Nomura Fixed Income Research

ABS Credit Migrations

Table of Contents

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This update corrects minor errors and inconsistencies in the original version of the report. None of the conclusions have changed.

I. Introduction

Certain kinds of ABS have been more immune to adverse credit developments than others. In particular, deals backed by certain *asset classes*, have been more resistant to credit disappointments than others. Similarly, deals that carry ratings from certain combinations of *rating agencies* experienced credit disappointments less frequently.

Among the major asset classes, bank credit cards, student loans, and prime auto loans have produced fewer negative credit developments than the home equity and manufactured housing sectors. The "other" asset category has produced a somewhat high frequency of adverse credit events. However, spread differences on newly issued deals seem to provide fair – or sometimes better than fair – compensation for types of deals that have higher credit volatility.

Similarly, along the ratings dimension, performance varied by rating agency, as well as by particular combinations of rating agencies. For deals rated by only one agency, those rated by Fitch fared well. However, the best performance was achieved by deals that carried multiple ratings. Deals that carried ratings from both Moody's and Standard & Poor's had particularly low frequencies of adverse credit events. Spreads on newly issued deals generally reflect these differences as well.

II. Background on the Study

We studied the frequency of adverse credit events affecting U.S. ABS deals issued from 1990 through mid-year 2001. Our sample universe included only ABS in the narrow sense. That is, we excluded the following types of deals: (1) CBOs/CLOs, (2) CMBS, (3) residential MBS backed by prime-quality mortgage loans or so-called "alternative A" mortgage loans. We also excluded deals backed by assets denominated in foreign currencies, even if the related securities were denominated in U.S. dollars. We generally excluded cross border remittance deals and cross border future flow deals, except for the ill-fated Hollywood Funding deals. Our main source for identifying and classifying deals was the database maintained by *Asset Backed Alert*. Overall, our final sample universe consisted of 4406 deals.

Please refer to important disclosures at the end of this report.

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Our study examined only adverse credit developments – not positive ones. Our orientation was toward identifying signals that a portfolio manager could use in order to avoid unpleasant surprises or to identify situations in which to seek incremental return as compensation for credit volatility. The single-tailed focus of our study was consonant with the ordinary view of the credit process as an exercise in trying to stay out of trouble.

We considered adverse credit events of varying degrees of severity. We defined four categories: (1) defaults, (2) near defaults, (3) major downgrades, and (4) minor downgrades.

- We classified a deal as having experienced a "default" if it had any tranche that initially carried an investment grade rating (Baa3/BBB- or better) and that either experienced an actual payment default or was downgraded to default status. We ignored defaults of any tranches that carried speculative-grade ratings at issuance. Appendix A contains the stories behind many of the deals that received default classification for purposes of this study.

- We classified as "near default" any deal in where a tranche that was investment-grade at issuance fell to Caa/CCC or worse, and which did not otherwise qualify for default classification.

- We defined the "major downgrade" category as including deals where a tranche was either (i) downgraded from Aaa or AAA or (ii) downgraded from investment grade (Baa3/BBB- or better) to speculative grade (Ba1/BB+ or lower) and, in either case, did not otherwise qualify for default or near default classification.

- We defined the "minor downgrade" category as including all deals in which any tranche experienced a downgrade that did not qualify as a major downgrade and which did not otherwise qualify for default, near default, or major downgrade classification.

By creating different categories of adverse credit events, we were able to produce results that can be used by market participants with varying degrees of tolerance for such events. For example, a portfolio manager with a high tolerance for risk might care only about defaults. A different portfolio manager – one operating under a restriction that requires him to sell securities whose ratings drop below a certain level – might have much less tolerance and would care about minor downgrades and anything worse. The four categories cover nearly the whole range of adverse credit events. The categories do not capture negative press coverage affecting deals or watchlistings that do not result in downgrades.

We initially measured the frequency of adverse credit events in terms of the number of deals. This has the effect of treating all deals equally, regardless of their size. We then calculated frequencies on a dollar-weighted basis and found the results to be substantially the same. We also calculated frequencies excluding all deals wrapped by bond insurance policies from the monoline bond insurers. This did have significant impact, as discussed below. Lastly, because of the very large number of major downgrades associated with ABS deals from GreenTree/Conseco, we calculated frequencies excluding deals from that issuer.

III. Results

A. Credit Events by Asset Class

Chart 1 below summarizes the frequencies that we calculated for the four categories of adverse credit events for different asset classes. Each bar in the chart shows the "cumulative" frequency of credit events equal to or worse than a specified level of seriousness for a given asset class. Thus each row includes all the rows in front of it. The front row of the chart shows the frequency of "defaults" (as defined above) for each asset class. The frequency shown by each bar in the second row is the combined frequency of defaults and near defaults. The third row shows the combined frequency for

major downgrades, near defaults, and defaults. The back row shows the combined frequency for minor downgrades, major downgrades, near defaults, and defaults.

We have plotted the charts in terms of cumulative frequency because we believe this measure will be most useful to investors. Aversion to adverse credit events naturally can vary among investors. However, any single investor's aversion to such events must rise with increasing seriousness of such events. Accordingly, a hypothetical investor might have a high tolerance for major and minor downgrades but might be highly averse to near defaults. The investor's aversion to defaults would be at least as strong as his aversion to near defaults. Accordingly, that investor could use the second row of Chart 1 to see the cumulative frequency of events equal to or worse than near defaults.

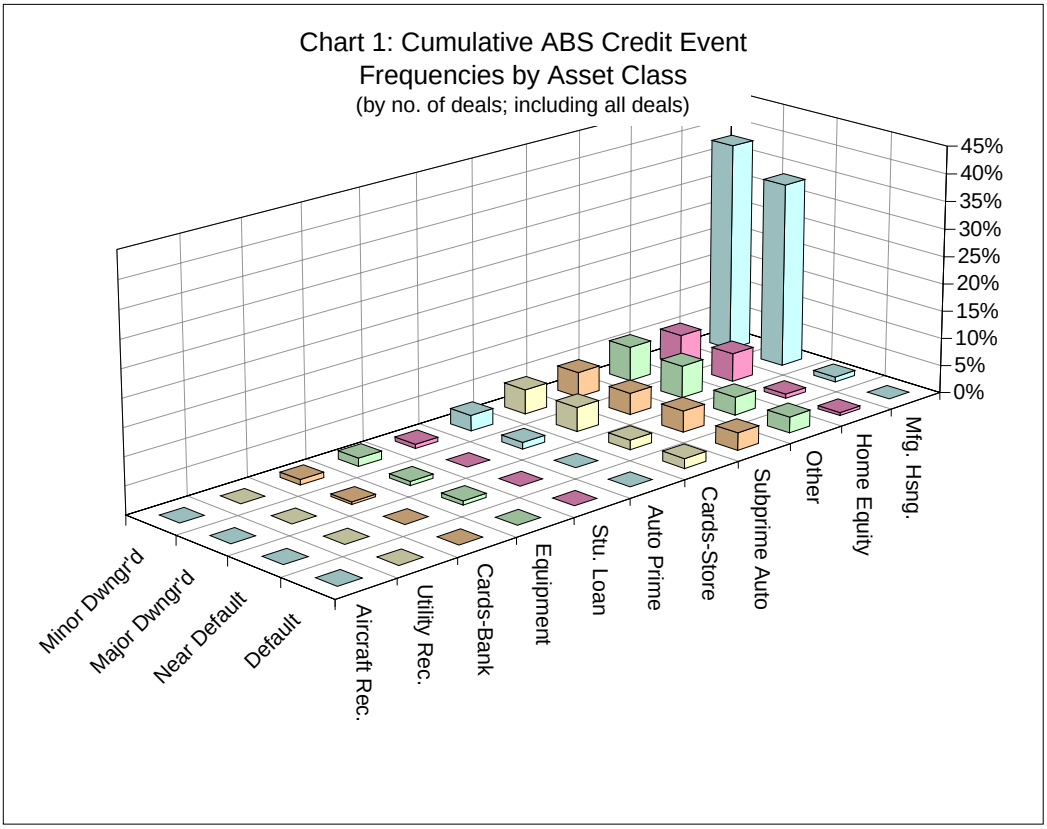


Table 1 below shows the frequency data used to generated Chart 1:

Table 1: Cumulative Event Frequencies by Asset Class
(by no. of deals; including all deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
Aircraft Receivables	0	0	0	0	70
Utility Receivables	0	0	0	0	21
Cards-Bank	0	0	3	6	645
Equipment	0	2	2	4	268
Student Loan	0	0	0	1	132
Auto – Prime	0	0	6	14	497
Cards-Store	2	2	5	5	114
Subprime Auto	9	11	11	13	286
Other	21	24	43	46	735
Home Equity	8	11	73	78	1421
Manufactured Housing	0	2	73	83	217
Total					4406

Note: **Each column includes the values in all the other columns to its left.**

Another way of looking at the results is to exclude deals wrapped by bond insurance policies from the monoline bond insurers.[1] Chart 2 and Table 2 below show the results for that case. For asset classes that have had a material proportion of wrapped deals, the frequency of adverse credit events rises appreciably.

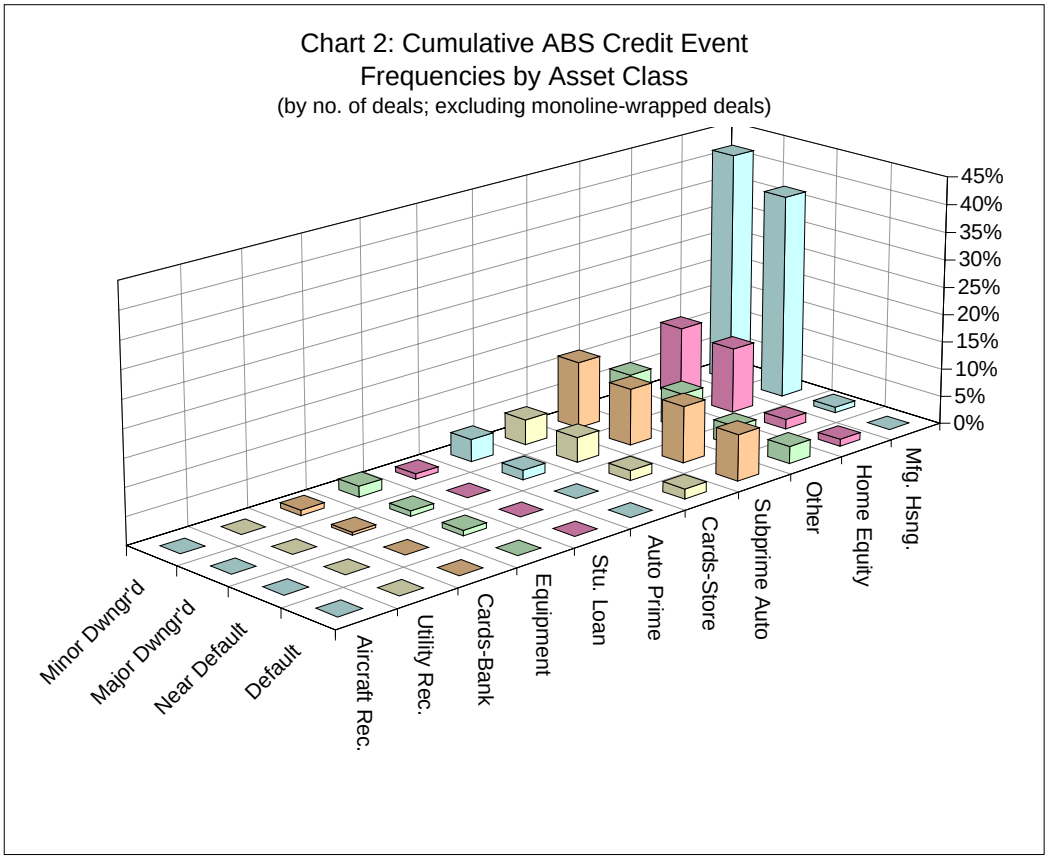


Table 2: Cumulative Event Frequencies by Asset Class
(by no. of deals; excluding monoline-wrapped deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
Aircraft Receivables	0	0	0	0	65
Utility Receivables	0	0	0	0	21
Cards-Bank	0	0	3	6	627
Equipment	0	2	2	4	208
Student Loan	0	0	0	1	104
Auto – Prime	0	0	6	14	350
Cards-Store	2	2	5	5	111
Subprime Auto	9	11	11	13	108
Other	21	24	43	46	679
Home Equity	8	11	73	78	621
Manufactured Housing	0	2	73	83	197
Total					3091
Note: **Each column includes the values in all the other columns to its left.**					

[1] A small proportion of deals have wrapped senior classes and unwrapped subordinate classes. When such a deal has experienced an adverse credit event, we have treated the deal as if it was two separate deals, one wrapped and one unwrapped. The adverse credit event is assigned to the unwrapped portion but not to the wrapped portion of the deal. This adjustment to the data improves the usefulness of the rating agency performance results covered in part III.B.

The results displayed in Charts 1 and 2 and in Tables 1 and 2 indicate that adverse credit events occur with substantially higher frequency in some asset classes than in others. It is fair to draw a few generalizations. Five asset classes showed notably low frequencies of adverse credit events: (1) bank credit cards, (2) prime auto loans, (3) student loans, (4) aircraft receivables, and (5) utility receivables. No deals from these asset classes experienced a default or a near default. During the period covered by the study, the cumulative frequency of downgrades was slight for each of these asset classes. However, following 11 September 2001, the aircraft sector experienced a substantial number of downgrades and watchlistings.

The equipment leasing sector also showed strong performance. That sector experienced only a handful of downgrades over its total sub-population of 268 deals. However, measuring the equipment leasing sector's adverse credit events against the smaller sub-population of deals that did not carry bond insurance produced slightly less impressive frequency results.

The store card sector experienced two defaults: both from the notorious Heilig-Meyers situation.[2] Relative to the total population of just 114 deals, the frequency of adverse credit events for this asset class appears less than impressive. However, the small size of the underlying population makes its difficult to generalize.

