Debashis Bhattacharya
(212) 816-8310
debashis.bhattacharya@ssmb.com

Lakhbir Hayre
(212) 816-8327
lakhbir.s.hayre@ssmb.com

Update to the Hybrid ARMs Prepayment Model

We have updated the Salomon Smith Barney Hybrid ARM prepayment model based on information since the last update in late 1998. This update reflects observed patterns in the hybrid market over the past year and one-half:[4]

➤ We have introduced an effect to capture prepayments by "fence-sitters," or borrowers who, having missed out on refinancing opportunities when mortgage rates hit multi-year lows, refinance into rising rates to avoid even higher rates in the future. This is a phenomenon that has become critical only recently with the advent of lower refinancing costs and aggressive soliciting, and was evidenced by sharp increases in speed in mid-1999.

➤ Wide spreads between 30-year mortgage rates and new hybrid rates might have caused an increased level of hybrid-to-hybrid refinancing for moderately seasoned products. (This is, however, still a small component of all
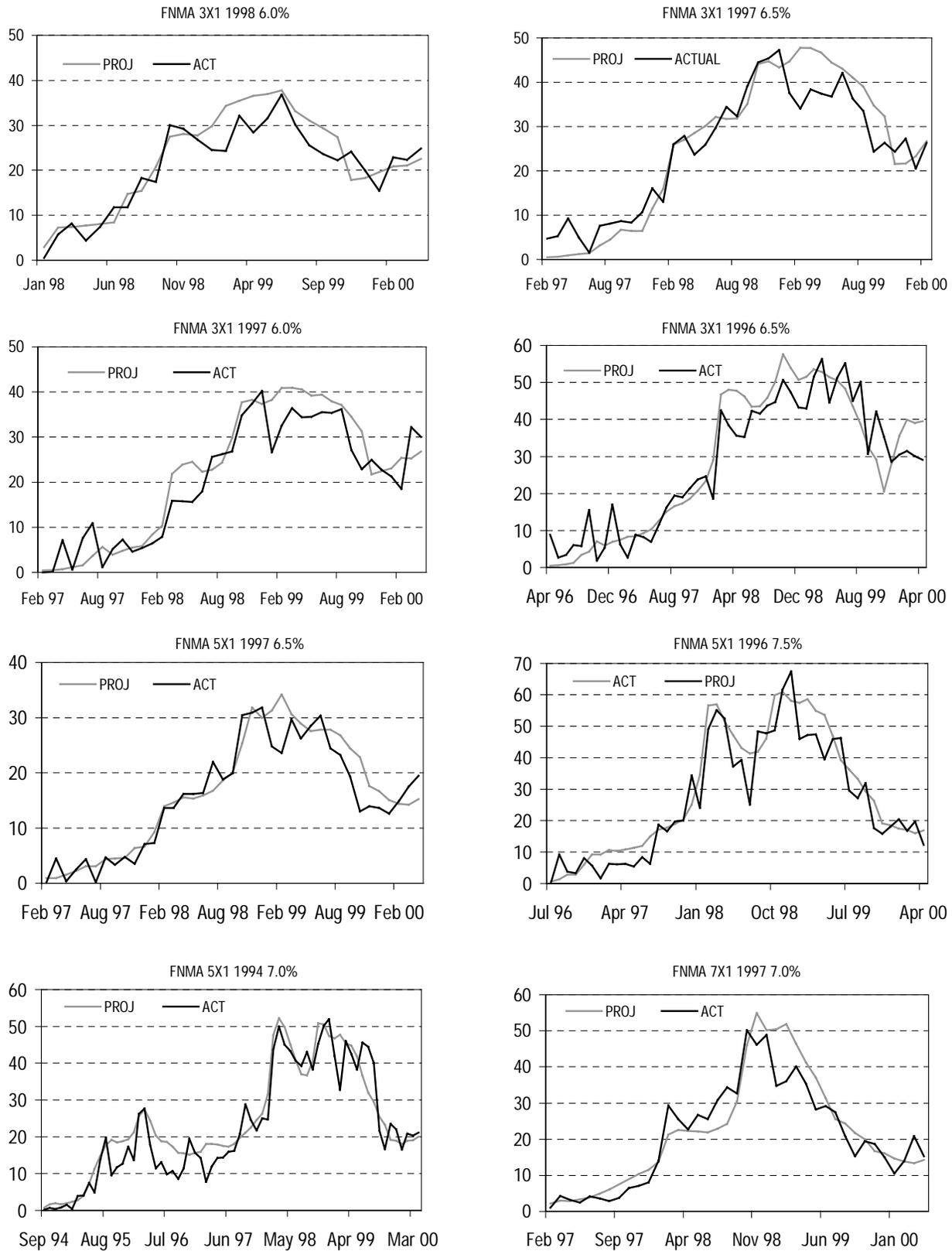
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[4] A Salomon Smith Barney research paper, which will be distributed next week, discusses the hybrid ARM market and prepayment behavior in more detail.

