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The New York Seven: A Discussion of State Regulation of Mortgage Investment Portfolios

by Joel Lantzman

The Federal Financial Institution Examination Council (FFIEC) is in the process of eliminating a burdensome regulatory requirement of stress testing CMOs held by banks even though the stress tests and related projected cash flows are readily available through the Bloomberg system. The New York State Insurance Commission has a more complex set of analytic requirements still in place. The ability to develop the regulatory projected cash flows does not exist for most small insurers.

On my first visit to New York's state capital in Albany, I was impressed by the old and new standing almost side by side. The new athletic facility, which looks like a giant egg, is a short walk from the classic old capitol building with its two front entrances, an impressive structure where legislators argue about state budget numbers for months beyond the due date. New York State is obsessed with numbers and analysis to the point of being counterproductive. Built on the side of a small hill, the capitol building has one front door with 17 steps leading to the entrance. Around the other side, there are 76 steps leading to the other front door, in symbolic gesture to the fact that New York was one of the original colonies to declare independence in 1776. In my many trips to Albany, I saw only two people use the 76 steps. One was a maintenance man. The other had a towel wrapped around his neck and was emulating Rocky racing to the entrance of the Philadelphia Art Museum. All that effort and expense and nobody uses it! New York might have been better off if it had simply built one front entrance with 13 steps as a symbolic gesture to colonial days.

Legislators are greeted by this worship of symbolic numbers each day they arrive at the capitol building. It carries over into other areas of activity. New York has onerous laws pertaining to analytics that it requires insurance companies to perform on their investment portfolios. State law requires insurance companies to examine their U.S. government agency-issued collateralized mortgage obligations beyond the point of necessity or even

practicality. And once done, who uses the results? Large insurance companies can afford entire departments of computer nerds who do nothing but churn out and analyze statistical data. For most of the smaller companies, many of which are not even domiciled in New York, this is simply an added layer of cost and confusion. Most do not have the ability to perform this work themselves and are forced to



pay outside service companies to develop the data. And then who uses them? An occasional maintenance man or a Rocky emulator! New York wants these small insurance companies to develop projected cash flows for seven different interest rate environment scenarios. The powers based in Kansas City who run the NAIC have since adopted New York's lead. States accepting the NAIC recommendation as their model also require the usage of the New York Seven.

Several scenarios are easy enough. A few entries into the Bloomberg system can provide monthly or annually projected cash flows in the event interest rates remain the same or rise 1%, 2%, or 3% or if they decline 1%, 2%, or 3%. Bankers throughout the country rely on the simplicity and efficiency of Bloomberg analytics either directly or through their brokers. But this does not satisfy the New York State Insurance Commission.

The commission wants to know how prepayments of mortgages will affect investment portfolio cash flows if interest

rates rise 5% over the next 10 years. What if they rise 5% over the next 5 years and then fall to original levels over the following 5 years? It wants to know how mortgage prepayments affect portfolio cash flows if interest rates fall 5% over 5 years, then rise 5% over the next 5 years. And finally, what if rates fall 5% over 10 years? These four scenarios combined with constant rates, up 3% shock, and down 3% shock form the infamous New York Seven Scenarios.

Before beginning to calculate how mortgage prepayments affect future cash flow, we need to know how changing interest rates affect mortgage prepayments. The only thing any analyst knows with near certainty is that prepayments accelerate when interest rates fall and decelerate when rates rise. At best, to determine how much prepayment acceleration or deceleration will be felt, we can only make experienced guesses and estimates and then work from there.

For the simpler analytics required in the banking industry, Bloomberg solicits opinions on estimated prepayments from major mortgage professionals including Merrill Lynch, Credit Suisse/First Boston, DLJ, UBS, Paine Webber, Bear Stearns, Prudential, Lehman Bros, and Nations Banc. Because the projected prepayment rates provided by these experts rarely agree with each other, Bloomberg develops an average and provides median prepayment estimates for a constant rate environment and for rates up 1%, 2%, and 3% and down 1%, 2%, and 3%. In short, the projected cash flows and stress tests, which appear to be cast in concrete, are based on averages of estimates. These prepayment estimates are then used by Bloomberg to efficiently calculate stress test, yields, cash flows, duration, and average life for the bankers' seven scenarios.

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What about the 5% rate shifts that New York wants analyzed? Personally, I believe that shifts that large are almost irrelevant. If 30-year mortgages, currently at about 7.25%, fall to 4.25%, and there are people not motivated enough, smart enough, or able enough to refinance, will another 1% or 2% help? Maybe a little, but not much. Some people never refinance under any circumstances, but for those who do, the overwhelming majority of people who are inclined to refinance will not wait for a four- or five-point drop. Thus the scenarios that require analysis of 5% interest rate shifts create a lot of extra analytical work for very little added information.

