A Guide to Relative Value in the Hybrid ARM Market

Hybrid ARMs are often considered a viable alternative to balloons in the short-duration sector of the mortgage market, and the sector has grown at a very rapid rate in recent years. As shown in the table below, the current balance of $13.1 billion of securitized hybrid ARMs is an increase of nearly 840% since the beginning of 1995. In contrast, while the balloon market is currently 4.5 times as large as the hybrid ARM market, since the beginning of 1995 balloon outstandings have dropped by over $9 billion — a decline of more than 13%.

Hybrid Outstandings Have Grown Rapidly
Outstanding balances ($, billions)

	Hybrids	Balloons
Jan '95	1.4	68.0
Jan '96	4.5	67.4
Jan '97	11.3	73.5
Jan '98	14.6	64.6
Apr '98	13.1	58.9

Determining relative value in the hybrid ARM market is increasing in importance as the sector grows relative to both the balloon and traditional one-year CMT markets. *We find that 5/1 hybrids are currently rich relative to balloons, whereas 7/1 hybrid ARMs are a reasonable alternative to balloons.*

Hybrid Speeds Fast, but Similar to Balloons

In the table at the top of the next column, we show March prepayment rates for the newer vintages of 3/1, 5/1, and 7/1 hybrid ARMs, as well as aggregate prepayment rates on five- and seven-year balloons. For most vintages and over long periods, nonconvertible hybrid prepayment patterns before the first reset date are strikingly similar to the prepayment pattern exhibited by balloons. For instance, in the accompanying chart, we plot historical 1995-vintage seven-year balloon and 7/1 hybrid ARM prepayment rates. (Note that the aggregate hybrid and balloon gross WACs are 7.04% and 7.05%, respectively, resulting in similar refi incentives for both aggregates.) As shown in the chart, the speeds on balloons and hybrids with comparable WACs and seasoning are very similar.

Similar Prepayment Patterns Result in Similar Option Costs

One implication of the similar prepayment patterns between balloons and hybrid ARMs is that the embedded option costs should be similar — at least during the fixed rate period of the hybrid's life. Consequently, it is reasonable to compare nominal spreads on hybrids with those of balloons having similar seasoning and WAC.

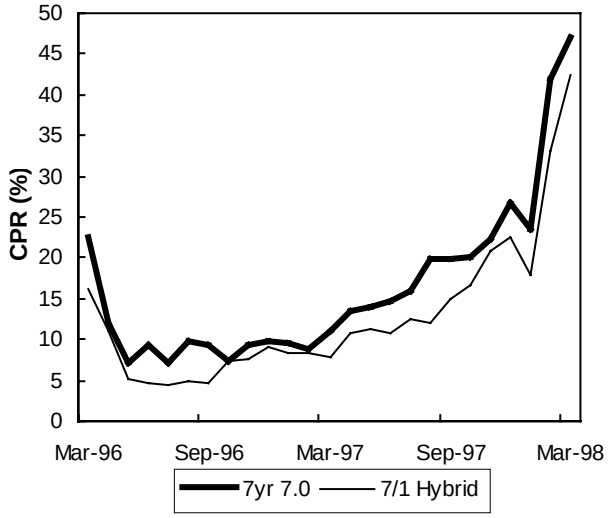
March Hybrid ARM and Balloon Prepayments
Current balances in $, billions; CPR in percent

	FHLMC		FNMA	
Security	Bal	CPR	Bal	CPR
All 3/1 Nonconverts	0.8	41	2.1	41
'97	0.1	21	0.9	32
'96	0.4	43	0.4	46
All 3/1 Converts	0.6	65	1.1	50
'97	0.1	38	0.3	24
'96	0.1	68	0.4	52
All 5/1 Nonconverts	1.3	31	3.2	40
'97	0.3	24	0.7	28
'96	0.5	36	0.5	47
All 5/1 Converts	0.5	53	0.6	39
All 7/1 Nonconverts	0.6	35	1.1	39
'97	0.2	24	0.4	30
'96	0.2	35	0.2	54
All 7-Year Balloons	17.5	36	30.0	38
'97	2.9	30	5.1	27
'96	4.2	41	8.5	40
All 5-Year Balloons	10.3	53	--	--
'97	1.2	23	--	--
'96	2.2	36	--	--

5/1 Hybrids Are Rich, but 7/1s Offer Comparable Spreads to Balloons

In the next table, we highlight the characteristics of two hybrid ARM pools. The first pool is a two-month-old FHLMC 5/1 ARM with a gross WAC of 6.74%, a coupon of 6.10%, and periodic and lifetime caps of 5% and 11.1%, respectively. The second pool is a brand-new FNMA 7/1 hybrid with a gross

Hybrid ARMs Have Exhibited a Similar Prepayment Pattern to Balloons
1995 FNMA 7/1 hybrid and 7yr balloon prepayments



WAC of 6.96%, a coupon of 6.48%, and periodic and lifetime caps of 2% and 11.35%, respectively. Both pools have similar net margins, and both are currently priced slightly under $100-16.

