0.09 percent in the FY 1999 capital ratio.
- The effect of changes in financial and cash flow assumptions resulted in a net increase in estimated FY 1999 economic value of \$426 million and an increase in the estimated FY 1999 capital ratio of 0.07 percent. The difference in the Fund's expected capital resources as a result of favorable prepayment experience is a significant adjustment in this category. Other changes in the financial cash flow assumptions were made to incorporate updated information based on experience, including adjustments to the time lags, claim settlement factors, administrative costs per dollar of amortized IIF, and the incorporation of different loss rates to reflect FHA's expected future loss mitigation activities. Many of these factors, including conveyance loss rates, claim settlement factors, and adjustments to the time lags, jointly determine the overall loss rates that will be experienced in future years.
- Revisions to the econometric models used to forecast prepayment and claim rates have been incorporated in this analysis. Without also performing this analysis under the models used in the FY 1998 Actuarial Review, it is difficult to accurately estimate the impact of these changes. However, we have estimated the effect of the revisions by attributing all other changes in the economic value of the Fund to this category. This is a value of \$1.193 billion. Please note that this assumes that conversion from the A43 database to the Single Family Data Warehouse as the source of data for the Actuarial Review has no net effect on the economic value of the Fund. Without also performing

Actuarial Review of MMI Fund as of FY 1999

this analysis with a data extract from a legacy system it is difficult to gauge the accuracy of this assumption.

Change in Estimated Future Insurance Inforce

The estimated IIF for FYs 1999 through 2006 as shown in the this Review are higher than the corresponding figures reported in the FY 1998 Actuarial Review. There have been no changes made to the models used to forecast volume originations over previous Reviews. We forecast a FY 1999 endorsement year volume of approximately \$85 billion which compares to actual through June 30, 1999 of approximately \$72 billion. The estimated volume of new endorsements for 1999 provided in the FY 1998 Actuarial Review is \$65.634 billion. This difference is being driven in part by the stable, but somewhat higher, forecast of interest rates and mortgage rates. It is also being driven by the historically low unemployment rates that are expected to continue through FY 2001. The stable interest rate forecast combined with the low unemployment rate forecast has moderated prepayment rates and given a boost to the level of loan originations. The effect of a higher volume of new purchase mortgage originations in the next three years is captured from the results of a series of econometric models designed to forecast future demand for FHA originations based on economic and policy variables.

Estimated Loss Rates Using Loss Rate Models

In the process of conducting the FY 1999 Review, we utilized the loss rate model developed in the FY 1995 Review to estimate future loss rates under different scenarios. It is our understanding that in Reviews performed prior to FY 1995, average historical loss rates were used as estimates for future losses. These average loss rates have gradually decreased over the last few years, and during a period of declining loss rates, using the historical average tends to overestimate the loss rates in the future. Using the updated loss rate model instead of the historical average has a positive impact on the estimated economic value of the fund.

Effects of Loss Mitigation

It is our understanding that during FY 1996, Congress passed legislation that authorized the FHA to recompense mortgagees for actions taken to mitigate potential losses by providing mortgage foreclosure alternatives, such as special forbearance, mortgage assumptions by lenders, pre-foreclosure sales, deed-in-lieu-of-foreclosure transactions, partial claim payments, and loan modifications. It is also our understanding that in the private conventional mortgage industry, Fannie Mae and Freddie Mac have successfully employed many of these loss mitigation techniques.

The loss mitigation program is expected to reduce the number of foreclosures and to significantly reduce the costs associated with many foreclosures. Early evidence indicates that this program should provide both social and economic benefits.

Actuarial Review of MMI Fund as of FY 1999

The utilization of the program greatly increased in FY 1999 for special forbearance, mortgage modifications, and partial claims. (See Table II-3 below.) These three tools are the least costly of the available loss mitigation tools and are designed to avoid foreclosure and to keep borrowers in their homes. Pre-foreclosure sale and deed-in-lieu of foreclosure activity actually decreased in FY 1999. These are more costly tools that result in an insurance claim.

Table II-3

Summary of Loss Mitigation Activity Change (Counts)			
	FY 1999	FY 1998	Percent Change
Special Forbearance	5,724	2,583	122%
Mortgage Modification	11,114	1,571	607%
Partial Claims	3,977	935	325%
Subtotal	20,815	5,089	309%
Pre-foreclosure Sale	4,011	4,608	-13%
Deed-in-lieu of Foreclosure	999	1,347	-26%
Subtotal	5,010	5,955	-16%

The loss mitigation program has only been significantly employed in the past two years and has been growing rapidly. The relatively short history of the program does not facilitate its inclusion in a model of our type. Because of this, the effects of the loss mitigation program have not been explicitly factored into our model. It should be noted that this provides a level of conservatism in our results.

It is our understanding that a study is currently underway to assess the savings provided by loss mitigation activity. In future Reviews, we hope to incorporate the results of this study.

Consistent with the FY 1998 Review, we have assumed that pre-foreclosure sales will remain flat at 6 percent of claim terminations in FY 1999 through 2006 and that for those claims going to pre-foreclosure sale there is a 25% reduction in the loss rate. This results in a 1.5% overall reduction in loss amounts and a corresponding increase in the capital ratio from 3.66% to 3.68% if we assume that this reduction applies uniformly across all loan categories.

Additional Comments

The estimates presented here reflect projections of events more than 30 years into the future. These projections are dependent upon a number of assumptions, including economic forecasts by DRI and the assumption that FHA does not change its refund, premium, or underwriting policies. To the extent that these or other assumptions are not sufficiently accurate, the actual results will vary, perhaps significantly, from our current projections.

Estimation of the equations used for predicting prepayments and claims require large amounts of loan level data. [These data take several weeks of intensive processing before they can be used to estimate the model parameters.] Additionally, complete data for a fiscal year is generally not

available for a few months after the end of the fiscal year because of reporting and processing lags. We obtained a data extract from FHA in August 1999 that represents activity as of June 30, 1999. This data extract contains loan level information, providing information on both the aggregate level of activity and the distribution of that activity. We have used these data to estimate our econometric claim, prepayment, and loss rate models. We expect that during the next two months (December 1999 and January 2000), we will obtain updates, and additions to these data that will allow us to monitor whether significant changes are occurring in the portfolio.

Finally, while we have reviewed the integrity and consistency of the data supplied by FHA and believe it to be reliable, we have not audited it for accuracy. Additionally, the information contained in this report may not correspond exactly with other published analyses that rely on FHA data compiled at a different time or obtained from other systems.

Impact of Economic Forecasts

The economic value of the Fund and its pattern of capital accumulation depend on several factors. One of the most important factors is the future economic environment that will exist during the remaining life of the FHA's current books of business. We capture the most significant factors in the U.S. economy affecting the performance of the Fund's books of business through the use of the following economic variables:

- FHA mortgage contract rate
- One-year Treasury Bill rate
- Appreciation in house prices
- Growth of mean household income levels
- Unemployment rate

The performance of the FHA's books of business, measured by the economic value of the MMI Fund, is affected by changes in these economic variables. Higher mortgage interest rates raise initial and ongoing payment burdens on household cash flows, and hence claim risks of new originations while decreasing the risk of claim on older loans with below market interest rates. Lower mortgage interest rates have the reverse effect and tend to accelerate refinancing of earlier originations while increasing insurance claims. Faster average house price growth facilitates the accumulation of home equity, which tends to reduce the likelihood of a claim. It also contributes to greater mobility and household asset portfolio rebalancing, leading to greater turnover of housing and refinancing, and thereby increasing prepayment rates. Faster income growth reduces the relative burden of mortgage payments on household cash flows over time, reducing the risk of claims as mortgages mature.

The base case results in this report are based on DRI's control forecast as of June 1999 for interest rates, average house prices, and inflation rates. We considered two other scenarios based on DRI forecasts: 1) a "late recession" forecast, which assumes a lower interest rate and higher real growth in house prices and median household income for the next year, followed by unfavorable economic conditions in the subsequent two years; and 2) a pessimistic forecast,

Actuarial Review of MMI Fund as of FY 1999

which projects lower real growth in house prices and mean household income, and higher interest rates. These two scenarios do not represent the full range of possible experiences, but represent variations from the base case that might reasonably be expected and demonstrate the sensitivity of the analysis to variations in economic conditions. We present our estimates of the Fund's performance under each of these economic scenarios in Table II-4.

We project that under all three scenarios, the Fund will exceed the NAHA FY 2000 capital ratio target of 2.00 percent.

Table II-4

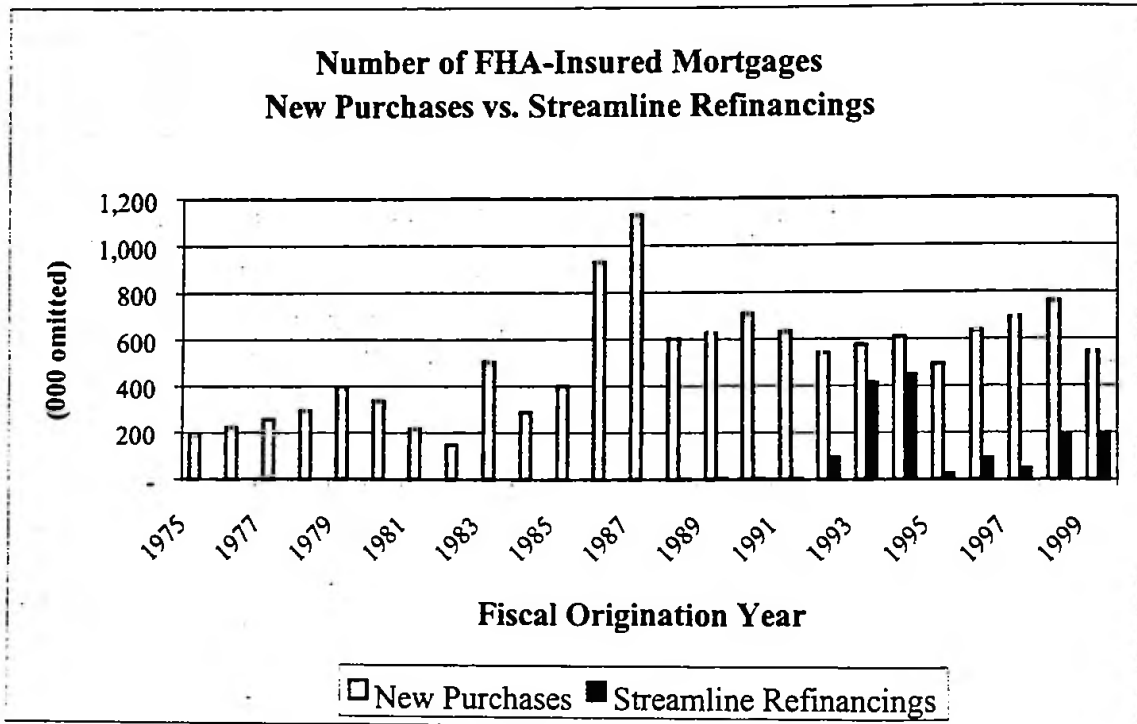
Summary of MMI Performance by Macroeconomic Scenario (\$ Millions)			
	Pessimistic	Base Case	Late Recession
Current Economic Value (FY 1999)	\$12,311	\$16,637	\$13,960
Current Capital Ratio (FY 1999)	2.71%	3.66%	3.07%
Projected Capital Ratio (FY 2001)	3.05%	4.06%	3.40%
Projected Capital Ratio (FY 2006)	3.90%	5.29%	4.44%

III. Characteristics of FY 1999 Book of Business

Volume of Mortgage Originations

Graph III-1 shows the annual number of loan purchase originations and the annual number of Streamline refinancings (SRs) from FY 1975 to FY 1999.

Graph III-1



Note: FY 1999 represents counts as of June 30, 1999, i.e., nine months.

Table III-1 shows the proportions of the different divisions that have historically made up FHA's book of business. The 30-year, fixed rate mortgages have historically accounted for the bulk of FHA's business and still constitute over 65%.

Table III-1

FHA-Insured Originations by Loan Type (Percent of FHA Mortgages by Dollar Volume)						
	Purchases Mortgages and Other Refinancings				Streamline Refinancings	
Fiscal Year	30-Year, Fixed Rate	15-Year, Fixed Rate	30-Year, Adjustable	15-Year, Adjustable	30-Year, Streamline	15-Year, Streamline
1975	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%
1976	99.8%	0.2%	0.0%	0.0%	0.0%	0.0%
1977	99.8%	0.2%	0.0%	0.0%	0.0%	0.0%
1978	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%
1979	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%
1980	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%
1981	99.8%	0.2%	0.0%	0.0%	0.0%	0.0%
1982	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%
1983	93.7%	6.3%	0.0%	0.0%	0.0%	0.0%
1984	94.3%	5.7%	0.0%	0.0%	0.0%	0.0%
1985	92.1%	7.8%	0.1%	0.0%	0.0%	0.0%
1986	90.8%	8.4%	0.7%	0.0%	0.0%	0.0%
1987	91.7%	6.8%	1.5%	0.0%	0.0%	0.0%
1988	89.3%	3.9%	5.0%	0.0%	1.7%	0.1%
1989	94.6%	2.8%	1.5%	0.0%	0.9%	0.1%
1990	95.4%	3.0%	0.8%	0.0%	0.8%	0.1%
1991	90.3%	3.5%	4.4%	0.0%	1.6%	0.3%
1992	66.6%	2.5%	16.3%	0.0%	12.3%	2.2%
1993	44.9%	2.0%	12.0%	0.0%	33.1%	8.1%
1994	42.2%	1.7%	16.9%	0.0%	31.0%	8.2%
1995	65.2%	1.3%	29.3%	0.0%	3.4%	0.8%
1996	61.1%	1.3%	25.4%	0.0%	10.5%	1.7%
1997	57.2%	1.1%	35.1%	0.0%	6.0%	0.7%
1998	65.5%	1.2%	12.0%	0.0%	19.9%	1.4%
1999	69.7%	1.2%	2.0%	0.0%	25.1%	2.0%

Initial Loan-to-Value Distributions

The ratio of amount of loan to value of property is a strong indicator of risk of claims. Table III-2 shows the distribution of originations by Loan-to-Value ratio (LTV) category.

Table III-2

Distribution of Originations by Initial LTV Category (Percent of Mortgages by Dollar Volume)								
Book of Business	Unknown LTV	0-80%	80-90%	90-95%	95-97%	97-98%	98-100%	>100%
1985	0.0%	16.2%	31.2%	28.2%	22.6%	1.0%	0.9%	0.0%
1986	0.0%	21.6%	35.2%	32.5%	8.3%	1.0%	0.9%	0.0%
1987	0.0%	17.5%	28.8%	28.5%	23.1%	0.7%	1.3%	0.1%
1988	0.0%	8.8%	20.4%	34.9%	32.2%	1.2%	2.4%	0.0%
1989	0.0%	7.8%	18.6%	36.3%	33.7%	1.3%	2.4%	0.0%
1990	1.4%	18.5%	16.0%	31.6%	29.4%	1.3%	1.9%	0.0%
1991	4.2%	6.3%	12.3%	30.4%	31.4%	10.6%	4.5%	0.3%
1992	11.9%	4.8%	13.3%	25.5%	34.3%	6.1%	3.8%	0.3%
1993	31.3%	3.8%	10.9%	18.4%	21.9%	11.4%	2.2%	0.2%
1994	32.0%	3.7%	9.7%	17.2%	21.8%	13.6%	1.9%	0.1%
1995	3.6%	2.9%	10.3%	24.3%	34.3%	21.3%	3.1%	0.2%
1996	9.1%	3.0%	10.8%	24.0%	32.1%	18.5%	2.2%	0.2%
1997	4.9%	3.4%	11.5%	25.0%	34.1%	18.8%	2.0%	0.2%
1998	14.5%	3.8%	12.1%	23.7%	29.1%	15.1%	1.4%	0.2%
1999	15.8%	4.6%	13.1%	20.9%	27.7%	16.7%	1.0%	0.2%

Initial Contract Interest Rate

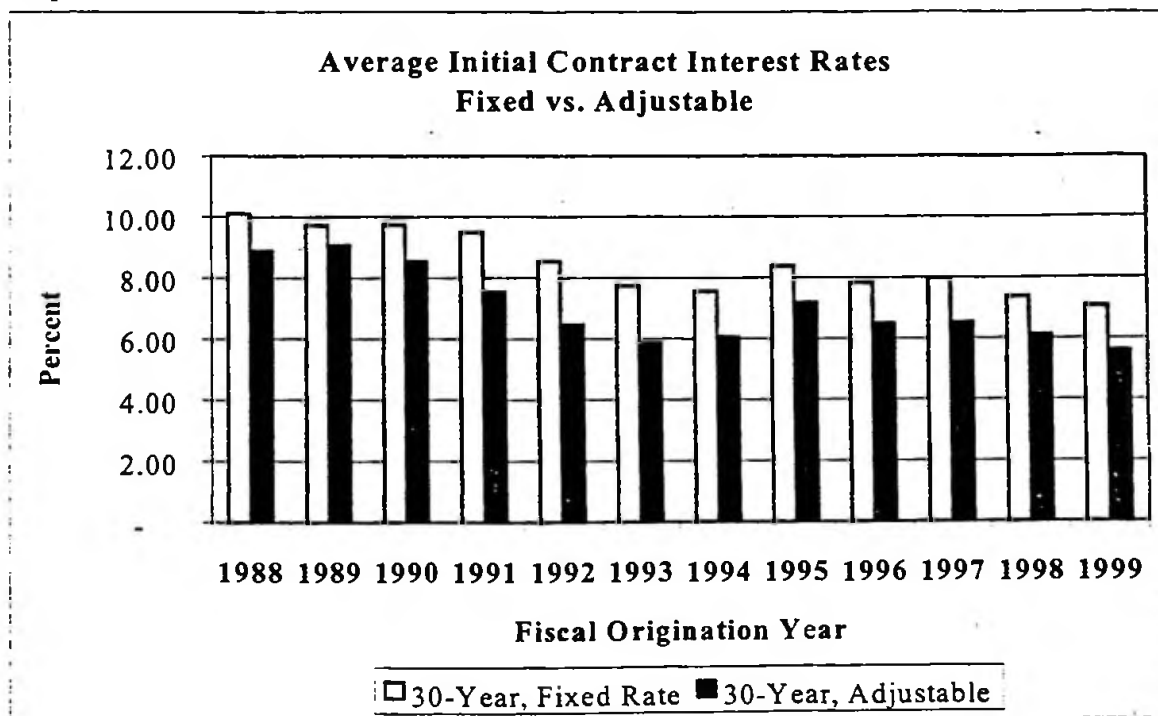
Table III-3 shows the average contract interest rate by mortgage type. The average contract interest rate on 30-year, fixed rate mortgages dropped from 7.98 percent in 1997 to 7.37 percent in 1998, and then dropped further to 7.06 percent in 1999 (through June 30).

Table III-3

Average Contract Interest Rates by Loan Type					
Fiscal Year	30-Year, Fixed Rate	30-Year, Streamline	30-Year, Adjustable	15-Year, Fixed Rate	15-Year, Streamline
1988	10.11%	11.06%	8.88%	9.67%	10.57%
1989	9.73%	11.36%	9.08%	9.08%	10.94%
1990	9.75%	10.82%	8.54%	9.39%	10.27%
1991	9.50%	10.01%	7.56%	9.07%	9.29%
1992	8.54%	8.61%	6.47%	8.30%	8.32%
1993	7.74%	8.01%	5.86%	7.35%	7.54%
1994	7.55%	7.58%	6.06%	7.09%	7.37%
1995	8.38%	8.35%	7.18%	8.17%	8.65%
1996	7.83%	7.77%	6.50%	7.48%	7.64%
1997	7.98%	7.69%	6.53%	7.71%	8.00%
1998	7.37%	7.46%	6.12%	7.13%	7.15%
1999	7.06%	7.08%	5.60%	6.76%	6.76%

Graph III-2 provides a comparison between the initial adjustable interest rates and the fixed contract rates during the last 12 years.

Graph III-2



Appendix A – Conditional Claim Rate Model

The conditional claim rate model utilized by Deloitte & Touche is specified by equation (A.1) below¹. We estimate a separate equation for each loan type category.

$$\ln(\lambda_t) = \alpha + \beta_1 \cdot LTV_t + \beta_2 \cdot PAY.INC_t + \beta_3 \cdot UNEMP_{t-2} + \beta_4 \cdot R_t + \beta_5 \cdot t + \beta_6 \cdot Age.P4_t \quad (A.1) \\ + \beta_7 \cdot PAY.INC_t \cdot t + \beta_8 \cdot LTV_t \cdot PAY.INC_t + \varepsilon_t$$

Conditional claim rates are modeled as a Poisson process – a specific class of the generalized linear model. We estimate the regression coefficients by maximizing the likelihood function with a technique known as iteratively re-weighted least squares (IRWLS). This estimation technique assumes a non-homogeneous distribution of residual terms.

Presented below is a definition for each of the terms in the conditional claim rate model. After these definitions are presented we will provide a brief discussion of the Poisson regression model and follow this with our estimated coefficients. A comparison between actual and fitted conditional claim rates is then given and finally we provide some observations with regard to the current model and supply a few recommendations that may improve its predictive power.

Definitions

1. $\ln(\lambda_t)$ = the natural log of the estimated Poisson parameter at age t for a given loan type category. Since, for a Poisson distribution, the Poisson parameter is also the mean of the distribution, λ_t is the expected number of claims (per 10,000 contracts) at age t within a given loan type category. In effect we are saying that at each stage of a loan pool's life (where we define a stage to be a fiscal year t years after the origination year) there exists a Poisson distribution that defines the conditional probability distribution of insurance claims. The Poisson parameter provides the expected number of claims, but we could just as easily calculate the number of claims we would expect at the 75th or 25th percentiles for a given set of values for the predictor variables. This additional information is available since a Poisson distribution is completely specified by its mean.
2. LTV_t = the weighted average estimated loan-to-value ratio for a pool of mortgages in a given loan type category, for a given origination year, as of age t . For each origination year within a loan type category, we begin with the loan-to-value ratio as recorded in the Single Family Data Warehouse for each individual loan. For each loan-type/origination year cell, we calculate a weighted average² LTV – this serves as our initial LTV ratio (LTV_0). In subsequent periods (i.e., fiscal years), this ratio is adjusted for increases in home price levels and the paying down of the loan's principal. The adjustments are accomplished using a

¹ The structure of the proposed model was first introduced by T.S. Campbell and K.J. Dietrich. Please see Campbell, T.S. and K.J. Dietrich. 1983. *The Determinants of Default on Insured Conventional Residential Mortgage Loans*. Journal of Finance 38(5): 1569 – 1581. Another source for generic factors affecting mortgage default behavior is Fabozzi, F. 1998. *The Handbook of Structured Financial Products*, Frank J. Fabozzi and Associates. Chapter 22, Mortgage Backed Securities, pp. 337 – 340.

² The weights used are based on the original mortgage amount of each loan.

weighted average median house price index ($MHPI$)³ and a weighted average scheduled amortization factor (SAF)⁴. Specifically, $LTV_t = LTV_0 \cdot \frac{MHPI_0 \cdot SAF_t}{MHPI_t}$.

3. $PAY.INC_t$ = the weighted average estimated ratio of loan payment-to-income level for a pool of mortgages in a given loan type category, for a given origination year, as of age t . Weights are assigned based on the original mortgage amount of each loan. For each origination year within a given loan type category this ratio is assumed to have an initial value of 0.333. That is, the original mortgage payment represents 1/3 of household income⁵. In subsequent periods this ratio is adjusted for changes in household income levels and, if applicable, for changes in payment levels due to changing interest rates. The adjustments are affected using a weighted average median household income index⁶ ($MHII$) and, for adjustable rate mortgages, the weighted average ratio of the current loan rate⁷ (LR_t) to the original loan rate (LR_0). Specifically, $PAY.INC_t = PAY.INC_0 \cdot \frac{MHII_0}{MHII_t} \cdot \frac{LR_t}{LR_0}$.
4. $UNEMP_{t-2}$ = the weighted average estimated unemployment rate⁸ (lagged two years) for a pool of mortgages in a given loan type category, for a given origination year, as of age t . Weights are assigned based on the original mortgage amount of loans in each state.
5. R_t = the weighted average refinance incentive ratio for a pool of mortgages in a given loan type category, for a given origination year, as of age t . The refinance incentive ratio is the ratio of a specific loan's interest rate to the refinance rate⁹ that is available as of age t . The weights assigned are based on the original mortgage amount of each loan.

³ The weighted average median house price index ($MHPI$) is calculated using state-level house price indices as reported by the Office of Federal Housing Enterprise Oversight (OFHEO). The weights assigned are determined by using the original mortgage amounts recorded on each specific loan record. Within the Cash Flow Model, the $MHPI$ used over the projection horizon (i.e., part of 1999 through 2006 for this Actuarial Review) is a national level index. This was done since state-level forecasts of the $MHPI$ are not available for the duration of the projection horizon.

⁴ Weighted average scheduled amortization factors (SAF) were calculated as the proportion of principal scheduled to be outstanding as of age t , given a specific loan's interest rate and term of contract. Additionally, for adjustable rate loans we also had to consider the index, margin, annual rate increase limits, and lifetime rate increase limits. The weights assigned to the loan-specific $SAFs$ are based upon the original mortgage amount.

⁵ This assumption of a mortgage payment representing 1/3 of household income is the same as that used in previous Actuarial Reviews of the MMIF.

⁶ The median household income index is based on state-level personal income as reported by the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System. The weights applied are based on each loan's original mortgage amount. A forecast of this index at the state-level is unavailable for the duration of the forecast horizon. We therefore used a national level index of personal income for the projection horizon.

⁷ The index used for adjustable rate loans is the One-Year Constant Maturity U.S. Treasury Bill rate. The source of this information historically is the FRED® database of the Federal Reserve Bank of St. Louis. We have assumed a margin of 130 basis points for adjustable rate loans (this is consistent with actual results) with a 100 basis point annual adjustment cap and 500 basis point lifetime adjustment cap. Weights are assigned based on the original mortgage amount of each loan.

⁸ Unemployment rates for the historical period are at the state-level. The source of this information is The Bureau of Labor Statistics. State-level projections of unemployment for the duration of the projection horizon are unavailable. We therefore use national level unemployment rate for the projection period.

⁹ For the historical period we used the prevailing FHA contract rate, by loan type, within each time period. For the projection horizon we used the estimated FHA contract rate, by loan type. These were estimated based on the economic forecasts provided by DRI/McGraw-Hill.

6. t = the age of the loan pool in a given loan type category, or the number of years since origination.
7. $Age.P4_t$ = a variable that takes on the age of the loan up to four years and equals zero after year four.
8. $PAY.INC_t \cdot t$ = the interaction of payment-to-income ratio as of time t with age. This term helps to model the changing significance of the payment-to-income ratio as a loan pool ages.
9. $LTV_t \cdot PAY.INC_t$ = the interaction of the loan-to-value ratio at time t with the payment-to-income ratio at time t . This captures the combined effect of the loan-to-value ratio and the payment-to-income ratio.
10. $\alpha, \beta_1, \beta_2, \dots, \beta_8$ = regression coefficients estimated by maximizing the likelihood function through application of the iteratively re-weighted least squares approach.
11. ε_t = residual/error term.

The Poisson Regression Model

The Poisson regression model is a specific type of generalized linear model (GLM). A comprehensive reference for GLMs is McCullagh, P. and Nelder, J.A. (1989) *Generalized Linear Models*. Second Edition. London: Chapman and Hall¹⁰. A GLM is described by the following assumptions:

1. There is a response variable, y , observed independently for specific values of the predictor variables, $x_1, x_2, \dots, x_p$.
2. The predictor variables influence the distribution of y through a single linear function called the *linear predictor* $\eta = \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p$.
3. The distribution of y has a density function of the form $f(y; \theta, \varphi) = \exp \left[A_i \{y\theta_i - \gamma(\theta_i)\} / \varphi + \tau(y_i, \varphi / A_i) \right]$, where φ is a scale parameter, A_i is a known prior weight, and parameter θ_i depends upon the linear predictor.
4. The mean, λ , is a smooth invertible function of the linear predictor: $\lambda = m(\eta)$, $\eta = m^{-1}(\lambda) = l(\lambda)$. The inverse function, $l(\bullet)$, is called the **link function**.

For a Poisson distribution with mean λ , we have $\ln f(y) = y \ln(\lambda) - \lambda - \ln(y!)$ so $\theta = \ln(\lambda)$, $\varphi = 1$ and $\gamma(\theta) = \lambda = e^\theta$.¹¹

Given n observations from a GLM, the log-likelihood function is

$$l(\theta, \varphi; Y) = \sum_{i=1}^n \left[A_i \{y\theta_i - \gamma(\theta_i)\} / \varphi + \tau(y_i, \varphi / A_i) \right]$$

¹⁰ Another source for a quick review of generalized linear models is Christensen, R. 1997. *Log-Linear Models and Logistic Regression*, 2nd Edition. Springer-Verlag. Chapter 9, Generalized Linear Models.

¹¹ For a review of homogeneous and non-homogeneous Poisson processes see: Ross, S. 1997. *Introduction to Probability Models*, 6th Edition, Academic Press. Section 5.3 and 5.4. Also see Kao, E. 1997. *An Introduction to Stochastic Processes*, Duxbury Press. Chapter 2.

this has a score function for θ of

$$U(\theta) = A_i \{y_i - \gamma'(\theta_i)\} / \varphi.$$

From this it can be shown that

$$E(y_i) = \lambda_i = \gamma'(\theta_i) \text{ and } VAR(y_i) = \frac{\varphi}{A_i} \gamma''(\theta_i).$$

The score function is only provided here for reference purposes, we do not make use of it in subsequent sections of this report. For a derivation of this, including use of the score function, see McCullagh and Nelder, 1989, section 2.2.

We assume that the number of loans that will "claim" during a given year, out of the loans that are active¹² at the beginning year, is a function of a number of predictor variables. We further assume that the mean or expected number of claims during a given year is the parameter of a Poisson distribution. The Poisson distribution models the probability of y events, or claims, according to a Poisson process with the probability distribution function given by:

$$p(y; \lambda) = \frac{e^{-\lambda} \lambda^y}{y!}, \text{ for } y = 0, 1, 2, \dots \quad (\text{A.2})$$

The mean or expected value of the Poisson distribution is λ ; this is known as the Poisson parameter. The Poisson parameter is dependent on a specified unit or period of time. For our model we assume that the basic unit of time is one year and that a given Poisson distribution only applies to this period. For example, it would be incorrect to assume that a specific Poisson parameter applies for a period of two or more years since each year will have its own "unique" Poisson distribution.

The mean number of claims, or the Poisson parameter, is a function of the predictor variables. Suppose the data takes the form:

$$\begin{array}{cccc} y_1 & x_{11} & x_{21} & \cdots x_{k1} \\ \vdots & \vdots & \vdots & \ddots \vdots \\ y_n & x_{1n} & x_{2n} & \cdots x_{kn} \end{array},$$

where the y_i represent n observations of the response variable and the x_{ij} are the corresponding observed values of k predictor variables.

The model is then written $y_i = \lambda_i + \varepsilon_i$ for $i = 1, 2, \dots, n$. The probability as a function of the predictor variables is:

$$p(y_i; x_i, \beta) = \frac{e^{-\lambda(x_i, \beta)} [\lambda(x_i, \beta)]^{y_i}}{y_i!}, \text{ for } y_i = 0, 1, 2, \dots \quad (\text{A.3})$$

(In this notation β and x_i are vectors.) Here $\lambda(x_i, \beta)$ replaces our earlier λ . The function $\lambda(x_i, \beta)$ must always be non-negative. A candidate for this function is $e^{x_i \beta}$, where $x_i \beta$ is a linear function. $\lambda(x_i, \beta)$ relates the predictor variables to the mean. Then equation (A.1) is of

¹² By "active" we mean loans that enter a given year and have not claimed, prepaid or have been otherwise terminated.

the form $\ln(\lambda) = x_i' \cdot \beta$. Transforming the log link function we get the following expression for our response variable:

$$\lambda_i = e^{\alpha + \beta_1 \cdot LTV_i + \beta_2 \cdot PAY_INC_i + \beta_3 \cdot UNEMP_{t-2} + \beta_4 \cdot R_i + \beta_5 \cdot t + \beta_6 \cdot Age \cdot P4_i + \beta_7 \cdot PAY_INC_{t-1} + \beta_8 \cdot LTV_i \cdot PAY_INC_i} \quad (A.4).$$

Since $\text{var}(y_i) = e^{x_i' \beta}$ is not homogeneous from observation to observation, standard least squares does not apply. We use maximum likelihood methods. For the Poisson model the log-likelihood function is given by:

$$l(y, \beta) = \frac{\left\{ \prod_{i=1}^n \lambda(x_i, \beta)^{y_i} \right\} e^{-\sum_{i=1}^n \lambda(x_i, \beta)}}{\prod_{i=1}^n y_i!}$$

We employ a generalized linear model (GLM) because our link function is non-linear and the error variance is not homogeneous. Since explicit expressions for the maximum likelihood estimators are not generally available, estimates are calculated using an iterative approach. As mentioned at the beginning of this Appendix A, a commonly used approach is *iteratively re-weighted least squares (IRWLS)*.¹³

An outline of the IRWLS procedure is given below.¹⁴

1. Obtain an initial estimate of the coefficients and from this result obtain an initial estimate of the residuals. The initial estimate of the linear predictor is obtained using a standard linear model that checks for problems such as negative logarithms.
2. From the initial residuals, compute a variance estimate, $\hat{\sigma}_0^2$ (equal to the squared residual), and the initial weights, $w_{i,0} = \psi(\dot{e}_{i,0}) / (\dot{e}_{i,0})$. Here $\psi(\bullet)$ is the influence function.¹⁵
3. Use weighted least squares to obtain new robust parameter estimates.
4. Let the parameter estimates from step (3) take the role of the initial weights in step (1) and obtain new residuals, a new variance estimate, and new weights.
5. Return to and repeat step (3).

¹³ For a complete description of the IRWLS procedure please see McCullagh and Nelder, 1989, section 2.5. Another source is Stokes and Koch, 1983; *A Macro for Maximum Likelihood Fitting of Log-Linear Models to Poisson and Multinomial Counts*; Proceedings of the Eighth Annual SAS Users Group International; Cary, North Carolina: SAS Institute, pp. 795-800.

¹⁴ Note that, although the procedure is conventionally known as iteratively re-weighted least squares, it is a maximum likelihood technique.

¹⁵ An influence function estimates how individual data points affect regression results. We use a Huber influence function which is bounded: $\psi(\dot{e}_i) = \dot{e}_i$ if $|\dot{e}_i| \leq r$ and r if $\dot{e}_i > r$ and $-r$ if $\dot{e}_i < -r$. We set $r=1$ and

$\dot{e}_i = e_i / \sigma_i$. In OLS the influence function is the identity function. See Huber, P.J. 1973. Robust Regression:

Asymptotics, Conjectures, and Monte Carlo. *Annals of Statistics* 1: 799-821.

6. Repeat until the estimates converge. The convergence criterion is to stop if $|deviance^i - deviance^{i-1}| < \varepsilon$. In our model we set ε equal to 10^{-4} . The deviance for iteration i is defined as twice the log-likelihood ratio statistic; this is given by

$$2 \sum_{i=1}^n A_i \left[\{y_i \theta(y_i) - \gamma(\theta(y_i))\} - \{y_i \hat{\theta}_i - \gamma(\hat{\theta}_i)\} \right].$$

Estimated Coefficients

Table A-1 displays our estimated coefficients along with the corresponding t-statistics for each loan type category. For the 15-year, adjustable rate loan category we used the model coefficients from the 15-year, fixed rate loan category. There is a very small number of loans in this category (313) and even fewer claim observations on which to base a regression model¹⁶.

Table A-1

Regression Results for Conditional Claim Rate Model (t-statistics in parentheses)					
	30-Year, Fixed Rate	15-Year, Fixed Rate	30-Year, Adjustable Rate	30-Year, Streamline Refinance	15-Year, Streamline Refinance
Intercept	0.21598 (3.029)	-22.38055 (-6.000)	6.69986 (1.721)	9.89252 (11.052)	-9.75116 (-15.003)
LTV _i	0.30085 (3.229)	0.37293 (7.212)	0.01980 (18.320)	0.11077 (12.994)	0.39850 (38.259)
PAY.INC _i	20.45040 (10.681)	85.66194 (6.080)	34.94190 (10.569)	15.63843 (5.329)	31.93169 (13.338)
UNEMP _{i-2}	10.51595 (14.291)	-2.20365 (-0.811)	8.21727 (2.508)	3.31556 (2.551)	24.70113 (35.038)
R _i	-0.17372 (-50.312)	2.49233 (13.682)	0.19559 (44.533)	0.90165 (13.470)	1.56759 (37.695)
Age (t)	0.11192 (23.217)	0.77874 (2.929)	-0.24567 (-16.712)	-0.77270 (-25.829)	1.17150 (23.145)
Age.P4 _i	0.19762 (22.111)	0.16591 (13.666)	0.14237 (16.468)	0.22580 (32.984)	0.15016 (21.997)
PAY.INC _i x t	-1.86648 (-29.898)	-2.48268 (-2.209)	1.53391 (24.268)	1.62058 (12.987)	-6.61686 (-30.687)
LTV _i x PAY.INC _i	-0.59479 (-2.021)	-1.37708 (-7.576)	0.18793 (18.970)	-0.43655 (-14.443)	-1.21834 (-34.628)

¹⁶ There are only three origination year/age cells with actual claims.

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Comparison of Actual to Fitted

Table A-2 below provides a comparison of the historical numbers of claims by termination year to the values estimated by the model for the same years.

Overall, the fitted values are approximately 20 percent lower than the actual historical values. However, the fitted values for fiscal termination years 1993 through 1998 are only 5 percent higher than the actual values. As one would expect the volatility is greater for individual fiscal years. (Note that the actual value for FY 1999 reflects data as of June 30, 1999, and therefore represents only nine months of data.)

Table A-2

Number of Claims			
Comparison of Actual Historical Counts to Fitted Counts			
30-Year, Fixed Rate Mortgages			
Fiscal Termination Year	Actual	Fitted	Fitted /Actual
1975	112	305	272%
1976	1,733	1,036	60%
1977	4,320	2,598	60%
1978	5,060	5,261	104%
1979	5,419	7,404	137%
1980	6,175	11,135	180%
1981	9,822	13,569	138%
1982	14,016	19,148	137%
1983	22,966	26,154	114%
1984	24,282	35,685	147%
1985	31,476	41,329	131%
1986	40,975	24,829	61%
1987	56,411	18,796	33%
1988	74,868	22,323	30%
1989	73,430	26,766	36%
1990	66,604	31,906	48%
1991	66,041	35,127	53%
1992	69,195	47,086	68%
1993	67,301	61,433	91%
1994	62,572	58,054	93%
1995	52,527	58,363	111%
1996	44,218	52,224	118%
1997	46,274	59,614	129%
1998	48,076	47,594	99%
1999	33,212	38,049	115%
Total	927,085	745,788	80%
ex. 1999	893,873	707,739	79%
1990-1998	522,808	451,401	86%
1993-1998	320,968	337,282	105%
1977-1998	892,028	706,398	79%

Observations.

After fitting our models and getting reasonable results, we continued to investigate the behavior of the conditional claim rates in response to specific predictor variables. We also took into consideration comments received from various professionals within the Department of Housing and Urban Development.

With regard to comments received from various HUD professionals we feel that the next Actuarial Review should incorporate two changes to our basic conditional claim rate model.

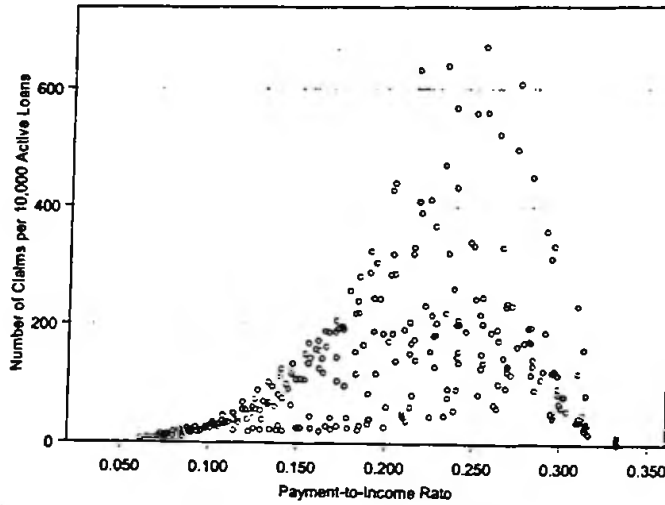
1. Create a specific conditional claim rate model within each loan type and loan-to-value category. For this purpose we propose using the LTV category code to further segment our data.
2. Incorporate a predictor variable that reflects the volatility inherent in the weighted average state-level median house price index. This can be accomplished for the historical data but developing these predictor variables over the projection horizon will be more challenging since a state-level forecast of the MHPI is not available for the duration of the projection period. One approach may be to model the observed historical volatility of the MHPI as a univariate time series using an ARIMA or GARCH model and forecast MHPI volatility for the entire projection horizon.

Further investigation has revealed that the interaction between the conditional claim rate and the payment-to-income ratio shifts significantly over the life of a loan pool. The following plots were generated using 30-year, fixed rate loan data.

Graph A-1 is a plot of the conditional claim rate versus the payment-to-income ratio without consideration of the loan's age.

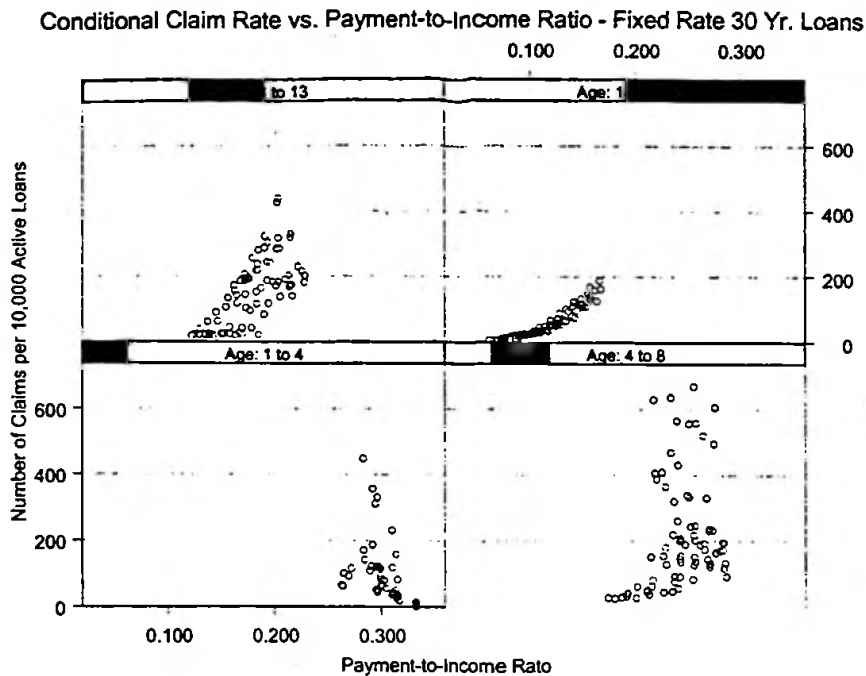
Graph A-1

Conditional Claim Rate vs. Payment-to-Income Ratio - Fixed Rate 30 Yr. Loans



Graph A-2 shows the same information conditioned on the age of the loan pool.

Graph A-2



From the plot conditioned on age we see that there is a clear change in the sensitivity of the conditional claim rate to the payment-to-income predictor variable as the loan ages. Between years 1 and 4 of a loan's life, there is a negative relationship between the payment-to-income variable and the conditional claim rate. After year 4 this relationship turns positive (i.e., an increase in the payment-to-income ratio corresponds to an increase in the conditional claim rate). And as the loan ages further, the level of confidence in this relationship becomes greater. This suggests that our conditional claim rate model could be improved by including several payment-to-income ratios that take on their actual value in certain age ranges and take on a value of zero otherwise. This characteristic needs to be investigated further for each loan type/LTV combination.