The regulatory requirements were intended to reduce risk in investment portfolios. Ironically, in some cases, they actually create the exact opposite result. Many investment managers choose to avoid CMOs in order to avoid the required analytics. They then turn to lower-rated corporate bonds to obtain the required return on investment, thus increasing risk.

We have been able to supply CMO stress tests conforming to the Federal Financial Institution Examination Council (FFIEC) as required by the Financial Accounting Standards Board (FASB) for banks. Related projected cash flows are also readily available. The seven scenarios used by banks include constant, up 1%, 2%, and 3% and down 1%, 2%, and 3%. FASB has determined that banks should be managed by bankers, not by regulators. As a consequence, although the FFIEC stress tests will remain available as a tool, the FFIEC is working toward eliminating its usage as a regulatory requirement. Current projections of the effective date are approximately June 1998. It is time for the New York commission to do the same for the more complex, convoluted, notorious New York Seven. CMOs provide high yield with high safety of principal and interest. It is time that the small insurance companies be relieved of the extra financial burden imposed by the state.

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by Anson J. Glacy

Confronting CMOs at Small Insurers

Much has been written in the financial press and the everyday media recently about the dangers of derivatives instruments in general and collateralized mortgage obligations (CMOs) in particular. CMOs are assets whose returns are based on pools of mortgages or mortgage-backed securities (MBSs). The recent decline in market interest rates has spurred a new wave of homeowner refinancings, exposing CMO investors to substantial market risk. For small insurers, CMOs pose special difficulties, especially in the areas of asset adequacy analysis and asset/liability work. The complexities associated with modeling these assets can hinder the cash-flow-testing process and compromise the credibility of its conclusions. This article briefly describes the nature and features of CMOs, identifies their key risk factors, and suggests some steps small insurers can take to effectively and economically model them.

The Nature and Risks of CMOs

From the standpoint of the investing insurance company, MBSs are particularly desirable because of attractive credit-risk characteristics, good liquidity arising from a large secondary market, ease of access to the mortgage financing marketplace, and favorable risk-based capital treatment. Government agencies (such as the Government National Mortgage Association, the Federal National Mortgage Association, and the Federal Home Loan Mortgage Corporation) package, issue, and guarantee the vast majority of MBSs. CMOs alter the basic pro-rata nature of how MBSs return principal and interest by channeling returns into *tranches* (the French word for *slice*). The timing and amount of cash flows are based on the priority of individual tranches within the overall structure. For example, a CMO deal might include a *planned amortization class* (PAC) and a *support* (or *companion*) tranche (see Table 1 on page 11 for a

brief taxonomy of some commonly encountered tranche types). In order to achieve the planned amortization schedule in the PAC tranche, any excess or shortfall in prepayments must first be absorbed by the support tranche. As a result, while the PAC tranche has relatively low prepayment risk, the support tranche is fraught with it.

The Challenge for Small Insurers

How can small companies successfully deal with such complex instruments? A number of vendors (for example, Capital Management Sciences, Global Advanced Technology Corp., and Intex Solutions, Inc.) offer sophisticated database packages that handle the complex rules that govern the distribution of cash flows to the individual tranches. Unfortunately, the price of these packages usually puts them out of the reach of most small insurers. However, there are a variety of expeditious approaches that can be used to successfully model CMOs on an economic basis.

Service Bureaus

A number of reputable service organizations (such as Ernst & Young LLP) will act in a "service bureau" capacity to model specific CMO holdings for cash-flow testing or other risk assessment exercises. These service bureaus typically are licensed users of the database packages mentioned above, and this approach constitutes a cost-effective way of gaining access to the power and rigor of these packages. For example, a small insurer using the PTS® software as its modeling platform would transmit to the service bureau a CUSIP-by-CUSIP listing of its CMO holdings. Then, using the Valuation Data File (VDF) facility of PTS®, the service bureau would deliver electronic files of aggregated portfolio projections to the insurer that easily integrate into its PTS® business models. The TAS Tillinghast Actuarial Software™ permits similar functionality

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PLEASE NOTE!

A late-breaking development affects the article “The New York Seven: A Discussion of State Regulation of Mortgage Investment Portfolios” by Joel Lantzman in this issue of *small talk*. On page 10, in the last paragraph of his article, Mr. Lantzman refers to developments in regulating the banking industry. Referring to the projection of cash flows with up and down 1%, 2%, and 3%, as can be generated by Bloomberg, the Federal Financial Institutions Examination Council (FFIEC) was “working toward eliminating its usage as a regulatory requirement.” On April 23, it eliminated “the high-risk tests as binding constraints on mortgage-derivative products (MDP) purchases” for 1998.

This shows that bank regulators can reevaluate the need to require testing. Regulation does not automatically get more complex. Banking regulators are capable of deciding to decrease regulation if it is deemed unnecessary.