Rate level, not curve shape, should drive mortgages

The mortgage tightening witnessed over the past month has been broadly consistent with the directionality witnessed since December. We expect mortgages to continue to be directional, with the level of rates, volatility, and roll financing the major drivers of performance. The steeper curve has historically had less of an impact on performance than the level of rates.

Despite the 25 bp steepening in the two-year to 30-year segment of the curve over the past week, mortgages put in a mixed performance. On a LIBOR OAS basis (calculated at market-implied volatilities), lower coupons ended 2–4 bp tighter, while higher coupons such as 7.5s and 8s were flat to 2 bp wider, respectively (see Exhibit 1). The easing by the Federal Reserve last week should be a modestly positive factor for mortgage performance: It reduces short-term funding costs for investors and improves carry. **Nevertheless, in our view, the absolute level of rates and volatility, as well as roll financing, will be more important determinants of mortgage performance going forward than the shape of the curve.** In fact, while the 9–12 bp tightening in LIBOR OAS across the middle of the coupon stack (6.5s through 7.5s) over the past month has been impressive, it has been broadly consistent with the degree of directionality recently exhibited by the mortgage market versus the level of rates.

Exhibit 1: Mortgages are tighter over the month, but were mixed last week
Change in price/yield and LIBOR OAS on selected 30-year conventionals and Treasuries, 4/19/01 close

	Price / Yield			LIBOR OAS		
Security	**Current**	**1-wk chg**	**1-mo chg**	**Current**	**1-wk chg**	**1-mo chg**
FN 6.0	96-28+	3+	(25+)	12	–4	–6
FN 6.5	99-06+	4+	(10+)	14	–3	–9
FN 7.0	100-31	5	(1)	17	–2	–12
FN 7.5	102-02+	4	0+	29	0	–12
FN 8.0	103-05+	4+	7	13	2	–23
2-yr Tsy	4.26%	–8 bp	0 bp			
5-yr Tsy	4.79	3	25			
10-yr Tsy	5.26	10	43			
30-yr Tsy	5.77	17	47			

Mortgage performance continues to be directional

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As shown in Exhibit 2, since early December 2000, LIBOR OASs on current coupons calculated at constant volatility have widened 34 bp for every 100 bp decline in 10-year swap yields. LIBOR OASs at market vols have been less directional, reflecting the mortgage market's efficiency at pricing in volatility, widening 22 bp for every 100 bp decline in 10-year swap yields. With 10-year swap yields rising 32 bp over the past month, the recent tightening in current coupons (both at constant and market

vols) is right in line with this directionality. At this point, mortgage spreads are in line relative to where they have been over this period for the current level of rates. **This directionality has been driven by supply concerns at lower rate levels, greater refinancing risk (which may not be fully incorporated into valuation models), the directionality of volatility itself (with 5x5 swaption vol rising almost 200 bp per 100 bp decline in rates, shown in Exhibit 3), and the directionality of swap spreads from convexity hedging.**

Overall, we expect the factors that have driven mortgage directionality to remain in place over the near term, and we continue to view mortgages as very directional going forward. ***We want to emphasize, however, that while this directionality has been reasonably predictable so far, mortgages could become much more directional if we break out of this range and mortgage rates reach new lows.*** The 1998 experience provides some guidance concerning how mortgages could perform in such a scenario; at that time, OASs exceeded LIBOR + 50 bp owing to short-term supply imbalances. With this scenario still a possibility (though admittedly less likely with conventional 6.5s now below $99), we are still cautious on mortgages over longer horizons. However, we look for opportunities to trade the basis in the short term in light of the directionality described earlier.

Exhibit 2: Look for continued directionality in mortgage performance
Conventional current coupon LIBOR OAS at constant vol and market vol versus 10-year swap yields, 12/00 – 4/01

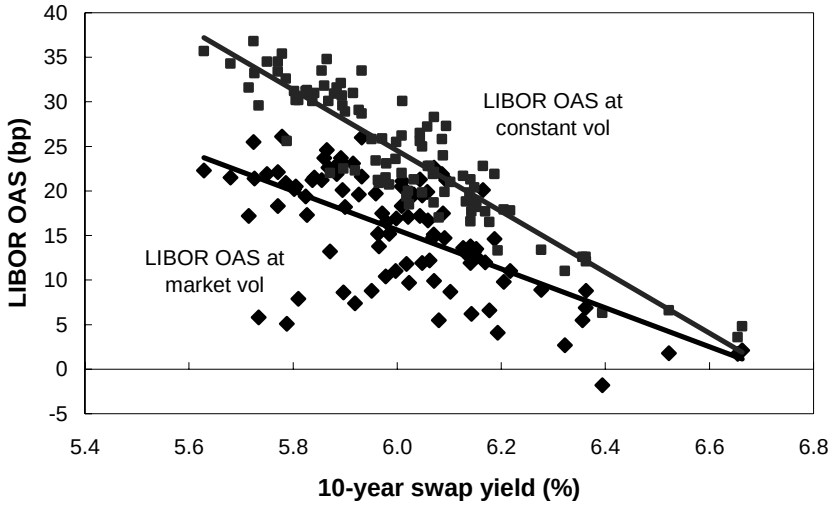
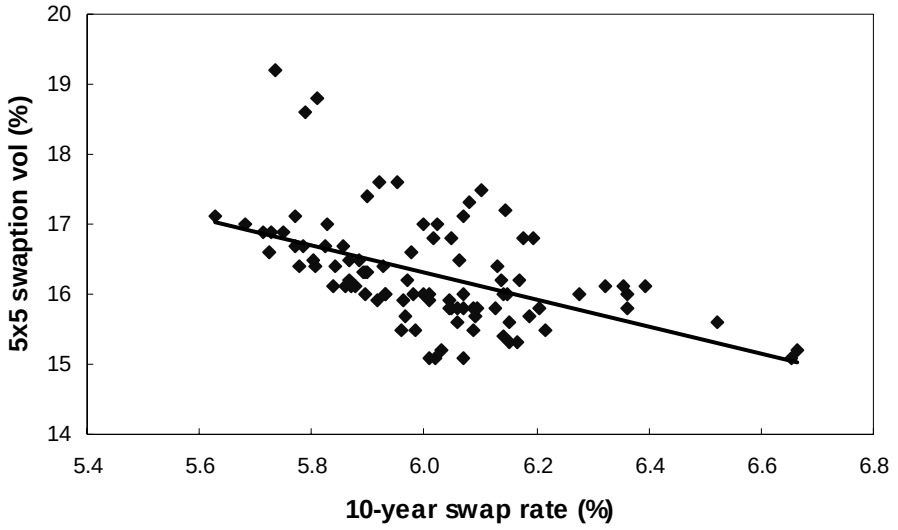


