The ABX AAA—Strength In Structure

For ABX Aaa indexes, the underlying bonds are last-cashflow Aaa subprime. These are materially stronger than the Aa or single-A ABX indices for several reasons. Specifically, the Aaa has the virtue of *(1)* greater thickness, *(2) pro rata* loss allocation, and *(3)* in many cases, *pro rata* principal payment rules. But our "Do it Yourself" ABX analysis has always undervalued the Aaa ABX in three different ways, each of which we address in today's article. [1]

Thickness Is Good

On average, bonds underlying the ABX Aaa indexes have an original balance of 2X those comprising the Aa indexes, 4X the single As, and 8X the BBB bonds. Clearly this, together with their high subordination, makes them far more robust against losses.

Table 1. ABX Indices—Average Bond Thickness & Original Support

	Thickness (Orig Bal % of Deal)					Original Support (% of Deal Orig Bal)				
	ABX 06-1	ABX 06-2	ABX 07-1	ABX 07-2	Average	ABX 06-1	ABX 06-2	ABX 07-1	ABX 07-2	Average
AAA	7.94%	7.96%	8.37%	6.82%	7.77%	22.26	21.50	21.41	23.79	22.24
AA	3.63%	3.51%	3.64%	3.84%	3.66%	14.79	14.44	13.71	15.60	14.63
A	2.10%	1.66%	1.72%	1.72%	1.80%	9.33	9.01	8.44	10.04	9.20
BBB	1.10%	1.14%	0.94%	1.12%	1.08%	5.42	4.90	4.69	6.04	5.26
BBB-	1.02%	0.97%	1.05%	1.26%	1.08%	4.40	3.89	3.63	4.78	4.18

Source: INTEX

Sharing The Wealth - - Of Writedowns

When you examine credit support for subprime Aaa bonds, you'll notice a single subordination number for all the bonds. An ABX Aaa bond must have an expected average life of >5 years from issuance (based on pricing speed at issuance) and must be the last cashflow (longest average life) of all bonds with the same priority. In practice, ABX Aaa is part of a collateral group within the deal which was time-tranched into 4 sequentials: a 1-year bond, a 2-year, a 3-3.5 year, and the ABX-eligible last-cashflow bond. In calculating minimal collateral loss needed to write down any of these bonds (breakeven loss), the last cashflow bond may appear to have half the effective subordination of the 1-year Aaa. However, the relation of the last-cashflow Aaa to other bonds in the Aaa stack is not really analogous to that of, say, AA+, AA flat and AA- bonds.

When losses are sufficiently high as to affect the senior bonds (*i.e.*, when all of the mezz bonds have been completely written down), subsequent writedowns are taken from all of the outstanding senior bonds on a *pro rata* basis. In effect, losses are shared between the last cashflow Aaa and any other outstanding Aaas in its collateral group (most likely the 3-year). Given the very slow prepayment

[1] " Do-It-Yourself ABX Valuation", *Mortgage Strategist* July 31, 2007

speeds we are projecting, breaking a last cashflow bond will typically involve a 3-year, and sometimes even a 2-year, bond.

We should note that many deals do not account for Aaa writedowns as they occur. In the normal course of allocating collateral losses into writedowns at the mezzanine level, the first-loss bond has its unpaid principal balance reduced by the amount of the realized loss (this reduction being the writedown). For many deals, in the scenario where senior bonds are exposed to losses, there are no periodic writedowns recorded for the Aaa bonds. In this instance, the deal becomes under collateralized—outstanding loan balance (reduced by losses) becomes less than the outstanding bond balance. In this case, only at the final loan amortization period does the reckoning of balance reduction take place.

Accounting for senior writedowns becomes important because most ABCDS contracts as well as the ABX documentation refer to "implied writedowns." An implied writedown is the amount of balance reduction per period if losses were allocated on a per period basis to the appropriate bonds. Implied writedowns and implied balances are important to generate CDS for Aaa bonds. INTEX does not currently report or calculate implied writedowns, but they plan to provide this functionality in January 2008.

Returning to writedowns of senior bonds (because of *pro rata* loss sharing) is in general more difficult to write down a substantial portion of a last cashflow Aaa bond than the breakeven number alone would suggest.

Who's On First?

Most senior structures have a *pro rata* contingency built in their payment rules. Under normal situations, the Aaa bonds in the ABX group pay in sequential order. However, in many deals, when losses completely reduce the mezzanine bonds balances to zero, outstanding senior bonds switch from sequential to *pro rata* payment. This further mitigates writedowns suffered by the last-cashflow bond; prepayments and losses are shared *pari passu*. Significantly, if the last-cashflow bond is able to receive principal, its writedown must be <100%.

This is conceptually a "reverse stepdown" because in the normal course of a deal, when performance is good on or after the stepdown period, bonds pay pro-rata, while poor performance changes priority to sequential.