The home equity sector is one of the more interesting cases. The sector experienced substantial numbers of defaults, near defaults, and downgrades, but it also represents the largest sub-population among the asset classes, with 1,421 deals. Calculating frequencies against the entire sub-population produces low frequencies for defaults and near defaults but rather less impressive results for both major downgrades and minor downgrades. Calculating frequencies against the sub-population of 621 deals that did not carry bond insurance worsens all the home equity frequencies.

The manufactured housing (MH) sector posted results just as interesting as those of the home equity sector. The sector showed impressively low frequencies for defaults and near defaults but the highest frequency of downgrades. A very large proportion of the downgrades associated with the manufactured housing sector are attributable to downgrades of the subordinate tranches of deals issued by GreenTree/Conseco. That issuer used its own corporate guarantee to boost the ratings of the subordinate tranches of its MH deals. When the company's business fortunes declined, the rating agencies downgraded not only the company's corporate debt but also most of the ABS supported by its corporate guarantee. Chart 3 and Table 3 below present the results when the GreenTree/Conseco deals are excluded (monoline-wrapped deals are included in Chart 3 and Table 3, as they are in Chart 1 and Table 1).

[2] *Downgrades of Heilig-Meyers Credit Card Deals Reveal New Extent of ABS Ratings Volatility*, Nomura Fixed Income Research (1 March 2001).

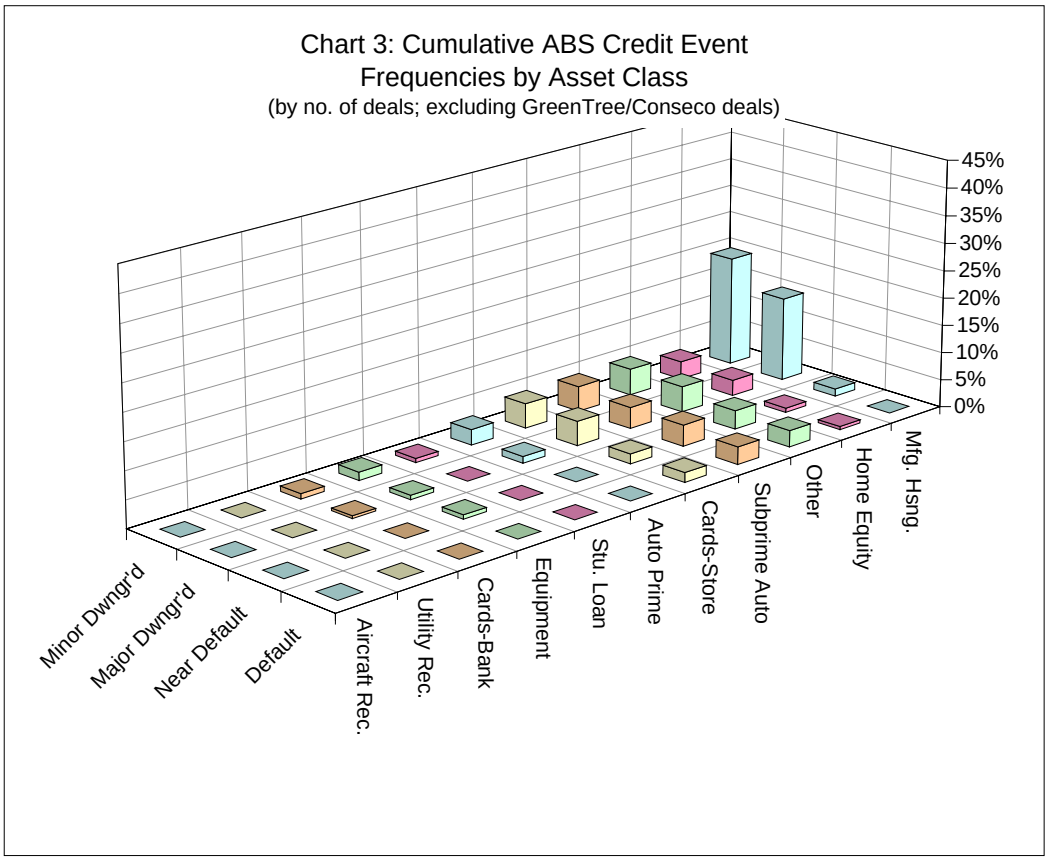


Table 3: Cumulative Event Frequencies by Asset Class
(by no. of deals; excluding GreenTree/Conseco deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
Aircraft Receivables	0	0	0	0	70
Utility Receivables	0	0	0	0	21
Cards-Bank	0	0	3	6	645
Equipment	0	2	2	4	265
Student Loan	0	0	0	1	132
Auto – Prime	0	0	6	14	497
Cards-Store	2	2	5	5	113
Subprime Auto	9	11	11	13	286
Other	21	24	33	34	712
Home Equity	8	11	39	44	1371
Manufactured Housing	0	2	23	30	152
Total					4264
Note: **Each column includes the values in all the other columns to its left.**					

Despite the high frequency of downgrades in the manufactured housing sector, the miscellaneous, catchall asset class – labeled "other" in our charts and tables – arguably had the worst performance in terms of the frequency of adverse credit events. The "other" category had relatively high frequencies for both downgrades and defaults. Excluding wrapped deals moderately increased frequencies. The subprime auto sector also had high frequencies of adverse credit events. Excluding wrapped deals increased frequencies dramatically for that sector.

The relatively high frequency of adverse credit events in the "other" category may be attributable to the fact that a many of sponsors behind those deals are small, thinly capitalized companies that lack the resources or the will to support their deals when they run into trouble. We explore this issue in

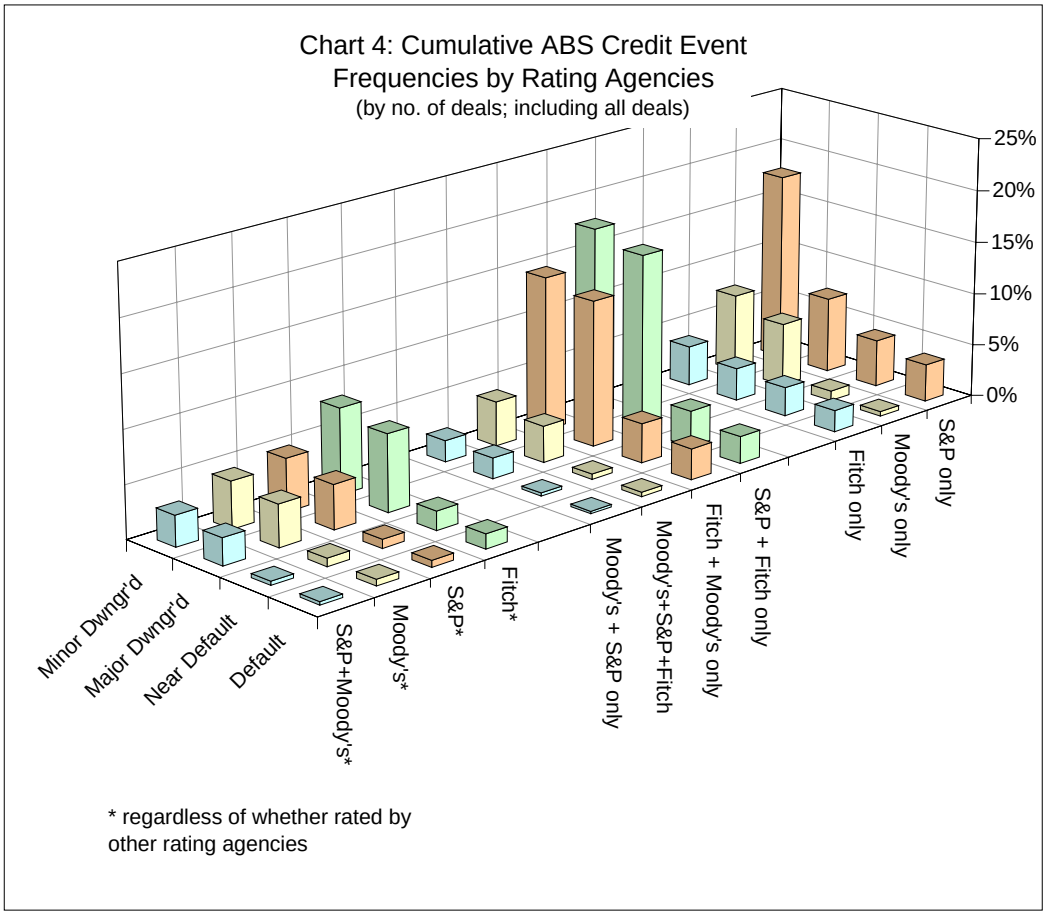
parts IV.C and IV.D, below. Appendix A contains the stories behind many of the defaulted deals in the "other" category.

B. Credit Events by Rating Agency[3]

Chart 4 and Table 4 compare the frequencies of adverse credit events in ABS deals based on which rating agencies supplied ratings for securities issued in the deals. Deals that carried ratings from one of the component organizations that became today's Fitch are collectively shown under that label. Before 1 June 2000, the "Fitch" category included two rating agencies: Fitch Investors Service, and Duff & Phelps. However, on 12 April 2000 Duff & Phelps became a subsidiary of Fitch and within a few months the operations of the two had been integrated.[4]

As in the earlier charts, each bar on Chart 4 shows the "cumulative" frequency of credit events equal to or worse than a specified level of seriousness and each row includes all the rows in front of it. However, unlike the earlier charts, each category along the depth of the chart relates to deals that carried ratings from a particular rating agency or combination of rating agencies.

Interpreting the results shown in the following charts and tables vis-à-vis "rating agency performance" is a perilous undertaking. Nevertheless, we have tried to tackle it. However, readers are cautioned to refer to part IV, which describes some the problems and limitations in doing so.



[3] The rating agencies have published their own "rating transition studies." However, in those studies, each rating agency focuses only on its own ratings and ignores the ratings of the others. Each of the rating agencies provided valuable and helpful comments during the final stages of the study.

[4] The merger of Fitch and IBCA, Ltd in 1997 is not significant for this study because IBCA had not been a supplier of ratings on U.S. ABS deals before the merger.

Table 4: Cumulative Event Frequencies by Rating Agency
(by no. of deals; including all deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
S&P+Moody's*	9	11	75	85	2924
Moody's*	21	27	140	156	3517
S&P*	22	28	142	168	3388
Fitch*†	31	40	161	179	2211
Duff (before 6/00)*	16	23	39	45	888
Fitch‡ (before 6/00)*	22	29	142	156	1309
Fitch§ (after 6/00)*	0	0	0	0	390
Moody's + S&P only	4	5	34	35	1733
Fitch† + Moody's only	11	14	52	55	376
S&P + Fitch† only	9	12	59	63	351
Moody's+S&P+Fitch†	5	6	41	50	1191
Fitch† only	6	8	9	11	293
Duff only (before 6/00)	5	5	5	6	175
Fitch‡ only (bef. 6/00)	1	1	1	1	58
Fitch§ only (after 6/00)	0	0	0	0	14
Moody's only	1	2	13	16	216
S&P only	4	5	8	20	112

* Regardless of whether rated by other rating agencies.
† Includes Duff & Phelps
‡ Does not include Duff & Phelps
§ After merger of Fitch Investors Service and Duff & Phelps
Note: **Each column includes the values in all the other columns to its left.**

1. Deals Rated by Both Moody's and Standard & Poor's Experienced Lower Frequencies of Adverse Credit Events than Deals that Lacked Ratings from Either

Consider the first grouping of bars on the Chart 4. The first category (S&P+Moody's*) relates to deals that carried ratings from both Moody's and Standard & Poor's and which may or may not have carried Fitch ratings. The second category (Moody's*) relates to deals that carried ratings from Moody's and which may or may not have carried ratings from other rating agencies. The third category (S&P*) relates to deals that carried ratings from Standard & Poor's and which may or may not have carried ratings from other rating agencies. The fourth category (Fitch*) relates to deals that carried ratings from Fitch and which may or may not have carried other ratings.

As shown by the relative heights of the bars in the first grouping, each of Moody's and Standard & Poor's appears to have added predictive value to the other. Deals that carried ratings from both Moody's and Standard & Poor's experienced somewhat lower frequencies of adverse credit events than the other categories shown in the first grouping.

2. Deals Rated by Moody's and S&P Only Experienced the Lowest Frequencies of Adverse Credit Events

Consider the second grouping of bars in Chart 4. The first category in that grouping (Moody's + S&P only) relates to deals that carried ratings from both Moody's and Standard & Poor's but ***not*** from Fitch. The second category in that group (Moody's + S&P + Fitch) relates to deals that carried ratings from Fitch in addition to ratings from both Moody's and Standard & Poor's. As shown by the relative heights of the bars, deals that included ratings from Fitch experienced somewhat higher frequencies of adverse credit events. The most likely explanation is that wrapped deals, which have experienced virtually no adverse credit events, generally had only two ratings. We explore this possibility in Chart 5 and Table 5 below. There are two other possible explanations as well. First, issuers and bankers may have sought more than two ratings only for deals where investors took a skeptical view

of credit quality. Second, the presence of more than two ratings was positively correlated with asset classes that have experienced higher frequencies of adverse credit events.

The third and fourth categories shown in the second grouping of bars show the performance of deals rated by either (i) Fitch and Moody's but not Standard & Poor's and (ii) Standard & Poor's and Fitch but not Moody's. These two categories represent small sample sizes and, therefore, do not provide a solid basis from which to draw firm conclusions.

3. Deals Rated by Only One Rating Agency Experienced Slightly Higher Frequencies of Defaults and Near Defaults than Certain Populations of Deals Rated by Two or More Rating Agencies

The third grouping of bars on Chart 4 shows the relative performance of deals that carried ratings from only a single rating agency. Comparing the height of the bars in the third grouping with the height of the bars in the second grouping suggests that it was often an advantage to have more than one rating on a deal. This appears to reinforce the result noted in part III.B.1 above.

4. For Deals Rated by Only One Rating Agency, Fitch-Rated Deals Had the Lowest Frequency of Downgrades and Moody's-Rated Deals Had the Lowest Frequency of Defaults and Near Defaults

Within the third grouping, deals rated by Fitch showed the lowest frequency of downgrades and deals rated by Moody's showed the lowest frequency of defaults and near defaults.

