



The Quarterly Review

of Interest Rate Risk

Volume 3, Number 2

Second Quarter, 1998

Interest Rate Sensitivity Falls in the Second Quarter

Interest rate sensitivity declined for the thrift industry in the second quarter of 1998. At the end of the second quarter, the median sensitivity measure produced by the OTS Net Portfolio (NPV) Model was 136 basis points, showing a decrease of 17 basis points from the previous quarter. The industry's ability to absorb interest rate shocks fell slightly, as the median post-shock NPV ratio decreased to 10.4 percent.

I. SUMMARY OF NPV MODEL AGGREGATE RESULTS

The median sensitivity measure fell to 136 basis points by the end of the second quarter (Chart 1, page 4). The decline in sensitivity was attributable to a decrease in rates and a flattening of the yield curve. The yield curve at the end of June was slightly lower and substantially flatter than the yield curve at the end of March (Chart 2, page 4). Although interest rates were slightly lower, the effective durations of the industry's assets and liabilities remained essentially unchanged from the prior quarter end (Chart 3, page 5).¹

The median pre-shock NPV ratio for the industry decreased to 11.7 percent in June, and the median post-shock NPV ratio fell slightly to 10.4 percent (Chart 4, page 5). The decline in the median pre-shock NPV ratio is surprising given the continued increase in the industry's equity capital ratio. Equity capital for the industry reached a new record of 8.6 percent of

assets in the second quarter of 1998, up from 8.4 percent the previous quarter. One possible cause of this decline in the pre-shock ratio appears to be the increase in mortgage prepayments during the current refinancing boom.

A. ASYMMETRY OF GAINS AND LOSSES

Table 1 (page 9) shows the percentage change in both the aggregate net portfolio value and NPV ratio for the industry under different interest rate scenarios. The loss in net portfolio value when interest rates increase is greater than the gain in aggregate net portfolio value when interest rates decrease. In the second quarter of 1998, the thrift industry would lose 15.3 percent of its net portfolio value if rates rose by 200 basis points, but would gain only 4.6 percent in value if rates fell by 200 basis points.

As observed in past quarters, exposure to changes in interest rates was particularly pronounced at some thrifts. The right panel of Chart 5 (page 6) shows the distribution of the percentage change for an increase in interest rates of 200 basis points. Of the 1,089 reporting thrifts, 86 percent would experience a loss of net portfolio value in that scenario. About 26 percent of the industry (288 thrifts) would lose more than 20 percent of their economic value if interest rates rose by 200 basis points. The left panel of Chart 5 shows the industry distribution of gains and losses in net portfolio value for a decrease of 200 basis points in interest rates. Under this scenario, approximately 77 percent of reporting thrifts would experience increases in their net portfolio values.

Chart 6 (page 6) compares the distributions of gains and losses for the second quarter of 1997 with those for the second quarter of 1998 given both a 200 basis point decrease and increase in interest rates.

B. INDUSTRY PROFILE

The pre- and post-shock NPV ratios of each reporting thrift are plotted in the NPV Sensitivity Chart (Chart 8, page 7). In this chart, the horizontal axis represents a thrift's pre-shock NPV ratio and the vertical axis represents its post-shock NPV ratio. The 45 degree line represents the "zero sensitivity line," where pre- and post-shock NPV ratios are equal. Each dot denotes the pre- and post-shock NPV capital ratios for a thrift. The ten thrifts with post-shock NPV ratios of less than 4 percent appear in the area below the dotted horizontal line. A thrift whose post-shock NPV ratio is below the 4 percent line either has a

relatively low level of capital, a high degree of NPV sensitivity, or both. Thrifts with exposure ratios below 4 percent should strengthen their capital position or reduce their interest rate sensitivity.

The number of thrifts with exposure measures below 4 percent increased sharply in the second quarter to ten (see Chart 7, page 7). This increase could be due to a negative effect on capital associated with the current refinancing boom. Possible reasons for the sharp increase in the number of potentially troubled thrifts are explored in more detail in the special topic section below.

