Mortgage Securities

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Hybrid ARMs: A Growing Market With Value

The hybrid ARM sector has been growing at an extremely fast rate over the past year, while net new supply has been negative $5 billion for five-year balloons and plus $35 billion for seven-year balloons. At year-end 1996, hybrid (3/1s, 5/1s, 7/1s, and 10/1s) outstandings were 29% of one-year CMT ARM product; now they are 37%. In fact, net issuance of hybrids so far this year is $2.9 billion, compared with only $1.7 billion for conventional one-year CMTs. We believe the hybrid market will continue to grow in importance.

Currently, 3/1 hybrid ARMs are cheap relative to balloons and short-average-life PACs. We find that new 3/1 hybrid ARMs offer 10–20 bp higher spreads than three-year final balloons or two-year PACs. An example would be FHLMC pool 785932, whose characteristics are shown below.

Characteristics of FHLMC 3/1 Hybrid Pool

Pool	FH 785932
WALA	5
Months to Reset	31
Price	100-18
Net Coupon	6.39%
Gross Coupon	6.92%
Net Margin	225 bp
Periodic Cap	2%
Net Lifetime Cap	12.39%
One-Year CMT	5.56%
Fully Indexed Coupon Level	7.81%

Methodology for Valuing Hybrids

We outline a relative value methodology based on a static interest rate analysis. We analyze this security as a balloon mortgage, where the “balloon” payment can be thought of as the proceeds from the sale of a three-year seasoned one-year CMT ARM pool. We value the static returns of hybrids by calculating the spread to the average life to the premium balloon payment (“forward sale”). This analysis depends on two key assumptions:

- The interim (three-year) prepayment rate until the reset, and
- The price of the “forward sale” of the three-year seasoned fully indexed one-year CMT ARM at the first reset.

Interim Prepayments. In the two scenarios, which we show in the table below, we assume 18% CPR to the first reset. The market consensus speed is generally only 15%, so our assumption is on the conservative side relative to the market.

The depth of data on actual historical prepayments is especially limited for more-seasoned product. Since the market for hybrids has grown so rapidly and so recently, current balances of seasoned hybrids are low and prepayment data is therefore limited (see table on facing page). In the table, we show the aggregates for all 3/1 hybrids over the past few years of origination and for a cohort with similar original coupons to the pool described at left. The vector for the comparable coupon cohort of 9% for one year, 15% the next, and 30% in year 3 is roughly

Hybrid 3/1 ARMs Have Significantly Higher Spreads Than Comparable-Duration Alternatives

	Price	Spread / AL	Average Life to First Reset	Price at Reset	Interim Speed	Repricing Scenario
Hybrid 3/1 ARM	100-18	+51	2.3	103-00	18% CPR	base case
Hybrid 3/1 ARM	100-18	+40	2.3	102-24	18% CPR	conservative
2-Year PAC	100-00	+34	2.4			
7-year Balloon w/ 3-yr final	100-00	+33	2.4			

equivalent to an 18% CPR for three years. That is our three-year prepayment assumption in the table.

Historical Aggregates for 3/1 Hybrids

	All Cpns		6.0–6.5% Init Cpn	
Orig. Year	Curr Bal ($MM)	CPR	Curr Bal ($MM)	CPR
1997	879	10	307	9
1996	953	18	264	15
1995	451	28	139	30
1994	238	38	69	—

Pricing Assumption at Reset Date. We value the ARM at the first reset at a 103-00 price. We base this on the recent range where 3/1 hybrid ARMs near reset have been trading, which is around 90 BEYDM at a 25% CPR. To get more comfort on the pricing of the seasoned one-year CMT ARM at the first reset, we have priced it at a variety of speeds and spreads. We then consider what are reasonable prevailing spreads for this product.

BEYDM Matrix of Seasoned One-Year CMT ARM

ARM Price at First Reset	25% CPR	30% CPR	Fast Vector
102-00	126	107	103
102-16	108	86	82
102-24	99	76	71
103-00	***90***	65	61
103-16	73	45	40

The fast vector assumes 50% CPR for the first year after the reset, 25% CPR for the second year, and 18% CPR thereafter.

For the sake of comparison, our spread table also shows a 102-24 repricing scenario as a conservative assumption. But in fact, our 103-00 base case assumption can itself be thought of as conservative — in part because we have assumed that the forward sale occurs 36 months after origination, when all of the ARMs have reset. In fact, the pool is stratified, having resets distributed throughout the third year, averaging two years seven months from today. So on average (nearly half a year), five months earlier than we had assumed, the coupon on the half of the loans in the hybrid will have reset to a coupon at least 140 bp higher (7.81% vs. 6.39%) than the current coupon. This "early reset" is worth about (140/200) * (5/12) = 9/32nds. This can be thought of as additional value to the ARM at the forward sale upon the first reset.

Sensitivity Analysis

Under our conservative and "base case" scenarios, we find that hybrid ARMs offer attractive spreads relative to short PACs and balloons. However, it is important to consider various possible interim prepayment assumptions and "forward sale" prices. We stress-tested the hybrid under various assumptions along both of those dimensions and still found attractive spreads under even more-onerous assumptions than those included in the table on the previous page. For example, a "forward sale" price of 102-00 for the three-year seasoned ARM would roughly correspond to a 200 bp sell-off scenario. Additionally, the break-even price to 2-year PAC spreads is 102-16 at 18% CPR; which is a 108 DM forward sale spread. We calculate spreads at various prices and speeds below.

Spread to the Curve of 3/1 Assuming Forward Sale

Price at Forward Sale	CPR to First Reset 15%	18%	21%
102-00	29	24	19
102-08	34	29	25
102-16	40	35	29
102-24	46	***40***	35
103-00	51	45	40
103-08	57	***51***	45
103-16	62	56	50
Avg Life	2.4	2.3	2.2

Conclusion

Hybrids offer attractive value relative to short PACs and short final balloons. They offer 10–20 bp higher spreads under most scenarios and are an attractive short-duration position within the mortgage market.