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Advanta HEL Prepayment Model on Yield Book™: Update of Existing Issuer-Specific HEL Models

Salomon Smith Barney will release an Advanta fixed-rate home equity loan (HEL) prepayment model on Yield Book™ this week. The model is a member of the family of issuer-specific HEL models and, therefore, fits within the framework of all Salomon Smith Barney prepayment models. In addition, we will provide an update of our other issuer-specific HEL models, which include **EquiCredit**, **The Money Store**, **UCFC**, and **Conti**. For other issuers, Yield Book™ will continue to default to the (updated) EquiCredit model.

Advanta prepayment projections consist of four separate components: **sale of a home** (turnover), **refinancings** (which include refinancings due to credit improvement, interest rate declines, and cash-out refinancings), **defaults**, and **partial prepayments**. The main differences between the Advanta model and other HEL models lie in the refinancing functions.

As we pointed out last week,²⁰ Advanta borrowers tend to occupy the upper range of the credit spectrum of the six HEL lenders for which we have developed models.²¹ They also carry larger loan balances. These features translate into a modest enhancement of interest-rate sensitivity, both in rate rallies and selloffs. Sources of other, generally small, differences between Advanta prepayments and those of other issuers, such as loan origination channels and additional borrower demographics, are often difficult to pinpoint at the deal level. They are successfully taken into account through direct fitting of historical data.

The model tracks the observed prepayments well.

Fits and Projections

The model tracks well the observed prepayments of Advanta deals originated since 1993. This historical period includes the mortgage rate lows of late 1993 and the subsequent selloff of nearly 250bp, as well as the long rate decline that began in early 1997 and brought the conforming mortgage rates to their multiyear lows in November 1998. Figure 20 shows four examples of fits. The model clearly captures the differences in baseline speeds between different deals, such as 93.1 and 96.1, and accounts for unequal responses of deals to the strong interest-rate incentives in 1998.²²

Projections derived from all issuer-specific HEL models depend on the assumed future values of several key variables. In addition to the **conforming fixed and ARM rates**, these include **the spread between the conforming rate and a specific HEL rate, HEL origination costs, existing home sales, home price appreciation, and the strength of the media effect** (one measure of the competitive conditions). Apart from the prevailing rate environment, the most important of these are the HEL-conforming rate spread and loan origination costs.

