

The Quarterly Review of Interest Rate Risk

Office of Examinations, Supervision, and Consumer Protection
Risk Modeling and Analysis Division



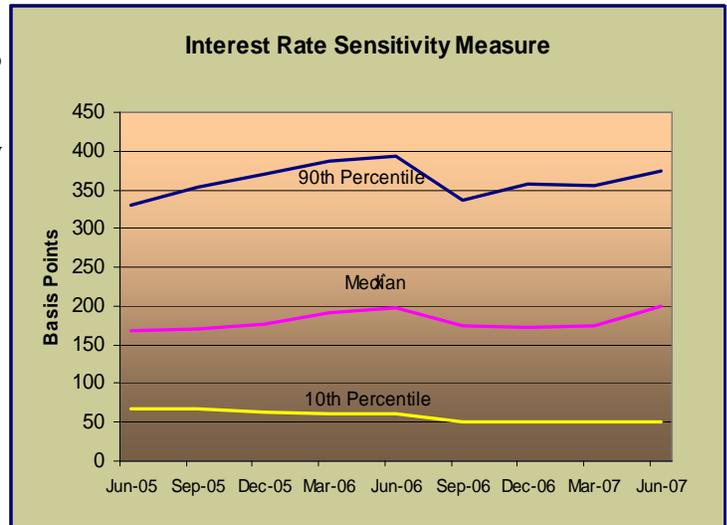
Special points of interest:

- 30-yr mortgage commitment rate rises 50 basis points
- Treasury yield curve shifts upward in the second quarter
- Second quarter median interest rate sensitivity rises and pre- and post-shock NPV ratios fall
- Asset duration rises and liability duration declines
- Comparative Regional Analysis
- Feature article provides a primer on asset-backed commercial paper

Second Quarter Sees Sensitivity Rise

Second-quarter median interest rate sensitivity rose to 200 basis points, up from 174 basis points in the prior quarter. The increase in sensitivity was due to the change in interest rates in the second quarter that widened the duration gap between assets and liabilities for the industry.

Both the median pre-shock and post-shock Net Portfolio Value (NPV) ratios fell in the second quarter by approximately 30 basis points. The fall in the median pre-shock NPV ratio was caused by the rise in interest rates, which lowered portfolio asset values. The increase in sensitivity coupled with



lower pre-shock NPV ratios resulted in the number of thrifts with post-shock NPV ratios

below 4.0 percent increasing from four to nine institutions.
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A Primer on Asset-Backed Commercial Paper

Asset-backed commercial paper (ABCP) has been a financing tool for lenders since the 1980s. Until recently, the market generally has been orderly.

However, the recent problems plaguing the U.S. sub-prime mortgage market quickly spread to the ABCP sector, causing unprecedented actions by some issuers and igniting fear in investors.

While many of the ABCP programs are managed by banks, these entities are often providers of credit support and also issuers of ABCP.

What is ABCP?

ABCP is short-term debt, issued by a special purpose finance company, to purchase financial assets. The negotiable notes are collateralized with assets, typically loans, receivables, securities, and leases.

Roughly 26% of the ABCP programs are backed by mortgage assets, followed by 13% with CDOs, 10% with credit card receivables, and 7% with commercial loans.¹ However, different programs will carry varying percentages of these asset classes. The maximum maturity of ABCP is 270 days, although the usual matur-

ity is one to three months, and buyers are generally money market funds and others with short investment horizons.

Some commercial paper programs, also called liquidity notes, offer the issuer an option to extend the maturity for a maximum of 397 days from the initial issuance date. The commercial paper may be rated A1/P1/F1 at the highest levels by S&P, Moody's, and Fitch, respectively, or lower. Until recently, commercial paper was freely traded among the broker/dealers in the United States and Europe.

(Continued on page 2)

¹ Moody's

A Primer on Asset Backed Commercial Paper (continued)

(Continued from page 1)

Primary Risks

Two risks are inherent in the ABCP market: credit risk and liquidity risk. Credit risk speaks to the payment performance of the collateral supporting the commercial paper. If the loans suffer losses, issuers will incur a loss and commercial paper holders may not receive payment at maturity. Liquidity risk is measured by the ability of the program to raise funds to retire maturing commercial paper. Frequently, new commercial paper is issued to repay maturing paper. If the issuer is unable to raise new money through the market, they may have to access back up credit facilities or liquidate assets to pay maturing commercial paper holders.

Usually an event of this nature will result in some adverse action by the rating agencies and lead to more difficult and costly funding. In the worst case, the credit facilities and liquidations may not cover the entire cash shortfall causing the investor to suffer a non-payment and almost certain credit downgrades, which may restrict access to this funding source for the issuer.

Types of Commercial Paper Programs

Issuers may use a variety of structures to originate commercial paper. The most commonly used programs

are: Single-seller conduits, Multi-seller conduits, SIVs, SIV-Lite, and Collateralized Debt Obligations (CDOs).

Conduits

An ABCP conduit is a special purpose finance company that purchases and holds assets often for future securitization. The conduit issues the commercial paper to fund the purchase of these assets. Since the duration of the commercial paper is often shorter than the average life of the conduit’s assets, the proceeds from the sale of the commercial paper may be used to pay off maturing commercial paper and purchase more assets for the conduit. The majority of these conduits are required by the rating agencies to secure and maintain a back-up liquidity facility, usually provided by a bank or a group of banks, to ensure that the investors are repaid in the event of a cash shortfall. The liquidity facility may cover part of or the entire amount of CP outstanding.

Single-Seller Conduits

This conduit is usually created to finance a primary business and is managed by an independent finance company. Auto financing firms will often use the single-seller conduit as a financing vehicle. The conduits are credit enhanced through over collateralization (OC) in the 5%-10% range, and bank lines of credit that cover a percentage (partial liquidity facility) of the commercial paper program.

Multi-Seller Conduits

These conduits are typically managed by a large bank that then uses the program to provide financing for other banks. It is not unusual to find several banks participating in these conduits with each transaction standing on its own with a specific credit rating and term. The credit enhancements in these conduits may include 5%-10% OC, a partial bank liquidity facility or full bank line of credit to cover any cash shortfalls except for those due to defaulted assets (hence the term liquidity facility). The majority of ABCP programs are issued through multi-seller conduits, followed by single-seller conduits.

Structured Investment Vehicles (SIVs)

SIVs are leveraged investment companies that raise third-party capital and then leverage this capital by issuing commercial paper or medium term notes. Also known as securities arbitrage conduits, SIV assets may be whole loans or securities, funded by shorter-term liabilities.

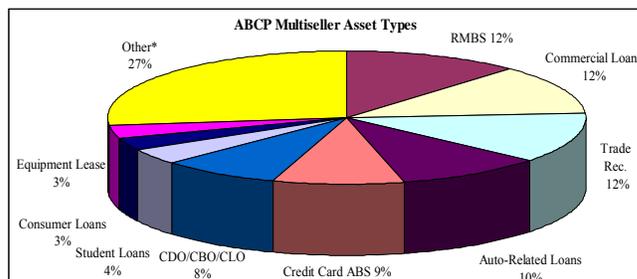
Instead of a full back up

line of credit from a bank, there is typically a combination of partial bank liquidity facility, 8% - 10% OC, and other assets that stand available to meet an estimated two to three weeks of net cash outflows. The assets are marked-to-market on a daily basis and a significant decline in the market value could trigger a deleveraging of the fund or in the worst case, a liquidation of fund assets.

Currently, Cheyne Finance Capital Notes LLC., is the only fund that is in the process of deleveraging and has begun to liquidate assets to repay maturing commercial paper. It is unknown what the medium term note holders will receive in principal repayment, but historical experience does not bode well for these investors. In 2001, an SIV, Asset Backed Capital, created by Quadrant Capital in 1996, was forced to delever. The ABCP holders were made whole, although the capital note holders suffered losses.

SIV-Lites or SIV CDOs

This program differs from the traditional SIVs in that they are not a perpetual funding vehicle. There is a defined revolving period, after which the program is



SOURCE: FITCH RATINGS – AUGUST 2007

A Primer on Asset Backed Commercial Paper (continued)

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paid down. The credit support is often a combination of 8% to 12% OC, mezzanine and capital notes of collateralized debt obligations and daily mark-to-market of the assets in the programs. The SIV-lites have encountered the most difficulty in the market place as the asset values have plunged resulting in credit downgrades and required deleveraging. The list of programs in the deleveraging stage includes Golden Key Limited (Avendis Financial Services, Ltd.) and Mainsail II (Solent Capital). Both hold AAA and AA rated residential mortgage assets, but commercial paper ratings have fallen to non-prime. Expect to see less of this structure going forward.