C. REGIONAL PROFILE

The top panel of Chart 9 (page 8) presents the median sensitivity measures for the entire industry and each OTS region for the second quarter of 1997 and 1998. The Northeast Region had the largest median sensitivity measure in the second quarter of 1998, while the Midwest Region had the smallest. In comparing the second quarter of 1997 and 1998, the Central Region experienced the largest decrease in median interest rate sensitivity, while the Southeast Region had the smallest decrease in the median sensitivity measure.

The lower panel of Chart 9 shows the median post-shock NPV ratio for the thrift industry and each OTS region. The modest increase in post-shock NPV ratios between the second quarter of 1997 and 1998 for the entire industry and each region suggests an overall decrease in interest rate risk exposure was widespread, despite the decrease in capital ratios between the first and second quarter of this year.

II. CHARACTERISTICS OF THRIFTS WITH POST-SHOCK NPV RATIOS BELOW 4 PERCENT

In this section, we examine the characteristics of thrifts with post-shock NPV ratios below 4 percent. Table 2 (page 9) reports selected characteristics for the ten thrifts with post-shock ratios below 4 percent and the industry as a whole. These characteristics include median values for the pre-shock and post-shock NPV ratios, sensitivity, assets and liabilities durations, and the proportion of fixed-rate mortgages accounted for by 15- and 30-year fixed rate mortgages held in portfolio.

Of the ten thrifts with post-shock NPV ratios below 4 percent, two of these also had post-shock NPV ratios below 4 percent in March 1998. The median pre-shock and post-shock NPV ratios are substantially lower for the ten thrifts than for the industry. The median sensitivity of 230.5 is larger than the median sensitivity for the industry. Also, the median assets duration is larger for the ten thrifts compared to that for the industry, while their median liabilities duration is smaller than it is for the industry. This suggests that there exists a wider asset-liability duration gap for the ten thrifts with post-shock ratios below 4 percent than holds for the industry.

One reason for the greater assets duration for the ten thrifts is the higher proportion of 30-year fixed, especially relative to 15-year fixed-rate mortgages.

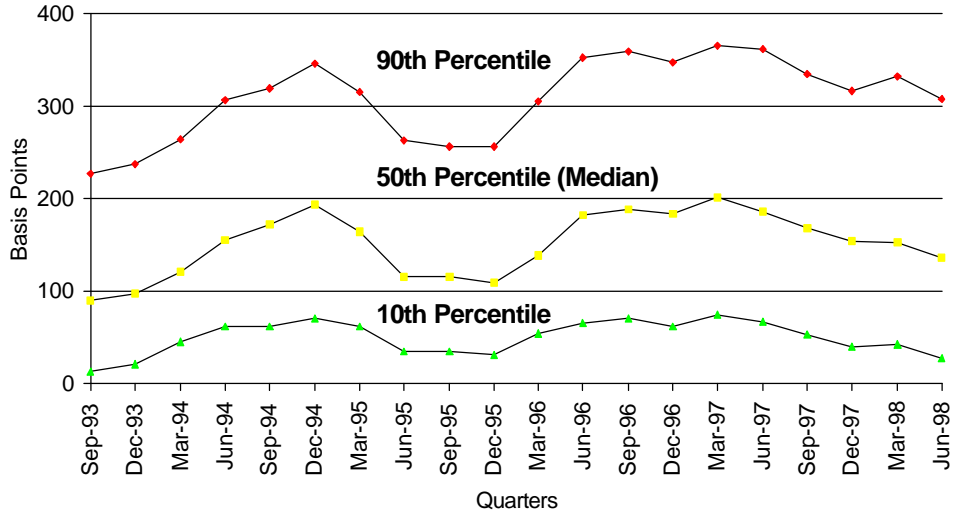
For the ten thrifts, 55 percent of their fixed-rate mortgage portfolio was 30 year compared to only 43 percent for the entire industry. Reliance on ARMs does not appear to differ significantly. All thrifts have faced an increased demand for 30-year fixed rate mortgages during the recent refinancing boom due to the flatness of the yield curve. However, these ten thrifts have experienced a particularly sharp increase in their holdings of 30-year fixed rate mortgages recently.