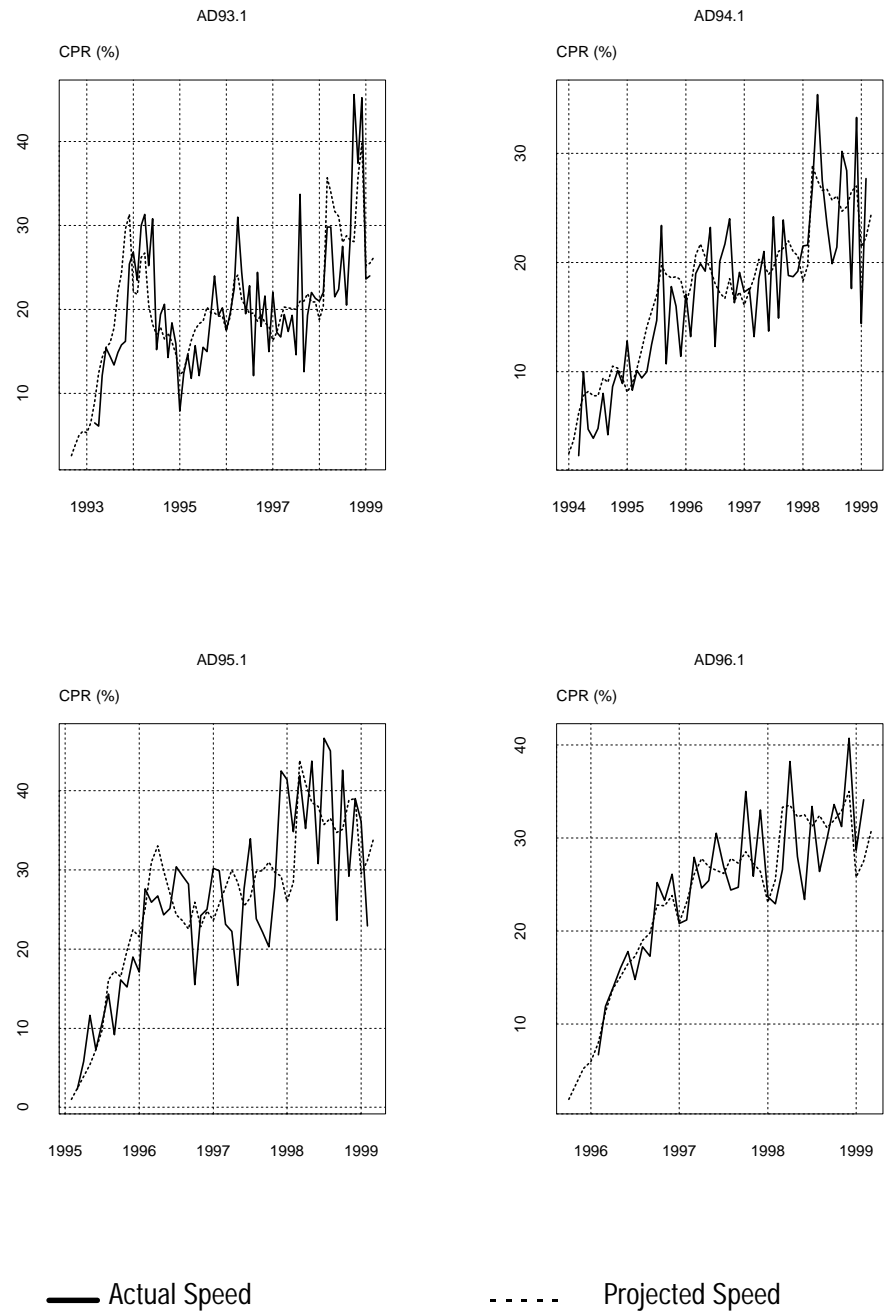
We define the HEL-conforming rate spread as the difference between the conforming mortgage rate and the coupon actually charged to subprime A credit borrowers by a large HEL issuer. In the last two months of 1998, this spread registered an increase of about 60bp compared to its 1996-98 average, suggesting that the liquidity crisis in the ABS capital markets in the second half of 1998 was affecting loan costs. Our projections assume that this spread will revert to historical norms over one year. A similar pattern holds for loan origination costs (fees, points, etc.). Direct fitting of HEL prepayment models suggests that loan origination costs increased by about 15% at the end of 1998. We project that these costs will also revert to their historical norms over one year.

²⁰ See *Bond Market Roundup: Strategy*, Salomon Smith Barney, April 9, 1999.

²¹ One measure of credit is the spread between the deal WAC and the conforming mortgage rate at loan origination.

