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Jumbo Prepayment-Penalty Transactions

Prepayment-Penalty Mortgages

In response to the eternal quest for effective forms of call protection, the issuance of MBSs backed by prepayment-penalty mortgages has steadily grown over the past two years. A prepayment-penalty mortgage imposes a penalty on the borrower for early prepayment of their mortgage (not including the sale of the house). The most common penalty is a five-year penalty with the following features:

A prepayment-penalty mortgage imposes a cash penalty on the borrower for early prepayments.

- The penalty period is 60 months from the origination of the loan. The penalty is six months of interest on the amount by which the prepayment exceeds 20% of the original loan balance;
- There is no penalty for selling the house;
- During the penalty period, the borrower can prepay up to a maximum of 20% of the original loan amount each 12 month period without penalty;
- The servicer retains the prepayment penalty;
- The penalty cannot be waived except in cases of extreme hardship.[12]

Borrowers receive a concession for agreeing to the penalty.

In return for agreeing to pay the penalty, the borrower typically receives a rate concession (typically 15bp-25bp) or cash up front (typically three-fourths of a point).

Earlier jumbo prepayment-penalty transactions contained mortgages backed by a three-year prepayment penalty. The three-year prepay-penalty mortgage differs from the five-year penalty mortgage in only two respects: (1) the penalty period is 36 months; and (2) the penalty is equal to the *lesser* of (i) 2% of any amount prepaid in excess of 20% of the original principal amount, or (ii) six months of interest on such excess. Note that unless the mortgage rate paid by the borrower is less than 4%, the penalty amount for the three-year penalty mortgage will be (i). Three-year penalty mortgages have waned in popularity and are absent from most recent jumbo prepay-penalty transactions.

Refinancing a five-year penalty mortgage leads to a large out-of-pocket cost for the borrower.

A simple calculation shows that the penalty materially affects the economics of refinancing a mortgage. In particular, refinancing a five-year penalty mortgage (which would result in a full prepayment) before the expiration of the penalty period creates a significant out-of-pocket cost for the borrower. For example, a jumbo borrower with an original balance of $300,000 and a mortgage rate of 7% would typically pay a penalty of $8,400 for refinancing at any time in the first 60

[12] First Nationwide, the predominant prepayment-penalty mortgage originator, reports that it has waived the penalty on fewer than ten of the approximately 240,000 prepayment-penalty mortgages it originated.

months from loan origination.[13] The three-year penalty is less onerous: a borrower would pay $4,800 for refinancing their mortgage at any point in the first 36 months from loan origination (assuming their mortgage rate is greater than 4%).

Issuance

First Nationwide dominates the prepayment penalty sector.

Although the market for jumbo prepayment-penalty loan originations was launched more than two years ago, the bulk of the originations came from First Nationwide. Only recently have certain other familiar nonagency issuers started to ramp up their production. Figure 19 shows monthly jumbo prepayment-penalty loan production for the major nonagency issuers in the sector. As shown, First Nationwide continues to dominate the sector with more than $300 million in monthly production. In addition, Headlands Mortgage has been an active originator of these loans. Countrywide and RFC only recently started to underwrite jumbo penalty loans, and each conduit originates approximately $50 million per month. Combined, these nonagency issuers produce more than $500 million of jumbo prepay-penalty loans per month. We estimate that there are approximately $5 billion jumbo prepay-penalty securities outstanding.

These issuance numbers compare favorably with the agency prepay-penalty sector. There are about $10 billion[14] in agency prepay-penalty pools outstanding, with First Nationwide and Countrywide dominating issuance. Recently, issuance of agency prepay-penalty pools has averaged $300-$400 million a month.

Figure 19. Nonagency Issuers: Monthly Jumbo Prepayment Penalty Loan Production, Apr 99

Issuer	Monthly Production (Mils.)
Countrywide	$50
First Nationwide	330
Headlands	80
RFC	50
Total	$510

Source: Salomon Smith Barney.

Collateral Characteristics

Prepay-penalty transactions are distinguished by very high California concentrations.

Figure 20 summarizes collateral characteristics for some recent jumbo prepay-penalty transactions. First Nationwide loans collateralize the PNC Mortgage Securities (PNCMS) and First Nationwide (FNT) transactions. The Headlands (HMSI) transactions seem somewhat exceptional with high percentages of limited-documentation loans, high WACs, and relatively low average loan balances. These characteristics suggest that expanded criteria ("alt-A") borrowers took out these prepayment-penalty loans.

In general, most of the collateral characteristics for the penalty transactions seem similar to those of ordinary jumbo transactions. The chief difference is the very high California concentrations in the penalty transactions. Most recently issued jumbo transactions do not have California concentrations in excess of 60%. The heavy California concentrations in penalty transactions arise because prepayment penalties are not legal in all states,[15] limiting the geographic diversity of these transactions.

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[13] 8,400 = (80% of 300,000) * 7%/2).

