Sharad Chaudhary
(212) 783-6351
sharad.chaudhary@ssmb.com

Robert Young
(212) 783-6633
ryoung@ssmb.com

Peter DiMartino
(212) 783-7871
peter.dimartino@ssmb.com

Relocation Prepayments, Modeling, and Credit Performance

Relocation Prepayment Characteristics

Housing Turnover

Turnover on relo loans averages twice that on non-relo loans for several years.

Relo borrowers are typically managerial or professional employees of large corporations. They tend to be better educated, more financially savvy, and more mobile than the general population. Because company transfers are often repeated after a couple of years, relo loans experience a relatively high level of turnover-related prepayments. These prepayments tend to season rapidly over one to two years and then typically average a little more than twice the rate on seasoned non-relo loans for the next three to four years. Over a longer period, turnover rates on relo and non-relo loans appear to converge.

Figure 31 shows how we arrive at these numbers by summarizing historical prepayment rates on **discount** nonagency transactions. The prepayment rates are aggregated from our data base of nonagency transactions. So, for example, the figure shows that a new-issue relo transaction that is 50bp out of the money[3] would, on average, prepay at 300-350 PSA for the first two years.

Speeds on relo transactions show less of a "lock-in" effect.

The figure also shows that turnover-related prepayments on relo transactions are much less sensitive to interest rates than for ordinary jumbo transactions. Relo borrowers are less prone to a "lock-in" effect because in many cases sale of the home is forced by another relocation. Moreover, turnover-related prepayments on relos seem to have a *floor* of 200-250 PSA, providing further evidence that they are less sensitive to interest rates. By comparison, turnover-related prepayments on jumbos typically have a *floor* of 75-125 PSA.

Figure 31. Prepayments in %PSA on Nonagency Discount Transactions by Age, Oct 98

	Age (Months)									
	0-12		12-24		24-36		36-48		48-60	
Relative Coupon	Relos	Non-Relos	Relos	Non-Relos	Relos	Non-Relos	Relos	Non-Relos	Relos	Non-Relos
-50bp	350	300	300	150	225	100	225	100	250	125
-100	300	200	325	100	200	75	225	100	275	100
-150	350	125	250	75	250	75	225	75	NA	NA
-200	350	125	225	75	NA	NA	NA	NA	NA	NA

NA Not available.
Note: Relative coupon = WAC - jumbo rate (lagged by two months).
Source: Salomon Smith Barney.

Refinancing

The interest rate for a relo borrower is often subsidized by the employer.

Some factors unique to relo loans influence their interest-rate sensitivity. Employee relocation packages often include some type of mortgage cost reduction for borrowers — typically through either **reduced closing costs** or **interest-rate subsidies**. As a result, the WAC of a new relo transaction is often 50bp *below* that

[3] Based on a current jumbo rate of 7.30%, this would mean the relo transaction had a WAC of about 6.80%.

of a standard new nonagency transaction. Typically, cost reductions reduce borrowers' incentive to carry out rate-related refinancings for the period of the subsidy.[4] Furthermore, relo borrowers have a shorter time horizon over which to realize the benefit of a reduction in monthly payments, because in many cases they expect to be relocated again.

However, some relocation agreements have a **forced refinancing clause**, which may mitigate some of the effect of the subsidies for a small number of relocation loans. When rates fall by a sufficient amount, the employer can sometimes force a refinance or eliminate the subsidy. In addition, relo borrowers often have larger loan balances, and their demographics suggest that relo pools should have a larger number of fast refinancers.

Figure 32 sheds some light on the interaction between these two opposing trends. The figure summarizes the differences between relo and non-relo prepayment rates by displaying ratios of prepayment speeds for relo and non-relo cohorts over different periods. The speeds are taken from MB767 ("Nonagency Relo Prepayments") and MB765 ("Nonagency Prepayment Manifold").

Refinancing rates for relos are comparable to those for non-relos.

Based on a current jumbo rate of 7.30%, transactions with WACs of 7% or less represent the only discount coupons in the figure. The figure shows that turnover on seasoned discount relo transactions is averaging roughly twice the turnover on seasoned non-relo discounts, consistent with our discussion. For transactions with WACs of 7% and above, relo transactions appear to be prepaying faster, although the ratios vary considerably. However, after adjustment for their faster turnover speeds, which contribute about 3%-6% CPR, **refinancing rates for relo borrowers seem comparable, and if anything, somewhat slower than for non-relo borrowers**.

Figure 32. Ratios of Nonagency Relo to Non-Relo Prepayment Speeds, Oct 98

	Orig.	Relo	Non-Relo	Prepayment Speed Ratios			
WAC Range	Year	WAC	WAC	One-Month	Three-Month	Six-Month	One-Year
6.50%-6.99%	1998	6.74	6.82	0.78	1.35	1.27	—
	1993	6.74	6.81	2.31	1.46	1.75	1.93
7.00-7.49	1998	7.12	7.26	0.62	0.52	1.06	—
	1997	7.22	7.30	0.56	0.92	1.07	1.16
	1996	7.21	7.27	1.22	1.35	1.17	1.23
	1995	7.22	7.29	1.05	1.72	1.63	1.40
	1993	7.17	7.21	0.84	0.93	1.11	1.20
7.50-7.99	1997	7.64	7.73	0.70	0.69	0.74	0.66
	1996	7.69	7.71	1.06	0.95	1.01	1.00
	1995	7.66	7.74	1.08	0.70	0.83	0.88
	1992	7.67	7.81	1.25	0.95	0.96	1.12
8.00-8.49	1996	8.14	8.19	1.13	0.98	0.86	0.79

Source: Salomon Smith Barney.

[4] The subsidy usually lasts one to three years. See "Relocation Prepayments: U-Hauls in the Fast Lane," *Bond Market Roundup: Strategy*, October 18, 1996, for more details.

Relocation Prepayment Modeling

The Salomon Smith Barney Relo Prepayment Model is based on the above prepayment characteristics and makes the following assumptions:

1. Turnover rates for relo borrowers gradually increase over one to two years to twice the turnover rate of non-relo borrowers and then remain at this level for the next five to six years. Turnover rates for relo borrowers then gradually decrease to the same rate as non-relo borrowers over the next two years.

2. Refinancing rates for relo and non-relo borrowers are the same.

Relocation Credit Performance

Prepayments caused by defaults are virtually nil because relos exhibit stellar credit performance, even when compared to 15-year jumbos. At the same time, relo delinquencies run less than half of those on 15-year jumbo loans. Furthermore, despite having higher LTVs on average, loss severity on relos is substantially lower than for 15-year relos.