Bonds versus Bond

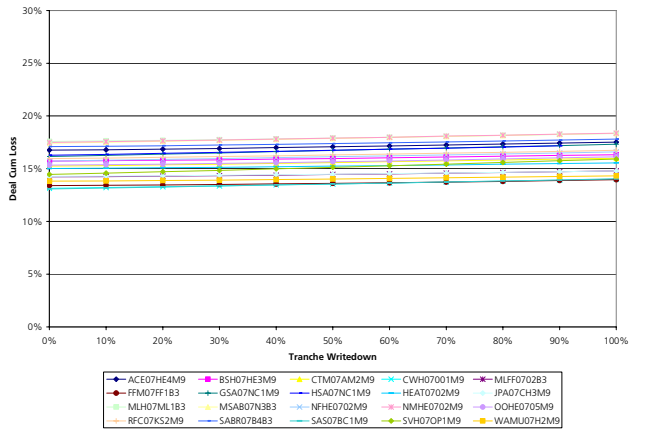
To observe the effect of the 3 phenomena, we examined the relationship of bond writedowns to deal cum loss projections. Figures 1-2 (next page) show for the ABX BBB- and AAA, respectively, the amount of deal cumulative losses needed to reach a given percentage of bond writedown.

Figure 1 displays the loss/writedown relationship for BBB- bonds; it illustrates our intuitive understanding of writedowns as a function of losses. As losses

exceed a bond's 1st dollar loss, the percent of writedown increases until the bond is completely written down. The relationship is relatively flat (reflecting the average 1% thinness of the bonds) and linear.

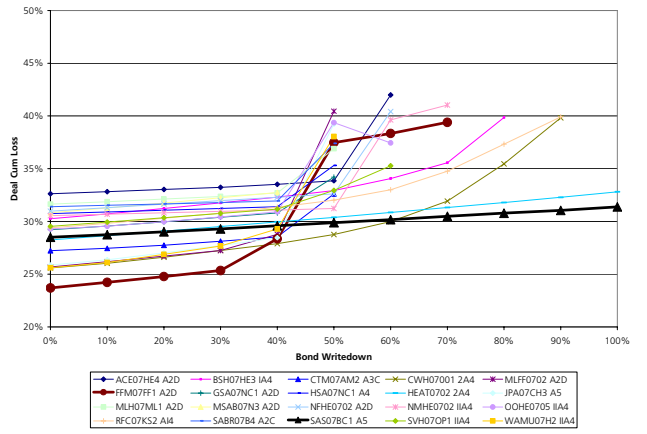
Figure 2 shows the loss/writedown relationship for AAA bonds. We note a few differences relative to Figure 1: *first* - because the bonds are thicker, the loss slope is steeper (*i.e.*, it takes a larger increase in deal losses to break a bond completely; *second* - the response for most bonds shows a notable convexity, reflecting that to write down progressively more of a last cashflow AAA bonds means writing down proportionally more of the 3-year (or other) senior bonds; and *third* - many bonds which experience 1st dollar loss cannot be written down 100% using our basic assumptions.