Appendix B – Conditional Prepayment Rate Model

Under the D&T model, there are three separate components that drive prepayment rates. They are:

1. Refinance Incentive
2. Seasoning
3. Burnout

In the sections below, we describe the covariates used to reflect each of these components. The three components are reflected in the various covariates of the conditional prepayment rate model, which takes the following form¹⁷:

$$\ln(p_t) = \alpha + \beta_1 \cdot R_t + \beta_2 \cdot R'_t + \beta_3 \cdot CUMDIFF_t + \beta_4 \cdot t + \beta_5 \cdot t \cdot R_t + \varepsilon_t \quad (\text{B.1}).$$

We estimate a separate regression equation for each loan type category. (There was not enough data for the 15-year, adjustable rate mortgages to fit a separate model; for that loan type, we used the coefficients from the fitted model for 15-year, fixed rate mortgages.) The maximum likelihood estimates of the regression coefficients are established with a Poisson model. (See Appendix A for a detailed discussion of the Poisson regression model and the statistical techniques used to fit the various models.) Transforming the log function into a linear function, we get the following expression for an estimate of the response variable:

$$\hat{p}_t = e^{\alpha + \beta_1 \cdot R_t + \beta_2 \cdot R'_t + \beta_3 \cdot CUMDIFF_t + \beta_4 \cdot t + \beta_5 \cdot t \cdot R_t} \quad (\text{B.2}).$$

Definitions:

1. $\ln(p_t)$ = the natural log of the estimated Poisson parameter at age t for a given loan type category. Since, for a Poisson distribution, the Poisson parameter is also the mean of the distribution, p_t is the expected number of loans (per 10,000 existing at the beginning of the year) that prepay during the year at age t within a given loan type category.
2. t = age of loan pool in a given loan type category, or number of years since origination.
3. R_t = the weighted average refinance incentive ratio for a pool of mortgages in a given loan type category, for a given origination year, as of age t . The weights assigned are based on the original mortgage amount of each loan. The refinance incentive ratio is the ratio of a specific loan's interest rate to the refinance rate that is available as of age t (as defined in the previous appendix on the claim rate model).

¹⁷ The basic structure of this model was originally proposed by Scott Richard and Richard Roll in a Goldman Sachs Mortgage Securities Research report titled *Modeling Prepayments on Fixed Rate Mortgage-Backed Securities*, September 1988. For additional background on mortgage prepayment models from which this specific model was derived, see Fabozzi, F.J. (editor). 1995. *The Handbook of Mortgage Backed Securities*. McGraw-Hill. Section II - Prepayment Behavior and Forecasting, Chapters 8, 9, 11, 12, and 13.

4. R'_t = the weighted average of the exponentially weighted, moving average refinance incentive ratio at age t^{18} .
5. $CUMDIFF_t$ = the weighted average of the cumulative positive difference between the loan interest rate and the historically available refinance interest rate.
6. $\alpha, \beta_1, \beta_2, \dots, \beta_5$ = regression coefficients estimated by maximizing the likelihood function through application of the iteratively re-weighted least squares approach.
7. ε_t = residual/error term.

Estimated Coefficients

The estimated regression coefficients and their corresponding t-statistics are summarized in Table B-1.

Table B-1

Regression Results for Conditional Prepayment Rate Model (t-statistics in parentheses)					
	30-Year, Fixed Rate	15-Year, Fixed Rate	30-Year, Adjustable Rate	30-Year, Streamline Refinance	15-Year, Streamline Refinance
Intercept	-0.50415 (-70.084)	0.13768 (3.444)	-0.61858 (-20.739)	-1.54026 (-33.705)	0.63014 (16.422)
R_t	5.37855 (157.741)	3.35339 (97.635)	4.09934 (170.152)	5.24680 (152.003)	3.14848 (96.411)
R'_t	1.30759 (64.178)	2.26595 (46.929)	2.80245 (78.182)	2.79023 (46.051)	2.13455 (43.233)
$CUMDIFF_t$	-3.11778 (-111.891)	-5.92042 (-93.187)	-6.33235 (-124.166)	-8.21708 (-103.538)	-5.93974 (-89.531)
Age (t)	0.03021 (85.945)	0.02272 (84.122)	0.01988 (95.892)	0.01911 (66.200)	0.01985 (76.309)
$t \times R_t$	-0.02924 (-76.602)	-0.01150 (-44.804)	-0.01744 (-87.981)	-0.01870 (-68.557)	-0.00974 (-38.902)

¹⁸ $R'_t = z \cdot \bar{R}_t + (1 - z) \cdot R'_{t-1}$, where $\bar{R}_t$ = the arithmetic mean of prior refinance incentive ratios up to time t , and z = the weight assigned to prior refinance incentive ratios. For this Review, we selected $z = 0.75$.

The following provides a description of how the individual covariates reflect the three primary drivers of prepayment rates¹⁹. Normally we would also include a component to reflect seasonality (i.e., variation in prepayment rates that occur throughout a calendar year). However, for our purposes seasonality is not an issue since we are interested in year-ending results and any seasonality would be averaged out or smoothed over in our calculations. (The level of resolution in our model is one year).

Propensity to Refinance

The variable used to indicate the level of the propensity to refinance is the exponentially weighted, moving average refinance incentive ratio at age t . (The refinance incentive ratio is defined in Appendix A.) The positive coefficient on R_t' indicates that, the higher the refinance incentive ratio has been over the life of the loan pool, the more likely a given contract is to prepay at age t .

Proportion of Loan Pool Seasoned

The effect of seasoning on the loan pool is reflected most directly in the age of the pool, t , and the refinance incentive ratio at age t , R_t . If R_t is greater than one, the contract rate is higher than currently available rates at time t , and refinancing is an attractive prospect. A refinance incentive ratio less than one would imply little or no incentive to refinance at time t .

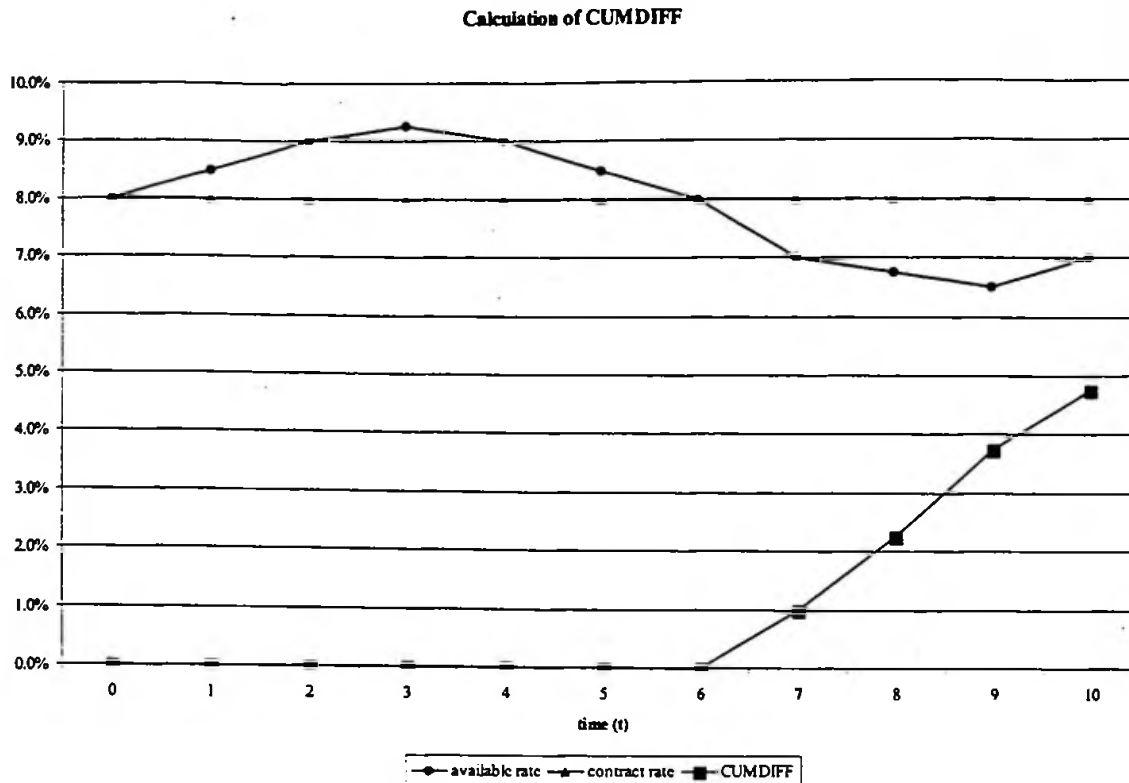
Note that both t and R_t get positive coefficients while the interaction term (or product of the two) gets a negative coefficient. This reflects the fact that, as the loan pool ages and as the available refinance rate goes above the contract rate, loans are more likely to prepay, but that this effect drops off at the extreme high range of age or refinance incentive ratios.

Proportion of Loan Pool Burned Out

The variable *CUMDIFF* and the age of the loan pool determine the degree to which the pool has burned out. *CUMDIFF* is defined as the cumulative positive difference between the loan interest rate and the historically available refinance interest rate. Graph B-2 below illustrates this definition for the case of a loan with a fixed rate of 8 percent.

¹⁹ For additional information on factors that affect mortgage prepayment behavior, see Fabozzi, Ramsey, and Ramirez. 1994. *Collateralized Mortgage Obligations: Structures and Analysis*, 2nd Edition. Frank J. Fabozzi and Associates. Chapter 3, pp. 48-55.

Graph B-1



As long as the available (refinance) rates are higher than the contract rate, there is no incentive to refinance and *CUMDIFF* is zero. As the rates drop below the contract rate, however, there is incentive to refinance. As the positive differences accumulate, there will be very few borrowers left who will prepay and the pool "burns out". Therefore, *CUMDIFF* gets a negative coefficient because, the more burned out the pool is, the less likely it is that a given loan will prepay in the next year.

Comparison of Actual to Fitted

Table B-2 below allows comparison of the historical numbers of claims by termination year to the values estimated by the model for the corresponding years.

Overall, the fitted values are approximately 10 percent lower than the actual values historically. The volatility is greater for individual fiscal years, as you would expect. (Note that the actual value for FY 1999 reflects data as of June 30, 1999, and therefore represents only nine months of data.)

Table B-2

Number of Prepayments			
Comparison of Actual Historical Counts to Fitted Counts			
30-Year, Fixed Rate Mortgages			
Fiscal Termination Year	Actual	Fitted	Fitted / Actual
1975	380	8,853	2330%
1976	4,122	18,938	459%
1977	20,610	37,247	181%
1978	42,899	41,292	96%
1979	50,648	44,946	89%
1980	28,701	37,652	131%
1981	17,641	31,984	181%
1982	9,911	29,763	300%
1983	72,095	88,896	123%
1984	49,147	68,915	140%
1985	63,992	109,729	171%
1986	284,669	250,854	88%
1987	353,522	352,870	100%
1988	149,114	226,973	152%
1989	134,362	268,268	200%
1990	168,260	272,217	162%
1991	206,013	298,921	145%
1992	514,916	410,911	80%
1993	980,573	510,814	52%
1994	795,321	454,562	57%
1995	215,685	278,940	129%
1996	335,990	315,316	94%
1997	275,879	277,593	101%
1998	495,306	330,394	67%
1999	421,493	347,153	82%
Total	5,691,249	5,114,001	90%
ex. 1999	5,269,756	4,766,848	90%
1990-1998	3,987,943	3,149,668	79%
1994-1998	2,118,181	1,656,805	78%
1977-1998	5,265,254	4,739,057	90%

Observations

We believe that the fitted model gives reasonable results and provides a useful explanatory tool. With the next actuarial review, we intend to investigate some possible enhancements to the model.

1. Create a separate model for each loan-to-value category within each loan type.

2. Add a covariate to measure house price dispersion, that is, the degree of variation in house prices in a geographic area.

Appendix C - Loss Rate Model

The loss rate model employed by Deloitte & Touche to forecast claim severity uses the same set of predictor variables as prior Actuarial Reviews of the MMIF. This model is presented in equation (C.1). One departure from the model used in previous years is the development of a separate loss rate model for each loan type.

$$\ln(lr_t) = \alpha + \beta_1 \cdot TLAG_t + \beta_2 \cdot JUD + \beta_3 \cdot DLAG_t + \beta_4 \cdot t + \beta_5 \cdot HP1_t + \beta_6 \cdot HP2_t + \beta_7 \cdot HP3_t + \beta_8 \cdot HP4_t + \beta_9 \cdot HP5_t + \beta_{10} \cdot HP6_t + \beta_{11} \cdot HP7_t + \epsilon_t \quad (C.1)$$

We initially used ordinary least squares (OLS) to estimate the model parameters. After the OLS model was established, we examined the residuals for heteroskedasticity (or nonconstant volatility). If heteroskedasticity was present, we performed a weighted least squares (WLS) analysis.

Presented below is a definition of each term in the loss rate model along with a description of the data used. This is followed by a presentation of the model coefficients along with their corresponding t-statistics.

Definitions

1. $\ln(lr_t)$ = the natural log of the weighted average loss rate for a pool of mortgages in a given loan type category, for a given origination year, as of age t . The loss rate associated with a specific claim is defined as the ratio of a conveyed property's loss amount as recorded in the Single Family Data Warehouse relative to the loan's outstanding principal when it enters claim status. The actual loss is calculated as acquisition cost²⁰ plus holding cost²¹ plus selling expense less selling price. The weights are based on the outstanding principal at the time of default.
2. $TLAG_t$ = the weighted average termination lag for a pool of mortgages in a given loan type category, for a given origination year, as of age t . The termination lag²² is the number of months between the time when a borrower defaults to when a claim payment is made. The weights are based on the outstanding principal at the time of default.

²⁰ The acquisition cost has three components: the unpaid loan balance, interest lost by the lender as a result of default, and legal/administrative costs associated with foreclosure.

²¹ Holding costs are the net costs to the FHA for repairing, maintaining, paying taxes, and collecting rents (if possible) on the property while it is held in inventory.

²² Default date is unavailable in the Single Family Data Warehouse so we model the default date as the oldest unpaid date (i.e., the date of the first missed mortgage payment) plus three months. The claim payment date is the same as the termination date. Thus, $TLAG = \text{termination date} - (\text{oldest unpaid date} + \text{three months})$.

3. JUD = the weighted average of the judicial variable for a pool of mortgages in a given loan type category, for a given origination year. If a loan that enters claim status is from a state requiring judicial foreclosure, JUD is assigned a value of 1; if the state does not require judicial foreclosure, JUD is assigned a value of 0. Within each loan type category, we calculate the weighted average JUD variable based on the number of loans by state that default from a given origination year within a given fiscal year.
4. $DLAG_t$ = the weighted average disposition lag for a pool of mortgages in a given loan type category for a given origination year. The disposition lag is the amount of time that elapses between a defaulted loan's disposition date and its termination date. Both the disposition date and the termination date are available from the Single Family Data Warehouse.
5. t = the age of the loan pool in a given loan type category, or the number of years since origination.
6. HPI_t = is the weighted average of a house price appreciation index at age t . For house price category i , $HPI_t = \text{state-specific house price appreciation index}^{23}$, and $HP_j = 0$ where $i \neq j$. The weights are based on the outstanding principal at the time of default by state.
7. ϵ_t = residual/error term. It is assumed that the error terms follow a normal distribution with a mean of zero.

Estimated Coefficients

Table C-1 below displays our estimated coefficients for the loss rate model along with the corresponding t-statistics for each loan type category. Please note, for the 15-year, adjustable rate loan category there was no claim information on which to build a model. We therefore used the 15-year, fixed rate loan regression coefficients.

Table C-1

Regression Results for Loss Rate Model (t-statistics in parentheses)					
	30-Year, Fixed Rate	15-Year, Fixed Rate	30 Year, Adjustable	30-Year, Streamline	15-Year, Streamline
Intercept	-2.91160 (-7.84580)	1.30780 (3.83610)	-1.07280 (-6.19130)	-0.54760 (-2.06930)	5.83750 (8.88520)
$TLAG_t$	-0.00630 (-2.17010)	0.02610 (6.14570)	-0.01950 (-10.60780)	-0.02000 (-9.50450)	0.00750 (2.13470)
JUD	3.96040 (5.44570)	0.76350 (2.19000)	0.83250 (4.52560)	-0.35870 (-3.13710)	0.01670 (0.03640)
$DLAG_t$	0.06130 (14.59470)	0.03820 (9.62990)	0.03200 (11.96710)	0.02720 (9.16280)	-0.00560 (-1.03660)
Age (t)	0.00230 (1.94340)	0.01170 (8.86680)	0.00140 (1.58180)	0.00140 (1.17320)	0.02770 (10.87250)
HPI_t	0.18260 (0.69600)	-2.79510 (-8.41940)	-0.01730 (-0.09300)	-0.03930 (-0.13820)	-6.94610 (-10.79340)

²³ The median house price index (MHPI) is from the Office of Federal Housing Enterprise Oversight (OFHEO). Within the Cash Flow Model, for the purpose of calculating this predictor variable the MHPI used over the projection horizon (i.e., part of 1999 through 2006 for this Actuarial Review) is a national level index. This was done since state-level forecasts of the MHPI are not available for the duration of the projection horizon. The house price appreciation index is calculated by taking the ratio of the index at time t to the index for the fiscal origination year.

HP2 _t	0.05940 (0.22460)	-2.88290 (-8.71120)	-0.08140 (-0.43100)	-0.07610 (-0.26720)	-6.99940 (-10.87570)
HP3 _t	0.01210 (0.04600)	-2.88620 (-8.73940)	-0.07050 (-0.37370)	-0.08490 (-0.29840)	-6.99600 (-10.85090)
HP4 _t	-0.02500 (-0.09600)	-2.86720 (-8.69540)	-0.07400 (-0.39560)	-0.09220 (-0.32440)	-6.99500 (-10.82810)
HP5 _t	-0.07060 (-0.27190)	-2.87160 (-8.73160)	-0.10530 (-0.56160)	-0.08240 (-0.28960)	-6.97720 (-10.81920)
HP6 _t	-0.03390 (0.13200)	-2.85280 (-8.68250)	-0.05680 (-0.30960)	-0.10230 (-0.36050)	-6.97850 (-10.82110)
HP7 _t	0.17280 (.67300)	-2.83860 (-8.61220)	-0.00520 (-0.02970)	-0.09140 (-0.32170)	-6.97250 (-10.78270)

Prospective Loss Rates

Generating a forecast for the *TLAG* and *DLAG* predictor variables required that we build a model for future estimates of the termination and disposition lags. We built separate regression models for *TLAG* and *DLAG*; these models then were applied across all loan type categories. The form of these models is as follows:

$$TLAG_t = \alpha + \beta \cdot \ln(t) + \varepsilon_t \quad (C.2)$$

$$DLAG_t = \alpha + \beta \cdot \frac{1}{t} + \varepsilon_t \quad (C.3)$$

The regression coefficients for these models are shown in Table C-2.

Table C-2

Regression Results for TLAG and DLAG models (t-statistics in parentheses)		
	TLAG	DLAG
α	7.7754 (29.7613)	2.6888 (22.3138)
β	3.9343 (25.3789)	5.4120 (18.4379)

Appendix D – Demand Model

Introduction

To assess the performance of the MMI Fund and forecast future demand for Fund business, several determinants must be considered. These include: size and composition of current and future books of business; projected prepayments; and projected claims experience, with emphasis on severity of loss and other related determinants. An accurate assessment of both the present and the future demand determinants for FHA mortgage insurance is essential in understanding the impact of future MMI Fund activity and for developing a reasonable demand model.

Future capital ratios, which are affected by changes in these other determinants, have traditionally been used as gauges for measuring MMI Fund performance. They depend not only on the performance of current insurance in force, but also on the performance of future books of business.

For purposes of this Review, we have used a macroeconomic demand model, as was the case for the FY 1998 Review. Since the macroeconomic demand model only uses aggregate data to project FHA volume, it is free of the sampling errors that typically occur in “micro”-simulation approaches. The macroeconomic demand model uses data up to FY 1999 to estimate various regression models.

The purpose of the demand analysis model is to forecast the size and composition of FHA’s future books of business and to analyze the financial consequences of changes in economic conditions. For a given economic scenario, the model generates a forecast of the demand for FHA mortgage insurance for each combination of loan type category, loan-to-value category, and relative house price category. The demand model explicitly quantifies the relationship between various macroeconomic variables and the total volume and distribution of purchase mortgages that FHA is likely to endorse. The macroeconomic variables include, among others, current and historical 30-year mortgage rates, 52-week T-bill yields, unemployment rates, changes in house prices, and changes in disposable income.

Structure of the Demand Analysis Model

There are four components to the demand analysis model:

FHA Origination Volume Module: a module designed to produce forecasts of the aggregate dollar volume of all FHA originations.

Loan Type Distribution Module: a module designed to divide the volume of aggregate FHA originations into loan types (30-year fixed rate, 15-year fixed rate, 30-year adjustable, 15-year adjustable, 30-year Streamlines, and 15-year Streamlines).

LTV Distribution Module: a module designed to divide the volume of FHA originations for each loan type into seven LTV categories.

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House Price Distribution Module: a module designed to divide the volume of FHA originations in each loan type and LTV category into eight relative house price categories.

These are sequential modules in that FHA's origination volume is first estimated and then distributed among the loan types. The LTV distribution is estimated within each loan type and the relative house price distribution within each loan type and LTV category.

Data Sources

The two primary data sources for the demand analysis are the Single Family Data Warehouse and the DRI/McGraw-Hill macroeconomic forecasts. FHA's total origination volume for each fiscal year from FY 1975 to FY 1999 and its distribution among different loan type, LTV, and relative house price categories is calculated based on information from the Single Family Data Warehouse. The macroeconomic time series data used in the projection were obtained from DRI. In the loan type module, a time series of market ARM share (for conventional and FHA loans combined) is constructed using monthly (1983-1994) and quarterly (1995-1999) ARM data from the Federal Housing Finance Board and quarterly market origination data from the Survey of Mortgage Lending Activities.

FHA Origination Volume Module

Because the dollar volume of purchase mortgage originations is non-stationary and positively correlated with the house price level and total population, the dependent variable used in FHA purchase mortgage origination regression is the natural log of the real per capita purchase dollar volume, defined as the dollar volume of FHA mortgage origination deflated by a house price index and divided by total population.

Mortgage originations are sensitive to macroeconomic conditions as measured by interest rate, unemployment rate, house price, and income. Mortgage originations are likely to be high in an environment of low interest rates, low unemployment, and high income levels, and to be low when both interest rates and unemployment rates are high. Characterized by modest and sometimes wide fluctuations over time, FHA's purchase volume has increased from approximately \$4.7 billion in FY 1975 to approximately \$88 billion in FY 1998. During the rising interest rate period in the late 1970s to the early 1980s, FHA's purchase origination volume dropped from approximately \$15.7 billion in FY 1979 to approximately \$7.3 billion in FY 1982. In the subsequent declining interest rate period, FHA's purchase volume reached an all-time high of approximately \$70.2 billion in FY 1987, which was followed by a 46 percent drop in volume in FY 1988 because of temporarily exhausted demand.

Because the underwriting criteria normally require a maximum payment-to-income ratio of 36 percent, lower interest rates enable low-income borrowers to qualify for the loans which they otherwise would not be able to afford. For the middle- and high-income borrowers, lower interest rates stimulate demand for mortgages due to lower homeownership cost. Both the quantity and size of mortgages are likely to increase when interest rates are lower.

In addition to current interest rate levels, historical interest rates also affect FHA's origination volume. When interest rates are rising, borrowers qualified to obtain loans may have already done so. This is similar to the burnout effect in mortgage refinancing activities. Given the same level of current interest rates, we would expect lower FHA mortgage volume if interest rates are rising. To capture the effects of the dynamics of interest rate movement on FHA's purchase volume, a three-year moving average of interest rates is included in the regression.

While we expect both unemployment rates and income to be correlated with FHA's origination volume, income is not included in the regression model because the estimated coefficient is insignificant and sensitive to model specification.

Model Specification

The FHA mortgage origination model is as follows:

$$LNPSVOL_t = \alpha + \beta_1 \cdot UNEMP_t + \beta_2 \cdot LNMRTATE_t + \beta_3 \cdot LNMAV3RATE_t + \beta_4 \cdot CHG3AVHP_t + \epsilon_t \quad (D.1)$$

where,

1. $LNPSVOL_t$ = natural log of the per capita FHA origination dollar volume at time t , deflated by a house price index.
2. $UNEMP_t$ = unemployment rate at time t .
3. $LNMRTATE_t$ = natural log of the 30-year mortgage rate at time t .
4. $LNMAV3RATE_t$ = natural log of the average of the 30-year mortgage rates for the three years preceding the current year (t).
5. $CHG3AVHP_t$ = the change in the natural log of the average house price index from time $t-1$ to time t .
6. ϵ_t = residual/error term. It is assumed that the error terms follow a normal distribution with a mean of zero.

Model Results

The following table (Table D-1) shows the estimated regression coefficients for the model.

Table D-1

Regression Results for FHA Aggregate Demand		
	Estimated Coefficient	t-statistic
Intercept	-3.3200	-2.2701
UNEMP _t	3.8614	0.6025
LNMRTATE _t	-2.7365	-8.3724
LNMAV3RATE _t	1.5315	3.2153
CHG3AVHP _t	5.5930	2.0273

The multiple R-squared of the OLS model is 0.8675. We analyzed the residuals of this OLS regression model and found no evidence of significant autocorrelation or heteroskedasticity (nonconstant volatility). FHA's origination volume is projected to be \$84.7 billion for FY 1999

followed by slight decreases in FY 2000 and 2001 with volumes of \$74.8 billion and \$74.0 billion, respectively.

Loan Type Distribution Module

The purpose of the loan type distribution module is to break FHA's originations into the different loan types: 30-year fixed rate, 15-year fixed rate, 30-year adjustable, 15-year adjustable, 30-year Streamline Refinancings, and 15-year Streamline Refinancings. Because 15-year, fixed rate loans and Streamlines represent a relatively small portion of the FHA's business for the past few years, we group 30-year, fixed rate loans, 15-year, fixed rate loans, and 30- and 15-year Streamlines together as a larger category (FRM), thus reducing the number of types of loans to two: fixed rate and adjustable. We assume that future Streamline volume, as a percentage of the 30-year, fixed rate category, remains the same as that observed in the most recent three years, and that the percentage of 15-year, fixed rate loans relative to 30-year, fixed rate loans is the same as the average in the most recent three years. We forecast the adjustable rate (ARM) portion of total originations based on a regression model.

In contrast to the conventional loans' ARM share, a significant portion of the originations since the 1980s, the ARM share in FHA loans was negligible prior to FY 1992. When short term interest rates dropped to a very low beginning in 1992 the level of funds available for ARM loans rose despite the 1% annual rate change cap – investors were attracted to the relatively high yields that ARMs presented in the market place. To avoid the bias that might arise from the model estimation using FHA's ARM percentages before FY 1992, we employ a two-step method to project FHA's ARM shares. In the first step, a regression for the total market's ARM shares (conventional and FHA combined) is estimated and market ARM shares are projected. In the second step, the market ARM shares are used to estimate FHA's ARM shares.

Market ARM Share Module

The first step regression uses as the dependent variable the log of quarterly ARM percentages from FY 1983 to FY 1999. The explanatory variables for the regression include the unemployment rate, 30-year mortgage rate, yield curve spread, and change in house prices and income. The consensus in the housing literature is that mortgage rate and yield curve spread are the two most important factors in explaining borrower's choice of adjustable versus fixed rate. When mortgage rates are relatively high, housing becomes less affordable, boosting the demand for adjustable rates because adjustable rate mortgages require smaller initial monthly payments. Additionally, borrowers may expect mortgage rates to decline and are less willing to commit to fixed rates for a long period of time. Another important factor influencing borrower's choice of adjustable versus fixed rate is the difference between the long-term mortgage rates and the one-year T-bill rate. The one-year, constant maturity T-bill rate is commonly used as an index to adjust adjustable rates. Higher spreads mean lower relative prices for adjustable, thus increasing the incentive for borrowers to choose adjustable rate loans over fixed rate loans.

Model Specification

The market ARM share model is as follows:

$$LN\text{MKTARMPT}_t = \alpha + \beta_1 \cdot UNEMP_t + \beta_2 \cdot LNM\text{RTRATE}_t + \beta_3 \cdot LNYLD\text{SPRD}_t + \beta_4 \cdot LNMAV3\text{RATE}_t + \beta_5 \cdot CHG3AVHP_t + \beta_6 \cdot CHG3DPI_t + \varepsilon_t \quad (\text{D.2})$$

where,

1. $LN\text{MKTARMPT}_t$ = the natural log of the total market ARM percentage at time t .
2. $LNYLD\text{SPRD}_t$ = the natural log of the difference between the 30-year mortgage rate and the 52-week T-Bill yield at time t .
3. $CHG3DPI_t$ = the change in the natural log of disposable income between time $t-1$ and time t .
4. ε_t = error/residual term. It is assumed that the error terms follow a normal distribution with a mean of zero.

The other variables are as defined in the FHA Origination Volume Module.

Model Results

The regression results for the market ARM share model are shown in Table D-2.

Table D-2

Regression Results for Market ARM Share		
	Estimated Coefficient	t-statistic
Intercept	2.4521	2.3145
$UNEMP_t$	-2.2396	-1.2178
$LNM\text{RTRATE}_t$	1.1037	9.4187
$LNYLD\text{SPRD}_t$	0.9452	1.8498
$LNMAV3\text{RATE}_t$	-0.6282	-2.0251
$CHG3AVHP_t$	4.5197	1.1691
$CHG3DPI_t$	10.7679	1.8972

The Multiple R-squared for the ordinary least squares (OLS) model is 0.7025. In examining the residuals of the OLS model we found little evidence of heteroskedasticity or autocorrelation. Investigation of various AR(p) (autoregressive) models resulted in coefficients that were not significant at the 5% level.

FHA ARM Share Module

FHA's ARM share model establishes a linear relationship between FHA's ARM share and the market ARM share. The relationship is specified as follows:

$$LN\text{FHAARMPT}_t = \alpha + \beta \cdot LN\text{MKTARMPT}_t + \varepsilon_t \quad (\text{D.3})$$

where,

1. $LN\text{FHAARMPT}_t$ = the natural log of the FHA ARM originations as a proportion of total aggregate FHA originations at time t .
2. $LN\text{MKTARMPT}_t$ = the natural log of the total market ARM percentage at time t .

3. ε_t = error/residual term. It is assumed that the error terms follow a normal distribution with a mean of zero.

Model Results

The regression results for the FHA ARM share model are shown in Table D-3 below.

Table D-3

Regression Results for FHA ARM Share		
	Estimated Coefficient	t-statistic
Intercept	0.3248	0.3240
LNMKTARMPT _t	1.4618	2.3195

Annual data from FY 1992 to FY 1999 (8 observations) are used for estimation. The OLS model has a multiple R-squared of 0.4728. FHA's future ARM shares are projected based on the estimated coefficients and the projections of LNMKTARMPT_t.

LTV Distribution Module

Because the volume of 15-year, fixed rate mortgages and Streamline refinancings is relatively small, the future distribution of both types of loans are assumed to be the same as their average in the past three years. For both 30-year, fixed rate mortgages and adjustable rate mortgages, a regression model is estimated for each LTV category. The projected percentages for each year are normalized so that the total percentages across the seven LTV categories sum to 100.

Model Specification

The LTV distribution model is as follows:

$$\begin{aligned} \text{LNLTVCATPT}_{j,t} = & \alpha + \beta_1 \cdot \text{UNEMP}_t + \beta_2 \cdot \text{LNMRT RATE}_t + \beta_3 \cdot \text{LNMAV3RATE}_t \quad (\text{D.4}) \\ & + \beta_4 \cdot \text{CHG3AVHP}_t + \beta_5 \cdot \text{CHG3DPI}_t + \varepsilon_t \end{aligned}$$

where,

$\text{LNLTVCATPT}_{j,t}$ = the natural log of the loan percentage of LTV category j in loan type y endorsed in fiscal year t .

The other variables are as defined above.

Model Results

Regression results for the 30-year fixed rate mortgages and adjustable rate mortgages are shown in Table D-4 and D-5, respectively.

Table D-4

LTV Distribution Regression Results for 30-Year, Fixed Rate Loans (t-statistics in parentheses)							
	0-80%	80-90%	90-95%	95-97%	97-98%	98-100%	>100%
Intercept	12.5758 (2.8136)	1.2327 (0.8624)	1.2139 (1.7988)	-4.7663 (-1.8702)	-21.2225 (-3.1709)	-9.3678 (-2.0629)	-26.8321 (-2.2829)
UNEMP _i	-52.5653 (-1.5113)	-14.9197 (-1.3414)	-5.4774 (-1.4632)	16.2508 (0.3818)	57.1814 (1.0979)	47.6887 (1.3496)	80.5562 (0.8808)
LNMRTRATE _i	-0.3606 (-1.1047)	-2.3580 (-2.1405)	0.7205 (1.6152)	2.0670 (1.4896)	0.0395 (1.0077)	4.5502 (1.3001)	-3.9838 (-1.4398)
LNMAV3RATE _i	5.3591 (1.5821)	3.6700 (3.3881)	0.1118 (1.0970)	-3.2623 (-2.7859)	-6.8360 (-1.3417)	-6.2835 (-1.9258)	-2.9894 (-1.3356)
CHG3AVHP _i	-0.9480 (-1.1151)	1.7135 (0.6504)	1.0854 (1.3875)	1.0078 (1.0998)	-14.1567 (-2.1475)	-0.9476 (-0.1132)	-12.3258 (-1.5689)
CHG3DPI _i	-10.7938 (-1.8350)	10.1334 (2.4515)	-3.1434 (-1.7153)	-1.3593 (-1.0858)	-4.7606 (-2.2460)	-14.5566 (-2.1084)	-21.8523 (-0.6429)
R ²	0.8848	0.9665	0.6245	0.4580	0.9352	0.8314	0.8522

Table D-5

LTV Distribution Regression Results for 30-Year, Adjustable Rate Loans (t-statistics in parentheses)							
	0-80%	80-90%	90-95%	95-97%	97-98%	98-100%	>100%
Intercept	6.8844 (2.2354)	1.7286 (1.7136)	1.6178 (1.2449)	-3.7611 (-2.9021)	-17.5174 (-2.0897)	-2.91111 (-0.5942)	-7.3986 (-0.4209)
UNEMP _i	-27.4161 (-1.1440)	-6.0069 (-0.7652)	-8.8886 (-0.8790)	8.6139 (0.8542)	36.7957 (0.5641)	21.5238 (0.5646)	-17.0404 (-0.1306)
LNMRTRATE _i	-0.9293 (-1.3915)	-0.4659 (-0.5192)	0.2787 (1.2783)	0.2207 (0.2210)	-0.6707 (-1.1038)	5.0538 (1.3384)	-4.4370 (-1.3584)
LNMAV3RATE _i	4.5237 (1.9382)	1.9535 (2.5552)	0.6974 (1.7080)	-1.1387 (-1.1594)	-5.1551 (-1.8114)	-4.7132 (-2.2695)	2.6513 (1.2205)
CHG3AVHP _i	-0.6156 (-1.1084)	1.0196 (1.5483)	0.9092 (1.3795)	1.2462 (1.5217)	-14.4788 (-0.9371)	-2.1326 (-0.2362)	-41.7828 (-1.3950)
CHG3DPI _i	-6.1978 (-0.6951)	0.6715 (0.2302)	0.5705 (1.1518)	1.1376 (0.3035)	-10.5640 (-0.4358)	-24.7981 (-1.7503)	-25.0295 (-0.4731)
R ²	0.9165	0.9662	0.8484	0.7443	0.8881	0.6994	0.7809

House Price Distribution Module

The purpose of the house price distribution module is to divide the projected volume in each loan type and LTV category into different relative house price categories. The relative house price is defined as the ratio of purchase price to the relevant MSA or state median house price. Seven relative house price categories are used in the MMI model: 0-60%, 60-70%, 70-80%, 80-95%, 95-106%, 106-122%, and greater than 122%.

For the 15-year FRM, ARM, and Streamline refinanced loans, we take the average relative house price distribution for each loan type and LTV category in the past three years as the future house price distribution. For the 30-year, fixed rate loans, a regression model for each LTV and relative house price category is estimated to project the future relative house price percentage for the specific category. Given the seven LTV categories (excluding the unknown category) and seven relative house price categories there are a total of 49 regression models estimated.

Model Specification

The house price distribution model is as follows:

$$\begin{aligned} \text{LNHPCATPT}_{jkt} = & \alpha + \beta_1 \cdot \text{UNEMP}_t + \beta_2 \cdot \text{LNMRTTRATE} + \beta_3 \cdot \text{LNMAV3RATE}, \\ & + \beta_4 \cdot \text{CHG3AVHP}_t + \beta_5 \cdot \text{CHG3DPI}_t + \varepsilon_t \end{aligned} \quad (\text{D.5})$$

where,

LNHPCATPT_{jkt} = the natural log of the percentage of relative house price category k in LTV category j and fiscal year t .

The other variables are as defined above.

For each LTV category, a share for each relative house price category is projected. Adjustments are made so that the percentages for the seven relative house price categories across each LTV category sum to 100.

Appendix E – Cash Flow Model

Introduction

The purpose of our analysis is to estimate the MMI Fund's economic value as of fiscal year end 1999 for all cash flows (incoming and outgoing) relating to both its current mortgage portfolio, and the effect of future books of business. We approached our evaluation of the Fund as though we were estimating its market value, in which case the economic value of the Fund equals the net present value of future cash flows from its current book of business, plus the value of current assets. Our evaluation of the Fund involves projecting the future performance of the Fund's loans and financials under different economic scenarios.

In order to evaluate future performance of the Fund, we developed a model that projects the Fund's major cash flows using projections of loan and operating performance and insurance inforce (IIF) information. The model incorporates forecasts of conditional claim and prepayment rates and loss rates developed by our economic models (discussed in Appendices A, B, and C). Using predictions of termination rates from the economic model, as well as projections of mortgage originations based on the demand model (Appendix D), we project the major cash flows for each of the six loan types. We further discount these cash flows for each fiscal year to equal the change in value of the Fund's equity over that year in present day dollars. These projected cash flows are aggregated by origination year and policy year for 15-year and 30-year fixed rate mortgages (FRMs), adjustable rate mortgages (ARMs), and Streamline refinancings (SRs).

Cash Flows

Components of the cash flow model can be grouped as either income (money paid into the Fund) or as outgo (money paid out of the Fund) in the following way:

Table E-1

Income	Outgo
Premium	Refunded upfront premium
- upfront	Payments on claims
- annual	Administrative expenses
Interest income on invested assets	Distributive shares (if declared)

Premiums

The insurance premium is the primary source of revenue collected by the Fund. During the period of time being analyzed, the insurance premium was structured as follows:

Actuarial Review of MMI Fund as of FY 1999

Table E-2

	30-yr Loans, Fixed or Adjustable		15-yr Loans, Fixed or Adjustable		30-yr Loans, Streamline Refinancing		15-yr Loans, Streamline Refinancing	
	Up-front Premium	Annual Premium	Up-front Premium	Annual Premium	Up-front Premium	Annual Premium	Up-front Premium	Annual Premium
prior to 9/1/83	None	0.5% for life of loan	None	0.5% for life of loan	N/A	N/A	N/A	N/A
9/1/83-6/30/91	3.80%	None	2.40%	None	3.80%	None	2.40%	None
7/1/91-9/30/92	3.80%	varies by LTV category*	2.00%	varies by LTV category*	3.80%	0.5% for first 7 years	3.80%	0.5% for first 7 years
10/1/92-9/30/93	3.00%	varies by LTV category**	2.00%	varies by LTV category***	3.00%	0.5% for first 7 years	2.00%	None
10/1/93-4/16/94	3.00%	varies by LTV category**	2.00%	varies by LTV category***	3.00%	0.5% for first 7 years	2.00%	None
4/17/94-9/30/94	2.25%	varies by LTV category**	2.00%	varies by LTV category***	2.25%	0.5% for first 7 years	2.00%	None
10/1/94-9/30/96	2.25%	varies by LTV category**	2.00%	varies by LTV category***	2.25%	0.5% for first 7 years	2.00%	None
10/1/96-9/30/97	2.25%, except counseled first-time buyers	varies by LTV category**	2.00%	varies by LTV category***	2.25%	0.5% for first 7 years	2.00%	None
10/1/97 and subsequent	2.25%, except counseled first-time buyers	varies by LTV category**	2.00%	varies by LTV category***	2.25%	0.5% for first 7 years	2.00%	None

LTV Range:	*	**	***
LTV<90%	0.5% for 5 years	0.5% for 7 years	0%
90%<LTV<95%	0.5% for 8 years	0.5% for 12 years	0.25% for 4 years
95%<LTV	0.5% for 10 years	0.5% for 30 years	0.25% for 8 years

Upfront premium is based on the specified premium rate applied to the original mortgage amount less financed premium. The mortgage amounts used in these calculations are from the Single Family Data Warehouse and are inclusive of any financed upfront premium. However, the database does not provide information on which mortgages have financed upfront premiums. In our model, we assume that upfront premiums are always financed (based on the assumption that by financing the upfront premium, a borrower would have more cash to apply to their downpayment and lower the mortgage amount excluding premium, thus reducing annual premiums).

Annual premium is calculated by applying the appropriate annual insurance premium rate to the amortized insurance inforce (scheduled unpaid balance on surviving loans) less financed premium, each year for the specified number of years. Since the annual premium rate is not applied to the financed upfront premium, we exclude financed upfront premiums when calculating annual premiums.

Losses Associated with Claims

The estimate of cash outgo due to payments on claims is calculated based on the projected conditional claim rate (see Appendix A), the projected loss rate (see Appendix C), and the amortized insurance inforce. We estimate amortized insurance inforce based on projections of the number of surviving loans (which depend on projected claim rates and prepayment rates), average loan size, and a schedule of amortization factors. The amortization factors estimate the unpaid balance on the loans in a given cohort based on the age of the cohort and on the average (initial) interest rate on the loans in the cohort. The schedule is adjusted for adjustable rate loans to reflect changes in the One-Year T-Sec index (an average of the return on three- or six-month T-bills, adjusted to a constant maturity of one year, reported by the Federal Reserve) since the origination of the loans.

The present value calculation is complicated by the fact that the loss rate reflects the net impact of outgo (claim payment and maintenance expenses on conveyed property) and income (proceeds from sale of property). We assume that the termination, and therefore the claim payment, occurs at the midpoint of the fiscal year. The disposition occurs a specified number of months later, where the number of months is based on a variable termed the "DLAG" in Appendix C of this report. We judgmentally shift the timing of the loss by one third of the projected DLAG for the fiscal year. (DLAG varies by age of the loan cohort.)

Refunded Premiums

Beginning in FY 1984, the FHA began refunding a portion of the upfront premium when borrowers prepay their mortgages. Upfront premiums are considered to be earned over the life of the loan, so that when a mortgage is prepaid, a calculated portion of the premium is left unearned and is returned to the borrower. The refunded amount depends on the age of the mortgage when it is prepaid.

The following exhibit is the refund schedule showing the percentage of upfront premium refunded at different numbers of fiscal years after origination.

Table E-3

Years since Origination	Termination Date		
	9/1/83-12/31/93	1/1/94 and subsequent*	
	30-yr Loans	15-yr Loans	All Loans
1	99%	99%	95%
2	94%	93%	85%
3	82%	81%	70%
4	67%	66%	49%
5	54%	51%	30%
6	43%	39%	15%
7	35%	29%	4%
8	29%	21%	0%
9	24%	15%	
10	21%	11%	
11	18%	8%	
12	16%	6%	
13	15%	4%	
14	13%	3%	
15	12%	2%	
16	11%		
17	10%		
18	9%		
19	9%		
20	8%		
21	7%		
22	7%		
23	6%		
24	5%		
25	5%		
26	4%		
27	4%		
28	4%		
29	4%		
30	0%		

*Based on Mortgagee Letter 94-1 which provides a monthly schedule of refund rates. This table reflects the rate indicated for the midpoint of the 12-month interval, i.e., 6 mos., 18 mos., etc.

Administrative Expenses

The cash flow model incorporates a projection of administrative costs associated with insuring mortgages. Administrative expenses are calculated using an experience rate for FY 1998 – FY 1999 of 0.103 percent, applied to the outstanding balance of the insurance inforce over the period.

Distributive Shares

Because the MMI Fund is a mutual insurance fund, the FHA Commissioner has the authority to declare dividends or distributions. So, for example, the Commissioner could decide to use some of the money in the Fund to return a portion of the premiums to certain insureds when they terminate their loans. This was in fact done up until 1990. Since then, the payment of distributive shares has been suspended.

Economic Value and Capital Ratio

The capital ratio for FY 1999 is defined as the estimated economic value of the MMI Fund as of September 30, 1999, divided by the estimated unamortized insurance inforce of the Fund. The Fund's economic value is defined as the present value of future cash flows for all previous books of business plus capital resources of the Fund. For future fiscal years, the economic value is calculated as follows:

$$\text{Economic Value at Year-End} = \text{Economic Value at the Beginning of the Year} + \text{Interest Income} + \text{Economic Value of New Book of Business}$$

The equation uses an interest rate of five percent, compounded semiannually. This figure was provided by Dr. Thomas N. Herzog, based on his discussions with Dr. L. Richard Keyser who oversees investments for FHA. We believe this rate is reasonable and consistent with FHA's policy of investing in U.S. Government Securities.