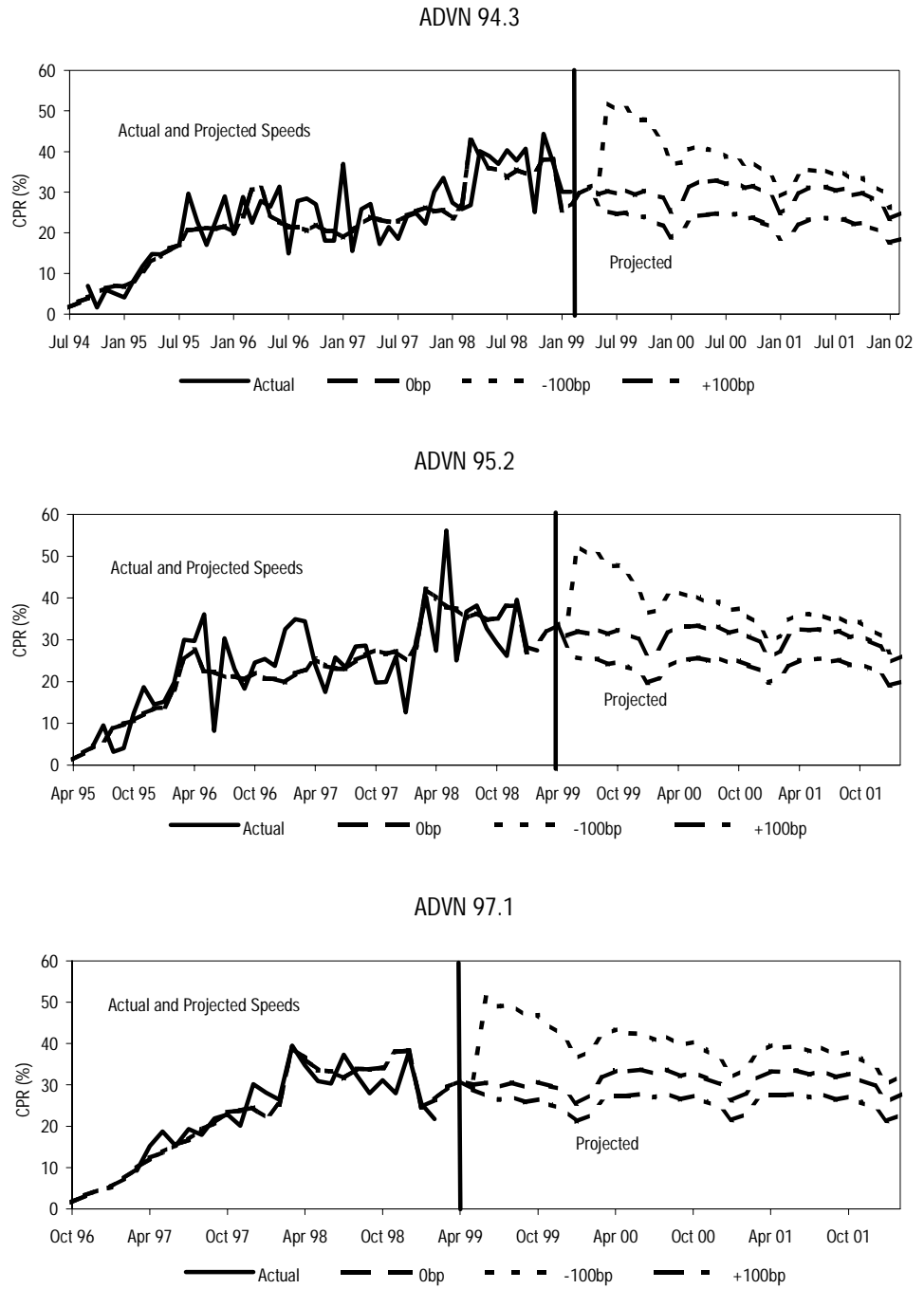
²² The original WACs on the four deals are 10.85%, 9.61%, 11.39%, and 10.81%, respectively.

Figure 20. Four Advanta Deals: Actual and Projected Prepayments



Source: Salomon Smith Barney.

Figure 21. ADVN 94.3, 95.2, 97.1: Scenario Projections



Source: Salomon Smith Barney.

Figure 22. Typical Advanta Deals: Scenario Projections

Issue	Date	WAC	WAM	WALA	Historical Speeds (% CPR)			Projected Speed (% CPR) for an Interest Rate Change of							
					1-Mo	3-Mo	1-Yr	-300bp	-200bp	-100bp	0bp	100bp	200bp	300bp	
ADV99.1	Mar 99	10.39 %	254 Mos.	3 Mos.				LT	44.3	39.4	31.5	27.5	22.2	16.5	12.8
								1-Yr	43.6	36.1	24.3	20.2	15.9	12.2	9.8
ADV98.2 (A9-A15)	Jun 98	9.71	239	11	14.9	17.3		LT	50.6	45.1	37.0	29.8	25.3	18.5	14.4
								1-Yr	55.4	47.7	36.5	28.4	24.3	19.2	16.0
ADV97.2	Jun 97	10.75	237	23	21.3	24.9	32.2	LT	50.1	46.8	39.4	31.0	27.6	23.6	18.4
								1-Yr	55.2	50.9	42.2	30.8	28.8	25.7	22.6
ADV96.2	May 96	10.36	219	38	40.0	31.0	33.5	LT	53.6	48.7	40.2	30.9	27.8	23.4	19.7
								1-Yr	56.8	50.6	41.1	30.7	28.2	24.7	22.1
ADV95.2	Jun 95	11.32	208	47	27.3	31.7	34.5	LT	47.7	46.4	38.3	30.8	24.6	22.2	19.5
								1-Yr	54.7	54.0	44.6	33.0	27.8	26.6	24.5
ADV94.2 (A4)	Jun 94	10.37	119	60	19.5	7.1	30.5	LT	49.5	48.0	38.8	29.0	22.6	20.5	17.0
								1-Yr	55.0	53.7	43.3	29.4	25.0	23.4	20.9

Note: Ten-year Treasury = 5.161%.