Figure 1. ABX 07-2 BBB- Writedowns vs. Losses



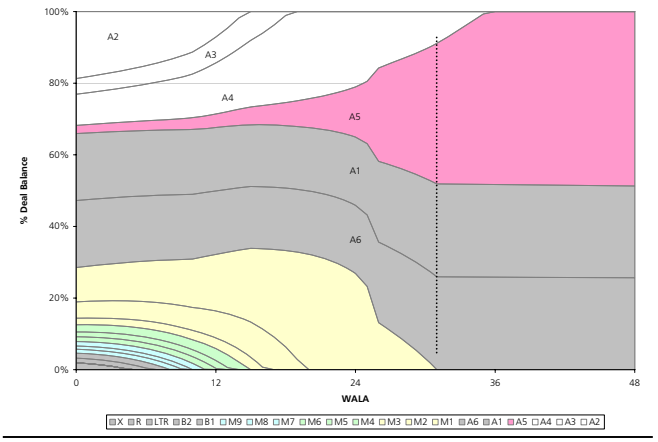
Source: INTEX, UBS

Figure 2. ABX 07-2 AAA Writedowns vs. Losses



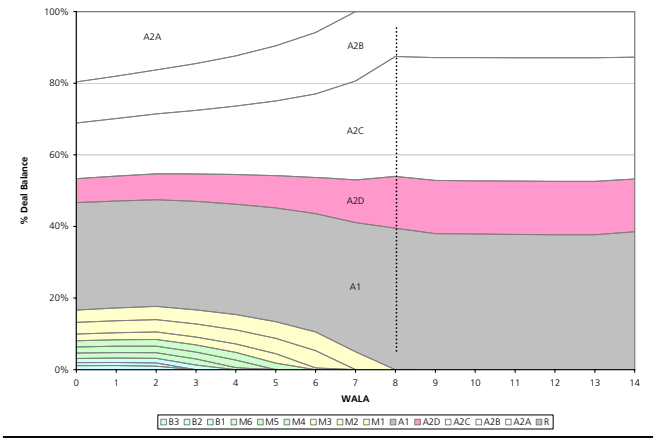
Source: INTEX, UBS

Figure 3. SAS07BC1



Source: INTEX, UBS

Figure 4. FFM07FF1



Source: INTEX, UBS

In Figures 3-4 (above), we highlight 2 bonds which bound the extremes of AAA behavior - - the SAS07BC1 A5 and FFM07FF1 A2D (these are depicted in Figure 2 as the solid black line with triangles and the solid brown line with

circles, respectively). We show a subordination chart of SAS07BC1 A5 in Figure 3, calculated to generate a 50% writedown (corresponds to ~30% cum loss). Note that tranches A1 and A6 are part of independent collateral groups, and do not constitute credit support for the A2/A3/A4/A5 sequential structure. We see that the M1 bond is completely written down at about month 31, while the A4 (3-year) and A5 (last cashflow) senior bonds are still outstanding. In this case, the relationship of A4 and A5 remains sequential, and the A5 is afforded little structural help.

Figure 4 shows the subordination chart for FFM07FF1 A2D, also calculated to generate a 50% writedown (corresponds to a 37% cum loss). As in the previous deal, tranche A1 is backed by an independent collateral group and does not provide credit support to the A2A/A2B/A2C/A2D bonds. In this case, we see that the mezz bonds are written down to zero at month 8, and thereafter, the A2B (2 year), A2C (3 year) and A2D (last cashflow) pay principal *pro rata*. The A2D bond is much stronger, and in fact cannot be written down beyond 70% using our assumptions.

"Do It Yourself" 2008

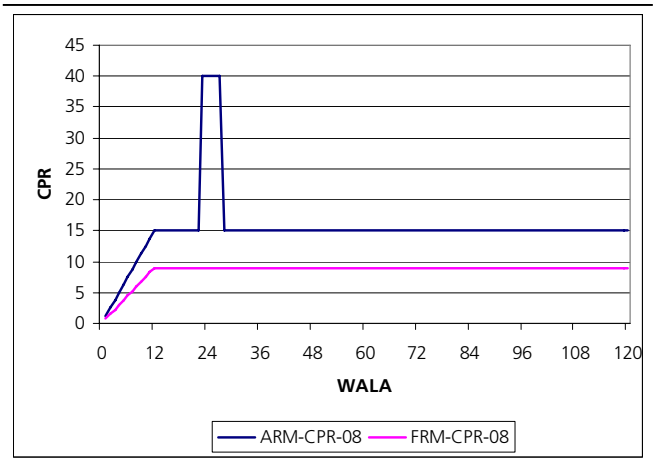
When we rolled out our 2007 "Do It Yourself" model, we noted that it ignored bond thickness, and categorized any bond which suffered a first dollar loss as a complete writedown. Our 2008 model corrects these deficiencies. In the process of analyzing these bonds, we also adjusted speeds and defaults to reflect current market conditions.

Retooling for 2008—Prepay & Default Curves

To reflect the changing subprime environment we unveil a new set of prepay and default curves (Fixed, ARM) in Figure 5 (below/left). A year ago, using PPC (Prospectus Prepayment Curve) prepayment assumptions was reasonable because they allowed us to use the deal's own pricing assumptions to run cashflows. Typically, the PPC would incorporate assumptions for pricing at the reset. As speeds continued to slow below 75% of base pricing assumptions, PPC became less attractive, because to slow base speeds <50% of pricing meant that prepayments at reset would be <25 CPR. Therefore, we begin 2008 with new generic prepayment curves for subprime. They are fairly similar to a generic 2006 PPC curve, scaled down to ~40%, with resets scaled down to ~80%.

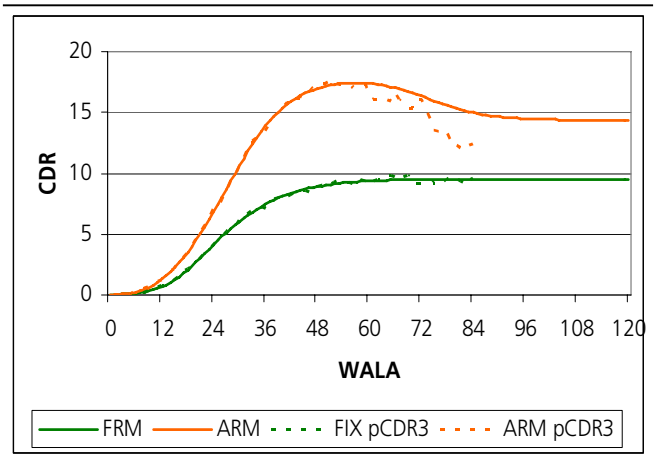
The default curves in Figure 6 (below/right) are smoothed curves derived from the 1998-2002 cohorts upon which we based our default timing curves. Our goal is to capture the shape of defaults rather than magnitude; in all of our analysis the default curves are multiplied either to achieve a 1st dollar loss for a specific tranche, or total deal loss. We further note that in the process of