Appendix F – Unearned Premium Reserve Calculation

Introduction

The principle underlying the establishment of an unearned premium reserve (UEPR) is that the premiums should be earned in proportion to how the losses are incurred. In other words, if we estimate that approximately 50% of the ultimate losses are incurred, then we assume that 50% of the premium is earned. If the insurance were canceled at this point, we assume that half the premium would be refunded.

We note that this UEPR calculation is not consistent with the assumptions underlying the cash flow model and the calculation of the capital ratios (see Appendix E). As described in Appendix E, the schedule of premium refunds changed in 1994 so that loans over seven years old that prepay are not due a premium refund. Therefore, the UEPR as of the end of FY 1999 for loans endorsed in FY 1984-FY 1991 is zero as all of those loans are older than seven years.

The UEPR at any given point in time is simply the total amount of premiums yet to be earned. The UEPR at year-end is equal to the premium written in the current endorsement year, minus the premiums earned on policies written in the current endorsement year, plus the unearned premiums from prior endorsement years.

Due to the Federal Credit Reform Act of 1990, there was a change in the accounting basis beginning with Fiscal Year 1992. The UEPR is only calculated for FY 1991 and prior. The UEPR calculation does not consider premiums earned in connection with endorsement years FY 1992 and subsequent.

This calculation does not reflect the impact of annual premiums. The FHA assumes that these are earned as collected and are therefore not included in the UEPR.

Calculation

For each endorsement year from 1984 through 1991, we calculated the amount of Upfront Mortgage Insurance Premium that is unearned (or conversely, the amount earned or released due to non-claim terminations) at the end of each of the thirty calendar years the mortgage is in force. The calculations are shown in Exhibit IIIB of this report.

The information used in calculating the UEPR for each endorsement year is as follows:

- The number mortgages of endorsed;
- The total value of all mortgages endorsed;
- The Upfront Mortgage Insurance Premium (MIP) collected;
- The average contract interest rates for the endorsement year;
- The historical FHA portfolio earned interest rates for fiscal years 1984 through 1998, as well as a projected 5% for FY 1999 and subsequent;

Actuarial Review of MMI Fund as of FY 1999

- Historical and projected loss rates, conditional claim rates, and conditional prepayment rates;
- Historical administrative expenses as a percentage of amortized insurance inforce; and
- Schedule of premium refund percentages.

Historical and projected claim and prepayment rates were based on the date of initial claim settlement. The level of future claim and prepayment rates was estimated for each fiscal year using the results of econometric models. The models are described in detail in Appendices A and B of this report.

The information listed above is used to calculate a stream of expenditures over the life of the endorsement year loans. This allows a calculation of the present value of the remaining costs at each point in the life of the loan. The unearned premium factor is the ratio of the present value of remaining costs to the present value of total costs. We cap the unearned premium ratio at unity (1.0) to avoid an indication of negative unearned premium. (The negative unearned premium indications are a result of the "slow-starting" conditional claim rates and the relatively high interest rates of the late 1980's and early 1990's.)

The "locked" and "dynamically locked" scenarios are defined as in past actuarial reports on the unearned premium reserves. The "locked" scenario assumes that each fiscal year premium will be earned according to the patterns based on the then available Actuarial Review. According to the previous actuary's unearned premium report, dated February 11, 1999, the following table describes the source of the earning pattern for each fiscal year:

Table F-1

FY 1984	From PWC report dated February 26, 1991
FY 1985	From PWC report dated February 26, 1991
FY 1986	From PWC report dated February 26, 1991
FY 1987	From PWC report dated February 26, 1991
FY 1988	From PWC report dated February 26, 1991
FY 1989	From PWC report dated February 26, 1991
FY 1990	From PWC workpapers dated July 24, 1991
FY 1991	From PWC report dated May 28, 1992

The "locked" earned premium is shown in Exhibit IV.

The "dynamically locked" scenario adjusts the original earning patterns according to an estimate of the aggregate effect of changes in the conditional prepayment and conditional claim rates. The adjustments are shown in Exhibit VB. The "dynamically locked" earned premiums are summarized in Exhibit VA.

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Estimates of the Economic Value and Capital Ratios of the MMIF as of Fiscal Year End 1999 through 2006

	Fiscal Year - (\$000's)							
	1999	2000	2001	2002	2003	2004	2005	2006
Economic Value at Beginning of Fiscal Year	13,648,602	16,636,877	18,918,219	21,769,044	25,322,197	29,012,225	32,615,067	36,335,970
+ Present Value of Current Fiscal Year Endorsements	2,693,125	1,891,527	2,350,170	2,947,703	2,965,587	2,746,906	2,719,013	2,702,408
+ Interest Income	722,093	838,221	986,013	1,130,439	1,292,546	1,463,964	1,645,812	1,831,666
- Administrative Expenses	<u>426,944</u>	<u>448,406</u>	<u>485,358</u>	<u>524,988</u>	<u>568,106</u>	<u>608,028</u>	<u>643,922</u>	<u>677,498</u>
Economic Value at End of Fiscal Year	16,636,877	18,918,219	21,769,044	25,322,197	29,012,225	32,615,067	36,335,970	40,192,547
Unamortized Value of Insurance In-force at Year-end	454,184,062	496,374,438	536,508,301	586,052,902	635,407,337	678,998,196	720,306,988	759,842,722
Capital Ratio	<u>3.66%</u>	<u>3.81%</u>	<u>4.06%</u>	<u>4.32%</u>	<u>4.57%</u>	<u>4.80%</u>	<u>5.04%</u>	<u>5.29%</u>
Volume of New Endorsements	84,743,284	74,786,515	73,969,932	84,387,130	85,776,490	83,250,542	83,049,422	84,340,562
Average Amortized Value of Insurance In-force	414,508,285	435,345,435	471,221,104	509,697,108	551,558,802	590,318,282	625,167,104	657,765,073
Capital Ratio Based on Average Amortized Value of Insurance In-Force	<u>4.01%</u>	<u>4.35%</u>	<u>4.62%</u>	<u>4.97%</u>	<u>5.26%</u>	<u>5.52%</u>	<u>5.81%</u>	<u>6.11%</u>

Notes:

The economic value at the beginning of fiscal year 1999 is estimated based on the 1998 fiscal year-end Total Capital Resources as reported in the March 1, 1999 PricewaterhouseCoopers Actuarial Review of the MMIF (see page number 14, Section II, Summary of Findings.) The \$13,648,498 economic value is estimated as follows:

Total Capital Resources	\$ 13,057,000	source March 1, 1999 PWC Actuarial Review of the MMIF
Additional FY 1998 Up-Front Premium	150,000	source March 1, 1999 PWC Actuarial Review of the MMIF
Present value of future cash flows for business in-force at year-end 1998	<u>441,602</u>	source D&T estimate based on Actuarial Review of the MMIF
Estimated Economic Value at Beginning of Fiscal Year 1999	<u>\$ 13,648,602</u>	

Present value of future cash flows for business in-force at year-end 1998 breaks down as follows:

	F30	F15	A30	A15	S30	S15	Total
1975-1992 Business	(648,748)	(3,627)	(404,331)	(58)	(302,297)	61,380	(1,297,681)
1993 Business	203,272	(1,183)	38,770	(10)	(69,201)	(14)	171,633
1994 Business	243,919	(1,765)	61,398	(3)	(115,579)	(68)	187,902
1995 Business	103,314	(1,990)	28,408	(2)	(8,741)	(15)	120,974
1996 Business	230,529	(3,823)	38,828	(4)	(71,621)	(64)	193,846
1997 Business	298,614	(5,726)	58,530	(4)	(23,405)	(52)	327,958
1998 Business	772,660	(8,940)	34,584	(11)	(81,425)	20,102	736,970
Total	<u>1,203,561</u>	<u>(27,053)</u>	<u>(143,813)</u>	<u>(92)</u>	<u>(672,269)</u>	<u>81,269</u>	<u>441,602</u>

CONDITIONAL PREPAYMENT RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 1

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1	0.20000	0.28000	0.38000	0.35000	0.29000	0.36000	0.17000	0.35000	0.28000	0.21000	0.23929	0.52027	0.23322	0.33670	0.51237	0.34325
2	1.88000	0.39000	3.25000	2.46000	0.82000	0.92000	0.42000	17.45000	0.92000	1.41000	10.74025	3.75910	0.95774	1.47719	1.95235	1.98377
3	6.76000	8.39000	6.18000	2.05000	0.68000	0.35000	7.11000	9.37000	2.19000	18.65000	23.10999	2.69993	1.71668	3.03828	4.10774	9.62297
4	9.97000	8.96000	3.53000	1.32000	0.36000	1.76000	4.76000	12.33000	17.65000	25.76000	10.57921	3.20870	2.84986	4.61413	14.92405	29.50545
5	8.96000	4.73000	1.82000	0.75000	1.42000	2.03000	6.03000	29.09000	26.80000	11.34000	8.59466	4.57613	3.41679	14.31590	28.66758	29.38473
6	4.48000	2.41000	0.79000	1.99000	1.64000	2.65000	19.41000	26.28000	10.82000	9.19000	10.65191	5.61548	8.48011	26.90463	27.69031	8.32299
7	2.35000	1.00000	2.69000	2.06000	2.04000	9.22000	2.16100	11.79000	8.45000	9.96000	12.89186	14.56597	19.56156	26.15137	8.24930	12.59140
8	1.15000	3.25000	2.77000	2.40000	4.82000	14.12000	9.61000	6.31000	9.79000	10.53000	22.35000	26.48213	20.91656	7.95548	12.20970	10.07356
9	3.31000	3.34000	3.16000	5.29000	7.59000	7.24000	7.25000	6.69000	11.77000	16.25000	23.46580	25.45844	6.54090	12.02294	10.09596	16.30971
10	3.37000	3.60000	5.80000	7.67000	5.49000	5.88000	7.12000	6.05000	19.35000	17.50000	23.37907	7.62740	10.24652	10.05921	15.71348	13.92021
11	3.59000	6.11000	7.66000	5.64000	5.18000	6.60000	7.37000	7.33000	19.28000	18.68000	8.70232	11.62403	8.89777	15.23572	12.92388	4.71716
12	5.90000	7.90000	5.74000	5.16000	5.53000	7.29000	11.07000	7.61000	19.56000	7.71000	10.54157	9.82166	15.08944	12.38263	5.06341	4.33415
13	7.73000	5.88000	5.24000	5.44000	5.30000	13.70000	12.89000	7.72000	7.77000	8.85000	9.02812	15.12593	13.47660	4.65331	4.60749	3.95385
14	5.76000	5.34000	5.49000	5.30000	6.80000	16.17000	13.41000	3.92000	8.93000	7.55000	10.14150	12.41555	5.32885	4.05914	4.16943	3.60248
15	5.24000	5.49000	5.25000	7.30000	13.87000	16.75000	6.41000	4.10000	7.52000	9.19000	7.57128	3.92547	4.58439	3.52847	3.77375	3.31727
16	5.42000	5.33000	7.07000	10.55000	15.28000	7.70000	7.15000	3.85000	9.68000	4.05797	1.75436	3.27398	3.93968	3.07429	3.45227	3.08781
17	5.51000	7.32000	9.57000	12.54000	7.74000	9.46000	6.69000	4.51000	0.54755	0.92222	1.36451	2.73378	3.40291	2.70927	3.19154	2.87719
18	7.48000	10.10000	10.99000	7.39000	9.64000	8.70000	8.61000	0.17767	1.35845	0.69419	1.06528	2.29789	2.97650	2.41338	2.93790	2.68228
19	9.96000	10.96000	7.34000	9.32000	9.13000	12.08000	0.50748	0.32441	1.10662	0.52564	0.83841	1.95529	2.63313	2.12765	2.70570	2.50467
20	1.03000	7.55000	8.96000	9.17000	13.20000	1.12005	0.31475	0.23534	0.90707	0.40183	0.66752	1.68142	2.28938	1.87671	2.49582	2.34339
21	9.48000	10.27000	10.07000	13.75000	2.16141	0.39855	0.21839	0.17245	0.75044	0.31059	0.53649	1.41108	1.99216	1.65803	2.30658	2.19854
22	8.61000	8.84000	12.20000	7.40741	1.99314	0.28125	0.14496	0.12787	0.62692	0.24213	0.41733	1.18502	1.73676	1.46760	2.13743	2.06210
23	9.09000	12.14000	5.02092	2.74977	1.40324	0.20270	0.10277	0.09572	0.52748	0.18137	0.32468	0.99690	1.51724	1.30248	1.98003	1.93379
24	12.89000	2.15054	3.43235	2.04251	0.99704	0.14945	0.07375	0.07210	0.42525	0.13587	0.25291	0.84027	1.32906	1.15549	1.83378	1.81320
25	4.59770	2.57486	2.63952	1.54099	0.83213	0.11162	0.05332	0.05146	0.34292	0.10190	0.19730	0.71011	1.16378	1.02479	1.69800	1.69994
26	2.66672	1.83977	2.07356	1.37455	0.72056	0.08397	0.03581	0.03671	0.27689	0.07653	0.15428	0.59984	1.01876	0.90866	1.57202	1.59359
27	1.88398	1.35623	1.93938	1.27222	0.62525	0.05801	0.02406	0.02621	0.22393	0.05761	0.12056	0.50653	0.89161	0.80552	1.45517	1.49375
28	1.38315	1.22555	1.88279	1.17924	0.56207	0.04011	0.01618	0.01873	0.18151	0.04333	0.09417	0.42761	0.78017	0.71396	1.34683	1.40005
29	1.26464	1.15501	1.82949	1.13160	0.52184	0.02778	0.01090	0.01341	0.14703	0.03258	0.07352	0.36089	0.68253	0.63270	1.24642	1.31214
30	1.20853	1.08870	1.83976	1.12031	0.48934	0.01928	0.00736	0.00960	0.11903	0.02448	0.05738	0.30451	0.59701	0.56061	1.15336	1.22967

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 2

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.36168	0.35982	0.63209	0.29951	1.71570	0.38167	0.65521	0.86205	0.33213	4.89600	4.89600	4.89600	4.89600	4.89600	4.89600	4.89600
2	5.43561	7.27771	4.03329	1.99049	8.47948	2.66711	9.48079	3.92113	4.64578	4.81038	4.69109	4.82282	4.67299	4.71061	4.60954	4.54270
3	25.97987	6.65603	3.95002	6.05442	6.96272	11.25797	13.28560	4.80212	4.41244	4.64149	4.44971	4.63270	4.52418	4.47248	4.32247	4.27925
4	29.91117	6.33010	7.23166	6.34848	16.31681	12.32808	5.79136	4.73826	4.18188	4.42381	4.26767	4.51144	4.33530	4.23734	4.11708	4.10647
5	7.86580	10.70321	7.50272	11.86661	14.41712	7.10897	5.57391	4.62858	3.98070	4.25153	4.15911	4.35496	4.15121	4.07551	3.99161	4.19340
6	12.80246	9.42415	13.05849	11.07969	4.37943	6.82026	5.34916	4.50644	3.84383	4.13214	4.26628	4.20461	4.03316	3.98608	4.09337	4.29156
7	10.31200	17.62038	13.02636	6.66913	4.35770	6.44153	5.07678	4.43214	3.77732	4.20903	4.37984	4.11667	3.98104	4.10039	4.20609	4.39807
8	17.45822	16.37227	8.22725	6.43633	4.27608	6.02915	4.86731	4.41904	3.88033	4.28914	4.49145	4.09154	4.11027	4.22539	4.32776	4.51112
9	15.07956	7.03514	7.71257	6.14934	4.16177	5.70777	4.72903	4.57393	3.99426	4.37993	4.60362	4.23186	4.25030	4.35974	4.45702	4.62968
10	6.50302	6.51073	7.14633	5.84245	4.08906	5.47941	4.75265	4.73678	4.12420	4.48472	4.72360	4.38300	4.40029	4.50242	4.59302	4.75317
11	5.75827	5.96610	6.59567	5.61792	4.06450	5.42628	4.77748	4.91516	4.25930	4.61037	4.85217	4.54444	4.55954	4.65278	4.73530	4.88128
12	5.05706	5.45153	6.16579	5.47563	4.13310	5.37557	4.81056	5.09887	4.40236	4.74348	4.98887	4.71572	4.72761	4.81047	4.88359	5.01385
13	4.43482	5.04228	5.84463	5.45409	4.20412	5.33452	4.85464	5.29071	4.55429	4.88398	5.13317	4.89654	4.90431	4.97532	5.03779	5.15080
14	3.93707	4.72444	5.64012	5.43667	4.28335	5.30542	4.91555	5.49241	4.71507	5.03158	5.28466	5.08680	5.08957	5.14728	5.19787	5.29212
15	3.53968	4.48050	5.44678	5.42984	4.37320	5.29342	4.97873	5.70443	4.88458	5.18609	5.44311	5.28652	5.28344	5.32638	5.36387	5.43782
16	3.20431	4.25203	5.27009	5.43540	4.47872	5.28231	5.04433	5.92694	5.06276	5.34738	5.60837	5.49581	5.48604	5.51270	5.53585	5.58795
17	2.90218	4.04257	5.11050	5.45510	4.58702	5.27229	5.11222	6.16013	5.24964	5.51541	5.78039	5.71487	5.69755	5.70639	5.71393	5.74258
18	2.63291	3.85169	4.97061	5.47492	4.69847	5.26327	5.18227	6.40421	5.44530	5.69019	5.95917	5.94392	5.91821	5.90761	5.89824	5.90179
19	2.39338	3.68062	4.83424	5.49514	4.81315	5.25511	5.25432	6.65948	5.64990	5.87178	6.14477	6.18326	6.14827	6.11656	6.08892	6.06568
20	2.18182	3.51676	4.70161	5.51582	4.93112	5.24767	5.32828	6.92625	5.86363	6.06028	6.33726	6.43322	6.38803	6.33345	6.28614	6.23434
21	1.98857	3.36006	4.57269	5.53691	5.05240	5.24085	5.40406	7.20488	6.08672	6.25582	6.53678	6.69414	6.63781	6.55851	6.49008	6.40789
22	1.81224	3.21029	4.44737	5.55838	5.17704	5.23457	5.48161	7.49578	6.31945	6.45853	6.74346	6.96643	6.89795	6.79201	6.70094	6.58645
23	1.65142	3.06715	4.32555	5.58019	5.30510	5.22875	5.56087	7.79937	6.56210	6.66860	6.95745	7.25049	7.16883	7.03421	6.91890	6.77013
24	1.50476	2.93037	4.20711	5.60231	5.43662	5.22334	5.64181	8.11613	6.81500	6.88620	7.17895	7.54677	7.45083	7.28540	7.14420	6.95908
25	1.37106	2.79966	4.09197	5.62473	5.57168	5.21828	5.72440	8.44654	7.07850	7.11154	7.40813	7.85575	7.74438	7.54588	7.37704	7.15343
26	1.24917	2.67477	3.98002	5.64741	5.71033	5.21353	5.80862	8.79113	7.35297	7.34483	7.64522	8.17790	8.04990	7.81597	7.61768	7.35333
27	1.13806	2.55543	3.87117	5.67035	5.85266	5.20906	5.89447	9.15045	7.63880	7.58631	7.89042	8.51376	8.36785	8.09599	7.86634	7.55891
28	1.03680	2.44140	3.76532	5.69352	5.99874	5.20484	5.98194	9.52508	7.93640	7.83623	8.14398	8.86387	8.69872	8.38630	8.12328	7.77034
29	0.94451	2.33244	3.66240	5.71691	6.14865	5.20084	6.07101	9.91563	8.24622	8.09482	8.40615	9.22881	9.04298	8.68725	8.38877	7.98776
30	0.86041	2.22834	3.56231	5.74052	6.30248	5.19703	6.16170	10.32273	8.56871	8.36238	8.67718	9.60916	9.40118	8.99921	8.66308	8.21136

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 3

Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	0.20000	0.28000	0.38000	0.35000	0.29000	0.36000	0.17000	0.35000	0.28000	0.21000	0.23929	0.52027	0.23322	0.33670	0.51237	0.34325
2	2.07511	0.66848	3.61603	2.80065	1.10738	1.27641	0.58887	17.71275	1.19724	1.61648	10.95201	4.25932	1.18862	1.80874	2.45437	2.32007
3	8.63684	8.91461	9.53747	4.78364	1.77632	1.61905	7.53714	25.19271	3.34836	19.73616	31.33572	6.83047	2.87835	4.77839	6.44502	11.68648
4	17.54698	16.89316	12.68843	6.02652	2.12473	3.31136	11.69160	33.67138	20.00884	39.31519	38.19974	9.74619	5.60473	9.09579	20.17411	37.30854
5	24.68328	20.69524	14.24802	6.71943	3.48266	5.19498	16.52979	50.16436	40.25697	45.28645	42.84772	13.67415	8.73719	21.65331	42.16218	54.85535
6	27.90960	22.53171	14.91009	8.53589	5.01427	7.56585	30.63484	59.89841	45.96788	49.25213	47.79114	18.16859	16.14024	41.43109	56.90222	58.25011
7	29.51939	23.27286	17.14037	10.36923	6.87259	15.46825	31.85000	62.83914	49.73570	52.91140	52.87833	28.93889	31.53688	55.11965	59.97037	62.83157
8	30.28636	25.65122	19.36831	12.45219	11.14651	26.27063	36.92684	64.12814	53.55403	56.23577	60.23796	45.31355	44.56721	58.10323	64.01837	65.96171
9	32.46388	28.00893	21.83342	16.91345	17.49569	30.92497	40.22071	65.35019	57.56391	60.66159	65.98226	56.62046	47.73222	62.14892	66.88459	70.41620
10	34.60151	30.45868	26.20326	23.01187	21.69506	34.34552	43.11619	66.34956	63.21943	64.51750	70.17980	59.08294	52.29709	65.06187	70.80379	73.53146
11	36.79693	34.45804	31.62472	27.13165	25.39262	37.88507	45.82291	67.46060	67.64013	67.81228	71.32930	62.47855	55.80813	68.94841	73.46526	74.42762
12	40.26754	39.30123	35.36431	30.66411	29.09332	41.47525	49.50471	68.50784	71.17423	68.88551	72.56144	64.96997	61.16294	71.57345	74.36103	75.20308
13	44.53771	42.61260	38.56888	34.17300	32.41168	47.63928	53.24308	69.47419	72.27726	69.99830	73.48455	68.37441	65.17353	72.42672	75.12522	75.87078
14	47.46698	45.43281	41.73731	37.38682	36.40864	53.83279	56.57260	69.92041	73.42631	70.84814	74.40829	70.71092	66.53425	73.12798	75.77587	76.44673
15	49.97138	48.16755	44.58938	41.55709	43.94982	59.13919	57.92937	70.36384	74.29707	71.78958	75.01633	71.35197	67.63551	73.70548	76.33230	76.95087
16	52.41908	50.66754	48.21623	47.12053	51.05548	61.14507	59.32684	70.75999	75.32256	72.16226	75.14530	71.86354	68.53283	74.18485	76.81573	77.39892
17	54.76583	53.90899	52.76424	53.01323	54.08469	63.39775	60.53242	71.20303	75.37440	72.24315	75.24354	72.27506	69.27291	74.58971	77.24236	77.79908
18	57.76907	58.04247	57.47471	56.03965	57.54661	65.26188	61.96887	71.21960	75.50208	72.30331	75.31895	72.61023	69.89496	74.93727	77.61894	78.15804
19	61.46013	62.06367	60.26902	59.56485	60.49718	67.61235	62.04567	71.24959	75.60439	72.34841	75.37750	72.88794	70.42660	75.23396	77.95296	78.48174
20	65.13282	64.52433	63.42355	62.70347	64.36036	67.80296	62.09148	71.27119	75.68709	72.38262	75.42360	73.12145	70.87512	75.48852	78.25091	78.77522
21	67.93650	67.61241	66.64589	66.97012	64.90810	67.87001	62.12261	71.28691	75.75473	72.40889	75.46032	73.31369	71.25547	75.70816	78.51814	79.04288
22	70.23766	69.99433	70.15201	68.95031	65.40227	67.91707	62.14117	71.29850	75.81070	72.42927	75.48868	73.47260	71.57980	75.89869	78.75926	79.28762
23	72.45599	72.97299	71.41790	69.63094	65.74298	67.95085	62.15940	71.30715	75.85743	72.44448	75.51063	73.60452	71.85781	76.06490	78.97735	79.51191
24	75.31290	73.43627	72.23983	70.12233	65.98150	67.97568	62.17030	71.31364	75.89487	72.45584	75.52765	73.71450	72.09739	76.21020	79.17505	79.71786
25	76.19986	73.97903	72.84993	70.48532	66.17848	67.99418	62.17816	71.31826	75.92490	72.46434	75.54088	73.80661	72.30426	76.33745	79.35459	79.90729
26	76.69065	74.35670	73.31640	70.80399	66.34756	68.00808	62.18344	71.32156	75.94905	72.47071	75.55121	73.88383	72.48316	76.44906	79.51791	80.08177
27	77.02802	74.62989	73.74350	71.09480	66.49318	68.01767	62.18698	71.32391	75.96853	72.47550	75.55926	73.94863	72.63811	76.54708	79.66667	80.24268
28	77.27097	74.87334	74.15000	71.36088	66.62324	68.02429	62.18936	71.32559	75.98427	72.47911	75.56554	74.00305	72.77246	76.63324	79.80234	80.39121
29	77.48998	75.09992	74.53748	71.61315	66.74330	68.02888	62.19096	71.32679	75.99701	72.48181	75.57044	74.04878	72.88907	76.70904	79.92619	80.52847
30	77.69658	75.31099	74.91996	71.86006	66.85528	68.03206	62.19204	71.32765	76.00730	72.48385	75.57426	74.08723	72.99037	76.77578	80.03936	80.65540

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 4

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.36168	0.35982	0.63209	0.29951	1.71570	0.38167	0.65521	0.86205	0.33213	4.89600	4.89600	4.89600	4.89600	4.89600	4.89600	4.89600
2	5.77702	7.61078	4.63966	2.28400	10.04937	3.03850	10.07325	4.74918	4.96244	9.46214	9.34860	9.47312	9.33015	9.36513	9.26895	9.20522
3	30.16252	22.95806	8.39952	8.18854	16.29225	13.92144	21.96821	9.31585	9.14297	13.64019	13.35969	13.64345	13.40793	13.39242	13.16469	13.06367
4	50.60155	27.77028	14.96846	13.96292	29.73237	24.34940	26.41627	13.58492	12.90630	17.41007	17.01275	17.49445	17.11583	17.01258	16.68986	16.58183
5	54.26340	35.28452	21.22876	23.94490	39.43847	29.53657	30.42123	17.52166	16.29989	20.83076	20.38709	21.01099	20.47841	20.30941	19.92878	19.98512
6	59.61341	41.10729	31.17437	32.02382	41.91254	34.13853	34.03351	21.15621	19.42529	23.99172	23.68498	24.24064	23.59133	23.38209	23.09592	23.29885
7	63.28394	50.80377	39.67396	36.29541	44.25499	38.16306	37.25818	24.54561	22.35482	27.05126	26.90266	27.24933	26.51866	26.39215	26.19138	26.52201
8	68.72809	58.09434	44.29351	40.12145	46.43875	41.65910	40.17089	27.74907	25.22303	30.00628	30.03016	30.09364	29.39571	29.33881	29.21360	29.65227
9	72.52347	60.68129	48.24312	43.51719	48.45634	44.74082	42.84077	30.88932	28.03027	32.85881	33.06097	32.88944	32.22130	32.22054	32.16030	32.68717
10	73.89393	62.88935	51.59467	46.51966	50.33851	47.50341	45.37385	33.96187	30.77982	35.61330	35.99458	35.63565	34.99403	35.03558	35.02935	35.62494
11	75.01777	64.76287	54.44189	49.21398	52.11552	50.06316	47.77586	36.96712	33.46794	38.27810	38.83267	38.33132	37.71243	37.78250	37.81930	38.46486
12	75.93745	66.35541	56.90579	51.67094	53.83186	52.43689	50.05603	39.89971	36.09369	40.85475	41.57756	40.97554	40.37534	40.46047	40.52956	41.20731
13	76.69369	67.73301	59.07867	53.96472	55.48907	54.64329	52.22472	42.75704	38.65838	43.34601	44.23189	43.56759	42.98193	43.06931	43.16040	43.85375
14	77.32732	68.94621	61.03714	56.10936	57.09104	56.70058	54.29410	45.53899	41.16398	45.75519	46.79848	46.10693	45.53174	45.60938	45.71274	46.40642
15	77.86829	70.03211	62.80876	58.12008	58.64254	58.62703	56.26984	48.24605	43.61250	48.08582	49.28021	48.59308	48.02446	48.08136	48.18794	48.86803
16	78.33573	71.00819	64.41895	60.01127	60.14966	60.43360	58.15766	50.87863	46.00570	50.34142	51.67984	51.02547	50.45978	50.48599	50.58751	51.24150
17	78.74178	71.89019	65.88977	61.79617	61.61390	62.13047	59.96293	53.43685	48.34498	52.52519	53.99982	53.40330	52.83721	52.82388	52.91282	53.52960
18	79.09664	72.69158	67.24087	63.48219	63.03682	63.72679	61.69050	55.92036	50.63117	54.63981	56.24213	55.72540	55.15593	55.09531	55.16497	55.73483
19	79.40870	73.42419	68.48498	65.07617	64.41980	65.23063	63.34467	58.32833	52.86444	56.68731	58.40823	57.99016	57.41470	57.30013	57.34466	57.85922
20	79.68495	74.09583	69.63325	66.58421	65.76390	66.64909	64.92918	60.65938	55.04430	58.66902	60.49903	60.19556	59.61185	59.43778	59.45213	59.90434
21	79.93030	74.71324	70.69538	68.01177	67.06991	67.98841	66.44726	62.91168	57.16959	60.58563	62.51496	62.33915	61.74534	61.50727	61.48722	61.87134
22	80.14886	75.28219	71.67976	69.36367	68.33831	69.25407	67.90168	65.08305	59.23863	62.43723	64.45603	64.41818	63.81279	63.50728	63.44945	63.76096
23	80.34407	75.80763	72.59370	70.64426	69.56934	70.45091	69.29482	67.17106	61.24930	64.22349	66.32197	66.42971	65.81163	65.43629	65.33809	65.57370
24	80.51881	76.29382	73.44364	71.85745	70.76306	71.58324	70.62876	69.17321	63.19919	65.94378	68.11235	68.37068	67.73920	67.29265	67.15231	67.30989
25	80.67551	76.74448	74.23523	73.00683	71.91937	72.65495	71.90534	71.08705	65.08570	67.59731	69.82666	70.23807	69.59286	69.07472	68.89123	68.96981
26	80.81627	77.16285	74.97348	74.09568	73.03812	73.66956	73.12626	72.91033	66.90625	69.18324	71.46445	72.02901	71.37010	70.78097	70.55410	70.55373
27	80.94288	77.55180	75.66287	75.12708	74.11912	74.63031	74.29311	74.64108	68.65827	70.70081	73.02537	73.74086	73.06866	72.41003	72.14027	72.06204
28	81.05690	77.91386	76.30740	76.10390	75.16216	75.54022	75.40738	76.27773	70.33940	72.14934	74.50924	75.37128	74.68654	73.96081	73.64931	73.49526
29	81.15969	78.25130	76.91068	77.02885	76.16709	76.40207	76.47057	77.81915	71.94747	73.52838	75.91610	76.91832	76.22210	75.43247	75.08104	74.85406
30	81.25244	78.56616	77.47598	77.90450	77.13381	77.21848	77.48410	79.26471	73.48061	74.83766	77.24622	78.38044	77.67410	76.82453	76.43554	76.13930

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 6

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1	0.06000	0.11000	0.05000	0.03000	0.03000	0.03000	0.10000	0.15000	0.02000	0.04000	0.01709	0.01305	0.01219	0.01169	0.01811	0.00723
2	0.80000	0.94000	0.52000	0.44000	0.49000	0.80000	1.59000	2.32000	0.56000	1.19000	0.83000	0.50000	0.37000	0.44000	0.38000	0.34000
3	1.17000	1.01000	0.66000	0.61000	0.94000	1.43000	3.58000	4.49000	1.71000	3.12000	3.33000	1.88000	1.09000	1.23000	1.20000	1.16000
4	0.91000	0.77000	0.47000	0.56000	0.83000	1.74000	3.31000	5.22000	2.31000	4.96000	6.07000	2.33000	1.32000	1.64000	1.70000	1.73000
5	0.62000	0.47000	0.38000	0.45000	0.92000	1.55000	3.40000	5.58000	3.34000	6.71000	5.59000	2.18000	1.36000	1.88000	1.93000	2.31000
6	0.40000	0.33000	0.28000	0.51000	0.82000	1.55000	3.21000	6.38000	4.70000	5.67000	4.32000	2.00000	1.36000	1.89000	2.44000	2.47000
7	0.29000	0.26000	0.30000	0.42000	0.62000	1.52000	3.89000	6.31000	4.08000	4.11000	3.66000	1.81000	1.29000	2.20000	2.61000	2.01000
8	0.21000	0.29000	0.24000	0.43000	0.84000	1.85000	4.39000	4.27000	2.86000	3.20000	3.31000	1.69000	1.41000	2.32000	2.16000	2.03000
9	0.27000	0.26000	0.26000	0.43000	0.97000	2.27000	3.24000	2.88000	2.44000	2.85000	3.19000	1.85000	1.39000	1.92000	2.05000	1.75000
10	0.22000	0.21000	0.26000	0.46000	1.19000	1.93000	2.57000	2.19000	2.20000	2.45000	3.05000	1.89000	1.18000	1.85000	1.72000	1.19000
11	0.22000	0.23000	0.29000	0.64000	1.07000	1.57000	2.07000	1.88000	1.92000	2.40000	2.81000	1.54000	1.17000	1.66000	1.17000	1.10526
12	0.19000	0.24000	0.39000	0.62000	0.91000	1.35000	1.73000	1.43000	1.87000	1.96000	1.98000	1.45000	1.05000	1.12000	1.18363	1.27837
13	0.21000	0.34000	0.39000	0.55000	0.82000	1.17000	1.50000	1.34000	1.59000	1.63000	1.89000	1.26000	0.72000	1.13181	1.30479	1.37629
14	0.26000	0.34000	0.38000	0.49000	0.70000	1.12000	1.34000	1.07000	1.08000	1.44000	1.69000	0.81000	0.59551	1.20281	1.34479	1.33778
15	0.27000	0.35000	0.32000	0.39000	0.60000	1.02000	1.25000	0.76000	0.99000	1.16000	0.89000	0.38993	0.60057	1.20113	1.25533	1.20555
16	0.27000	0.26000	0.29000	0.34000	0.56000	0.89000	0.65000	0.68000	0.95000	0.43154	0.30621	0.38983	0.57409	1.09048	1.08753	1.06207
17	0.22000	0.26000	0.24000	0.31000	0.50000	0.56000	0.73000	0.57000	0.17574	0.28525	0.30920	0.37084	0.50383	0.92005	0.91972	0.90124
18	0.22000	0.25000	0.19000	0.25000	0.37000	0.49000	0.68000	0.67320	0.28589	0.28357	0.29695	0.32543	0.41389	0.75654	0.74957	0.74654
19	0.19000	0.21000	0.18000	0.19000	0.31000	0.46000	0.6170	0.43708	0.26708	0.26775	0.26316	0.26765	0.33235	0.59957	0.59593	0.58928
20	0.15000	0.19000	0.15000	0.17000	0.21000	0.00039	0.30183	0.40138	0.23750	0.23292	0.21771	0.21473	0.25873	0.46288	0.45113	0.44656
21	0.15000	0.12000	0.12000	0.10000	0.00080	0.15178	0.26130	0.34878	0.19510	0.18838	0.17448	0.16682	0.19704	0.33972	0.32747	0.31598
22	0.08000	0.10000	0.07000	0.00012	0.08046	0.12674	0.21403	0.27771	0.14927	0.14665	0.13441	0.12642	0.14339	0.23850	0.22188	0.21140
23	0.09000	0.06000	0.00003	0.05518	0.06645	0.10108	0.16091	0.20315	0.10987	0.10901	0.10004	0.09124	0.10033	0.15603	0.14194	0.13454
24	0.07000	0.00002	0.04350	0.04567	0.05307	0.07494	0.11145	0.14047	0.07736	0.07761	0.07010	0.06302	0.06595	0.09606	0.08623	0.08118
25	0.00001	0.04048	0.03631	0.03687	0.04004	0.05186	0.07307	0.09110	0.05223	0.05150	0.04636	0.04073	0.04109	0.05596	0.04958	0.04628
26	0.03462	0.03350	0.02977	0.02841	0.02862	0.03434	0.04508	0.05529	0.03294	0.03185	0.02823	0.02480	0.02441	0.03072	0.02688	0.02484
27	0.02866	0.02725	0.02349	0.02094	0.01983	0.02172	0.02613	0.03044	0.01941	0.01790	0.01590	0.01431	0.01379	0.01582	0.01369	0.01249
28	0.02338	0.02137	0.01785	0.01505	0.01333	0.01310	0.01381	0.01512	0.01045	0.00915	0.00830	0.00779	0.00738	0.00761	0.00652	0.00586
29	0.01846	0.01612	0.01329	0.01060	0.00869	0.00735	0.00663	0.00658	0.00514	0.00425	0.00399	0.00398	0.00373	0.00340	0.00289	0.00256
30	0.01405	0.01189	0.00974	0.00729	0.00537	0.00383	0.00282	0.00249	0.00232	0.00178	0.00175	0.00190	0.00177	0.00140	0.00118	0.00103

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 6

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.01122	0.00761	0.00554	0.00204	0.00394	0.00388	0.00662	0.00497	0.00077	0.18136	0.18792	0.19865	0.21497	0.23032	0.23663	0.24366
2	0.35000	0.24000	0.17000	0.19000	0.29000	0.29000	0.39000	0.15000	0.29373	0.35965	0.33795	0.32529	0.33912	0.37782	0.38673	0.40545
3	1.22000	0.84000	0.62000	0.68000	1.17000	1.24000	0.93000	0.45491	0.60382	0.68781	0.59138	0.54258	0.58494	0.64871	0.67515	0.70365
4	1.96000	1.32000	0.91000	1.17000	1.95000	1.41000	0.65761	0.86147	1.08561	1.16184	0.95118	0.89264	0.95602	1.07795	1.11536	1.16401
5	2.37000	1.29000	1.22000	1.45000	1.67000	0.41716	0.44132	0.54482	0.64283	0.67177	0.56166	0.51915	0.56418	0.63223	0.65540	0.66500
6	2.02000	1.51000	1.27000	1.08000	0.46863	0.58547	0.59186	0.67553	0.77261	0.84426	0.69548	0.64672	0.69718	0.78274	0.78896	0.79718
7	2.08000	1.46000	0.92000	0.52163	0.63750	0.74894	0.71004	0.77341	0.91551	1.01118	0.83798	0.76646	0.82669	0.90211	0.90502	0.91841
8	1.83000	1.05000	0.56933	0.66824	0.79524	0.85828	0.78921	0.87349	1.03678	1.18023	0.96165	0.87312	0.91419	0.99181	0.99870	1.01773
9	1.19000	0.73586	0.70619	0.78713	0.89146	0.91190	0.86613	0.94616	1.14652	1.31335	1.06199	0.92896	0.96549	1.05000	1.06100	1.08556
10	0.88602	0.89491	0.80855	0.83452	0.92778	0.95591	0.91478	1.00324	1.21124	1.40793	1.09607	0.94472	0.98283	1.07103	1.08580	1.11517
11	1.06027	1.00806	0.83404	0.82174	0.95228	0.96583	0.94783	1.01851	1.23529	1.41104	1.08140	0.92669	0.96483	1.05313	1.07088	1.10380
12	1.17893	1.02405	0.79971	0.79749	0.94328	0.95813	0.94198	1.00024	1.18105	1.35163	1.02899	0.87711	0.91375	0.99859	1.01823	1.05300
13	1.18360	0.96636	0.75496	0.74805	0.91769	0.91240	0.90688	0.92293	1.08084	1.24805	0.94445	0.80130	0.83508	0.91332	0.93358	0.96836
14	1.10292	0.89600	0.68912	0.68972	0.85699	0.84228	0.82143	0.81627	0.95489	1.11071	0.83620	0.70667	0.73656	0.80582	0.82548	0.85851
15	1.00732	0.80249	0.61807	0.61120	0.77552	0.73245	0.71335	0.69782	0.81426	0.95244	0.71413	0.60165	0.62704	0.68587	0.70387	0.73370
16	0.88735	0.70495	0.53249	0.52551	0.66083	0.61086	0.59873	0.57645	0.66998	0.78663	0.58816	0.49448	0.51517	0.56310	0.57872	0.60434
17	0.76475	0.59347	0.44473	0.42663	0.53933	0.49253	0.48531	0.45994	0.53171	0.62541	0.46702	0.39225	0.40841	0.44584	0.45868	0.47964
18	0.62962	0.48298	0.35054	0.33234	0.42482	0.38361	0.37957	0.35425	0.40680	0.47834	0.35737	0.30024	0.31233	0.34031	0.35033	0.36663
19	0.49915	0.36972	0.26478	0.25041	0.32255	0.28833	0.28615	0.26321	0.29985	0.35167	0.26340	0.22167	0.23032	0.25031	0.25772	0.26977
20	0.37054	0.27010	0.19317	0.18234	0.23575	0.20893	0.20770	0.18852	0.21276	0.24830	0.18687	0.15778	0.16369	0.17733	0.18251	0.19096
21	0.26107	0.18969	0.13597	0.12819	0.16560	0.14578	0.14497	0.13004	0.14522	0.16819	0.12752	0.10821	0.11205	0.12092	0.12433	0.12994
22	0.17571	0.12784	0.09222	0.08690	0.11162	0.09782	0.09716	0.08631	0.09524	0.10917	0.08363	0.07146	0.07383	0.07930	0.08141	0.08492
23	0.11266	0.08251	0.06019	0.05674	0.07205	0.06303	0.06243	0.05506	0.05995	0.06781	0.05266	0.04541	0.04679	0.04997	0.05119	0.05325
24	0.06861	0.05090	0.03774	0.03564	0.04446	0.03893	0.03839	0.03371	0.03618	0.04025	0.03180	0.02773	0.02849	0.03023	0.03088	0.03200
25	0.03956	0.02994	0.02271	0.02150	0.02616	0.02302	0.02256	0.01979	0.02091	0.02279	0.01839	0.01627	0.01665	0.01754	0.01785	0.01841
26	0.02152	0.01675	0.01308	0.01244	0.01465	0.01300	0.01264	0.01112	0.01155	0.01229	0.01017	0.00915	0.00933	0.00975	0.00988	0.01013
27	0.01100	0.00889	0.00720	0.00689	0.00779	0.00700	0.00674	0.00597	0.00609	0.00630	0.00538	0.00493	0.00501	0.00518	0.00522	0.00532
28	0.00526	0.00446	0.00378	0.00364	0.00392	0.00359	0.00341	0.00306	0.00306	0.00306	0.00271	0.00254	0.00257	0.00263	0.00263	0.00266
29	0.00235	0.00211	0.00189	0.00184	0.00186	0.00175	0.00163	0.00149	0.00146	0.00141	0.00130	0.00125	0.00126	0.00127	0.00127	0.00127
30	0.00097	0.00094	0.00090	0.00088	0.00083	0.00080	0.00074	0.00069	0.00066	0.00061	0.00059	0.00059	0.00059	0.00059	0.00058	0.00057