However, it is difficult to interpret the third group of bars as a fair reflection of differences in the reliability and predictive power of ratings from the different rating agencies. As shown on Table 4, the absolute number of deals that carried just a single rating was quite small. Moreover, it is far from clear that the population of single-rated deals is representative of the larger population.

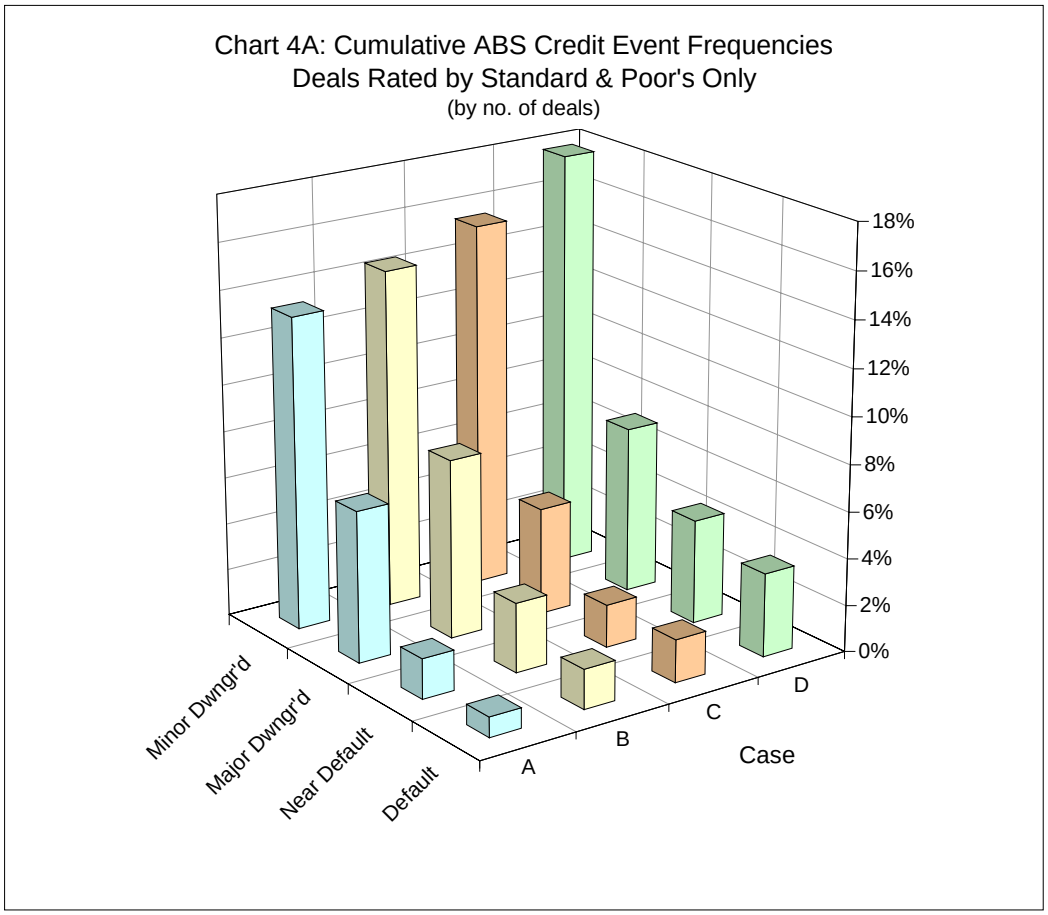
In trying to interpret the third grouping bars, one encounters additional difficulties:

a) Issues Affecting the "S&P only" Category

The "S&P only" category of Chart 4 and Table 4 includes the Hollywood Funding deals. If those deals were excluded, the performance of the "S&P only" category would improve noticeably. We decided to include the Hollywood Funding deals in the study because the securities were denominated in dollars and the underlying future cash flows (naturally) did not have any currency denomination. However, the deals' other connections were to Europe, and a reasonable argument can be made that that the deals are out of place in a study about U.S. ABS. We decided to err on the side of caution and, accordingly, we included the deals in our study population.

In addition, Chart 4 and Table 4 *exclude* deals that the rating agencies rated on a private basis. Including those deals could have had a material affect in the third grouping of bars. For example, according to S&P, there are roughly 123 "privately rated" deals that would fall within the scope of the study, but which are not included because they do not appear in the *Asset-Backed Alert* database. The addition of the privately rated deals has the effect of greatly reducing the frequency of adverse credit events in the sub-population of deals rated only by Standard & Poor's. The additional deals are something of a problem: either *including* them or *excluding* them arguably creates a material bias because their number is substantial in relation to the number of "S&P only" deals in the general data set.

To explore the impact of the Hollywood Funding deals and of Standard & Poor's privately rated deals, Chart 4A and Table 4A compare the frequencies that result from including and excluding those deals in various combinations.



Case A: "S&P only" without Hollywood Funding deals and with Standard & Poor's "privately rated" deals.
Case B: "S&P only" with Hollywood Funding deals and with Standard & Poor's "privately rated deals.
Case C: "S&P only" without Hollywood Funding deals and without Standard & Poor's "privately rated" deals.
Case D: "S&P only" with Hollywood Funding deals and without S&P's "privately rated" deals (same as Chart 4).

Table 4A: Cumulative Event Frequencies – Deals Rated by Standard & Poor's Only
(by no. of deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
Case A	2	4	15	31	232
Case B	4	7	18	34	235
Case C	2	2	5	17	109
Case D	4	5	8	20	112

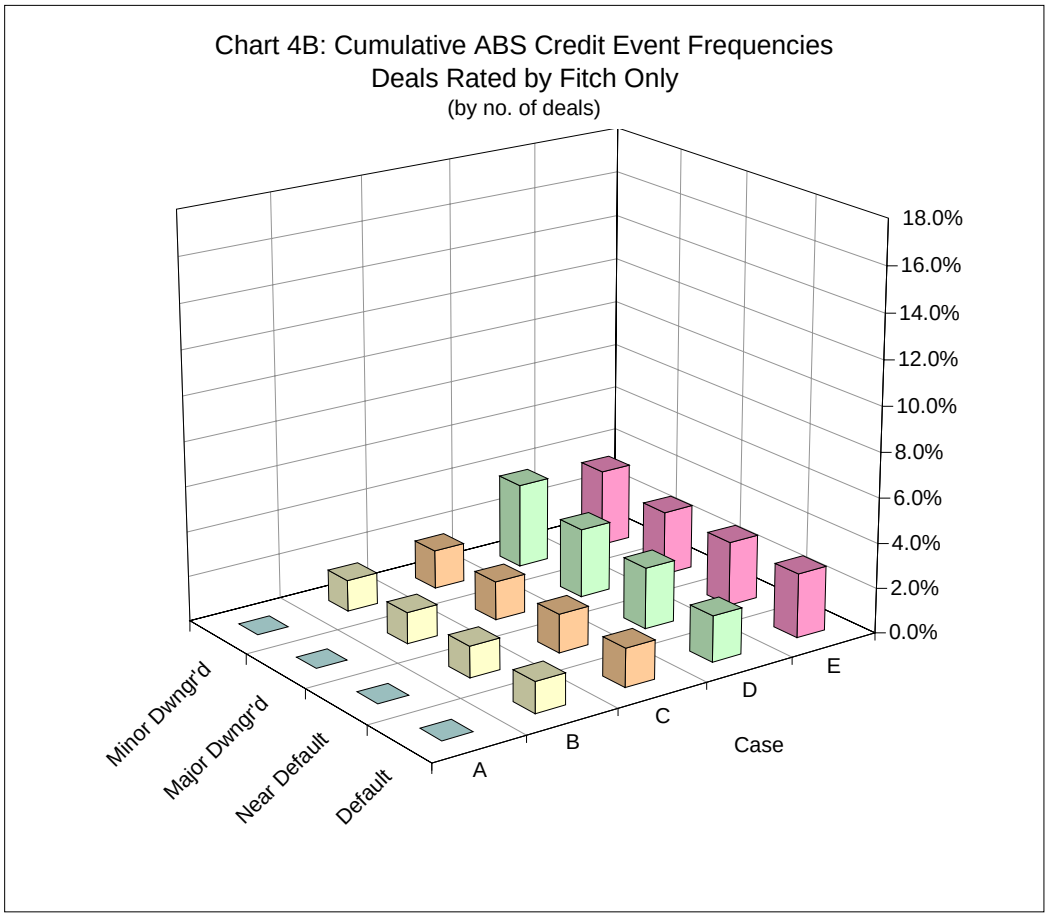
Case A: "S&P only" without Hollywood Funding deals and with Standard & Poor's "privately rated" deals.
Case B: "S&P only" with Hollywood Funding deals and with Standard & Poor's "privately rated deals.
Case C: "S&P only" without Hollywood Funding deals and without Standard & Poor's "privately rated" deals.
Case D: "S&P only" with Hollywood Funding deals and without S&P's "privately rated" deals (same as Table 4).
Note: **Each column includes the values in all the other columns to its left.**

As Chart 4A and Table 4A illustrate, the apparent frequency of adverse credit events in the sub-population of deals rated only by S&P is highly sensitive to the inclusion of the Hollywood Funding deals or the "privately rated" deals. This is yet another reason why firm conclusions should not be drawn from the third grouping of bars in Chart 4.

b) Issues Affecting the "Fitch only" Category

Another difficulty arises in trying to interpret the "Fitch only" category in Chart 4's third grouping of bars. On Chart 4, the "Fitch only" category includes all deals rated by Fitch, Inc. or one of its predecessor companies. Doing so lumps together the performance of the two formerly distinct rating agencies. However, because the post-merger organization is dominated by the pre-merger

management team from Fitch, it is arguably appropriate to consider other views of the data. Accordingly, Chart 4B considers the frequency of adverse credit events within various sub-populations of the "Fitch only" data. As can be seen on Chart 4B, the deals rated only by Duff & Phelps (Case E) experienced higher frequencies of adverse credit events than deals rated by pre-merger Fitch (Case C). If the Duff & Phelps deals are excluded from the frequency calculations, the net result is very impressive for Fitch (*i.e.*, Case B in Chart 4B).



Case A: Fitch only after merger with Duff & Phelps in 6/2000.
Case B: Cases A and C combined.
Case C: Fitch only (*i.e.*, without Duff & Phelps) before 6/2000.
Case D: Fitch including Duff & Phelps covering both before and after 6/00 merger (same as Chart 4).
Case E: Duff & Phelps only before merger with Fitch in 6/2000

Table 4B: Cumulative Event Frequencies – Deals Rated by Fitch Only
(by no. of deals; including all deals)

TYPE		Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
Fitch† only	D	6	8	9	11	293
Duff only (bef. 6/00)	E	5	5	5	6	175
Fitch‡ only (bef. 6/00)	C	1	1	1	1	58
Fitch§ only (after 6/00)	A	0	0	0	0	14
Fitch¶ only (all)	B	1	1	1	1	72

† Includes Duff & Phelps
‡ Does not include Duff & Phelps
§ After merger of Fitch Investors Service and Duff & Phelps
¶ Fitch without Duff before 6/00 plus Fitch after 6/00
Note: **Each column includes the values in all the other columns to its left.**

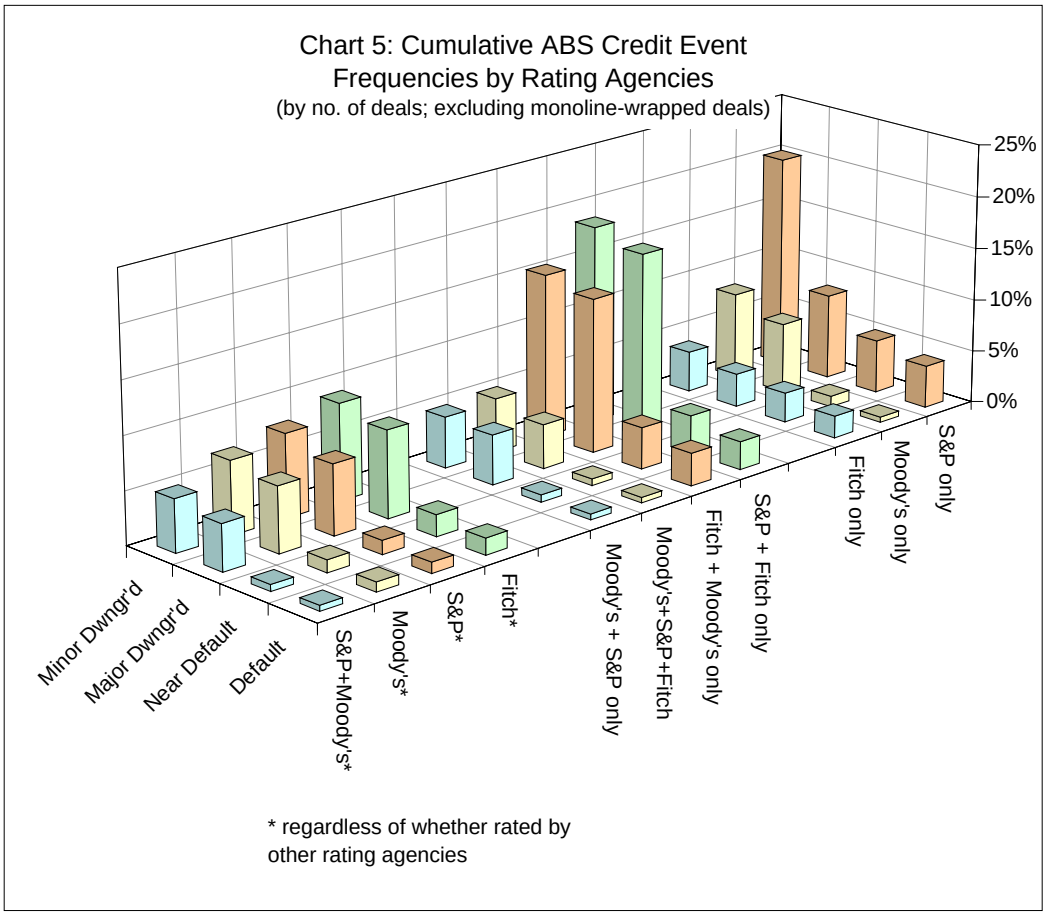
Another difficulty with the "Fitch only" category is that Fitch, like Standard & Poor's, provides private ratings. It is unclear what the effect would be of adding the deals that received private ratings from

Fitch or its predecessors. If there were many such ratings, and few associated adverse credit events, the frequencies would improve. On the other hand, if there were numerous adverse credit events among the private ratings, the frequencies could be worse.[5]

5. Excluding Monoline-Wrapped Deals Essentially Equalizes Frequencies between Deals Rated by Moody's and S&P and Deals Rated by Moody's, S&P and Fitch

Chart 5 and Table 5 below are patterned after Chart 4 and Table 4. However, Chart 5 and Table 5 exclude deals wrapped by bond insurance from the monoline bond insurance companies.