Figure 5. Subprime Prepayment Curves



Source: UBS

Figure 6. Subprime Default Curves



Source: UBS

breaking AAA bonds, we usually use high multiples and apply a 100% CDR ceiling to the curves if they are >100% CDR. This in effect front-loads defaults.

Writedowns—Half Full or Half Empty?

The big change for the Do-It-Yourself 2008 Model (DIY08) is accommodating partial writedowns (and readers should not be surprised that this will affect the Aaa indexes most).

Recall that our old methodology was to compare projected losses against specific bond breakevens. Where the loss exceeded the breakeven, we declared a 100% writedown. The sum total of all writedowns for a given index became the total writedown eventually payable from protection seller to protection buyer. While this was not unreasonable for BBB- tranches, it did systematically increase the aggregate amount of the writedown. For the thicker Aaa tranches, it produced a large number of "100%" writedowns, which we knew in reality to be only partial writedowns. However, it was difficult to quantify how much of a partial writedown was appropriate. In the past, we've attempted to use the thickness of the tranche, and assume the writedown/loss relationship was linear, but as Figure 2 shows, this is often far from true.

Calculating the Writedowns

Ideally, we could start with projected losses, then iteratively calculate a default multiplier to produce that loss at deal level, then observe writedowns at tranche level. We used a simplified approach to accomplish nearly the same. Instead of calculating a 1st dollar loss for each bond, we solved for writedowns from 0% to 100% in 10% increments for each individual bond (0% writedown corresponds to the 1st dollar loss). In the end, we have for each bond 11 losses corresponding to each writedown point (4,400 losses/writedown pairs for the ABX).

What's the advantage of precalculating writedowns corresponding to cum losses? It enables us to switch loss projections and see writedowns without running cashflows (we discuss another advantage in our Summary).

Putting Pieces Together—And Pricing the ABX

Here we assemble our new shutdown losses described in the January 2, 2008 *Mortgage Strategist* article "Updated Subprime Loss Projections." We then use our partial breaks instead of the breakeven. For example, for GSAMP 2005-HE4 (Table 2, at right), the shutdown model projected 11.77% lifetime cum loss. Based on our partial breakeven points, we match the 11.77% to a 80% writedown. A loss exceeding 11.94% counts as a 100% writedown, and losses <11.02% would correspond to a 0% writedown. When we assemble our partial writedowns into the ABX tables, we can produce valuations in a manner very similar to our old model, except that we can capture the partial writedowns in the AAA indexes. These are shown as Tables 3-6 (next 2 pages) for the 4 indexes. [*NOTE*: In Table 3 and 4, there are several bonds (primarily the more seasoned which have greater subordination) which we cannot break (therefore the blank spaces in those columns!]

Table 2. GSAMP Example

Deal		Cum Loss	WD
GSAMP 2005-HE4	B3	11.94%	100%
GSAMP 2005-HE4	B3	11.85%	90%
GSAMP 2005-HE4	B3	11.75%	80%
GSAMP 2005-HE4	B3	11.66%	70%
GSAMP 2005-HE4	B3	11.57%	60%
GSAMP 2005-HE4	B3	11.47%	50%
GSAMP 2005-HE4	B3	11.38%	40%
GSAMP 2005-HE4	B3	11.29%	30%
GSAMP 2005-HE4	B3	11.20%	20%
GSAMP 2005-HE4	B3	11.11%	10%
GSAMP 2005-HE4	B3	11.02%	0%

Source: INTEX, UBS

Table 3. ABX 06-1 Shutdown Model (partial writedowns)