CDO Programs

These transactions involve the use of commercial paper to fund all or part of the senior tranche of a collateralized debt obligation. Medium term notes are issued to fund the mezzanine or subordinate tranches of the deal. Credit support is provided by a bank liquidity line that usually covers 100% of the commercial paper issued. In practice, if the commercial paper cannot be rolled over, the paper typically is put to the bank.

How Does the ABCP Market Work?

Issuers will usually designate a group of dealers through which the commercial paper will be sold and traded. Each day, the deal-

ers will post maturities and yields at which the issuer is willing to sell the commercial paper or will accept specific terms from the investors, known as a "reverse inquiry," and work with the issuer to create something for the investor. Normally, maturities are staggered so that each day, there is paper coming due and investors with cash to roll over or invest in other alternatives. Given the short maturity of commercial paper and constant new issues, there is little secondary trading, although it may occur.

What Caused the Problem?

Over the past few months, rising delinquency and foreclosure rates of mortgage loans, and deteriorating conditions in the housing market instilled caution among investors and several credit downgrades further drove investors away from the ABCP market. Some issuers were unable to "roll over" their maturities, meaning when the commercial paper matured, the issuer was not able to sell more paper to replace what was retired.

It is common for an investor to roll over the maturity if they have funds to invest; however, if there is any inkling of credit or liquidity stress, the investor will redeem the paper. The inability to roll over the commercial paper led to significant funding challenges for some of the largest ABCP issuers, causing them to access back-up lines

of credit to pay off maturities and further fan the fears of investors. Some issuers were unable to repay the maturing paper and chose to extend the maturity, catching some investors by surprise. The issuers that have extended include: Broadhollow Funding (American Home Mortgage funding arm), KKR Atlantic Funding, KKR Pacific Funding, Luminant Star Funding Trust I, Ottimo Funding (Aladdin Capital), RAMS Funding Three (Australian issuer), and RAMS Funding Two. All the aforementioned programs are backed by residential mortgage-backed securities.²

Current Market Conditions

The size of the ABCP market has fallen dramatically recently. At its peak in July of 2007, total outstandings were \$1.2 trillion, or roughly half of the total commercial paper market in the U.S. However, given the turmoil in the mortgage market and subsequent aversion to this asset class by investors, total outstandings fell to \$998 billion as of August 29th with an expectation for continued decline. In the last two weeks of September 2007, approximately \$140 billion in commercial paper was scheduled to mature, with roughly half in ABCP. If the issuers are unable to roll over the paper, they may access their back-up lines of credit with banks, banks may buy the commercial paper and hold it in portfolio, issuers may sell assets in the conduit to raise cash, or

issuers may find other financing.

The yield volatility exhibited in July and August is common during times of uncertainty and stress. While we hope the worst is behind us, it is likely that there will be a much smaller universe of commercial paper market participants and some programs, such as SIV-lites and CDOs will be rare in the future. Nonetheless, we will hear more about the ABCP market if other asset classes, such as commercial loans or credit card receivables experience credit deterioration.

Risk aversion has also caused the cost of financing with commercial paper to rise considerably. From 2002 to 2007, the average yield spread over 1-month U.S. Treasury bills for ABCP was 25 to 50 basis points (bps). As credit fears heightened, the spread widened to 100 bps in June 2007, and then spiked to 356 bps on August 20th and settled at 155 bps as of August 28th. One-day, top rated commercial paper yields approximately 6.15%, 80 bps higher than were than where it traded on August 8th.³

The average maturity of ABCP has shortened considerably, with 69% of outstandings maturing in 1-4 days. This compares to an average 56% in 2006 and 54% in 2005.⁴ Those that are able to roll commercial paper for 30 days, are executing at rates as high as 6.25%.⁵ ■

² UBS Securities Conference Call: Issues in the Asset-backed Commercial Paper Market, August 30, 2007.

³ As of September 10, 2007 per Bloomberg L.P.

⁴ Federal Reserve

⁵ As of September 10, 2007 Bloomberg L.P.

Second Quarter Sees Sensitivity Rise (continued)

(Continued from page 1)

At the end of the second quarter, the Treasury yield curve became dramatically less humped in shape. Shorter maturity rates declined, and longer maturity rates rose, producing a yield curve that was upward sloping. The 3-month and 6-month rates fell by 22 and 13 basis points, while the 2-year rate and 30-year rate increased 30 basis points and 28 basis points, respectively.

The 30-year mortgage rate, as measured by the contract interest rate on Freddie Mac commitments for fixed-rate, 30-year mortgages, increased to 6.63 percent at the end of the second quarter, up from 6.13 percent in the prior quarter. The target for the federal funds rate remained unchanged at 5.25 percent at the May 2007 and June 2007 meetings of the Federal Open Market Committee. (The federal funds rate was subsequently lowered to 4.75 percent at the September 2007 meeting.)

Thrift earnings were strong, despite continued weakness in the housing market and an unfavorable yield curve environment. Levels of problems assets rose in the second quarter, reflecting the slowing housing sector and the current credit cycle. Delinquencies for most loan types have increased over the past year and continued to rise in the second quarter. The largest increases in delinquency rates were in 1-4 family mortgages and construction loans, and these increases

reflect the continued weakness in the housing sector.

Troubled assets—loans 90 days or more past due and loans in nonaccrual status, plus repossessed assets—were 0.95 percent of all assets during the second quarter, representing an increase from 0.80 in the prior quarter and 0.62 percent one year ago. The increase was primarily due to higher delinquencies for 1-4 family mortgages and construction loans.

Capital measures for the industry continue to be strong, stable, and well in excess of minimum requirements. Equity capital at the end of the second quarter was a record 10.81 percent of assets, up from 9.25 percent one year ago. At the end of the second quarter, 99 percent of the industry exceeded well-capitalized standards, while four thrifts were less than adequately capitalized.

Net income for the thrift industry was \$3.84 billion in the second quarter, up 6.3 percent from \$3.61 billion in the previous quarter, but down 8.6 percent from the near-record level of \$4.21 billion in the second quarter one year ago.

Return on average equity (ROE) was 9.57 percent in the second quarter, down from 11.93 percent in the second quarter one year ago, but up from 9.35 percent in the prior quarter. Profitability, as measured by return on average assets (ROA), was 1.02 percent in the second quarter, up from 0.97 percent in the first quarter, but down from 1.11 percent

in the comparable quarter a year ago.

The rise in ROA in the second quarter was driven by higher fee income and other non-interest income. Partially offsetting these positive impacts on second-quarter profitability were higher loan loss provisions, higher non-interest expenses and higher taxes. Net interest margin was unchanged from the prior quarter at 277 basis points (or 2.77 percent of average assets), and was down from 280 basis points in the second quarter one year ago. Loan loss provisions increased to 0.38 percent of average assets in the second quarter from 0.20 percent in the second quarter one year ago, and from 0.33 percent in the prior quarter.

Total fee income, including mortgage loan servicing fee income and other fee income, increased to 1.42 percent of average assets in the second quarter compared to 1.18 percent in the second quarter one year ago, and 1.11 percent in the prior quarter. Servicing fee income was 0.23 percent of average assets in the second quarter, up from 0.10 percent in the second quarter one year ago, and 0.05 percent in the prior quarter.

Other noninterest income was 0.46 percent of average assets in the second quarter, down from 0.55 percent in the second quarter one year ago, but up from 0.39 percent in the prior quarter. Other noninterest income is typically volatile since it includes realized gains or losses on assets held for sale and the results

of balance sheet restructuring activities.

Noninterest expense increased to 2.70 percent of average assets in the second quarter as compared to 2.63 percent in the comparable year ago quarter and 2.46 percent in the prior quarter.

Taxes were down five basis points over the year to 0.55 percent of average assets, but were up from 0.52 percent in the first quarter. Industry assets increased by one percent in the second quarter to \$1.50 trillion from \$1.49 trillion in the first quarter.