Source: Salomon Smith Barney.

Model projections for several Advanta deals are given in Figures 21 and 22. Several key features are apparent from the results:

- The sensitivity of long-term speeds to interest rate shifts is about 4% CPR for a new deal, but can increase substantially for deals that are in-the-money. Particularly sharp increases are registered by 1994 deals, which contain a high proportion of higher-credit borrowers. In addition, the equity built up in homes after five years of price appreciation serves as an additional impetus to refinance when rates decline.
- For seasoned deals the one-year speeds are higher than long-term speeds, in both rate declines and increases. For rate declines this is primarily because of burnout, as shown in Figure 21. For increases, the main effects are the lag between rate shifts and observed prepayments (approximately two months) and the seasoning ramp for credit-driven refinancings, which leads to a slowdown of prepayments when loans become aged by more than five years.
- Because we assume that the HEL-conforming rate spread will decline by about 50bp over the next year, the rate environment is modified by this amount for all pre-1999 deals. The effect is particularly pronounced in rate rallies for deals that are in-the-money and, therefore, at the steeper part of the refinancing curve.

***We have updated other
HEL prepayment models.***

Update of Existing HEL Models

The Salomon Smith Barney HEL prepayment models were updated to reflect the current lending environment in the HEL industry and our assumptions about its future course, as well as the additional data for extreme rate selloffs provided by the study of Advanta prepayments. There were two key modifications:

- Prepayment projections in strong selloffs have been increased to conform more closely to historical patterns.

- The HEL-conforming mortgage rate spread appearing in the model was increased at the end of 1998 to reflect the actual HEL rates. As in the Advanta model, the spread is assumed to revert to historical norms over one year.

Less significant changes include an adjustment of the seasonal factors for turnover and refinancings.

Historical experience of HEL prepayments when mortgage rates back up by more than 200bp is very limited. Of all the deals for the six issuers we studied, in only 23 months was a deal 200bp or more out-of-the-money (1993 and 1994 deals prepaying in 1995) and never when the rate disincentive was 240bp or more. Nevertheless, with the addition of Advanta data we were able to improve our original estimates, leading to an increase in projected speeds in extreme rate selloffs. The effect is most prominent for collateral that is not subject to a refinancing incentive.

Figure 23 shows one-year and long-term prepayment speeds for four recent deals. The difference in speeds between the old and new models when rates drop is due to the larger HEL-conforming rate spread in the updated version. The difference in rate backups is due primarily to the adjustment of model parameters.

The net effect of the changes is a decrease in the option cost.

The net effect of the changes is a decrease in the option cost and, therefore, an increase in the OAS. As Figure 24 shows, the differences can be significant. Of the two changes, the effect of speedup in rate selloffs is far greater. This is not surprising, because the diminished sensitivity to rate movements is compounded by a shortening of the bond. Both features reduce the option cost.

Figure 23. Comparison of New and Old Model Prepayment Projections

Deal	WAC	WAM	WALA		Projected Speeds (% CPR)													
					-300bp		-200bp		-100bp		0bp		+100bp		+200bp		+300bp	
					1-Yr.	LT	1-Yr.	LT	1-Yr.	LT	1-Yr.	LT	1-Yr.	LT	1-Yr.	LT	1-Yr.	LT
EQCC 99.1	10.29%	18-10 Mos	3 Yrs	N	38.1	40.3	31.8	36.7	24.5	31.9	20.4	27.1	18.0	23.7	15.0	19.5	11.7	14.6
				O	39.8	42.8	32.9	37.7	24.1	31.1	21.6	27.6	18.5	23.1	11.2	12.6	8.1	8.8
TMS 98.C	10.60	23-0	8	N	45.1	40.9	38.9	37.0	31.4	31.5	23.7	24.9	20.2	20.9	16.4	16.2	14.2	13.5
				O	48.0	45.6	41.2	39.9	33.1	32.9	25.0	25.6	20.7	20.4	16.4	15.3	13.4	12.0
CONTI 99.1	10.31	22-06	2	N	35.8	38.1	29.7	34.3	21.9	29.8	19.6	25.7	14.7	19.8	12.3	16.2	9.9	12.8
				O	40.0	42.6	32.9	37.2	23.6	30.7	21.4	27.3	16.6	20.8	9.6	11.4	7.3	8.8
UCFC 98.D	10.69	22-08	4	N	38.4	38.9	31.4	34.7	23.4	30.2	19.6	24.7	17.0	21.7	14.0	17.3	12.0	14.7
				O	38.2	40.0	31.7	34.9	23.6	29.2	20.9	25.4	17.6	21.1	13.6	16.0	10.3	11.8

N New prepayment model. O Old prepayment model.