Name	Proj Cum Loss (% of Original Balance)	WALA	Baa3	BE / Proj	Break?	Baa2	BE / Proj	Break?	A	BE / Proj	Break?	Aa	BE / Proj	Break?	Aaa	BE / Proj	Break?
ACE 2005-HE7	16.71	27	14.16	0.85	100%	15.00	0.90	100%	17.11		0%	20.88		0%			
AMSI 2005-R11	5.95	25	8.96		0%	9.57		0%	12.29		0%	15.88		0%	20.15		0%
ARSI 2005-W2	11.25	28	11.22	1.00	100%	11.22	1.00	0%	14.08		0%	17.51		0%	21.70		0%
BSABS 2005-HE11	16.87	29	13.42	0.80	100%	14.41	0.85	100%	16.79	1.00	0%	21.02		0%			
CWL 2005-BC5	8.64	29	8.71		0%	9.28		0%	12.34		0%	16.20		0%			
FFML 2005-FF12	11.51	26	12.74		0%	13.17		0%	15.92		0%	19.59		0%	24.11		0%
GSAMP 2005-HE4	11.77	31	11.75	1.00	80%	11.94		0%	14.99		0%	18.74		0%			
HEAT 2005-8	14.06	28	11.90	0.85	100%	12.63	0.90	100%	14.54		0%	18.04		0%	22.59		0%
JPMAC 2005-OPT1	6.26	32	7.80	1.00	0%	8.49		0%	11.65		0%						
LBMLT 2005-WL2	10.52	31	9.82	0.93	100%	10.49	1.00	80%	12.62		0%	16.06		0%			
MABS 2005-NC2	15.90	27	12.32	0.77	100%	13.06	0.82	100%	15.89	1.00	100%	18.25		0%	22.35		0%
MLMI 2005-AR1	10.36	31	10.18	0.98	100%	10.32	1.00	20%	12.65		0%	16.34		0%			
MSAC 2005-HE5	11.55	30	10.88	0.94	100%	11.54	1.00	80%	13.63		0%	17.10		0%			
NCHET 2005-4	10.30	29	10.35		0%	11.11		0%	14.19		0%	17.95		0%			
RAMP 2005-EFC4	10.27	28	10.86		0%	11.74		0%	14.94		0%	18.87		0%			
RASC 2005-KS11	12.05	27	12.02	1.00	10%	12.52		0%	15.50		0%	19.04		0%	23.26		0%
SABR 2005-HE1	13.68	29	12.24	0.90	100%	13.10	0.96	100%	15.18		0%	18.99		0%			
SAIL 2005-HE3	11.10	31	8.78	0.79	100%	9.50	0.86	100%	11.04	0.99	10%	14.21		0%			
SASC 2005-WF4	6.18	28	7.79		0%	8.46		0%	10.77		0%	14.10		0%	18.29		0%
SVHE 2005-4	13.23	29	13.12	0.99	100%	13.22	1.00	10%	16.55		0%	20.81		0%			
Average	11.49	29	10.95	0.91	11.9	11.54	0.93	7.9	14.13	1.00	1.1	17.87		0.0	21.78		0.0
			Orig Loss Timing		66.0	*Orig Loss Timing*		69.0	*Orig Loss Timing*		78.0	*Orig Loss Timing*			*Orig Loss Timing*		
			Current Age		29.2	*Current Age*		29.0	*Current Age*		27.4	*Current Age*			*Current Age*		
			Time To Loss		36.8	*Time To Loss*		40.0	*Time To Loss*		50.6	*Time To Loss*			*Time To Loss*		
			# Bonds WD		12	*# Bonds WD*		8	*# Bonds WD*		1	*# Bonds WD*			*# Bonds WD*		
			Implied ABX Price		56.5	*Implied ABX Price*		71.3	*Implied ABX Price*		97.6	*Implied ABX Price*		101.2	*Implied ABX Price*		100.7

Source: INTEX, UBS

Table 4. ABX 06-2 Shutdown Model (partial writedowns)

