THE RISK-BASED CAPITAL
STYLIZED DATA SET OVERVIEW

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Overview

The Office of Federal Housing Enterprise Oversight (OFHEO) published its final Risk-Based Capital Regulation (RBC Regulation) on February 13, 2003. In the preamble to the RBC Regulation, OFHEO agreed to provide the public with a stylized data set for use in conjunction with the Risk-based Capital (RBC) software or computer code that implements the RBC stress test discussed in the RBC Regulation.[1] OFHEO is now providing such a data set -- the RBC Stylized Data Set (RSDS) -- that will assist interested parties in understanding the stress test.

The RSDS is a data set provided to facilitate the public's understanding of the RBC stress test and the RBC Regulation. With the RSDS, a member of the public with a high level of technical expertise and access to sufficient computing hardware can implement the RBC stress test using the RBC software. The RSDS includes a variety of instruments – both mortgage and non-mortgage instruments – that the Enterprises are permitted to hold or issue by virtue of their Charters; it may or may not include specific instruments an Enterprise holds or has issued at any particular time.

OFHEO makes no attempt in the RSDS to represent any actual Enterprise portfolio, as the specific composition of Enterprise portfolios is confidential, their portfolios change in response to economic conditions and other factors, and the manner in which the Enterprises choose to manage their risks is proprietary. Therefore, any resemblance to actual past or future Enterprise portfolios is unintentional and coincidental.

The RSDS is designed to demonstrate only the most fundamental aspects of the complex and interdependent set of RBC software specifications that generate an RBC requirement for the Enterprises. Therefore, certain functionality within the RBC software is not utilized in processing the RSDS. In this way, the RSDS balances complexity with usefulness. It is intended to be neither so complex as to be difficult for the public to understand and use, nor so simplistic as to be of little value as a baseline for analyzing risk, sensitivities, cash flows, defaults, prepayments, capital adequacy and other aspects of the RBC stress test. Members of the public may use the RSDS as provided to run the RBC stress test. All required data and information is provided.[2] OFHEO representatives will be available to members of the public on a limited basis to answer technical questions and provide technical assistance.

The Mortgage Instruments

The RSDS includes a representative sample of conforming mortgages and mortgage-related instruments, consisting of whole loans, single-class mortgage-backed securities (MBS), mortgage revenue bonds (MRBs) and loans to be purchased or securitized at a future date (Commitments). In the RSDS, whole loans are aggregated into loan groups, as per the RBC Report Instructions and the RBC Regulation. Whole loans comprise single-family, multifamily, conventional, government, retained, sold, fixed-rate, balloon, and adjustable-rate mortgage loan groups. The RSDS includes whole loan groups for mortgages with three ages – the newly-

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[1] As amended March 15, 2002 (66 F.R. 47741).
[2] Historical interest rates are either out-dated or hypothetical. Benchmark Loss Experience (BLE) data are also provided.

originated (zero months), thirty-six months, and eighty-four months.[3] Additionally, four loan-to-value (LTV) ratios are used – seventy percent, eighty percent, ninety percent and ninety-five percent. And four mortgage interest rates or coupons are represented – six percent, eight percent, ten percent and twelve percent. OFHEO chose to constrain these important mortgage characteristics to a limited number of discrete values for simplicity.

The RSDS also includes MBS, MRBs and Commitments. MBS and MRBs represent potential investments of the Enterprises and are, therefore, depicted as on-balance sheet assets, as directed by the RBC Report Instructions and the RBC Regulation. Real Estate Mortgage Investment Conduits (REMICs), strips and other mortgage-related multi-class derivatives are not represented in the RSDS. These products are not included because generating REMIC cash flows relies on third party software that may not be available to all users of the RSDS.

The Non-Mortgage Instruments

The Enterprises' non-mortgage instruments may include non-mortgage investments, debt, preferred stock and derivative contracts. The mix of non-mortgage instruments chosen by an Enterprise at any point in time serves many purposes, including liquidity, funding and hedging objectives. Consistent with the overall makeup of the RSDS, the mix of non-mortgage instruments depicted in the RSDS does not represent the distributions of such non-mortgage instruments in Enterprise portfolios.

For the RSDS, OFHEO chose to restrict the number and type of non-mortgage instruments for simplicity, while retaining enough variation to facilitate an understanding of the effects of higher or lower coupons, longer or shorter maturities or changes in the optionality of instruments. Non-mortgage RSDS assets include asset-backed securities (described for simplicity and to avoid the need for additional third party software as bullet bonds), corporate bonds, short-term interest bearing notes and preferred stock. RSDS liabilities consist of fixed-rate, floating-rate, step-rate and zero-coupon bonds and discount notes. Enterprise derivative contracts include interest-rate caps, fixed-rate and floating-rate swaps and fixed-rate and floating-rate swaptions.[4]

The Cash Flow Files

The RSDS is accompanied by cash flow files, which are generated by the RBC software and used to create pro forma financial statements and to calculate the RBC requirement. The cash flow files show, in dollars, the relevant intermediate outputs (e.g., outstanding principal balances, interest income, etc.) for all of the various mortgage and non-mortgage instruments represented in the RSDS. While the public user can, using the RSDS and the RBC software, produce the identical cash flow files as an interim step prior to capital calculation, OFHEO

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[3] Mortgage age is discussed in the RBC Regulation and in the RBC Report Instructions. For a loan group, it represents the unpaid principal balance (UPB)-weighted average of the number of scheduled contractual payments due from the first paid installment date until (and including) the Reporting Date for the underlying loans in each loan group.

[4] As discussed more fully in the RBC Regulation and in the RBC Report Instructions, each of two legs of a swap transaction and each of three legs of a swaption transaction is represented in the RSDS and in RBC Enterprise data as two or three records in the Financial Instrument Master and related tables.

provides these intermediate outputs for public use, as a means of making the RSDS useful to a greater number and wider array of public users than may otherwise be the case.

The Accounting Tables

In the RSDS, total assets equal total liabilities plus equity. However, the RBC software will run even if the inputs do not reflect a balanced balance sheet. It is, therefore, incumbent on the RSDS user choosing to vary the mix of items or add or delete RSDS items to ensure that total assets equal total liabilities plus equity capital before attempting additional runs of the RBC software.

Technical Assistance

OFHEO will provide technical assistance in the application of the RBC software to the RSDS. The Office of External Relations will direct requests for assistance based upon the type of information or assistance required, and OFHEO will respond as resource availability permits. Please refer all questions or requests for technical assistance to RBCQuestions@ofheo.gov.