Comparing Chart 5 to Chart 4, the performance advantage of deals that carried only two ratings is *eliminated* when insured deals are removed from the frequency calculations. Equally interesting, the advantage of deals rated by both Moody's and Standard & Poor's over deals that lack ratings from either of them *continues* when insured deals are excluded from the calculation.



[5] See part F of Appendix A, which refers to 18 Autobond Acceptance Corp deals that were initially rated by Duff & Phelps. All those deals were excluded from the study but it seems likely that some of them may have experienced adverse credit events.

Table 5: Cumulative Event Frequencies by Rating Agency
(by no. of deals; excluding monoline-wrapped deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
S&P+Moody's*	9	11	75	85	1709
Moody's*	21	27	140	156	2262
S&P*	22	28	142	168	2146
Fitch*†	31	40	161	179	1964
Duff (before 6/00)*	16	23	39	45	811
Fitch‡ (before 6/00)*	22	29	142	156	1180
Fitch§ (after 6/00)*	0	0	0	0	331
Moody's + S&P only	4	5	34	35	725
Fitch† + Moody's only	11	14	52	55	356
S&P + Fitch† only	9	12	59	63	337
Moody's+S&P+Fitch†	5	6	41	50	984
Fitch† only	6	8	9	11	287
Duff only (before 6/00)	5	5	5	6	171
Fitch‡ only (bef. 6/00)	1	1	1	1	58
Fitch§ only (after 6/00)	0	0	0	0	14
Moody's only	1	2	13	16	196
S&P only	4	5	8	20	99

* Regardless of whether rated by other rating agencies.
† Includes Duff & Phelps
‡ Does not include Duff & Phelps
§ After merger of Fitch Investors Service and Duff & Phelps
Note: **Each column includes the values in all the other columns to its left.**

6. Excluding GreenTree/Conseco Deals Lowers Frequency of Downgrades

Chart 6 and Table 6 below also are patterned after Chart 4 and Table 4. However, Chart 6 and Table 6 exclude deals from GreenTree/Conseco. They include monoline-wrapped deals. As one would expect, Chart 6 shows many of the same general relationships as Chart 4. However, on Chart 6, the frequency of downgrades is substantially lower because GreenTree/Conseco deals account for such a large proportion of all ABS downgrades.

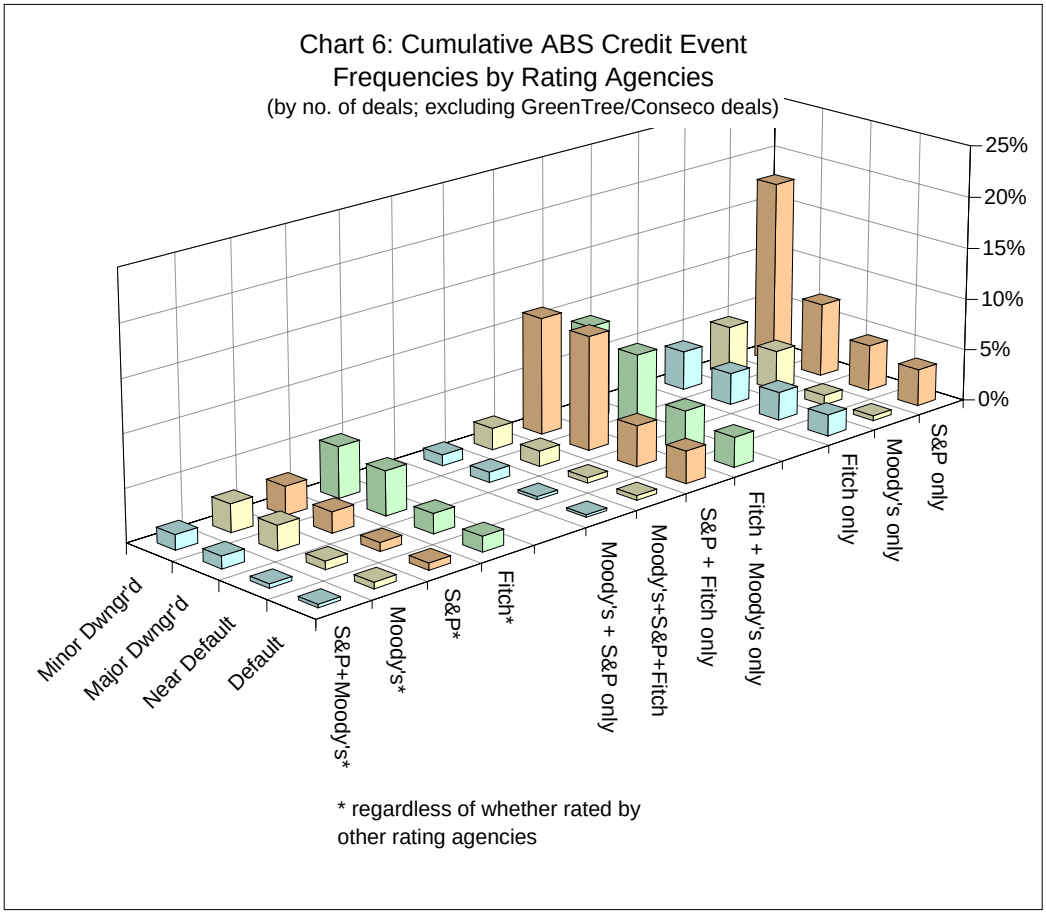


Table 6: Cumulative Event Frequencies by Rating Agency
(by no. of deals; excluding GreenTree/Conseco deals)

TYPE	Defaults	Near Defaults (and worse)	Major Downgrades (and worse)	Minor Downgrades (and worse)	Number of Deals
S&P+Moody's*	9	11	34	42	2855
Moody's*	21	27	81	92	3418
S&P*	22	28	66	90	3276
Fitch*†	31	40	89	103	2105
Duff (before 6/00)*	16	23	36	41	881
Fitch‡ (before 6/00)*	22	29	72	83	1221
Fitch§ (after 6/00)*	0	0	0	0	378
Moody's + S&P only	4	5	17	18	1707
Fitch† + Moody's only	11	14	39	40	355
S&P + Fitch† only	9	12	24	28	309
Moody's+S&P+Fitch†	5	6	17	24	1148
Fitch† only	6	8	9	11	293
Duff only (before 6/00)	5	5	5	6	175
Fitch‡ only (bef. 6/00)	1	1	1	1	58
Fitch§ only (after 6/00)	0	0	0	0	14
Moody's only	1	2	8	10	208
S&P only	4	5	8	20	112

* Regardless of whether rated by other rating agencies.
† Includes Duff & Phelps
‡ Does not include Duff & Phelps
§ After merger of Fitch Investors Service and Duff & Phelps
Note: **Each column includes the values in all the other columns to its left.**

IV. Problems and Limitations of the Study

The study results described above have clear implications, as far as they go. However, the results must be understood against the backdrop of issues that potentially limit their reliability. In statistical terms, the problems essentially boil down to hidden correlations, missing variables, non-stationary processes, sampling bias, small sample size, and counting errors. This section discusses what we believe are the major sources of error in the study.

A. Units of Measurement

Deals are the units of measurement for the study. We have associated adverse credit events with deals. We chose deals as the unit of measurement largely as a matter of convenience. The database of ABS deals maintained by *Asset-Backed Alert* is organized in terms of deals. We examined the impact of weighting the results by the dollar amount of individual deals and we found that it did not significantly change the results.

An alternative way to organize the study would have been in terms of tranches or classes. Rating agency studies are usually framed in terms of tranches, but each rating agency usually addresses only tranches that it has rated. Rating agency databases are organized around tranches because the different tranches of a deal can carry distinct ratings. However, no single rating agency covers all the deals in the sample universe. Moreover, access to the rating agency databases is limited and strictly controlled by the rating agencies. For example, the rating agencies classify certain ratings as "private" and block access to information about those ratings. Also, information is sometimes irretrievable from rating agency databases for other reasons, such as data entry errors and the lack of standardized practices for naming deals.

We cannot say whether the results of the study would have been materially different had we counted adverse credit events by tranches rather than by deals. Nor can we say what the results would have been had we calculated them on a dollar-weighted basis by tranches.

B. Scaling of Defaults

Within the study, all "default" events are counted equally. However, defaults of higher-rated securities are arguably a more serious problem than defaults of lower-rated securities. Only a handful of securities that initially carried triple-A ratings have defaulted. They are listed, together with their initial ratings, in the following table:

Defaults of Triple-A-Rated Deals

Deal Name	Initial Ratings		
	Moody's	S&P	Fitch
Heilig-Meyers 1998-1	Aaa	AAA	AAA
Heilig-Meyers 1998-2	Aaa	AAA	AAA
LTV Steel (trade receivables)		AAA	
Hollywood Funding No. 5		AAA	
Hollywood Funding No. 6		AAA	

From one perspective, the deals listed above are the worst defaults that the ABS market has experienced. It is tempting to draw conclusions just from the fact that Moody's and Fitch rated only two of the deals while S&P rated all six. However, such conclusions would be suspect because they would neglect the remaining body of the data. On the other hand, the unequal distribution of triple-A defaults serves to highlight a weakness in the study.

A more complicated way to have compiled and analyzed the data would have been to track the initial rating of each defaulted security (or the defaulted security with the highest initial rating in the case of a deal with multiple defaulted securities) and then to apply a "scaling factor" to each deal based on those initial ratings. For example, defaults of securities rated Baa2/BBB, A2/A, Aa2/AA, and Aaa/AAA could be scaled with factors of 1, 5, 10, and 20 (respectively) for purposes of comparing rating agency performance. That is, under such a system, a default of an A2/A-rated security would

count as five default events and a default of a Aa2/AA security would count as ten default events. Results tabulated under such a system could be very different than the ones that we have presented here. We did not attempt to use such a system for two reasons. First, we did not think of it until after we already finished coding adverse credit events without scaling factors. Second, we cannot say for sure what the scaling factors ought to be. Should the scaling for a triple-A default be five times or one hundred times the scaling of a triple-B default for purposes of measuring rating agency performance? We do not know the answer.

C. Rescues of Troubled Deals

In theory, securitization separates asset risk from company risk. Sometimes, in practice, it does not. Issuers with substantial resources have often taken actions to rescue their deals that have gotten into trouble. The practice became so common and so widespread in the early days of the ABS market that Moody's published a report in which it was one of the major topics.[6]

While rescues have the effect of reducing the frequency of observed credit problems, their full implications are more complicated. Issuers rescue deals primarily to address poor asset performance. Although poor asset performance is an important cause of adverse credit events, it is hardly the only cause. When fraud by an issuer is the cause of an adverse credit event, the likelihood of a rescue by the issuer would be virtually zero.

Rescues are concentrated in the asset classes dominated by large, well-capitalized issuers, namely credit cards and autos. Rescues in other classes are less common, but not unheard of.[7] One can only wonder whether the impressively low frequency of adverse credit events displayed by the credit card and prime auto asset classes (Charts 1 and 2) would still be present if it were possible to correct for the influence of rescue actions. If we enter an environment where credit card and prime auto issuers are *unable* to rescue troubled deals, it would be reasonable to expect a rise in the frequency of adverse credit events of those assets classes.

D. Linkage of Asset Risk and Company Risk

The performance of securitized assets can be linked to the business fortunes of the issuer in ways other than the rescues described above. Wherever there is such a linkage, the presence or absence of adverse credit events may be more a reflection of the originator than the assets. The asset classes characterized by higher degrees of linkage include trade receivables, dealer floorplan loans, and private label (store) credit cards.[8] Collectively, these asset classes represent only a modest proportion of the sample universe.

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[6] *Bulletproof Structures Dented: Case Studies of Problem ABS Transactions*, Moody's Structured Finance (7 Mar 1997) (Moody's doc. no. SF5225.PDF).

[7] In the home equity sector, RFC, ContiMortgage and Amresco engaged in the practice of purchasing delinquent loans out of their securitized pools. This had the effect of making the performance of their securitized pools seem better than it actually was. Other home equity issuers may have engaged in the practice as well. *Subprime Mortgage Loan Repurchases: Friend or Foe?*, Moody's Structured Finance (18 Dec 1998) (Moody's doc. no. SF7121.PDF).

[8] For example, the performance of trade receivables can be affected by the same factors that determine the success of the company that generates them. If a company manufactures defective products, its customers may stop buying the products. In addition, the customers may refuse to pay their outstanding bills to the company. If the company had financed its trade receivables through a securitization, the securitization could be affected. The company's ability to manufacture defect free products would be a condition to both its success as a business and to the performance of its securitization transaction. *See generally, Company Risk in Securitization Transactions: A Growing Challenge*, Moody's Structured Finance (April 1994) (Moody's doc. no. SF2151.PDF); *Trade Receivables Update: Concentrating on Dilution – Focus on Capital Goods and Consumer Products Receivables*, Moody's Structured Finance (21 Jan 1997) (Moody's doc. no. SF5121.PDF).

E. Equivalence of Rating Scales

The study's classification of deals (*i.e.,* default, near default, major downgrade, and minor downgrade) relied, in part, on rating agency ratings. For purposes of the study we have *assumed* congruence of the rating scales of all the rating agencies. That is, "Aaa" on Moody's scale reflects the same degree of credit risk as "AAA" on Standard & Poor's scale and "AAA" on the Fitch scale, and so on.

With respect to corporate ratings, there is academic support for the presumption of congruence between Moody's and Standard & Poor's rating scales.[9] However the same authorities conclude that congruence does not extend to the rating scales of other rating agencies. Those authorities assessed the congruence of rating scales by considering cases of securities with split ratings. Where there were numerous cases of split ratings and one rating agency's ratings were higher than another's most of the time, the researchers concluded that the rating scales of the two agencies were not congruent. In the structured finance area, there are few instances of split ratings and there have not been academic studies on the question of congruence. Readers are left to form their own conclusions about congruence.