Name	Proj Cum Loss (% of Original Balance)	WALA	Baa3	BE / Proj	Break?	Baa2	BE / Proj	Break?	A	BE / Proj	Break?	Aa	BE / Proj	Break?	Aaa	BE / Proj	Break?
ACE 2006-NC1	12.98	27	12.36	0.95	100%	12.91	0.99	60%	15.44		0%	18.92		0%	23.31		0%
ARSI 2006-W1	15.34	25	12.83	0.84	100%	13.85	0.90	100%	16.08		0%	19.73		0%	24.47		0%
BSABS 2006-HE3	15.53	24	13.44	0.87	100%	14.47	0.93	100%	16.72		0%	20.67		0%	26.33		0%
CARR 2006-NC1	11.04	25	13.41		0%	14.05		0%	16.89		0%	20.48		0%	24.95		0%
CWL 2006-8	17.40	19	13.37	0.77	100%	14.29	0.82	100%	17.33	1.00	90%	19.84		0%	24.12		0%
FFML 2006-FF4	13.79	23	12.89	0.93	100%	13.69	0.99	80%	15.93		0%	19.38		0%	23.75		0%
GSAMP 2006-HE3	18.06	23	15.95	0.88	100%	16.91	0.94	100%	19.02		0%	22.67		0%	27.29		0%
HEAT 2006-4	13.02	24	12.04	0.92	100%	12.81	0.98	100%	14.79		0%	18.15		0%	22.45		0%
JPMAC 2006-FRE1	18.01	25	14.35	0.80	100%	15.40	0.86	100%	17.95	1.00	30%	21.44		0%			
LBMLT 2006-1	20.62	24	13.08	0.63	100%	13.88	0.67	100%	17.17	0.83	100%	20.46	0.99	40%	23.91		0%
MABS 2006-NC1	14.58	25	12.42	0.85	100%	13.38	0.92	100%	15.44		0%	18.80		0%	23.01		0%
MLMI 2006-HE1	15.33	26	15.16	0.99	100%	15.26	1.00	10%	18.70		0%	22.75		0%	27.56		0%
MSAC 2006-HE2	17.84	24	15.23	0.85	100%	16.04	0.90	100%	17.86		0%	20.95		0%	24.81		0%
MSAC 2006-WMC2	26.78	20	15.96	0.60	100%	16.62	0.62	100%	19.29	0.72	100%	22.98	0.86	100%	26.44	0.99	30%
RAMP 2006-NC2	14.07	24	12.94	0.92	100%	13.69	0.97	100%	15.62		0%	19.05		0%	23.12		0%
RASC 2006-KS3	14.22	23	13.69	0.96	100%	14.20	1.00	60%	16.70		0%	20.32		0%	24.97		0%
SABR 2006-OP1	7.73	29	8.16		0%	8.64		0%	10.79		0%	13.92		0%	18.16		0%
SAIL 2006-4	21.27	21	11.95	0.56	100%	12.57	0.59	100%	15.40	0.72	100%	20.99	0.99	80%	21.80		0%
SASC 2006-WF2	9.60	21	12.21		0%	13.32		0%	15.69		0%	18.94		0%	24.19		0%
SVHE 2006-OPT5	16.99	20	13.23	0.78	100%	14.14	0.83	100%	16.97	1.00	70%	19.94		0%	24.30		0%
Average	15.71	24	13.23	0.83	17.0	14.01	0.88	15.1	16.49	0.88	4.9	20.02	0.95	2.2	24.15	0.99	0.3
			Orig Loss Timing		61.0	*Orig Loss Timing*		64.0	*Orig Loss Timing*		64.0	*Orig Loss Timing*		70.0	*Orig Loss Timing*		76.0
			Current Age		23.4	*Current Age*		23.1	*Current Age*		21.1	*Current Age*		21.1	*Current Age*		20.0
			Time To Loss		37.6	*Time To Loss*		40.9	*Time To Loss*		42.9	*Time To Loss*		48.9	*Time To Loss*		56.0
			# Bonds WD		17	*# Bonds WD*		15	*# Bonds WD*		5	*# Bonds WD*		2	*# Bonds WD*		0
			Implied ABX Price		34.3	*Implied ABX Price*		40.5	*Implied ABX Price*		80.9	*Implied ABX Price*		91.6	*Implied ABX Price*		99.3

Source: INTEX, UBS

Table 5. ABX 07-1 Shutdown Mod (partial writedowns)

