

## Valuing the Hybrid Tail

The lack of bank demand for short-duration mortgage assets in recent months has resulted in some dislocations, with balloons and hybrids significantly underperforming. Hybrids have fared somewhat worse than balloons, though, as the balloon market has benefited from increased interest from nonbank buyers, whereas demand for hybrids by many of these investors has been weak. As a result, hybrids have cheapened. We estimate the value of the hybrid tail, and conclude that it is currently about fairly priced. As a result, *hybrids are equally as cheap as discount balloons*. We also review recent prepayment and issuance patterns in the ARM market.

### Comparing Hybrids and Balloons

FNMA hybrid speeds increased by 1–10% CPR in June (see table at right). For most vintages — and over long periods — nonconvertible hybrid ARM prepayment patterns prior to their first reset have been very similar to those on balloons (when seasoning and WAC are held constant). This pattern is not surprising in view of the nature of the borrowers within the two programs, as well as the very similar characteristics of the loans. Given similar prepayment patterns, *the embedded prepayment option costs on hybrids and balloons are similar*.

The price of hybrids should differ from balloons, however, because of differences in liquidity and tail value. Admittedly, the liquidity in the hybrid market is lower than in the balloon market, primarily because of the non-standard nature of hybrid pools. As a result, *hybrids should trade about 5 bp wider than balloons to reflect the liquidity difference*. As shown in the table below, hybrids currently offer a fair 5 bp pickup in spread relative to balloons when the tail is assumed to be \$99.

### Valuing the Tail

If, in seven years, the hybrid coupon is fully indexed, it would trade around \$101 to \$101-16 — generally consistent with where they are trading now (but lower than fully indexed, burned-out one-year

### June Hybrid ARM Prepayments

Current balances in \$, billions; CPR in percent; speeds shown are for FNMA pools

Security	Bal	1mo CPR	3mo CPR
All 3/1 Nonconverts	2.9	38	36
'98	0.7	37	32
'97	1.1	39	37
All 5/1 Nonconverts	5.5	31	29
'98	1.6	24	20
'97	1.7	31	30
All 7/1 Nonconverts	2.7	24	23
'98	0.9	19	14
'97	0.9	29	28
All 10/1 Nonconverts	1.9	19	19
'98	0.7	9	9
'97	0.6	18	16

CMT ARMs). To value the scenarios where the hybrid coupon is limited by its lifetime cap, we look to the caps market, and conclude that *the current market-implied tail value of \$99 appropriately accounts for the hybrid's lifetime cap*.

The hybrid tail could clearly be worth less than par at the first reset when the market has sold off and the hybrid is approaching its lifetime cap. Despite the fact that most 7/1 hybrids have a 5/2/5 cap structure (5% cap at first reset, 2% periodic, and 5% lifetime), the probability of a sub-par dollar price on a 6% hybrid at the first reset date is actually reasonably high at today's rate levels. A 6% coupon 7/1 hybrid with a 2.25% margin hits its 11% lifetime cap if one-year CMT reaches 8.75%, less than one standard deviation above what is implied by forward rates.

The spread between where new-issue hybrid tails are being priced (\$99) and where recently-reset hybrids are trading (\$101) is consistent with the cost of a two-year or five-year cap on one-year CMT struck at 8.75% seven years from now (\$1 and \$2-20, respectively). Thus, the tail price should be somewhere between \$98-12 and \$100. At the market-implied tail price of \$99, hybrids are about fair to balloons.

### A \$99 Tail Corresponds to a Fair Spread Pickup

Security	Price	Life Speed	Average Yield*	Average Life	Hybrid Interp Spread @ Tail Price of			
					98-00	99-00	100-00	101-00
7/1 Hybrid 6.0	97-11+	12	6.70	4.5	89 bp	<b>96 bp</b>	102 bp	109 bp
7yr Balloon 6.0	97-25+	12	6.58	4.4	91 bp	<b>91 bp</b>	91 bp	91 bp
<b>Hybrid Pickup:</b>					-2	<b>+5</b>	+11	+18

\* Hybrid yield is computed using a par price at reset.

We would emphasize, however, that at current pricing, balloons are a cheap benchmark. We reiterate that turnover on balloons and hybrids should remain strong, and that discount balloons and hybrids offer attractive spreads.

**ARM Prepayment Rates Slightly Higher in June**

Despite large slowdowns in the speeds on fixed rate premiums, prepayment rates on FNMA and GNMA ARMs continue to resist higher rates (see the following table; FHLMC June speeds have not been reported). Since the December peak in ARM speeds, most are down approximately 5–15% CPR. The lack of a slowdown relative to fixed rates partly reflects the fact that ARMs have higher turnover rates. The strong economy and housing market have boosted turnover rates, and ARMs have shown more sensitivity to this increased turnover.

In addition, although rates on fixed rate mortgages are all up substantially this year, primary ARM rates have hardly risen at all (consistent with banks' average cost of funds). This steepening of the mortgage yield curve has resulted in more ARM-to-ARM refinancings, which have offset the slowdown in ARM-to-fixed refinancings. While it is questionable how long ARM rates can stay this low relative to other mortgage rates, we would not expect a large decline in ARM speeds until ARM rates rise or until the seasonally strong summer turnover slows.

**ARM Speeds Rose a Bit in June**

One-Month CPR (%)

	May 1999		June 1999	
	FN	GN	FN	GN
1yr CMT Nonconv	31	30	32	30
'97	51	38	49	37
'96	39	35	41	36
'95	31	30	30	32
'94	33	23	30	26
'93	33	23	33	25
'92	28	22	27	23
'91	24	21	29	22
1yr CMT Convert	32	—	33	—
COFI	21	—	24	—

**ARM Issuance Still on the Upswing**

Prior to last year's FHA insurance moratorium, issuance in the ARM market was dominated primarily by GNMA ARMs (see the following chart). Since then, gross issuance of ARMs has been driven almost entirely by hybrids. We note, however, that the trend has started to reverse, given the continued rise in GNMA ARM issuance, and the further increases implied by the MBA's Government ARM Application Index. We also note that, although gross issuance is on the rise, net issuance remains negative, as paydowns are still larger than the new supply being originated.

**Gross Issuance of ARMs Strengthens, but Net Issuance Remains Negative**

Gross ARM issuance through May

