MORTGAGE BANKING

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Larry Kirschner

MBSs MADE SIMPLE

Mortgage-backed securities have been issued and traded since 1970 and during this time have substantially altered many institutions' perception of investing. The investment results that have formulated these perceptions have ranged from favorable to disastrous. Because these securities are redeemed as principal from the underlying loans which are repaid or prepaid, it is difficult to accurately estimate an average life. This difficulty has created a world of opportunity for investors who are willing to take the time to better understand the theory behind mortgage-backed securities. This opportunity is available for many different types of investors along with their varied perceptions of future market conditions. During the early years of issuance, mortgage-backed securities were priced to a 12-year prepayment assumption. This method assumed normal amortization for the first 12 years, followed by a balloon principal payment at the end of the twelfth year. The industry has evolved towards expressing prepayments in more accurate measures such as: a percentage of Federal Housing Administration (FHA), single monthly mortality (SMM), constant prepayment rate (CPR) and Public Securities Association (PSA). These more sophisticated measures of risk assessment have helped stimulate more effective portfolio management and investment in mortgage-backed securities.

Prepayments

Measures of prepayments for analysis of mortgage-backed securities have been an area of much development in the industry. This development has been accompanied by a great deal of confusion. Much of this confusion is not necessary and can be cleared up with little effort. Because many of the current methods are outdated, it is important for investors to be familiar with as many of the newer methods as possible.

ILLUSTRATION BY DANA VERKOUTEREN

The 12-year prepayment assumption was the first method used to project prepayments of mortgage-backed securities. This method is also the least accurate method of analysis. It assumes no prepayment for the first 12 years followed by a balloon payment (payment in full) at the end of the twelfth year.

FHA experience is the next step in the evolution of prepayment assumptions. This method utilizes the FHA published tables. These tables are updated every year and only report FHA loans. The FHA tables combine different interest rate loans that distorts FHA comparison to a specific coupon.

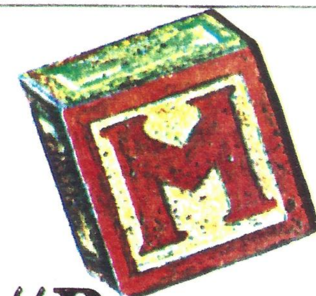
SMM was the first step in relating the prepayments of each pool independently. SMM represents the percentage of principal outstanding that is prepaid or assumed to prepay each month. A SMM of .4 percent means that .4 percent of the outstanding principal balance will be expected to prepay each month.

Constant percent prepayment or CPP simply annualizes SMM. A .4 percent SMM rate is equal to 4.8 percent CPP.

CPR also annualizes SMM, however CPR accounts for the compounding effect of monthly prepayments. CPR will always be lower than CPP. Both CPR and SMM are preferable in the analysis of high coupon securities because prepayments are influenced more by interest rate changes than by the age of the mortgages.

Public Securities Association designed a relatively new model referred to as PSA. PSA is widely used for collateralized mortgage obligations (CMO) analysis. A 100 percent PSA assumes increasing monthly prepayment rates beginning in the first month at .2 percent increasing at .2 percent per month until an annual rate of 6 percent is reached in the thirtieth month.

The three main types of mortgage-backed securities are: Government National Mortgage Association (Ginnie Mae), Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Association (Freddie Mac). Along with the underlying FHA and Veterans Administration (VA) real estate loans, Ginnie Maes are direct obligations of the U.S. Government. Ginnie Mae investors are assured of timely payments of both principal and interest. Fannie Mae mortgage-backed securities are full faith and credit obligations of the Federal National Mortgage Association, so investors may look to Fannie Mae for their comfort. Freddie Mac participation certificates are obligations of the Federal Home Loan Mortgage Corporation, a wholly owned subsidiary of the Federal Home Loan Banks, which, in most cases, only guarantees timely interest payments and eventual principal repayment. The consensus of the marketplace is that the U.S. government would assist Fannie Mae or Freddie Mac in the unlikely event of their default. Mortgage-backed securities can be employed for several different investment strategies and should not be viewed only as long-term or highly speculative investments. Investment in these securities can be misappropriated, suggesting careful risk assessment and general prudence be observed to avoid misuse.