III. TRENDS IN MORTGAGE-RELATED INTEREST RATES

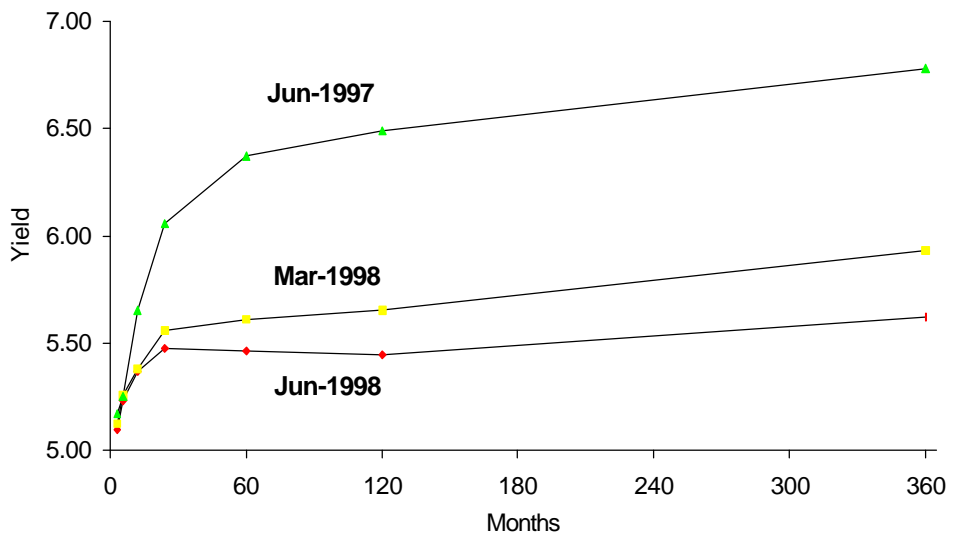
Chart 10 (page 8) displays plots of two mortgage-related interest indices and the Freddie Mac commitment rate for thirty-year fixed-rate mortgages, as reported by the Federal Reserve Board, during the past two years. The two interest indices are the one-year constant maturity Treasury (one-year CMT), which is representative of the various indices used to set one-year adjustable rate mortgages (ARMs), and the ten-year constant maturity Treasury (ten-year CMT). As shown in Chart 10, there has been a decline in the three rates since the first quarter of the year.

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**Chart 1
Sensitivity Measure**

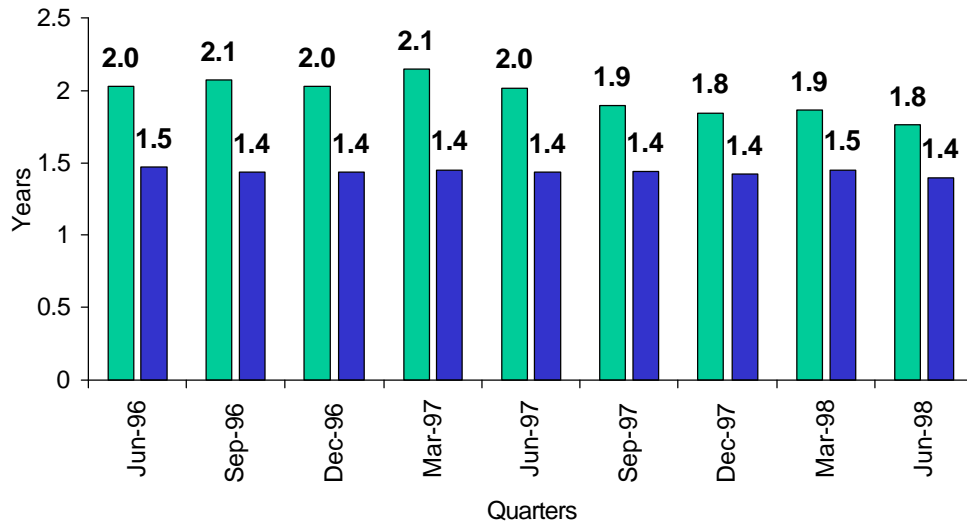


**Chart 2
Treasury Yield Curves**



Source: Bloomberg

Chart 3
Duration of Assets and Liabilities



Note: Aggregate industry data. Asset durations have been adjusted to exclude deposit intangibles; liability durations have been adjusted to include deposit intangibles.

