Residential Mortgage Update

The Non-Agency Mortgage Market

August 2008

BLACKROCK

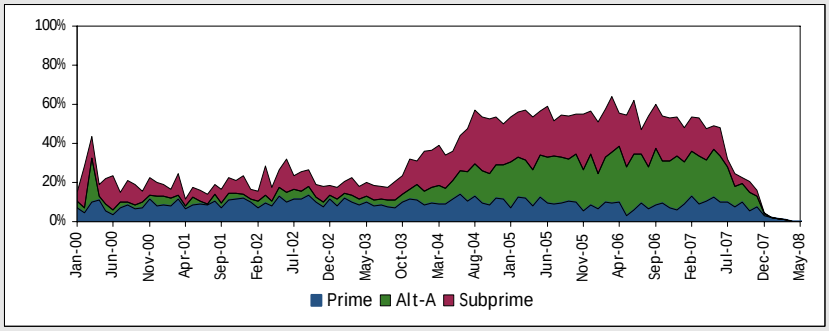
The residential housing sector in the U.S. has been under considerable pressure during the past two years with home prices nationwide down 15% to 20% on average and nearly twice that in certain regions. Given that roughly $6.3 trillion, or 58%, of residential mortgages underwritten in the U.S. are securitized, this downturn has had a large impact on the fixed income market. While the troubles of subprime mortgages have been well-publicized, continued deterioration in the housing sector has raised concerns about other mortgage-backed securities not covered by the agency guarantee programs of Ginnie Mae, Fannie Mae, or Freddie Mac. Although the ongoing deterioration of mortgage collateral is presenting challenges for investors, we believe it is also creating opportunities to seek out vastly undervalued bonds. Forced selling, tight credit, and rating action uncertainty have combined to create an illiquid market that has pushed many bond prices far below their fundamental value. This report aims to define the non-agency mortgage market, provide perspective and rationale for its recent underperformance, and summarize our outlook for the sector.

Size and Scope of the Non-Agency Mortgage Market

Two-thirds, or approximately $4.2 trillion, of mortgage-backed securities (MBS) are agency-issued and guaranteed. The remaining $2.1 trillion of MBS are securitized by private issuers and are broadly characterized as non-agency MBS. The mortgages, or collateral, underlying non-agency MBS do not meet underwriting criteria required of the agencies and are often referred to as non-conforming loans. Among the conditions that loans must meet to be considered conforming and therefore eligible for an agency guarantee relate to loan size, documentation, and mortgage type.

The composition of the mortgage market began to shift dramatically in 2004 as more non-agency loans were issued in response to the decline in home affordability. While home prices were rising prior to 2004, housing affordability was only mildly affected because the price increases were largely offset by falling interest rates. When home prices continued their march higher from 2004 to 2006, mortgage rates also rose, causing a sharp reduction in home affordability. As housing became less affordable, a number of new types of mortgages, commonly referred to as affordability products, were created. Originators aggressively pushed these riskier mortgage types and loosened underwriting standards in order to grow business and maintain market share. Most affordability loans were non-conforming, which led to a dramatic increase in the non-agency share of the mortgage market. As shown in Figure 1, during this period over half of all issuance was non-agency MBS, compared to a historical level of 10-15%.

Figure 1. Non-Agency Market Share of New MBS Issuance



Source: JPMorgan

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A number of factors differentiate agency MBS from non-agency MBS, but one key distinguishing feature is credit enhancement, or subordination, which helps protect senior investors from losses on the underlying collateral. Non-agency MBS require credit enhancement as part of the deal structure, while agency MBS do not, as they are protected by the issuing agency's guarantee. Credit enhancement can take various forms, but the most common is the senior/subordinate tranche structure. Subordinate tranches are designed to absorb losses first, thereby shielding senior classes from a certain percentage of losses. The amount of credit enhancement a particular deal must have for a specific rating is set by the rating agencies, and it depends upon the composition and expected losses of the collateral.

The non-agency MBS market commonly categorizes bond collateral as either prime, Alt-A, option ARM (adjustable rate mortgage), or subprime. Characteristics and borrower profiles among these subsectors differ substantially.

Prime: The distinguishing characteristic of prime collateral is a loan size greater than the agency conforming limit, and these loans are often referred to as jumbo prime. Prime collateral generally meets all other agency eligibility criteria and is of higher credit quality than other non-agency loans. Credit enhancement is lowest for prime deals since expected losses are typically small.