If this assumption of rating scale congruence were materially wrong, it arguably would introduce a distortion of indeterminate magnitude to the study results. Although the magnitude of the potential distortion is impossible to gauge, its direction would be obvious.

F. Instability of Rating Practices

Predictive relevance of the study results implicitly relies on the presumption that rating agency practices and standards remain stable over time. There is conflicting evidence on this score. The rating agencies have stated that the risk content of traditional corporate bond ratings is the touchstone against which structured finance ratings are calibrated; with the goal of achieving the same credit risk in a triple-A-rated structured finance security as in a triple-A-rated corporate security. However, a number of market participants have argued strongly that the rating agencies were too conservative in their early structured finance rating efforts. Those market participants point to the strong performance of structured finance securities during their brief history as evidence that the rating agencies were too conservative. The rating agencies have not been deaf to the strength of those arguments. Accordingly, there is some basis for concluding that rating agency standards for rating structured financings could have drifted over time in response to a perceived excess of caution during the early stages of the market. To the extent that a trend of easier rating standards continues, it suggests that the future would bring higher frequencies of adverse credit events of all types.

G. Biased Sample Period

The study covers the period from 1 January 1990 through 30 June 2001 and includes only deals issued during that period. Except for the short and relatively mild recession of 1991 and start of the current recession earlier this year, the entire sample period was a time of economic expansion. This has the effect of biasing the sample and making it difficult to extrapolate what the frequency of adverse credit events would be during harder times. While it is certainly worth hoping that the future will bring us ten fat years for each lean one, it is probably too optimistic to really expect it.

Someday, it may be possible to conduct a study that covers a more evenly balanced sample period. For now, all we have is the brief history of the ABS market since its inception in 1985 and its maturation over the course of the 1990s — for what it's worth.

[9] Richard Cantor and Frank Packer, *The Credit Rating Industry*, 19 FRBNY Q. REV. 1, 4 (Summer-Fall 1994); Vivien Beattie and Susan Searle, *Bond Ratings and Inter-Rater Agreement*, J. OF INT'L. SECS. MARKETS 167, 170 (Summer 1992).

H. Average Life

The longer a security is outstanding the more opportunity it has to experience difficulties. Accordingly, all other things being equal, asset classes financed predominantly with short-average life securities ought to display lower frequencies of adverse credit events on average. However, the study results are mixed on this score and do not really bear out the expectation.

I. Cumulative Experience

Similarly, asset classes that generated deals over longer periods of time (*i.e.*, from the early days of the ABS market) ought to have experienced a higher frequency of adverse events, all other things being equal. The study results absolutely do not bear out this expectation. Prime autos and cards are the asset classes with the longest history and yet both have low frequencies of adverse credit events. The emergence of the "other" asset category as a significant portion of the total market is a more recent phenomenon. Nonetheless, the other category accounts for the lion's share of defaults.

J. Fraud

Certain market participants have alleged fraud as a key underlying cause of certain ABS defaults including the Towers healthcare receivable deals, the CFS charged-off credit card deals, the Autobond subprime auto deals, and the Hollywood Funding deals. One way of analyzing frequencies of adverse credit events across rating agencies would be to exclude deals where adverse credit events are attributable to fraud. We have not done so in our study. From an investor's standpoint, a default attributable to fraud hurts no less than one attributable to anything else. Moreover, in certain cases, it remains open to debate whether fraud was the primary cause of default, a contributing factor, or not a factor at all. Lastly, all participants in the ABS market, including investment bankers, lawyers, accountants, issuers, trustees, investors, and the rating agencies, have an interest in promoting the use of safeguards and structures that inhibit fraud.[10] For example, following the Towers defaults, there was a notable burst of focus on the issue of preventing fraud by enlisting greater involvement from deal trustees.

V. Conclusion

The study results suggest that deals backed by certain asset classes and deals that carry ratings from certain combinations of rating agencies ought to command tighter spreads than other deals, all other things being equal. Somewhat reassuringly, the types of deals that have displayed lower frequencies of adverse credit events actually do command tighter spreads. However, this does not answer the question of whether the spread differential is enough.

In some cases, it appears that spread differentials are adequate to compensate investors for incremental credit volatility. For example, over the past year, the spread differential between triple-A-rated, 5-year-average-life home equity ABS and credit card ABS was 60 bps to 70 bps. Assuming that roughly 35 bps of the difference is attributable to the prepayment risk of home equity ABS, that leaves 25 bps to 35 bps to compensate an investor for less liquidity and potentially greater credit volatility. However, given that no triple-A-rated home equity securities have defaulted, the extra spread seems to be more than adequate compensation.

As the ABS market progresses and weathers the ups and downs of future business cycles, its participants will have the opportunity to observe directly whether the trends that have emerged so far will continue. To the extent that the differences in observed frequencies of adverse credit events across asset classes are attributable to inherent features of the asset classes or the industries that

[10] *Red Flags for Non-Investment Grade Seller/Servicers*, Fitch Research (2 Apr 1997) (Fitch doc. no. 12672); *Red Flags for Private Placement Issuers*, Fitch Research (17 Jul 1995) (Fitch doc. no. 5446); *Rating Guidelines for Health Care Receivables*, Fitch Research (20 Apr 1998).

generate them, the differences are likely to persist in the future. On the other hand, as the market gains actual experience, it could embrace different structures or adjust credit enhancement levels to equalize credit volatility across asset classes.

From the rating perspective, the future is even less clear. The rating agencies are dynamic entities and they adapt their processes to balance the interests of their various constituencies. No rating agency wants to be perceived as "easy" by investors any more than it wants to be perceived as "strict" by issuers. Accordingly, there may be some pressure towards greater equivalence of rating standards in the very long run. However, rating agencies are also mindful of not appearing to be capricious or fickle. Therefore, for the near term, we expect rating agency practices to remain generally stable.

— END —

Appendix A – Selected ABS Defaults

A. Towers Financial Healthcare Deals[11]

From mid-1990 through late 1992 Towers Financial Corporation issued five series of health care receivable-backed ABS. All five series defaulted in early 1993, around the time that Towers filed for bankruptcy. Towers stopped depositing funds into the account from which distributions on the securities were to have been made. Ultimately, fraud was identified as one of the underlying causes of the default. Duff & Phelps had assigned ratings of AA to securities from each of the five deals. The aggregate amount of defaulted bonds was approximately $197 million. Investors' estimated recovery following the default was in the range of 14.25% to 37%.

Stephen Hoffenberg, the former head of Tower Financial, pleaded guilty to four criminal counts in two cases. On 7 March 1997 Federal Judge Robert Sweet sentenced Hoffenberg to 20 years in prison.[12]

The Towers experience illustrates the need for safeguards against fraud in securitization transactions. Following the Towers default, the pace of healthcare receivable securitization nearly ground to a halt. However the key issue was not the receivables themselves but rather a lack of controls and oversight by reliable third parties.

B. CFS Charged-off Credit Card Deals

The CFS charged-off credit card deals, collectively, represent the worst beating that the ABS market has dished out to date. On roughly $1.6 billion of securities, investors ultimately recovered only $70.7 million.[13]

CFS, or Commercial Financial Services, was a company that bought charged-off credit card receivables. From 1995 through 1997 the company financed its activities through 13 deals done under the name Securitized Multiple Asset Rated Trust (SMART). The following table summarizes key information about the SMART deals:

CFS SMART Deals and the Rating Agencies that Rated Them

Date	Series	Deal Size ($ millions)	Moody's	S&P	Fitch	Duff
5/31/95	1995-1	80	No	Yes	No	No
12/22/95	1995-2	53	No	Yes	No	No
3/25/96	1996-1	86.3	No	Yes	No	No
6/19/96	1996-2	72	No	Yes	No	No
8/27/96	1996-3	100	Yes	Yes	No	No
12/31/96	1996-4	85	Yes	Yes	No	No
2/21/97	1997-1	65	Yes	Yes	No	No
3/31/97	1997-2	150	No	Yes	No	Yes
4/15/97	1997-3	147	No	No	No	Yes
7/30/97	1997-4	176	No	Yes	Yes	Yes
9/29/97	1997-5	190	No	Yes	Yes	Yes
12/5/97	1997-6	220	No	Yes	Yes	Yes
2/27/98	1998-1	206.05	No	Yes	Yes	Yes

Source: Asset-Backed Alert database, Standard & Poor's, Moody's

[11] *Seller/Servicer Fraud and the Towers Situation*, Moody's Structured Finance (June 1993) (Moody's doc. no. SF2037.PFD); *Investors to Start Recouping Losses From Towers Bankruptcy*, Asset-Backed Alert (23 Jan 1995); *Rating Health Care Receivables*, Fitch Research (2 Oct 1997) (Fitch doc. no.19547); *Rating Guidelines for Health Care Receivables*, Fitch Research (20 Apr 1998) (Fitch doc. no. 2RHC0420.PDF); *In re Leslie Danish, CPA*, SEC Release 34-39931 (30 Apr 1998).

[12] Hoffenberg v. U.S., 00 Civ. 1686 (RWS) (S.D.N.Y. 13 Oct 2000); *Today's Highlights in History*, Your Business on the Web – Tip of the Day (7 Mar 2000; available online at: http://adv-marketing.com/business/td000307.html); Vinod Kothari, *Sad Episodes of Securitization*, (available online at: www.vinodkothari.com/sadepisodes.htm).

[13] *The Grapevine*, Asset-Backed Alert (15 Oct 2001).

Moody's assigned initial ratings of A2 to the securities from the deals that it rated and Standard & Poor's assigned initial ratings of A to the securities of the deals that it had rated.

In May 1998, Moody's downgraded the ratings of the three CFS deals that it had rated to Baa1 from A2. The rating agency cited deteriorating collections and questions about CFS' servicing practices. Moreover, Moody's stopped rating new CFS deals after 1997-1 due to differences of opinion between Moody's and CFS about expected collection rates on the receivables.

In July 1998, CFS created a new master trust structure for the purpose of replacing the SMART transactions. The new master trust was called Global Rated Eligible Asset Trust (GREAT). To induce investors to exchange their SMART certificates for GREAT securities, CFS offered the new paper with a slight premium over the SMART certificates that were to be replaced. CFS faced the difficulty of having to obtain unanimous investor approval for each SMART series that it converted into GREATs. CFS was somewhat disappointed that it could not obtain the required approvals from the holders of Series 1996-4, which remained outstanding with a Moody's rating. After the downgrades in May, the company had hoped to sever its dealings with Moody's.[14] The first GREAT deal (1998-A) closed on 2 July 1998 and issued $735 million of ABS. The second GREAT deal (1998-B) closed on 30 September 1998 and issued $195.1 million of ABS.

On 30 September 1998 the real problems started. An anonymous letter to S&P, Fitch, and Duff alleged that CFS had been exaggerating the performance of its receivables. S&P was the first to react. It placed its ratings of the CFS deals under review on 9 October 1998. However, S&P issued no press release announcing the watchlistings.[15] Moody's acted on 22 October 1998, placing the rating of SMART 1996-4 – which was the only outstanding CFS deal with a Moody's rating – under review for possible downgrade. On 27 October 1998 Moody's downgraded the SMART 1996-4 certificates to Ba2 from Baa1.

Around the end of October 1998, CFS experienced a management shake-up. Bill Bartmann, the company's president, resigned. The three major shareholders, Bartmann, his wife, and their business partner, gave up their seats on the company's board of directors. At roughly that time, S&P, Fitch, and Duff withdrew their ratings on all the outstanding CFS paper.[16] In retrospect, it seems that withdrawing the ratings was rather unhelpful to investors, who were scrambling to understand the developing situation and found it difficult to obtain information.[17]

On 11 December 1998 CFS filed for bankruptcy. Almost immediately afterwards, on December 15, Moody's downgraded the rating of the SMART 1996-4 certificates to Caa1 from Ba2. The rating agency cited both a slowdown in principal collections and a lack of information as the basis for the rating action.

The situation for all the outstanding CFS deals spiraled from bad to worse as the transactions got pulled into the company's bankruptcy proceeding. There were unsuccessful attempts to find a buyer for the company. On 23 June 1999 company officials decided to close the business.[18] Along the way, it was revealed that CFS had been selling receivables at inflated prices to an affiliated company.

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[14] *Bumpy Ride for CFS Refinancing*, Asset-Backed Alert (6 Jul 1998); *CFS Offers Many Sweeteners*, Asset-Backed Alert (13 July 1998).

[15] *Agencies Probe Alleged Improprieties at CFS*, Asset-Backed Alert (25 Oct 1998).

[16] *Defaults Loom at CFS; Bartmann Steps Aside*, Asset-Backed Alert (2 Nov 1998).

[17] As of 30 December 2001, virtually no information about the CFS transactions was available on the websites maintained by S&P and Fitch. Additionally, information about the deals was not available on Bloomberg. Moody's web site contained some information, but only about the three CFS deals that Moody's rated. In light of the magnitude of the CFS defaults, it is surprising that the story was not covered more extensively. Fortunately for ABS market participants, *Asset-Backed Alert* produced a steady flow of articles on the CFS situation as it unfolded.

[18] *Holders Await Fallout from CFS Shut Down*, Asset-Backed Alert (28 Jun 1999).

The transaction created the appearance of good performance in the underlying receivables. Some interpreted the practice as a Ponzi scheme.[19]

According to news reports, holders of CFS paper included many important ABS investors. The latest word is that there were 212 affected investors and that they received a payout of less than 5% in the end.[20]

For purposes of the study, we have treated the original SMART deals, except for 1995-1, 1995-2, and 1996-1 as having defaulted, and we have ignored the GREAT deals. Investors made their primary investment decisions with respect to the SMART deals. The GREAT deals were merely substitutions or continuations of the SMART deals. According to Standard & Poor's, the holders of SMART 1995-1 1995-2, and 1996-1 were paid in full before the inception of the GREAT deals.