Chart 4
Median Pre-Shock and Post-Shock NPV Ratios

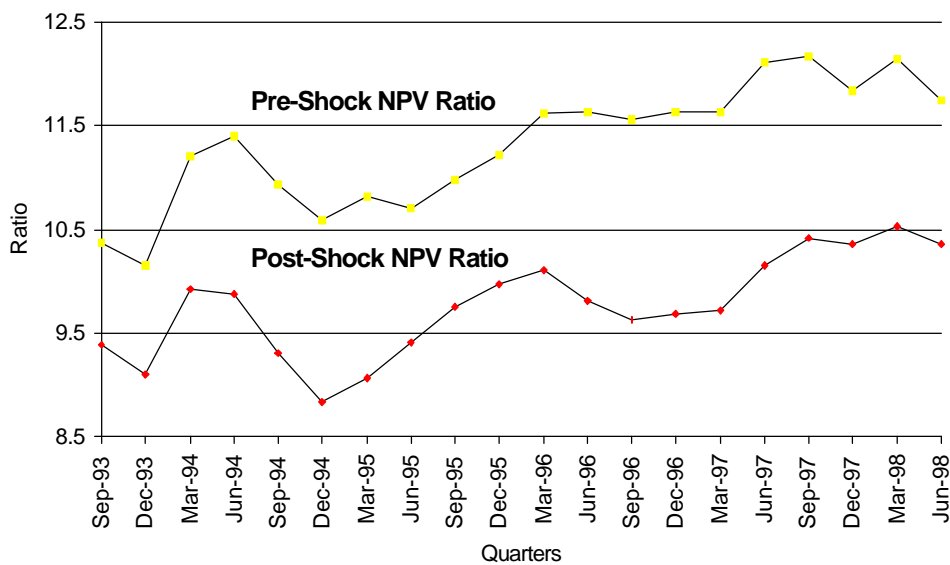


Chart 5
Estimated Change in NPV
(Industry Distributions, Second Quarter 1998)

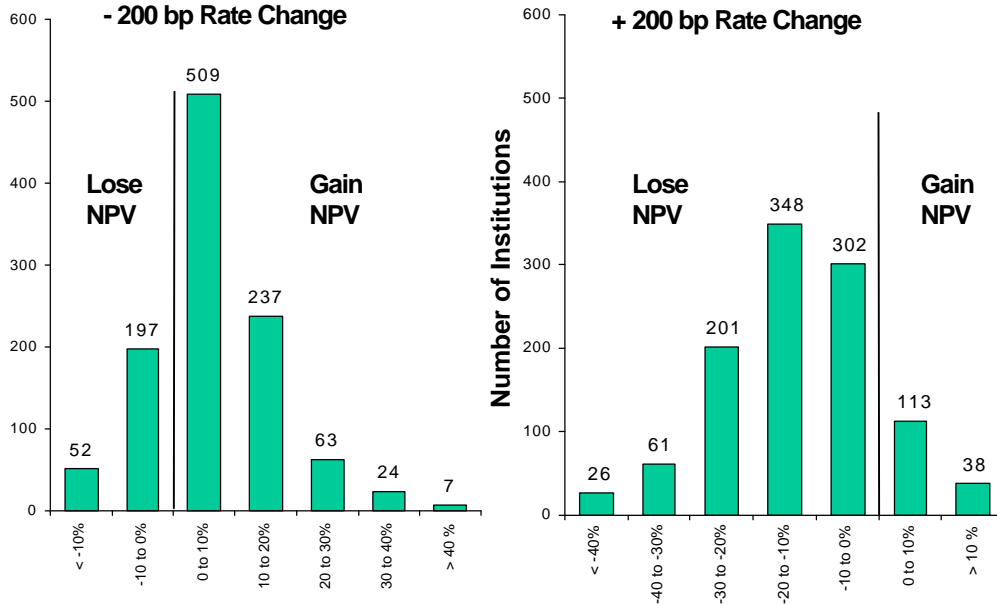


Chart 6
Estimated Change in NPV
(Industry Distributions - Percentage of Total)