Alt-A: Alt-A collateral is generally lower in quality than prime collateral with one or more non-standard features. Most commonly, only a small percentage of these loans have full borrower documentation in terms of income, employment, and owner occupancy. Accordingly, credit enhancement levels for Alt-A deals are higher than prime.

Option ARMs: Option ARM collateral is similar in credit quality to Alt-A but has a mortgage structure that allows an option ARM borrower a choice of payment levels each month. If an amount is selected that is below the monthly interest due, the loan experiences negative amortization as the shortfall is offset by an increase in loan balance. The negative amortization option causes these loans to be riskier than Alt-A because loan-to-value ratios (LTVs) can increase. Option ARMs have been popular with speculators who may not be as committed to the property and with borrowers who could not afford a home with a traditional mortgage.

Subprime: Finally, loans of lowest credit quality back subprime securities, and therefore, these bonds generally have higher credit enhancement levels for a specified rating than all other non-agency securities. Figure 2 below summarizes some of the key traits of these mortgage types and highlights the low FICO scores of subprime borrowers.

Figure 2. Characteristics of Securitized Mortgage Debt in US

		Characteristics			
Type	Size ($ Billions)	Average FICO[1]	Average C/E to AAA[2]	Average LTV[3]	Full Doc %[4]
Agency MBS	*4,150*	*725*	*Guaranteed*	*71*	*100%*
Non-Agency MBS	*2,120*				
Jumbo Prime	500	739	3.75%	69	50%
Alt-A	600	712	6.25%	74	23%
Option ARM	210	705	10.00%	76	12%
Subprime	810	628	25.00%	81	60%
Total	*6,270*				

[1]Indicates credit quality score
[2]Percent credit enhancement, or subordination, required by the ratings agencies to obtain a AAA rating
[3]LTV = Loan to Value
[4]Percentage of loans with complete documentation

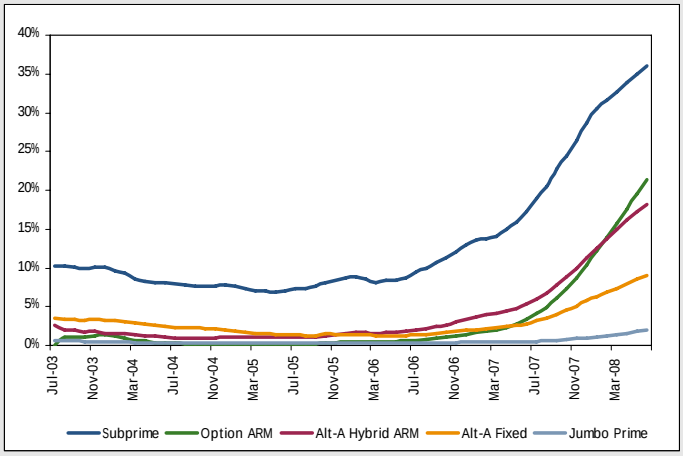
Source: Subprime Mortgage Credit Derivatives (Goodman, Li, Lucas, Zimmerman, Fabozzi), BlackRock

Fundamental Performance of Residential Mortgages

Most investors are aware that the poor collateral performance of subprime bonds was one of the key culprits of the past year's turmoil and the ongoing credit crunch. Recently, however, higher quality sectors of the mortgage market have begun to perform much worse than anticipated due to the continued decline in home prices, tight credit conditions, and a slowing economy. Subprime collateral, along with option ARM loans, are faring the worst, followed by Alt-A loans. While delinquencies on prime collateral are much lower, these bonds have thinner levels of credit enhancement, or loss cushion, so even small increases in delinquency can make them vulnerable to a downgrade.

Coupon type has proven to be an important indicator for collateral performance. ARMs have been experiencing much higher delinquencies than fixed rate mortgages. This is especially visible in the Alt-A subsector where fixed rate bonds are experiencing delinquencies of roughly 9% while hybrid ARMs are performing twice as poorly with delinquency rates around 18%. Much of this performance disparity relates to the strength of the borrower. ARMs are more of an affordability product than fixed rate mortgages due to lower initial monthly payments, thus suggesting that the financial health of ARM borrowers is generally weaker. Figure 3 shows recent delinquency experience for the non-agency subsectors.