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
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Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	0.06000	0.11000	0.05000	0.03000	0.03000	0.03000	0.10000	0.15000	0.02000	0.04000	0.01709	0.01305	0.01219	0.01169	0.01811	0.00723
2	0.85792	1.04633	0.56776	0.46833	0.51843	0.82688	1.68571	2.45840	0.57832	1.22703	0.84496	0.51038	0.38128	0.45015	0.39609	0.34604
3	1.99360	2.03901	1.20015	1.05839	1.44315	2.22680	5.18428	6.04272	2.25796	4.25831	3.78213	2.30071	1.45417	1.65237	1.56188	1.47512
4	2.80687	2.72467	1.61968	1.58567	2.24643	3.89989	8.07320	9.63223	4.43845	8.02818	7.72047	4.41795	2.71698	3.18690	3.12577	2.97742
5	3.30067	3.10247	1.94531	2.00142	3.12621	5.33811	10.80119	12.79588	6.96191	11.56144	10.74353	6.28918	3.96380	4.83599	4.60608	4.35681
6	3.58874	3.35394	2.17997	2.46694	3.89202	6.72485	13.13387	15.15902	9.44263	14.00817	12.74839	7.88991	5.15107	6.22534	5.90493	5.36427
7	3.78739	3.54663	2.42870	2.84073	4.45680	8.02763	15.32127	16.73290	11.26188	15.51817	14.19264	9.22825	6.16641	7.37690	6.87567	6.09562
8	3.92745	3.75886	2.62174	3.21393	5.20163	9.44296	17.64045	17.60517	12.37735	16.52842	15.28259	10.27323	7.04480	8.24698	7.59179	6.72640
9	4.10507	3.94239	2.82456	3.57656	6.01306	10.90226	19.11247	18.13125	13.20862	17.30464	16.06349	11.09487	7.71739	8.89306	8.17378	7.20436
10	4.24462	4.08529	3.02045	3.94231	6.92330	12.02499	20.15761	18.49301	13.85162	17.84447	16.61109	11.70505	8.24308	9.42878	8.60278	7.47068
11	4.37916	4.23584	3.22570	4.40980	7.68709	12.86697	20.91784	18.77797	14.29186	18.26778	16.98227	12.15492	8.70476	9.85223	8.84372	7.68065
12	4.49092	4.38298	3.47979	4.83424	8.29606	13.53182	21.49322	18.97476	14.62973	18.54061	17.21370	12.52273	9.07738	10.08967	9.05312	7.90937
13	4.60693	4.57445	3.71829	5.18900	8.80947	14.05824	21.92825	19.14249	14.85545	18.74557	17.40695	12.80632	9.29165	10.29721	9.26953	8.14180
14	4.73915	4.75401	3.93760	5.48613	9.22092	14.48723	22.26096	19.26429	14.99442	18.90766	17.56088	12.95876	9.44371	10.50500	9.47939	8.35567
15	4.86820	4.92836	4.11144	5.70892	9.54714	14.81036	22.52554	19.34649	15.10905	19.02649	17.63236	13.02244	9.58798	10.70159	9.66448	8.53889
16	4.99013	5.05031	4.26021	5.88822	9.80756	15.04221	22.65258	19.41646	15.20969	19.06612	17.65487	13.08335	9.71874	10.87163	9.81677	8.69300
17	5.08383	5.16544	4.37427	6.03389	10.00325	15.17556	22.78413	19.47245	15.22633	19.09114	17.67713	13.13917	9.82831	11.00912	9.93972	8.81834
18	5.17216	5.26776	4.45570	6.13628	10.13612	15.28055	22.89758	19.53522	15.25320	19.11572	17.69815	13.18664	9.91481	11.11807	10.03579	8.91825
19	5.24257	5.34481	4.52423	6.20814	10.23630	15.37006	22.92205	19.57563	15.27789	19.13869	17.71653	13.22465	9.98191	11.20168	10.10936	8.99440
20	5.29252	5.40673	4.57704	6.26633	10.29776	15.37183	22.96742	19.61246	15.29955	19.15852	17.73156	13.25447	10.03260	11.26447	10.16322	9.05033
21	5.33688	5.44281	4.61544	6.29736	10.29797	15.39736	23.00646	19.64425	15.31713	19.17445	17.74351	13.27720	10.07022	11.30947	10.20116	9.08880
22	5.35826	5.46976	4.63556	6.29739	10.31792	15.41857	23.03829	19.66944	15.33046	19.18680	17.75264	13.29415	10.09700	11.34043	10.22619	9.11389
23	5.38023	5.48448	4.63556	6.31105	10.33405	15.43542	23.06214	19.68779	15.34019	19.19594	17.75940	13.30623	10.11538	11.36034	10.24182	9.12949
24	5.39574	5.48448	4.64598	6.32203	10.34675	15.44787	23.07861	19.70044	15.34700	19.20243	17.76412	13.31448	10.12727	11.37242	10.25112	9.13871
25	5.39574	5.49302	4.65437	6.33072	10.35622	15.45646	23.08939	19.70862	15.35158	19.20672	17.76723	13.31976	10.13457	11.37937	10.25636	9.14387
26	5.40211	5.49989	4.66107	6.33731	10.36294	15.46215	23.09603	19.71358	15.35445	19.20937	17.76912	13.32295	10.13886	11.38314	10.25915	9.14659
27	5.40724	5.50538	4.66624	6.34209	10.36756	15.46574	23.09987	19.71631	15.35614	19.21086	17.77018	13.32478	10.14126	11.38507	10.26055	9.14794
28	5.41135	5.50963	4.67010	6.34549	10.37064	15.46790	23.10191	19.71767	15.35705	19.21162	17.77074	13.32577	10.14253	11.38599	10.26121	9.14856
29	5.41455	5.51279	4.67291	6.34785	10.37264	15.46911	23.10288	19.71826	15.35749	19.21198	17.77100	13.32628	10.14317	11.38640	10.26150	9.14883
30	5.41695	5.51510	4.67494	6.34946	10.37387	15.46974	23.10330	19.71848	15.35769	19.21212	17.77112	13.32652	10.14347	11.38656	10.26161	9.14893

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
FIXED RATE, 30-YEAR LOANS

Exhibit IIA
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.01122	0.00761	0.00554	0.00204	0.00394	0.00388	0.00662	0.00497	0.00077	0.18136	0.18792	0.19865	0.21497	0.23032	0.23663	0.24366
2	0.35992	0.24673	0.17445	0.19146	0.28895	0.29277	0.39404	0.15367	0.29351	0.52275	0.50869	0.50737	0.53676	0.58877	0.60351	0.62827
3	1.50505	1.02073	0.76461	0.85463	1.33799	1.49146	1.22670	0.58628	0.86560	1.14188	1.04178	0.99579	1.06399	1.17291	1.21201	1.26272
4	2.84436	2.02421	1.59121	1.91883	2.94420	2.68414	1.73177	1.36244	1.84256	2.13197	1.85597	1.75776	1.88165	2.09385	2.16702	2.25997
5	3.94769	2.92986	2.60918	3.13854	4.06850	2.98852	2.04887	1.82582	2.39058	2.67247	2.31165	2.17696	2.33865	2.60529	2.69883	2.79968
6	4.79183	3.86282	3.57644	3.92604	4.33324	3.38357	2.44855	2.37065	3.01878	3.31830	2.84926	2.67372	2.87675	3.20867	3.30927	3.41522
7	5.53220	4.66626	4.17673	4.26014	4.67593	3.85149	2.89956	2.96210	3.72881	4.05332	3.46490	3.23390	3.48464	3.87090	3.97531	4.08829
8	6.10286	5.13382	4.49641	4.65738	5.08205	4.34917	3.37184	3.59532	4.49516	4.86645	4.13452	3.84086	4.12454	4.56256	4.67274	4.79449
9	6.40238	5.40441	4.85805	5.09220	5.51422	4.84152	3.86083	4.24491	5.30095	5.72179	4.83369	4.45458	4.76639	5.25659	5.37421	5.50611
10	6.58910	5.70791	5.23725	5.52107	5.94127	5.32346	4.34839	4.89566	6.10847	6.58654	5.51440	5.04651	5.38570	5.92623	6.05245	6.19536
11	6.79603	6.02447	5.59729	5.91517	6.35761	5.77908	4.82494	5.51841	6.88808	7.40212	6.14693	5.59620	5.96094	6.54798	6.68340	6.83755
12	7.01043	6.32362	5.91686	6.27301	6.74933	6.20217	5.27143	6.09369	7.59251	8.13633	6.71308	6.08802	6.47562	7.10390	7.24849	7.41352
13	7.21226	6.58764	6.19753	6.58761	7.11107	6.57954	5.67656	6.59213	8.20117	8.77294	7.20144	6.51220	6.91946	7.58280	7.73602	7.91105
14	7.38977	6.81773	6.43682	6.85969	7.43158	6.90615	6.02237	7.00558	8.70860	9.30476	7.60756	6.86497	7.28847	7.98045	8.14136	8.32515
15	7.54371	7.01222	6.63786	7.08602	7.70672	7.17272	6.30545	7.33673	9.11677	9.73279	7.93316	7.14791	7.58430	8.29877	8.46617	8.65729
16	7.67316	7.17405	6.80055	7.26886	7.92909	7.38163	6.52952	7.59278	9.43348	10.06460	8.18482	7.36677	7.81299	8.54439	8.71702	8.91398
17	7.78016	7.30353	6.92855	7.40846	8.10125	7.54015	6.70090	7.78378	9.67041	10.31222	8.37226	7.52998	7.98341	8.72705	8.90368	9.10509
18	7.86502	7.40402	7.02383	7.51080	8.22991	7.65650	6.82743	7.92116	9.84121	10.48998	8.50673	7.64727	8.10578	8.85789	9.03745	9.24208
19	7.93010	7.47761	7.09197	7.58344	8.32259	7.73901	6.91752	8.01633	9.95973	10.61261	8.59958	7.72846	8.19039	8.94812	9.12971	9.33657
20	7.97701	7.52919	7.13915	7.63329	8.38684	7.79548	6.97928	8.07978	10.03882	10.69381	8.66124	7.78255	8.24669	9.00797	9.19089	9.39921
21	8.00922	7.56405	7.17073	7.66634	8.42965	7.83274	7.02001	8.12043	10.08953	10.74534	8.70056	7.81721	8.28271	9.04613	9.22988	9.43910
22	8.03042	7.58670	7.19115	7.68748	8.45700	7.85639	7.04579	8.14543	10.12071	10.77664	8.72464	7.83853	8.30484	9.06948	9.25372	9.46346
23	8.04373	7.60084	7.20386	7.70050	8.47372	7.87081	7.06143	8.16017	10.13908	10.79480	8.73876	7.85113	8.31788	9.08318	9.26770	9.47772
24	8.05170	7.60928	7.21149	7.70822	8.48348	7.87925	7.07050	8.16849	10.14943	10.80485	8.74669	7.85826	8.32525	9.09088	9.27554	9.48570
25	8.05622	7.61410	7.21588	7.71261	8.48891	7.88398	7.07553	8.17297	10.15501	10.81015	8.75094	7.86213	8.32924	9.09503	9.27975	9.48998
26	8.05865	7.61672	7.21831	7.71501	8.49178	7.88651	7.07819	8.17528	10.15786	10.81281	8.75312	7.86413	8.33130	9.09715	9.28190	9.49216
27	8.05987	7.61807	7.21959	7.71626	8.49322	7.88780	7.07952	8.17641	10.15926	10.81407	8.75419	7.86513	8.33232	9.09820	9.28295	9.49322
28	8.06045	7.61873	7.22024	7.71688	8.49390	7.88843	7.08016	8.17693	10.15991	10.81463	8.75468	7.86559	8.33280	9.09868	9.28344	9.49371
29	8.06070	7.61904	7.22055	7.71718	8.49421	7.88872	7.08044	8.17717	10.16019	10.81487	8.75490	7.86580	8.33301	9.09890	9.28366	9.49393
30	8.06081	7.61917	7.22069	7.71732	8.49433	7.88885	7.08057	8.17726	10.16031	10.81497	8.75499	7.86589	8.33310	9.09899	9.28375	9.49402

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 1

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1	0.53706	0.81776	0.69832	0.34130	0.55351	0.42674	0.46802	0.62959	0.21643	0.00000	0.25351	0.57100	0.42949	0.52154	0.45975	0.52485
2	2.81690	2.70907	3.82436	2.13592	1.30354	2.00000	0.62696	1.11111	1.08758	0.84746	9.21147	4.63935	1.69845	1.84503	2.24739	2.63807
3	4.80984	5.71776	3.86905	3.61446	1.71103	0.73314	3.68590	7.48792	2.32424	17.59657	21.21866	4.18442	2.86513	3.66419	4.08303	8.60312
4	7.23606	5.36649	3.92465	2.73684	3.52941	2.90520	4.42478	7.80619	10.46065	18.08511	8.99199	4.78165	4.34811	5.29329	11.37047	21.87997
5	5.89777	3.79213	3.45964	1.30435	3.71134	4.66989	6.11855	9.00452	20.67748	8.90411	7.40047	6.30960	5.14529	11.19681	20.45047	23.67556
6	3.95480	3.98230	3.08748	4.00000	4.80349	3.61446	11.83932	4.77927	9.70715	1.57480	8.91100	7.80332	9.54611	19.49871	21.92228	8.88642
7	3.14843	3.90016	5.16014	3.03738	3.71230	8.54545	12.40876	7.40741	8.47047	6.55738	11.02543	16.39129	17.27844	21.08210	9.20340	12.88035
8	2.80374	5.57377	4.36433	5.78313	8.45411	9.20245	7.62712	8.26873	10.10274	8.84956	21.98073	23.54837	19.40757	8.72266	12.00404	11.10259
9	4.37601	5.28169	5.17928	5.67010	10.72386	7.85219	9.06250	6.66667	11.54791	6.86275	21.86531	22.41424	9.23567	11.93516	10.35727	14.61530
10	5.13699	5.80524	5.90717	7.14286	8.15710	8.20513	7.66551	5.31250	20.83447	11.57895	19.00485	9.56499	12.04867	10.96514	13.50997	10.78268
11	4.17423	6.46465	6.78733	6.23145	5.98007	9.01408	6.13027	11.00000	21.39957	17.07317	8.79952	12.94956	11.06052	13.24955	10.32110	9.34459
12	9.07216	8.17308	8.00000	4.89510	7.48031	6.20690	4.76190	7.91667	20.23770	5.97015	9.90282	12.22724	15.01438	10.00346	14.61629	9.41389
13	7.74487	9.04255	9.01163	11.52416	10.63830	8.92193	7.51174	5.90909	12.44581	6.34921	11.22125	15.14621	12.69588	14.06846	14.94154	9.25798
14	10.72319	12.50000	9.96785	8.82353	12.07729	13.99177	10.76923	6.76329	15.34400	6.77966	12.93869	11.91886	23.88903	13.60208	14.91621	8.93177
15	19.20904	20.81911	18.34532	17.51152	15.55556	22.59615	12.79070	7.77202	19.12599	21.81818	10.00730	17.21049	23.61437	12.84111	14.61768	8.63570

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 2

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.62895	0.62106	0.78036	0.78567	1.15000	0.72760	0.91940	1.00107	0.41397	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033
2	4.45930	6.15074	4.86427	3.01081	6.25878	3.84414	6.51288	3.93690	3.91462	4.13223	4.04160	4.05933	3.96312	3.98735	3.92215	3.87885
3	18.06628	13.64639	5.69409	6.32854	7.82087	8.88993	9.05124	4.73578	4.18206	4.61214	4.42848	4.45751	4.36683	4.33214	4.21439	4.17740
4	23.85950	7.89197	8.52700	7.12448	3.55358	9.65446	6.11756	5.31457	4.47808	5.02717	4.84762	4.92635	4.76172	4.67787	4.55937	4.54322
5	8.95541	12.00968	9.00009	10.59415	10.83254	7.83909	6.67090	5.87998	4.80666	5.45224	5.34215	5.39169	5.16685	5.08462	4.98017	5.17026
6	12.42274	11.16781	12.37193	9.14519	6.18836	8.76398	7.25157	6.42824	5.18504	5.90978	6.08809	5.87448	5.64265	5.57651	5.67366	5.90621
7	11.40819	15.67915	11.61550	9.68829	6.80827	9.53704	7.67047	7.01745	5.65424	6.62103	6.94903	6.43980	6.21465	6.35988	6.48603	6.76305
8	14.91698	12.80638	13.62207	10.94718	7.29598	10.12365	8.09975	7.70055	6.38540	7.42432	7.91654	7.11605	7.09779	7.27538	7.43216	7.75580
9	12.70227	12.66982	15.01016	12.10091	7.63281	10.74951	8.59288	8.70193	7.23557	8.35677	9.01100	8.13411	8.12828	8.34102	8.52976	8.90294
10	14.09372	13.36235	16.12060	13.09550	7.98013	11.48046	9.37544	9.84143	8.24269	9.45204	10.27564	9.31992	9.32744	9.57767	9.80011	10.22653
11	14.06014	13.74355	16.96838	14.21083	8.38032	12.61528	10.23117	11.16827	9.42236	10.76662	11.74067	10.69862	10.71966	11.01006	11.26840	11.75243
12	13.68077	13.85497	17.92828	15.53085	9.00544	13.86926	11.19683	12.72908	10.78504	12.28174	13.43617	12.29882	12.33355	12.66720	12.96411	13.51071
13	13.05219	14.00763	19.09093	17.42472	9.67867	15.29330	12.30060	14.59933	12.36326	14.02766	15.39597	14.15385	14.20259	14.58297	14.92146	15.53612
14	12.49221	14.25825	20.87212	19.57438	10.42943	16.92817	13.59226	16.75753	14.19069	16.03807	17.65916	16.30259	16.36575	16.79672	17.18014	17.86881
15	12.03941	14.85020	22.85168	22.06444	11.27762	18.84310	15.02615	19.24934	16.30540	18.35157	20.27103	18.79025	18.86835	19.35406	19.78601	20.55507

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 3

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1	0.53706	0.81776	0.69832	0.34130	0.55351	0.42674	0.46802	0.62959	0.21643	0.00000	0.25351	0.57100	0.42949	0.52154	0.45975	0.52485
2	3.33883	3.50467	4.49598	2.45535	1.84983	2.41821	1.09204	11.64743	1.30150	0.84737	9.44163	5.18380	2.12062	2.35682	2.69661	3.14907
3	7.97253	9.00201	8.16387	5.93555	3.51970	3.12945	4.68594	18.17677	3.59185	18.22569	28.61457	9.14544	4.92210	5.92822	6.66186	11.46758
4	14.56152	13.81011	11.69068	8.47019	6.85944	5.83215	8.60617	24.30131	13.60019	32.74966	34.92623	13.45863	9.03778	10.87261	17.19163	30.67246
5	19.43499	16.97642	14.66296	9.64003	10.19918	9.96397	13.64326	37.60634	31.11677	38.48578	39.54822	18.83752	13.67629	20.69517	33.80811	46.71950
6	22.47165	20.14273	17.21938	13.15733	14.28108	12.97143	22.45817	45.73719	37.54312	39.38315	44.61272	25.02549	21.79893	35.71608	47.77292	51.25397
7	24.75256	23.08364	21.33804	15.69761	17.24974	19.71464	30.48603	49.12406	42.53349	42.99386	50.23658	36.94048	35.03715	48.64224	52.27768	57.15167
8	26.70763	27.08985	24.60457	20.35344	23.74368	26.17091	34.73607	52.51094	47.91796	47.48606	60.09912	51.16493	47.28686	52.81476	57.53378	61.52414
9	29.64023	30.62473	28.29716	24.63229	31.16532	31.04898	39.30093	54.94526	53.41662	50.63408	67.66706	61.46321	51.96509	57.96777	61.46820	66.59489
10	32.90426	34.28428	32.27381	29.70301	36.17493	35.64010	42.76393	56.74454	62.15113	55.54504	72.75866	64.85613	57.48502	62.10096	66.02148	69.76335
11	35.40667	38.08478	36.53449	33.78644	39.51467	40.23123	45.28247	60.23725	69.21921	61.91142	74.65090	68.99329	61.93005	66.52113	69.00537	72.20409
12	40.55912	42.53050	41.20421	36.76572	43.42856	43.07199	47.08893	62.45769	74.44944	63.74858	76.57660	72.38443	67.28582	69.39818	72.77376	74.42574
13	44.54963	46.97622	46.02958	43.43627	48.57842	46.87374	49.72884	63.97693	77.00427	65.57662	78.53170	76.06395	71.12735	73.03151	76.05683	76.40038
14	49.59645	52.46798	50.85495	47.95504	53.72828	52.25957	53.19372	65.61304	79.75761	67.39670	80.52584	78.51624	77.43368	76.04785	78.84143	78.12682
15	57.57746	60.44412	58.79346	56.13184	59.52817	59.70468	56.82359	67.36601	82.66025	72.84971	81.86509	81.63275	82.17722	78.50709	81.16190	79.64608

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are

CUMULATIVE PREPAYMENT RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 4

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.62895	0.62106	0.78036	0.78567	1.15000	0.72760	0.91940	1.00107	0.41397	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033
2	5.06005	6.73360	5.60649	3.77283	7.33618	4.54377	7.37240	4.89856	4.31239	7.60143	7.51412	7.53121	7.43852	7.46186	7.39906	7.35734
3	22.18460	19.44889	10.97830	9.85884	14.57324	11.302270	15.75007	9.40048	8.30702	11.85478	11.60246	11.64612	11.47381	11.46400	11.29516	11.22108
4	40.60374	25.76655	18.53969	16.26367	26.08279	21.38275	20.88628	14.19264	12.39223	16.26072	15.86652	15.97919	15.67020	15.58690	15.32171	15.23701
5	45.81373	34.57273	25.80974	25.08154	33.96405	27.49308	26.09495	19.17019	16.55525	20.76701	20.31196	20.46433	19.98445	19.83697	19.49858	19.57825
6	52.31347	41.72575	34.86805	31.86110	37.95483	33.75384	31.34233	24.26033	20.81277	25.36160	25.08730	25.07045	24.43647	24.24548	24.00436	24.26194
7	57.48417	50.59655	42.29400	38.37065	42.04372	39.92518	36.44598	29.42392	25.19447	30.17428	30.17983	29.80220	29.04331	28.97276	28.83917	29.28267
8	63.42320	56.67049	49.97379	44.98265	46.09237	45.80445	41.38000	34.65658	29.84100	35.17938	35.54898	34.67146	33.95561	34.00999	33.99195	34.62082
9	67.69219	61.89027	57.24812	51.46099	49.98533	51.37637	46.15543	40.08137	34.74919	40.36193	41.14813	39.81901	39.15611	39.33766	39.43747	40.24227
10	71.80774	66.67104	63.85809	57.59816	53.71947	56.65910	50.89102	45.65613	39.91865	45.70604	46.93339	45.21463	44.61569	44.92054	45.13454	46.09671
11	75.31670	70.91088	69.67301	63.36912	57.31108	61.77848	55.55593	51.34108	45.32797	51.19716	52.84281	50.81340	50.28675	50.70449	51.02287	52.11474
12	78.23935	74.58495	74.76261	68.76998	60.83690	66.68537	60.12766	57.08494	50.92765	56.77056	58.79706	56.54873	56.09962	56.61306	57.01991	58.20498
13	80.64014	77.77870	79.20486	73.88301	64.27952	71.33969	64.58166	62.82735	56.64855	62.34496	64.69446	62.32993	61.96019	62.54562	63.01911	64.25302
14	82.63555	80.57160	83.13178	78.62342	67.62751	75.70089	68.89497	68.45229	62.40005	67.81940	70.41290	68.04238	67.75023	68.37808	68.89133	70.12376
15	84.31752	83.06470	86.53276	82.91983	70.86910	79.73246	73.01365	73.82900	68.06936	73.07676	75.81597	73.55134	73.33134	73.96781	74.49035	75.66822

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 5

Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	0.00000	0.00000	0.00000	0.68259	0.00000	0.00000	0.00000	0.20986	0.01424	0.01073	0.00000	0.00118	0.00122	0.00660	0.00884	0.00000
2	0.32503	0.35336	0.70822	0.58252	0.55866	0.57143	1.41066	0.95238	0.14273	0.38217	0.20000	0.14000	0.10000	0.17000	0.18000	0.16000
3	0.67114	1.09489	1.33929	0.20080	1.33080	3.37243	5.44872	2.53623	0.58395	1.08594	1.10000	0.54000	0.33000	0.50000	0.56000	0.62000
4	2.01661	1.43979	0.47096	0.42105	1.37255	1.98777	2.65487	2.96097	0.99753	1.69837	2.03000	0.71000	0.41000	0.79000	0.89000	0.90000
5	1.17955	0.98315	0.16474	0.65217	1.85567	1.28824	3.44168	2.41327	1.17398	2.64201	1.60000	0.67000	0.47000	0.99000	1.15000	1.04000
6	1.69492	1.17994	0.51458	0.88889	1.09170	1.54905	1.26850	2.11132	1.30060	1.79393	1.34000	0.53000	0.41000	0.91000	1.24000	1.38000
7	0.59970	0.78003	1.06762	0.70093	0.23202	2.54545	1.45985	3.00926	1.06486	1.25454	1.01000	0.51000	0.34000	0.90000	1.34000	1.11000
8	1.09034	1.31148	0.37951	0.48193	1.44928	2.24949	1.97740	2.58398	0.55651	0.78495	0.88000	0.39000	0.34000	1.02000	1.24000	0.80000
9	0.81037	0.52817	0.39841	0.25773	0.53619	2.07852	1.25000	0.57971	0.40750	0.67647	0.73000	0.38000	0.32000	0.76000	0.92000	0.69000
10	0.51370	0.93633	0.84388	0.54945	0.90634	0.76923	1.39373	0.93750	0.38116	0.50235	0.73000	0.37000	0.23000	0.53000	0.71000	0.33000
11	1.08893	1.01010	0.22624	0.89021	0.33223	1.12676	1.53257	0.66667	0.35421	0.40258	0.77000	0.24000	0.18000	0.54000	0.50000	0.30225
12	0.20619	1.44231	0.26667	0.00000	0.00000	0.68966	2.59740	0.41667	0.33322	0.46637	0.50000	0.18000	0.16000	0.20000	0.15908	0.20701
13	0.91116	1.59574	0.58140	0.00000	1.27660	0.74349	0.93897	0.00000	0.13984	0.40783	0.32000	0.16000	0.06000	0.06630	0.09719	0.11866
14	0.99751	0.29762	0.64309	0.00000	0.48309	0.41152	1.02564	0.00000	0.08000	0.12349	0.23000	0.07000	0.01722	0.03574	0.04979	0.05098
15	1.41243	0.00000	0.00000	0.46083	0.00000	0.48077	0.00000	0.00000	0.09459	0.17844	0.10000	0.00927	0.00899	0.01603	0.01913	0.01867

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 6

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00355	0.00000	0.00379	0.00000	0.00991	0.00000	0.00000	0.00000	0.00000	0.03701	0.03699	0.03678	0.03660	0.03651	0.03645	0.03630
2	0.15000	0.09000	0.05000	0.06000	0.12000	0.08000	0.07000	0.04000	0.17019	0.14625	0.13440	0.12214	0.12161	0.12361	0.12143	0.11912
3	0.49000	0.44000	0.31000	0.19000	0.41000	0.32000	0.24000	0.40969	0.31068	0.35199	0.29147	0.26274	0.26484	0.26441	0.25698	0.25302
4	0.78000	0.51000	0.38000	0.29000	0.77000	0.33000	0.88350	0.80505	0.58311	0.66918	0.54961	0.49750	0.49083	0.48376	0.47240	0.46624
5	1.11000	0.64000	0.36000	0.34000	0.53000	0.51200	0.65295	0.57980	0.38665	0.48213	0.39869	0.35124	0.34130	0.33713	0.33074	0.38529
6	0.95000	0.50000	0.31000	0.22000	0.68252	0.65453	0.79899	0.64627	0.43861	0.59574	0.48171	0.41596	0.40409	0.40061	0.46359	0.47885
7	0.75000	0.49000	0.20000	0.41851	0.79451	0.71576	0.77709	0.63437	0.44438	0.63296	0.50444	0.43343	0.42213	0.49224	0.50484	0.52398
8	0.67000	0.33000	0.41694	0.41574	0.79283	0.62179	0.66888	0.55782	0.39476	0.58387	0.46573	0.39992	0.45711	0.47120	0.48525	0.50587
9	0.41000	0.48744	0.38194	0.36041	0.62175	0.47719	0.51860	0.43210	0.30996	0.47501	0.38132	0.38317	0.38648	0.39901	0.41243	0.43161
10	0.44171	0.41234	0.30286	0.25170	0.42961	0.32923	0.35628	0.29729	0.21812	0.34247	0.32442	0.28701	0.28957	0.29931	0.31034	0.32577
11	0.33891	0.29730	0.19109	0.15663	0.26616	0.20149	0.21825	0.18438	0.13819	0.25627	0.21534	0.19065	0.19247	0.19907	0.20691	0.21764
12	0.21916	0.16580	0.10655	0.08812	0.14572	0.11002	0.12082	0.10356	0.09197	0.14886	0.12636	0.11239	0.11356	0.11744	0.12225	0.12870
13	0.10736	0.08048	0.05325	0.04450	0.07075	0.05430	0.06061	0.06174	0.04821	0.07593	0.06553	0.05881	0.05948	0.06145	0.06400	0.06734
14	0.04521	0.03448	0.02369	0.02025	0.03082	0.02428	0.03233	0.02912	0.02252	0.03395	0.03000	0.02731	0.02765	0.02850	0.02967	0.03114
15	0.01655	0.01290	0.00940	0.00840	0.01204	0.01154	0.01359	0.01230	0.00936	0.01327	0.01211	0.01124	0.01139	0.01171	0.01216	0.01271

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 7

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1	0.00000	0.00000	0.00000	0.68259	0.00000	0.00000	0.00000	0.20986	0.01424	0.01073	0.00000	0.00118	0.00122	0.00660	0.00884	0.00000
2	0.32328	0.35047	0.70327	1.25915	0.55557	0.56899	1.40406	1.15425	0.15664	0.39287	0.19949	0.14038	0.10079	0.17570	0.18800	0.15916
3	0.96984	1.40315	1.97292	1.45250	1.85435	3.84068	6.71677	3.36580	0.73207	1.46534	1.19344	0.65163	0.42346	0.66304	0.73184	0.75865
4	2.80612	2.69313	2.39614	1.84244	3.15314	5.68990	9.06891	5.68890	1.68647	2.82928	2.61834	1.29207	0.81154	1.40097	1.55604	1.54861
5	3.78081	3.51402	2.53768	2.42736	4.82301	6.82971	11.90227	7.37843	2.68098	4.53129	3.61762	1.86324	1.23525	2.26946	2.49044	2.25351
6	5.08224	4.45219	2.96375	3.20898	5.75072	8.11862	12.84673	8.53998	3.54201	5.55352	4.37920	2.28353	1.58411	2.97048	3.28034	2.95769
7	5.51670	5.04037	3.81588	3.79520	5.93626	10.12724	13.79118	9.91590	4.16937	6.24431	4.89438	2.65425	1.84461	3.52230	3.93623	3.46594
8	6.27700	5.98301	4.09993	4.18319	7.04950	11.70544	14.89304	10.97430	4.46597	6.64277	5.28923	2.88983	2.05921	4.01023	4.47917	3.78100
9	6.82008	6.33650	4.38398	4.37768	7.42059	12.99669	15.52268	11.18598	4.66001	6.95307	5.54190	3.06442	2.22131	4.33836	4.82865	4.02039
10	7.14648	6.92675	4.95207	4.76774	7.97721	13.42711	16.15232	11.50350	4.81981	7.16613	5.73747	3.19567	2.32668	4.53813	5.06795	4.11736
11	7.79929	7.52057	5.09409	5.35108	8.16275	14.00100	16.78195	11.71518	4.93680	7.31625	5.90305	3.27235	2.39902	4.71828	5.21250	4.19631
12	7.91639	8.30511	5.24975	5.35108	8.16275	14.31664	17.76729	11.83204	5.02292	7.45976	6.00028	3.32227	2.45609	4.77580	5.25351	4.24516
13	8.38586	9.08965	5.56106	5.35108	8.78073	14.63345	18.09728	11.83204	5.05162	7.57718	6.05604	3.36114	2.47424	4.79293	5.27487	4.27047
14	8.85533	9.22041	5.87238	5.35108	8.98673	14.79186	18.42727	11.83204	5.06598	7.61034	6.09148	3.37554	2.47879	4.80085	5.28416	4.28032
15	9.44217	9.22041	5.87238	5.56626	8.98673	14.95027	18.42727	11.83204	5.08033	7.65493	6.10487	3.37722	2.48060	4.80392	5.28720	4.28361

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
FIXED RATE, 15-YEAR LOANS

Exhibit IIB
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00355	0.00000	0.00379	0.00000	0.00991	0.00000	0.00000	0.00000	0.00000	0.03701	0.03699	0.03678	0.03660	0.03651	0.03645	0.03630
2	0.15260	0.08944	0.05340	0.05953	0.12852	0.07942	0.06936	0.03960	0.16948	0.17791	0.16648	0.15445	0.15377	0.15560	0.15344	0.15107
3	0.61706	0.49942	0.34585	0.24225	0.50792	0.38462	0.29150	0.42906	0.46624	0.50252	0.43556	0.39700	0.39850	0.39987	0.39102	0.38509
4	1.21921	0.90768	0.68282	0.50295	1.16179	0.67038	1.03327	1.15498	0.99819	1.08901	0.91901	0.83459	0.83106	0.82624	0.80821	0.79722
5	1.86497	1.37697	0.97362	0.78595	1.54740	1.06947	1.54310	1.64579	1.33306	1.48749	1.25078	1.12677	1.11604	1.10804	1.08560	1.12072
6	2.36203	1.69722	1.20059	0.94904	1.98754	1.53704	2.12126	2.15754	1.69322	1.95066	1.62861	1.45292	1.43487	1.42475	1.45376	1.50046
7	2.70196	1.97445	1.32845	1.23024	2.46471	2.00021	2.63831	2.62432	2.03759	2.41074	1.99829	1.77139	1.74779	1.79063	1.83008	1.88945
8	2.96871	2.13096	1.56351	1.48134	2.90466	2.36131	3.04577	3.00337	2.32484	2.80436	2.31415	2.04504	2.06415	2.11688	2.16651	2.23763
9	3.10651	2.33178	1.74861	1.67429	3.22177	2.60866	3.33397	3.27274	2.53511	3.09894	2.55109	2.28752	2.31142	2.37174	2.42981	2.51015
10	3.23549	2.47931	1.87280	1.79225	3.42279	2.76016	3.51393	3.44114	2.67190	3.29257	2.73374	2.45368	2.48091	2.54621	2.61023	2.69665
11	3.32007	2.57103	1.93828	1.85586	3.53686	2.84192	3.61344	3.53499	2.75124	3.42327	2.84213	2.55345	2.58273	2.65079	2.71835	2.80809
12	3.36689	2.61499	1.96853	1.88650	3.59392	2.88085	3.66277	3.58172	2.79899	3.49082	2.89813	2.60586	2.63625	2.70557	2.77490	2.86611
13	3.38664	2.63334	1.98092	1.89956	3.61908	2.89737	3.68472	3.60601	2.82130	3.52099	2.92323	2.62988	2.66080	2.73057	2.80063	2.89232
14	3.39386	2.64010	1.98538	1.90446	3.62897	2.90363	3.69498	3.61578	2.83042	3.53258	2.93294	2.63945	2.67058	2.74046	2.81077	2.90256
15	3.39617	2.64226	1.98678	1.90610	3.63243	2.90610	3.69871	3.61922	2.83368	3.53638	2.93617	2.64275	2.67395	2.74385	2.81421	2.90598

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
page 1

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.61224	0.43368	0.05087	0.33627	0.40194	0.06342
2										0.00000	6.16016	2.25327	0.77628	1.80818	2.69564	1.90396
3										27.77778	5.73951	2.92208	2.21009	4.76351	6.36185	5.44394
4										33.33333	4.08654	4.08892	4.71485	6.85085	9.56626	10.80894
5										0.00000	3.67454	5.91193	6.31862	10.02770	14.76248	12.39540
6										33.33333	5.39773	6.78287	9.31152	13.98146	12.94054	8.78954
7										0.00000	7.52351	10.93816	13.66579	12.54604	7.19865	13.34009
8										0.00000	7.85714	13.27198	11.87036	6.44849	9.44610	11.08903
9										0.00000	13.94422	11.60613	6.51268	8.83101	8.69342	16.51460
10										25.00000	9.85915	6.00130	8.77012	8.42813	14.42829	12.26994
11										33.33333	5.26316	7.83217	8.78417	12.68691	11.10361	4.56694
12										0.00000	6.70391	7.85660	13.73757	10.25859	6.31548	4.65728
13										0.00000	6.02410	11.87291	11.10083	6.60312	6.11365	4.78387
14										0.00000	9.67742	8.73092	5.78764	6.44733	5.98158	4.93350
15										0.00000	8.57143	3.94174	5.82049	6.35163	5.89172	5.10997
16										0.00000	2.64479	4.04158	5.90121	6.29338	5.84336	5.32588
17										1.31605	2.65420	4.18189	6.01708	6.27554	5.84654	5.59486
18										1.16392	2.68397	4.32972	6.17411	6.30982	5.91017	5.92357
19										1.05699	2.71325	4.50017	6.38488	6.40569	6.03504	6.31910
20										0.97557	2.75160	4.69602	6.66036	6.56520	6.22260	6.79025
21										0.91614	2.79954	4.92737	7.00723	6.79077	6.47611	7.34860
22										0.87359	2.86138	5.19672	7.43292	7.08658	6.80132	8.00836
23										0.84524	2.93714	5.51450	7.94694	7.45949	7.20607	8.78678
24										0.82853	3.03105	5.88978	8.56207	7.91858	7.70050	9.70477
25										0.82298	3.14596	6.32969	9.29416	8.47535	8.29735	10.78766
26										0.82807	3.28324	6.84036	10.16264	9.14412	9.01247	12.06623
27										0.84315	3.44333	7.43283	11.19122	9.94257	9.86543	13.57789
28										0.86766	3.62886	8.12023	12.40877	10.89237	10.88026	15.36820
29										0.90181	3.84282	8.91813	13.85051	12.02008	12.08645	17.49272
30										0.94616	4.08870	9.84503	15.55942	13.35821	13.52013	20.01934

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
page 2

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.20814	0.23032	0.47937	0.32016	1.60927	0.49753	0.87498	2.58218	0.42051	5.51442	5.51442	5.51442	5.51442	5.51442	5.51442	5.51442
2	2.10728	3.18693	3.57573	2.60824	9.60568	5.65159	17.11070	13.93538	4.79355	5.00691	5.06590	4.95831	5.01881	5.04363	5.09248	5.07627
3	6.60542	7.03997	5.59987	9.92197	14.74126	32.11333	26.10807	4.72800	4.79679	5.13279	5.13824	5.10140	5.13631	5.18536	5.18095	5.13716
4	8.99446	7.32683	13.05603	11.40585	29.92772	24.88331	4.68793	4.84946	4.83675	5.25324	5.24184	5.26031	5.31536	5.31362	5.28169	5.24510
5	7.33323	13.39126	11.31972	20.75220	17.55084	5.24626	4.86434	4.95179	4.83087	5.38468	5.38352	5.46200	5.46732	5.43980	5.41328	5.40096
6	11.79727	12.16586	19.32829	15.04790	4.57581	5.42543	5.00188	4.98644	4.81068	5.54390	5.56684	5.63028	5.61060	5.58842	5.58370	5.57290
7	11.85994	19.53240	15.02136	4.18946	4.61161	5.56954	5.06592	4.99445	4.80410	5.73923	5.75952	5.78739	5.77248	5.77088	5.76643	5.75689
8	17.02697	14.47898	4.55968	4.19109	4.65852	5.64010	5.09840	5.00813	4.82146	5.94228	5.95760	5.96116	5.96535	5.96365	5.95957	5.95099
9	13.52525	5.15625	4.42320	4.22239	4.70397	5.67876	5.13167	5.04017	4.84324	6.15019	6.16146	6.16393	6.16752	6.16589	6.16214	6.15431
10	6.91191	5.13104	4.32788	4.26592	4.75476	5.71795	5.17884	5.07352	4.86727	6.36363	6.37335	6.37543	6.37869	6.37716	6.37369	6.36644
11	6.92004	5.14394	4.22755	4.32357	4.82801	5.77060	5.22485	5.10708	4.89223	6.58487	6.59379	6.59568	6.59871	6.59728	6.59403	6.58723
12	6.96777	5.14431	4.13611	4.40770	4.94182	5.82147	5.26934	5.14017	4.91820	6.81456	6.82294	6.82471	6.82758	6.82622	6.82315	6.81672
13	7.03178	5.14990	4.05980	4.53240	5.09982	5.87027	5.31208	5.17324	4.94552	7.05298	7.06095	7.06264	7.06536	7.06407	7.06114	7.05502
14	7.11815	5.16934	4.01222	4.70073	5.30475	5.91679	5.35378	5.20683	4.97445	7.30035	7.30799	7.30961	7.31222	7.31098	7.30817	7.30231
15	7.24670	5.22090	3.99146	4.91557	5.56040	5.96185	5.39518	5.24143	5.00523	7.55691	7.56427	7.56583	7.56835	7.56715	7.56445	7.55879
16	7.43739	5.30490	4.00100	5.18095	5.87263	6.00628	5.43691	5.27738	5.03803	7.82291	7.83004	7.83155	7.83399	7.83284	7.83021	7.82473
17	7.69578	5.42872	4.04233	5.50295	6.24883	6.05079	5.47944	5.31498	5.07297	8.09864	8.10558	8.10705	8.10942	8.10829	8.10574	8.10041
18	8.02691	5.59729	4.11526	5.88921	6.69799	6.09593	5.52317	5.35443	5.11018	8.38439	8.39117	8.39260	8.39492	8.39382	8.39133	8.38613
19	8.43748	5.81324	4.21873	6.34914	7.23100	6.14214	5.56837	5.39591	5.14972	8.68050	8.68714	8.68855	8.69082	8.68974	8.68730	8.68220
20	8.93718	6.07794	4.35454	6.89417	7.86105	6.18978	5.61531	5.43957	5.19167	8.98731	8.99383	8.99521	8.99744	8.99638	8.99399	8.98898
21	9.53815	6.39682	4.52504	7.53820	8.60410	6.23915	5.66418	5.48551	5.23611	9.30516	9.31159	9.31295	9.31515	9.31410	9.31174	9.30681
22	10.25522	6.77643	4.73323	8.29810	9.47949	6.29047	5.71515	5.53385	5.28307	9.63445	9.64080	9.64214	9.64431	9.64328	9.64095	9.63607
23	11.10642	7.22460	4.98283	9.19431	10.51062	6.34395	5.76836	5.58468	5.33262	9.97555	9.98183	9.98316	9.98531	9.98429	9.98198	9.97716
24	12.11361	7.75067	5.27839	10.25167	11.72585	6.39976	5.82393	5.63806	5.38481	10.32889	10.33512	10.33643	10.33856	10.33755	10.33526	10.33048
25	13.30335	8.36585	5.62540	11.50032	13.15959	6.45805	5.88198	5.69408	5.43968	10.69487	10.70106	10.70237	10.70448	10.70348	10.70121	10.69646
26	14.70787	9.08351	6.03046	12.97692	14.85362	6.51894	5.94261	5.75281	5.49728	11.07395	11.08011	11.08141	11.08352	11.08252	11.08026	11.07553
27	16.36632	9.91962	6.50146	14.72611	16.85873	6.58257	6.00590	5.81430	5.55767	11.46658	11.47272	11.47402	11.47611	11.47512	11.47287	11.46816
28	18.32629	10.89326	7.04778	16.80231	19.23683	6.64903	6.07195	5.87864	5.62089	11.87324	11.87937	11.88066	11.88276	11.88176	11.87951	11.87481
29	20.64572	12.02718	7.68058	19.27197	22.06341	6.71842	6.14083	5.94586	5.68699	12.29442	12.30054	12.30184	12.30393	12.30294	12.30069	12.29599
30	23.39525	13.34861	8.41307	22.21640	25.43074	6.79084	6.21263	6.01605	5.75603	12.73064	12.73676	12.73805	12.74015	12.73915	12.73690	12.73221

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
page 3

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.61224	0.43368	0.05087	0.33627	0.40194	0.06342
2										0.00000	6.73469	2.67684	0.82671	2.13824	3.08547	1.96617
3										27.77778	12.04089	5.50309	3.01441	6.78008	9.22079	7.29383
4										50.00000	15.51027	9.27158	7.53589	13.03380	17.72018	17.20928
5										50.00000	18.36730	14.37101	13.20847	21.37089	29.32843	27.23046
6										61.11111	22.24458	19.72485	20.84579	31.56912	37.79224	33.34051
7										61.11111	27.14205	27.50096	30.77878	39.28896	41.82299	41.69123
8										61.11111	31.63150	35.69565	38.09221	42.70309	46.68117	47.58949
9										61.11111	38.77382	41.81180	41.57106	47.01635	50.67624	55.24230
10										66.66667	43.05897	44.56334	45.90192	50.72650	56.65677	59.89306
11										72.22222	45.09949	47.91294	49.82590	55.78206	60.54545	61.39716
12										72.22222	47.54803	50.99337	55.35910	59.30596	62.49684	62.84369
13										72.22222	49.58844	55.23995	59.17492	61.32653	64.24668	64.24541
14										72.22222	52.64914	57.97635	60.93498	63.15370	65.83850	65.60868
15										72.22222	55.09770	59.09797	62.59208	64.82534	67.30017	66.93982
16										72.22222	55.78310	60.19743	64.16568	66.36635	68.65464	68.24692
17										72.36845	56.45000	61.28455	65.66818	67.79822	69.92306	69.53911
18										72.49571	57.10416	62.35904	67.11109	69.14121	71.12444	70.82419
19										72.60967	57.74573	63.42406	68.50624	70.41359	72.27409	72.10846
20										72.71353	58.37709	64.48256	69.86472	71.63020	73.38430	73.39681
21										72.80996	59.00043	65.53865	71.19558	72.80286	74.46499	74.69277
22										72.90093	59.61862	66.59562	72.50577	73.94104	75.52421	75.99834
23										72.98810	60.23413	67.65728	73.80037	75.05227	76.56840	77.31372
24										73.07274	60.84995	68.72731	75.08267	76.14238	77.60249	78.63700
25										73.15606	61.46915	69.80842	76.35411	77.21558	78.62989	79.96372
26										73.23916	62.09458	70.90190	77.61414	78.27444	79.65245	81.28647
27										73.32304	62.72859	72.00811	78.85989	79.31979	80.67031	82.59445
28										73.40860	63.37346	73.12623	80.08598	80.35062	81.68167	83.87324
29										73.49673	64.03133	74.25406	81.28426	81.36388	82.68256	85.10462
30										73.58834	64.70422	75.38773	82.44360	82.35429	83.66660	86.26699