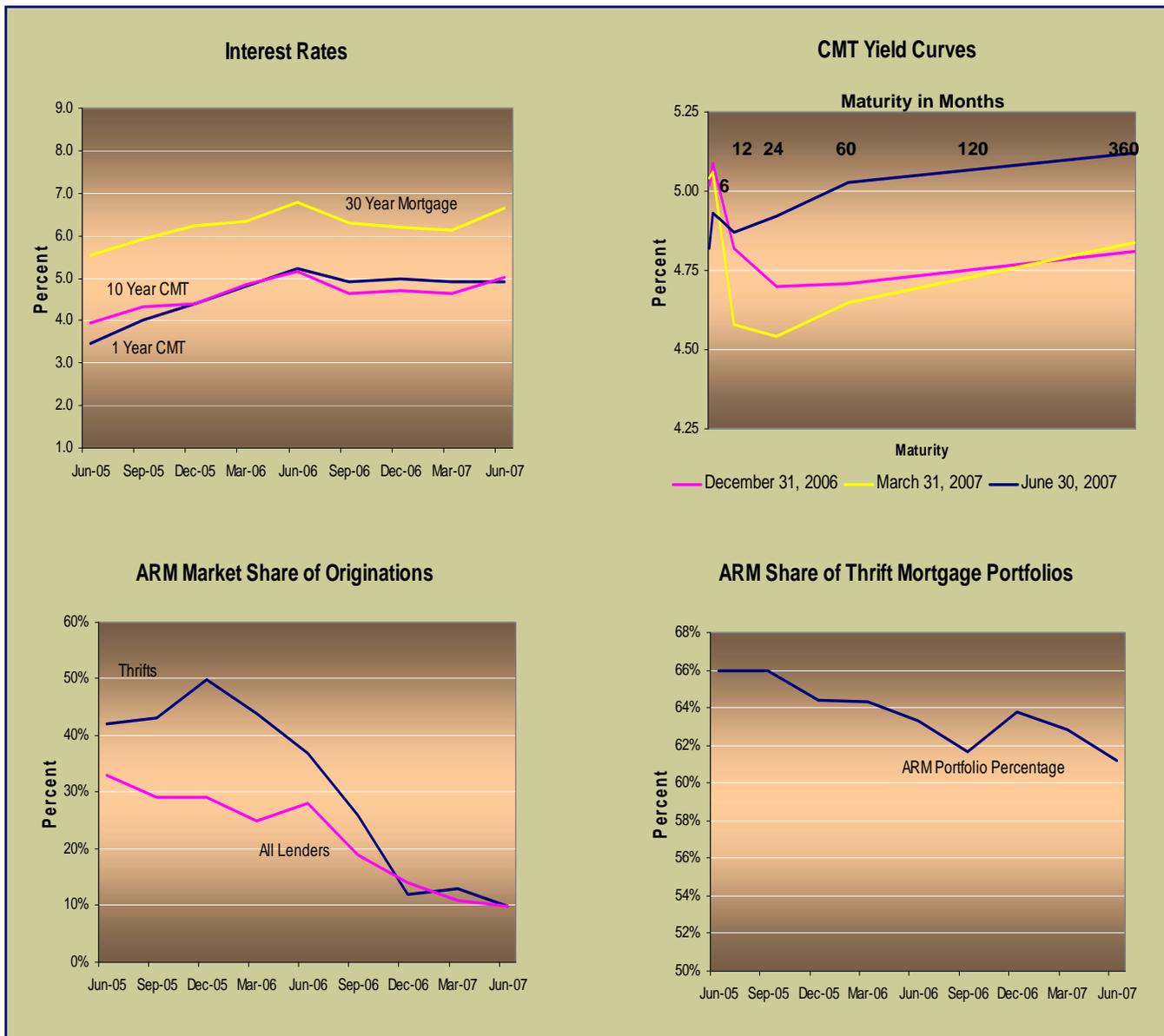
Thrifts remain focused on residential mortgage lending, with 50.9 percent of assets invested in 1-4 family mortgage loans at the end of the second quarter, down from 56.4 percent one year ago. Of these 1-4 family mortgage loans, 7.1 percent are home equity lines of credit, up from 6.1 percent one year ago.

Total thrift industry mortgage originations (which include multifamily and nonresidential mortgages) were \$194.6 billion in the second quarter, up 14 percent from \$171.1 billion in the second quarter one year ago, and 15 percent from \$169.2 billion in the prior quarter. Second quarter 1-4 family mortgage originations by thrifts were \$173.3 billion, up 17 percent from \$148.5 billion in the second quarter one year ago, and 16 percent from the \$149.6 billion originated in the prior quarter.

Thrifts accounted for approximately 23.7 percent

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Interest Rates and ARM Market Share



Second Quarter Sees Sensitivity Rise (continued)

(Continued from page 4)
of total 1-4 family originations nationwide in the second quarter of 2007, up from 19.7 percent in the comparable year ago quarter, and 22.8 percent in the prior quarter. An estimated 10 percent of thrift originations were ARMs in the second quarter, down from 13 percent in the prior quarter and 37 percent in the comparable year ago quarter.

The volume of mortgage refinancing, as a percentage of total originations, was up from the prior quarter and comparable year ago quarter, as borrowers converted adjustable-rate mortgages to fixed-rate mortgages.

Refinancing activity accounted for 48 percent of thrift originations in the second quarter, up from 31 percent in the second quarter one

year ago, and 47 percent in the prior quarter.

The ARM share of total 1-4 family mortgages held by thrifts in their portfolios was 61.2 percent in the second quarter, down from 62.8 percent in the prior quarter.

Optional and firm commitments to originate both fixed- and adjustable-rate mortgages in the second quarter were \$91.5 billion and

\$3.7 billion, respectively. Optional commitments to originate mortgages declined \$7.8 billion, and firm commitments declined \$100 million from the previous quarter's levels.

Portfolio holdings of consumer loans increased to 6.1 percent of assets from 5.9 percent a year ago, and multi-family mortgages decreased

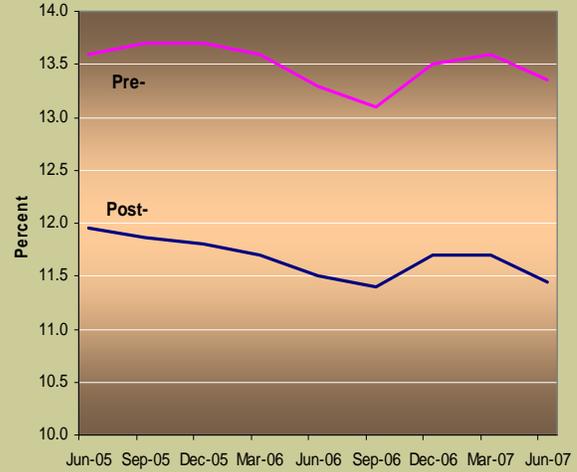
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Duration and NPV Sensitivity Measures

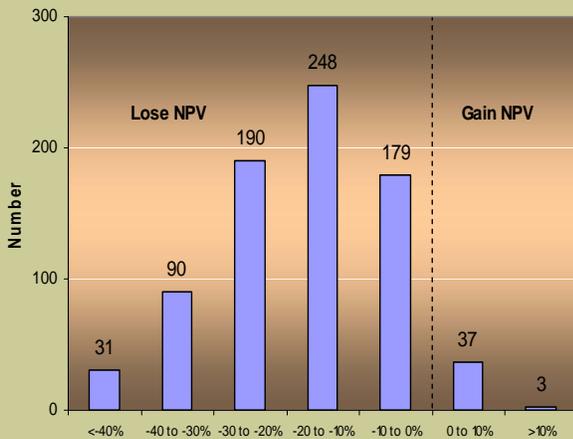
Median Effective Duration Gap



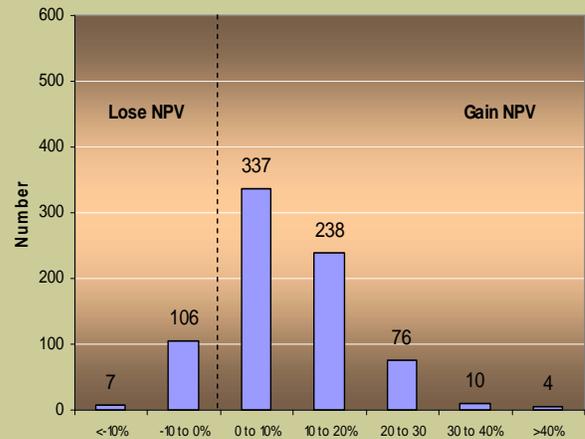
Median Pre- and Post-Shock NPV Ratios



**Estimated Change in NPV:
+200bp Rate Change**



**Estimated Change in NPV:
-200bp Rate Change**



Second Quarter Sees Sensitivity Rise (continued)

(Continued from page 5)
slightly over the year from 4.4 percent of assets to 4.2 percent at the end of the second quarter. Commercial loans increased to 3.8 percent of assets at the end of the second quarter, up from 3.0 percent one year ago.

Deposits and escrows grew by 7.4 percent over the

year to \$949 billion from \$883 billion. As a percentage of total assets, deposits and escrows increased to 63.1 percent from 57.6 percent one year ago. Federal Home Loan Bank advances were down from 17.7 percent one year ago to 14.3 percent of total assets.