Figure 3. Non-Agency MBS Sixty-Plus Days Delinquencies[1]

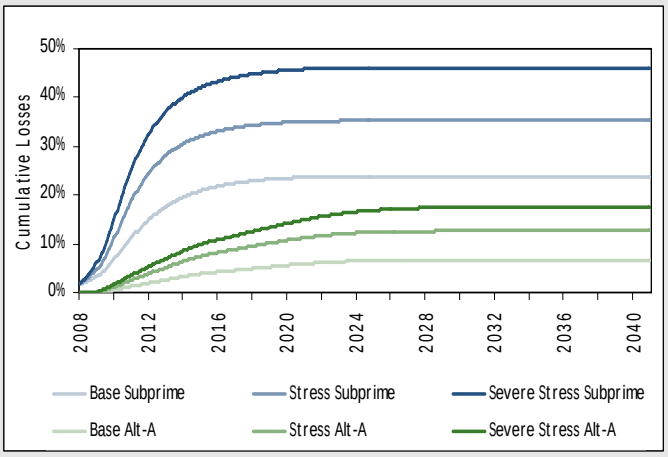


[1]Including foreclosure, REO, and bankruptcy

Source: LoanPerformance

We expect non-agency collateral performance will continue to deteriorate. The housing market remains in decline, and we believe home prices will fall further. Inventories are elevated, and demand for new and existing homes is muted. Home price depreciation makes it significantly harder for borrowers to refinance and will lead to higher default rates. Also, there has been significant fraud on many loan applications, which resulted in non-qualified borrowers receiving loans. Losses will continue to accumulate in the near term as more of these borrowers become delinquent. Looking out further, however, we project that losses will level off as the bad loans work through the foreclosure and liquidation processes. To illustrate a likely progression of losses, Figure 4 on the next page shows loss projections for a subprime deal and an Alt-A deal (both 2007 vintage) under three scenarios: a most likely base case; a scenario where losses are twice as extreme as expected; and an extremely severe scenario.

Figure 4. Projected Loss Scenarios for Subprime & Alt-A



Source: BlackRock

Rating Agencies' Response to Deterioration in Residential Housing

One direct result of the deterioration in fundamental performance has been an increase in downgrades from the rating agencies. Ever since the subprime market began to falter, it has been evident that the rating agencies used overly optimistic assumptions, such as expectations for continued home price appreciation, to determine appropriate levels of credit enhancement. Thus, the ratings agencies have been adjusting their models to more accurately reflect the poor housing fundamentals and to incorporate higher projections for expected losses. New forecasts have led to extensive downgrades across all non-agency mortgage securities. Year-to-date through July, Fitch reported over 12,000 downgrades and only 16 upgrades in the non-agency sector. Figure 5 breaks out these ratings actions by mortgage type and shows how downgrades have been overwhelming the sector.

Figure 5. Fitch's Rating Actions of Non-Agency MBS

Historical Downgrades vs. Upgrades				
Year of Action	Subprime	Alt-A	Prime	Total
2000	88 -- 0	1 -- 0	0 -- 7	89 -- 7
2001	22 -- 0	0 -- 0	6 -- 20	28 -- 20
2002	59 -- 10	4 -- 14	2 -- 102	65 -- 126
2003	99 -- 12	17 -- 34	25 -- 136	141 -- 182
2004	134 -- 69	9 -- 44	24 -- 429	167 -- 542
2005	139 -- 109	22 -- 40	64 -- 560	225 -- 709
2006	289 -- 208	10 -- 87	14 -- 453	313 -- 748
2007	3,742 -- 245	618 -- 45	23 -- 175	4,383 -- 465
2008	6,655 -- 0	4,341 -- 5	1,298 -- 11	12,294 -- 16