[14] Of the approximately $10 billion outstanding, about $8.5 billion are FNMA pools. As in the jumbo sector, 5-year penalty mortgages back most recent penalty pools.

[15] More details are available on this issue from the authors.

Figure 20. Selected Jumbo Prepay-Penalty Transactions: Collateral Characteristics, Apr 99

	PNCMS 1997-4	FNT 1998-3	HMSI 1998-2	HMSI 1998-3	FNT 1999-1
Issue Date	Jun 97	Jul 98	Oct 98	Dec 98	Feb 99
5-Year Penalty	**0%**	**100%**	**100%**	**100%**	**82%**
3-Year Penalty	**100**	**0**	**0**	**0**	**0**
30-Year Amortization	76	100	98	98	88
15-Year Amortization	24	0	2	2	12
Gross WAC	7.80	7.26	7.26	7.16	6.98
Average LTV	71	71	73	73	69
LTV > 80%	9	7	4	5	6
Average Loan Balance	327,000	324,000	293,000	265,000	331,000
Loan Balance > $600,000	4%	6%	11%	8%	8%
California Concentration	**91**	**91**	**88**	**83**	**92**
Refinance Share	32	61	59	65	65
Single-Family Properties	74	100	75	72	75
Owner-Occupied	99	100	99	98	99
Full Documentation	92	83	51	51	NA
Original Triple-A Subordination	3.5%	3.8%	4.3%	4.5%	NA

NA Not available.
Sources: Bloomberg and Salomon Smith Barney.

Credit Opinion

We do not anticipate that jumbo mortgage borrowers who elect to take out prepayment-penalty loans will perform differently than those who choose a standard loan. Most jumbo prepay-penalty transactions are credit enhanced like their nonpenalty jumbo counterparts from the same lender/issuer.[16]

Credit and loan characteristics impact original enhancement requirements, not speed assumptions.

Prepayment-penalty pools, like ordinary jumbo pools, are judged on the strength of the underlying borrower-credit and loan characteristics. Thus, pools with reasonable LTVs, high percentages of full-documentation loans, and strong FICO scores will likely be viewed more favorably by the rating agencies. In determining their credit-rating levels, the rating agencies do not run prepayment scenarios. A credit rating is based on the expected credit performance of a mortgage pool, without accounting for the de-levering potential.

Again, California concentrations stand out among the collateral characteristics in Figure 20. According to the rating agencies, high California pools do not necessarily cause higher credit enhancement levels than pools with moderate levels of California loans. Typically, the rating agencies require higher credit enhancement at the zip-code level to compensate for concentration risk.

At the pool level, prepay-penalty loans may affect the way the subordinate class de-levers. The shifting interest structure used in nonagency transactions locks out the subordinate class from unscheduled principal for the first five years. In addition, prepay penalty transactions pay down the senior class in the event of unscheduled principal cash flows. However, because the prepayment penalty reduces refinancings, the rate of de-levering may be somewhat slower in an interest-rate

[16] Headlands, an exception to this observation, is known primarily as an alt-A issuer. As a result, its alt-A transactions typically have higher credit enhancement levels than shown in Figure 20.

rally (that is, if borrowers do not prepay because of the penalty). However, after the penalty period ends, prepayments will likely speed up. At about the same time, the full structural lock out ends as well — assuming the stepdown tests are met. Hence, the subordinate class experiences an accelerated rate of de-levering because of the partial lock out for years six to ten.

Prepayment Speeds

The prepayment-penalty has dramatically curbed refinancings.

The efficacy of the penalty in curbing refinancing can be measured by comparing observed prepayments speeds on pools of prepay-penalty mortgages versus speeds on ordinary pools with the same WAC and seasoning. As a starting point, we present ratios of penalty to no-penalty speeds on agency pools in Figure 21. The comparison is fruitful for the following reasons:

- Although the *absolute* amount of the penalty varies with loan size, in *relative* terms the penalty amount is the same for conforming balance and jumbo balance borrowers. For example, both borrowers pay a penalty of approximately 2.8 points for refinancing a five-year penalty mortgage with a loan rate of 7%. Furthermore, prepayment data suggest that most borrowers base their refinancing decisions on **relative savings**.[17] Thus, it seems plausible that the relationship between prepayment speeds on penalty and no-penalty loans witnessed in this sector will carry over to the jumbo sector.
- The large number of agency penalty pools outstanding (approximately $10 billion) and the relative homogeneity of agency pools allow us to aggregate data and to compare the ratios as a function of WAC and seasoning.

For example, Figure 21 shows that 1997 vintage 7% penalty-pools have prepaid at 37% of the equivalent generic pool over the past one year. In general, the ratios provide a clear demonstration of the call protection offered by prepay-penalty pools in the high-refinance environment of the past year. As we would expect, in recent months the ratios have moved closer to 1.0 as refinancings have started to ebb, thus increasing the importance of housing turnover-related prepayments.