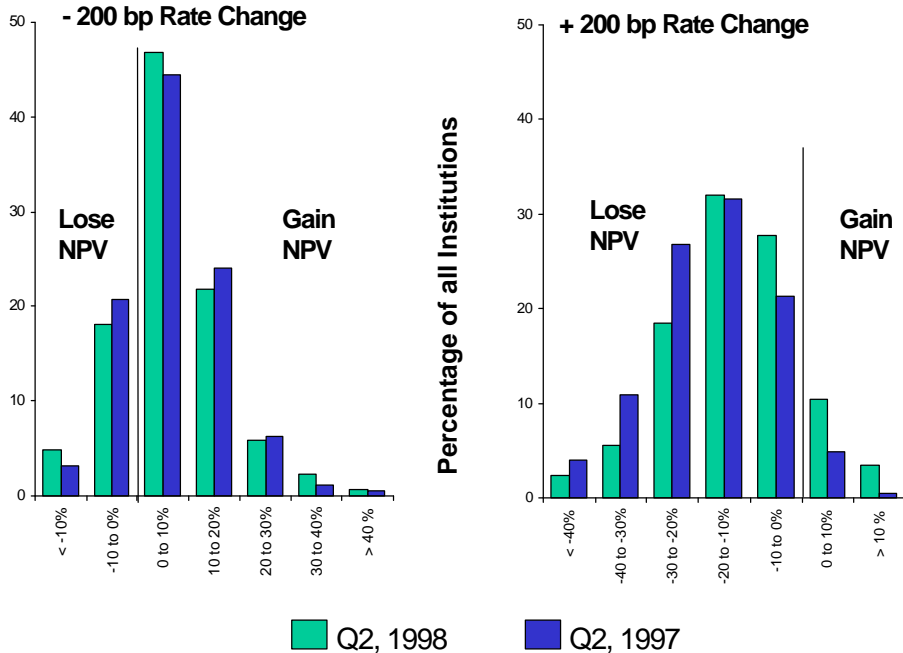


Chart 7
Institutions with Exposure Ratios Under 4.0 Percent

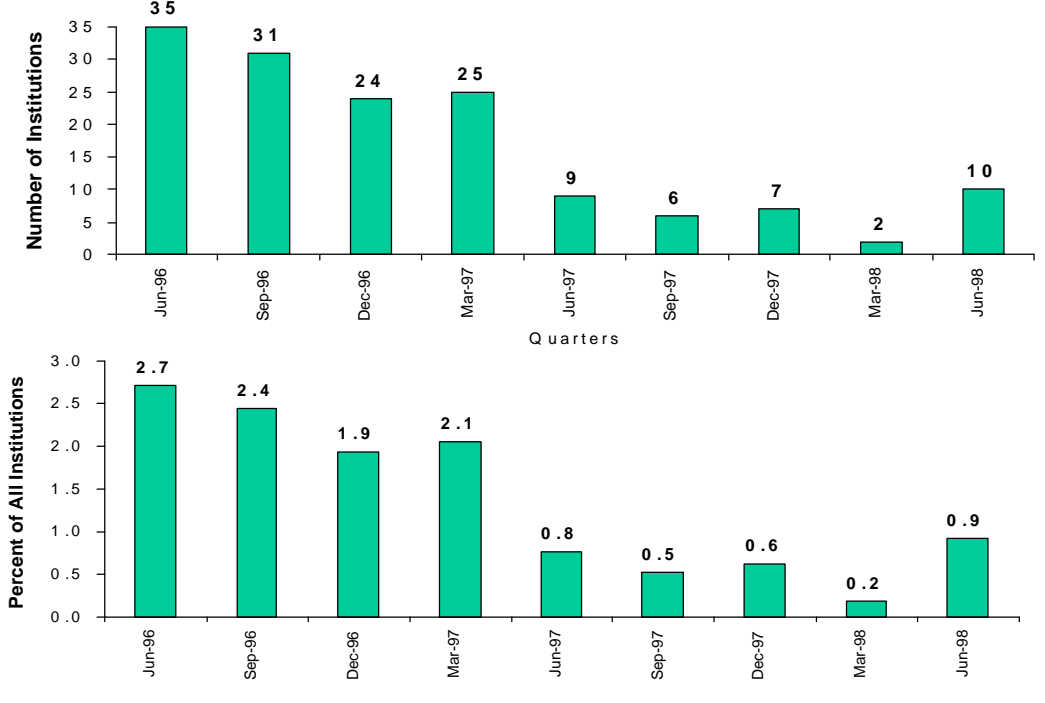


Chart 8
Sensitivity Chart
(Second Quarter, 1998)