Exhibit 3: Directionality of volatility has contributed to mortgage directionality
Implied volatility on 5x5 swaptions, 12/00-4/01



How much of a benefit is the steeper curve?

Traditionally, a steeper curve has been viewed as a very strong positive factor for mortgages, as it (1) lowers short-term funding costs; (2) causes shorter cash flows to be evaluated relative to lower yield levels, making nominal spreads more attractive; and (3) fosters increased bank demand, in turn driving greater CMO issuance. **While these benefits may occur at the margin, we do not expect a steeper curve to drive mortgage OASs substantially tighter.** Historically, the link between the curve slope and mortgage OASs has been weak, while funding considerations and other factors may limit bank demand for mortgages on a net basis.

In Exhibit 4, we show the results of regressions of the LIBOR OAS on current coupon conventionals versus the level and slope of the yield curve. Specifically, for the period covering January 1999 through April 2001, we regress current coupon LIBOR OAS against the level of 10-year swap yields and the slope of the 2/10 swap curve. (Since the slope is correlated with the level of rates, we have regressed the slope versus the level of rates, and used the residuals in our final regression.) Since early 1999, mortgage OASs have widened roughly 2 bp for every 10 bp rally in 10-year swap yields.

Interestingly, however, the impact of changes in the shape of the curve has been less. For instance, a 10 bp steepening in the 2/10 swap curve has had less than a 1 bp impact on mortgage OASs (we obtain similar results for longer-horizon regressions as well). In fact, the sign of the result is counter-intuitive, in that OASs have *widened* slightly in steeper curve environments. In other words, the mortgage market has tightened static spreads when the curve steepened (consistent with the lower option cost), but not to the full extent that mortgage models would predict. Thus, while we

don't expect the steeper curve to hurt mortgages, it is unlikely to tighten OASs significantly, either.

Exhibit 4: The curve steepening may help mortgages less than you think
Regression of current coupon LIBOR OAS vs. both level of 10-year swap yield and 2/10 year swap curve slope (uncorrelated with level of rates), 1999-2001

Variable	Historical impact on current coupon LIBOR OAS
10-year swap rate (10 bp rally)	+1.9 bp
2-10 year swap curve slope (10 bp steepening)	+0.9 bp

Rolls have heated up, but upside may be limited

The roll market has been a major driver of mortgage performance recently. As shown in Exhibit 5, roll financing has improved, with 6.5s surging in particular. For example, one month ago, FNMA 6.5s rolled at 5 1/4 ticks for the front month drop, or 41 bp better than carry. Now, the financing advantage is more than 60 bp better than mortgage repo, and had even reached 5 ticks better than carry before 48 hour day for April. Clearly, the improvement in financing helps justify the strong performance of the sector over the past several weeks.

Exhibit 5: Roll financing has improved
May/June rolls as of 4/19 compared with April/May rolls in March

	1-month drop (32nds)		Financing specialness (bp)	
Coupon	3/19	4/19	3/19	4/19
6.0	4.0	5.0	28	9
6.5	5.2	7.2	41	61
7.0	5.0	7.0	20	48
7.5	3.5	3.0	29	–21

Looking forward, we expect rolls to be better than carry, but significant upside should be limited by the future supply outlook. Exhibit 6 shows recent issuance of 30-year conventionals by coupon. As expected, conventional 6.5s emerged last month as the heaviest supply coupon, with $16.8 billion issued in March. We expect issuance of conventional 6.5s to be approximately $21–22 billion in April, and to remain in the $20–25 billion range through June.

Exhibit 6: Recent monthly issuance of 30-year conventionals in 2001
dollars, in millions

Coupon	Jan	Feb	Mar
6.0	511	4163	11310
6.5	3799	10238	16769
7.0	14289	10966	7712
7.5	7898	4563	2698
8.0	2147	1259	1208

Total	**29687**	**32165**	**40709**

Bank demand has been strong recently, fueled by a steeper curve and reinvestment of paydowns. Nonetheless, there should be plenty of mortgages to go around over the next several months at current rate levels. As a rough estimate of bank demand, large commercial banks own about $250 billion in mortgage securities, based on New York Fed numbers. An average paydown of 20% CPR would translate into $4–5 billion per month in paydowns. Since most of the banks' holdings are in front CMOs, which receive a higher percentage of paydowns than the underlying collateral, the actual amount of paydowns could be closer to $10 billion a month. Even if banks were to put all of this money back to work in the MBS market (and it's not clear that they necessarily would), this would represent a small portion of the $70–80 billion in gross issuance that could be issued per month over the near future. ***With two-month rolls currently 3 ticks over carry (in 6.5s), we recommend that investors lock in attractive funding levels in the roll market at this time.***