The industry's median

effective duration of assets rose from 1.82 to 1.97 in the second quarter. The rise in the duration of assets was caused by the increase in interest rates, which slowed estimated prepayment speeds.

The second quarter saw the industry's median effective duration of liabilities fall from 1.24 to 1.19.

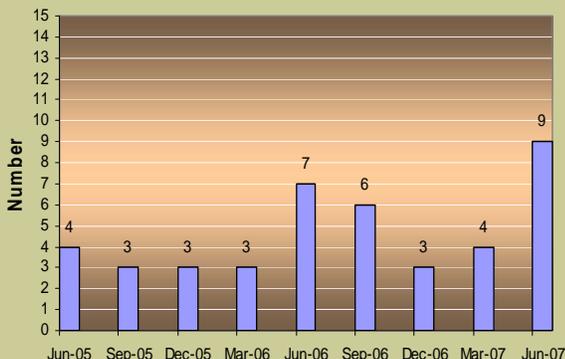
The increase in the effective duration of assets coupled with the drop in the duration of liabilities resulted in an increase in the duration gap for the thrift industry in the second quarter, rising from 0.55 to 0.77.

Of the thrifts that submitted Schedule CMR data in the

(Continued on page 7)

Interest Rate Risk Measures

Thriffs with Post-Shock NPV Ratios Under 4 Percent



Interest Rate Risk Measures Industry Aggregates Last Two Quarters				
	NPV as % of PV of Assets		% Change in NPV	% Change in NPV
	Mar-07	Jun-07	Mar-07	Jun-07
+300	8.53%	8.09%	-30%	-33%
+200	9.85%	9.45%	-18%	-21%
+100	10.94%	10.61%	-8%	-9%
Base	11.71%	11.55%	0%	0%
-100	12.09%	12.13%	4%	6%
-200	12.18%	12.44%	5%	10%

Post-Shock NPV Ratio and Sensitivity Measure Matrix March 2007

	Under 100bp	101-200bp	201-400bp	Over 400bp	Total
Over 10%	171	172	172	34	549
6% to 10%	23	71	113	11	218
4% to 6%	1	3	5	3	12
Below 4%	0	1	1	2	4
Total	195	247	291	50	783

Minimal Moderate Significant High

Post-Shock NPV Ratio and Sensitivity Measure Matrix June 2007

	Under 100bp	101-200bp	201-400bp	Over 400bp	Total
Over 10%	158	132	183	31	504
6% to 10%	25	65	137	15	242
4% to 6%	0	2	14	7	23
Below 4%	1	1	5	2	9
Total	184	200	339	55	778

Minimal Moderate Significant High

Second Quarter Sees Sensitivity Rise (continued)

(Continued from page 6) In the second quarter, the NPV model estimated that about 95 percent would experience a loss of net portfolio value if rates rose by 200 basis points and approximately 85 percent of thrifts would experience an increase in net portfolio value should rates fall 200 basis points.

The NPV model esti-

ated that the thrift industry would lose 21 percent of its net portfolio value if rates rose by 200 basis points in the second quarter, and the industry would gain ten percent if rates fell by 200 basis points.

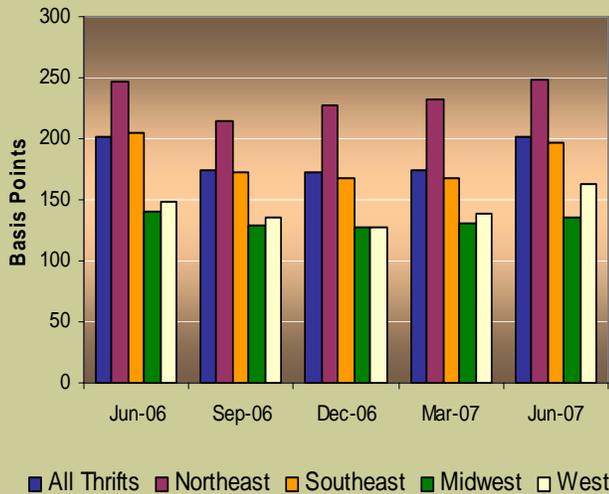
Based on TB 13a guidance for the “S” rating, 563 thrifts (72.4 percent) initially would be assigned a minimal interest rate risk rating, 171

thrifts (22.0 percent) a moderate rating, 30 thrifts (3.9 percent) a significant rating, and 14 thrifts (1.8 percent) a high rating in the second quarter.

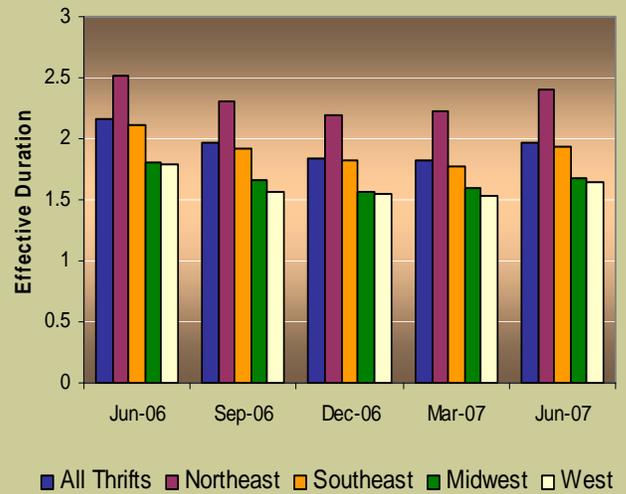
The number of thrifts with significant or high interest rate almost doubled from 23 in the first quarter to 44 in the second quarter. ■

Comparative Trends in the Four OTS Regions

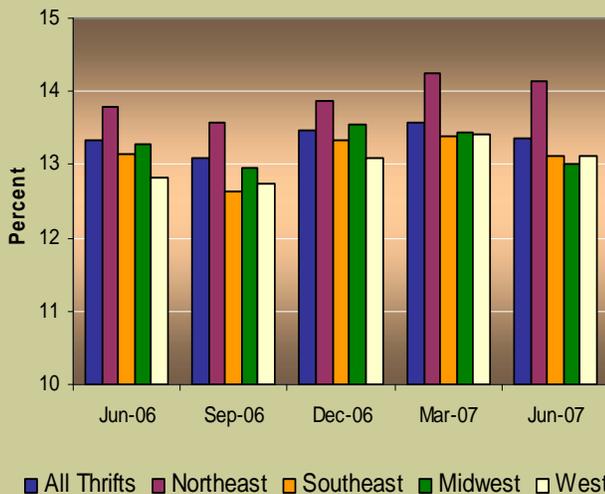
Median Sensitivity by OTS Region



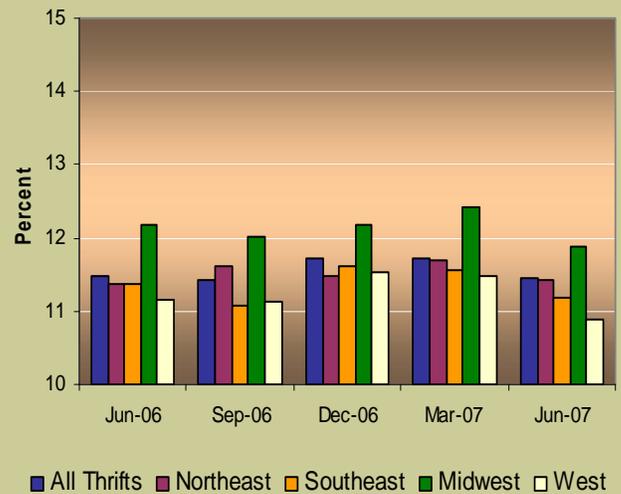
Median Assets Duration by OTS Region



Median Pre-Shock NPV Ratio by OTS Region



Median Post-Shock NPV Ratio by OTS Region



Regional Comparisons

At the end of the second quarter, the Northeast Region had the highest median sensitivity at 248 basis points, while the Midwest Region had the lowest median sensitivity at 135 basis points.

All four regions saw their median sensitivities rise, with the Southeast Region's sensi-

tivity rising the most (29 basis points) and the Midwest Region's sensitivity rising the least (5 basis points).

The Northeast Region had the highest median pre-shock NPV ratio at 14.15 percent, with the other regions remaining close to each other in the 13.0-13.1 range.