Name	Proj Cum Loss (% of Original Balance)	WALA	Baa3	BE / Proj	Break?	Baa2	BE / Proj	Break?	A	BE / Proj	Break?	Aa	BE / Proj	Break?	Aaa	BE / Proj	Break?
ABFC 2006-OPT2	20.98	16	13.63	0.65	100%	14.47	0.69	100%	17.97	0.86	100%	20.83	0.99	30%	24.84		0%
ACE 2006-NC3	27.22	15	14.54	0.53	100%	15.28	0.56	100%	18.50	0.68	100%	22.56	0.83	100%	27.05	0.99	40%
BSABS 2006-HE10	24.50	14	15.50	0.63	100%	16.17	0.66	100%	19.67	0.80	100%	24.49	1.00	100%	27.77		0%
CARR 2006-NC4	20.04	17	14.99	0.75	100%	15.77	0.79	100%	18.95	0.95	100%	21.55		0%	28.12		0%
CBASS 2006-CB6	13.65	21	14.12		0%	15.11		0%	17.56		0%	20.61		0%	25.19		0%
CMLTI 2006-WFH3	14.14	16	14.05	0.99	90%	14.17		0%	16.84		0%	20.19		0%	25.51		0%
CWL 2006-18	19.38	17	14.25	0.74	100%	14.97	0.77	100%	18.18	0.94	100%	20.50		0%	24.78		0%
FFML 2006-FF13	20.27	17	13.98	0.69	100%	14.74	0.73	100%	17.93	0.88	100%	20.19	1.00	0%	24.40		0%
FHLT 2006-3	30.98	16	14.62	0.47	100%	15.45	0.50	100%	18.30	0.59	100%	23.02	0.74	100%	26.94	0.87	50%
GSAMP 2006-HE5	22.59	18	15.03	0.67	100%	16.01	0.71	100%	19.42	0.86	100%	22.41	0.99	20%	26.73		0%
HEAT 2006-7	25.74	17	14.47	0.56	100%	15.20	0.59	100%	18.28	0.71	100%	22.56	0.88	100%	25.21	0.98	10%
JPMAC 2006-CH2	10.42	18	12.59		0%	13.25		0%	15.93		0%	19.25		0%	23.40		0%
LBMLT 2006-6	31.00	18	14.63	0.47	100%	15.51	0.50	100%	18.76	0.61	100%	23.32	0.75	100%	29.30	0.95	60%
MABS 2006-NC3	25.43	15	16.20	0.64	100%	16.95	0.67	100%	19.91	0.78	100%	25.11	0.99	100%	27.44		0%
MLMI 2006-HE5	23.68	18	16.39	0.69	100%	17.26	0.73	100%	20.30	0.86	100%	23.68	1.00	50%	26.89		0%
MSAC 2006-HE6	28.43	18	16.27	0.57	100%	16.91	0.59	100%	19.72	0.69	100%	24.41	0.86	100%	28.38	1.00	30%
RASC 2006-KS9	25.80	15	15.35	0.59	100%	16.31	0.63	100%	19.82	0.77	100%	24.34	0.94	100%	26.67		0%
SABR 2006-HE2	20.20	19	14.61	0.72	100%	15.26	0.76	100%	18.72	0.93	100%	19.98	0.99	10%	25.70		0%
SASC 2006-BC4	23.80	15	13.83	0.58	100%	14.63	0.61	100%	17.26	0.73	100%	21.86	0.92	100%	24.37		0%
SVHE 2006-EQ1	15.32	17	15.31	1.00	80%	15.56		0%	18.18		0%	21.65		0%	26.25		0%
Average	22.18	17	14.72	0.66	17.7	15.45	0.66	16.0	18.51	0.79	16.0	22.13	0.92	10.1	26.25	0.96	1.9
			Orig Loss Timing		51.0	*Orig Loss Timing*		51.0	*Orig Loss Timing*		58.0	*Orig Loss Timing*		67.0	*Orig Loss Timing*		71.0
			Current Age		16.6	*Current Age*		16.6	*Current Age*		16.6	*Current Age*		16.1	*Current Age*		16.8
			Time To Loss		34.4	*Time To Loss*		34.4	*Time To Loss*		41.4	*Time To Loss*		50.9	*Time To Loss*		54.2
			# Bonds WD		18	*# Bonds WD*		16	*# Bonds WD*		16	*# Bonds WD*		10	*# Bonds WD*		2
			Implied ABX Price		33.7	*Implied ABX Price*		36.6	*Implied ABX Price*		34.7	*Implied ABX Price*		59.7	*Implied ABX Price*		92.8

Source: INTEX, UBS

The numbers of writedowns and valuations make sense overall - - lower-rated indexes have more, and more complete, writedowns; higher-rated tranches have fewer writedowns and more partial writedowns (due largely to the thickness and non-linearity of the writedown/loss relationship). We feel the treatment of the writedowns at the Aaa level is more reasonable; several partial writedowns of varying degrees is more palatable than the same number of 100% writedowns. However, there is no getting away from the fact that the valuations are too high. They are higher than what we had previously published, and much higher than the market. This is not surprising given our changes, and can be explained:

Table 6. ABX 07-2 Shutdown Model (partial writedown)