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
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Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.20814	0.23032	0.47937	0.32016	1.60927	0.49753	0.87498	2.58218	0.42051	5.51442	5.51442	5.51442	5.51442	5.51442	5.51442	5.51442
2	2.31076	3.40984	4.03778	2.92003	11.05910	6.12089	17.83514	16.15594	5.19391	10.22469	10.27943	10.17739	10.23346	10.25605	10.30166	10.28600
3	8.75479	10.19695	9.40178	12.53540	24.11741	36.16575	39.17943	20.10151	9.72142	14.78140	14.83410	14.70468	14.78738	14.85065	14.88903	14.83441
4	16.89373	16.71601	21.12001	22.39259	46.25377	51.57668	41.96270	23.92464	14.03846	19.15974	19.19450	19.08916	19.21128	19.26669	19.27468	19.19119
5	22.86625	27.63163	29.82130	37.92104	54.95307	53.93254	44.67785	27.59534	18.09906	23.34925	23.37455	23.34037	23.45684	23.48294	23.46754	23.37671
6	31.64690	36.07463	42.64174	46.55724	56.75639	56.22266	47.31069	31.07965	21.91988	27.39065	27.42409	27.44379	27.53555	27.53827	27.51723	27.42127
7	39.30218	47.69617	50.45740	48.55702	58.47608	58.42638	49.81814	34.36441	25.52202	31.29927	31.33670	31.38121	31.45330	31.44777	31.42173	31.32238
8	48.77156	54.44998	52.44119	50.46048	60.11815	60.51266	52.18767	37.46181	28.93209	35.06818	35.10436	35.15701	35.22255	35.20861	35.17823	35.07677
9	54.85929	56.47708	54.26465	52.28402	61.68333	62.47387	54.42558	40.39128	32.16017	38.69016	38.72156	38.78222	38.84082	38.81850	38.78432	38.68174
10	57.51441	58.37476	55.95696	54.03408	63.17563	64.31660	56.54401	43.16076	35.21492	42.16083	42.18571	42.25513	42.30676	42.27614	42.23858	42.13562
11	59.96582	60.16474	57.52563	55.71776	64.60434	66.05156	58.54806	45.77786	38.10475	45.47865	45.49648	45.57543	45.62016	45.58134	45.54075	45.43794
12	62.24254	61.84837	58.98344	57.34625	65.98261	67.68403	60.44297	48.25038	40.83835	48.64420	48.65487	48.74390	48.78187	48.73497	48.69163	48.58939
13	64.36113	63.43390	60.34425	58.93409	67.32221	69.21932	62.23424	50.58644	43.42504	51.65926	51.66280	51.76225	51.79362	51.73880	51.69295	51.59157
14	66.33837	64.93168	61.62478	60.49422	68.63314	70.66281	63.92760	52.79454	45.87424	54.52633	54.52284	54.63283	54.65780	54.59526	54.54709	54.44681
15	68.19393	66.35591	62.83896	62.03778	69.92407	72.01995	65.52900	54.88313	48.19512	57.24837	57.23799	57.35846	57.37724	57.30721	57.25690	57.15790
16	69.94847	67.71855	63.99987	63.57455	71.20251	73.29626	67.04430	56.86028	50.39639	59.82854	59.81145	59.94220	59.95500	59.87774	59.82547	59.72786
17	71.61899	69.03126	65.11925	65.11310	72.47493	74.49706	68.47905	58.73352	52.48621	62.27008	62.24648	62.38719	62.39426	62.31006	62.25596	62.15986
18	73.21897	70.30462	66.20710	66.66093	73.74666	75.62738	69.83841	60.50982	54.47211	64.57621	64.54630	64.69658	64.69815	64.60732	64.55155	64.45702
19	74.75891	71.54746	67.27159	68.22434	75.02176	76.69187	71.12714	62.19554	56.36097	66.75006	66.71405	66.87345	66.86976	66.77263	66.71533	66.62242
20	76.24677	72.76667	68.31999	69.80813	76.30275	77.69483	72.34958	63.79646	58.15901	68.79469	68.75279	68.92082	68.91211	68.80902	68.75032	68.65907
21	77.68822	73.96801	69.35867	71.41535	77.59047	78.64019	73.50969	65.31779	59.87185	70.71306	70.66550	70.84164	70.82817	70.71947	70.65950	70.56993
22	79.08658	75.15610	70.39324	73.04690	78.88373	79.53153	74.61107	66.76424	61.50453	72.50814	72.45515	72.63887	72.62088	72.50692	72.44581	72.35793
23	80.44287	76.33440	71.42859	74.70106	80.17895	80.37214	75.65698	68.14005	63.06156	74.18291	74.12472	74.31550	74.29325	74.17439	74.11225	74.02606
24	81.75564	77.50515	72.46889	76.37295	81.46982	81.16502	76.65041	69.44906	64.54703	75.74046	75.67731	75.87464	75.84837	75.72496	75.66191	75.57738
25	83.02100	78.66928	73.51762	78.05383	82.74690	81.91294	77.59407	70.69477	65.96459	77.18402	77.11615	77.31953	77.28949	77.16187	77.09802	77.01513
26	84.23256	79.82626	74.57745	79.73052	83.99731	82.61843	78.49048	71.88033	67.31758	78.51701	78.44468	78.65362	78.62006	78.48857	78.42401	78.34271
27	85.38149	80.97400	75.65024	81.38483	85.20467	83.28384	79.34192	73.00867	68.60900	79.74308	79.66655	79.88057	79.84374	79.70869	79.64352	79.56377
28	86.45675	82.10861	76.73684	82.99329	86.34930	83.91134	80.15054	74.08245	69.84162	80.86612	80.78564	81.00430	80.96444	80.82615	80.76045	80.68219
29	87.44560	83.22429	77.83699	84.52735	87.40902	84.50296	80.91833	75.10415	71.01799	81.89027	81.80611	82.02898	81.98633	81.84509	81.77894	81.70211
30	88.33444	84.31319	78.94907	85.95436	88.36058	85.06059	81.64715	76.07608	72.14046	82.81994	82.73236	82.95903	82.91381	82.76992	82.70339	82.62790

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
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Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1										0.00000	0.00000	0.01495	0.00636	0.00731	0.04729	0.00000
2										0.00000	0.82000	0.59000	0.18000	0.41000	0.43000	0.17000
3										5.55556	2.43000	1.79000	0.91000	1.56000	1.51000	0.82000
4										8.33333	4.33000	2.32000	1.67000	2.07000	1.93000	1.06000
5										14.28571	3.94000	2.58000	2.32000	2.24000	2.06000	1.62000
6										0.00000	3.98000	3.15000	2.07000	1.66000	1.45000	1.16000
7										0.00000	4.70000	2.21000	1.57000	1.41000	0.95000	1.69000
8										0.00000	2.50000	1.38000	1.43000	1.30000	1.20000	1.79000
9										0.00000	1.20000	1.39000	1.04000	1.04000	1.11000	1.69000
10										0.00000	0.94000	0.72000	0.77000	1.05000	1.08000	0.84000
11										0.00000	0.53000	0.49000	1.05000	1.11000	0.67000	1.12584
12										0.00000	0.56000	0.92000	0.92000	0.66000	1.05245	1.00519
13										0.00000	0.60000	0.50000	0.43000	0.78288	0.90827	0.90918
14										0.00000	0.00000	0.48000	0.59313	0.68669	0.79442	0.79487
15										0.00000	0.71000	0.45421	0.51714	0.60946	0.67519	0.67685
16										0.00000	0.40055	0.39894	0.45611	0.52497	0.56042	0.56760
17										0.27721	0.34326	0.35417	0.39131	0.44105	0.45909	0.47415
18										0.23263	0.29751	0.30599	0.32773	0.36525	0.37541	0.39477
19										0.19726	0.25186	0.25805	0.27071	0.30160	0.30652	0.32335
20										0.16397	0.20854	0.21453	0.22305	0.24841	0.24662	0.26251
21										0.13346	0.17050	0.17783	0.18339	0.20142	0.19692	0.20987
22										0.10740	0.13922	0.14703	0.14848	0.16191	0.15507	0.16502
23										0.08640	0.11353	0.11966	0.11920	0.12828	0.12026	0.12872
24										0.06950	0.09123	0.09649	0.09436	0.09997	0.09263	0.09964
25										0.05517	0.07272	0.07672	0.07349	0.07733	0.07089	0.07658
26										0.04348	0.05721	0.05999	0.05682	0.05939	0.05392	0.05845
27										0.03384	0.04430	0.04655	0.04363	0.04530	0.04077	0.04432
28										0.02594	0.03408	0.03586	0.03328	0.03433	0.03065	0.03339
29										0.01977	0.02605	0.02744	0.02523	0.02585	0.02292	0.02501
30										0.01497	0.01979	0.02086	0.01901	0.01935	0.01704	0.01862

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
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Actual historical ratios are shown in bold.

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
1	0.01274	0.00230	0.00512	0.00070	0.01315	0.00189	0.00482	0.01286	0.00000	0.41017	0.42525	0.44200	0.45861	0.47338	0.47964	0.48790
2	0.12000	0.18000	0.17000	0.17000	0.35000	0.32000	0.41000	0.39000	0.42170	0.62584	0.69389	0.67487	0.68773	0.70554	0.71875	0.73048
3	0.64000	0.67000	0.70000	0.90000	1.76000	1.69000	1.27000	0.80244	0.63938	0.98457	1.01917	0.97869	0.99109	1.02128	1.03993	1.04724
4	1.00000	1.06000	1.30000	2.01000	3.06000	2.61000	1.29780	1.12154	0.98911	1.39557	1.41728	1.35947	1.38336	1.42493	1.43801	1.45828
5	1.28000	1.47000	2.39000	2.55000	2.94000	0.75442	0.83340	0.78538	0.67952	0.92082	0.92879	0.89957	0.91602	0.93473	0.94932	0.94795
6	1.48000	2.10000	2.23000	1.78000	0.80184	0.83665	0.96442	0.89210	0.78314	1.03318	1.04673	1.01984	1.02938	1.05582	1.05679	1.05669
7	1.98000	2.07000	1.36000	0.66424	0.86341	0.94448	1.03651	0.96723	0.86916	1.13015	1.14702	1.11260	1.12856	1.14108	1.14227	1.14286
8	2.04000	1.24000	0.68568	0.71771	0.94516	0.99477	1.06847	1.01460	0.94091	1.20490	1.21231	1.18573	1.18691	1.19825	1.20003	1.20131
9	1.13000	0.76805	0.72547	0.78668	0.97066	1.00623	1.06981	1.04264	0.99362	1.24125	1.25355	1.21514	1.21368	1.22501	1.22732	1.22923
10	0.86914	0.78113	0.77762	0.80938	0.95924	0.98976	1.05325	1.04979	1.01415	1.25237	1.24957	1.21151	1.21007	1.22109	1.22382	1.22626
11	0.84195	0.80406	0.78537	0.80068	0.92332	0.95837	1.01968	1.02531	1.01338	1.22063	1.21274	1.17943	1.17803	1.18849	1.19151	1.19436
12	0.82512	0.78487	0.76358	0.77108	0.87624	0.91371	0.96052	0.98287	0.97864	1.15892	1.15103	1.12264	1.12133	1.13100	1.13419	1.13730
13	0.77260	0.73937	0.72345	0.73174	0.82008	0.84845	0.88992	0.91414	0.92045	1.07735	1.06972	1.04614	1.04494	1.05369	1.05691	1.06012
14	0.70042	0.68029	0.67613	0.68474	0.74849	0.77532	0.80261	0.82976	0.84784	0.98178	0.97460	0.95553	0.95445	0.96219	0.96533	0.96851
15	0.62204	0.61878	0.62378	0.62471	0.67281	0.69049	0.70768	0.73960	0.76573	0.87805	0.87147	0.85644	0.85549	0.86220	0.86515	0.86820
16	0.54761	0.55683	0.56152	0.56106	0.59030	0.60137	0.61414	0.64803	0.67886	0.77148	0.76560	0.75406	0.75325	0.75894	0.76165	0.76448
17	0.47829	0.48982	0.49780	0.49181	0.50675	0.51584	0.52502	0.55868	0.59140	0.66661	0.66148	0.65286	0.65217	0.65692	0.65933	0.66188
18	0.40932	0.42490	0.43117	0.42154	0.42885	0.43615	0.44252	0.47436	0.50677	0.56698	0.56259	0.55634	0.55577	0.55965	0.56175	0.56399
19	0.34605	0.36079	0.36525	0.35606	0.35806	0.36381	0.36803	0.39701	0.42754	0.47511	0.47143	0.46704	0.46658	0.46970	0.47149	0.47341
20	0.28704	0.29993	0.30510	0.29663	0.29517	0.29960	0.30223	0.32778	0.35544	0.39256	0.38954	0.38657	0.38620	0.38866	0.39016	0.39178
21	0.23344	0.24618	0.25149	0.24393	0.24041	0.24376	0.24526	0.26717	0.29143	0.32007	0.31764	0.31572	0.31543	0.31734	0.31857	0.31990
22	0.18778	0.19965	0.20473	0.19814	0.19360	0.19607	0.19679	0.21514	0.23583	0.25771	0.25578	0.25462	0.25439	0.25585	0.25684	0.25791
23	0.14948	0.16009	0.16471	0.15908	0.15423	0.15601	0.15622	0.17127	0.18850	0.20505	0.20354	0.20290	0.20273	0.20383	0.20461	0.20546
24	0.11783	0.12700	0.13104	0.12633	0.12162	0.12287	0.12276	0.13487	0.14891	0.16132	0.16016	0.15987	0.15975	0.16056	0.16116	0.16183
25	0.09201	0.09973	0.10315	0.09929	0.09498	0.09583	0.09555	0.10512	0.11633	0.12557	0.12469	0.12463	0.12453	0.12512	0.12558	0.12610
26	0.07122	0.07756	0.08039	0.07727	0.07350	0.07406	0.07370	0.08113	0.08994	0.09676	0.09611	0.09617	0.09610	0.09652	0.09687	0.09726
27	0.05466	0.05978	0.06207	0.05957	0.05639	0.05674	0.05636	0.06204	0.06884	0.07384	0.07336	0.07349	0.07345	0.07374	0.07400	0.07429
28	0.04162	0.04567	0.04749	0.04552	0.04290	0.04310	0.04274	0.04703	0.05220	0.05584	0.05550	0.05565	0.05562	0.05582	0.05601	0.05622
29	0.03145	0.03461	0.03602	0.03449	0.03239	0.03249	0.03216	0.03535	0.03922	0.04186	0.04162	0.04178	0.04175	0.04189	0.04203	0.04218
30	0.02359	0.02602	0.02710	0.02593	0.02426	0.02430	0.02402	0.02636	0.02922	0.03112	0.03095	0.03110	0.03108	0.03117	0.03127	0.03138

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
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Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.00000	0.01495	0.00636	0.00731	0.04729	0.00000
2										0.00000	0.81498	0.60231	0.18626	0.41590	0.47536	0.16989
3										5.55556	3.06152	2.33361	1.08704	1.93606	1.93159	0.97238
4										11.11111	6.73759	4.47180	2.68854	3.82563	3.64635	1.94475
5										16.66667	9.80102	6.69722	4.77134	5.68798	5.26620	3.25446
6										16.66667	12.65992	9.18357	6.46916	6.89880	6.21457	4.06083
7										16.66667	15.71941	10.75470	7.61031	7.76641	6.74651	5.11875
8										16.66667	17.14788	11.60677	8.49135	8.45469	7.36367	6.07085
9										16.66667	17.76252	12.33926	9.04688	8.96265	7.87378	6.85399
10										16.66667	18.17108	12.66938	9.42712	9.42487	8.32144	7.17238
11										16.66667	18.37656	12.87894	9.89616	9.86719	8.55608	7.54317
12										16.66667	18.58110	13.23965	10.26672	10.09390	8.88127	7.85538
13										16.66667	18.78432	13.41849	10.41453	10.33347	9.14124	8.12178
14										16.66667	18.78432	13.56892	10.59491	10.52807	9.35265	8.34143
15										16.66667	18.98714	13.69817	10.74214	10.68847	9.52016	8.51775
16										16.66667	19.09095	13.80670	10.86376	10.81702	9.65006	8.65705
17										16.69747	19.17719	13.89877	10.96147	10.91765	9.74966	8.76656
18										16.72290	19.24970	13.97470	11.03807	10.99539	9.82597	8.85220
19										16.74417	19.30926	14.03577	11.09722	11.05530	9.88436	8.91792
20										16.76163	19.35711	14.08413	11.14271	11.10133	9.92836	8.96772
21										16.77567	19.39507	14.12225	11.17754	11.13611	9.96122	9.00474
22										16.78686	19.42515	14.15215	11.20371	11.16212	9.98537	9.03164
23										16.79577	19.44894	14.17519	11.22313	11.18123	10.00280	9.05091
24										16.80287	19.46748	14.19272	11.23726	11.19499	10.01524	9.06449
25										16.80845	19.48179	14.20582	11.24732	11.20478	10.02402	9.07391
26										16.81282	19.49269	14.21541	11.25436	11.21166	10.03013	9.08032
27										16.81618	19.50085	14.22234	11.25922	11.21642	10.03434	9.08459
28										16.81874	19.50690	14.22728	11.26251	11.21967	10.03719	9.08737
29										16.82067	19.51136	14.23075	11.26469	11.22185	10.03909	9.08913
30										16.82212	19.51462	14.23315	11.26611	11.22329	10.04033	9.09021

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
ADJUSTABLE RATE, 30-YEAR LOANS

Exhibit IIC
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.01274	0.00230	0.00512	0.00070	0.01315	0.00189	0.00482	0.01286	0.00000	0.41017	0.42525	0.44200	0.45861	0.47338	0.47964	0.48790
2	0.13248	0.18188	0.17430	0.17016	0.35747	0.32029	0.41122	0.39274	0.41993	0.99893	1.07793	1.07667	1.10527	1.13667	1.15531	1.17453
3	0.75684	0.82782	0.84481	1.04234	1.91654	1.90144	1.44949	1.06238	1.02341	1.87300	1.98135	1.94521	1.98399	2.04160	2.07609	2.10175
4	1.66173	1.77096	2.01161	2.77943	4.17990	3.51788	2.22001	1.94656	1.90625	3.03615	3.16031	3.07833	3.13534	3.22582	3.27014	3.31305
5	2.70422	2.96920	3.84876	4.68755	5.63715	3.85666	2.68519	2.52876	2.47742	3.75258	3.88146	3.77848	3.84666	3.95031	4.00544	4.04768
6	3.80577	4.42658	5.32792	5.70911	5.95316	4.20981	3.19283	3.15213	3.09942	4.50575	4.64290	4.52176	4.59498	4.71648	4.77189	4.81458
7	5.08381	5.65821	6.03553	6.02618	6.27513	4.58352	3.70586	3.78826	3.75112	5.27543	5.42211	5.27871	5.36093	5.48951	5.54533	5.58903
8	6.21834	6.23661	6.33385	6.35214	6.60828	4.95149	4.20245	4.41576	4.41660	6.03964	6.18879	6.02975	6.11088	6.24516	6.30175	6.34691
9	6.72695	6.53856	6.63293	6.69189	6.93126	5.29899	4.66899	5.02176	5.07886	6.77063	6.92471	6.74441	6.82291	6.96236	7.01998	7.06695
10	7.06082	6.82746	6.93699	7.02392	7.23232	5.61797	5.09982	5.59481	5.71535	7.45367	7.60389	7.40436	7.48041	7.62442	7.68324	7.73221
11	7.35908	7.10725	7.22841	7.33573	7.50555	5.90611	5.49094	6.12023	6.31395	8.06869	8.21281	7.99809	8.07193	8.21985	8.27993	8.33097
12	7.62869	7.36412	7.49754	7.62062	7.74993	6.16233	5.83635	6.59300	6.85789	8.60704	8.74564	8.51929	8.59120	8.74236	8.80369	8.85676
13	7.86146	7.59175	7.74004	7.87697	7.96535	6.38423	6.13644	7.00580	7.33932	9.06759	9.20133	8.96638	9.03662	9.19042	9.25292	9.30788
14	8.05602	7.78887	7.95583	8.10422	8.15032	6.57338	6.39030	7.35768	7.75676	9.45317	9.58275	9.34163	9.41047	9.56635	9.62993	9.68657
15	8.21530	7.95766	8.14558	8.30039	8.30652	6.73056	6.60035	7.65240	8.11182	9.76945	9.89556	9.65016	9.71787	9.87535	9.93985	9.99797
16	8.34448	8.10069	8.30851	8.46681	8.43503	6.85835	6.77152	7.89518	8.40843	10.02390	10.14718	9.89894	9.96572	10.12442	10.18970	10.24905
17	8.44831	8.21914	8.44636	8.60432	8.53821	6.96072	6.90899	8.09208	8.65206	10.22487	10.34590	10.09583	10.16189	10.32148	10.38739	10.44777
18	8.52989	8.31580	8.56034	8.71511	8.61964	7.04160	7.01790	8.24945	8.84900	10.38082	10.50009	10.24892	10.31441	10.47464	10.54107	10.60226
19	8.59305	8.39293	8.65250	8.80278	8.68278	7.10465	7.10308	8.37348	9.00582	10.49980	10.61773	10.36593	10.43100	10.59168	10.65851	10.72033
20	8.64084	8.45310	8.72595	8.87093	8.73088	7.15319	7.16887	8.46994	9.12892	10.58911	10.70603	10.45392	10.51866	10.67966	10.74679	10.80910
21	8.67612	8.49933	8.78368	8.92294	8.76686	7.19013	7.21910	8.54404	9.22425	10.65509	10.77128	10.51904	10.58354	10.74475	10.81210	10.87478
22	8.70172	8.53434	8.82843	8.96189	8.79327	7.21791	7.25703	8.60027	9.29713	10.70311	10.81876	10.56650	10.63083	10.79218	10.85969	10.92264
23	8.71998	8.56045	8.86265	8.99052	8.81228	7.23858	7.28535	8.64247	9.35217	10.73753	10.85281	10.60058	10.66479	10.82622	10.89385	10.95699
24	8.73275	8.57963	8.88848	9.01112	8.82566	7.25380	7.30629	8.67378	9.39325	10.76186	10.87687	10.62469	10.68882	10.85030	10.91801	10.98129
25	8.74150	8.59351	8.90771	9.02563	8.83488	7.26490	7.32162	8.69678	9.42357	10.77881	10.89363	10.64152	10.70558	10.86710	10.93486	10.99824
26	8.74736	8.60339	8.92184	9.03561	8.84107	7.27292	7.33274	8.71350	9.44570	10.79046	10.90515	10.65309	10.71712	10.87865	10.94646	11.00990
27	8.75120	8.61030	8.93208	9.04231	8.84511	7.27865	7.34073	8.72554	9.46170	10.79835	10.91297	10.66095	10.72495	10.88649	10.95432	11.01781
28	8.75364	8.61506	8.93940	9.04666	8.84766	7.28272	7.34642	8.73413	9.47314	10.80363	10.91820	10.66622	10.73019	10.89174	10.95959	11.02310
29	8.75515	8.61827	8.94456	9.04941	8.84922	7.28558	7.35044	8.74020	9.48126	10.80712	10.92165	10.66970	10.73366	10.89521	10.96307	11.02660
30	8.75605	8.62039	8.94814	9.05107	8.85012	7.28758	7.35326	8.74446	9.48696	10.80939	10.92390	10.67197	10.73592	10.89747	10.96534	11.02888

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 1

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2										0.00000	0.00000	16.66667	7.69231	0.00000	0.00000	16.66667
3										0.00000	50.00000	0.00000	8.33333	0.00000	0.00000	0.00000
4										0.00000	0.00000	40.00000	9.09091	0.00000	0.00000	0.00000
5										0.00000	0.00000	33.33333	10.00000	10.00000	0.00000	20.00000
6										0.00000	0.00000	50.00000	11.11111	0.00000	20.00000	0.00000
7										0.00000	0.00000	0.00000	12.50000	0.00000	25.00000	25.00000
8										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
9										0.00000	0.00000	0.00000	14.28571	0.00000	0.00000	0.00000
10										0.00000	0.00000	0.00000	16.66667	11.11111	0.00000	0.00000
11										0.00000	0.00000	0.00000	20.00000	12.50000	0.00000	7.00755
12										0.00000	0.00000	0.00000	50.00000	14.28571	13.07953	7.85570
13										0.00000	0.00000	0.00000	0.00000	20.34671	13.93764	8.86343
14										0.00000	0.00000	0.00000	17.09190	21.58024	15.00365	10.02888
15										0.00000	0.00000	4.36388	18.07258	23.10664	16.23794	11.37536

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 2

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00000	0.00000	0.00000	0.00000	0.00000	4.87805	0.00000	0.00000	0.00000	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033
2	0.00000	0.00000	8.88889	2.27273	17.24138	7.69231	5.00000	9.09091	3.81885	3.73207	3.76837	3.70140	3.73885	3.75419	3.78434	3.77434
3	0.00000	7.14286	7.31707	9.30233	12.50000	11.11111	10.52632	3.90473	4.32685	4.25260	4.25587	4.22984	4.25381	4.28778	4.28445	4.25409
4	0.00000	15.38462	2.63158	10.25641	19.04762	12.50000	4.33049	4.42107	4.87895	4.83780	4.82782	4.84198	4.88454	4.88271	4.85748	4.82917
5	0.00000	27.27273	5.40541	11.42857	0.00000	5.17064	4.94785	5.00091	5.44167	5.50874	5.50634	5.57540	5.57905	5.55429	5.53093	5.52076
6	0.00000	12.50000	20.00000	12.90323	4.40341	5.88121	5.62729	5.59964	6.04857	6.29526	6.31631	6.37912	6.35837	6.33610	6.33178	6.32187
7	0.00000	14.28571	7.14286	4.91388	4.48067	6.66945	6.32805	6.24659	6.73755	7.22796	7.24861	7.27949	7.26180	7.26017	7.25564	7.24593
8	16.66667	0.00000	5.69937	5.41318	4.70356	7.48894	7.08361	6.97888	7.53747	8.29979	8.31708	8.32111	8.32583	8.32391	8.31931	8.30963
9	40.00000	6.30561	5.74509	6.00218	4.93283	8.37639	7.93527	7.82555	8.43865	9.52764	9.54176	9.54485	9.54934	9.54730	9.54262	9.53281
10	9.47824	6.36681	5.83550	6.66974	5.17888	9.37754	8.91542	8.77863	9.45103	10.93473	10.94824	10.95112	10.95565	10.95353	10.94871	10.93863
11	10.04954	6.45884	5.91384	7.42470	5.44996	10.52828	10.01699	9.84949	10.58632	12.55022	12.56397	12.56688	12.57156	12.56935	12.56434	12.55387
12	10.71281	6.52322	5.99396	8.29663	5.76949	11.82140	11.25370	11.05120	11.85978	14.40569	14.42002	14.42305	14.42794	14.42562	14.42037	14.40939
13	11.37093	6.57828	6.08298	9.32945	6.14169	13.27290	12.64101	12.40028	13.28913	16.53683	16.55195	16.55514	16.56031	16.55786	16.55231	16.54071
14	12.05081	6.63337	6.20197	10.55595	6.57956	14.90088	14.19814	13.91579	14.89443	18.98454	19.00060	19.00400	19.00949	19.00689	19.00098	18.98865
15	12.77001	6.71189	6.35101	12.01410	7.09518	16.72763	15.94714	15.61930	16.69833	21.79573	21.81290	21.81654	21.82241	21.81962	21.81331	21.80013

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 3

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2										0.00000	0.00000	16.66667	7.69231	0.00000	0.00000	16.66667
3										0.00000	50.00000	16.66667	15.38462	0.00000	0.00000	16.66667
4										0.00000	50.00000	50.00000	23.07692	0.00000	0.00000	16.66667
5										0.00000	50.00000	66.66667	30.76923	10.00000	0.00000	33.33333
6										0.00000	50.00000	83.33333	38.46154	10.00000	16.66600	33.33333
7										0.00000	50.00000	83.33333	46.15385	10.00000	33.33200	50.00000
8										0.00000	50.00000	83.33333	46.15385	10.00000	33.33200	50.00000
9										0.00000	50.00000	83.33333	53.84615	10.00000	33.33200	50.00000
10										0.00000	50.00000	83.33333	61.53846	20.00000	33.33200	50.00000
11										0.00000	50.00000	83.33333	69.23077	30.00000	33.33200	53.50377
12										0.00000	50.00000	83.33333	84.61538	40.00000	37.69167	57.15456
13										0.00000	50.00000	83.33333	84.61538	52.20803	41.72936	60.94925
14										0.00000	50.00000	83.33333	87.24491	62.52013	45.46992	64.86200
15										0.00000	50.00000	84.05354	89.54984	71.17831	48.91075	68.85488

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 4

Actual historical ratios are shown in bold.

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
1	0.00000	0.00000	0.00000	0.00000	0.00000	4.87805	0.00000	0.00000	0.00000	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033	3.62033
2	0.00000	0.00000	8.88889	2.27273	17.24138	12.19512	5.00000	9.09091	3.81885	7.21630	7.25119	7.18666	7.22279	7.23761	7.26667	7.25704
3	0.00000	7.14286	15.55556	11.36364	27.58621	21.95122	15.00000	12.64067	7.97600	11.15821	11.19403	11.10821	11.16499	11.21076	11.23550	11.19827
4	0.00000	21.42857	17.77778	20.45455	41.37931	31.70732	18.68092	16.48925	12.45112	15.44395	15.46775	15.39865	15.49010	15.53216	15.53365	15.47369
5	0.00000	42.85714	22.22222	29.54545	41.37931	35.11217	22.67092	20.62693	17.17979	20.06894	20.08586	20.07854	20.16711	20.18684	20.16970	20.10586
6	0.00000	50.00000	37.77778	38.63636	43.96062	38.76571	26.96406	25.01217	22.13549	25.04530	25.07272	25.11555	25.18121	25.18348	25.16568	25.10016
7	0.00000	57.14286	42.22222	41.65170	46.45650	42.64489	31.49812	29.61111	27.30285	30.37155	30.40579	30.46922	30.51634	30.51921	30.50185	30.43661
8	16.66667	57.14286	45.51519	44.79524	48.94577	46.69026	36.23140	34.40810	32.67206	36.00885	36.04545	36.10879	36.15451	36.15832	36.14223	36.07909
9	50.00000	59.84526	48.60536	48.07822	51.42269	50.85898	41.14021	39.39266	38.20730	41.90188	41.93806	42.00129	42.04470	42.04945	42.03531	41.97580
10	54.73912	62.37218	51.52641	51.49563	53.88682	55.12177	46.20390	44.53080	43.86272	47.98104	48.01638	48.07977	48.12001	48.12552	48.11382	48.05921
11	59.27055	64.75115	54.28286	55.03724	56.34022	59.44968	51.37650	49.77772	49.58200	54.16180	54.19628	54.25995	54.29630	54.30232	54.29338	54.24472
12	63.60615	66.98513	56.88781	58.69485	58.79259	63.79187	56.59968	55.07700	55.29889	60.34107	60.37461	60.43846	60.47030	60.47663	60.47073	60.42890
13	67.71047	69.08315	59.35690	62.46280	61.25067	68.08771	61.80317	60.36127	60.93721	66.39662	66.42876	66.49249	66.51937	66.52593	66.52332	66.48909
14	71.56352	71.05546	61.71128	66.32627	63.72128	72.26874	66.90715	65.55343	66.41233	72.18996	72.21985	72.28311	72.30476	72.31159	72.31249	72.28647
15	75.15365	72.91678	63.96723	70.25821	66.20975	76.26223	71.82516	70.56896	71.63400	77.57418	77.60084	77.66331	77.67961	77.68682	77.69142	77.67400

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 5

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2										0.00000	0.00000	0.00000	0.00000	0.00000	16.67000	0.00000
3										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
4										0.00000	4.33000	0.00000	0.00000	0.00000	0.00000	0.00000
5										0.00000	3.94000	0.00000	0.00000	0.00000	0.00000	0.00000
6										0.00000	3.98000	0.00000	0.00000	0.00000	0.00000	0.00000
7										0.00000	4.70000	0.00000	0.00000	0.00000	25.00000	0.00000
8										0.00000	2.50000	0.00000	0.00000	0.00000	0.00000	0.00000
9										0.00000	1.20000	0.00000	0.00000	0.00000	0.00000	0.00000
10										0.00000	0.94000	0.00000	0.00000	0.00000	0.00000	0.00000
11										0.00000	0.53000	0.00000	0.00000	0.00000	0.00000	0.04637
12										0.00000	0.56000	0.00000	0.00000	0.00000	0.00799	0.02014
13										0.00000	0.60000	0.50000	0.00000	0.01173	0.00339	0.00776
14										0.00000	0.00000	0.48000	0.00855	0.00479	0.00129	0.00270
15										0.00000	0.71000	0.00274	0.00377	0.00171	0.00045	0.00085

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 6

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02632	0.02854	0.02869	0.02759	0.02655	0.02625	0.02611
2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10346	0.06575	0.07853	0.07580	0.07778	0.07646	0.07659	0.07374
3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.33912	0.20555	0.17640	0.19321	0.19510	0.20022	0.19938	0.19348	0.18500
4	0.00000	0.00000	0.00000	0.00000	0.00000	3.13000	0.79757	0.53289	0.38216	0.39011	0.42913	0.42941	0.44052	0.42893	0.41431	0.39893
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.49013	0.44612	0.34826	0.27266	0.33715	0.35656	0.35439	0.35371	0.34454	0.33543	0.32421
6	0.00000	0.00000	0.00000	0.00000	0.57355	0.49118	0.45622	0.38844	0.34318	0.48480	0.49586	0.48035	0.47638	0.46912	0.45909	0.45369
7	0.00000	0.00000	0.00000	0.45040	0.50986	0.45809	0.41309	0.39188	0.38322	0.60043	0.58768	0.56645	0.56395	0.56001	0.55770	0.55445
8	0.00000	0.00000	1.20597	0.39937	0.41778	0.37960	0.33850	0.35335	0.37972	0.63561	0.60855	0.59004	0.58946	0.59374	0.59434	0.59406
9	0.00000	1.08698	1.19242	0.32144	0.30991	0.28384	0.25046	0.28478	0.33469	0.58824	0.55801	0.54558	0.54757	0.55440	0.55745	0.55987
10	0.33991	0.82935	1.04928	0.23410	0.20875	0.19167	0.16734	0.20644	0.26486	0.48156	0.45545	0.44815	0.44971	0.45713	0.46143	0.46541
11	0.19583	0.56249	0.84552	0.15351	0.12828	0.11688	0.10185	0.13539	0.18879	0.35086	0.32955	0.32624	0.32723	0.33358	0.33782	0.34201
12	0.10076	0.34907	0.60876	0.09113	0.07191	0.06505	0.05662	0.08046	0.12251	0.22556	0.21138	0.21082	0.21130	0.21579	0.21913	0.22257
13	0.04750	0.19448	0.39256	0.04896	0.03720	0.03307	0.02873	0.04372	0.07122	0.12821	0.12033	0.12108	0.12123	0.12390	0.12610	0.12843
14	0.02031	0.09801	0.22679	0.02415	0.01773	0.01531	0.01342	0.02134	0.03735	0.06449	0.06084	0.06184	0.06184	0.06319	0.06442	0.06576
15	0.00796	0.04470	0.11947	0.01091	0.00774	0.00653	0.00566	0.00942	0.01767	0.02872	0.02733	0.02810	0.02806	0.02863	0.02923	0.02989

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 7

Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2										0.00000	0.00000	0.00000	0.00000	0.00000	16.67000	0.00000
3										0.00000	0.00000	0.00000	0.00000	0.00000	16.67000	0.00000
4										0.00000	2.16500	0.00000	0.00000	0.00000	16.67000	0.00000
5										0.00000	4.04970	0.00000	0.00000	0.00000	16.67000	0.00000
6										0.00000	5.87852	0.00000	0.00000	0.00000	16.67000	0.00000
7										0.00000	7.95223	0.00000	0.00000	0.00000	33.33600	0.00000
8										0.00000	9.00342	0.00000	0.00000	0.00000	33.33600	0.00000
9										0.00000	9.49538	0.00000	0.00000	0.00000	33.33600	0.00000
10										0.00000	9.87613	0.00000	0.00000	0.00000	33.33600	0.00000
11										0.00000	10.08878	0.00000	0.00000	0.00000	33.33600	0.02319
12										0.00000	10.31229	0.00000	0.00000	0.00000	33.33866	0.03255
13										0.00000	10.55041	0.08333	0.00000	0.00704	33.33965	0.03587
14										0.00000	10.55041	0.16293	0.00132	0.00933	33.33997	0.03692
15										0.00000	10.83050	0.16338	0.00180	0.00997	33.34006	0.03722

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
ADJUSTABLE RATE, 15-YEAR LOANS

Exhibit IID
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02632	0.02854	0.02869	0.02759	0.02655	0.02625	0.02611
2	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.10346	0.08967	0.10420	0.10172	0.10254	0.10022	0.10004	0.09716
3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.30829	0.30094	0.25318	0.28319	0.28260	0.28809	0.28496	0.27927	0.26856
4	0.00000	0.00000	0.00000	0.00000	0.00000	2.44293	0.67793	0.77217	0.65148	0.59877	0.66307	0.66310	0.67815	0.66459	0.64587	0.62174
5	0.00000	0.00000	0.00000	0.00000	0.00000	2.76568	1.03769	1.06031	0.88841	0.88183	0.96211	0.96057	0.97468	0.95332	0.92703	0.89377
6	0.00000	0.00000	0.00000	0.00000	0.33622	3.07081	1.38575	1.36451	1.16958	1.26506	1.35360	1.33986	1.35034	1.32327	1.28927	1.25218
7	0.00000	0.00000	0.00000	0.27638	0.62023	3.33725	1.68172	1.65303	1.46350	1.70752	1.78598	1.75645	1.76466	1.73484	1.69943	1.66052
8	0.00000	0.00000	0.69678	0.50830	0.84133	3.54230	1.90791	1.89591	1.73399	2.13923	2.19863	2.15635	2.16384	2.13708	2.10239	2.06391
9	0.00000	0.46585	1.33816	0.68412	0.99694	3.68356	2.06284	2.07730	1.95353	2.50307	2.54323	2.49316	2.50159	2.47917	2.44664	2.41022
10	0.16995	0.79501	1.86339	0.80406	1.09627	3.77069	2.15789	2.19813	2.11201	2.77079	2.79609	2.74191	2.75097	2.73274	2.70281	2.66906
11	0.25826	1.00219	2.25749	0.87729	1.15401	3.81874	2.21048	2.27026	2.21401	2.94358	2.95819	2.90235	2.91173	2.89667	2.86897	2.83757
12	0.29904	1.12173	2.52206	0.91746	1.18458	3.84263	2.23676	2.30884	2.27307	3.04033	3.04876	2.99267	3.00215	2.98903	2.96284	2.93310
13	0.31618	1.18376	2.68140	0.93724	1.19947	3.85333	2.24859	2.32747	2.30328	3.08728	3.09277	3.03694	3.04644	3.03429	3.00895	2.98015
14	0.32267	1.21290	2.76749	0.94608	1.20612	3.85763	2.25341	2.33543	2.31702	3.10696	3.11132	3.05579	3.06526	3.05353	3.02857	3.00023
15	0.32491	1.22530	2.80993	0.94965	1.20884	3.85919	2.25515	2.33846	2.32254	3.11406	3.11806	3.06272	3.07217	3.06058	3.03578	3.00761

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 1

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1														3.12967	3.88025	4.89971
2														5.36305	12.24099	12.41346
3														7.31216	10.72505	24.14941
4														7.06658	22.91715	34.39522
5														18.11382	28.79073	33.79067
6														30.09890	31.74677	9.45365
7														30.33927	11.81883	15.20673
8														9.06801	17.76480	11.98312
9														13.50575	11.71548	16.95906
10														10.30752	14.47527	13.70679
11														13.42894	12.12553	1.93250
12														1.52959	1.60485	1.48939
13														2.04168	1.17678	1.10601
14														1.51980	0.83160	0.79884
15														1.08982	0.57197	0.57954
16														0.76100	0.39527	0.42483
17														0.53419	0.27599	0.31985
18														0.37918	0.19751	0.24210
19														0.27552	0.14197	0.18475
20														0.20148	0.10279	0.14223
21														0.14868	0.07502	0.11064
22														0.11077	0.05528	0.08627
23														0.08346	0.04079	0.06744
24														0.06307	0.03016	0.05285
25														0.04781	0.02234	0.04152
26														0.03636	0.01658	0.03270
27														0.02774	0.01233	0.02583
28														0.02124	0.00918	0.02045
29														0.01631	0.00686	0.01623
30														0.01257	0.00513	0.01291

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

**CONDITIONAL PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS**

**Exhibit IIE
page 2**

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	1.17346	2.39549	2.71931	1.97478	2.17951	0.00273	3.45444	4.59911	1.39922	6.66275	6.66275	6.66275	6.66275	6.66275	6.66275	6.66275
2	25.22505	23.94537	11.27952	4.46649	15.05123	0.00419	30.76312	15.69911	5.93180	6.55936	6.35768	6.51087	6.27555	6.31616	6.14944	6.02975
3	40.52212	27.84751	5.87740	7.45224	10.95427	0.00611	25.68380	6.40188	5.22197	6.25146	5.94873	6.15616	5.96953	5.88016	5.63343	5.54424
4	36.69542	8.41699	9.15261	7.44005	20.97701	0.00775	7.13892	6.10037	4.70538	5.78612	5.58228	5.88240	5.59126	5.42897	5.21992	5.17887
5	10.42499	13.65702	8.33344	11.74773	16.90528	9.58907	6.68050	5.72738	4.31189	5.34376	5.30370	5.54046	5.20177	5.06736	4.91057	5.18305
6	17.81276	10.90824	15.22132	11.62912	3.76668	9.08625	6.24582	5.33865	4.02094	4.94838	5.31607	5.18669	4.89086	4.79730	4.92475	5.21193
7	12.41026	19.63105	15.63524	7.64914	3.62030	8.34612	5.73907	5.00546	3.83290	4.82941	5.34385	4.90483	4.66052	4.81978	4.96009	5.25662
8	18.86567	17.63260	6.23060	7.41259	3.38046	7.46322	5.32111	4.75560	3.85789	4.72608	5.35927	4.69748	4.69295	4.86055	5.01022	5.31161
9	16.86747	6.02799	5.84906	6.95068	3.06816	6.73320	4.99534	4.73929	3.87971	4.65466	5.36913	4.73610	4.74129	4.91498	5.07073	5.37369
10	4.17236	5.36207	5.24324	6.32607	2.79957	6.16377	4.90720	4.73302	3.89876	4.61936	5.39124	4.78901	4.80220	4.97960	5.13889	5.44100
11	3.31959	4.57801	4.53136	5.78786	2.58272	5.91505	4.81736	4.74924	3.91654	4.63025	5.42650	4.85369	4.87293	5.05207	5.21296	5.51239
12	2.53683	3.79474	3.91295	5.36082	2.46806	5.68639	4.73228	4.79141	3.94133	4.64943	5.47285	4.92788	4.95155	5.13086	5.29185	5.58713
13	1.88054	3.16151	3.41252	5.16499	2.36779	5.48767	4.65316	4.83273	3.97366	4.67593	5.52819	5.00996	5.03675	5.21493	5.37482	5.66474
14	1.39955	2.66642	3.08445	5.01252	2.28617	5.31886	4.58748	4.87553	4.01261	4.70846	5.59094	5.09876	5.12762	5.30359	5.46136	5.74489
15	1.05379	2.32860	2.83574	4.91099	2.22234	5.18611	4.51490	4.92035	4.05718	4.74600	5.65991	5.19346	5.22352	5.39634	5.55113	5.82734
16	0.82016	2.05338	2.65703	4.85919	2.17592	5.05365	4.43816	4.96715	4.10656	4.78773	5.73424	5.29347	5.32400	5.49284	5.64388	5.91195
17	0.64466	1.83247	2.53687	4.86169	2.13079	4.92280	4.35906	5.01579	4.83305	4.16013	5.81328	5.39838	5.42875	5.59283	5.73943	5.99858
18	0.51307	1.65528	2.46997	4.88175	2.08751	4.79418	4.27889	5.06616	4.21742	4.88150	5.89656	5.50788	5.53752	5.69614	5.83765	6.08715
19	0.41366	1.51508	2.43101	4.92009	2.04634	4.66811	4.19861	5.11814	4.27808	4.93271	5.98371	5.62175	5.65016	5.80263	5.93845	6.17759
20	0.33834	1.39353	2.41792	4.97714	2.00737	4.54480	4.11890	5.17168	4.34184	4.98643	6.07444	5.73983	5.76654	5.91221	6.04177	6.26988
21	0.27843	1.28813	2.42930	5.05339	1.97068	4.42438	4.04029	5.22669	4.40847	5.04241	6.16853	5.86201	5.88659	6.02482	6.14756	6.36396
22	0.23053	1.19664	2.46445	5.14952	1.93629	4.30694	3.96315	5.28316	4.47781	5.10050	6.26583	5.98821	6.01024	6.14041	6.25578	6.45983
23	0.19202	1.11715	2.52337	5.26641	1.90418	4.19251	3.88774	5.34103	4.54973	5.16054	6.36620	6.11839	6.13749	6.25896	6.36644	6.55747
24	0.16088	1.04805	2.60671	5.40516	1.87434	4.08110	3.81427	5.40029	4.62414	5.22244	6.46954	6.25252	6.26830	6.38046	6.47951	6.65687
25	0.13558	0.98797	2.71575	5.56712	1.84674	3.97270	3.74285	5.46092	4.70096	5.28608	6.57577	6.39060	6.40269	6.50491	6.59500	6.75804
26	0.11490	0.93578	2.85240	5.75388	1.82134	3.86730	3.67359	5.52291	4.78012	5.35141	6.68483	6.53264	6.54068	6.63232	6.71292	6.86098
27	0.09792	0.89051	3.01926	5.96736	1.79809	3.76484	3.60651	5.58626	4.86159	5.41836	6.79669	6.67867	6.68228	6.76270	6.83329	6.96570
28	0.08389	0.85135	3.21968	6.20976	1.77696	3.66528	3.54164	5.65096	4.94532	5.48688	6.91131	6.82871	6.82753	6.89609	6.95612	7.07220
29	0.07226	0.81763	3.45783	6.48368	1.75789	3.56856	3.47897	5.71702	5.03131	5.55693	7.02867	6.98281	6.97648	7.03250	7.08143	7.18050
30	0.06257	0.78876	3.73884	6.79207	1.74086	3.47463	3.41849	5.78444	5.11953	5.62848	7.14877	7.14102	7.12917	7.17198	7.20925	7.29061