Source: Fitch Ratings

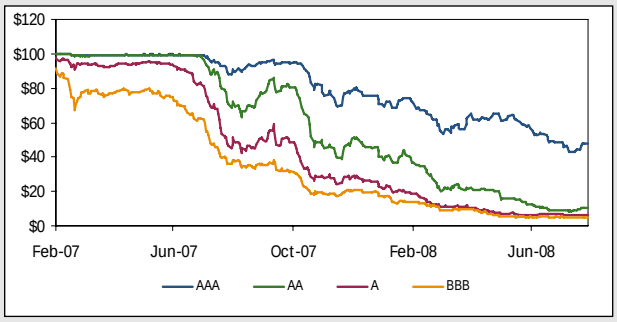
BlackRock expects this trend of downgrades to continue as the housing market deteriorates and rating agencies err on the side of caution in an attempt to regain credibility amongst investors. In many cases, however, the rationale behind ratings actions has been unclear, and the resulting confusion has played a large part in price declines. Some rating actions have been truly bizarre, including this example, which occurred during a recent nine-month period. Moody's placed a seasoned Aaa subprime bond on watch negative in December 2007, downgraded it to A3 two months later, further downgraded it to Baa3 after six more weeks, and finally upgraded the tranche back to Aaa in early August.

Valuations of Non-Agency MBS

Given the housing recession and ongoing downgrades, it should come as no surprise that the non-agency mortgage sector has seen prices decline. The magnitude of some price declines, however, has been a big surprise. The sector has been one of the hardest hit in terms of illiquidity and forced sales. Uncertainty regarding ratings actions, increasingly tight credit conditions, asset sales by banks, and liquidations by failing funds and CDOs have all contributed to outsized price declines. For example, in the CDO market roughly $47 billion has been or is scheduled to be liquidated, and another $83 billion of CDOs have hit events of default and could be liquidated if the controlling class chooses to do so.

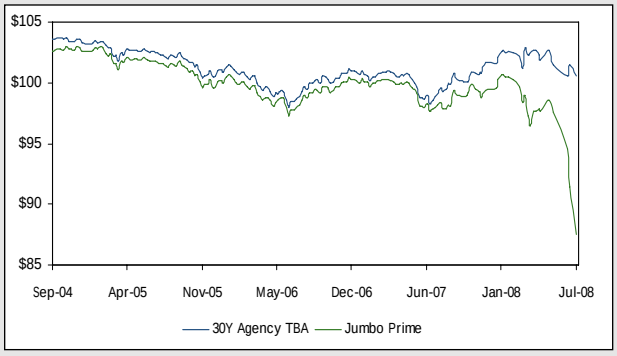
Lower credit borrowers were the first to be impacted by a weakening housing market, and subprime bond prices started falling sharply over a year ago. Now, however, even high quality borrowers are being affected by lower home prices and a slower economy. While there has been an uptick in prime delinquencies, price declines of prime bonds have been much larger than fundamentals would suggest due to the extreme illiquidity of the market. Figures 6 and 7 illustrate how these subprime and prime subsectors have been impacted.

Figure 6. ABX 07.1 (Subprime) Price Declines



Source: Markit, BlackRock

Figure 7. Jumbo Prime Price Declines



Source: JPMorgan, BlackRock

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We believe that today's low prices for non-agency MBS present tremendous opportunities. Without a doubt, there are risks to this sector, but BlackRock believes that senior non-agency bonds with sufficient credit enhancement and better collateral characteristics represent good value. Security selection is critical, and therefore, having ample resources to obtain and analyze the underlying collateral of a potential purchase is imperative. Equally important is having the resources to regularly monitor bond performance post-purchase.

Despite expectations for continued collateral deterioration, most bonds at the senior AAA-rated level have sufficient credit enhancement to withstand losses. Figure 8 highlights the opportunities by showing expected yields for a selection of senior AAA-rated bonds across the non-agency subsectors. With prices of these bonds currently at such depressed levels, each one exhibits an attractive yield, even under a very severe stress scenario. Although some of these bonds, such as option ARMs, show principal losses, the expected yield remains sizeable due to the exceptionally distressed current price. As a point of comparison, Lehman's single-B high yield corporate index yields approximately 11.6%, which is a gross yield, not a loss-adjusted yield.