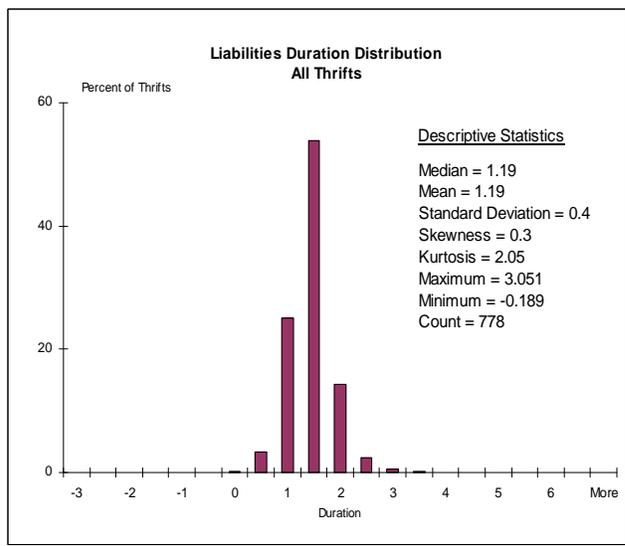
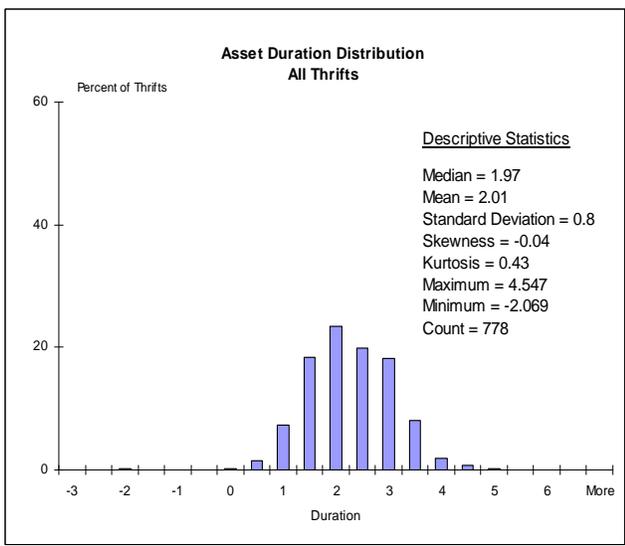
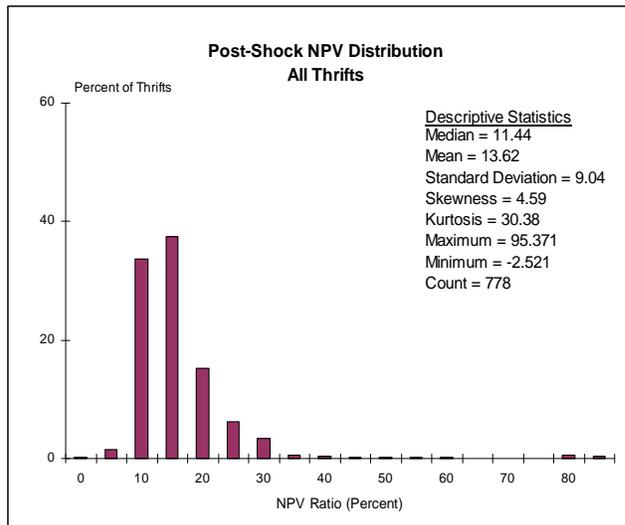
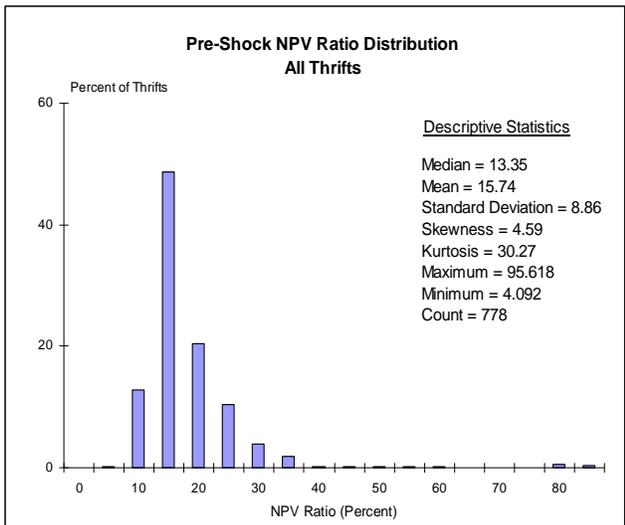
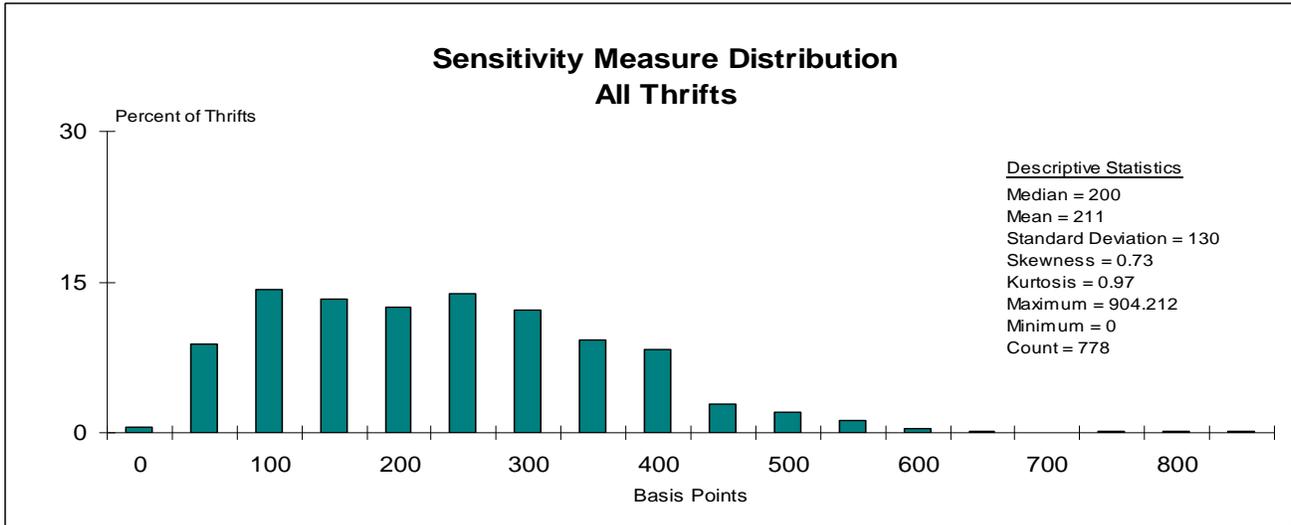
The Midwest Region had the highest median post-shock NPV ratio, at 12.17 percent, while the West Region had the lowest, at 11.16 percent.

The Northeast Region had the highest median asset duration, at 2.40, while the West Region had the lowest,