[17] For further details, see "Revisiting the Low Loan Balance Pool Story," *Bond Market Roundup: Strategy*, Salomon Smith Barney, April 30, 1999.

Figure 21. Fannie Mae 30-Year Prepay-Penalty Vintages: Prepayment Speeds, Apr 99

					Amt	Prepayment Speeds (% CPR)			Ratio to Fannie Mae Speeds		
Coupon	Orig. Year	WAC	WAM	Age	Out. (Mils)	1-Mo.	3-Mo.	1-Yr.	1-Mo.	3-Mo.	1-Yr.
6.0%	1999	6.67	29-08	2	$401	0.6	—	—	0.40	—	—
	1998	6.73	29-03	7	1,978	3.4	2.4	1.3	0.94	0.83	0.57
6.5%	1999	6.95	29-08	3	$449	2.0	1.3	—	0.69	0.54	—
	1998	7.11	28-10	11	2,399	6.1	4.3	3.1	0.85	0.58	0.50
	1997	7.30	28-00	19	424	8.7	6.2	4.5	0.78	0.50	0.42
7.0%	1998	7.49	28-09	11	$274	10.9	8.0	5.4	0.76	0.48	0.34
	1997	7.64	27-08	22	847	12.5	11.1	8.4	0.63	0.47	0.37
7.5%	1997	8.00	27-06	23	$504	22.2	20.0	17.3	0.70	0.55	0.49
	1996	8.07	26-09	31	279	16.7	17.2	17.2	0.47	0.42	0.42

Source: Salomon Smith Barney.

Although the prepayment history available on jumbo penalty transactions is sparse, the data in Figure 22 provide substantial confirmation of the call protection these transactions offer. For example, prepayment speeds on the PNCMS transaction, which is backed entirely by three-year penalty mortgages, are less than 50% of the prepay speeds on NASCOR 1997-8 over the past year. Note also that the WACs on penalty transactions are about 20bp-25bp less than those of jumbo transactions issued at the same time because of the rate concession offered to penalty borrowers.

Figure 22. Selected Jumbo Transactions: Prepayment Speeds, Apr 99

	Current			Historical Speeds (% CPR)				
Deal	WAC	WAM	WALA	1-Mo.	3-Mo.	6-Mo.	1-Yr.	Life
Prepay-Penalty Transactions								
PNCMS 1997-4	7.80%	286	24	32.2	27.4	23.6	18.9	12.3
FNT 1998-3	7.26	347	10	1.2	1.1	1.9	—	—
HMSI 1998-2	7.26	350	6	0.1	0.5	—	—	0.6
FNT 1999-1	6.98	331	5	1.0	—	—	—	2.0
HMSI 1998-3	7.16	352	4	0.1	0.6	—	—	0.6
Comparable No-Penalty Transactions								
NASCOR 1997-8	8.05%	328	25	46.0	49.3	45.8	40.2	30.5
RFMSI 1998-S15	7.42	347	10	24.1	20.9	20.0	—	16.2
GECMS 1998-25	7.18	352	6	12.2	15.1	—	—	14.0

Sources: Bloomberg and Salomon Smith Barney.

Prepayment Modeling

A Jumbo Prepay-Penalty model is available on Yield Book™.

The Salomon Smith Barney Jumbo Prepay-Penalty model is conceptually very similar to our agency prepay-penalty model. We have discussed the details in a previous article,[18] and we just review the key features of the model here. The Jumbo Prepay-Penalty model begins with the same set of parameters as the Jumbo model, and then makes the following assumptions:

[18] See *Bond Market Roundup: Strategy*, Salomon Smith Barney, January 16, 1998.

- Because the prepay-penalty increases the transaction costs associated with refinancing, prepay-penalty borrowers have less incentive to refinance than ordinary jumbo borrowers. Thus, our model assumes that these borrowers effectively face a higher mortgage rate for refinancing their mortgages during the penalty period. The magnitude of this effective refinancing rate varies as a function of the **remaining penalty period** (borrowers become increasingly reluctant to refinance as penalty expiration approaches) and of the **media effect** (borrowers are willing to pay the penalty to lock in a historically attractive mortgage rate).

- The model assumes that **pent-up demand** for refinancing opportunities exists when the penalty expires, leading to a significant spike in prepayment speeds at the end of the penalty period. We also assume that six months to one year after the expiration of the penalty, speeds on penalty and no-penalty transactions converge.

- The model assumes that turnover rates are the same for penalty and no-penalty borrowers because there is no penalty for selling the house.

Given the paucity of prepayment data, and the lack of information about the underlying borrower base behind this product, our choices for the various parameters in our prepayment model are conservative. Despite these restrictive assumptions, our valuations (which are supported by historical prepayment speeds) show that these transactions offer substantial value over plain jumbo collateral. The next section quantifies the advantages offered by prepay-penalty jumbo transactions.