Name	Proj Cum Loss (% of Original Balance)	WALA	Baa3	BE / Proj	Break?	Baa2	BE / Proj	Break?	A	BE / Proj	Break?	Aa	BE / Proj	Break?	Aaa	BE / Proj	Break?
ACE 2007-HE4	40.54	11	17.52	0.43	100%	18.70	0.46	100%	23.11	0.57	100%	29.40	0.73	100%	33.86	0.84	50%
BSABS 2007-HE3	26.20	11	16.33	0.62	100%	17.09	0.65	100%	20.52	0.78	100%	26.09	1.00	80%	30.26		0%
CMLTI 2007-AMC2	29.17	13	16.00	0.55	100%	17.11	0.59	100%	20.65	0.71	100%	25.10	0.86	100%	28.53	0.98	40%
CWL 2007-1	24.12	11	14.01	0.58	100%	14.71	0.61	100%	18.13	0.75	100%	23.09	0.96	100%	25.59		0%
FFMER 2007-2	20.59	10	14.80	0.72	100%	15.38	0.75	100%	18.24	0.89	100%	20.33	0.99	0%	25.69		0%
FFML 2007-FF1	20.11	12	13.96	0.69	100%	14.58	0.73	100%	17.51	0.87	100%	19.95	0.99	10%	23.69		0%
GSAMP 2007-NC1	29.74	12	17.33	0.58	100%	18.12	0.61	100%	21.33	0.72	100%	26.66	0.90	100%	29.56	0.99	10%
HASC 2007-NC1	23.73	11	17.28	0.73	100%	18.37	0.77	100%	22.43	0.95	100%	25.52		0%	30.74		0%
HEAT 2007-2	24.36	12	15.56	0.64	100%	16.37	0.67	100%	20.18	0.83	100%	24.34	1.00	50%	28.25		0%
JPMAC 2007-CH3	8.93	13	14.27		0%	14.79		0%	18.11		0%	21.66		0%	25.86		0%
MLMI 2007-MLN1	27.23	13	18.34	0.67	100%	19.18	0.70	100%	23.00	0.84	100%	27.00	0.99	30%	31.64		0%
MSAC 2007-NC3	22.50	11	18.36	0.82	100%	19.47	0.87	100%	22.50	1.00	40%	25.96		0%	30.82		0%
NHEL 2007-2	18.81	9	16.60	0.88	100%	17.64	0.94	100%	20.33		0%	24.32		0%	30.98		0%
NHELI 2007-2	29.58	15	18.37	0.62	100%	19.46	0.66	100%	22.93	0.78	100%	27.97	0.95	100%	30.55		0%
OOMLT 2007-5	29.04	9	16.13	0.56	100%	16.89	0.58	100%	20.20	0.70	100%	26.00	0.90	100%	29.29		0%
RASC 2007-KS2	22.42	13	16.74	0.75	100%	17.89	0.80	100%	21.52	0.96	100%	24.05		0%	29.40		0%
SABR 2007-BR4	25.53	11	17.81	0.70	100%	18.80	0.74	100%	22.93	0.90	100%	26.06		0%	31.40		0%
SASC 2007-BC1	17.13	13	14.04	0.82	100%	14.85	0.87	100%	17.13	1.00	40%	20.09		0%	28.50		0%
SVHE 2007-OPT1	20.82	9	15.91	0.76	100%	16.42	0.79	100%	19.99	0.96	100%	22.85		0%	29.53		0%
WMHE 2007-HE2	31.82	10	14.33	0.45	100%	14.88	0.47	100%	18.45	0.58	100%	23.29	0.73	100%	29.28	0.92	40%
Average	24.62	11	16.18	0.66	19.0	17.04	0.70	19.0	20.46	0.82	16.8	24.49	0.91	8.7	29.17	0.93	1.4
			Orig Loss Timing		51.0	*Orig Loss Timing*		53.0	*Orig Loss Timing*		60.0	*Orig Loss Timing*		67.0	*Orig Loss Timing*		68.0
			Current Age		11.4	*Current Age*		11.4	*Current Age*		11.5	*Current Age*		11.6	*Current Age*		11.4
			Time To Loss		39.6	*Time To Loss*		41.6	*Time To Loss*		48.5	*Time To Loss*		55.4	*Time To Loss*		56.6
			# Bonds WD		19	*# Bonds WD*		19	*# Bonds WD*		17	*# Bonds WD*		9	*# Bonds WD*		1
			Implied ABX Price		34.6	*Implied ABX Price*		36.0	*Implied ABX Price*		44.8	*Implied ABX Price*		73.4	*Implied ABX Price*		97.7

Source: INTEX. UBS

1) The new shutdown model produces lower loss numbers than the old model, particularly in the 07 indexes. Fewer bonds will be written down.

2) The new slower prepayment vectors will increase the effective subordination for all bonds because of added excess spread. Again, fewer bonds will be written down.

3) The partial writedown methodology will reduce the aggregate number of whole bonds written down. In 07-2, instead of 4 100% writedowns, we have a 50% writedown, two 40% writedowns and a 10% writedown. This totals 1.4 bonds being written down.

But Time And Chance Happeneth To All . . .

The next step is introducing a stochastic method of generating losses, which we will present within the next few weeks. We think this is the proper way to generate Aaa writedowns, and the only reasonable way to get the 06-1 Aaa under par. Adding volatility corrects a major deficiency we had noted about our simple model. By generating a random distribution of losses, we will certainly be able to create paths which break the Aaas. By using previously-calculated loss to writedown tables, we can calculate ABX values efficiently.

Summary

In DIY 2008 we updated a number of known deficiencies in the DIY model. We've incorporated a new shutdown model which increases projected losses on the 06-1 but doesn't "double count" losses on 07 vintages. We updated our prepayment and default curves. We built in a method of generating partial writedowns for bonds. Unfortunately, each step increased our ABX valuations for the top of the capital structure. However, we are positioned to introduce uncertainty into our model, which we believe will bring down the higher-rated indexes closer to the market, and we will implement this in the coming weeks.