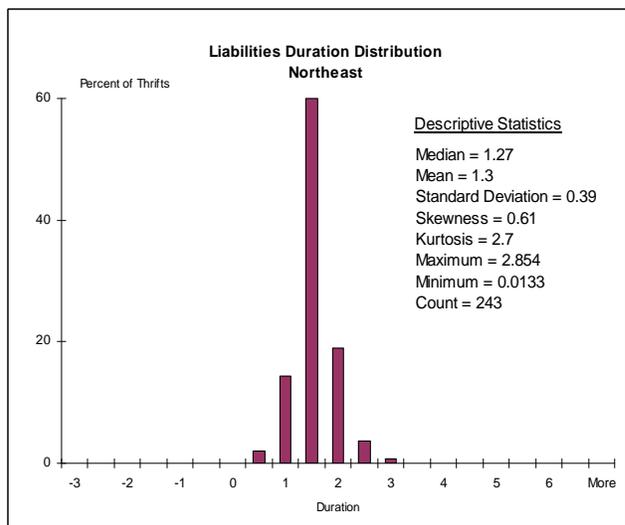
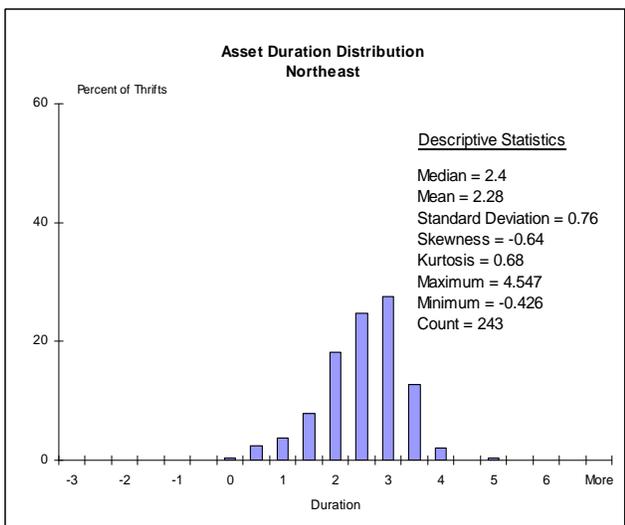
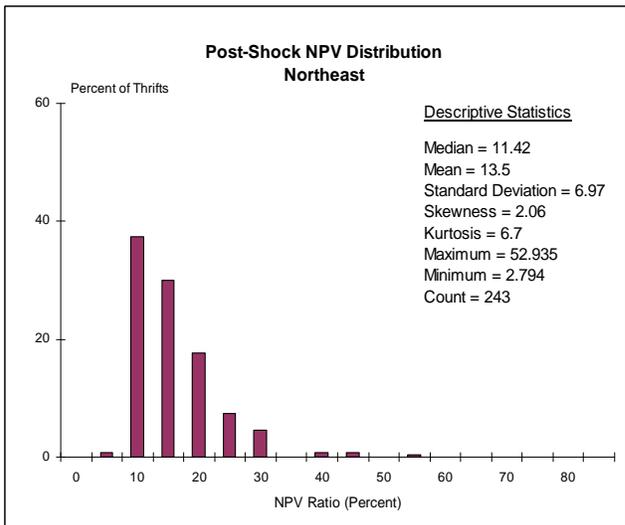
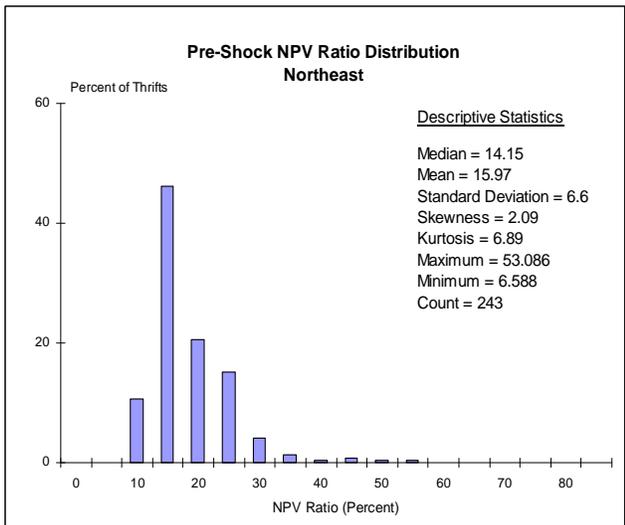
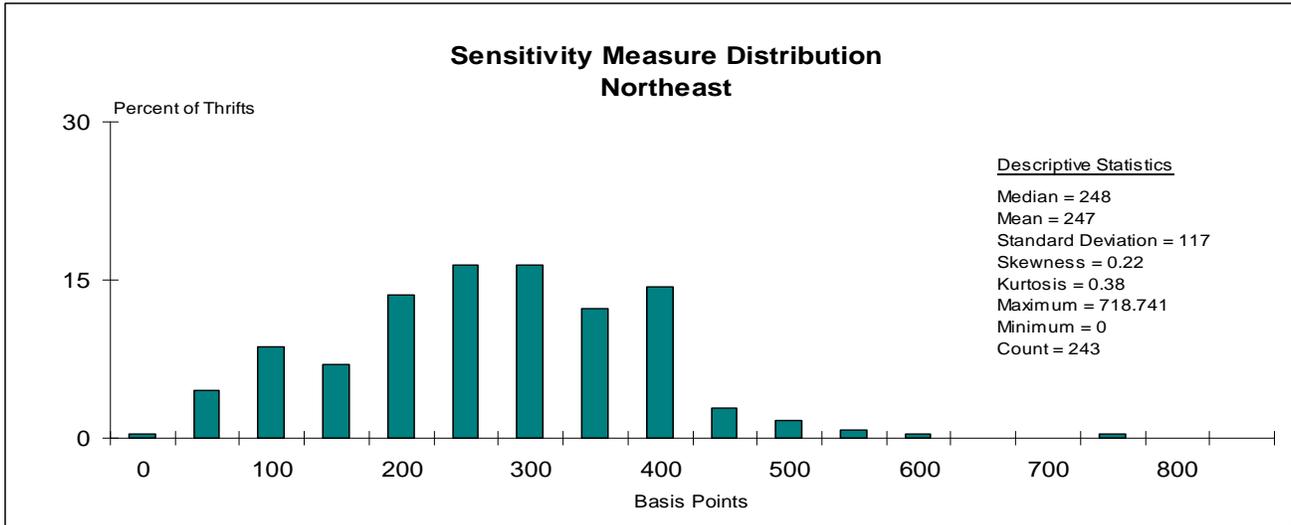
at 1.65, at quarter end.

The Southeast Region had the lowest median liability duration, at 1.10, while the Northeast Region had the highest, at 1.27. ■

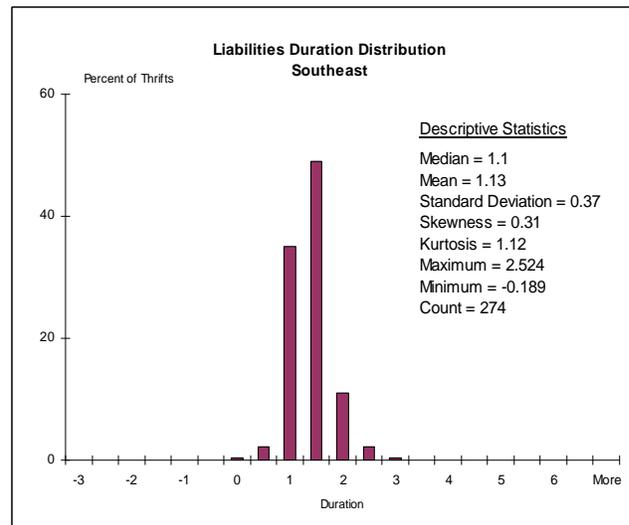
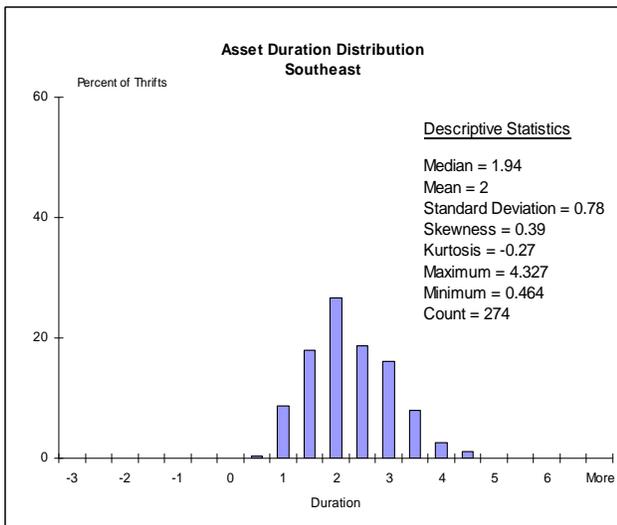
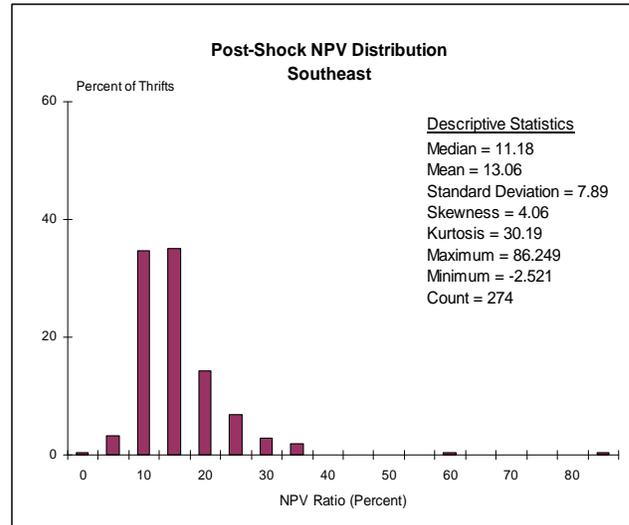
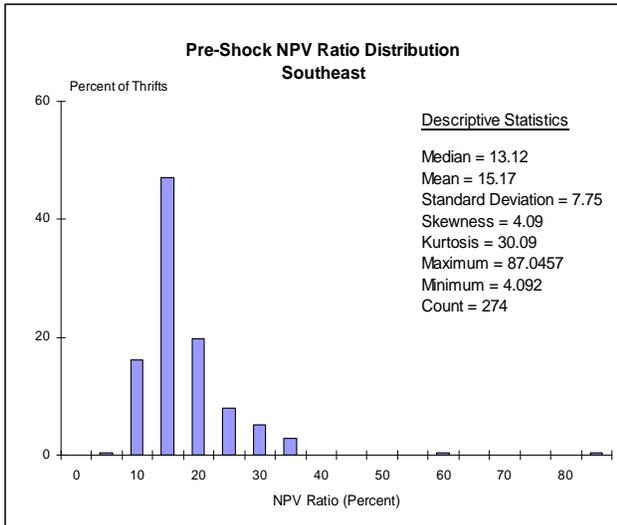
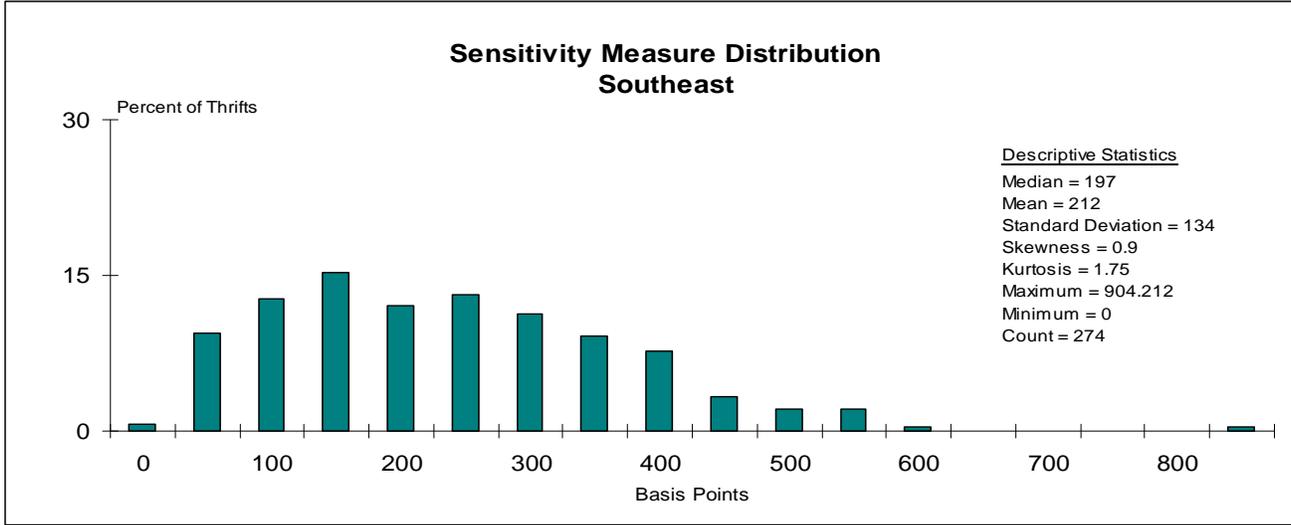
Appendix A – All Thrifts