C. Hollywood Funding Nos. 4, 5, and 6[21]

A U.K. company called Flashpoint Ltd. arranged for roughly $250 million in financing to produce made-for-TV movies. The company executed six securitizations of the expected future cash flows from the films. The first three deals were called Hollywood Funding Ltd. and Hollywood Funding Nos. 2 and 3. Those deals received ratings of AAA from Standard & Poor's based on the strength of insurance policies from HIH Casualty & General Insurance Ltd. HIH reinsured its exposure with New Hampshire Insurance Co. (a subsidiary of AIG) and others. In two of the deals, HIH paid claims under its policies. However, HIH was unsuccessful in collecting on its reinsurance. The reinsurers asserted that HIH had not been obligated to pay under the original policies and, therefore, the reinsurers were not liable under the reinsurance policies. HIH sued the reinsurers in the English High Court and lost. HIH appealed and lost again.[22] The court concluded that the obligations of HIH under the primary policies had been subject to the condition that the related films were completed.

In the meantime, Flashpoint had arranged three more securitizations called Hollywood Funding Nos. 4, 5 and 6. The principal amounts of those deals were $33.6 million, $100.7 million, and $48 million, respectively. Those three deals also received AAA ratings from Standard & Poor's. However, unlike the earlier deals, the later deals had insurance policies from Lexington Insurance Company, another AIG subsidiary. The Lexington policies were virtually identical to the HIH policies of the earlier deals.

Based on the lower court decision in the HIH case, Lexington announced that it would not honor its policies on the Hollywood Funding deals. On 2 February 2001, Standard & Poor's downgraded the rated securities of Hollywood Funding Nos. 5 and 6 to CCC- from AAA. This rating action gave new meaning to the term "ratings volatility." The ABS market had never experienced anything like it before. On 30 March 2001, S&P downgraded the rated securities of Hollywood Funding No. 4 to BB- from AAA. On April 6, S&P downgraded the rated securities of Hollywood Funding No. 5 to D from CCC-. On June 18, S&P downgraded the rated securities of Hollywood Funding No. 6 to D from CCC- and downgraded the rated securities of Hollywood Funding No. 4 to CCC- from BB-. Although S&P downgraded the rated securities of Hollywood Funding No. 4 to D on September 24, that rating action did not occur until after the end of period covered by the study. Accordingly, we have classified Hollywood Funding Nos. 5 and 6 as defaults and Hollywood Funding No. 4 as a near default.

At one level, the Hollywood Funding deals seem not to be U.S. ABS and, therefore, outside the scope of this study. On the other hand, their securities were denominated in dollars and their underlying

[19] *CFS in Crisis: The Alleged Scheme*, Asset-Backed Alert (2 Nov 1998).

[20] *The Grapevine*, Asset-Backed Alert (15 Oct 2001).

[21] *Use of Insurance Proceeds as Credit Enhancement in Structured Finance*, Fitch Research (18 Jun 2001)

[22] *HIH Casualty & General Insurance Limited vs. New Hampshire Insurance Company, Independent Insurance Company Limited, and Axa Reinsurance S.A.*, English Court of Appeal, Neutral Citation Number: [2001] EWCA Civ 735, (21 May 2001) (available online at http://www.bailii.org/ew/cases/EWCA/Civ/2001/735.html).

assets (future cash flows) had no currency denomination. It was a tough call deciding whether to include the deals. In the end, we decided to err on the side of caution.

D. Heilig-Meyers Private-Label Credit Card Deals[23]

Heilig-Meyers is a chain of furniture stores. The company issued two securitizations in 1998 to finance its consumer retail installment sale contracts from furniture sales. Duff & Phelps, Standard & Poor's, and Moody's rated the deals. The company filed for bankruptcy on 16 August 2000. The ensuing disruption of its servicing and collection activities triggered a dramatic spike in delinquencies on its securitizations. Fitch (after its acquisition of Duff & Phelps) was the first of the rating agencies to react. It downgraded the senior tranches of the Heilig-Meyers deals from AAA to BB on 23 February 2001. Moody's reacted soon afterwards, on February 28. Moody's downgraded the Heilig-Meyers senior securities from Aaa all the way to B3. At the same time, Moody's downgraded mezzanine and subordinated securities to Ca. The ratings on the mezzanine and subordinate securities had started out at various levels ranging from Aa3 to Baa2. Standard & Poor's announced its rating actions on March 8. S&P downgraded the Heilig-Meyers senior securities from AAA to BB-. Subsequently, each of the rating agencies took further rating actions to recognize the defaults of all classes of the Heilig-Meyers deals.

E. LTV Steel Trade Receivable and Inventory Deals[24]

In LTV's bankruptcy, the company challenged the "bankruptcy remoteness" of its own securitizations. Years earlier, LTV had used two securitizations to finance its trade receivables and inventory. Standard & Poor's had assigned a rating of AAA to the trade receivables financing and Fitch had assigned a rating of BBB to the inventory financing.

LTV's attack against its own deals raised quite a fuss within the ABS community because it challenged the fundamental principles of securitization. The use of securitization techniques failed to keep the deals out of the company's bankruptcy proceeding. For better or worse, the controversy was settled without any judicial resolution of the issues. LTV withdrew its attack when the securitization investors (lenders) agreed to supply replacement financing through a DIP (debtor-in-possession) facility. In essence, the securitization investors experienced a forced exchange of their securitization paper for DIP paper. As we see it, a forced exchange is one of the more decorous and civilized forms of default, but a default nonetheless.

F. Autobond Acceptance Corp. Subprime Auto Deals

Autobond Acceptance Corp. was a subprime auto finance company based in Austin, Texas. The company used securitization as a major source of funding for its business. From 1995 through 1997, the company executed a series of eight securitizations, amounting to slightly more than $200 million. Moody's and Fitch rated all eight of the transactions.[25] All the deals eventually defaulted. The following table enumerates the deals and the initial ratings of their senior classes:

[23] *Downgrades of Heilig-Meyers Credit Card Deals Reveal New Extent of ABS Ratings Volatility*, Nomura Fixed Income Research (1 March 2001).

[24] *The LTV Bankruptcy Case and Its Threat to Securitization - Is it Over or Just Beginning?,* Nomura Fixed Income Research (7 March 2001); *True Sale Assailed: Implications of In re LTV Steel for Structured Transactions*, Moody's Structured Finance Research (27 April 2001) (Moody's doc. no. SF10405.PDF); Mayer Brown & Platt, *An Update on the Treatment of the Securitization Facilities in the Chapter 11 Bankruptcy Cases of LTV Steel Company, Inc., et al.*, (7 March 2001) (available online at www.securitization.net).

[25] Autobond Acceptance Corp., Form 10-Q for the period ended 30 Sep 1997, filed 14 Nov 1997, p. 13;

Autobond Acceptance Subprime Auto Deals				
Series	Issue Date	Class A Orig. Amt. ($ millions)	Initial Class A Ratings	
			Moody's	Fitch
1995-A	12/29/95	26.0	A3	A
1996-A	3/29/96	16.6	A3	A
1996-B	6/27/96	20.0	A3	A
1996-C	9/30/96	22.3	A3	A
1996-D	12/30/96	25.0	A3	A
1997-A	3/31/97	28.8	A3	A
1997-B	8/25/97	34.7	A2	A
1997-C	10/23/97	34.4	A2	A

Before issuing the deals listed above, Autobond (or a predecessor company) did 18 other subprime auto securitization transactions.[26] However, apart from a few newsletter stories, there is virtually no available information about those deals. What we do know about the early deals is this: The 18 deals included both private placement and public offerings. Duff & Phelps initially rated all of them. In December 1995, Duff announced that it might downgrade nine of them. In February 1996, Duff downgraded the ratings of securities from 16 of the deals. Of the 16 deals, seven were public and their ratings were downgraded to BBB- from A+. The rating agency cited a "significant plunge in required credit enhancement as the reason for the five-notch downgrade.[27] On 28 June 1996, Duff downgraded securities from the two remaining deals that it had rated. Those downgrades were also to BBB- from A+.[28] A few months later, in November 1996, Duff withdrew its ratings on all the outstanding Autobond securitizations that it had rated. At the time, there were 17 outstanding deals, of which eight had been private placements. Duff stated that the withdrawal was "due to circumstances that made it unable to maintain accurate rating opinions on these transactions."[29]

For purposes of the study, we have not included Autobond's 18 early deals, discussed in the preceding paragraph. Although there seems to be enough information to classify all of them as minor downgrades, the only source that we have is news stories. The news stories do not spell out the amounts of the deals, their issuance dates, or their series numbers (except for identifying the deals downgraded in June 1996 as series 1994-C and 1994-D). Moreover, based on the performance of the subsequent Autobond deals, it seems reasonable to suppose that at least some of the early deals experienced adverse events worse than just minor downgrades.

For the study, we have included only the eight Autobond deals listed in the table above (*i.e.*, 1995-A through 1997-C). Moody's first downgraded these securities in March of 1998, citing higher than expected net losses, unanticipated allocation of cash flows, and data reporting problems. Around the same time, Fitch withdrew its ratings on at least six of the Autobond deals.[30] Autobond was not recognizing charge-offs on the loans when it should have. This led to higher delinquencies than were originally anticipated. Excess spread that could have been used to absorb losses was instead passed to the class B investors. Other problems included discrepancies in trigger calculations, inaccuracies in reported delinquencies, and mishandling of prepaid insurance claims. Autobond later asserted that these were one-time occurrences as a result of a transfer of servicing from Loan Servicing Enterprise to Autobond in December 1997.

Series 1997-B and 1997-C included an insurance policy from Progressive Insurance as part of the credit enhancement. Progressive cancelled the policy in March 1998, although its right to do so remains a bone of contention.

[26] *Duff Weights Downgrade of Autobond Notes*, Asset-Backed Alert (18 Dec 1995).

[27] *Auto Lender Sees 16 Issues Downgraded*, Asset-Backed Alert (19 Feb 1996).

[28] *2 More Rate Cuts for Autobond*, Asset-Backed Alert (8 Jul 1996).

[29] *AutoBond Ratings Pulled*, Asset-Backed Alert (25 Nov 1996).

[30] *Fitch Yanks Autobond Ratings*, Asset-Backed Alert (9 Mar 1998).

Two months later, Moody's downgraded the class A securities to non-investment grade (B2 for 1997-B and 1997-C, Ba1 for the rest), citing (i) non-adherence to the stated charge-off policy, (ii) miscalculation of delinquency and loss triggers (iii) instances of waived fees, (iv) cash contributions to the deals by Autobond, and (v) commingling of collections. On 22 March 1999, the continued high level of losses led to further downgrades. Due to the fact that Progressive had cancelled the insurance policy on 1997-B and 1997-C, those two deals were downgraded to default status (Ca). Finally, a spike in charge-offs during the November 1999 collection period left the Class A securities of the other deals undercollateralized by 20% to 50%. Moody's downgraded those certificates to Ca on 14 February 2000.

Autobond ceased originating loans in February 1999. In July 2000, the company changed its name to Agility Capital, Inc. and adopted a business plan to "generate income by acting as an advisor to, and investor in, new economy ventures through the establishment of one or more investment funds."[31]

G. IMC Mortgage Co., Home Equity Loan Trust 1997-5

IMC Home Equity Loan Trust 1997-5 was a deal backed by subprime mortgage loans. The original aggregate balance of all classes issued in the deal was $975 million, of which the Class B certificates accounted for $39 million. The initial ratings of the Class B certificates were Baa3, BBB-, and BBB by Moody's, Standard & Poor's, and Fitch respectively.

According to S&P, monthly losses on the deal from December 1999 to November 2000 were about 1.6 times the monthly excess cash flow. This eroded the overcollateralization from $15.4 million to $5.6 million. S&P downgraded the Class B certificates to B on 21 November 2000, reflecting the extra risk due to the fact that the class B certificates were protected only by excess interest cash flow and overcollateralization, with no subordinate credit enhancement. On 4 January 2001, Moody's downgraded the Class B certificates to B2. In February 2001, continued losses in excess of cash flow forced the overcollateralization lower, prompting S&P to drop the ratings on the Class B certificates to CCC. In May 2001, S&P downgraded the Class B certificates to D following a principal write-down of $44,434 on the securities. Moody's rating of Class B certificates has remained at B2 (as of January 2001).

IMC Mortgage Co. was successful in the mid-1990s. However, the market disruption in the fourth quarter of 1998 hurt the company badly.[32] After a failed attempt to sell itself to a New York investment group, IMC sold its servicing portfolio to a Citicorp affiliate in November 1999. The company had no meaningful operations after that point.

H. Southern Pacific Secured Assets Corp Series 1997-2

Southern Pacific Secured Assets Corp. Series 1997-2 was a $375 million deal backed by subprime mortgage loans. Southern Pacific Funding consummated the deal in June 1997. The deal was backed by two groups of loans, one fixed-rate and one adjustable-rate. The Class B-1F certificates were the deal's subordinate certificates for the fixed-rate loan group and had an initial balance of $3.97 million. Standard & Poor's and Fitch both assigned initial ratings of BBB to the Class B-1F certificates.

The B-1F tranche, being the most junior of the fixed-rate classes, was not protected by any subordination, and was the most vulnerable to any faster than anticipated monthly losses. By early 2000, monthly losses had led to the "almost complete erosion of overcollateralization." S&P downgraded the Class B-1F certificates to CCC on 21 March 2000. The following month the rating

[31] Autobond Acceptance Corp., Form 10-KT for the period from 1 Jan 2000 to 30 Sep 2000, filed 19 Dec 2000, p. F-7.

[32] *1998 Year in Review and 1999 Outlook Home Equity Asset-Backed Securities: To HEL in a Handbasket*, Moody's Structured Finance Research (8 Jan 1999) (Moody's doc. no SF7152.PDF).

agency downgraded the securities to CC. The April 25th distribution showed a principal write-down of $76,931, and S&P lowered the rating to D on 3 May 2000.

Southern Pacific Funding Corp. filed for bankruptcy on 1 October 1998.

I. Cityscape

Home Equity Loan Trust 1997-B: Cityscape Home Equity Loan Trust 1997-B was a $197.5 million deal backed by home equity loans. Cityscape Financial consummated the deal in April 1997. The deal was backed by two groups of loans, one fixed-rate and one adjustable-rate. The Class B-1A certificates were the deal's subordinate certificates for the adjustable-rate loan group and had an initial balance of $2.2 million. Standard & Poor's and Fitch both assigned initial ratings of BBB to the Class B-1F certificates.