Figure 8. Expected Yields for AAA-rated Non-Agency MBS

Subprime				
Credit Enhancement: 28.14%				**Price:** $92.50
Scenario	**Cum Loss (%)**	**Tranche Loss (%)**	**Modified Duration (Yr)**	**Yield (%)**
Base	25.38	0.00	0.51	17.24
Stress	35.26	0.00	0.50	17.53
Severe Stress	45.39	0.00	0.58	15.39

Super Senior Option ARM				
Credit Enhancement: 47.37%				**Price:** $64.25
Scenario	**Cum Loss (%)**	**Tranche Loss (%)**	**Modified Duration (Yr)**	**Yield (%)**
Base	24.63	1.90	2.04	13.64
Stress	29.96	7.77	1.93	12.65
Severe Stress	35.89	13.34	2.38	10.40

Fixed Rate Alt-A				
Credit Enhancement: 7.76%				**Price:** $75.00
Scenario	**Cum Loss (%)**	**Tranche Loss (%)**	**Modified Duration (Yr)**	**Yield (%)**
Base	3.22	0.00	4.36	11.93
Stress	6.14	1.65	4.43	11.70
Severe Stress	8.99	4.44	5.15	10.66

Fixed Rate Jumbo Prime				
Credit Enhancement: 7.26%				**Price:** $88.00
Scenario	**Cum Loss (%)**	**Tranche Loss (%)**	**Modified Duration (Yr)**	**Yield (%)**
Base	3.25	0.03	6.20	7.99
Stress	6.15	2.08	6.08	7.96
Severe Stress	9.99	6.13	6.46	7.60

Source: BlackRock

We believe that when analyzing non-agency MBS, credit analysis should be the central focus. A robust, adjustable model that evaluates as much available data as possible is essential. More subjective information, however, must also be contemplated. A key factor that rating agency models missed is that a law-of-large-numbers analysis based on historical data and loan characteristics, such as FICO score, LTV, etc., is insufficient. Factors that are not easily modeled, such as servicer quality, borrower motivation, and accuracy of information on the loan applications, are critical in predicting the performance of mortgage collateral. Other characteristics that are important to analyze include origination standards of a particular vintage, geography (down to city and zip code level), percent of loans with full documentation, and percent of loans with additional debt on the home. It is important to consider all of this information at the loan level as deal averages can mask the true composition of the collateral.

Bond structure is also critical. Investors must understand when and in which priority a particular class receives its principal and interest payments. Also needed is an analysis of how the timing of cash flows impacts a particular tranche's level of credit enhancement and how allocation rules change when a deal is performing below expectation.

Government Programs and Their Perceived Impact

On July 30, the housing-relief bill was signed into law, which has many possible ramifications for fixed income markets. The law is wide ranging and aspects of it touch homeowners, buyers, lenders, banks, and especially Fannie Mae and Freddie Mac. There is no doubt that much of the attention drawn to this piece of legislation is due to its implications for the two agencies; however, the new law could impact the non-agency mortgage market as well.

The most important component of the new law for the non-agency sector is a $300 billion Federal Housing Administration (FHA) insurance program, which is designed to help troubled homeowners avoid foreclosure. The program focuses on loans originated before January 2008 that the borrower can no longer afford. It offers a possible outlet for the homeowner to refinance into a more affordable FHA-backed mortgage. Hurdles to this program include stringent documentation requirements for the borrower and cooperation on behalf of the lender. The program can only be utilized if the initial lender agrees to take a loss by writing down the balance of the loan to 90% of the home's current value, and this would only occur when a lender views the program as the lowest cost option.

We believe the impact of this program on the non-agency market is likely to be relatively small and will occur over time. While the program allows for the FHA to guarantee up to $300 billion in loans, the Congressional Budget Office (CBO) projects that the agency is likely to insure only about $65 to $70 billion. There are significant documentation challenges to find loans that qualify for the program, but on the margin it will allow some loans in subprime, Alt-A, and option ARM pools to refinance. The loans will take a small loss, but the program will benefit AAA bondholders, given that current pricing implies much bigger losses at the loan level.

Conclusion

The non-agency mortgage sector faces a number of challenges due to weakness in the housing market and the broader economy. Homeowners are struggling to make payments on mortgages as their finances are stretched thin by higher food and energy prices, a slowing economy, and a weakening employment market. Given this backdrop, mortgage-backed securities will experience poor collateral performance in the medium term, but credit enhancement levels will help protect the most senior classes.

Prices of many bonds in this sector have dropped dramatically, and this has created significant opportunities. While illiquidity and supply/demand imbalances will continue to fuel price volatility in the non-agency sector, over the longer-term an allocation to non-agency MBS can add tremendous value. The key is in security selection and having the proper resources to analyze and monitor this investment.

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