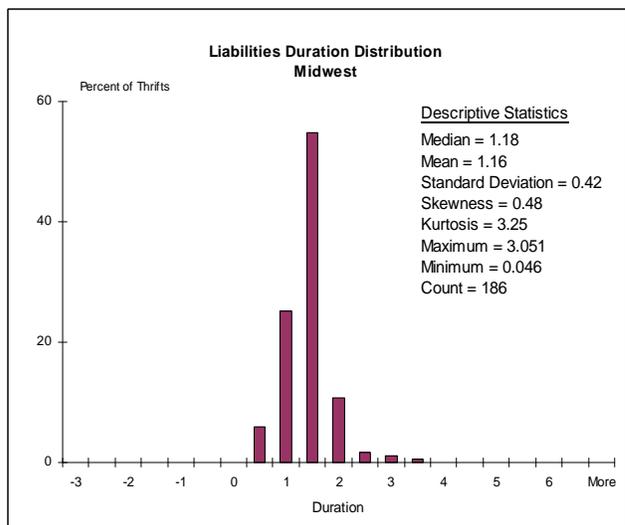
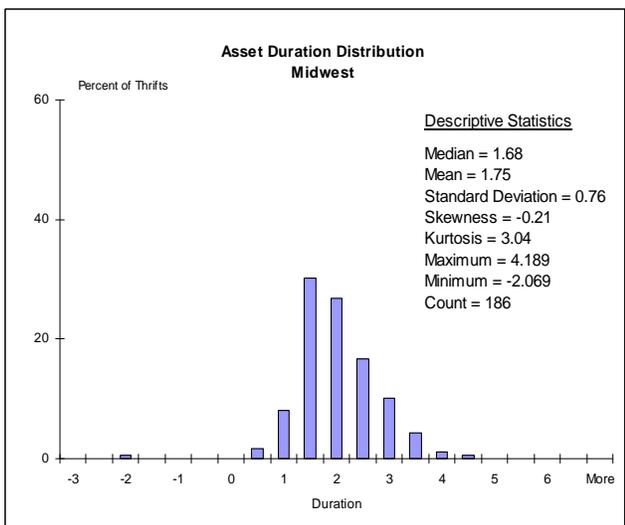
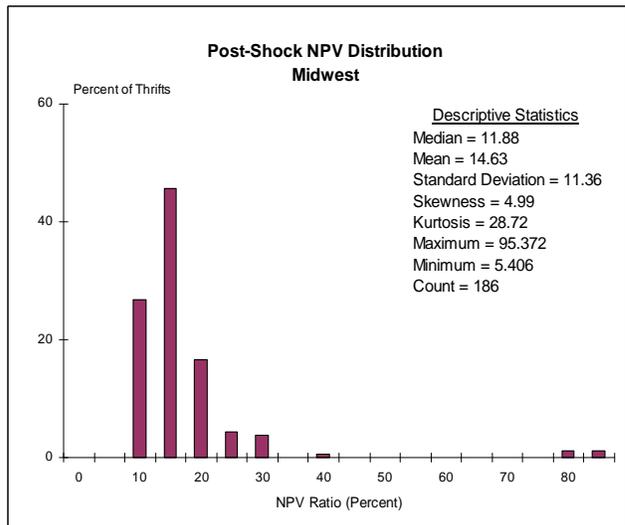
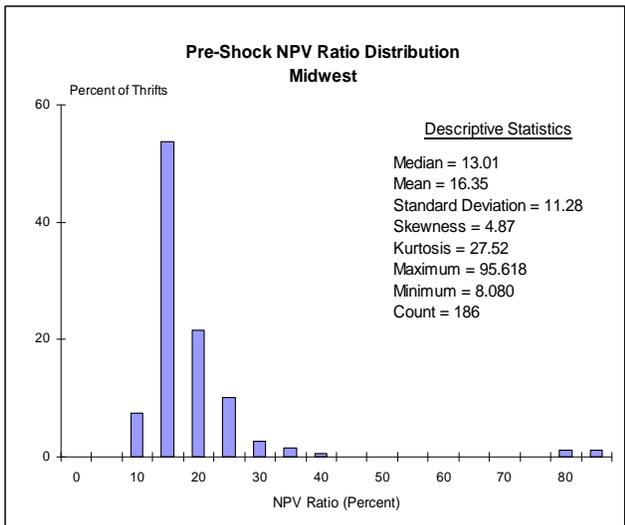
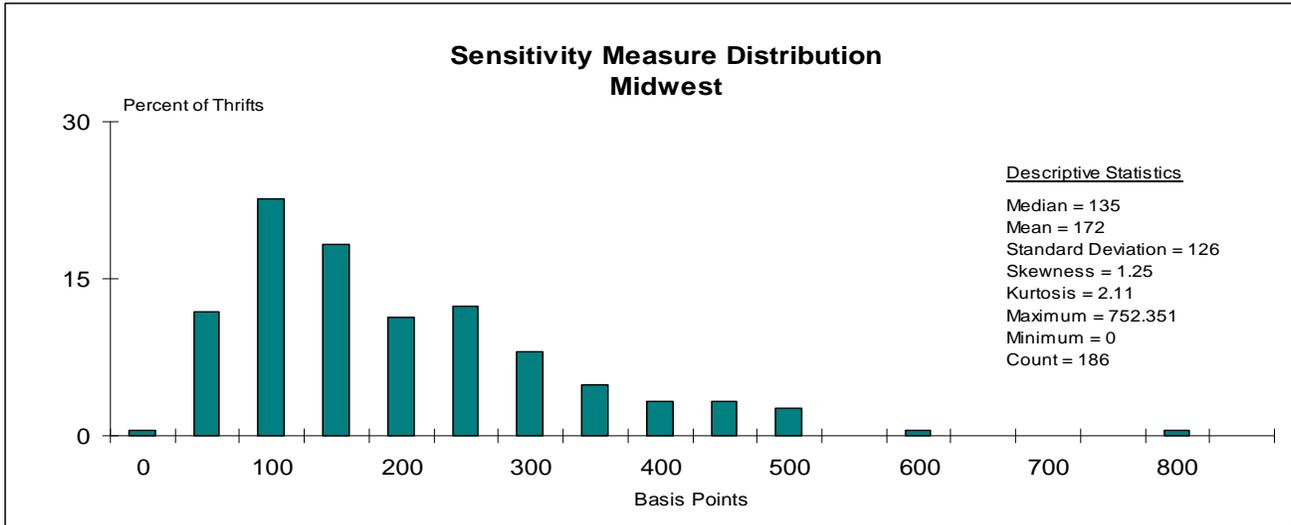
Appendix B – Northeast Region