Note: Ten-year Treasury = 5.161%.

Source: Salomon Smith Barney.

Figure 24. Securities Valuation Under the New and Old Models

EQCC 99.1	Security	WAL	Price	OAS			Option Cost			Eff. Dur.			Eff. Convexity		
				Old	New	Diff.	Old	New	Diff.	Old	New	Diff.	Old	New	Diff.
	A2F	1.9 Yrs	99-30	47 bp	64 bp	17 bp	32 bp	15 bp	-17 bp	2.85	2.18	-0.67	-1.63	-0.93	0.70
	A3F	2.9	100-1	32	55	23	56	33	-23	4.16	3.39	-0.77	-1.98	-1.41	0.57
	A4F	4.9	99-19	51	65	14	68	53	-15	5.83	5.15	-0.68	-2.19	-1.67	0.52
	A6F (NAS)	6.2	99-27+	83	88	5	34	27	-7	4.94	4.74	-0.20	-0.41	-0.35	0.06

Note: OAS computed to the on-the-run Treasury curve of April 15, 1999. All securities priced to call.

Source: Salomon Smith Barney.

Figure 25. Percentage of ABS Floating-Rate and Fixed-Rate Issuance, 1998–99YTD

	1998	1999
Floating Rate	40.3%	29.9%
Fixed Rate	59.7	70.1

Source: Salomon Smith Barney.

Figure 26. Year-to-Date ABS Issuance by Sector, 1998–99 (Dollars in Millions)

	1998 (YTD)	Pct.	1999 (YTD)	Pct.
Auto Loans	\$10,170.7	20.1 %	\$14,503.0	26.1 %
Credit Cards	9,084.5	18.0	10,447.7	18.8
Home Equity Loans	18,959.5	37.5	13,224.4	23.8
Manufactured Housing	3,375.1	6.7	3,358.2	6.0
Student Loans	4,638.9	9.2	1,872.6	3.4
Other	4,287.9	8.5	12,225.7	22.0
Total	\$50,516.6	100.0 %	\$55,631.6	100.0 %

Source: MCM "Corporatewatch."

Figure 27. Comparison of Quoted Spreads and Static Spreads

	Avg. Life (Yrs)	Quoted Spread (bp/Curve)	Static Spread ^a (bp)	Difference (bp)
Three-Year Bullet	3.00Yrs	54bp	53 bp	1 bp
Five-Year Bullet	5.00	70	61	9
Wide Window Auto ^b	1.81	65	60	5
Short Auto ^c	1.06	L+10	48	NA
Wide Window HEL ^d	3.63	120	110	10
Short HEL ^e	1.16	L+30	69	NA

^a Static spread of bullets incorporates the richness or cheapness of the on-the-run Treasury benchmarks. ^b Assumes collateral original WAM of 60 months and remaining WAM of 54 months, 9% coupon, 1.3% ABS prepayment speed. ^c Assumes collateral original WAM of 60 months and remaining WAM of 30 months, 9% coupon, 1.3% ABS prepayment speed. ^d Assumes collateral remaining WAM of 174 months, 11% coupon, 20% CPR prepayment speed. ^e Assumes collateral remaining WAM of 120 months, 11% coupon, 20% CPR prepayment speed, security maturity in 30 months. CPR Constant prepayment rate. HEL Home equity loan-backed securities. NA Not available. WAM Weighted average maturity.

Source: Salomon Smith Barney.