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 3

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1														3.12967	3.88025	4.89971
2														8.32087	15.63807	16.70495
3														14.91154	24.56955	36.70078
4														20.63743	40.99478	57.86686
5														33.82980	56.36634	71.06792
6														51.05900	67.85818	73.42642
7														62.71578	70.65158	76.74963
8														65.02365	74.21426	78.92432
9														68.03685	76.08765	81.58922
10														69.97097	78.09482	83.35044
11														72.17235	79.51648	83.56322
12														73.77529	79.68049	83.72202
13														74.02358	79.79779	83.83706
14														74.20366	79.87919	83.91866
15														74.33036	79.93447	83.97714
16														74.41767	79.97236	84.01964
17														74.47842	79.99868	84.05146
18														74.52127	80.01744	84.07545
19														74.55229	80.03090	84.09370
20														74.57490	80.04063	84.10773
21														74.59155	80.04772	84.11862
22														74.60394	80.05294	84.12710
23														74.61326	80.05679	84.13373
24														74.62030	80.05963	84.13892
25														74.62563	80.06174	84.14299
26														74.62968	80.06331	84.14620
27														74.63277	80.06447	84.14873
28														74.63514	80.06533	84.15074
29														74.63696	80.06598	84.15233
30														74.63836	80.06646	84.15359

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 4

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	1.17346	2.39549	2.71931	1.97478	2.17951	0.00273	3.45444	4.59911	1.39922	6.66275	6.66275	6.66275	6.66275	6.66275	6.66275	6.66275
2	26.10012	25.76664	13.69153	6.35273	16.89940	0.00691	33.14937	19.57574	7.24799	12.77570	12.58774	12.73042	12.51105	12.54887	12.39347	12.28188
3	55.91795	46.37555	18.75363	13.30908	25.95186	0.01300	50.18316	24.71872	12.07908	18.19947	17.75933	18.07496	17.70612	17.66351	17.30220	17.11931
4	71.61634	50.82889	26.12443	19.68301	41.14534	0.02061	53.64635	29.27132	16.18479	22.86788	22.28903	22.83300	22.24743	22.07433	21.56246	21.35648
5	74.33213	57.38218	32.15889	28.88585	50.58733	9.29882	56.57550	33.22878	19.73534	26.87131	26.29644	26.99494	26.18172	25.91477	25.31064	25.32547
6	78.40104	61.85085	42.11921	36.81807	52.30874	17.16159	59.09735	36.67895	22.88696	30.35345	30.07195	30.64911	29.66326	29.34176	28.86032	29.08412
7	80.69095	68.93684	50.67234	41.39071	53.87852	23.64469	61.23629	39.71267	25.75186	33.55365	33.63328	33.89791	32.79204	32.59237	32.23176	32.64846
8	83.68115	73.99984	53.52261	45.42881	55.27009	28.88393	63.07638	42.42308	28.50475	36.50350	36.98112	36.82997	35.76867	35.68454	35.43970	36.03069
9	85.80080	75.41340	56.00252	48.88855	56.47199	33.19968	64.68783	44.96960	31.14632	39.24290	40.12466	39.62202	38.60920	38.63271	38.49630	39.24195
10	86.23233	76.58074	58.07277	51.78244	57.52095	36.84092	66.17239	47.36938	33.67967	41.81031	43.08511	42.28938	41.32712	41.44925	41.41260	42.29325
11	86.55678	77.51407	59.75181	54.23764	58.45137	40.08762	67.54371	49.64495	36.11014	44.24484	45.88277	44.84501	43.93392	44.14503	44.19885	45.19538
12	86.79381	78.24596	61.12567	56.36356	59.31030	43.00177	68.81576	51.81777	38.44831	46.56093	48.53482	47.29965	46.43926	46.72952	46.86434	47.95854
13	86.96359	78.82892	62.27071	58.29121	60.10916	45.63948	70.00072	53.89446	40.70403	48.77084	51.05535	49.66196	48.85104	49.21071	49.41712	50.59187
14	87.08684	79.30302	63.26665	60.05861	60.85916	48.04667	71.11047	55.88168	42.88529	50.88452	53.45563	51.93869	51.17550	51.59507	51.86394	53.10321
15	87.17801	79.70492	64.15190	61.69940	61.56971	50.26355	72.15014	57.78520	44.99829	52.90988	55.74459	54.13495	53.41739	53.88767	54.21021	55.49913
16	87.24807	80.05048	64.95664	63.24088	62.24888	52.30873	73.12462	59.60974	47.04777	54.85310	57.92929	56.25446	55.58021	56.09240	56.46024	57.78508
17	87.30261	80.35224	65.70394	64.70694	62.89890	54.19862	74.03853	61.35919	49.03726	56.71907	60.01532	58.29995	57.66652	58.21227	58.61748	59.96559
18	87.34571	80.61969	66.41272	66.10680	63.52184	55.94767	74.89616	63.03678	50.96942	58.51170	62.00726	60.27337	59.67819	60.24960	60.68473	62.04457
19	87.38027	80.86036	67.09293	67.44844	64.11958	57.56866	75.70150	64.64531	52.84628	60.23420	63.90894	62.17617	61.61662	62.20631	62.66441	64.02549
20	87.40841	81.07834	67.75293	68.73870	64.69386	59.07296	76.45829	66.18728	54.66938	61.88932	65.72368	64.00948	63.48296	64.08403	64.55867	65.91154
21	87.43149	81.27701	68.39997	69.98343	65.24629	60.47075	77.17002	67.66495	56.43999	63.47944	67.45447	65.77423	65.27818	65.88426	66.36952	67.70574
22	87.45055	81.45918	69.04040	71.18771	65.77837	61.77119	77.83993	69.08048	58.15911	65.00671	69.10405	67.47124	67.00315	67.60844	68.09891	69.41100
23	87.46638	81.62722	69.67997	72.35589	66.29148	62.98255	78.47105	70.43589	59.82760	66.47313	70.67502	69.10129	68.65874	69.25796	69.74876	71.03020
24	87.47962	81.78310	70.32399	73.49169	66.78693	64.11227	79.06617	71.73313	61.44621	67.88053	72.16984	70.66514	70.24584	70.83425	71.32100	72.56613
25	87.49076	81.92850	70.97746	74.59830	67.26593	65.16710	79.62786	72.97409	63.01562	69.23069	73.59091	72.16359	71.76534	72.33874	72.81757	74.02161
26	87.50019	82.06486	71.64517	75.67835	67.72962	66.15315	80.15853	74.16060	64.53644	70.52528	74.94055	73.59745	73.21820	73.77291	74.24044	75.39940
27	87.50822	82.19341	72.33178	76.73402	68.17906	67.07595	80.66037	75.29444	66.00924	71.76592	76.22104	74.96760	74.60542	75.13829	75.59159	76.70224
28	87.51509	82.31522	73.04185	77.76702	68.61522	67.94053	81.13541	76.37734	67.43457	72.95418	77.43462	76.27497	75.92809	76.43644	76.87304	77.93286
29	87.52100	82.43120	73.77990	78.77861	69.03904	68.75144	81.58552	77.41099	68.81297	74.09157	78.58352	77.52055	77.18734	77.66898	78.08683	79.09396
30	87.52611	82.54217	74.55033	79.76961	69.45137	69.51283	82.01241	78.39703	70.14497	75.17959	79.66991	78.70541	78.38438	78.83756	79.23502	80.18822

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 5

Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1														0.07477	0.06690	0.00000
2														1.52000	1.06000	0.52000
3														2.79000	3.21000	1.53000
4														3.05000	2.59000	2.12000
5														3.29000	3.41000	2.35000
6														2.78000	2.96000	2.95000
7														3.42000	3.33000	1.75000
8														3.27000	2.50000	1.43000
9														2.39000	1.57000	1.27000
10														2.33000	0.97000	0.60000
11														1.76000	0.70000	1.23506
12														1.00000	0.85956	0.95908
13														0.52594	0.62577	0.68373
14														0.35734	0.42135	0.43128
15														0.22642	0.25151	0.25526
16														0.12798	0.14139	0.14497
17														0.06839	0.07649	0.07849
18														0.03525	0.03959	0.04077
19														0.01745	0.01972	0.02033
20														0.00834	0.00946	0.00979
21														0.00384	0.00439	0.00460
22														0.00172	0.00200	0.00208
23														0.00076	0.00088	0.00091
24														0.00032	0.00037	0.00038
25														0.00013	0.00015	0.00015
26														0.00005	0.00006	0.00006
27														0.00002	0.00002	0.00002
28														0.00001	0.00001	0.00001
29														0.00000	0.00000	0.00000
30														0.00000	0.00000	0.00000

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 6

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00946	0.00257	0.00505	0.00751	0.02190	0.01364	0.01789	0.00294	0.00056	0.14291	0.14299	0.14426	0.14530	0.14582	0.14622	0.14712
2	0.31000	0.23000	0.18000	0.30000	0.45000	0.43000	0.53000	0.09000	0.24013	0.34480	0.35769	0.33185	0.34052	0.34764	0.34824	0.34291
3	1.34000	0.66000	0.62000	0.77000	1.40000	1.42000	1.17000	0.70241	0.46249	0.75313	0.71327	0.67432	0.70059	0.71357	0.70192	0.68475
4	2.41000	0.89000	0.93000	1.12000	1.91000	1.39000	2.47766	1.31100	0.92430	1.35919	1.30105	1.24745	1.28856	1.28927	1.25760	1.22594
5	1.89000	0.97000	1.30000	1.18000	1.27000	0.97689	1.23280	0.74299	0.50134	0.72766	0.70239	0.67133	0.68048	0.67468	0.65802	0.64135
6	1.41000	0.98000	1.18000	0.73000	1.35511	1.14866	1.44854	0.87881	0.61689	0.88422	0.84712	0.79779	0.79974	0.79219	0.77309	0.76409
7	1.69000	0.82000	0.74000	1.22263	1.44198	1.27976	1.47592	0.95795	0.69953	0.97839	0.92143	0.86051	0.86007	0.85206	0.84161	0.83468
8	1.85000	0.70000	1.08748	1.21628	1.45845	1.23221	1.39275	0.96738	0.72519	0.98313	0.91545	0.85412	0.85240	0.85238	0.84446	0.84028
9	0.83000	1.13450	1.02437	1.14578	1.28424	1.10158	1.22459	0.89839	0.68593	0.90754	0.84174	0.78558	0.78841	0.78977	0.78468	0.78330
10	1.32579	0.99012	0.91256	0.94407	1.05317	0.92194	0.99794	0.76674	0.59777	0.77936	0.72142	0.67640	0.67844	0.68077	0.67823	0.67911
11	1.08527	0.82058	0.71252	0.72620	0.81226	0.71848	0.75362	0.60660	0.48579	0.62733	0.58065	0.54401	0.54539	0.54818	0.54756	0.54987
12	0.83878	0.59964	0.51993	0.52711	0.58635	0.52195	0.53070	0.45002	0.37022	0.47554	0.43825	0.41027	0.41118	0.41394	0.41449	0.41740
13	0.56854	0.41032	0.35879	0.35968	0.39690	0.35553	0.35243	0.31536	0.26610	0.33919	0.31129	0.29119	0.29176	0.29418	0.29526	0.29810
14	0.36185	0.26627	0.23334	0.23137	0.25313	0.22940	0.22215	0.20924	0.18038	0.22839	0.20877	0.19515	0.19550	0.19741	0.19857	0.20098
15	0.21967	0.16336	0.14351	0.14086	0.15358	0.14124	0.13340	0.13156	0.11567	0.14561	0.13260	0.12388	0.12409	0.12548	0.12647	0.12830
16	0.12666	0.09509	0.08377	0.08188	0.08935	0.08287	0.07641	0.07860	0.07037	0.08814	0.08000	0.07470	0.07483	0.07577	0.07651	0.07778
17	0.06968	0.05267	0.04680	0.04579	0.04966	0.04642	0.04186	0.04473	0.04073	0.05078	0.04595	0.04290	0.04298	0.04357	0.04407	0.04489
18	0.03667	0.02798	0.02524	0.02450	0.02643	0.02488	0.02197	0.02431	0.02247	0.02791	0.02520	0.02353	0.02357	0.02392	0.02424	0.02473
19	0.01859	0.01438	0.01303	0.01257	0.01350	0.01278	0.01107	0.01265	0.01185	0.01467	0.01322	0.01235	0.01237	0.01257	0.01275	0.01303
20	0.00917	0.00708	0.00647	0.00620	0.00662	0.00631	0.00537	0.00631	0.00599	0.00739	0.00665	0.00621	0.00623	0.00633	0.00643	0.00658
21	0.00434	0.00336	0.00309	0.00295	0.00313	0.00299	0.00251	0.00302	0.00290	0.00357	0.00321	0.00300	0.00301	0.00306	0.00312	0.00319
22	0.00198	0.00153	0.00142	0.00135	0.00142	0.00137	0.00113	0.00139	0.00135	0.00166	0.00149	0.00140	0.00140	0.00143	0.00145	0.00149
23	0.00087	0.00068	0.00063	0.00060	0.00062	0.00060	0.00049	0.00062	0.00061	0.00074	0.00067	0.00063	0.00063	0.00064	0.00065	0.00067
24	0.00037	0.00029	0.00027	0.00025	0.00026	0.00026	0.00021	0.00027	0.00026	0.00032	0.00029	0.00027	0.00027	0.00028	0.00028	0.00029
25	0.00015	0.00012	0.00011	0.00010	0.00011	0.00011	0.00008	0.00011	0.00011	0.00013	0.00012	0.00011	0.00011	0.00012	0.00012	0.00012
26	0.00006	0.00005	0.00005	0.00004	0.00004	0.00004	0.00003	0.00004	0.00004	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
27	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
28	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00000	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
29	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 7

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1														0.07477	0.06690	0.00000
2														1.54606	1.08506	0.49452
3														4.06078	3.75825	1.76137
4														6.53212	5.61456	3.06597
5														8.92824	7.43518	3.98405
6														10.51957	8.50666	4.72002
7														11.83358	9.29371	5.10245
8														12.66582	9.79507	5.36197
9														13.19904	10.04613	5.56153
10														13.63624	10.18063	5.63863
11														13.92476	10.26387	5.77462
12														14.06378	10.35172	5.87688
13														14.12774	10.41409	5.94800
14														14.17008	10.45534	5.99205
15														14.19641	10.47964	6.01780
16														14.21109	10.49320	6.03231
17														14.21887	10.50049	6.04012
18														14.22285	10.50425	6.04416
19														14.22482	10.50612	6.04616
20														14.22575	10.50702	6.04713
21														14.22618	10.50743	6.04758
22														14.22637	10.50762	6.04779
23														14.22646	10.50771	6.04788
24														14.22650	10.50774	6.04791
25														14.22651	10.50775	6.04793
26														14.22652	10.50776	6.04794
27														14.22652	10.50776	6.04794
28														14.22652	10.50776	6.04794
29														14.22652	10.50776	6.04794
30														14.22652	10.50776	6.04794

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
STREAMLINE REFINANCE, 30-YEAR LOANS

Exhibit IIE
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00946	0.00257	0.00505	0.00751	0.02190	0.01364	0.01789	0.00294	0.00056	0.14291	0.14299	0.14426	0.14530	0.14582	0.14622	0.14712
2	0.31580	0.22705	0.18015	0.30156	0.46200	0.44357	0.52948	0.08879	0.23733	0.46425	0.47634	0.45352	0.46263	0.46980	0.47075	0.46667
3	1.30182	0.71549	0.71414	1.02032	1.61894	1.85717	1.30544	0.65308	0.66520	1.11766	1.09642	1.03893	1.07233	1.09047	1.08238	1.06412
4	2.33283	1.18638	1.46309	1.97983	3.00234	3.22118	2.50739	1.63145	1.47171	2.21429	2.15214	2.04795	2.11892	2.13795	2.10878	2.06715
5	2.82519	1.65183	2.40445	2.90421	3.71166	4.16640	3.04792	2.14484	1.88453	2.75943	2.68286	2.55224	2.63359	2.64927	2.61104	2.55827
6	3.14727	2.05330	3.17661	3.40214	4.33096	5.16039	3.63279	2.71278	2.36805	3.38165	3.28450	3.11431	3.20288	3.21518	3.16827	3.10930
7	3.45910	2.34929	3.58142	4.13303	4.95621	6.15448	4.18287	3.29338	2.89091	4.02998	3.89857	3.68428	3.78028	3.78984	3.74032	3.67527
8	3.75233	2.55028	4.07890	4.79561	5.55658	7.01951	4.66449	3.84472	3.40839	4.64362	4.47043	4.21740	4.32093	4.33211	4.28101	4.21033
9	3.85663	2.81632	4.51322	5.36593	6.05966	7.72559	5.05953	4.32745	3.87541	5.17773	4.96326	4.68052	4.79328	4.80584	4.75401	4.67842
10	3.99375	3.03187	4.87354	5.79780	6.45427	8.27022	5.36144	4.71621	4.26384	5.61090	5.35941	5.05727	5.17726	5.19089	5.13891	5.05926
11	4.09982	3.19917	5.13755	6.10585	6.74688	8.66459	5.57596	5.00685	4.56530	5.94074	5.65876	5.34370	5.46902	5.48339	5.43157	5.34875
12	4.17819	3.31482	5.32010	6.31489	6.95094	8.93207	5.71862	5.21093	4.78493	6.17762	5.87113	5.54807	5.67706	5.69190	5.64035	5.55518
13	4.22952	3.39018	5.44049	6.44912	7.08485	9.10296	5.80836	5.34644	4.93599	6.33793	6.01306	5.68537	5.81677	5.83187	5.78058	5.69376
14	4.26139	3.43782	5.51583	6.53070	7.16789	9.20679	5.86211	5.43173	5.03405	6.44046	6.10268	5.77251	5.90539	5.92062	5.86955	5.78161
15	4.28039	3.46602	5.56063	6.57776	7.21699	9.26716	5.89282	5.48262	5.09429	6.50260	6.15631	5.82489	5.95865	5.97393	5.92300	5.83437
16	4.29121	3.48202	5.58601	6.60374	7.24488	9.30070	5.90960	5.51149	5.12941	6.53837	6.18679	5.85480	5.98905	6.00434	5.95351	5.86444
17	4.29711	3.49069	5.59979	6.61755	7.26003	9.31852	5.91838	5.52710	5.14889	6.55798	6.20328	5.87106	6.00557	6.02086	5.97007	5.88076
18	4.30019	3.49521	5.60703	6.62457	7.26792	9.32760	5.92278	5.53515	5.15919	6.56823	6.21179	5.87949	6.01413	6.02941	5.97865	5.88921
19	4.30174	3.49750	5.61068	6.62800	7.27186	9.33204	5.92490	5.53912	5.16439	6.57335	6.21599	5.88367	6.01838	6.03365	5.98291	5.89338
20	4.30250	3.49861	5.61245	6.62961	7.27376	9.33413	5.92589	5.54101	5.16690	6.57580	6.21798	5.88565	6.02039	6.03566	5.98492	5.89536
21	4.30286	3.49912	5.61327	6.63033	7.27463	9.33507	5.92633	5.54186	5.16807	6.57693	6.21888	5.88656	6.02131	6.03658	5.98584	5.89626
22	4.30303	3.49936	5.61364	6.63065	7.27503	9.33549	5.92652	5.54223	5.16858	6.57742	6.21927	5.88695	6.02171	6.03698	5.98624	5.89666
23	4.30310	3.49946	5.61380	6.63078	7.27519	9.33566	5.92660	5.54239	5.16881	6.57763	6.21944	5.88712	6.02188	6.03715	5.98641	5.89682
24	4.30313	3.49950	5.61387	6.63083	7.27526	9.33573	5.92663	5.54246	5.16890	6.57772	6.21950	5.88719	6.02195	6.03722	5.98648	5.89689
25	4.30314	3.49952	5.61389	6.63085	7.27529	9.33576	5.92665	5.54248	5.16893	6.57775	6.21953	5.88721	6.02198	6.03724	5.98651	5.89691
26	4.30315	3.49953	5.61390	6.63086	7.27530	9.33577	5.92665	5.54249	5.16895	6.57777	6.21954	5.88722	6.02199	6.03725	5.98652	5.89692
27	4.30315	3.49953	5.61391	6.63087	7.27531	9.33578	5.92665	5.54249	5.16895	6.57777	6.21954	5.88723	6.02199	6.03726	5.98652	5.89693
28	4.30315	3.49953	5.61391	6.63087	7.27531	9.33578	5.92665	5.54249	5.16895	6.57777	6.21955	5.88723	6.02199	6.03726	5.98652	5.89693
29	4.30315	3.49953	5.61391	6.63087	7.27531	9.33578	5.92665	5.54250	5.16896	6.57777	6.21955	5.88723	6.02200	6.03726	5.98652	5.89693
30	4.30315	3.49953	5.61391	6.63087	7.27531	9.33578	5.92665	5.54250	5.16896	6.57777	6.21955	5.88723	6.02200	6.03726	5.98652	5.89693

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit IIF
page 1

Actual historical ratios are shown in bold.

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1														2.16718	2.10970	2.31125
2														3.48101	8.40517	8.20189
3														3.93443	6.83962	16.58031
4														5.67986	15.81633	25.15723
5														13.91466	21.71254	23.03371
6														19.91342	21.82540	8.42491
7														20.49180	10.76923	13.65462
8														6.94444	10.98266	9.38967
9														9.32836	15.68627	12.56545
10														9.46502	13.17829	9.81595
11														21.81818	4.46429	6.31763
12														8.8713	5.34921	6.10607
13														8.32998	4.97086	5.74986
14														7.83907	4.50105	5.30916
15														7.18349	3.99743	4.91656

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE PREPAYMENT RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit IIF
page 4

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.29126	0.65540	1.06577	1.40653	1.88800	0.92085	1.26957	1.09197	0.66341	4.17566	4.17566	4.17566	4.17566	4.17566	4.17566	4.17566
2	8.39806	10.20467	7.55177	5.43103	11.02181	5.40799	9.97165	5.78320	4.80092	8.66414	8.57633	8.60346	8.50392	8.52884	8.46140	8.41645
3	30.14563	25.57814	12.92822	12.21145	18.62500	14.54765	19.08072	10.50126	8.71343	13.34999	13.11082	13.18300	12.99969	12.98899	12.80938	12.72984
4	49.99895	31.10865	20.73901	18.94864	28.89402	23.16052	24.42897	15.37657	12.57373	18.10755	17.76011	17.92648	17.60120	17.51282	17.23270	17.14155
5	55.04703	38.97362	28.02903	27.85151	37.03269	29.46572	29.68166	20.38267	16.45344	22.89543	22.53690	22.76771	22.26672	22.11066	21.75506	21.83369
6	60.48365	45.15978	37.38614	34.97989	39.55414	35.80660	34.84107	25.48500	20.41139	27.69576	27.58388	27.66540	27.00833	26.80655	26.55191	26.81716
7	64.75525	53.13986	44.81801	40.04398	42.17761	41.97151	39.77551	30.67934	24.48866	32.64647	32.88685	32.62337	31.84186	31.76195	31.62357	32.08145
8	71.25968	59.09070	51.32062	45.23844	44.83005	47.79714	44.49507	35.98176	28.81928	37.72577	38.40010	37.65117	36.91654	36.96762	36.95278	37.60097
9	75.77402	63.37233	57.59496	50.45937	47.44724	53.29621	49.03116	41.52723	33.39329	42.92072	44.07156	42.88594	42.21306	42.39640	42.50668	43.33441
10	78.67802	67.43978	63.44763	55.55115	50.02863	58.50206	53.50867	47.25778	38.19162	48.21589	49.85188	48.29485	47.69400	48.00485	48.23595	49.22391
11	81.19891	71.17505	68.74210	60.49469	52.58485	63.54893	57.90914	53.09300	43.18635	53.59698	55.68140	53.82669	53.30514	53.73244	54.07418	55.19473
12	83.33188	74.52449	73.51532	65.28585	55.16456	68.39678	62.22102	58.94277	48.34598	59.00568	61.48252	59.41332	58.97502	59.50155	59.93803	61.15581
13	85.11056	77.53550	77.81414	69.99500	57.76446	73.01225	66.43075	64.71644	53.62776	64.36893	67.16332	64.97021	64.61569	65.21848	65.72858	67.00176
14	86.61174	80.25713	81.74387	74.55620	60.38569	77.35899	70.52550	70.31436	58.97331	69.60231	72.62089	70.39853	70.12485	70.77617	71.33452	72.61677
15	87.89742	82.76754	85.27684	78.90457	63.02916	81.40109	74.46202	75.62751	64.30949	74.61322	77.74677	75.58919	75.39010	76.05898	76.63740	77.88077

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit IIF
page 5

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1														0.00000	0.00000	0.00000
2														0.00000	0.22000	0.47000
3														0.82000	0.71000	1.04000
4														1.55000	0.77000	0.21000
5														0.37000	1.22000	0.28000
6														0.87000	0.79000	0.37000
7														0.82000	0.51000	0.80000
8														0.00000	0.58000	0.94000
9														0.00000	0.00000	1.57000
10														0.00000	0.00000	0.00000
11														0.00000	0.00000	0.14059
12														0.00000	0.12316	0.11245
13														0.07053	0.09024	0.07689
14														0.05038	0.05571	0.04016
15														0.03077	0.02582	0.01756

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CONDITIONAL CLAIM RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit III F
page 6

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00000	0.00000	0.00000	0.00085	0.01276	0.00000	0.00000	0.00000	0.00000	0.07344	0.07373	0.07878	0.08310	0.08536	0.08711	0.09115
2	0.00000	0.05000	0.04000	0.07000	0.18000	0.05000	0.11000	0.02000	0.09265	0.11681	0.10852	0.10249	0.10393	0.11046	0.11354	0.12069
3	0.11000	0.10000	0.10000	0.19000	0.42000	0.15000	0.11000	0.13795	0.10951	0.16704	0.13572	0.12190	0.12725	0.13599	0.14214	0.14827
4	0.49000	0.22000	0.15000	0.24000	0.60000	0.19000	0.22633	0.19694	0.14992	0.20485	0.15778	0.14460	0.15133	0.16434	0.16857	0.17495
5	0.29000	0.21000	0.16000	0.26000	0.33000	0.14044	0.14707	0.12156	0.08353	0.10928	0.08588	0.07833	0.08314	0.08850	0.09038	0.02232
6	0.11000	0.15000	0.16000	0.17000	0.17481	0.15954	0.16009	0.11576	0.07761	0.10476	0.08206	0.07546	0.07837	0.08302	0.02015	0.02196
7	0.50000	0.25000	0.09000	0.13058	0.19606	0.16507	0.14601	0.10038	0.07042	0.09611	0.07611	0.06816	0.07037	0.01769	0.01904	0.02097
8	0.14000	0.11000	0.12529	0.13208	0.19823	0.14192	0.12084	0.08484	0.06092	0.08503	0.06581	0.05842	0.01430	0.01595	0.01726	0.01914
9	0.17000	0.16031	0.11994	0.12118	0.16334	0.10974	0.09706	0.06835	0.05062	0.06960	0.05368	0.01129	0.01222	0.01364	0.01480	0.01644
10	0.13455	0.14508	0.10364	0.09188	0.11952	0.08162	0.07399	0.05287	0.03870	0.05329	0.00981	0.00908	0.00980	0.01090	0.01180	0.01308
11	0.11671	0.11679	0.07355	0.06226	0.08295	0.05729	0.05378	0.03767	0.02753	0.00906	0.00735	0.00678	0.00727	0.00803	0.00863	0.00950
12	0.08874	0.07565	0.04638	0.04019	0.05345	0.03812	0.03571	0.02501	0.00431	0.00619	0.00503	0.00463	0.00492	0.00536	0.00570	0.00619
13	0.05318	0.04285	0.02765	0.02438	0.03203	0.02304	0.02184	0.00368	0.00265	0.00378	0.00310	0.00285	0.00298	0.00319	0.00334	0.00356
14	0.02741	0.02250	0.01539	0.01393	0.01706	0.01276	0.00293	0.00209	0.00145	0.00203	0.00169	0.00155	0.00160	0.00167	0.00171	0.00177
15	0.01282	0.01081	0.00800	0.00719	0.00812	0.00154	0.00146	0.00104	0.00069	0.00094	0.00080	0.00074	0.00074	0.00075	0.00075	0.00075

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit IIF
page 7

Actual historical ratios are shown in bold.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
1														0.00000	0.00000	0.00000
2														0.00000	0.21536	0.45914
3														0.77430	0.85043	1.38700
4														2.16834	1.48718	1.54134
5														2.47705	2.32871	1.69493
6														3.09925	2.74867	1.85057
7														3.56380	2.95848	2.15749
8														3.56380	3.17016	2.46599
9														3.56380	3.17016	2.92803
10														3.56380	3.17016	2.92803
11														3.56380	3.17016	2.96007
12														3.56380	3.19796	2.98404
13														3.58104	3.21722	2.99941
14														3.59232	3.22850	3.00697
15														3.59867	3.23350	3.01010

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

CUMULATIVE CLAIM RATES (%)
STREAMLINE REFINANCE, 15-YEAR LOANS

Exhibit IIF
page 8

Actual historical ratios are shown in bold.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
1	0.00000	0.00000	0.00000	0.00085	0.01276	0.00000	0.00000	0.00000	0.00000	0.07344	0.07373	0.07878	0.08310	0.08536	0.08711	0.09115
2	0.00000	0.04967	0.03957	0.06987	0.18934	0.04954	0.10860	0.01978	0.09203	0.18529	0.17764	0.17691	0.18260	0.19111	0.19581	0.20669
3	0.10076	0.13942	0.13198	0.24942	0.56225	0.19135	0.20752	0.14972	0.19619	0.33755	0.30148	0.28811	0.29880	0.31525	0.32564	0.34218
4	0.44255	0.30284	0.26239	0.45951	1.04713	0.35335	0.39019	0.32568	0.33275	0.51436	0.43810	0.41323	0.43000	0.45772	0.47207	0.49426
5	0.58627	0.44688	0.38879	0.66905	1.27832	0.46076	0.50075	0.42816	0.40550	0.60329	0.50835	0.47720	0.49815	0.53032	0.54645	0.51264
6	0.63508	0.53774	0.50332	0.79056	1.38616	0.57256	0.61252	0.51983	0.47002	0.68343	0.57150	0.53512	0.55869	0.59454	0.56210	0.52969
7	0.82948	0.67350	0.55922	0.87444	1.50195	0.67758	0.70677	0.59411	0.52573	0.75226	0.62618	0.58406	0.60965	0.60738	0.57598	0.54492
8	0.87767	0.72431	0.62766	0.95247	1.61359	0.75897	0.77869	0.65241	0.57142	0.80889	0.66994	0.62307	0.61931	0.61817	0.58769	0.55782
9	0.92503	0.78873	0.68529	1.01767	1.70107	0.81542	0.83181	0.69572	0.60715	0.85167	0.70264	0.63004	0.62695	0.62668	0.59693	0.56798
10	0.95638	0.84073	0.72853	1.06226	1.76185	0.85288	0.86890	0.72627	0.63270	0.88164	0.70806	0.63517	0.63255	0.63289	0.60364	0.57532
11	0.98015	0.87777	0.75488	1.08927	1.80184	0.87617	0.89343	0.74586	0.64954	0.88625	0.71170	0.63863	0.63631	0.63702	0.60806	0.58009
12	0.99597	0.89891	0.76903	1.10471	1.82623	0.88973	0.90815	0.75740	0.65195	0.88907	0.71389	0.64074	0.63857	0.63946	0.61064	0.58283
13	1.00430	0.90945	0.77614	1.11290	1.84000	0.89680	0.91620	0.75889	0.65331	0.89058	0.71506	0.64187	0.63977	0.64073	0.61196	0.58419
14	1.00811	0.91430	0.77944	1.11693	1.84689	0.90013	0.91715	0.75961	0.65397	0.89129	0.71560	0.64241	0.64033	0.64130	0.61253	0.58476
15	1.00970	0.91633	0.78083	1.11867	1.84996	0.90047	0.91757	0.75991	0.65425	0.89156	0.71581	0.64262	0.64055	0.64152	0.61274	0.58496

Latest diagonal (in boxes) reflects actual experience as of June 30, 1999. It is therefore only 9 months of experience, rather than 12 as the other points are.

**Federal Housing Administration
Premiums Earning Summary. Unlocked**

Unearned Premiums at End of Given Fiscal Year

Fiscal	Endorsement Year:								Total for
Year	1984	1985	1986	1987	1988	1989	1990	1991	Endorsement Years 1984-91
1984	423,445								423,445
1985	423,445	887,292							1,310,737
1986	357,703	887,292	2,129,353						3,374,348
1987	259,673	722,305	2,129,353	2,437,376					5,548,707
1988	177,015	513,905	1,893,839	2,437,376	1,339,547				6,361,681
1989	121,261	363,221	1,538,631	2,212,705	1,339,547	1,439,286			7,014,651
1990	87,435	262,243	1,233,864	1,859,568	1,206,879	1,439,286	1,707,593		7,796,868
1991	65,057	190,367	979,866	1,516,067	1,031,725	1,296,161	1,707,593	1,562,576	8,349,412
1992	46,551	128,065	706,515	1,184,813	773,680	1,015,062	1,490,351	1,542,681	6,887,718
1993	33,192	84,000	482,110	819,554	534,186	700,034	1,030,671	1,162,968	4,846,716
1994	23,695	54,562	355,346	631,163	395,978	511,403	742,656	829,148	3,543,952
1995	17,773	37,599	252,080	502,553	308,725	389,561	580,798	651,071	2,740,160
1996	13,063	26,446	182,429	409,630	242,160	301,110	448,592	494,203	2,117,633
1997	9,624	17,574	126,863	309,113	188,242	231,751	345,984	358,321	1,587,471
1998	6,741	11,152	82,946	225,311	145,346	180,552	270,696	259,199	1,181,944
1999	5,667	8,314	63,344	184,343	123,689	155,349	235,002	219,328	995,037
2000	4,914	7,270	54,315	155,000	105,001	133,714	207,485	195,250	862,948
2001	4,167	6,229	45,907	127,728	86,438	111,289	177,157	168,916	727,830
2002	3,453	5,228	38,083	103,651	68,970	89,525	146,150	141,888	596,946
2003	2,808	4,315	31,186	83,018	54,046	70,339	117,580	116,673	479,965
2004	2,246	3,515	25,321	66,083	41,846	54,652	93,076	94,618	381,356
2005	1,764	2,820	20,356	52,249	32,014	41,846	72,578	75,531	299,159
2006	1,355	2,224	16,177	41,029	24,260	31,660	55,720	59,608	232,033
2007	1,010	1,715	12,653	31,904	18,196	23,654	42,065	46,271	177,467
2008	722	1,283	9,699	24,522	13,551	17,532	31,372	35,453	134,133
2009	484	920	7,222	18,527	10,017	12,914	23,172	26,859	100,114
2010	292	618	5,157	13,655	7,347	9,496	17,082	20,265	73,912
2011	145	373	3,449	9,676	5,305	6,952	12,591	15,269	53,760
2012	45	185	2,071	6,430	3,709	5,017	9,238	11,469	38,166
2013	0	58	1,020	3,839	2,446	3,509	6,679	8,538	26,089
2014	0	0	317	1,880	1,455	2,315	4,678	6,233	16,878
2015	0	0	0	582	711	1,377	3,088	4,388	10,146
2016	0	0	0	0	220	673	1,837	2,902	5,633
2017	0	0	0	0	0	208	898	1,725	2,831
2018	0	0	0	0	0	0	277	841	1,119
2019	0	0	0	0	0	0	0	259	259
2020	0	0	0	0	0	0	0	0	0

Federal Housing Administration
Premiums Earning Summary: Unlocked

Cumulative Premiums Earned Through Given Fiscal Year

Fiscal Year	Endorsement Year:								Total for Endorsement Years 1984-91
	1984	1985	1986	1987	1988	1989	1990	1991	
1984	0								0
1985	0	0							0
1986	65.742	0	0						65.742
1987	163.772	164.987	0	0					328.759
1988	246.430	373.387	235.514	0	0				855.332
1989	302.184	524.071	590.722	224.671	0	0			1,641.648
1990	336.010	625.049	895.489	577.808	132.668	0	0		2,567.024
1991	358.388	696.925	1,149.487	921.309	307.822	143.125	0	0	3,577.056
1992	376.894	759.227	1,422.838	1,252.563	565.867	424.224	217.242	19.895	5,038.750
1993	390.253	803.292	1,647.243	1,617.822	805.361	739.252	676.922	399.608	7,079.752
1994	399.750	832.730	1,774.007	1,806.213	943.569	927.883	964.937	733.428	8,382.516
1995	405.672	849.693	1,877.273	1,934.823	1,030.822	1,049.725	1,126.795	911.505	9,186.308
1996	410.382	860.846	1,946.924	2,027.746	1,097.387	1,138.176	1,259.001	1,068.373	9,808.835
1997	413.821	869.718	2,002.490	2,128.263	1,151.305	1,207.535	1,361.609	1,204.255	10,338.997
1998	416.704	876.140	2,046.407	2,212.065	1,194.201	1,258.734	1,436.897	1,303.377	10,744.524
1999	417.778	878.978	2,066.009	2,253.033	1,215.858	1,283.937	1,472.591	1,343.248	10,931.431
2000	418.531	880.022	2,075.038	2,282.376	1,234.546	1,305.572	1,500.108	1,367.326	11,063.520
2001	419.278	881.063	2,083.446	2,309.648	1,253.109	1,327.997	1,530.436	1,393.660	11,198.638
2002	419.992	882.064	2,091.270	2,333.725	1,270.577	1,349.761	1,561.443	1,420.688	11,329.522
2003	420.637	882.977	2,098.167	2,354.358	1,285.501	1,368.947	1,590.013	1,445.903	11,446.503
2004	421.199	883.777	2,104.032	2,371.293	1,297.701	1,384.634	1,614.517	1,467.958	11,545.112
2005	421.681	884.472	2,108.997	2,385.127	1,307.533	1,397.440	1,635.015	1,487.045	11,627.309
2006	422.090	885.068	2,113.176	2,396.347	1,315.287	1,407.626	1,651.873	1,502.968	11,694.435
2007	422.435	885.577	2,116.700	2,405.472	1,321.351	1,415.632	1,665.528	1,516.305	11,749.001
2008	422.723	886.009	2,119.654	2,412.854	1,325.996	1,421.754	1,676.221	1,527.123	11,792.335
2009	422.961	886.372	2,122.131	2,418.849	1,329.530	1,426.372	1,684.421	1,535.717	11,826.354
2010	423.153	886.674	2,124.196	2,423.721	1,332.200	1,429.790	1,690.511	1,542.311	11,852.556
2011	423.300	886.919	2,125.904	2,427.700	1,334.242	1,432.334	1,695.002	1,547.307	11,872.708
2012	423.400	887.107	2,127.282	2,430.946	1,335.838	1,434.269	1,698.355	1,551.107	11,888.302
2013	423.445	887.234	2,128.333	2,433.537	1,337.101	1,435.777	1,700.914	1,554.038	11,900.379
2014	423.445	887.292	2,129.036	2,435.496	1,338.092	1,436.971	1,702.915	1,556.343	11,909.590
2015	423.445	887.292	2,129.353	2,436.794	1,338.836	1,437.909	1,704.505	1,558.188	11,916.322
2016	423.445	887.292	2,129.353	2,437.376	1,339.327	1,438.613	1,705.756	1,559.674	11,920.835
2017	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.078	1,706.695	1,560.851	11,923.637
2018	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.316	1,561.735	11,925.349
2019	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.593	1,562.317	11,926.209
2020	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.593	1,562.576	11,926.468
	\$423.445	\$887.292	\$2,129.353	\$2,437.376	\$1,339.547	\$1,439.286	\$1,707.593	\$1,562.576	

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**Federal Housing Administration - Premium Earnings - Unlocked
(S000)**

Endorsement Year: 1984

Total MIP Collected:	\$423,445
Premium %:	2.66%
Total Endorsement Amt.:	\$15,921,794
Number of Endorsements:	286,887
Average Endorsements:	\$55,498
Average Premium:	\$1,476
Administrative Expenses:	0.000942
Contract Interest Rate:	12.70%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal	Survivors	Conditional	Number	Average	Claim	Claim	Dollars at		Claim and	Cumulative
Year	at Beginn	Claim	of	Endorsement	Year	Cost	Risk at	Administrativ	Expense	Claim and
	of Year	Rate	Claims	for CY	Loss	in Year	Midpoint	Expenses	Costs in	Expense
				at Midpoint	Rate		of Year		Year	Costs
1	286.887	0.00038	110	55.453	0.5805	3.540	15.889.824	14.968	18.509	18.509
2	286.209	0.01144	3.274	55.261	0.4874	88.179	15.616.775	14.711	102.890	121.398
3	278.991	0.03005	8.382	55.044	0.4579	211.261	13.698.727	12.904	224.165	345.563
4	218.742	0.04775	10.444	54.799	0.4436	253.900	10.182.982	9.592	263.493	609.056
5	152.903	0.06479	9.907	54.522	0.4360	235.491	7.599.687	7.159	242.650	851.706
6	125.870	0.05449	6.859	54.209	0.4316	160.481	6.338.559	5.971	166.451	1,018.157
7	107.986	0.03947	4.263	53.854	0.4289	98.460	5.416.810	5.103	103.563	1,121.721
8	93.178	0.03062	2.854	53.454	0.4264	65.041	4.644.607	4.375	69.416	1,191.137
9	80.603	0.02726	2.197	53.000	0.4252	49.515	3.878.057	3.653	53.168	1,244.305
10	65.739	0.02339	1.538	52.487	0.4242	34.239	3.113.973	2.933	37.172	1,281.477
11	52.918	0.02286	1.210	51.907	0.4240	26.626	2.460.098	2.317	28.943	1,310.420
12	41.871	0.01875	785	51.251	0.4239	17.056	2.044.142	1.926	18.982	1,329.402
13	37.899	0.01560	591	50.509	0.4251	12.698	1.815.972	1.711	14.409	1,343.811
14	34.008	0.01365	464	49.670	0.3931	9.065	1.614.238	1.521	10.585	1,354.396
15	30.991	0.01104	342	48.721	0.4291	7.153	1.426.769	1.344	8.497	1,362.894
16	27.578	0.00407	112	47.647	0.4290	2.294	1.286.212	1.212	3.506	1,366.399
17	26.411	0.00269	71	46.433	0.4326	1.427	1.219.341	1.149	2.576	1,368.975
18	26.110	0.00267	70	45.059	0.4335	1.364	1.171.073	1.103	2.467	1,371.442
19	25.869	0.00253	65	43.506	0.4346	1.235	1.121.252	1.056	2.291	1,373.734
20	25.676	0.00220	56	41.749	0.4363	1.027	1.068.721	1.007	2.034	1,375.768
21	25.522	0.00178	45	39.762	0.4383	790	1,012.409	954	1,744	1,377.512
22	25.402	0.00138	35	37.514	0.4405	581	951.182	896	1,477	1,378.988
23	25.309	0.00103	26	34.972	0.4429	403	883.887	833	1,236	1,380.224
24	25.239	0.00073	18	32.097	0.4454	264	809.292	762	1,026	1,381.250
25	25.189	0.00049	12	28.845	0.4479	158	726.041	684	842	1,382.092
26	25.152	0.00030	8	25.167	0.4504	86	632.684	596	682	1,382.774
27	25.126	0.00017	4	21.007	0.4530	40	527.649	497	537	1,383.311
28	25.108	0.00009	2	16.302	0.4558	16	409.225	385	402	1,383.713
29	25.096	0.00004	1	10.981	0.4586	5	275.528	260	265	1,383.978
30	25.087	0.00002	0	4.962	0.4616	1	124.471	117	118	1,384.096
31	25.081		0			0	0	0	0	1,384.096
	25.081									
Total			53.748			1,282.397		101.698	1,384.096	

