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All AAAs Are Not Created Equal

By: Margaret Isberg

Troubles in U.S. subprime are scaring **investors** away from prime mortgage-backed securities. Rising delinquencies and defaults of U.S. subprime **mortgages** and the resulting tidal wave of rating downgrades have discredited the major credit rating agencies. Whether it is Canadian ABCP, CDOs, or straight subprime ABS, the surprise downgrades are causing a paradigm shift that is rocking the structured finance business to its foundations as **investors** lose confidence in the black boxes of the rating agencies, Wall Street, and Bay Street. As often happens during financial dislocations, pendulums can swing too far. In today's markets, all assets associated with the eye of the storm – U.S. housing – are suffering. This has presented fundamental **investors** with compelling opportunities – particularly in U.S. agency mortgage pass-throughs.

The Wonders Of Securitization

Prior to the 1970s, when a financial institution issued a mortgage to a homeowner, it typically kept the loan on its balance sheet until it was repaid. However, clever investment bankers began bundling individual mortgage loans into pools and selling them as securities that 'passed through' the principal and interest payments from the loans in the pool. This securitization process converts individual mortgage loans into mortgagebacked securities that can be easily traded, thereby turning illiquid and undiversified assets into liquid and diversified ones.

In Canada, a smaller proportion of residential mortgages have been securitized since regulation and limited competition have permitted the large banks to underwrite mostly well collateralized mortgages with terms of five years or less, which fit well on their balance sheets.

In the more fragmented and competitive U.S. mortgage market, terms are typically 15 or 30 years, so financial institutions are eager to take them 'off-balance sheet.' Only 21 per cent of outstanding Canadian mortgages are securitized, while the figure in the U.S. is 57 per cent. That makes the U.S. residential mortgage-backed securities (MBS) market, at $7 trillion, the largest single sector in the global bond market.

Looking Under The Hood Of MBS

MBS investors are potentially assuming three types of risk:

- interest rate risk
- default risk
- prepayment risk

All fixed-rate bonds have interest rate risk. When rates go up, the price of your bond drops, and vice-versa. All bonds also have default risk, the risk that you won't get your principal back. Not all bonds have the third type of risk, prepayment risk, but it is this characteristic that boosts the yield on MBS and makes them a good diversifier.

The majority of outstanding MBS are assumed to be of AAA or higher quality because they are issued with an explicit or implicit government guarantee for the timely payment of interest and principal. In the case of Canada Mortgage Bonds and MBS issued by the U.S. Government National Mortgage Association (GNMA or Ginnie Mae), the guarantee is backed by the full faith and credit of those governments. In the case of the U.S. government sponsored entities – the Federal National Mortgage Association (FNMA or Fannie Mae) and the Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac), market participants assume they have the implicit support of the U.S. government.

Fannie Mae and Freddie Mac were created by an Act of Congress, reflecting just how high home ownership is as a social priority in the U.S. Fannie and Freddie help to keep reasonably priced capital flowing to the housing market and the failure of either is assumed to be an outcome that policy makers would avoid at all cost. While both organizations have recently posted losses, these are largely

associated with their portfolio investments, and not with the loans that back the MBS they have issued and guaranteed. FHLMC, for example, reports that defaults are running at three basis points of their average total MBS outstanding.

As, or more, important than a government guarantee in assessing the credit or default risk of MBS is the collateral that backs them. They are collateralized by homes. In the U.S., homes have been a reliable store of wealth over time. While average U.S. home prices are poised to end 2007 roughly five per cent lower than where they began the year, that will mark the first down year since the Great Depression. Since the average loan-to-value (LTV) ratio on the stock of U.S. agency mortgages (GNMA, FNMA, FHLMC) is about 60 per cent, prices would have to decline a further 40 per cent before the average MBS is less than fully collateralized. The combination of the government guarantee plus collateral protection means that the default risk of U.S. agency MBS is next to nil, as evidenced by recent experience.

Non-agency MBS are a different story. They are issued by private sector institutions and can be backed by either high quality or low quality loans. Non-agency MBS will sometimes be issued with private sector credit enhancements and are categorized as prime, Alt A, and subprime. Prime mortgages are issued to high quality borrowers with strong credit scores, subprime to borrowers with low or no credit scores, and Alt A loans lie somewhere in between. It is the subprime sector and, to a lesser extent, Alt A that have experienced mark-to-market losses this year.

The origins of the problem can be found in reckless lending to low quality borrowers in recent years, using new and untested structures. Those loans are now underperforming the expectations of rating agencies and investors. Subprime delinquencies are averaging as high as 13 per cent (depending on the year of origination) and are headed higher as house prices continue to fall and mortgage rates reset higher. So most subprime ABS are not for the faint-of-heart.