Figure 28. Fixed-Rate ABS Secondary-Market Spreads to Benchmark Treasuries

		AAA					A				
		16 Apr 99	Spread Changes Over			1-Year SD of 1-Week	16 Apr 99	Spread Changes Over			1-Year SD of 1-Week
		Spread	1-Week	4-Week	52-Week	Sprd Chgs	Spread	1-Week	4-Week	52-Week	Sprd Chgs
2-Year	Retail Auto	57 bp	-1 bp	5 bp	23 bp	5.3 bp	90 bp	0 bp	0 bp	35 bp	9.1 bp
	Credit Card	52	0	0	20	4.7	78	0	1	26	5.4
	Home Equity	85	0	0	30	8.8	NA				
	Man. Housing	77	0	2	22	8.1	NA				
3-Year	Wholesale Auto	54	0	1	19	4.8	80	0	2	26	5.2
	Credit Card	54	0	1	19	4.7	80	0	2	26	5.2
	Home Equity	89	0	0	24	8.9	NA				
	Man. Housing	80	0	0	17	7.8	NA				
5-Year	Wholesale Auto	70	0	0	30	6.0	96	0	1	29	7.0
	Credit Card	70	0	0	30	6.1	96	0	1	29	7.0
	Home Equity	115	0	0	25	8.9	NA				
	Man. Housing	100	0	0	30	8.6	NA				
7-Year	Wholesale Auto	66	-1	0	19	7.2	92	0	-1	22	8.3
	Credit Card	66	-1	0	19	7.2	92	0	-1	22	8.3
	Home Equity	145	0	-5	35	10.5	NA				
	Man. Housing	125	0	0	35	10.0	NA				
10-Year	Wholesale Auto	92	0	0	33	8.1	118	0	0	40	8.7
	Credit Card	92	0	0	33	8.1	118	0	0	40	8.7
	Home Equity	170	0	15	40	13.0	NA				
	Man. Housing	145	0	0	40	11.3	NA				

NA Not available. SD Standard deviation.

Source: Salomon Smith Barney.

Figure 29. Floating-Rate ABS Secondary-Market Discount Margins (Over One-Month LIBOR)

		AAA					A				
		16 Apr 99	Spread Changes Over			1-Year SD of 1-Week	16 Apr 99	Spread Changes Over			1-Year SD of 1-Week
		Spread	1-Week	4-Week	52-Week	Sprd Chgs	Spread	1-Week	4-Week	52-Week	Sprd Chgs
2-Year	Retail Auto	7 bp	0 bp	0 bp	2 bp	1.9 bp	29 bp	0bp	0 bp	7 bp	2.8 bp
	Credit Card	7	0	0	2	1.8	29	0	0	7	2.8
	Home Equity	25	0	0	12	3.6	100	0	0	65	6.9
3-Year	Wholesale Auto	10	0	1	4	1.9	31	0	0	6	2.7
	Credit Card	10	0	1	4	1.9	31	0	0	6	2.8
	Home Equity	29	0	0	15	3.4	105	0	0	68	7.5
5-Year	Wholesale Auto	14	0	0	4	2.0	39	0	0	9	3.1
	Credit Card	14	0	0	4	2.0	39	0	0	9	3.1
	Home Equity	33	0	0	17	3.6	110	0	0	74	8.2
7-Year	Wholesale Auto	17	0	0	4	2.4	44	0	0	10	3.9
	Credit Card	17	0	0	4	2.4	44	0	0	10	3.9
10-Year	Wholesale Auto	23	0	-1	5	3.9	57	0	0	18	4.2
	Credit Card	23	0	-1	5	3.9	57	0	0	18	4.2

LIBOR London Interbank Offered Rate. SD Standard deviation.

Source: Salomon Smith Barney.

Figure 30. Representative Secondary Trading Levels

Floating-Rate Issue	Avg. Life	DM	Price	Cap
MBNA 97-N A	1.6Yrs	5.0	100-00+	None
FUSAM 95-2 A	2.9	10.0	100-16	None
CCIMT96.5 A	4.4	12.5	100-06+	None
MBNA 96-B A	6.9	16.0	101-07	None
FUSAM 98-6 A	9.3	24.0	100-25	None

Fixed-Rate Issue	Coupon	Avg. Life	Spread	Price	Yield	Static Spread
ONYX 98-1 A	5.95	1.4@1.6 ABSYrs	78bp	100-12+	5.72%	78bp
PRAT 98-3 A3	5.88	1.3@1.5 ABS	55	100-19+	5.46	55
CHAS 98-C A4	5.85	2.5@1.5 ABS	57	100-25	5.57	56
CCIMT 98-1 A	5.75	1.7	51	100-15	5.45	50
FUSAM 97-6 A	6.42	3.2	55	102-20	5.60	54
MBNA 97-1 A	6.55	5.3	71	103-16	5.85	67
CCIMT 98-2 A	6.05	8.7	87	99-24	6.09	77

Source: Salomon Smith Barney.