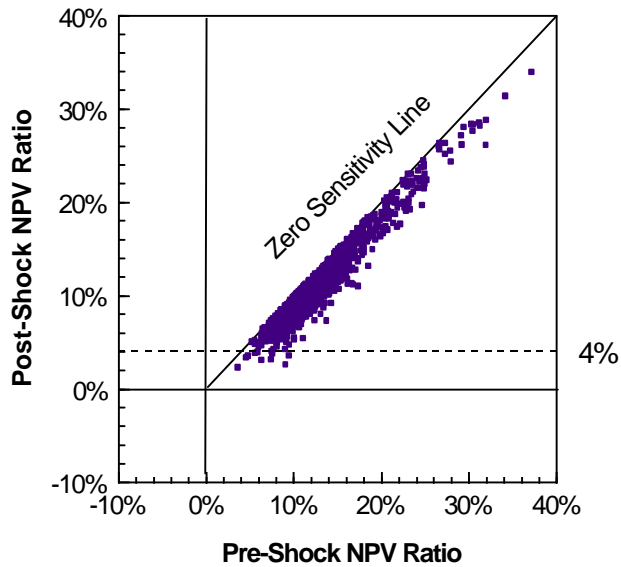
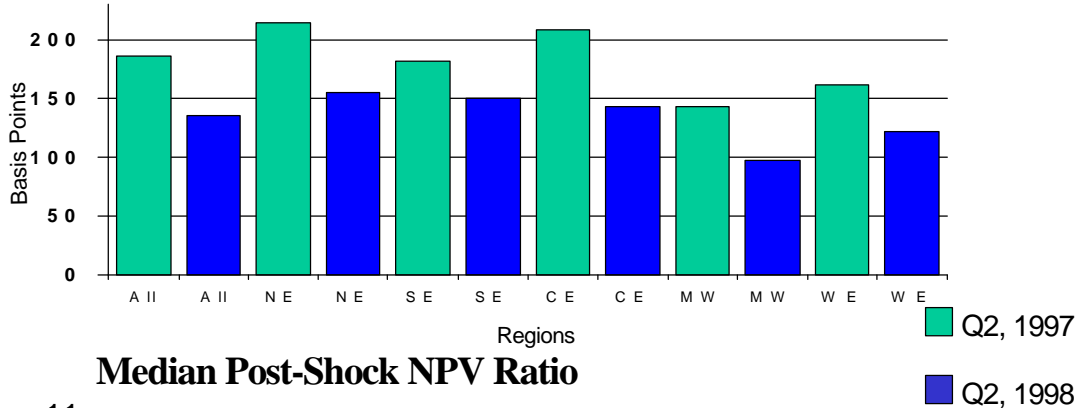