refinancings). Though our model captured this effect through the ARM-to-ARM refinancing module, we have incorporated a more flexible framework to capture the choices afforded by various refinancing vehicles.

➤ We incorporate a higher mobility rate for hybrids, as suggested by anecdotal evidence over the past year.

➤ Though the model captured speeds around resets fairly well, on average, we make the peak speeds going forward more aggressive (since the recent popularity of the product would attract more savvy faster refinancers and higher volumes would increase focus from brokers). We also make a few minor updates to capture changes in demographic characteristics of borrowers and cost structures.

Figure 26 shows actual and projected speeds for selected hybrid classes. Although actual speeds are noisy, due both to the relatively small amounts outstanding of some classes and the heterogeneity of hybrid pools, the model tracks *average* speeds quite well.

Figure 26. Selected Coupons and Vintages: Actual and Projected Speeds

FNMA 3X1 1998 6.0%

FNMA 3X1 1997 6.5%

FNMA 3X1 1997 6.0%

FNMA 3X1 1996 6.5%

FNMA 5X1 1997 6.5%

FNMA 5X1 1996 7.5%

FNMA 5X1 1994 7.0%

FNMA 7X1 1997 7.0%

Source: Salomon Smith Barney.

Impact on Valuations

Figure 27 shows the impact on valuation. Though OASs tighten slightly for the shorter initial reset products, our views for the sector do not change from the past. Hybrids are cheap compared to short CMOs, they are competitive to 15-year collateral, and within the hybrid sector, the longer initial resets offer better value.

Figure 27. Relative Value Measures for Hybrid ARMs (1 Jun 00)

Pool/ Security	Product Type	Net Coupon	Age (Months)	Months -to Roll	Net Margin (bp)	Gross Margin (bp)	Price		Dur	Conx	OAS to - Tsy	OAS -to Swap	Speeds(% CPR) Peak	1-Year	LT
N538341	New 3x1	6.89%	1	36	219	277	98-20	Old Model	2.4	-0.5	112	-1	61.0	8.9	20.3
								New Model	2.2	-0.5	107	-2	67.4	12.1	23.3
								Change	-0.2	0.0	-5	-1	6.4	3.2	3.0
N534741	Seasoned 3x1	5.71	29	18	217	279	98-03+	Old Model	1.8	-0.4	105	-5	44.7	12.3	23.4
								New Model	1.7	-0.3	103	-5	50.6	18.9	26.8
								Change	-0.2	0.1	-2	0	5.9	6.6	3.4
N530739	New 5x1	7.20	3	58	217	275	98-07	Old Model	3.0	-0.7	126	6	53.7	7.7	16.2
								New Model	2.8	-0.7	122	5	62.2	10.4	19.8
								Change	-0.2	0.0	-4	-1	8.5	2.7	3.6
N529541	New 7x1	7.35	6	79	237	275	98-12	Old Model	3.1	-0.7	130	6	49.6	8.3	15.2
								New Model	3.1	-0.7	125	4	56.2	10.9	17.4
								Change	-0.1	-0.1	-5	-2	6.6	2.6	2.2
N521644	New 10 x1	6.93	6	115	215	275	96-05	Old Model	3.9	-0.6	135	9	48.0	8.0	13.4
								New Model	3.9	-0.6	135	10	48.1	9.6	14.0
								Change	-0.1	0.0	0	1	0.1	1.6	0.6
	FNMA 15yr TBA	7.50	1				99-00		3.4	-0.8	113	-4		3.8	7.6
FNMA92.217 H	2yr Sequential	6.70	95				98-06		1.8	-0.3	97	-3		9.7	9.6

Source: Salomon Smith Barney.