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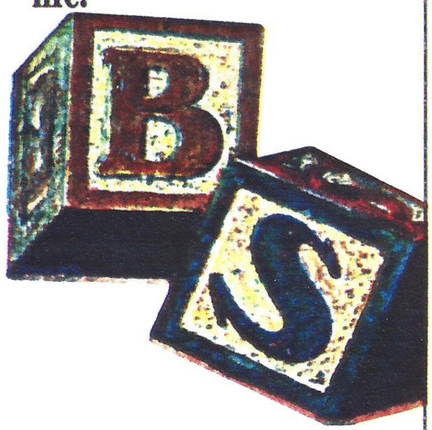

Interest rate volatility causes certain types of mortgage-backed securities to be inappropriate for some investors, while simultaneously prescribing other types of mortgage-backed securities to be ideal instruments for those same investors. Many investors view mortgage-backed securities as the perfect investment for one who does not want to speculate or attempt to outguess the market. During periods of rising interest rates, mortgage-backed security investors receive monthly principal and interest for reinvestment, versus a traditional bond where the principal is locked in and not available for reinvestment, until the bond's final maturity. Conversely, during periods of falling interest rates, the mortgage-backed security holder would be reinvesting both principal and interest incrementally as rates fell, as opposed to getting the entire principal back to reinvest at a less favorable time. Thus, mortgage-backed securities create a staggering investment, allowing the security holder to average reinvestment over time at differing rates, eliminating the necessity to continually outguess the marketplace. Many investors have lost great sums of money in the mortgage-backed securities markets because they were uninformed or did not assess risk adequately. Less prudent investors have purchased mortgage-backed securities with funds that were dedicated for short-term investments. This dedication of funds has forced investments to be liquidated at inopportune times. Other investors have purchased mortgage-backed securities, used these securities as collateral for borrowing and purchased more securities with the borrowings. As with any highly leveraged investment, if the investor guesses wrong, the results can be disastrous. A lack of investor understanding or regard caused these problems, not the mortgage-backed securities themselves.

Premium mortgage-backed securities offer a unique defensive investment for investors who think interest rates will rise. The advantage is two-fold. First, premium mortgage-backed securities hold their value better than other fixed-rate investments in a rising interest rate environment. Prepayments tend to slow down causing the yield to increase. Second, the monthly cash flow from premium mortgage-backed securities is greater than that of lower interest rate mortgage-backed bonds, causing a shorter average life. This shorter average life is desireable as rates are rising allowing the investor to take advantage of reinvestment of funds. Several types of premium mortgage-backed securities should be addressed. Because Ginnie Maes are comprised of assumable FHA and VA loans, prepayments tend to be slower than their conventional loan counterparts (Fannie Mae and Freddie Mac). Premium Ginnie Maes are frequently used by dealers to maintain collateral for Ginnie Mae futures transactions. Although the Chicago Board of Trade allows dealers to use any coupon Ginnie Mae as collateral, the premium Ginnie Maes usually are the cheapest for dealers to deliver. These factors cause premium Ginnie Maes to trade at higher dollar prices than similar coupon Fannie Mae or Freddie Mac securities. Because premium Fannie Mae and Freddie Mac securities tend to prepay somewhat faster and are priced less than Ginnie Maes, many investors give them great attention. Some investors view these rapid prepayments favorably and correlate these investments to other short-term instruments. Often, premium Fannie Mae and Freddie Macs yield in excess of 200 basis points more than similar maturity Treasury notes. This yield spread is analyzed by first assuming different prepayment projections, then relating the resultant yields and durations to Treasury bonds having similar durations. As prepayments slow on premium mortgage-backed securities, the duration lengthens and the yield rises. Duration is a time measurement that defines interest rate volatility. A 30-year Ginnie Mae can have shorter duration, or lower interest rate volatility, than a 10-year Treasury note. A problem can arise with premium mortgage-backed securities if an investor does not conservatively anticipate prepayments. For example, an investor purchasing a Freddie Mac with a 10 point premium, anticipating a 12-year average life will have an unexpected disappointment if the bond prepays in one year. This investor would have been much more conservative to anticipate a one-year investment with the potential of a longer life and higher yield if anticipated prepayments do not occur.

Discount mortgage-backed securities offer the opposite opportunity to their holders. Investors who think interest rates will fall should consider discount mortgage-backed securities. Because prepayments are passed through to the investor at par, accelerated principal is welcome. The slower prepayment of Ginnie Maes cause discount Ginnie Maes to trade lower than comparable Fannie Maes and Freddie Macs. As interest rates fall, the market value of discount Ginnie Maes can rise rapidly, complemented by accelerated prepayments at par. These factors raise the yield and shorten the duration. However, discount Ginnie Maes can be an unattractive investment during periods of rising interest rates because the market value will fall, prepayments will slow and the duration will lengthen. Discount Fannie Maes and Freddie Macs have numerous advantages and somewhat fewer disadvantages over discount Ginnie Maes. Because conventional loans are not assumable, prepayments occur every time a borrower moves or defaults causing accelerated principal to be passed through to the bondholder at par more frequently than similar coupon Ginnie Maes. These prepayments help protect the market value during periods of rising interest rates. Discount Fannie Maes and Freddie Macs market values also increase rapidly during falling interest rates. Many investors have bought discount mortgage-backed securities using a "fast pay" projection assuming principal would prepay at an accelerated rate, only to be disappointed with slow or no prepay pools. The more conservative assumption would be to anticipate a more moderate prepayment projection with the possibility of more rapid prepayments causing a higher yield and a shorter life.