In December 1999, S&P lowered the rating on Class B-1F to BBB-, citing an expected drop of 60% in the overcollateralization balance over the subsequent 12 months. On 15 August 2000 (less than 9 months later), S&P lowered the rating to B, noting that the overcollateralization balance had dropped 74%. The trend continued, with high delinquencies leading to higher than expected monthly losses, which in turn brought about further erosion in the overcollateralization. On 13 February 2001 the rating agency lowered the rating to CC. In July the rating agency lowered the rating to D, reflecting the principal write-down from the prior month.

Home Loan Owner Trust 1997-1: Cityscape Home Loan Owner Trust 1997-1 was a $116.1 million deal backed by high LTV mortgage loans. Cityscape Financial consummated the deal in February 1997. The Class B certificates were the deal's subordinate certificates and had an initial balance of $4.1 million. Standard & Poor's and Fitch both assigned initial ratings of BBB+ to the Class B certificates.

S&P lowered the rating of the Class B certificates to CCC in November 1999, citing very high losses, which had tripled to $2 million, from an average of $620,000 reported through July 1999. Naturally, overcollateralization had substantially eroded, and further deterioration was just a matter of time. On 25 January 2000, S&P lowered the rating to CC. On 10 February 2000, the rating agency lowered the rating to D, citing a principal write-down of $81,000 in the prior month.

Like many other home equity lenders, Cityscape Financial was quite active in the mid-1990s but did not survive long after. The company filed for bankruptcy on 6 October 1998.

J. ContiMortgage Home Equity Loan Trust, Series 1997-1, 1997-2, 1997-3, and 1997-4

ContiMortgage did six home equity loan-backed securitizations in 1997, four of which fall within the study's parameters for "default" status. Subordinate certificates in those four deals experienced defaults. The following table summarizes key information about the deals:

ContiMortgage Home Equity Loan Trust – Defaulted Classes							
Series	Date	Deal Size ($ millions)	Defaulted Class	Original Class Size ($ millions)	Initial Ratings		
					Moody's	S&P	Fitch
1997-1	30 Jan 97	400	B	5.0	Baa3		BBB
1997-2	12 Mar 97	835	B-1F	6.6	Baa3		BBB
1997-3	5 Jun 97	1,265	B-1F	9.5	Baa3	BBB-	BBB
			M-2F	49.6	A3	A-	A
1997-4	18 Sep 97	1,525	B-1F	45.8	Baa3	BBB-	BBB

According to Moody's, the ContiMortgage deals experienced high losses because of poor underwriting and inaccurate appraisals.[33] This led to depletion of credit enhancement (excess cash flow and OC), which led eventually to principal write-downs. In addition, leading up to 1997, ContiMortgage's home equity loan pools had achieved good performance. This allowed the company to achieve its desired ratings with relatively low levels of credit enhancement, especially for the subordinate classes. Motivated by gain-on-sale accounting practices and the resulting high reported profits from securitization activities, Conti became the largest issuer of home equity ABS in 1997 and the second largest in 1998. However, the price of growth seems to have been loan quality. Although the reported characteristics of Conti's loan originations in 1997 were virtually the same as in 1996, the newer loans were actually worse. The natural consequence was a string of downgrades on the 1997 deals by all three rating agencies. The following table shows the chronology of rating actions:

Selected Downgrades of ContiMortgage Home Equity ABS					
Date	**Agency**	**Series**	**Class**	**To**	**From**
26 Aug 99	Fitch	1997-1	B	BB	BBB
29 Sep 99	S&P	1997-3	B-1F	BB	BBB-
30 Sep 99	Moody's	1997-1	B	B1	Baa3
		1997-2	B-1F	Ba3	Baa3
19 Oct 99	S&P	1997-3	M-2F	BB	A-
22 Nov 99	Moody's	1997-1	M-2	Ba3	Baa3
		1997-1	B	**Ca**	B1
		1997-2	B-1F	B2	Ba3
10 Jan 00	Fitch	1997-1	M	BBB	A
		1997-1	B	B	BB
28 Feb 00	Moody's	1997-2	B-1F	Caa2	B2
		1997-3	B-1F	Ba2	Baa3
30 Mar 00	S&P	1997-3	B-1F	B	BB
17 May 00	Moody's	1997-1	M-2	B3	Ba3
		1997-2	B-1A	Ba3	Baa3
		1997-3	B-1F	B3	Ba2
		1997-3	B-1A	Ba3	Baa3
1 Jun 00	Fitch	1997-1	M	BB	BBB
		1997-1	B	**D**	B
		1997-2	B-1F	B	BBB
		1997-2	B-1A	BB	BBB
		1997-3	M-2F	BB	A
		1997-3	B-1F	B	BBB
		1997-4	B-1F	BB	BBB
9 Jun 00	S&P	1997-3	B-1F	CCC	B
21 Aug 00	Fitch	1997-1	M	B	BB
		1997-2	M-2F	BBB	A
		1997-2	B-1F	CCC	B
		1997-2	B-1A	CCC	BB
		1997-3	M-2F	B	BB
		1997-3	B-1F	CCC	B
		1997-4	B-1F	B	BB
19 Sep 00	Moody's	1997-1	M-2	Caa3	B3

[33] See, *Moody's Takes Rating Action on the First Three 1997 ContiMortgage Subprime Mortgage Deals (Series 1997-1, 1997-2 and 1997-3)*, Moody's Structured Finance Rating Update (17 Dec 1999) (Moody's doc. no. SF8226.PDF); *ContiMortgage 1997-1, 1997-2 and 1997-3: What Prompted the Rating Downgrades*, Moody's Structured Finance Rating Update (10 Nov 2000) (Moody's doc. no. SF9311.PDF)

Selected Downgrades of ContiMortgage Home Equity ABS					
Date	**Agency**	**Series**	**Class**	**To**	**From**
		1997-1	B	**C**	Ca
		1997-2	B-1F	**Ca**	Caa2
		1997-2	B-1A	Caa2	Ba3
		1997-3	B-1F	Caa3	B3
19 Oct 00	S&P	1997-3	B-1F	**D**	CCC
		1997-4	B	B	BBB-
19 Jan 01	Fitch	1997-1	M	CCC	B
		1997-2	M-2F	B	BBB
		1997-2	B-1F	**D**	B
		1997-3	B-1F	**D**	CCC
		1997-4	B-1F	CCC	B
12 Feb 01	S&P	1997-4	B	CC	B
3 May 01	S&P	1997-3	M-2F	B	BB
31 Jul 01	S&P	1997-3	M-2F	CCC	B
		1997-4	B	**D**	CC
19 Oct 01	S&P	1997-3	M-2F	**D**	CCC

Interestingly, in the 1997-3 deal, the class M-2F certificates also defaulted (see the last line of the table). However, that default did not occur until the fall of 2001.

The liquidity crunch of late 1998 hit ContiMortgage hard. The company never really recovered. On 17 May 2000 the company's parent, ContiFinancial, filed for bankruptcy.

K. Franchise Mortgage Acceptance Co.

Franchise Mortgage Acceptance Co., LLC, or FMAC, used securitization to finance its business of making loans to franchisees. A number of FMAC's deals have run into trouble, but only series 1996-B achieved default status before the end of the study period. Since the end of the study period, two more FMAC deals, series 1997-C and 1998-A have reached default. Different combinations of rating agencies rated different FMAC deals. Of the ten FMAC deals in the *Asset-Backed Alert* database, Moody's rated four, Standard & Poor's rated nine, Fitch rated eight, and Duff & Phelps rated seven.

Series 1996-B reached default status on 22 December 2000, when Fitch downgraded the Class B securities to DDD. Those securities had initially been rated BBB. In series 1997-C, the first class to reach default status was Class D. The series 1997 Class D securities had initially been rated BBB but were ultimately downgraded to D on 30 November 2001. The same was true for series 1998-A. The series 1998-A Class D securities had started out at BBB but reached the D rating level on 30 November 2001.

Fitch's website has the most complete data on the evolution of the FMAC deals. The following table lists selected rating actions that Fitch took on the FMAC deals over the past few years.

Selected Fitch Rating Actions on FMAC Deals				
Date	**Series**	**Class**	**To**	**From**
10-Jun-99	1996-B	E	D	CCC
06-Aug-99	1996-B	B	BBB-	BBB
		C	B+	BB
		D	CCC	B
06-Jun-00	1997-C	B	AA-	AA
		C	A-	A
		D	BBB-	BBB
05-Oct-00	1996-B	A-1	A-	A
		A-2	A-	A
		B	BB+	BBB-
		C	B	B+
01-Dec-00	1997-B	C	A-	A
		D	BB	BBB

Selected Fitch Rating Actions on FMAC Deals				
Date	**Series**	**Class**	**To**	**From**
22-Dec-00	1996-B	A-1	CC	A-
		A-2	CC	A-
		B	**DDD**	BB+
		C	**DD**	B
		D	**D**	CCC
18-Jan-01	1996-B	A-1	**DDD**	CC
		A-2	**DDD**	CC
22-Mar-01	1997-C	B	A	AA-
		C	BBB-	A-
		D	B	BBB-
	1998-A	B	A	AA
		C	BBB-	A
		D	CCC	BBB
	1998-B	B	A	AA
		C	BB	A
		D	B	BBB
01-Jun-01	1997-B	C	BBB-	A-
		D	B	BB
23-Jul-01	1997-B	C	BB-	BBB-
		D	C	B
	1998-B	A-1	AA	AAA
		A-2	AA	AAA
		B	BBB	A
		C	B	BB
		D	C	B
24-Aug-01	1997-C	C	BB+	BBB-
		D	CCC	B
	1998-A	A-1	AA	AAA
		A-2	AA	AAA
		A-3	AA	AAA
		B	BBB	A
		C	BB	BBB-
		D	CC	CCC
30-Nov-01	1997-C	B	BBB-	A
		C	B-	BB+
		D	**D**	CCC
	1998-A	C	B	BB
		D	**D**	CC

The deals of another franchise lender, Enterprise Mortgage Acceptance Corp., or EMAC, also recently experienced trouble. EMAC has three securitizations outstanding, series 1998-1, 1999-1, and 2000-1. Fitch and Duff & Phelps rated series 1998-1. Moody's, Fitch, and Duff rated series 1999-1. Moody's and Duff rated series 2000-1. The rating agencies placed the EMAC deals under review in April 2001. However, no downgrades occurred before the end of the study period. Subsequently, Moody's downgraded the securities from EMAC series 1999-1 twice, once in August 2001 and again in October. Fitch also downgraded the deals twice, once in August and again in September.

Appendix B – List of Deals with Adverse Credit Events

This appendix lists the deals associated with adverse credit events and identifies the rating agencies that assigned ratings to securities issued in the deals.

Credit events: 1=default, 2=near default, 3=major downgrade, 4=minor downgrade

Asset types: AP=prime auto loans, AS=subprime auto loans, CB=bank credit cards, CP=private label (store) credit cards, EQ=equipment leases, HE=home equity, MH=manufactured housing, OT=other, SL=student loans.

Issuer	Series	Date	Amount ($ mil.)	Asset Type	Moody's	S&P	Fitch	Duff	Credit Event
Aegis Auto Owners Trust	1995-A	12/29/1995	175.0	AS	✓	✓			2
AJ Acceptance Vehicle Trust	1996-A	11/26/1996	60.7	AS	✓				2
Amresco Residential Securities Corp.	1998-1	1/28/1998	1,000.0	HE	✓	✓	✓		3
Amresco Res. Sec. Corp. Mtg. Loan Trust	1997-3	9/5/1997	950.0	HE	✓	✓	✓	✓	3
Associates Manufactured Housing Contract	1996-1	9/20/1996	888.0	MH	✓	✓	✓		4
Associates Manufactured Housing Contract	1997-1	3/17/1997	392.8	MH	✓	✓	✓		4
Associates Manufactured Housing Contract	1997-2	9/17/1997	389.6	MH	✓	✓	✓		4
Auto One Finance Corp.	1991-A	1991		AP		✓			4
Auto One Finance Corp.	1991-B	1991		AP		✓			4
Auto One Finance Corp.	1991-C	1991		AP		✓			4
Auto One Finance Corp.	1992-A	1992		AP		✓			4
Auto One Finance Corp.	1992-B	1992		AP		✓			4
Auto One Finance Corp.	1992-C	1992		AP		✓			4
Auto One Finance Corp.	1993-A	1993		AP		✓			4
AutoBond Receivables Trust	1995-A	12/29/1995	26.0	AS	✓		✓		1
AutoBond Receivables Trust	1996-A	3/29/1996	16.6	AS	✓		✓		1
AutoBond Receivables Trust	1996-B	6/27/1996	20.0	AS	✓		✓		1
AutoBond Receivables Trust	1996-C	9/30/1996	22.3	AS	✓		✓		1
AutoBond Receivables Trust	1996-D	12/30/1996	25.0	AS	✓		✓		1
AutoBond Receivables Trust	1997-A	3/31/1997	28.8	AS	✓		✓		1
AutoBond Receivables Trust	1997-B	8/25/1997	34.7	AS	✓				1
AutoBond Receivables Trust	1997-C	10/23/1997	34.4	AS	✓				1
Autoflow Grantor Trust	1996-1	9/16/1996	161.2	AS	✓				4
BankAmerica Mfctr'd Hsng Contract Trust	1996-1	6/7/1996	245.8	MH	✓		✓		3
BankAmerica Mfctr'd Hsng Contract Trust	1997-1	7/31/1997	254.1	MH	✓		✓		3
BankAmerica Mfctr'd Hsng Contract Trust	1997-2	11/14/1997	500.0	MH	✓		✓		2
BW Home Equity Trust	1990-1	9/12/1990	77.2	HE	✓				3
BW Trust	1990-1	3/14/1990	77.7	OT	✓				3
CFC-8 Grantor Trust		3/14/1990	602.2	AP	✓	✓			3
Chemical Bank Grantor Trust	1990-A	2/14/1990	502.7	AP	✓	✓			3
Cityscape Home Equity Loan Trust	1997-B	4/7/1997	197.5	HE	✓	✓	✓	✓	1
Cityscape Home Equity Loan Trust	1997-C	6/20/1997	200.0	HE		✓	✓	✓	3
Cityscape Home Loan Owner Trust	1997-1	2/13/1997	116.1	HE		✓	✓	✓	1
Cityscape Home Loan Owner Trust	1997-2	4/7/1997	99.0	HE		✓	✓	✓	2
Cityscape Home Loan Owner Trust	1997-4	9/9/1997	198.0	HE		✓		✓	4
Conseco Finance Home Loan Trust	1999-F	9/24/1999	738.8	HE		✓	✓		3
Conseco Finance Home Loan Trust	1999-G	11/1/1999	270.9	HE	✓	✓			3
Conseco Finance Home Loan Trust	1999-H	11/17/1999	856.0	HE		✓	✓	✓	3
Conseco Finance Home Loan Trust	2000-A/BV2	2/4/2000	13.8	HE	✓	✓		✓	3
Conseco Finance Home Loan Trust	2000-B/MF-1	3/1/2000	59.3	HE	✓	✓		✓	3
Conseco Finance Securitizations Corp.	1999-6	11/16/1999	985.0	MH	✓	✓			3
Conseco Finance Securitizations Corp.	2000-1	1/19/2000	886.5	MH	✓		✓		3
Constellation/FEP Receivables Funding	2000-2	4/7/2000	176.0	OT	✓				3
Constellation/FEP Receivables Funding III		2/7/2000	225.0	OT	✓				4
ContiMortgage Home Equity Loan Trust	1997-1	1/30/1997	400.0	HE	✓		✓		1