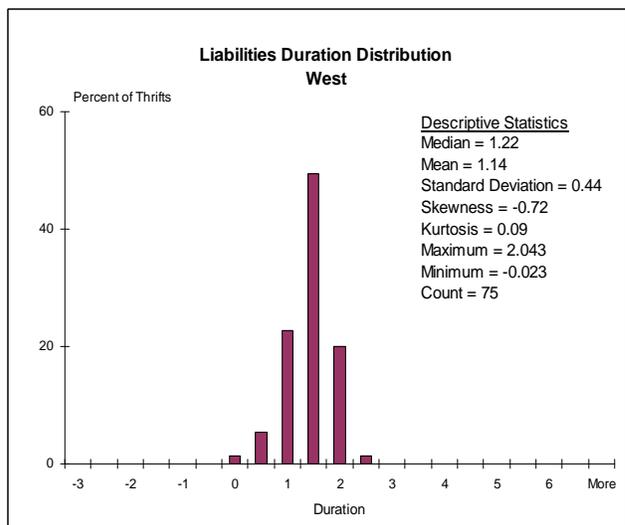
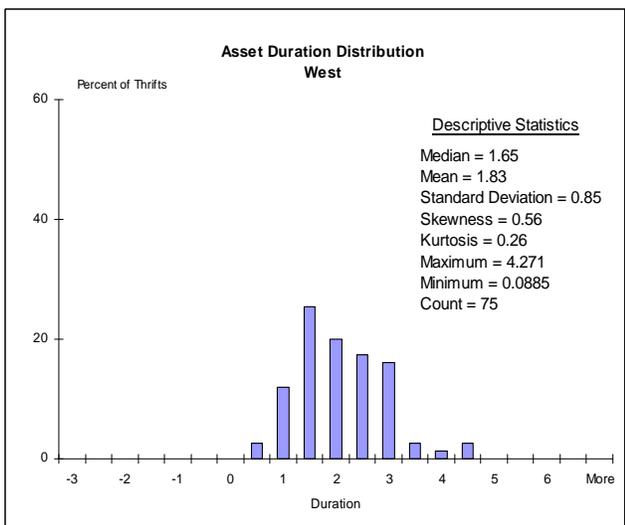
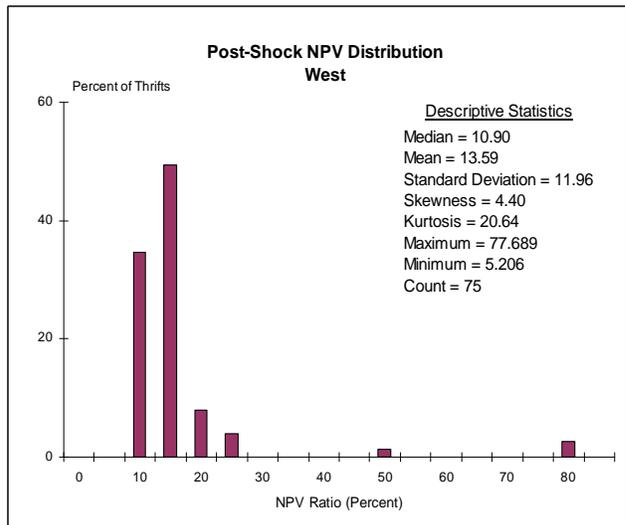
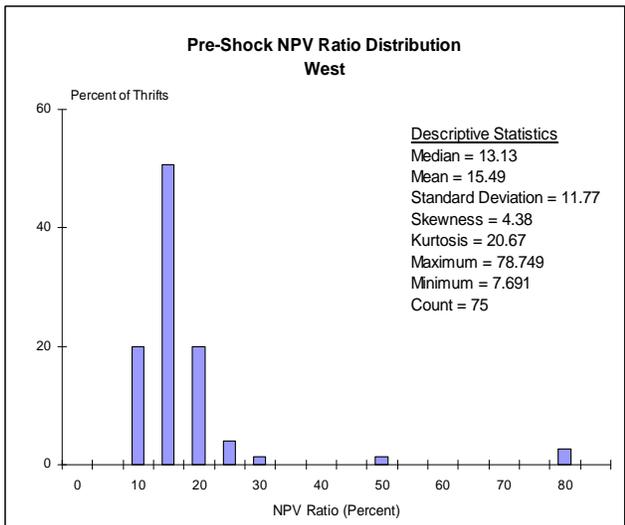
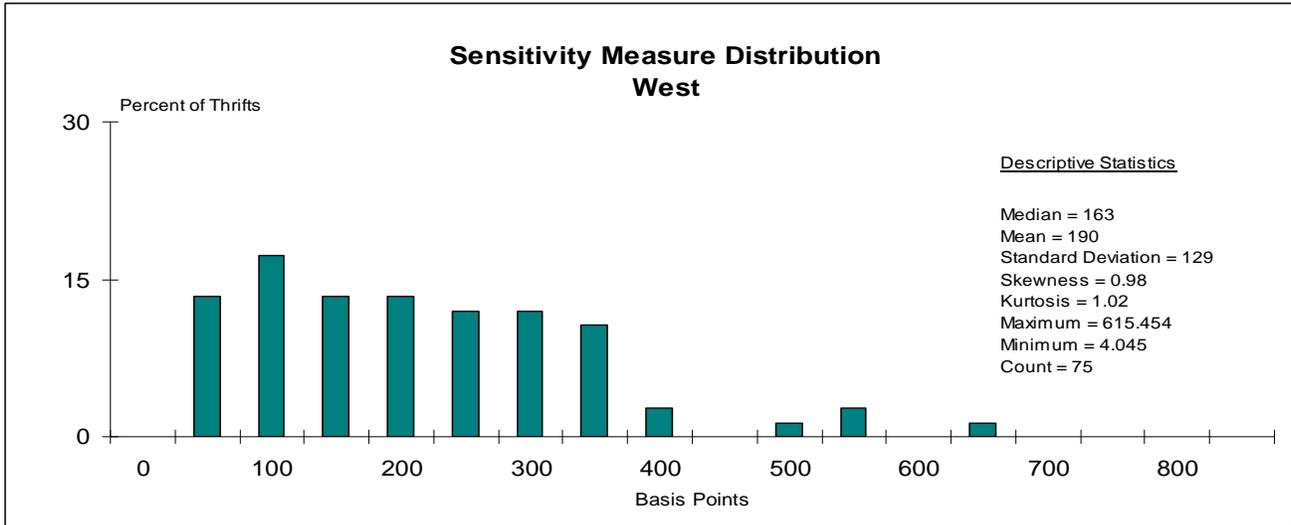
Appendix C – Southeast Region



Appendix D – Midwest Region



Appendix E – West Region



Glossary

Duration: A first-order approximation of the price sensitivity of a financial instrument to changes in yield. The higher the duration, the greater the instrument's price sensitivity. For example, an asset with a duration of 1.6 would be predicted to appreciate in value by about 1.6 percent for a 1 percent decline in yield.

Effective Duration: The average rate of price change in a financial instrument over a given discrete range from the current market interest rate (usually, +/-100 basis points).

Estimated Change in NPV: The percentage change in base case NPV caused by an interest rate shock.

Kurtosis: A statistical measure of the tendency of data to be distributed toward the tails, or ends, of the distribution. A

normal distribution has a kurtosis statistic of three.

NPV Model: Currently measures how five hypothetical changes in interest rates (three successive 100 basis point increases and two successive 100 basis point decreases) affect the estimated market value of a thrift's net worth.

Post-Shock NPV Ratio: Equity-to-assets ratio, following an adverse 200 basis point interest rate shock (assuming a normal interest rate environment), expressed in present value terms (i.e., post-shock NPV divided by post-shock present value of assets). Also referred to as the exposure ratio.

Pre-Shock NPV Ratio: Equity-to-assets expressed in present value terms (i.e., base case NPV divided by base case present value of assets).

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