Beware of Prepayment Cashflow

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One issue that is creating increasing concerns for financial institutions is the expectation of accelerating cashflows from investments; especially from prepayments of mortgage-backed securities. Most prepayment models are projecting significant increases in mortgage refinancings and, as a result, are forecasting significant cashflows that will need to be invested in today's low rate environment. This reinvestment, in turn, results in a sharp decline in net interest income.

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Over the last quarter, actual cashflows received from the majority of banks have been much lower than prepayment models had forecast. This brings into question the veracity of prepayment models in the current environment and whether projected reductions in net interest income (NII) will actually be realized.

Prepayment Model Structure

For the most part, prepayment models for mortgage-backed securities (MBS) are driven by interest rates. For example, if the majority of MBS securities have a weighted average coupon (WAC) on the mortgages underlying the securities of 6.25% and the current mortgage rate is 5%, these mortgages would be viewed as "in the money" financially and the expectation would be that the mortgage holder would have a strong propensity to refinance, creating accelerated cashflows for bondholders.

A Different World Today?

The majority of the prepayment models were designed and programmed in an environment in which refinancing a mortgage was quite easy and there were many organizations available to facilitate the transaction. In addition, there were large numbers of investors who would purchase these loans on the secondary market as either whole loans or in the form of a MBS.

Today's environment is quite different. Many originators of loans are no longer in business. Many mortgage bankers and brokers as well as mortgage banking divisions of larger financial institutions have either failed, contracted their operations or exited the business entirely. The purchasers of these loans have also disappeared or been significantly reduced in numbers. In today's environment, the Federal National Mortgage Association (FNMA)

and the Federal Housing Mortgage Loan Corporation (FHLMC) are essentially the only purchasers left standing of any note.

Additionally, both FNMA and FHLMC have made refinancing a loan more difficult and costly for all but the most credit worthy borrowers. In the past, to qualify as an "A" credit, a borrower needed a loan to value of 80% or less and a FICO score of greater than 680. Today's "A" credit standard is a loan to value of less than 70% and a FICO score in excess of 720. If an applicant does not meet the "A" standard, he/she may still be able to refinance the loan, but at rates up to 1-2% higher than the lowest rate.

The net result of all these changes combined with decreasing home values and increasing unemployment, is that many people are not able to cost effectively refinance their mortgages in an interest rate environment where most prepayment models would expect they would.

So What?

The ramifications of inaccurate prepayment models are significant in the forecasting of the earnings of any financial institution with large holdings of MBS. Over the past quarter, cashflows for projected prepayments have been over two to three times higher than actual principal paydowns received. This has resulted in higher levels of actual NII than projected because these cashflows did not need to be reinvested at today's low investment yields.

Recommendations

Knowing that most prepayment models are not capable of capturing the nuances of today's complex environment, financial institutions should track their actual prepayment levels against projected cashflows to determine the extent of inaccuracy. A financial institution should also run two NII models:

1) One with the forecasted prepayments based upon whichever prepayment model being used, and

2) A second model based upon actual prepayment experience.

Hopefully, the actual NII will end up somewhere in the middle between the two models.

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