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Terminations	Premium Refund Percentage	Amount Refunded in Year	umulative Amount Refunded	Cumulative Expenses. Costs and Refunds	Incremental Expenses. Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00198	568	0.99000	830	830	19,339	19,339	1,526,373	9.60%	1,109,149	1.00000	423,445
0.01378	3,944	0.93943	5,468	6,299	127,697	108,358	1,418,015	10.06%	1,107,052	1.00000	423,445
0.18591	51,867	0.81943	62,732	69,030	414,593	286,896	1,131,119	9.39%	910,940	0.84474	357,703
0.25324	55,395	0.66943	54,734	123,764	732,820	318,227	812,892	9.08%	661,293	0.61324	259,673
0.11201	17,126	0.53829	13,607	137,371	989,077	256,257	556,635	8.54%	450,792	0.41803	177,015
0.08759	11,025	0.42773	6,960	144,332	1,162,489	173,412	383,223	8.59%	308,809	0.28637	121,261
0.09766	10,546	0.34659	5,395	149,726	1,271,447	108,958	274,265	8.93%	222,666	0.20649	87,435
0.10434	9,722	0.28545	4,096	153,822	1,344,959	73,512	200,753	8.85%	165,676	0.15364	65,057
0.15715	12,667	0.23488	4,391	158,214	1,402,518	57,559	143,194	7.59%	118,547	0.10993	46,551
0.17164	11,283	0.20431	3,403	161,616	1,443,093	40,575	102,619	6.65%	84,528	0.07839	33,192
0.18590	9,837	0.00000	0	161,616	1,472,037	28,943	73,675	6.77%	60,344	0.05596	23,695
0.07610	3,187	0.00000	0	161,616	1,491,019	18,982	54,693	7.64%	45,260	0.04197	17,773
0.08707	3,300	0.00000	0	161,616	1,505,428	14,409	40,285	6.33%	33,267	0.03085	13,063
0.07506	2,552	0.00000	0	161,616	1,516,013	10,585	29,699	6.51%	24,509	0.02273	9,624
0.09907	3,070	0.00000	0	161,616	1,524,510	8,497	21,202	5.68%	17,166	0.01592	6,741
0.03827	1,055	0.00000	0	161,616	1,528,016	3,506	17,697	5.00%	14,432	0.01338	5,667
0.00870	230	0.00000	0	161,616	1,530,591	2,576	15,121	5.00%	12,514	0.01160	4,914
0.00655	171	0.00000	0	161,616	1,533,058	2,467	12,654	5.00%	10,612	0.00984	4,167
0.00496	128	0.00000	0	161,616	1,535,350	2,291	10,362	5.00%	8,794	0.00816	3,453
0.00379	97	0.00000	0	161,616	1,537,384	2,034	8,328	5.00%	7,150	0.00663	2,808
0.00293	75	0.00000	0	161,616	1,539,128	1,744	6,584	5.00%	5,720	0.00530	2,246
0.00228	58	0.00000	0	161,616	1,540,605	1,477	5,108	5.00%	4,493	0.00417	1,764
0.00171	43	0.00000	0	161,616	1,541,840	1,236	3,872	5.00%	3,452	0.00320	1,355
0.00128	32	0.00000	0	161,616	1,542,867	1,026	2,845	5.00%	2,572	0.00239	1,010
0.00096	24	0.00000	0	161,616	1,543,709	842	2,003	5.00%	1,838	0.00170	722
0.00072	18	0.00000	0	161,616	1,544,390	682	1,322	5.00%	1,232	0.00114	484
0.00054	14	0.00000	0	161,616	1,544,928	537	784	5.00%	742	0.00069	292
0.00041	10	0.00000	0	161,616	1,545,329	402	383				

**Federal Housing Administration - Premium Earnings - Unlocked
(S000)**

Endorsement Year: 1985

Total MIP Collected:	\$887,292
Premium %:	3.69%
Total Endorsement	\$24,047.176
Number of Endorse	399.740
Average Endorseme	\$60.157
Average Premium:	\$2.220
Administrative Expe	0.000942
Contract Interest Rat	12.20%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	399.740	0.00016	63	60.102	0.5791	2.189	23,994.274	22.603	24.792	24.792
2	398.714	0.00781	3.114	59.872	0.6628	123.568	22,511.563	21.206	144.774	169.566
3	353.278	0.03155	11.147	59.613	0.6216	413.044	18,312.256	17.250	430.294	599.860
4	261.094	0.05753	15.021	59.321	0.6151	548.122	14,233.953	13.408	561.531	1,161.390
5	218.798	0.05277	11.546	58.993	0.5882	400.687	12,018.802	11.322	412.009	1,573.399
6	188.665	0.04088	7.712	58.624	0.5937	268.413	10,253.085	9.658	278.071	1,851.470
7	161.126	0.03455	5.567	58.208	0.5795	187.796	8,619.454	8.120	195.916	2,047.386
8	135.033	0.03120	4.213	57.740	0.6021	146.460	6,805.835	6.411	152.871	2,200.258
9	100.707	0.02996	3.017	57.213	0.5873	101.378	5,003.428	4.713	106.092	2,306.349
10	74.197	0.02867	2.127	56.620	0.6269	75.498	3,657.324	3.445	78.943	2,385.292
11	54.991	0.02648	1.456	55.953	0.5470	44.567	2,902.203	2.734	47.301	2,432.593
12	48.747	0.01863	908	55.201	0.5606	28.102	2,524.751	2.378	30.480	2,463.073
13	42.728	0.01766	755	54.355	0.5308	21.770	2,195.169	2.068	23.838	2,486.910
14	38.044	0.01574	599	53.402	0.4679	14.962	1,910.443	1.800	16.761	2,503.672
15	33.505	0.00828	278	52.330	0.4211	6.116	1,677.996	1.581	7.697	2,511.368
16	30.627	0.00283	87	51.123	0.4179	1.848	1,550.832	1.461	3.309	2,514.678
17	30.044	0.00285	86	49.764	0.4186	1.785	1,483.567	1.398	3.183	2,517.860
18	29.580	0.00274	81	48.234	0.4195	1.639	1,417.790	1.336	2.975	2,520.835
19	29.208	0.00243	71	46.512	0.4210	1.388	1,351.599	1.273	2.661	2,523.496
20	28.910	0.00201	58	44.574	0.4227	1.094	1,283.360	1.209	2.303	2,525.799
21	28.673	0.00161	46	42.392	0.4247	831	1,211.508	1.141	1.972	2,527.770
22	28.484	0.00124	35	39.935	0.4268	602	1,134.618	1.069	1.671	2,529.441
23	28.338	0.00092	26	37.170	0.4290	417	1,051.256	990	1.407	2,530.848
24	28.226	0.00065	18	34.057	0.4312	268	959.854	904	1.172	2,532.021
25	28.141	0.00043	12	30.553	0.4334	159	858.802	809	968	2,532.989
26	28.077	0.00026	7	26.608	0.4358	85	746.411	703	788	2,533.777
27	28.028	0.00015	4	22.167	0.4383	40	620.889	585	625	2,534.402
28	27.992	0.00008	2	17.167	0.4408	16	480.307	452	469	2,534.871
29	27.964	0.00004	1	11.540	0.4435	5	322.570	304	309	2,535.180
30	27.942	0.00002	0	5.204	0.4462	1	145.380	137	138	2,535.318
31	27.926		0			0	0	0	0	2,535.318
	27.926									
Total			68.058			2,392.850		142.467	2,535.318	

**Federal Housing Administration - Premium Earnings - Unlocked
(S000)**

Endorsement Year: 1985

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Termination	Premium Refund Percentage	Amount Refunded in Year	umulative Amount Refunded	Cumulative Expenses, Costs and Refunds	Incremental Expenses, Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00241	963	0.99000	2.116	2.116	26.908	26.908	2.874.452	10.06%	2.134.185	1.00000	887.292
0.10615	42.323	0.93922	88.233	90.349	259.915	233.006	2.641.446	9.39%	2.090.884	1.00000	887.292
0.22939	81.037	0.81922	147.358	237.707	837.566	577.652	2.063.794	9.08%	1.677.429	0.81406	722.305
0.10446	27.275	0.66922	40.516	278.223	1.439.613	602.047	1.461.747	8.54%	1.193.454	0.57918	513.905
0.08495	18.586	0.53767	22.182	300.404	1.873.804	434.191	1.027.557	8.59%	843.517	0.40936	363.221
0.10509	19.827	0.42689	18.787	319.191	2.170.662	296.858	730.699	8.93%	609.013	0.29555	262.243
0.12739	20.526	0.34533	15.734	334.925	2.382.311	211.649	519.050	8.85%	442.095	0.21455	190.367
0.22301	30.113	0.28378	18.968	353.893	2.554.150	171.839	347.210	7.59%	297.408	0.14433	128.065
0.23328	23.493	0.23300	12.150	366.042	2.672.392	118.242	228.969	6.65%	195.076	0.09467	84.000
0.23020	17.080	0.00000	0	366.042	2.751.335	78.943	150.026	6.77%	126.712	0.06149	54.562
0.08705	4.787	0.00000	0	366.042	2.798.635	47.301	102.725	7.64%	87.318	0.04238	37.599
0.10486	5.112	0.00000	0	366.042	2.829.115	30.480	72.245	6.33%	61.415	0.02980	26.446
0.09194	3.929	0.00000	0	366.042	2.852.953	23.838	48.407	6.51%	40.812	0.01981	17.574
0.10358	3.941	0.00000	0	366.042	2.869.714	16.761	31.646	5.68%	25.900	0.01257	11.152
0.07762	2.601	0.00000	0	366.042	2.877.411	7.697	23.950	5.00%	19.308	0.00937	8.314
0.01619	496	0.00000	0	366.042	2.880.720	3.309	20.640	5.00%	16.882	0.00819	7.270
0.01260	379	0.00000	0	366.042	2.883.903	3.183	17.458	5.00%	14.465	0.00702	6.229
0.00985	291	0.00000	0	366.042	2.886.878	2.975	14.483	5.00%	12.140	0.00589	5.228
0.00776	227	0.00000	0	366.042	2.889.539	2.661	11.822	5.00%	10.021	0.00486	4.315
0.00619	179	0.00000	0	366.042	2.891.841	2.303	9.519	5.00%	8.162	0.00396	3.515
0.00498	143	0.00000	0	366.042	2.893.813	1.972	7.547	5.00%	6.550	0.00318	2.820
0.00388	111	0.00000	0	366.042	2.895.484	1.671	5.877	5.00%	5.165	0.00251	2.224
0.00303	86	0.00000	0	366.042	2.896.891	1.407	4.470	5.00%	3.982	0.00193	1.715
0.00237	67	0.00000	0	366.042	2.898.063	1.172	3.297	5.00%	2.980	0.00145	1.283
0.00186	52	0.00000	0	366.042	2.899.032	968	2.329	5.00%	2.136	0.00104	920
0.00147	41	0.00000	0	366.042	2.899.820	788	1.541	5.00%	1.436	0.00070	618
0.00116	32	0.00000	0	366.042	2.900.444	625	916	5.00%	867	0.00042	373
0.00092	26	0.00000	0	366.042	2.900.913	469	447	5.00%	430	0.00021	185
0.00073	20	0.00000	0	366.042	2.901.222	309	138	5.00%	135	0.00007	58
0.00059	16	0.00000	0	366.042	2.901.360	138	0	5.00%	0	0.00000	0
	0		0	366.042	2.901.360	0	0		0	0.00000	0

303.757

366.042

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1986

Total MIP Collected:	\$2,129,353
Premium %:	3.70%
Total Endorsement Amt	\$57,515,839
Number of Endorsemen	925,006
Average Endorsements:	\$62,179
Average Premium:	\$2,302
Administrative Expense	0.000942
Contract Interest Rate	10.13%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	925,006	0.00012	112	62,092	0.5785	4,007	57,281,362	53,959	57,966	57,966
2	920,048	0.00470	4,327	61,731	0.7388	197,347	55,576,949	52,353	249,700	307,667
3	880,555	0.01766	15,554	61,334	0.6434	613,801	52,767,423	49,707	663,508	971,175
4	840,110	0.02193	18,427	60,895	0.6308	707,856	49,740,844	46,856	754,712	1,725,887
5	793,557	0.02056	16,313	60,410	0.5989	590,202	46,311,791	43,626	633,827	2,359,714
6	739,691	0.01885	13,940	59,875	0.5711	476,683	42,585,382	40,115	516,798	2,876,512
7	682,784	0.01703	11,630	59,285	0.6144	423,642	37,160,023	35,005	458,647	3,335,159
8	570,832	0.01578	9,008	58,633	0.5633	297,536	28,831,385	27,159	324,695	3,659,854
9	412,626	0.01723	7,108	57,913	0.5544	228,224	20,691,692	19,492	247,715	3,907,569
10	301,952	0.01753	5,294	57,119	0.6164	186,374	16,425,121	15,472	201,847	4,109,416
11	273,170	0.01423	3,886	56,242	0.5481	119,789	14,354,966	13,522	133,312	4,242,728
12	237,302	0.01339	3,177	55,274	0.5311	93,279	12,372,339	11,655	104,934	4,347,662
13	210,371	0.01162	2,444	54,206	0.5283	69,987	10,475,895	9,868	79,855	4,427,517
14	176,154	0.00745	1,313	53,026	0.4165	28,993	8,729,333	8,223	37,216	4,464,733
15	153,093	0.00358	549	51,724	0.4178	11,855	7,704,640	7,258	19,112	4,483,846
16	144,820	0.00357	517	50,287	0.4111	10,688	7,160,188	6,745	17,433	4,501,279
17	139,953	0.00339	475	48,701	0.4118	9,527	6,718,550	6,329	15,856	4,517,135
18	135,959	0.00298	405	46,949	0.4130	7,852	6,306,074	5,940	13,792	4,530,927
19	132,673	0.00245	325	45,016	0.4146	6,066	5,911,119	5,568	11,635	4,542,562
20	129,948	0.00197	256	42,883	0.4163	4,561	5,523,486	5,203	9,764	4,552,326
21	127,662	0.00153	195	40,527	0.4182	3,307	5,135,728	4,838	8,144	4,560,471
22	125,785	0.00116	146	37,927	0.4201	2,323	4,741,262	4,466	6,789	4,567,260
23	124,236	0.00084	104	35,057	0.4221	1,540	4,332,892	4,082	5,621	4,572,881
24	122,957	0.00058	71	31,888	0.4241	964	3,903,942	3,678	4,641	4,577,522
25	121,894	0.00038	46	28,391	0.4263	554	3,448,059	3,248	3,802	4,581,325
26	121,004	0.00023	28	24,530	0.4285	292	2,959,104	2,787	3,080	4,584,404
27	120,256	0.00013	16	20,269	0.4308	140	2,430,997	2,290	2,430	4,586,834
28	119,621	0.00007	9	15,564	0.4332	59	1,857,585	1,750	1,809	4,588,643
29	119,076	0.00004	5	10,372	0.4357	21	1,232,540	1,161	1,182	4,589,825
30	118,602	0.00002	2	4,639	0.4383	5	549,262	517	522	4,590,347
31	118,185		0			0	0	0	0	4,590,347
	118,185									
Total			115,680			4,097,474		492,873	4,590,347	

**Federal Housing Administration - Premium Earnings - Unlocked
(S000)**

Endorsement Year:	1987
Total MIP Collected:	\$2,437,376
Premium %:	3.48%
Total Endorsement Amt.:	\$69,943,519
Number of Endorsements	1,121,992
Average Endorsements:	\$62,339
Average Premium:	\$2,172
Administrative Expenses:	0.000942
Contract Interest Rate:	9.27%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	1,121,992	0.00011	127	62,235	0.5795	4,593	69,738,170	65,693	70,287	70,287
2	1,119,129	0.00349	3,902	61,808	0.8702	209,883	68,702,337	64,718	274,600	344,887
3	1,103,974	0.01035	11,431	61,340	0.6692	469,244	66,756,401	62,885	532,128	877,016
4	1,072,644	0.01263	13,551	60,827	0.6995	576,549	63,861,390	60,157	636,706	1,513,722
5	1,027,122	0.01314	13,497	60,266	0.6524	530,660	60,386,277	56,884	587,544	2,101,265
6	976,865	0.01306	12,759	59,652	0.5614	427,260	55,395,668	52,183	479,443	2,580,709
7	880,432	0.01230	10,825	58,979	0.6030	385,024	46,593,086	43,891	428,915	3,009,623
8	699,545	0.01337	9,356	58,243	0.4981	271,419	36,259,338	34,156	305,576	3,315,199
9	545,557	0.01312	7,156	57,437	0.4679	192,341	30,076,163	28,332	220,672	3,535,871
10	501,717	0.01109	5,564	56,555	0.4176	131,417	26,749,094	25,198	156,615	3,692,486
11	444,241	0.01101	4,890	55,588	0.5058	137,475	23,442,058	22,082	159,557	3,852,043
12	399,177	0.00987	3,941	54,530	0.5062	108,797	20,020,270	18,859	127,656	3,979,699
13	335,104	0.00671	2,247	53,372	0.4197	50,334	16,628,064	15,664	65,998	4,045,697
14	287,996	0.00556	1,601	52,104	0.4206	35,093	14,468,793	13,630	48,723	4,094,420
15	267,386	0.00559	1,495	50,716	0.4207	31,889	13,122,672	12,362	44,250	4,138,670
16	250,115	0.00533	1,334	49,195	0.4138	27,146	12,044,029	11,345	38,492	4,177,162
17	239,524	0.00468	1,120	47,531	0.4148	22,090	11,175,471	10,527	32,617	4,209,779
18	230,713	0.00384	887	45,709	0.4161	16,868	10,376,575	9,775	26,643	4,236,422
19	223,314	0.00309	690	43,714	0.4176	12,589	9,624,342	9,066	21,655	4,258,076
20	217,017	0.00241	522	41,530	0.4193	9,091	8,902,714	8,386	17,477	4,275,554
21	211,720	0.00183	388	39,139	0.4211	6,399	8,198,741	7,723	14,122	4,289,676
22	207,239	0.00134	277	36,521	0.4229	4,279	7,498,868	7,064	11,343	4,301,019
23	203,427	0.00094	191	33,654	0.4247	2,726	6,791,177	6,397	9,124	4,310,142
24	200,160	0.00062	124	30,516	0.4266	1,613	6,064,941	5,713	7,326	4,317,469
25	197,336	0.00039	77	27,080	0.4287	888	5,310,466	5,002	5,891	4,323,359
26	194,874	0.00023	45	23,318	0.4308	455	4,518,760	4,257	4,712	4,328,071
27	192,706	0.00013	26	19,199	0.4330	213	3,681,255	3,468	3,681	4,331,752
28	190,775	0.00007	14	14,690	0.4353	89	2,789,668	2,628	2,717	4,334,469
29	189,035	0.00004	7	9,753	0.4377	31	1,835,852	1,729	1,760	4,336,229
30	187,445	0.00002	4	4,347	0.4401	7	811,687	765	771	4,337,000
31	185,969		0			0	0	0	0	4,337,000
	185,969									
Total			108,048			3,666,462		670,539	4,337,000	

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1987

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Termination	Premium Refund Percentage	Amount Refunde in Year	Cumulative Amount Refunded	Cumulative Expenses, Costs and Refunds	Incremental Expenses, Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00244	2.735	0.99000	5.883	5.883	76.170	76.170	4,619.996	9.08%	3,218.036	1.00000	2,437.376
0.01005	11.253	0.93932	22.962	28.845	373.732	297.562	4,322.434	8.54%	3,182.849	1.00000	2,437.376
0.01803	19.899	0.81932	35.418	64.263	941.278	567.547	3,754.887	8.59%	2,864.835	0.90782	2,212.705
0.02981	31.970	0.66932	46.485	110.748	1,624.470	683.191	3,071.696	8.93%	2,407.621	0.76294	1,859.568
0.03579	36.761	0.53796	42.960	153.708	2,254.973	630.503	2,441.192	8.85%	1,962.883	0.62201	1,516.067
0.08565	83.673	0.42727	77.665	231.373	2,812.081	557.108	1,884.084	7.59%	1,534.003	0.48610	1,184.813
0.19316	170.062	0.34591	127.793	359.165	3,368.789	556.707	1,327.377	6.65%	1,061.094	0.33624	819.554
0.20675	144.632	0.00000	0	359.165	3,674.364	305.576	1,021.801	6.77%	817.180	0.25895	631.163
0.06724	36.684	0.00000	0	359.165	3,895.037	220.672	801.129	7.64%	650.665	0.20619	502.553
0.10347	51.911	0.00000	0	359.165	4,051.651	156.615	644.514	6.33%	530.357	0.16806	409.630
0.09043	40.175	0.00000	0	359.165	4,211.208	159.557	484.957	6.51%	400.214	0.12682	309.113
0.15064	60.132	0.00000	0	359.165	4,338.864	127.656	357.301	5.68%	291.715	0.09244	225.311
0.13387	44.860	0.00000	0	359.165	4,404.862	65.998	291.303	5.00%	238.673	0.07563	184.343
0.06600	19.009	0.00000	0	359.165	4,453.585	48.723	242.580	5.00%	200.681	0.06359	155.000
0.05900	15.776	0.00000	0	359.165	4,497.835	44.250	198.330	5.00%	165.372	0.05240	127.728
0.03701	9.257	0.00000	0	359.165	4,536.327	38.492	159.839	5.00%	134.199	0.04253	103.651
0.03211	7.691	0.00000	0	359.165	4,568.944	32.617	127.221	5.00%	107.486	0.03406	83.018
0.02823	6.512	0.00000	0	359.165	4,595.587	26.643	100.579	5.00%	85.559	0.02711	66.083
0.02511	5.608	0.00000	0	359.165	4,617.242	21.655	78.924	5.00%	67.648	0.02144	52.249
0.02200	4.775	0.00000	0	359.165	4,634.719	17.477	61.446	5.00%	53.121	0.01683	41.029
0.01933	4.093	0.00000	0	359.165	4,648.841	14.122	47.324	5.00%	41.306	0.01309	31.904
0.01706	3.535	0.00000	0	359.165	4,660.184	11.343	35.981	5.00%	31.749	0.01006	24.522
0.01512	3.076	0.00000	0	359.165	4,669.308	9.124	26.858	5.00%	23.987	0.00760	18.527
0.01349	2.700	0.00000	0	359.165	4,676.634	7.326	19.532	5.00%	17.679	0.00560	13.655
0.01209	2.385	0.00000	0	359.165	4,682.525	5.891	13.641	5.00%	12.527	0.00397	9.676
0.01089	2.123	0.00000	0	359.165	4,687.236	4.712	8.929	5.00%	8.325	0.00264	6.430
0.00988	1.905	0.00000	0	359.165	4,690.917	3.681	5.248	5.00%	4.970	0.00157	3.839
0.00905	1.726	0.00000	0	359.165	4,693.634	2.717	2.532	5.00%	2.435	0.00077	1.880
0.00837	1.583	0.00000	0	359.165	4,695.394	1.760	771	5.00%	753	0.00024	582
0.00785	1.472	0.00000	0	359.165	4,696.165	771	0	5.00%	0	0.00000	0
	0		0	359.165	4,696.165	0	0		0	0.00000	0

827.975

359.165

**Federal Housing Administration - Premium Earnings - Unlocked
(5000)**

Endorsement Year: 1988

Total MIP Collected:	\$1,339,547
Premium %:	3.58%
Total Endorsement Am	\$37,431,316
Number of Endorseme	615,814
Average Endorsements	\$60.783
Average Premium:	\$2.175
Administrative Expens	0.000942
Contract Interest Rate:	10.05%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	umulative Claim and Expense Costs
1	615,814	0.00012	76	60.697	0.5796	2,667	37,302,372	35,139	37,806	37,806
2	613,321	0.00445	2,732	60.339	0.7156	117,974	36,633,318	34,509	152,482	190,288
3	600,927	0.01243	7,472	59.944	0.6304	282,381	35,217,953	33,175	315,556	505,844
4	574,093	0.01652	9,482	59.509	0.5350	301,844	33,062,544	31,145	332,989	838,833
5	537,083	0.01885	10,124	59.029	0.5552	331,782	29,178,843	27,486	359,268	1,198,101
6	451,546	0.01854	8,370	58.499	0.5270	258,057	22,734,852	21,416	279,473	1,477,574
7	325,724	0.02128	6,932	57.915	0.5233	210,092	16,274,071	15,330	225,422	1,702,997
8	236,275	0.02231	5,272	57.271	0.4778	144,252	12,844,248	12,099	156,351	1,859,348
9	212,272	0.01836	3,897	56.560	0.4752	104,743	11,182,571	10,534	115,277	1,974,625
10	183,154	0.01764	3,231	55.776	0.4670	84,153	9,613,775	9,056	93,209	2,067,835
11	161,577	0.01588	2,566	54.911	0.4563	64,298	8,136,157	7,664	71,962	2,139,797
12	134,764	0.01058	1,425	53.957	0.4235	32,570	6,790,753	6,397	38,967	2,178,763
13	116,946	0.01061	1,241	52.905	0.4244	27,859	5,996,963	5,649	33,508	2,212,272
14	109,762	0.01116	1,225	51.744	0.4242	26,881	5,519,597	5,199	32,081	2,244,353
15	103,580	0.01107	1,147	50.464	0.4243	24,558	5,093,581	4,798	29,357	2,273,709
16	98,290	0.01002	985	49.052	0.4203	20,302	4,723,080	4,449	24,752	2,298,461
17	94,285	0.00845	796	47.494	0.4213	15,934	4,397,689	4,143	20,077	2,318,538
18	90,904	0.00694	631	45.776	0.4225	12,206	4,095,219	3,858	16,064	2,334,601
19	88,021	0.00551	485	43.881	0.4239	9,015	3,808,823	3,588	12,603	2,347,204
20	85,577	0.00426	364	41.791	0.4253	6,477	3,532,815	3,328	9,804	2,357,008
21	83,495	0.00313	262	39.485	0.4268	4,410	3,261,568	3,072	7,483	2,364,491
22	81,711	0.00221	181	36.942	0.4283	2,858	2,990,043	2,817	5,675	2,370,166
23	80,168	0.00146	117	34.137	0.4300	1,715	2,713,615	2,556	4,271	2,374,437
24	78,818	0.00091	72	31.043	0.4318	959	2,428,096	2,287	3,246	2,377,683
25	77,619	0.00054	42	27.630	0.4336	501	2,129,631	2,006	2,507	2,380,190
26	76,537	0.00030	23	23.865	0.4355	242	1,814,669	1,709	1,951	2,382,141
27	75,541	0.00016	12	19.712	0.4375	107	1,479,916	1,394	1,501	2,383,642
28	74,609	0.00009	6	15.132	0.4396	42	1,122,266	1,057	1,099	2,384,742
29	73,719	0.00004	3	10.080	0.4418	14	738,741	696	710	2,385,452
30	72,855	0.00002	2	4.507	0.4440	3	326,466	308	311	2,385,763
31	72,001		0			0	0	0	0	2,385,763
	72,001									
Total			69,173			2,088,897		296,866	2,385,763	

Federal Housing Administration - Premium Earnings - Unlocked
(5000)

Endorsement Year: 1988

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Terminations	Premium Refund Percentage	Amount Refunded in Year	umulative Amount Refunded	Cumulative Expenses, Costs and Refunds	Incremental Expenses, Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00393	2.417	0.99000	5.206	5.206	43.012	43.012	2,647.686	8.54%	1,882.662	1.00000	1,339.547
0.01575	9.662	0.93960	19.747	24.953	215.242	172.230	2,475.456	8.59%	1,864.908	1.00000	1,339.547
0.03222	19.361	0.81960	34.517	59.471	565.315	350.073	2,125.383	8.93%	1,666.074	0.90096	1,206.879
0.04795	27.528	0.66960	40.096	99.567	938.400	373.085	1,752.298	8.85%	1,424.278	0.77020	1,031.725
0.14041	75.413	0.53879	88.383	187.950	1,386.051	447.652	1,304.647	7.59%	1,068.051	0.57757	773.680
0.26011	117.452	0.42838	109.446	297.396	1,774.971	388.919	915.727	6.65%	737.433	0.39878	534.186
0.25334	82.518	0.04200	7.539	304.935	2,007.932	232.961	682.766	6.77%	546.640	0.29561	395.978
0.07928	18.731	0.00000	0	304.935	2,164.283	156.351	526.415	7.64%	426.189	0.23047	308.725
0.11881	25.221	0.00000	0	304.935	2,279.560	115.277	411.137	6.33%	334.297	0.18078	242.160
0.10017	18.346	0.00000	0	304.935	2,372.770	93.209	317.928	6.51%	259.864	0.14053	188.242
0.15006	24.246	0.00000	0	304.935	2,444.732	71.962	245.966	5.68%	200.647	0.10850	145.346
0.12164	16.393	0.00000	0	304.935	2,483.699	38.967	206.999	5.00%	170.750	0.09234	123.689
0.05082	5.943	0.00000	0	304.935	2,517.207	33.508	173.491	5.00%	144.952	0.07839	105.001
0.04516	4.957	0.00000	0	304.935	2,549.288	32.081	141.410	5.00%	119.327	0.06453	86.438
0.04000	4.143	0.00000	0	304.935	2,578.644	29.357	112.053	5.00%	95.211	0.05149	68.970
0.03073	3.020	0.00000	0	304.935	2,603.396	24.752	87.302	5.00%	74.609	0.04035	54.046
0.02742	2.585	0.00000	0	304.935	2,623.473	20.077	67.225	5.00%	57.767	0.03124	41.846
0.02477	2.252	0.00000	0	304.935	2,639.536	16.064	51.161	5.00%	44.195	0.02390	32.014
0.02225	1.959	0.00000	0	304.935	2,652.139	12.603	38.559	5.00%	33.491	0.01811	24.260
0.02008	1.718	0.00000	0	304.935	2,661.944	9.804	28.754	5.00%	25.119	0.01358	18.196
0.01823	1.522	0.00000	0	304.935	2,669.426	7.483	21.272	5.00%	18.707	0.01012	13.551
0.01667	1.362	0.00000	0	304.935	2,675.101	5.675	15.597	5.00%	13.828	0.00748	10.017
0.01538	1.233	0.00000	0	304.935	2,679.372	4.271	11.326	5.00%	10.142	0.00548	7.347
0.01430	1.127	0.00000	0	304.935	2,682.618	3.246	8.079	5.00%	7.323	0.00396	5.305
0.01341	1.041	0.00000	0	304.935	2,685.125	2.507	5.573	5.00%	5.121	0.00277	3.709
0.01270	972	0.00000	0	304.935	2,687.077	1.951	3.621	5.00%	3.377	0.00183	2.446
0.01218	920	0.00000	0	304.935	2,688.577	1.501	2.120	5.00%	2.008	0.00109	1.455
0.01184	883	0.00000	0	304.935	2,689.677	1.099	1.021	5.00%	982	0.00053	711
0.01168	861	0.00000	0	304.935	2,690.387	710	311	5.00%	303	0.00016	220
0.01171	853	0.00000	0	304.935	2,690.698	311	0	5.00%	0	0.00000	0
	0		0	304.935	2,690.698	0	0		0	0.00000	

474.640

304.935

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1989

Total MIP Collected:	\$1,439,286
Premium %:	3.62%
Total Endorsement Amt.	\$39,763,058
Number of Endorsement	634,624
Average Endorsements:	\$62,656
Average Premium:	\$2,268
Administrative Expenses	0.000942
Contract Interest Rate:	10.07%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	634,624	0.00019	119	62,567	0.5815	4,327	39,595,336	37,299	41,626	41,626
2	631,065	0.00382	2,408	62,200	0.7538	112,895	38,770,296	36,522	149,416	191,042
3	615,571	0.01205	7,420	61,795	0.5733	262,893	37,009,757	34,863	297,756	488,798
4	582,261	0.01689	9,832	61,347	0.5140	310,021	32,772,015	30,871	340,893	829,691
5	486,147	0.01924	9,351	60,854	0.5033	286,414	25,125,047	23,668	310,081	1,139,773
6	339,601	0.02395	8,133	60,310	0.5024	246,441	17,436,428	16,425	262,866	1,402,639
7	238,628	0.02555	6,096	59,709	0.5096	185,497	13,475,327	12,694	198,191	1,600,830
8	212,736	0.02122	4,514	59,047	0.4897	130,517	11,661,049	10,985	141,502	1,742,332
9	182,240	0.01998	3,641	58,316	0.4794	101,793	9,984,606	9,405	111,199	1,853,530
10	160,191	0.01674	2,681	57,510	0.4724	72,837	8,416,039	7,928	80,765	1,934,296
11	132,491	0.01138	1,508	56,620	0.4276	36,520	6,978,489	6,574	43,093	1,977,389
12	114,010	0.01149	1,310	55,639	0.4285	31,234	6,138,266	5,782	37,016	2,014,405
13	106,636	0.01258	1,341	54,556	0.4283	31,336	5,638,850	5,312	36,648	2,051,053
14	100,081	0.01290	1,291	53,362	0.4284	29,518	5,186,721	4,886	34,404	2,085,457
15	94,317	0.01201	1,133	52,044	0.4288	25,286	4,778,992	4,502	29,788	2,115,245
16	89,334	0.01039	928	50,590	0.4261	20,013	4,420,045	4,164	24,177	2,139,422
17	85,404	0.00878	750	48,987	0.4273	15,700	4,100,183	3,862	19,562	2,158,984
18	81,996	0.00716	587	47,217	0.4287	11,875	3,802,166	3,582	15,457	2,174,440
19	79,054	0.00569	450	45,265	0.4301	8,755	3,520,725	3,317	12,072	2,186,512
20	76,506	0.00431	330	43,112	0.4316	6,133	3,250,657	3,062	9,196	2,195,708
21	74,296	0.00313	233	40,736	0.4332	4,103	2,987,221	2,814	6,917	2,202,625
22	72,368	0.00212	154	38,115	0.4349	2,548	2,725,992	2,568	5,115	2,207,741
23	70,675	0.00136	96	35,223	0.4367	1,480	2,462,961	2,320	3,800	2,211,541
24	69,176	0.00083	57	32,032	0.4385	807	2,194,424	2,067	2,874	2,214,415
25	67,837	0.00048	33	28,513	0.4405	409	1,916,979	1,806	2,215	2,216,630
26	66,628	0.00026	17	24,630	0.4425	191	1,627,480	1,533	1,724	2,218,354
27	65,527	0.00014	9	20,346	0.4447	80	1,322,942	1,246	1,327	2,219,680
28	64,518	0.00007	4	15,620	0.4469	30	1,000,458	942	972	2,220,653
29	63,584	0.00003	2	10,406	0.4491	9	657,116	619	628	2,221,281
30	62,715	0.00001	1	4,653	0.4515	2	289,945	273	275	2,221,556
31	61,900		0			0	0	0	0	2,221,556
	61,900									
Total			64,429			1,939,665		281,890	2,221,556	

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1989

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Termination	Premium Refund Percentage	Amount Refunded in Year	Cumulative Amount Refunded	Cumulative Expenses, Costs and Refunds	Incremental Expenses, Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00542	3.441	0.99000	7.725	7.725	49.351	49.351	2,588.430	8.59%	1,884.408	1.00000	1,439.286
0.02074	13.085	0.93971	27.888	35.612	226.655	177.304	2,411.126	8.93%	1,867.634	1.00000	1,439.286
0.04206	25.890	0.81971	48.131	83.743	572.541	345.887	2,065.239	8.85%	1,672.052	0.90056	1,296.161
0.14819	86.283	0.66971	131.051	214.794	1,044.485	471.944	1,593.295	7.59%	1,309.434	0.70525	1,015.062
0.28221	137.195	0.53914	167.751	382.545	1,522.318	477.833	1,115.462	6.65%	903.046	0.48638	700.034
0.27338	92.840	0.15100	31.794	414.339	1,816.978	294.660	820.803	6.77%	659.712	0.35532	511.403
0.08296	19.796	0.04200	1.886	416.225	2,017.054	200.077	620.726	7.64%	502.535	0.27066	389.561
0.12214	25.983	0.00000	0	416.225	2,158.556	141.502	479.224	6.33%	388.433	0.20921	301.110
0.10101	18.407	0.00000	0	416.225	2,269.755	111.199	368.025	6.51%	298.959	0.16102	231.751
0.15618	25.019	0.00000	0	416.225	2,350.520	80.765	287.260	5.68%	232.913	0.12545	180.552
0.12810	16.972	0.00000	0	416.225	2,393.614	43.093	244.167	5.00%	200.401	0.10793	155.349
0.05319	6.065	0.00000	0	416.225	2,430.630	37.016	207.151	5.00%	172.491	0.09290	133.714
0.04890	5.214	0.00000	0	416.225	2,467.277	36.648	170.503	5.00%	145.563	0.07732	111.289
0.04469	4.472	0.00000	0	416.225	2,501.682	34.404	136.099	5.00%	115.487	0.06220	89.525
0.04082	3.850	0.00000	0	416.225	2,531.469	29.788	106.311	5.00%	90.738	0.04887	70.339
0.03360	3.002	0.00000	0	416.225	2,555.646	24.177	82.134	5.00%	70.501	0.03797	54.652
0.03112	2.658	0.00000	0	416.225	2,575.208	19.562	62.572	5.00%	53.981	0.02907	41.846
0.02873	2.355	0.00000	0	416.225	2,590.665	15.457	47.115	5.00%	40.841	0.02200	31.660
0.02654	2.098	0.00000	0	416.225	2,602.737	12.072	35.043	5.00%	30.513	0.01643	23.654
0.02458	1.880	0.00000	0	416.225	2,611.933	9.196	25.848	5.00%	22.616	0.01218	17.532
0.02282	1.696	0.00000	0	416.225	2,618.850	6.917	18.931	5.00%	16.659	0.00897	12.914
0.02127	1.539	0.00000	0	416.225	2,623.965	5.115	13.815	5.00%	12.250	0.00660	9.496
0.01984	1.402	0.00000	0	416.225	2,627.766	3.800	10.015	5.00%	8.969	0.00483	6.952
0.01853	1.282	0.00000	0	416.225	2,630.640	2.874	7.141	5.00%	6.472	0.00349	5.017
0.01734	1.176	0.00000	0	416.225	2,632.854	2.215	4.926	5.00%	4.526	0.00244	3.509
0.01625	1.083	0.00000	0	416.225	2,634.578	1.724	3.202	5.00%	2.986	0.00161	2.315
0.01528	1.001	0.00000	0	416.225	2,635.905	1.327	1.875	5.00%	1.776	0.00096	1.377
0.01441	929	0.00000	0	416.225	2,636.877	972	903	5.00%	869	0.00047	673
0.01364	867	0.00000	0	416.225	2,637.505	628	275	5.00%	268	0.00014	208
0.01298	814	0.00000	0	416.225	2,637.780	275	0	5.00%	0	0.00000	0
0	0	0.00000	0	416.225	2,637.780	0	0	0	0	0.00000	0

508.295

416.225

Federal Housing Administration - Premium Earnings - Unlocked
(5000)

Endorsement Year: 1990

Total MIP Collected:	\$1,707,593
Premium %:	3.62%
Total Endorsement Amt	\$47,126,046
Number of Endorsemen	715,747
Average Endorsements:	\$65.842
Average Premium:	\$2.386
Administrative Expense	0.000942
Contract Interest Rate:	9.71%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	715,747	0.00007	49	65.741	0.5816	1,889	46,962,516	44,239	46,128	46,128
2	712,956	0.00335	2,387	65.327	0.6368	99,306	46,011,232	43,343	142,648	188,776
3	695,686	0.01144	7,959	64.871	0.4903	253,166	42,688,452	40,213	293,378	482,154
4	620,407	0.01702	10,560	64.371	0.4633	314,959	33,772,284	31,813	346,772	828,927
5	428,901	0.02266	9,719	63.820	0.4760	295,225	23,078,186	21,740	316,965	1,145,891
6	294,328	0.02430	7,151	63.214	0.4915	222,169	17,602,741	16,582	238,751	1,384,642
7	262,594	0.01978	5,194	62.549	0.5384	174,906	15,225,480	14,342	189,248	1,573,890
8	224,242	0.01986	4,454	61.817	0.5006	137,827	13,022,392	12,267	150,094	1,723,984
9	197,080	0.01714	3,379	61.012	0.4765	98,223	10,943,401	10,309	108,532	1,832,516
10	161,649	0.01156	1,869	60.127	0.4269	47,988	8,992,188	8,471	56,459	1,888,974
11	137,456	0.01082	1,487	59.155	0.4274	37,600	7,890,704	7,433	45,033	1,934,008
12	129,327	0.01241	1,605	58.085	0.4269	39,806	7,297,579	6,874	46,680	1,980,688
13	121,946	0.01329	1,621	56.909	0.4267	39,359	6,751,565	6,360	45,719	2,026,408
14	115,329	0.01288	1,485	55.616	0.4269	35,257	6,252,646	5,890	41,147	2,067,554
15	109,520	0.01158	1,268	54.195	0.4275	29,382	5,798,109	5,462	34,844	2,102,398
16	104,453	0.01019	1,064	52.632	0.4244	23,771	5,387,323	5,075	28,846	2,131,245
17	100,263	0.00864	866	50.914	0.4256	18,775	5,011,484	4,721	23,496	2,154,740
18	96,597	0.00716	691	49.025	0.4269	14,468	4,656,977	4,387	18,855	2,173,595
19	93,387	0.00565	528	46.948	0.4283	10,608	4,318,408	4,068	14,676	2,188,271
20	90,579	0.00428	388	44.664	0.4297	7,444	3,990,659	3,759	11,203	2,199,475
21	88,116	0.00303	267	42.154	0.4313	4,857	3,668,735	3,456	8,313	2,207,787
22	85,948	0.00205	174	39.393	0.4330	2,976	3,347,962	3,154	6,130	2,213,917
23	84,027	0.00129	109	36.359	0.4347	1,718	3,023,876	2,848	4,567	2,218,484
24	82,309	0.00078	64	33.022	0.4366	928	2,692,366	2,536	3,465	2,221,949
25	80,757	0.00045	36	29.353	0.4385	465	2,349,696	2,213	2,679	2,224,628
26	79,341	0.00024	19	25.320	0.4405	214	1,992,418	1,877	2,091	2,226,718
27	78,039	0.00012	10	20.885	0.4426	89	1,617,265	1,523	1,612	2,228,330
28	76,832	0.00006	5	16.010	0.4448	32	1,221,052	1,150	1,182	2,229,513
29	75,707	0.00003	2	10.649	0.4470	10	800,592	754	764	2,230,276
30	74,652	0.00001	1	4.755	0.4493	2	352,630	332	334	2,230,610
31	73,656		0			0	0	0	0	2,230,610
	73,656									
Total			64,413			1,913,419		317,191	2,230,610	