Figure 31. Recent Issuance

Date	Issuer	Asset Type	Class	Size (Mil.)	Credit Enhancement	WAL (Yrs)	Pricing Speed	Spread							
15 Apr 99	Mellon Home Equity Installment Loan Trust 1999-1	HE	A-1	\$61.60		1	35 AREA vs SYN 12M LIBOR								
			A-2	27.00		3									
			A-3	10.70		5									
			A-4	10.91		7.4									
			A-5	13.40		6.3									
			B	10.75		5.1									
14 Apr 99	Heller Equipment Trust 1999-1	EL	A-1	\$130.00		0.38	-5 vs SYN LIBOR								
			A-2	65.00		1									
			A-3	137.00		2									
			A-4	30.00		3.07									
			B	9.00		1.93									
			C	7.00		1.95									
13 Apr 99	American Express Credit Acct MT 1999-1	CC	A	\$850.00			5.712 71 vs TSY 4.625 2/04								
			B	60.00											
12 Apr 99	Rental Car Finance Corp		A	\$175.00		4.98	105/5YR TSY								
			B	20.00		5.53									
			C	42.50		5.69									
			D	12.50		5.86									
9 Apr 99	AR Home Equity Loan Trust 1999-1	HE		\$229.00		2.5	35/1M LIBOR								
8 Apr 99	The Money Store SBA 1999-1	BA	A	\$94.01	Sr./Mezz./Sub.	4.6	PRIME -220								
			M	2.89		4.6									
8 Apr 99	Harley-Davidson Eaglemark Motorcycle Trust 1999-1	ML	A-1	\$127.00		1	11/Syn LIBOR								
			A-2	56.30		2.76									
			A-3	11.70		3.33									
26 Mar 99	Discover Card Master Trust 1999-3	CC	A	\$500.00		2.94	11/1M LIBOR								
			B	26.30		3.01									
26 Mar 99	T & W Lease 1999-A	ALE	A	\$103.05		1.9	6.15/117								
			B	7.00		2.3									
24 Mar 99	Paragon Auto Receivables Owner Trust 1999-A	AL		\$100.00		1.8	105 1/01								
24 Mar 99	Provident Bank Home Equity Loan Trust 1999-1	HE	A-1	\$200.00	MBIA Surety Bond										
			A-2	123.00					1.09						
			A-3	192.00					4.29						
			24 Mar 99	Residential Funding Mortgage Securities 1999-HS2 (RFMS)					HE	A-3	\$192.00		4.29	29/1M LIBOR	
										A-11	38.00		0.83		
										A-12	20.00		2.03		
A-13	12.00	3.05													
			A-14	15.99		4.81	130/5.875 2/04								
			A-15	5.00		6.82									
			A-16	10.11		5.74									
			NAS/IO	23.07		1.99									
			A-II	129.56		2.73									
23 Mar 99	Banc One Home Equity Loan Trust 1999-1	HE	A-1	\$185.00	100% AMBAC Wrap	1.00	40/12M SYN LIBOR								
			A-2	30.00		3.00									
			A-3	31.00		5.05									
			A-4	28.00		5.70									
23 Mar 99	Indy Mac Spmd 1999-A	HE	A-F	\$142.10	100% FSA Surety Bond	3.15	129/6.50 5/02								
			A-V	51.40		2.65									

^a Transaction issued as EU 150.0 million. ^b Salomon Smith Barney has acted as a manager and/or co-manager of debt issues of this issuer within the past three years.

ABS Asset-backed securities. AD Auto dealer floor plan. AIR Airplane leases. AL Auto loan. ALE Automobile lease. BL Boat loan. CA Controlled amortization. CC Credit card. CCA Cash collateral account. CHC Charge card. CIA Collateral invested amount. CON Consumer loans. DF Dealer floor plan. EL Equipment loan. FEL Farm equipment loan. FF Fed funds. Whole first and second liens. FR Franchise loan. HE Home equity. HIL Home Improvement loan. MB Mortgage-backed. Mezz. Mezzanine. MH Manufactured housing. ML Motorcycle Loans. N/A Not available. O Other. OC Overcollateralized. RIC Retail installment contracts. RV Recreational vehicle. BA Small business association loans. SL Student loan. TL Truck loan. Sub. Subordinate. UBA Utility bill allocations. WAL Weighted average life. WHL Wholesale inventory. WI When issued.

Source: MCM "Corporatwatch."