

## **SUPPLEMENTAL REPORTING OF MARKET VALUE ESTIMATES**

To calculate the market value of some of the assets, liabilities, and financial derivatives and OBS instruments that you hold, we need more information than is feasible to collect on Schedule CMR. This **SCHEDULE CMR 1779 MARCH 2004 THRIFT FINANCIAL REPORT INSTRUCTION MANUAL** section of Schedule CMR collects your own estimates of the market values of certain instruments in each of the seven interest rate scenarios shown in the Interest Rate Risk Exposure Report that we produce each quarter. We combine the estimates you report with the market value estimates calculated by the OTS Model to evaluate your exposure to interest rate changes.

You **must** report market value estimates **if** you have the following types of financial instruments:

1. Financial derivatives and OBS contracts that you cannot identify by a contract code. For instance, CMO swaps.
2. Mortgage-derivative securities.
3. Complex securities. If you have complex securities, you must report market value estimates for those securities. Common types of complex securities include structured securities, such as step-up bonds, index-amortizing notes, dual index notes, de-leveraged bonds, range bonds, and inverse floaters.
4. Structured Borrowings.

Moreover, you have the option to report market value estimates for collateralized mortgage securities you issue and for mortgage-related mutual funds.

If you report your own estimates for a given type of instrument, you should do so consistently across quarters. If you do not report market value estimates, you should leave the cells blank.

### **Reporting Guidelines**

When estimating the market values for this section, you should use the same methodology you use in your TB 13a analyses. First, calculate the base case market value of each instrument in the current interest rate environment. Then calculate market value estimates in the six shocked interest rate scenarios – the plus and minus 100, 200, and 300 basis point shocks described in TB 13a – by assuming parallel shifts in the term structure of interest rates. In periods of low interest rates, it is possible that the simulation of the -300 interest rate scenario could result in negative interest rates. To avoid this possibility, you should set a floor of ten basis points for all interest rates when performing your own simulations.

Assumptions used in the calculations must be reasonable and consistent with the analysis you perform to satisfy TB 13a. Your prepayment assumptions should

relate reasonably to market consensus in the current interest rate scenario. In the six shocked scenarios, prepayment assumptions should reflect changes likely to occur in prepayment rates under each interest rate shock. If you perform the valuation by estimating the present value of future cash flows, both the discount rates and expected future cash flows should reflect the current yield curve or that of similar instruments in the current rate scenario. In the shocked scenarios, discount rates and expected future cash flows should reflect likely changes that would occur under each shock.

To evaluate an institution's market value estimates, OTS examiners will, at a minimum, determine whether the institution:

1. Uses zero-coupon (spot) rates of the appropriate maturities to discount cash flows.
2. Uses implied forward interest rates to model variable rate cash flows.
3. Values embedded options using appropriate option valuation methodology, e.g., Black-Scholes type formulas, Monte-Carlo simulations, lattice methods, etc.

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Examiners may determine an institution should use more sophisticated measurement techniques to address specific supervisory concerns (e.g., high volume and price sensitivity of a group of structured advances; the institution's results may materially misstate the level of risk; a combination of low Post-shock NPV Ratio and high Sensitivity Measure; etc.). In any case, the institution should be very familiar with the details of the assumptions, term structure, and logic used in performing the measurements. Measures obtained from either a third party or from an FHLB originating a structured FHLB advance may, therefore, not always be adequate.