However, at some point, a bottom in the housing market and/or a further drop in subprime ABS prices will present bargain-hunting investors with attractive risk-adjusted opportunities. That is a subject for a future article.

Prepayment Risk

MBS typically enjoy a significant yield advantage over similar quality bonds issued by governments and corporations. What gives rise to that additional compensation is prepayment risk. While most Canadian MBS have limited prepayment risk (the Canadian banks price 'open' or prepayable mortgages prohibitively), most mortgages in the U.S. are prepayable without penalty, which represents a risk to the MBS investor. When interest rates go down, prepayments rise and MBS typically appreciate less than other bonds. When rates go up, prepayments fall below what was assumed and MBS depreciate more than other bonds. In effect, the homeowner with a prepayable mortgage is long a put option, while the MBS investor is short a put option. This perverse feature is referred to as negative convexity.

The combination of high credit quality, yield, liquidity, and alpha potential make MBS an attractive investment.

Yield, or income, is half or more of the battle in fixed income investing – getting well paid relative to the risks you are assuming. Over the last decade, U.S. Agency MBS have paid investors a nominal spread over U.S. government bonds of 90 to 270 basis points. Historically, MBS yields have overcompensated investors for the prepayment option. Many theories are offered to explain this, with the most fundamental being that the buyers of the prepayment option – millions of homeowners – are not price sensitive. Not only do they not explicitly see what they are paying for the option (since it is bundled into their borrowing rate), but they also lack the sophisticated option pricing tools necessary to properly value it.

Modeling and valuing the prepayment option in MBS is more complicated than other options such as equity or government bond options, because the exercise (prepayment) isn't solely dependent on the strike price. There is a complex set of factors that affect when a mortgage will be prepaid including yield curve shape, economic conditions, housing prices, death, divorce rates, innovation or competition within the mortgage origination sector, geographic location, how long the loans have been outstanding, housing turnover, household income, LTVs, and many other factors. Understanding and modeling prepayment risk has created full employment on Wall Street for many years!

Liquidity The $4 trillion U.S. agency pass-through market is extraordinarily liquid. The Bond Market Association estimates that $300 billion trade every day and investors can often execute billion dollar trades at close to zero bid/ask spread. With large global investors, including central banks, increasing their allocations to this sector, we expect it will remain one of the most liquid financial markets in the world.

PIMCO believes that the MBS market is one of the global bond market's most attractive places to seek alpha. The sector experiences frequent mispricing, yet demonstrates very reliable reversion to fair value. Because MBS liquidity is so deep, it enables investors to monetize temporary mispricing.

If the market is so liquid, why is there frequent mispricing? Trading in the MBS market is dominated by huge players whose trades are often motivated by factors other than maximizing total return, such as accounting or regulatory considerations. U.S. and global banks, mortgage originators, mortgage servicers, global central banks, and insurance companies are among the biggest investors in the sector and typically hold MBS for their high credit quality and/or outstanding risk-based capital treatment.

However, accounting for MBS and MBS derivatives has become increasingly complicated and costly for many of these players. A parade of new accounting regulations by FASB and the IASB in the last few years have led to huge and chunky trading activity. When

these large flows cause MBS to become cheap on an absolute basis, or relative to swaps and other bond market sectors, it presents opportunities for large investors.

There are also frequent relative value opportunities within the MBS sector itself between different coupons and/or sectors, including 30-year versus 15-year pass throughs, seasoned pools versus TBAs (about to be issued MBS), fixed rates versus adjustable rates (ARMs), Agency versus Non-Agency, CMOs, IOs, POs, etc.

Canadian Portfolios

MBS are particularly attractive for Canadian portfolios.

In constructing these portfolios, we scour the global bond market for investments that will help us improve overall risk-adjusted performance. U.S. Agency MBS help us accomplish that objective by offering the highest credit quality, generous yields, deep liquidity, and considerable alpha potential. Canadians lack a domestic sector with similar attributes. When U.S. MBS are held in Canadian core plus portfolios, swaps, futures, and forwards can be used to hedge interest rate and currency risk back to Canada.

Since prepayment risk is not highly correlated with the main risk factors that determine the performance of the DEX (formerly Scotia Capital Universe) Index, namely Canadian duration, yield curve risk, or credit spreads, MBS increase the diversification in Canadian portfolios.

To summarize, U.S. MBS can be used to benefit Canadian portfolios in three ways:

- High compensation for the risk assumed (good risk/reward profile)
- Low correlation to other risks in the Canadian portfolio (diversification benefit)
- Additional alpha generating potential (security selection)

In our opinion, few sectors of the global bond market have the potential to add so much value to Canadian bond portfolios. ■

Margaret Isberg is president of PIMCO Canada