Characteristics of Selected Hybrid Pools

Pool	FN 425847	FH 786248
Type	5/1	7/1
WALA	2	0
Months to Reset	58	85
Price	100-11+	100-14+
Net Coupon	6.10%	6.48%
Gross WAC	6.74%	6.96%
Net Margin	211 bp	214 bp
Periodic Cap	5%	2%
Net Lifetime Cap	11.10%	11.35%

In the next table, we compare the two hybrid ARM pools with balloons having similar fixed rate terms, gross WACs, and coupons. To determine the value of the hybrid pools relative to balloons, we first compare average life spreads at several lifetime prepayment assumptions. For the hybrids, we assume a par price at reset, effectively assuming that the pool pays off completely when the coupon resets. We then value the "tail" separately.

As shown in the table, the 5/1 ARM offers significantly lower spreads than the balloon under a range of prepayment assumptions. The 7/1 ARM, however, offers a somewhat lower nominal spread than its comparable TBA balloon, and is more fairly valued relative to balloons than the 5/1. Note that the nominal spreads on these hybrid and balloon pools are thin. At an option cost of 20–30 bp, spreads for the 5/1 become negative under most prepayment scenarios. For the 7/1 hybrid, adjusting for option cost results in spreads on the order of 10–25 bp for the 7/1. And we believe that our option cost estimates are probably on the low side.

What Is the Tail Worth?

The analysis thus far has excluded the value of the "tail" of the ARM. This can be calculated as the present value of the remaining balance at the reset date that is priced above par. As such, hybrids usually trade to a higher dollar price than comparable balloons, reflecting the market's valuation of the tail.

When valuing the tail, we make assumptions regarding interim prepayment speeds and horizon pricing. We assume that a newly issued hybrid prepays at 25% CPR up to the year prior to the reset date. Owing to the high probability of reset dispersion in the underlying loans, we assume a speed of

Hybrid ARMs Offer Comparable Spreads to Balloons*

			CPR (%)		
Security	**Price**		**15**	**25**	**35**
Hybrid 5/1	100-11+	Spread	**31**	**26**	**18**
		Avg Life	3.3	2.6	2.0
5yr Ball 6.0	99-26+	Spread	**44**	**46**	**47**
		Avg Life	3.3	2.6	2.0
Hybrid 7/1	100-14+	Spread	**58**	**48**	**35**
		Avg Life	4.1	3.0	2.3
7yr Ball 6.5	100-22	Spread	**63**	**54**	**42**
		Avg Life	4.0	3.0	2.2

60% CPR for the year prior to the reset. This static prepayment vector results in factors of approximately 0.1 and 0.2 at the reset date for 7/1 and 5/1 hybrids, respectively. Seasoned conventional one-year CMT ARMs are currently priced around $102, so it seems reasonable to assume a two-point premium over par at the reset date.

In the table below, we show the value of the tail under these assumptions, as well as its value under a range of prepayment rate and horizon pricing assumptions. For the 5/1, a factor of 0.2 at the reset date, coupled with a dollar price of $102 and a 5.5% discount rate, yields a tail value of about 9 bp. For the 7/1, the tail valuation is about 4 bp. The 5/1's higher factor and the smaller effect of compounding results in a more valuable tail for the 5/1 than for the 7/1. As shown in the table, under more stressful prepayment and horizon pricing assumptions, the tail value becomes negligible. We note that this is a static analysis, and we would expect the value of the tail to be lower in a dynamic valuation framework.

Tail Valuation Matrix (bp)

5.5% discount rate; 1.1 bp SSV32

Price	Annual CPR (%) to First Reset				
At Reset	**20**	**25**	**30**	**35**	**40**
5/1 Hybrid					
103-16	31	22	16	11	7
103-00	26	19	14	9	6
102-16	22	16	11	8	5
102-00	**18**	**13**	**9**	**6**	**4**
101-16	13	10	7	5	3
101-00	9	6	5	3	2
100-16	4	3	2	2	1
7/1 Hybrid					
103-16	18	11	7	4	2
103-00	15	10	6	4	2
102-16	13	8	5	3	2
102-00	**10**	**6**	**4**	**2**	**1**
101-16	8	5	3	2	1
101-00	5	3	2	1	1
100-16	3	2	1	1	0

Conclusion

Historical prepayment data suggest that hybrid ARMs prepay at rates similar to the speeds on comparable balloons, resulting in similar option costs. On a nominal spread basis, hybrids look fair to rich to balloons. While the value of the tail could prove to be significant, we recommend conservative assumptions. Using such assumptions, hybrid ARMs offer comparable spreads relative to balloons. Within the hybrid ARM sector, we would favor 7/1s over 5/1s.