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1990

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditional Prepayment Rate	Number of Non-Claim Terminations	Premium Refund Percentage	Amount Refunde in Year	Cumulative Amount Refunded	Cumulative Expenses. Costs and Refunds	Incremental Expenses. Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00383	2.742	0.99000	6.475	6.475	52.603	52.603	2,740.737	8.93%	2,040.679	1.00000	1,707.593
0.02088	14.883	0.93970	33.367	39.842	228.618	176.015	2,564.722	8.85%	2,037.640	1.00000	1,707.593
0.09677	67.319	0.81970	131.649	171.491	653.645	425.028	2,139.694	7.59%	1,751.434	0.87278	1,490.351
0.29166	180.946	0.66970	289.103	460.594	1,289.521	635.875	1,503.819	6.65%	1,211.227	0.60358	1,030.671
0.29110	124.854	0.30200	89.957	550.551	1,696.442	406.922	1,096.898	6.77%	872.757	0.43491	742.656
0.08352	24.583	0.15100	8.856	559.407	1,944.049	247.607	849.291	7.64%	682.544	0.34013	580.798
0.12627	33.158	0.04200	3.322	562.730	2,136.620	192.570	656.720	6.33%	527.177	0.26270	448.592
0.10126	22.708	0.00000	0	562.730	2,286.714	150.094	506.626	6.51%	406.594	0.20261	345.984
0.16264	32.053	0.00000	0	562.730	2,395.246	108.532	398.094	5.68%	318.117	0.15852	270.696
0.13810	22.324	0.00000	0	562.730	2,451.704	56.459	341.636	5.00%	276.170	0.13762	235.002
0.04832	6.642	0.00000	0	562.730	2,496.737	45.033	296.602	5.00%	243.833	0.12151	207.485
0.04466	5.776	0.00000	0	562.730	2,543.418	46.680	249.922	5.00%	208.191	0.10375	177.157
0.04096	4.995	0.00000	0	562.730	2,589.137	45.719	204.203	5.00%	171.752	0.08559	146.150
0.03750	4.325	0.00000	0	562.730	2,630.284	41.147	163.056	5.00%	138.177	0.06886	117.580
0.03469	3.799	0.00000	0	562.730	2,665.128	34.844	128.212	5.00%	109.381	0.05451	93.076
0.02992	3.125	0.00000	0	562.730	2,693.974	28.846	99.366	5.00%	85.292	0.04250	72.578
0.02792	2.799	0.00000	0	562.730	2,717.470	23.496	75.870	5.00%	65.481	0.03263	55.720
0.02608	2.519	0.00000	0	562.730	2,736.325	18.855	57.015	5.00%	49.434	0.02463	42.065
0.02441	2.280	0.00000	0	562.730	2,751.001	14.676	42.339	5.00%	36.868	0.01837	31.372
0.02291	2.075	0.00000	0	562.730	2,762.204	11.203	31.136	5.00%	27.231	0.01357	23.172
0.02157	1.901	0.00000	0	562.730	2,770.517	8.313	22.823	5.00%	20.074	0.01000	17.082
0.02032	1.746	0.00000	0	562.730	2,776.647	6.130	16.693	5.00%	14.797	0.00737	12.591
0.01916	1.610	0.00000	0	562.730	2,781.214	4.567	12.126	5.00%	10.857	0.00541	9.238
0.01808	1.488	0.00000	0	562.730	2,784.678	3.465	8.661	5.00%	7.849	0.00391	6.679
0.01708	1.380	0.00000	0	562.730	2,787.357	2.679	5.983	5.00%	5.497	0.00274	4.678
0.01617	1.283	0.00000	0	562.730	2,789.448	2.091	3.892	5.00%	3.630	0.00181	3.088
0.01534	1.197	0.00000	0	562.730	2,791.060	1.612	2.280	5.00%	2.159	0.00108	1.837
0.01459	1.121	0.00000	0	562.730	2,792.242	1.182	1.098	5.00%	1.056	0.00053	898
0.01392	1.054	0.00000	0	562.730	2,793.006	764	334	5.00%	326	0.00016	277
0.01333	995	0.00000	0	562.730	2,793.340	334	0	5.00%	0	0.00000	0
	0		0	562.730	2,793.340	0	0		0	0.00000	0

577.678

562.730

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1991

Total MIP Collected:	\$1,562,576
Premium %:	3.55%
Total Endorsement Amt.	\$44,066,687
Number of Endorsement	643,548
Average Endorsements:	\$68.475
Average Premium:	\$2.428
Administrative Expenses	0.000942
Contract Interest Rate:	9.40%

Claims and Administrative Expenses

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Fiscal Year	Survivors at Beginning of Year	Conditional Claim Rate	Number of Claims	Average Endorsement for CY at Midpoint	Claim Year Loss Rate	Claim Cost in Year	Dollars at Risk at Midpoint of Year	Administrative Expenses	Claim and Expense Costs in Year	Cumulative Claim and Expense Costs
1	643,548	0.00011	71	68.364	0.5631	2,717	43,910.007	41.363	44.080	44.080
2	641,053	0.00331	2,124	67.906	0.4122	59,454	42,246.097	39.796	99.250	143.330
3	603,203	0.01168	7,045	67.404	0.4241	201,388	35,324.462	33.276	234.664	377.993
4	444,940	0.01880	8,364	66.854	0.5009	280,069	25,171.579	23.712	303.780	681.774
5	308,094	0.02265	6,978	66.251	0.4990	230,715	19,371.358	18.248	248.963	930.737
6	276,696	0.01944	5,380	65.590	0.5426	191,461	16,808.389	15.834	207.295	1,138.032
7	235,837	0.02019	4,762	64.865	0.5527	170,724	14,343.513	13.512	184.235	1,322.267
8	206,422	0.01795	3,705	64.070	0.5140	122,022	11,957.718	11.264	133.286	1,455.553
9	166,847	0.01152	1,922	63.199	0.4116	49,997	9,695.177	9.133	59.129	1,514.682
10	139,965	0.00875	1,225	62.245	0.4110	31,329	8,379.410	7.893	39.222	1,553.904
11	129,275	0.01024	1,323	61.198	0.4101	33,211	7,630.571	7.188	40.399	1,594.303
12	120,097	0.01122	1,347	60.051	0.4095	33,132	6,976.096	6.571	39.703	1,634.006
13	112,242	0.01115	1,252	58.793	0.4093	30,129	6,403.038	6.032	36.160	1,670.167
14	105,573	0.01034	1,092	57.415	0.4094	25,658	5,898.199	5.556	31.214	1,701.380
15	99,886	0.00941	940	55.904	0.4097	21,525	5,446.687	5.131	26.656	1,728.037
16	94,974	0.00827	786	54.247	0.4058	17,294	5,047.388	4.755	22.048	1,750.085
17	91,115	0.00713	649	52.431	0.4067	13,846	4,689.281	4.417	18.263	1,768.348
18	87,759	0.00587	515	50.440	0.4078	10,596	4,352.932	4.100	14.697	1,783.044
19	84,838	0.00466	396	48.258	0.4089	7,804	4,032.576	3.799	11.602	1,794.647
20	82,287	0.00347	286	45.866	0.4101	5,376	3,722.865	3.507	8.883	1,803.530
21	80,050	0.00246	197	43.244	0.4114	3,505	3,418.918	3.221	6.725	1,810.255
22	78,073	0.00167	130	40.369	0.4129	2,173	3,116.121	2.935	5.108	1,815.363
23	76,308	0.00108	83	37.218	0.4144	1,275	2,810.277	2.647	3.922	1,819.285
24	74,709	0.00067	50	33.764	0.4159	705	2,497.670	2.353	3.057	1,822.343
25	73,241	0.00040	29	29.977	0.4176	365	2,175.014	2.049	2.414	1,824.756
26	71,871	0.00023	16	25.826	0.4193	176	1,839.402	1.733	1.908	1,826.665
27	70,574	0.00012	9	21.276	0.4211	78	1,488.247	1.402	1.480	1,828.145
28	69,327	0.00007	5	16.288	0.4230	32	1,119.247	1.054	1.086	1,829.231
29	68,109	0.00004	2	10.820	0.4250	11	730.372	688	699	1,829.930
30	66,901	0.00002	1	4.825	0.4270	3	319.894	301	304	1,830.234
31	65,685		0			0	0	0	0	1,830.234
	65,685									
Total			50,684			1,546,765		283,469	1,830.234	

Federal Housing Administration - Premium Earnings - Unlocked
(S000)

Endorsement Year: 1991

Non-Claim Terminations and Refunds					Effects of Interest Income						
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Conditiona Prepaymen Rate	Number of Non-Claim Termination Percentage	Premium Refund Percentage	Amount Refunde in Year	Cumulative Amount Refunded	Cumulative Expenses. Costs and Refunds	Incrementa Expenses. Costs and Refunds	Cumulative Remaining Costs @ Year End	Interest Rates	PV of Remaining Costs @ Year End	Unearned Premium Factor @ Year End	Unearned MIP @ Year End
0.00377	2.425	0.99000	5.828	5.828	49.908	49.908	2.356.139	8.85%	1.818.674	1.00000	1.562.576
0.05573	35.726	0.93963	81.509	87.337	230.666	180.758	2.175.381	7.59%	1.769.218	0.98727	1.542.681
0.25069	151.218	0.81963	300.939	388.276	766.269	535.603	1.639.778	6.65%	1.333.746	0.74426	1.162.968
0.28876	128.482	0.49400	154.109	542.385	1.224.159	457.889	1.181.889	6.77%	950.905	0.53063	829.148
0.07926	24.420	0.30200	17.907	560.292	1.491.029	266.870	915.019	7.64%	746.678	0.41666	651.071
0.12822	35.479	0.15100	13.008	573.300	1.711.331	220.302	694.716	6.33%	566.775	0.31627	494.203
0.10453	24.653	0.04200	2.514	575.814	1.898.081	186.750	507.967	6.51%	410.939	0.22931	358.321
0.17377	35.870	0.00000	0	575.814	2.031.366	133.286	374.681	5.68%	297.262	0.16588	259.199
0.14959	24.959	0.00000	0	575.814	2.090.496	59.129	315.552	5.00%	251.535	0.14036	219.328
0.06763	9.466	0.00000	0	575.814	2.129.718	39.222	276.329	5.00%	223.921	0.12495	195.250
0.06076	7.855	0.00000	0	575.814	2.170.117	40.399	235.931	5.00%	193.721	0.10810	168.916
0.05419	6.508	0.00000	0	575.814	2.209.820	39.703	196.227	5.00%	162.723	0.09080	141.888
0.04826	5.417	0.00000	0	575.814	2.245.980	36.160	160.067	5.00%	133.806	0.07467	116.673
0.04353	4.595	0.00000	0	575.814	2.277.194	31.214	128.853	5.00%	108.512	0.06055	94.618
0.03977	3.973	0.00000	0	575.814	2.303.850	26.656	102.197	5.00%	86.623	0.04834	75.531
0.03235	3.073	0.00000	0	575.814	2.325.899	22.048	80.149	5.00%	68.361	0.03815	59.608
0.02971	2.707	0.00000	0	575.814	2.344.161	18.263	61.886	5.00%	53.066	0.02961	46.271
0.02741	2.405	0.00000	0	575.814	2.358.858	14.697	47.189	5.00%	40.659	0.02269	35.453
0.02541	2.156	0.00000	0	575.814	2.370.460	11.602	35.587	5.00%	30.803	0.01719	26.859
0.02371	1.951	0.00000	0	575.814	2.379.343	8.883	26.704	5.00%	23.241	0.01297	20.265
0.02223	1.779	0.00000	0	575.814	2.386.069	6.725	19.979	5.00%	17.512	0.00977	15.269
0.02095	1.635	0.00000	0	575.814	2.391.177	5.108	14.871	5.00%	13.153	0.00734	11.469
0.01987	1.516	0.00000	0	575.814	2.395.099	3.922	10.949	5.00%	9.792	0.00546	8.538
0.01898	1.418	0.00000	0	575.814	2.398.156	3.057	7.891	5.00%	7.148	0.00399	6.233
0.01830	1.340	0.00000	0	575.814	2.400.570	2.414	5.477	5.00%	5.033	0.00281	4.388
0.01782	1.281	0.00000	0	575.814	2.402.479	1.908	3.569	5.00%	3.329	0.00186	2.902
0.01755	1.239	0.00000	0	575.814	2.403.959	1.480	2.089	5.00%	1.978	0.00110	1.725
0.01751	1.214	0.00000	0	575.814	2.405.044	1.086	1.003	5.00%	965	0.00054	841
0.01770	1.206	0.00000	0	575.814	2.405.743	699	304	5.00%	297	0.00017	259
0.01816	1.215	0.00000	0	575.814	2.406.047	304	0	5.00%	0	0.00000	0
	0		0	575.814	2.406.047	0	0		0	0.00000	0

527.179

575.814

Notes to Unearned Premium Exhibit

This exhibit shows the calculation of the earning of the Mortgage Insurance Premium (MIP) by endorsement year.

(2) = For row 1: number of endorsements;

For other rows: [Col. (2) - Col. (4) - Col. (13)] of previous row.

(3) = Given.

(4) = Col. (2) x Col. (3)

(5) = Calculated based on the information at the top of the page; amortized over 30 years, interest compounded semi-annually.

(6) = Given.

(7) = Col. (4) x Col. (5) x Col. (6).

(8) = For row n: {[Col. (2), row n + Col. (2), row n+1]/2} x Col. (5).

(9) = Col. (8) x .000942, for all fiscal years prior to 1994; .000890 for 1994, .000995 for 1995, .000965 for 1996, .001022 for 1997, and .001030 for fiscal years subsequent to 1997.

(10) = Col. (7) + Col. (9).

(11) = Cumulation of Col. (10) through the given year.

(12) = Given.

(13) = Col. (2) x Col. (12).

(14) = Given.

(15) Col. (13) x Col. (14) x average premium given at top of page.

(16) = Cumulation of Col. (15) through the given year.

(17) = Col. (11) + Col. (16).

(18) = Col. (17) - previous row, Col. (17).

(19) = Col. (17), row 31 - Col. (17).

(20) = Given.

(21) = For row n: {[Col. (18), row n+1]/[(1 + Col. (20), row n+1)^{0.5}]} +
[Col. (21), row n+1]/[(1 + Col. (20), row n+1)].

(22) = Col. (21)/T (capped at a value of 1.000),

where T = {[Col. (18), row 1]/[(1 + Col. (20), row 1)^{0.25}]} + {[Col. (21), row 1]/[(1 + Col. (20), row 1)^{0.5}]}

(23) = Col. (22) x Total MIP collected, given at top of page

**Federal Housing Administration
Premiums Earning Summary, Locked**

Unearned Premiums at End of Given Fiscal Year

[illegible]

Federal Housing Administration
Premiums Earning Summary, Locked

Cumulative Premiums Earned Through Given Fiscal Year

Fiscal Year	Endorsement Year:							Total for Endorsement Years 1984-91
	1984	1985	1986	1987	1988	1989	1990	1991
1984	44.494							44.494
1985	134.599	99.617						234.216
1986	261.986	369.260	180.435					811.681
1987	348.786	630.416	610.546	150.388				1,740.136
1988	381.772	738.796	981.354	476.909	89.933			2,668.764
1989	397.312	791.940	1,244.442	845.433	292.357	103.820		3,675.304
1990	405.213	820.236	1,445.441	1,190.584	510.815	323.847	92.924	4,789.060
1991	410.044	838.434	1,594.295	1,471.779	692.268	552.899	345.636	5,989.089
1992	413.241	850.414	1,701.494	1,677.571	833.358	743.312	633.094	7,209.225
1993	415.590	858.765	1,782.442	1,826.356	936.707	891.736	875.458	8,226.068
1994	417.208	864.965	1,845.800	1,939.423	1,011.986	1,001.210	1,054.258	9,002.447
1995	418.415	869.371	1,896.821	2,028.333	1,069.963	1,081.463	1,186.248	9,594.656
1996	419.339	872.736	1,938.697	2,100.852	1,115.802	1,143.683	1,283.987	10,041.349
1997	420.166	875.331	1,973.867	2,161.153	1,154.733	1,193.168	1,359.738	10,394.303
1998	420.841	877.699	2,001.580	2,212.087	1,187.776	1,235.522	1,419.655	10,683.923
1999	421.376	879.648	2,026.438	2,252.591	1,215.738	1,271.809	1,470.343	10,924.249
2000	421.796	881.197	2,046.988	2,288.525	1,238.204	1,302.685	1,512.977	11,123.943
2001	422.136	882.420	2,063.478	2,318.226	1,258.020	1,327.509	1,549.409	11,287.826
2002	422.410	883.412	2,076.603	2,342.139	1,274.352	1,349.349	1,577.921	11,418.145
2003	422.632	884.218	2,087.281	2,361.212	1,287.491	1,367.354	1,603.208	11,523.509
2004	422.811	884.871	2,095.969	2,376.703	1,298.044	1,381.858	1,624.098	11,607.583
2005	422.956	885.401	2,103.033	2,389.296	1,306.590	1,393.505	1,640.891	11,674.530
2006	423.073	885.831	2,108.773	2,399.534	1,313.513	1,402.937	1,654.363	11,728.060
2007	423.168	886.180	2,113.439	2,407.838	1,319.116	1,410.578	1,665.290	11,771.039
2008	423.245	886.462	2,117.231	2,414.578	1,323.645	1,416.762	1,674.142	11,805.572
2009	423.307	886.691	2,120.308	2,420.036	1,327.309	1,421.758	1,681.309	11,833.339
2010	423.356	886.875	2,122.804	2,424.457	1,330.266	1,425.795	1,687.115	11,855.681
2011	423.395	887.024	2,124.813	2,428.034	1,332.653	1,429.059	1,691.812	11,873.657
2012	423.424	887.141	2,126.427	2,430.906	1,334.576	1,431.693	1,695.608	11,888.075
2013	423.442	887.230	2,127.711	2,433.206	1,336.118	1,433.812	1,698.675	11,899.605
2014	423.445	887.284	2,128.682	2,435.030	1,337.347	1,435.512	1,701.150	11,908.729
2015	423.445	887.292	2,129.264	2,436.415	1,338.315	1,436.863	1,703.135	11,915.680
2016	423.445	887.292	2,129.353	2,437.248	1,339.044	1,437.929	1,704.717	11,920.504
2017	423.445	887.292	2,129.353	2,437.376	1,339.480	1,438.733	1,705.968	11,923.529
2018	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.213	1,706.918	11,925.338
2019	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.503	11,926.223
2020	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.593	11,926.447

Federal Housing Administration
Premiums Earning Summary, Locked

Incremental Premiums Earned During Given Fiscal Year

Fiscal Year	Endorsement Year:								Total for Endorsement Years 1984-91
	1984	1985	1986	1987	1988	1989	1990	1991	
1984	44,494								44,494
1985	90,105	99,617							189,722
1986	127,387	269,643	180,435						577,465
1987	86,800	261,156	430,111	150,388					928,455
1988	32,986	108,380	370,808	326,521	89,933				928,628
1989	15,540	53,144	263,088	368,524	202,424	103,820			1,006,540
1990	7,901	28,296	200,999	345,151	218,458	220,027	92,924		1,113,756
1991	4,831	18,198	148,854	281,195	181,453	229,052	252,712	83,734	1,200,029
1992	3,197	11,980	107,199	205,792	141,090	190,413	287,458	273,007	1,220,136
1993	2,349	8,351	80,948	148,785	103,349	148,424	242,364	282,273	1,016,843
1994	1,618	6,200	63,358	113,067	75,279	109,474	178,800	228,583	776,379
1995	1,207	4,406	51,021	88,910	57,977	80,253	131,990	176,445	592,209
1996	924	3,365	41,876	72,519	45,839	62,220	97,739	122,211	446,693
1997	827	2,595	35,170	60,301	38,931	49,485	75,751	89,894	352,954
1998	675	2,368	27,713	50,934	33,043	42,354	59,917	72,616	289,620
1999	535	1,949	24,858	40,504	27,962	36,287	50,688	57,543	240,326
2000	420	1,549	20,550	35,934	22,466	30,876	42,634	45,265	199,694
2001	340	1,223	16,490	29,701	19,816	24,824	36,432	35,057	163,883
2002	274	992	13,125	23,913	16,332	21,840	28,512	25,331	130,319
2003	222	806	10,678	19,073	13,139	18,005	25,287	18,154	105,364
2004	179	653	8,688	15,491	10,553	14,504	20,890	13,116	84,074
2005	145	530	7,064	12,593	8,546	11,647	16,793	9,629	66,947
2006	117	430	5,740	10,238	6,923	9,432	13,472	7,178	53,530
2007	95	349	4,666	8,304	5,603	7,641	10,927	5,394	42,979
2008	77	282	3,792	6,740	4,529	6,184	8,852	4,077	34,533
2009	62	229	3,077	5,458	3,664	4,996	7,167	3,114	27,767
2010	49	184	2,496	4,421	2,957	4,037	5,806	2,392	22,342
2011	39	149	2,009	3,577	2,387	3,264	4,697	1,854	17,976
2012	29	117	1,614	2,872	1,923	2,634	3,796	1,433	14,418
2013	18	89	1,284	2,300	1,542	2,119	3,067	1,111	11,530
2014	3	54	971	1,824	1,229	1,700	2,475	868	9,124
2015	0	8	582	1,385	968	1,351	1,985	672	6,951
2016	0	0	89	833	729	1,066	1,582	525	4,824
2017	0	0	0	128	436	804	1,251	406	3,025
2018	0	0	0	0	67	480	950	312	1,809
2019	0	0	0	0	0	73	585	227	885
2020	0	0	0	0	0	0	90	134	224

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Federal Housing Administration
Premiums Earning Summary: Dynamically Locked

Cumulative Premiums Earned Through Given Fiscal Year

Cumulative Remains Earned Through Given Fiscal Year									Total for Endorsement Years 1984-91
Fiscal Year	Endorsement Year:								
	1984	1985	1986	1987	1988	1989	1990	1991	
1984	36.932								36.932
1985	120.430	84.871							205.301
1986	250.066	336.300	161.385						747.751
1987	341.077	603.908	569.302	134.659					1,648.946
1988	377.876	724.174	945.943	442.024	81.860				2,571.876
1989	395.106	783.975	1,218.122	810.727	272.084	97.094			3,577.109
1990	403.809	815.561	1,424.649	1,159.026	487.752	299.974	83.658		4,674.428
1991	409.515	839.825	1,592.357	1,423.305	665.432	521.338	316.078	78.779	5,846.629
1992	413.576	857.650	1,747.179	1,665.602	846.815	775.529	651.065	375.560	7,332.977
1993	416.591	868.965	1,893.433	1,919.019	1,037.569	1,040.822	1,097.034	852.921	9,126.354
1994	418.525	875.799	1,981.521	2,092.491	1,151.838	1,201.199	1,352.935	1,169.130	10,243.438
1995	419.435	878.349	2,014.803	2,165.908	1,193.970	1,257.113	1,442.423	1,282.582	10,654.582
1996	420.179	880.415	2,043.691	2,231.748	1,230.684	1,304.409	1,515.972	1,372.845	10,999.943
1997	420.844	881.855	2,064.541	2,278.537	1,256.758	1,336.318	1,563.909	1,429.839	11,232.601
1998	421.438	883.170	2,082.620	2,323.622	1,279.892	1,365.725	1,606.382	1,478.048	11,440.898
1999	421.782	884.076	2,095.131	2,353.372	1,295.176	1,384.598	1,634.011	1,507.430	11,575.576
2000	422.033	884.601	2,102.277	2,371.672	1,303.701	1,395.480	1,648.259	1,523.513	11,651.536
2001	422.250	885.040	2,107.499	2,385.964	1,311.002	1,403.937	1,660.093	1,534.975	11,710.760
2002	422.446	885.411	2,111.617	2,396.277	1,316.850	1,411.189	1,669.091	1,542.850	11,755.731
2003	422.615	885.734	2,114.960	2,404.350	1,321.346	1,416.999	1,676.869	1,548.238	11,791.110
2004	422.760	886.007	2,117.698	2,410.822	1,324.926	1,421.489	1,683.146	1,552.002	11,818.850
2005	422.890	886.240	2,119.951	2,416.076	1,327.804	1,425.060	1,688.052	1,554.688	11,840.760
2006	423.001	886.443	2,121.811	2,420.344	1,330.143	1,427.918	1,691.948	1,556.617	11,858.225
2007	423.100	886.617	2,123.360	2,423.828	1,332.041	1,430.230	1,695.082	1,558.044	11,872.301
2008	423.185	886.768	2,124.653	2,426.700	1,333.589	1,432.098	1,697.613	1,559.111	11,883.717
2009	423.258	886.897	2,125.739	2,429.068	1,334.866	1,433.611	1,699.662	1,559.921	11,893.021
2010	423.320	887.006	2,126.653	2,431.036	1,335.917	1,434.850	1,701.329	1,560.541	11,900.651
2011	423.372	887.102	2,127.420	2,432.674	1,336.789	1,435.864	1,702.691	1,561.022	11,906.933
2012	423.413	887.181	2,128.066	2,434.031	1,337.511	1,436.699	1,703.807	1,561.397	11,912.104
2013	423.440	887.245	2,128.606	2,435.162	1,338.107	1,437.384	1,704.725	1,561.690	11,916.359
2014	423.445	887.286	2,129.037	2,436.096	1,338.601	1,437.948	1,705.481	1,561.923	11,919.817
2015	423.445	887.292	2,129.310	2,436.837	1,339.005	1,438.409	1,706.102	1,562.106	11,922.505
2016	423.445	887.292	2,129.353	2,437.302	1,339.320	1,438.785	1,706.612	1,562.252	11,924.361
2017	423.445	887.292	2,129.353	2,437.376	1,339.516	1,439.077	1,707.027	1,562.368	11,925.454
2018	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.258	1,707.353	1,562.460	11,926.083
2019	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.560	1,562.528	11,926.387
2020	423.445	887.292	2,129.353	2,437.376	1,339.547	1,439.286	1,707.593	1,562.569	11,926.461

Fiscal Year	Endorsement Year:								Total for Endorsement Years 1984-91
	1984	1985	1986	1987	1988	1989	1990	1991	
1984	36.932								36.932
1985	83.498	84.871							168.369
1986	129.636	251.429	161.385						542.450
1987	91.011	267.607	407.917	134.659					901.195
1988	36.799	120.266	376.641	307.364	81.860				922.931
1989	17.230	59.802	272.179	368.704	190.224	97.094			1,005.232
1990	8.703	31.586	206.526	348.299	215.668	202.881	83.658		1,097.320
1991	5.706	24.264	167.709	264.279	177.680	221.364	232.420	78.779	1,172.200
1992	4.061	17.825	154.822	242.297	181.383	254.190	334.988	296.782	1,486.348
1993	3.014	11.315	146.253	253.418	190.755	265.293	445.969	477.360	1,793.377
1994	1.934	6.834	88.088	173.472	114.269	160.378	255.900	316.210	1,117.084
1995	910	2.551	33.282	73.417	42.131	55.913	89.489	113.452	411.144
1996	744	2.066	28.889	65.840	36.714	47.297	73.549	90.263	345.361
1997	665	1.439	20.850	46.789	26.074	31.909	47.937	56.994	232.658
1998	594	1.316	18.079	45.085	23.134	29.407	42.473	48.209	208.297
1999	344	905	12.511	29.750	15.284	18.873	27.629	29.383	134.679
2000	251	525	7.146	18.300	8.525	10.882	14.248	16.083	75.959
2001	217	439	5.222	14.293	7.302	8.457	11.834	11.461	59.225
2002	196	371	4.119	10.312	5.848	7.253	8.998	7.875	44.971
2003	169	323	3.342	8.074	4.496	5.809	7.777	5.389	35.379
2004	145	273	2.739	6.472	3.580	4.491	6.277	3.763	27.740
2005	130	233	2.253	5.253	2.878	3.570	4.906	2.686	21.911
2006	111	203	1.860	4.268	2.338	2.859	3.896	1.929	17.464
2007	99	174	1.548	3.484	1.898	2.312	3.134	1.428	14.076
2008	85	151	1.293	2.872	1.548	1.867	2.532	1.067	11.415
2009	73	129	1.086	2.368	1.277	1.514	2.049	809	9.304
2010	62	110	914	1.969	1.050	1.239	1.667	620	7.630
2011	52	95	767	1.637	872	1.014	1.363	482	6.282
2012	41	79	646	1.358	722	835	1.115	375	5.171
2013	27	64	540	1.131	597	686	918	293	4.256
2014	5	41	432	934	494	563	756	233	3.457
2015	0	6	272	741	403	462	621	183	2.689
2016	0	0	43	466	316	375	509	146	1.855
2017	0	0	0	74	196	293	415	116	1.093
2018	0	0	0	0	31	181	326	91	629
2019	0	0	0	0	0	28	208	68	304
2020	0	0	0	0	0	0	33	41	74

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Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1984

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current			Dynamically
	Survivorship	Survivorship		Locked	Locked
Fiscal	Projections	Projections		Unearned	Unearned
<u>Year</u>	<u>(at year-end)</u>	<u>(at year-end)</u>	<u>Ratio</u>	<u>Premium</u>	<u>Premium</u>
1984	280.609	286,209	1.0200	378.951	386.513
1985	265.945	278,991	1.0491	288.846	303.015
1986	203.703	218,742	1.0738	161.459	173.379
1987	138.592	152.903	1.1033	74.659	82.368
1988	115.108	125.870	1.0935	41.673	45.569
1989	99.580	107,986	1.0844	26.133	28.339
1990	86.514	93.178	1.0770	18.232	19.636
1991	77.542	80.603	1.0395	13.401	13.930
1992	67.973	65.739	0.9671	10.204	9.869
1993	60.645	52.918	0.8726	7.855	6.854
1994	53.079	41.871	0.7888	6.237	4.920
1995	47.535	37.899	0.7973	5.030	4.010
1996	42.753	34.008	0.7954	4.106	3.266
1997	39.070	30.991	0.7932	3.279	2.601
1998	35.790	27.578	0.7706	2.604	2.007
1999	32.858	26.411	0.8038	2.069	1.663
2000	30.493	26.110	0.8563	1.649	1.412
2001	28.342	25.869	0.9128	1.309	1.195
2002	26.598	25.676	0.9653	1.035	999
2003	24.986	25.522	1.0215	813	830
2004	23.497	25.402	1.0811	634	685
2005	22.282	25.309	1.1358	489	555
2006	21.144	25.239	1.1937	372	444
2007	20.219	25.189	1.2458	277	345
2008	19.343	25.152	1.3003	200	260
2009	18.512	25.126	1.3573	138	187
2010	17.841	25.108	1.4073	89	125
2011	17.198	25.096	1.4592	50	73
2012	16.580	25.087	1.5131	21	32
2013	15.987	25.081	1.5688	3	5
2014	15.418	25.081	1.6267	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1985

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current		Locked	Dynamically
Fiscal	Survivorship	Survivorship		Unearned	Locked
Year	Projections	Projections	Ratio	Premium	Unearned
	(at year-end)	(at year-end)			Premium
1985	391.387	398.714	1.0187	787.675	802.421
1986	332.145	353.278	1.0636	518.032	550.992
1987	236.671	261.094	1.1032	256.876	283.384
1988	199.184	218.798	1.0985	148.496	163.118
1989	174.121	188.665	1.0835	95.352	103.317
1990	150.625	161.126	1.0697	67.056	71.731
1991	138.990	135.033	0.9715	48.858	47.467
1992	125.292	100.707	0.8038	36.878	29.642
1993	115.493	74.197	0.6424	28.527	18.327
1994	106.826	54.991	0.5148	22.327	11.493
1995	97.689	48.747	0.4990	17.921	8.943
1996	90.441	42.728	0.4724	14.556	6.877
1997	83.690	38.044	0.4546	11.961	5.437
1998	77.984	33.505	0.4296	9.593	4.122
1999	72.791	30.627	0.4207	7.644	3.216
2000	68.047	30.044	0.4415	6.095	2.691
2001	63.991	29.580	0.4623	4.872	2.252
2002	60.240	29.208	0.4849	3.880	1.881
2003	57.023	28.910	0.5070	3.074	1.558
2004	54.018	28.673	0.5308	2.421	1.285
2005	51.207	28.484	0.5563	1.891	1.052
2006	48.788	28.338	0.5808	1.461	849
2007	46.507	28.226	0.6069	1.112	675
2008	44.549	28.141	0.6317	830	524
2009	42.687	28.077	0.6577	601	395
2010	40.916	28.028	0.6850	417	286
2011	39.404	27.992	0.7104	268	190
2012	37.954	27.964	0.7368	151	111
2013	36.562	27.942	0.7642	62	47
2014	35.226	27.926	0.7928	8	6
2015	33.948	27.926	0.8226	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1986

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current		Locked	Dynamically
Fiscal	Survivorship	Survivorship		Locked	Locked
Year	Projections	Projections	Ratio	Unearned	Unearned
	<u>(at year-end)</u>	<u>(at year-end)</u>		<u>Premium</u>	<u>Premium</u>
1986	911,142	920,048	1.0098	1,948.918	1,967.968
1987	857,275	880,555	1.0272	1,518.807	1,560.051
1988	814,972	840,110	1.0308	1,147.999	1,183.410
1989	770,636	793,557	1.0297	884.911	911.231
1990	717,866	739,691	1.0304	683.912	704.704
1991	680,320	682,784	1.0036	535.058	536.996
1992	639,070	570,832	0.8932	427.859	382.174
1993	606,749	412,626	0.6801	346.911	235.920
1994	579,166	301,952	0.5214	283.553	147.832
1995	554,524	273,170	0.4926	232.532	114.550
1996	528,161	237,302	0.4493	190.656	85.662
1997	504,690	210,371	0.4168	155.486	64.812
1998	481,625	176,154	0.3657	127.773	46.733
1999	460,393	153,093	0.3325	102.915	34.222
2000	440,535	144,820	0.3287	82.365	27.076
2001	421,858	139,953	0.3318	65.875	21.854
2002	404,377	135,959	0.3362	52.750	17.736
2003	387,807	132,673	0.3421	42.072	14.393
2004	372,224	129,948	0.3491	33.384	11.655
2005	357,386	127,662	0.3572	26.320	9.402
2006	343,235	125,785	0.3665	20.580	7.542
2007	329,877	124,236	0.3766	15.914	5.993
2008	317,103	122,957	0.3878	12.122	4.700
2009	305,036	121,894	0.3996	9.045	3.614
2010	293,473	121,004	0.4123	6.549	2.700
2011	282,392	120,256	0.4258	4.540	1.933
2012	271,917	119,621	0.4399	2.926	1.287
2013	261,660	119,076	0.4551	1.642	747
2014	252,204	118,602	0.4703	671	316
2015	242,936	118,185	0.4865	89	43
2016	234,048	118,185	0.5050	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1987

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current		Locked	Dynamically
	Survivorship	Survivorship		Locked	Locked
Fiscal	Projections	Projections		Unearned	Unearned
<u>Year</u>	<u>(at year-end)</u>	<u>(at year-end)</u>	<u>Ratio</u>	<u>Premium</u>	<u>Premium</u>
1987	1,111.485	1,119.129	1.0069	2,286.988	2,302.717
1988	1,084.673	1,103.974	1.0178	1,960.467	1,995.352
1989	1,049.758	1,072.644	1.0218	1,591.943	1,626.649
1990	1,001.766	1,027.122	1.0253	1,246.792	1,278.350
1991	930.169	976.865	1.0502	965.597	1,014.071
1992	866.778	880.432	1.0158	759.805	771.774
1993	824.598	699.545	0.8483	611.020	518.357
1994	787.688	545.557	0.6926	497.953	344.885
1995	755.977	501.717	0.6637	409.043	271.468
1996	727.031	444.241	0.6110	336.524	205.628
1997	694.172	399.177	0.5750	276.223	158.839
1998	663.668	335.104	0.5049	225.289	113.754
1999	633.510	287.996	0.4546	184.785	84.004
2000	605.755	267.386	0.4414	148.851	65.704
2001	579.661	250.115	0.4315	119.150	51.412
2002	555.034	239.524	0.4315	95.237	41.099
2003	532.068	230.713	0.4336	76.164	33.026
2004	510.256	223.314	0.4377	60.673	26.554
2005	489.858	217.017	0.4430	48.080	21.300
2006	470.404	211.720	0.4501	37.842	17.032
2007	451.834	207.239	0.4587	29.538	13.548
2008	434.425	203.427	0.4683	22.798	10.676
2009	417.762	200.160	0.4791	17.340	8.308
2010	402.142	197.336	0.4907	12.919	6.340
2011	387.158	194.874	0.5033	9.342	4.702
2012	372.784	192.706	0.5169	6.470	3.345
2013	359.318	190.775	0.5309	4.170	2.214
2014	346.369	189.035	0.5458	2.346	1.280
2015	333.916	187.445	0.5614	961	539
2016	321.940	185.969	0.5777	128	74
2017	310.435	185.969	0.5991	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1988

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current			Dynamically
Fiscal	Survivorship	Survivorship		Locked	Locked
Year	Projections	Projections	Ratio	Unearned	Unearned
	<u>(at year-end)</u>	<u>(at year-end)</u>		<u>Premium</u>	<u>Premium</u>
1988	609.384	613.321	1.0065	1,249.614	1,257.687
1989	589.514	600.927	1.0194	1,047.190	1,067.463
1990	558.549	574.093	1.0278	828.732	851.795
1991	515.702	537.083	1.0415	647.279	674.115
1992	463.878	451.546	0.9734	506.189	492.732
1993	434.518	325.724	0.7496	402.840	301.978
1994	412.311	236.275	0.5730	327.561	187.709
1995	393.091	212.272	0.5400	269.584	145.577
1996	376.432	183.154	0.4866	223.745	108.863
1997	360.696	161.577	0.4480	184.814	82.789
1998	342.860	134.764	0.3931	151.771	59.655
1999	326.317	116.946	0.3584	123.809	44.371
2000	310.314	109.762	0.3537	101.343	35.846
2001	295.838	103.580	0.3501	81.527	28.545
2002	282.333	98.290	0.3481	65.195	22.697
2003	269.669	94.285	0.3496	52.056	18.201
2004	258.038	90.904	0.3523	41.503	14.621
2005	247.041	88.021	0.3563	32.957	11.743
2006	236.901	85.577	0.3612	26.034	9.404
2007	227.260	83.495	0.3674	20.431	7.506
2008	218.088	81.711	0.3747	15.902	5.958
2009	209.604	80.168	0.3825	12.238	4.681
2010	201.500	78.818	0.3912	9.281	3.630
2011	194.006	77.619	0.4001	6.894	2.758
2012	186.825	76.537	0.4097	4.971	2.036
2013	179.941	75.541	0.4198	3.429	1.440
2014	173.585	74.609	0.4298	2.200	946
2015	167.471	73.719	0.4402	1.232	542
2016	161.588	72.855	0.4509	503	227
2017	155.930	72.001	0.4617	67	31
2018	150.492	72.001	0.4784	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1989

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current		Locked	Dynamically
	Survivorship	Survivorship		Unearned	Unearned
Fiscal	Projections	Projections	Ratio	Premium	Premium
Year	(at year-end)	(at year-end)			
1989	627,902	631,065	1.0050	1,335.466	1,342.192
1990	602.673	615.571	1.0214	1,115.439	1,139.312
1991	562.242	582,261	1.0356	886.387	917.948
1992	509,743	486,147	0.9537	695.974	663.757
1993	466.663	339.601	0.7277	547.550	398.464
1994	439.072	238.628	0.5435	438.076	238.087
1995	417.854	212.736	0.5091	357.823	182.173
1996	399.406	182.240	0.4563	295.603	134.877
1997	382.896	160.191	0.4184	246.118	102.968
1998	367.001	132,491	0.3610	203.764	73.561
1999	349.147	114.010	0.3265	167.477	54.688
2000	332.524	106.636	0.3207	136.601	43.806
2001	316.464	100.081	0.3162	111.777	35.349
2002	301.908	94.317	0.3124	89.937	28.097
2003	288.326	89.334	0.3098	71.932	22.287
2004	275.590	85.404	0.3099	57.428	17.797
2005	263.865	81.996	0.3107	45.781	14.226
2006	252.779	79.054	0.3127	36.349	11.368
2007	242.535	76.506	0.3154	28.708	9.056
2008	232.795	74.296	0.3191	22.524	7.188
2009	223.524	72.368	0.3238	17.528	5.675
2010	214.927	70.675	0.3288	13.491	4.436
2011	206.714	69.176	0.3346	10.227	3.422
2012	199.101	67.837	0.3407	7.593	2.587
2013	191.805	66.628	0.3474	5.474	1.902
2014	184.809	65.527	0.3546	3.774	1.338
2015	178.331	64.518	0.3618	2.423	877
2016	172.101	63.584	0.3695	1.357	501
2017	166.107	62.715	0.3776	553	209
2018	160.341	61.900	0.3861	73	28
2019	154.800	61.900	0.3999	0	0

Federal Housing Administration
Premiums Earning Summary. Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1990

(1)	(2)	(3)	(4)	(5)	(6)
Fiscal	Locked	Current		Locked	Dynamically
Year	Survivorship	Survivorship		Unearned	Locked
<u>Year</u>	<u>(at year-end)</u>	<u>(at year-end)</u>	<u>Ratio</u>	<u>Premium</u>	<u>Premium</u>
1990	708.888	712,956	1.0057	1,614.669	1,623.935
1991	680.908	695,686	1.0217	1,361.957	1,391.515
1992	630.960	620.407	0.9833	1,074.499	1,056.528
1993	584.552	428,901	0.7337	832.135	610.559
1994	542.197	294,328	0.5428	653.335	354.658
1995	516.281	262,594	0.5086	521.345	265.170
1996	495.720	224.242	0.4524	423.606	191.621
1997	477,127	197,080	0.4131	347.855	143.684
1998	459.881	161.649	0.3515	287.938	101.211
1999	443.200	137.456	0.3101	237.250	73.582
2000	424.195	129.327	0.3049	194.616	59.334
2001	406.103	121.946	0.3003	158.184	47.500
2002	388.425	115.329	0.2969	129.672	38.502
2003	372.088	109.520	0.2943	104.385	30.724
2004	356.738	104.453	0.2928	83.495	24.447
2005	342.243	100.263	0.2930	66.702	19.541
2006	328.660	96.597	0.2939	53.230	15.645
2007	315.753	93.387	0.2958	42.303	12.511
2008	303.612	90.579	0.2983	33.451	9.980
2009	292.030	88.116	0.3017	26.284	7.931
2010	280.967	85.948	0.3059	20.478	6.264
2011	270.524	84.027	0.3106	15.781	4.902
2012	260.526	82.309	0.3159	11.985	3.786
2013	251.088	80.757	0.3216	8.918	2.868
2014	242.033	79.341	0.3278	6.443	2.112
2015	233.342	78.039	0.3344	4.458	1.491
2016	225.137	76.832	0.3413	2.876	981
2017	217.247	75.707	0.3485	1.625	566
2018	209.657	74.652	0.3561	675	240
2019	202.359	73.656	0.3640	90	33
2020	195.348	73.656	0.3770	0	0

Federal Housing Administration
Premiums Earning Summary, Dynamically Locked

Adjustment Based on Change in Survivorship Projections for Endorsement Year 1991

(1)	(2)	(3)	(4)	(5)	(6)
	Locked	Current		Locked	Dynamically
Fiscal	Survivorship	Survivorship		Unearned	Unearned
Year	Projections	Projections	Ratio	Premium	Premium
	(at year-end)	(at year-end)			
1991	638.912	641.053	1.0034	1,478.842	1,483.797
1992	612.766	603.203	0.9844	1,205.835	1,187.016
1993	579.055	444.940	0.7684	923.562	709.655
1994	544.215	308.094	0.5661	694.979	393.446
1995	512.426	276.696	0.5400	518.534	279.994
1996	492.632	235.837	0.4787	396.323	189.731
1997	476.532	206.422	0.4332	306.429	132.737
1998	461.512	166.847	0.3615	233.813	84.528
1999	447.392	139.965	0.3128	176.270	55.146
2000	433.551	129.275	0.2982	131.005	39.063
2001	417.481	120.097	0.2877	95.948	27.601
2002	401.810	112.242	0.2793	70.617	19.726
2003	386.303	105.573	0.2733	52.463	14.338
2004	371.674	99.886	0.2687	39.347	10.574
2005	357.810	94.974	0.2654	29.718	7.888
2006	344.620	91.115	0.2644	22.540	5.959
2007	332.033	87.759	0.2643	17.146	4.532
2008	320.005	84.838	0.2651	13.069	3.465
2009	308.485	82.287	0.2667	9.955	2.655
2010	297.445	80.050	0.2691	7.563	2.035
2011	286.857	78.073	0.2722	5.709	1.554
2012	276.683	76.308	0.2758	4.276	1.179
2013	266.912	74.709	0.2799	3.165	886
2014	257.512	73.241	0.2844	2.297	653
2015	248.478	71.871	0.2892	1.625	470
2016	239.789	70.574	0.2943	1.100	324
2017	231.419	69.327	0.2996	694	208
2018	223.368	68.109	0.3049	382	116
2019	215.623	66.901	0.3103	155	48
2020	208.171	65.685	0.3155	21	7
2021	201.008	65.685	0.3268	0	0