Chart 9
Median Sensitivity Measure



Median Post-Shock NPV Ratio

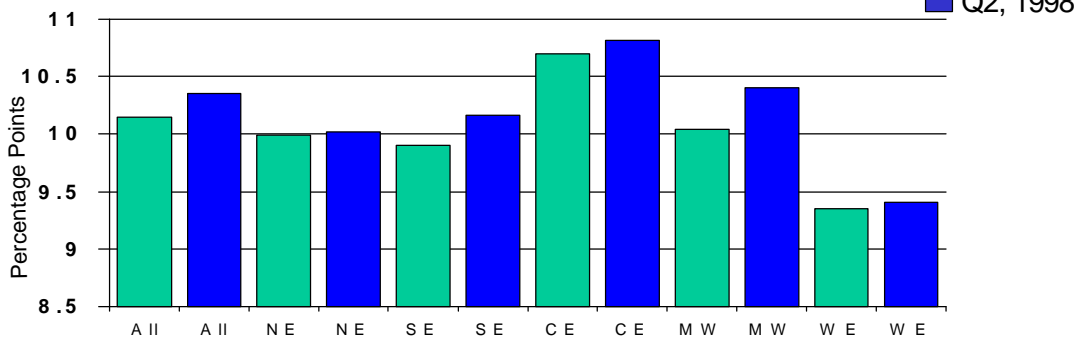


Chart 10
Mortgage-Related Interest Rate Indices

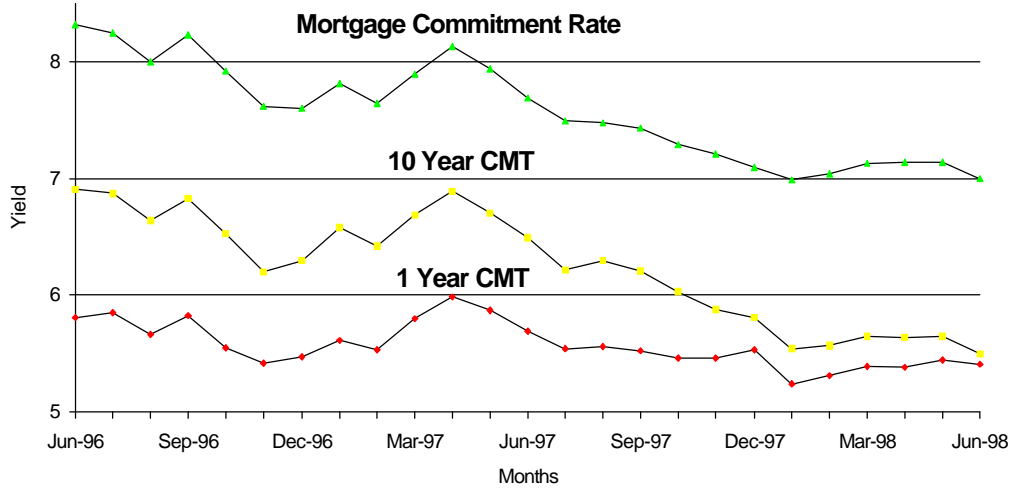


Table 1
Interest Rate Risk Measures
(Industry Aggregate Data)

Change in Interest Rates (Basis Points)	Percentage Change in NPV			Ratio of NPV to Assets		
	Jun-97	Mar-98	Jun-98	Jun-97	Mar-98	Jun-98
+300	-33.4	-27.6	-26.9	7.2	8.0	7.7
+200	-20.2	-16.1	-15.3	8.5	9.1	8.8
+100	-8.8	-6.6	-6.0	9.5	10.0	9.6
Base Case	0.0	0.0	0.0	10.3	10.5	10.1
-100	5.0	3.2	2.9	10.7	10.8	10.3
-200	6.3	3.9	4.6	10.7	10.8	10.4
-300	8.0	5.9	8.6	10.8	10.9	10.6

Table 2
Comparison of Thrifts with Post-Shock NPV Ratio
Below 4% and Industry
(Median Values)

	Ten Thrifts	Industry
Pre-Shock NPV	5.82%	11.70%
Post-Shock NPV	3.50%	10.40%
Sensitivity	230.5bp	136bp
Assets Duration	2.07	1.80
Liabilities Duration	1.26	1.40
Proportion of 15yr. FRM	0.45	0.57
Proportion of 30yr. FRM	0.55	0.43

GLOSSARY

Pre-Shock NPV Ratio	Equity-to-assets expressed in present value terms (i.e., base case NPV divided by present value of assets).
Post-Shock NPV Ratio	Equity-to-assets ratio expressed in present value terms following an adverse 200 basis point interest rate shock. Also referred to as the exposure ratio.
Sensitivity Measure	Difference between Pre-shock and Post-shock NPV Ratios (expressed in basis points).
Estimated Change in NPV	The percentage change in base case NPV caused by an interest rate shock.

This publication is available from the OTS PubliFax by calling (202) 906-5660 and requesting document 11820. Additional interest rate risk publications from the Risk Management Division may be obtained from:

** The OTS web site at <http://www.ots.treas.gov/quarter.html>*

End Notes:

¹ Duration is a measure of the price sensitivity of a financial instrument for small changes in yield. The higher the duration of an instrument, the greater is its price sensitivity. For example, an asset with a duration of 1.6 will appreciate in value by about 1.6 percent for a one percentage point (100 basis points) decline in yield. The reverse would hold if yields rose by one percent.