"This opportunity is available for many different types of investors along with their varied perceptions of future market conditions."

continued

Par mortgage-backed securities have yet a different appeal than premium or discounts. During stable interest rate periods, par mortgage-backed securities can be quite attractive. Yields are a respectable amount higher than similar duration Treasury bonds. However, the main disadvantage to par mortgage-backed securities is that they do not perform as well as other instruments during rising or falling interest rate periods. During rising interest rate periods, the market value falls and prepayments seem to slow or stop, resulting in a longer duration without a higher yield as compensation. Because most mortgage-backed securities offer no call protection to the investor, during falling interest rate periods, refinancing is high, causing increased prepayments and a shorter duration again without a higher yield compensation. These prepayments keep the market value from increasing as much as discount mortgage-backed securities or other fixed interest rate investments (i.e., corporate or Treasury bonds).

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Regional analysis has been an area of tremendous research. Analysts attempt to prove regional prepayment patterns and correlate these results to other regions. Investors try to utilize these results to facilitate their purchase of discount mortgage-backed securities issued from fast prepay regions and premium mortgage-backed securities issued from slow prepay regions. There are pitfalls investors should be aware of when using this type of research. Often, emphasis is placed on the economic climate of a region, a prospering region may indicate appreciating housing prices translating to high prepayments due to housing turnover. Unfortunately, a weak economy can also be perceived as a high prepayment area due to a high rate of foreclosures. This contrast causes confusion. Another problem with regional analysis is the amount of diversification many issuers have. For example, pools issued by a California mortgage banker with branches all over the country, are compared with all other pools originated in California. In this example, the diverse issuer may service as many loans out of the state as in it. Thus, a truly accurate regional correlation cannot be achieved. Another problem with regional analysis is that past activity does not ensure similar future patterns. A region experiencing stable growth currently, could be subject to an oil or agriculture bust that could change prepayment patterns virtually overnight. Very little research, if any, has been done on the prepayments of loans issued by primarily wholesale companies versus origination of strictly regional retail institutions. This research could provide interesting findings; one such finding might be that retail originators lend to more conservative borrowers who are less likely to move, or perhaps more stable borrowers, less likely to default. This type of study could also test if wholesale originators attract aggressive transient borrowers who are frequently changing cities and jobs. Another interesting study could reveal which lenders are more aggressive solicitors for refinancing loans.

New mortgage-related product development has been taking place at an unprecedented pace. CMOs have been the main area of this development. Through the fall of 1986, more than $57 billion of CMOs have been issued. CMOs are multiclass securities, that are collateralized by and divide the cash flows from mortgages or mortgage-backed securities. Along with customizing mortgage-backed securities for different investors needs, CMOs are structured to take advantage of the upward sloping yield curve. The shorter bonds carry a lower interest rate and graduate up as the bonds projected average life lengthens, thus maximizing the spread between the underlying collateral and the CMO issue. This spread is referred to as the residual. Residuals are also being securitized and marketed. Traditional CMO issues will be enhanced by recent Real Estate Mortgage Conduits (REMIC) legislation. REMICs should broaden the CMO market by creating qualified investments for savings and loans, Real Estate Investment Trusts and pension funds. The most recent innovation in this area is Stripped Mortgage-Backed Securities (SMBS). SMBSs simply strip the principal and interest payments from the underlying security and reallocate and remarket these cash flows. SMBSs take advantage of different investor's perceptions of future market trends along with their differing investment objectives. The majority of these new products share one common trait: safety. Most of these issues are AAA-rated because they are collateralized by mortgage-backed securities or overcollateralized by whole loans.

Risk and reward factors, along with investment objectives, need to be carefully analyzed before investing in mortgage-backed securities. Results assuming scenarios of both fast and slow prepayment rates should be compared. Analysis of resultant yields and durations assuming interest rates fall or rise several percentage points should also be addressed. While mortgage-backed securities may not be for all investors, they offer a much wider assortment of opportunity than most other securities. Most investors should not place all of their assets in any one single investment, however, under many scenarios, mortgage-backed securities offer extremely attractive returns when compared with other securities. As with any investment, there are inherent risks. Violent interest rate swings may cause unpredictable prepayment patterns to occur. With the notable exception of premium mortgage backed-securities, most of the downside scenarios result in only paper losses that may correct themselves in time. Diversification is good practice when investing in mortgage-backed securities. Many different pools offer a wider diversity of the risk that any one pool might perform abnormally. With the proper approach and patience investing in mortgage-backed securities can be a very useful and profitable strategy. □