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## **Hybrid MBS-Another Slice of the Mortgage Pie**

The mortgage market continues to develop and change, leading both borrowers and investors to demand more product choice than just the traditional fixed rate or adjustable rate mortgage. These demands have resulted in the development of a product that gives the borrower a great deal of choice and flexibility, while also providing investors with a diversification tool within the mortgage backed securities universe.

Hybrid mortgages have characteristics of both fixed rate and adjustable rate mortgages. The initial fixed rate term can vary from two years to ten years and the amortization term is typically 30 years making the remaining loan term an adjustable rate mortgage. The index for the adjustable portion of the loan can be CMT (Constant Maturity Treasury), Libor or any other floating rate index that is commonly used in the adjustable market. The margin to these indices is usually in the +150 to +225bp range, which is quite typical in the regular adjustable market. During the adjustable rate portion of the mortgage, each loan has periodic adjustments (most often annual) as well as both periodic and lifetime interest rate caps attached, which makes it look like any other adjustable rate mortgage. Although there are many possible permutations, most hybrid loans have cap structures that limit the initial periodic loan adjustment to not more than 2% and to a lifetime cap 5% above the initial fixed rate. Hybrid mortgage backed securities pool together loans with similar initial fixed rate periods, cap schedules and amortization terms. The market shorthand for hybrids are 3/1, 5/1, 7/1, etc., which simply means fixed for the first 3, 5 or 7 years and then adjusting each year thereafter.

The hybrid market has existed for many years in whole loan form, many of which were retained by the originating banks. In the sub-prime mortgage market hybrids have taken the form of 2/28 and 3/27 adjustable rate mortgages, referred to simply as 2/1s or 3/1s, and have been sold in floating rate Home Equity Loan deals for the last decade. The steep yield curve that has prevailed since 2001 has increased the production of hybrids and has opened the hybrid type of mortgage to the agency qualifying and jumbo "A" qualifying borrower, for whom fixed rate loans were previously the most attractive available option. The steep yield curve encourages borrowers with high credit scores to take a shorter fixed rate loan, particularly when their time frame for living in the property may be well short of 15 or 30 years. The hybrid mortgage allows the borrower to take advantage of the shorter fixed rate period and steeper yield curve without taking on the higher principal payments of a loan with a short amortization period. The hybrid borrower in this steep yield curve environment is also typically very mobile and well informed about such things as their mortgage rate and their loan options. This makes this borrower markedly different than the borrower who had been in sub-prime hybrid pools in the past.

The following table illustrates the dramatic growth in the most popular types of agency hybrid mortgage backed securities production over the past few years:

**Hybrid Mortgage Issuance (\$ millions)**

	<b><u>2000</u></b>	<b><u>2001</u></b>	<b><u>2002</u></b>	<b><u>2003*</u></b>
<b>3/1 hybrids</b>	<b>\$1,373.87</b>	<b>\$ 3,046.54</b>	<b>\$ 8,737.52</b>	<b>\$ 5,865.56</b>
<b>5/1 hybrids</b>	<b>\$7,305.97</b>	<b>\$15,827.52</b>	<b>\$32,854.54</b>	<b>\$35,370.89</b>
<b>7/1 hybrid</b>	<b>\$ 554.32</b>	<b>\$ 2,518.41</b>	<b>\$ 4,427.93</b>	<b>\$ 6,617.36</b>

\*2003 numbers through 9/30/03

Source: UBS

In both the jumbo and agency markets, hybrid mortgages have exhibited a strong correlation between falling interest rates and rising prepayment rates. This relationship appears to be at least as strong as the correlation between falling rates and rising prepayments on 30 year fixed rate loans. In spite of this prepayment sensitivity, hybrid mortgage backed securities can have many applications for different types of portfolios.

Any portfolio that typically invests in the shorter end of the mortgage backed or asset backed securities markets may be interested in hybrid MBS. In order to analyze hybrid mortgage backed securities, a prepayment speed is assumed for the fixed rate portion of the underlying loans and then the security is assumed to balloon on the average date on which the loans become adjustable rate loans. The theory behind this “balloon” type analysis is that most borrowers will refinance before their loan becomes adjustable and that the remaining piece of the security will trade at par, or a very slight premium, as is the noted tendency for most seasoned, low factor ARM pools. Additionally, the adjustable rate portion of the ARM should exhibit relatively low price volatility, as its coupon will adjust annually for the remainder of the amortization term. Because of the relatively short average life and duration resulting from this balloon type analysis, hybrid MBS are a suitable substitute for shorter end, sequential paying remics backed by either 30 year or 15 year product.

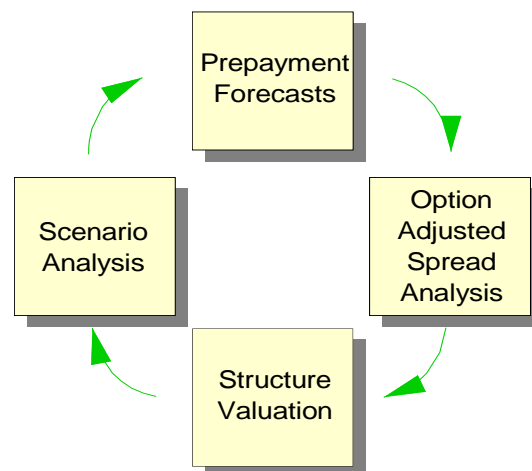
Besides being mobile and well informed, another tendency among hybrid borrowers is that they are likely to prepay their mortgages as rates begin to rise and as they approach their first adjustment date because most of the borrowers do not wish to take the adjustment risk on the loan. This tendency, in conjunction with the relatively short fixed rate period, creates securities that have very limited extension risk. For example, a typical “5/1” hybrid, (the most common hybrid in the agency and jumbo A markets), will extend only to approximately a 3.8 year average life at 6% CPR to the change-over date, while current coupon 15 year pass-throughs have extension risk to 6+ years at the same 6% CPR to maturity. As noted above, the likelihood of the hybrid prepaying at a consistent 6% CPR should be significantly less than that of the 15 year fixed rate. In other words, hybrids should perform well in a rising rate environment when extension risk is the investor’s chief concern. When interest rates fall, the hybrid borrower is

very mobile and apt to prepay, but from recent performance, this translates to only slightly higher prepayments than that of fixed rate product.

To date, bank portfolios have been the largest issuers and investors in hybrids. However, as the market matures (assuming the yield curve remains rather steep), there is likely to be a growing presence of hybrids in the indices and a surge in interest from total return accounts as well as property and casualty insurance companies.

In conclusion, hybrid mortgages and the resulting pooled securities are a growing and relatively flexible part of the mortgage backed securities market. As long as the yield curve remains positively sloped, there will be a growing supply of these securities and the stable nature of their cash flows should continue to draw a growing number of market participants. If the yield curve flattens dramatically, there will be a decrease in the production of hybrids, but the rising short-term interest rates should ensure that most hybrid borrowers refinance as the curve flattens, thereby further limiting extension risk.

As one step in our rigorous mortgage backed security selection process (see diagram below), Vanderbilt engages in intense scrutiny of the various structural sectors of that market, comparing the relative value of each.



The hybrid market is one of those sectors. It is an area with which are familiar, as we have invested in it in the past, and one in which we may again invest as conditions and relative value warrant.

Vanderbilt Research Team