Issuer	Series	Date	Amount ($ mil.)	Asset Type	Moody's	S&P	Fitch	Duff	Credit Event
ContiMortgage Home Equity Loan Trust	1997-2	3/12/1997	835.0	HE	✓		✓		1
ContiMortgage Home Equity Loan Trust	1997-3	6/5/1997	1,265.0	HE	✓	✓	✓		1
ContiMortgage Home Equity Loan Trust	1997-4	9/18/1997	1,525.0	HE	✓	✓	✓		1
ContiMortgage Home Equity Loan Trust	1997-5	12/16/1997	1,660.0	HE	✓	✓	✓		3
ContiMortgage Home Equity Loan Trust	1998-1	3/5/1998	1,481.3	HE	✓	✓	✓		3
ContiMortgage Home Equity Loan Trust	1998-2	6/9/1998	1,750.0	HE	✓	✓	✓		3
COSCO Container Freight Mget Master Trust	1997-1	8/29/1997	300.0	OT	✓			✓	3
CS First Boston Mortgage Securities	1995-1	12/15/1995	1,278.3	HE	✓	✓			3
CSC Grantor Trust	1990	1990		AP		✓			4
Delta Funding Home Equity Loan Trust	1997-3	9/15/1997	340.0	HE	✓		✓		3
Discover Card Trust	1990-C	8/8/1990	500.0	CB	✓	✓			4
Discover Card Trust	1990-D	10/26/1990	500.0	CB	✓	✓		✓	4
Empire Funding Home Loan Owner Trust	1997-1	4/4/1997	70.4	HE		✓		✓	2
Empire Funding Home Loan Owner Trust	1997-2	5/23/1997	139.2	HE		✓		✓	4
Empire Funding Home Loan Owner Trust	1997-4	10/17/1997	300.0	HE		✓		✓	3
Empire Funding Home Loan Owner Trust	1998-1	2/19/1998	230.8	HE	✓		✓	✓	4
Empire Funding Home Loan Remic Trust	1997-A	4/4/1997	50.0	HE		✓		✓	3
FABNY Grantor Trust	1990-A	10/25/1990	75.0	AP	✓				3
First Deposit Credit Card Trust	1991-A	4/10/1991	195.0	CB	✓	✓		✓	3
First Security Home Equity Trust	1990-A	9/27/1990	115.0	HE	✓				3
FMAC Loan Receivables Trust	1997-B	9/30/1997	185.3	OT			✓	✓	3
Franchise Loan Trust	1998-1	9/8/1998	366.9	OT	✓	✓	✓	✓	3
GE Capital Mortgage Services Inc.	1996-HE3/B	9/24/1996	6.7	HE	✓		✓		3
GE Capital Mortgage Services Inc.	1997-HE2	6/20/1997	239.2	HE	✓		✓		2
GE Capital Mortgage Services Inc.	1997-HE3	9/23/1997	230.7	HE	✓		✓		3
GE Capital Mortgage Services Inc.	1997-HE4	12/22/1997	181.5	HE	✓		✓		3
GE Capital Mortgage Services Inc.	1998-HE1	3/24/1998	154.9	HE	✓		✓		3
GE Capital Mortgage Services Inc.	1998-HE2	6/23/1998	194.4	HE	✓		✓		3
Global Franchise Trust	1998-1	8/10/1998	245.4	OT	✓		✓	✓	2
Green Tree Financial Corp.	1992-2	12/11/1992	288.3	MH	✓			✓	4
Green Tree Financial Corp.	1993-4	12/22/1993	725.2	MH	✓				4
Green Tree Financial Corp.	1994-1	3/22/1994	561.6	MH	✓	✓	✓		4
Green Tree Financial Corp.	1994-2	5/3/1994	387.8	MH	✓	✓	✓		3
Green Tree Financial Corp.	1994-3	5/16/1994	197.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1994-4	6/22/1994	308.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1994-5	8/4/1994	384.9	MH	✓		✓		3
Green Tree Financial Corp.	1994-6	9/22/1994	463.9	MH	✓		✓		3
Green Tree Financial Corp.	1994-7	10/27/1994	353.5	MH	✓		✓		3
Green Tree Financial Corp.	1994-8	12/15/1994	523.2	MH	✓		✓		3
Green Tree Financial Corp.	1995-1	2/9/1995	378.3	MH	✓		✓		3
Green Tree Financial Corp.	1995-10	12/14/1995	405.1	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-2	3/23/1995	328.3	MH	✓		✓		3
Green Tree Financial Corp.	1995-3	5/10/1995	502.2	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-4	6/15/1995	319.8	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-5	7/12/1995	451.2	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-6	8/10/1995	396.7	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-7	9/19/1995	347.8	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-8	10/11/1995	479.9	MH	✓	✓	✓		3
Green Tree Financial Corp.	1995-9	11/9/1995	397.8	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-1	1/25/1996	398.8	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-10	12/9/1996	800.0	MH		✓	✓		3
Green Tree Financial Corp.	1996-2	3/14/1996	465.3	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-3	4/15/1996	371.9	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-4	5/23/1996	474.7	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-5	6/20/1996	517.6	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-6	7/24/1996	475.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-7	8/22/1996	480.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-8	9/18/1996	600.1	MH	✓	✓	✓		3
Green Tree Financial Corp.	1996-9	10/24/1996	450.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1997-1	2/19/1997	500.0	MH	✓		✓		3
Green Tree Financial Corp.	1997-2	3/13/1997	550.0	MH	✓		✓		3

Issuer	Series	Date	Amount ($ mil.)	Asset Type	Moody's	S&P	Fitch	Duff	Credit Event
Green Tree Financial Corp.	1997-3	5/8/1997	800.0	MH	✓		✓		3
Green Tree Financial Corp.	1997-4	6/19/1997	520.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1997-5	7/24/1997	550.0	MH	✓	✓	✓		3
Green Tree Financial Corp.	1997-6	9/4/1997	1,050.0	MH		✓	✓		3
Green Tree Financial Corp.	1997-7	10/15/1997	550.0	MH	✓	✓			3
Green Tree Financial Corp.	1997-8	12/3/1997	850.0	MH		✓	✓		3
Green Tree Financial Corp.	1998-1	1/28/1998	450.0	MH	✓		✓		3
Green Tree Financial Corp.	1998-2	3/11/1998	750.0	MH	✓	✓			3
Green Tree Financial Corp.	1998-3	4/22/1998	500.0	MH		✓	✓		3
Green Tree Financial Corp.	1998-4	5/19/1998	500.0	MH	✓		✓		3
Green Tree Financial Corp.	1998-5	6/18/1998	356.4	MH	✓	✓			3
Green Tree Financial Corp.	1998-6	7/22/1998	800.0	MH		✓	✓		3
Green Tree Financial Corp.	1998-7	9/10/1998	850.0	MH	✓		✓		3
Green Tree Financial Corp.	1998-8	10/28/1998	1,350.0	MH	✓	✓			3
Green Tree Financial Corp.	1999-1	1/26/1999	700.0	MH		✓	✓		3
Green Tree Financial Corp.	1999-2	3/11/1999	1,100.0	MH		✓	✓		3
Green Tree Financial Corp.	1999-3	5/6/1999	800.0	MH		✓	✓		3
Green Tree Financial Corp.	1999-4	6/16/1999	1,000.0	MH		✓	✓		3
Green Tree Financial Corp.	1999-5	8/24/1999	2,000.0	MH		✓	✓		3
Green Tree Home Eq. and Home Imprvmnt Loan Trust	1998-B	3/26/1998	550.0	HE		✓	✓		3
Green Tree Home Equity Loan Trust	1997-B	5/23/1997	327.1	HE		✓	✓		3
Green Tree Home Equity Loan Trust	1998-C	5/20/1998	500.0	HE		✓	✓		3
Green Tree Home Equity Loan Trust	1999-D	8/13/1999	500.0	HE		✓	✓		3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1997-A	3/20/1997	519.4	HE		✓	✓		3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1997-C	6/20/1997	302.2	HE		✓	✓		3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1997-D	8/27/1997	750.0	HE		✓	✓		3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1997-E	12/10/1997	835.0	HE		✓	✓		3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1998-F	12/16/1998	425.3	HE	✓	✓			3
Green Tree Home Imprvmnt and Home Equity Loan Trust	1999-B	6/18/1999	400.0	HE	✓	✓			3
Green Tree Home Improvement Loan Trust	1994-B	6/27/1994	120.1	HE		✓			3
Green Tree Home Improvement Loan Trust	1994-C	9/23/1994	146.2	HE		✓			3
Green Tree Home Improvement Loan Trust	1994-D	12/2/1994	131.5	HE		✓			3
Green Tree Home Improvement Loan Trust	1994-E	12/2/1994	12.3	HE		✓			3
Green Tree Home Improvement Loan Trust	1995-A	3/16/1995	87.9	HE		✓			3
Green Tree Home Improvement Loan Trust	1995-B	3/16/1995	12.2	HE		✓			3
Green Tree Home Improvement Loan Trust	1995-C	6/13/1995	140.2	HE	✓				3
Green Tree Home Improvement Loan Trust	1995-D	9/14/1995	173.8	HE	✓				3
Green Tree Home Improvement Loan Trust	1995-E	9/14/1995	32.2	HE	✓				3
Green Tree Home Improvement Loan Trust	1995-F	12/12/1995	132.7	HE	✓				3
Green Tree Home Improvement Loan Trust	1996-A	3/7/1996	93.7	HE	✓	✓			3
Green Tree Home Improvement Loan Trust	1996-B	3/7/1996	25.1	HE	✓	✓			3
Green Tree Home Improvement Loan Trust	1996-C	6/19/1996	292.4	HE		✓	✓		3
Green Tree Home Improvement Loan Trust	1996-D	9/17/1996	367.7	HE		✓	✓		3
Green Tree Home Improvement Loan Trust	1996-E	9/17/1996	27.1	HE		✓	✓		3
Green Tree Home Improvement Loan Trust	1996-F	12/18/1996	478.0	HE		✓	✓		3
Green Tree Home Improvement Loan Trust	1999-E	9/13/1999	600.0	HE		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1996-A	1/19/1996	431.1	OT	✓	✓	✓		4
Green Tree Recreational Equipment & Consumer Trust	1996-B	6/14/1996	421.0	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1996-C	9/12/1996	364.4	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1996-D	12/18/1996	380.0	OT	✓		✓		3

Issuer	Series	Date	Amount ($ mil.)	Asset Type	Moody's	S&P	Fitch	Duff	Credit Event
Green Tree Recreational Equipment & Consumer Trust	1997-A	3/14/1997	250.0	OT	✓		✓		4
Green Tree Recreational Equipment & Consumer Trust	1997-B	6/18/1997	594.8	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1997-C	9/8/1997	500.0	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1997-D	12/8/1997	567.9	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1998-A	3/20/1998	500.0	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1998-B	6/19/1998	403.5	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1998-C	9/4/1998	800.0	OT		✓	✓		3
Green Tree Recreational Equipment & Consumer Trust	1999-A	6/16/1999	600.0	OT		✓	✓		3
Heilig-Meyers Master Trust	1998-1	2/27/1998	400.0	CP	✓	✓		✓	1
Heilig-Meyers Master Trust	1998-2	8/28/1998	338.4	CP	✓	✓		✓	1
Hollywood Funding No. 4 Ltd.		1998	33.6	OT		✓			2
Hollywood Funding No. 5 Ltd.		1997	48.4	OT		✓			1
Hollywood Funding No. 6 Ltd.		1998	100.7	OT		✓			1
IMC Home Equity Loan Trust	1997-3	6/6/1997	800.0	HE	✓	✓	✓		3
IMC Home Equity Loan Trust	1997-5	9/15/1997	975.0	HE	✓	✓	✓		1
Impac Secured Assets CMN Trust	1998-1	3/27/1998	303.0	HE	✓		✓		3
IndyMac Manufactured Housing Contract	1997-1	7/28/1997	142.4	MH	✓		✓		3
IndyMac Manufactured Housing Contract	1998-1	3/5/1998	139.6	MH	✓		✓		3
IndyMac Manufactured Housing Contract	1998-2	7/10/1998	229.5	MH		✓	✓		3
JCP Master Credit Card Trust	1991-C	1991		CP		✓			3
JCP Master Credit Card Trust	C	4/20/1990	375.0	CP	✓	✓			3
JCP Master Credit Card Trust	D	9/11/1990	425.0	CP	✓	✓			3
Keystone Home Improvement Loan Remic Trust	1997-P3	12/4/1997	182.1	HE	✓		✓		3
Keystone Home Improvement Loan Remic Trust	1997-P4	12/4/1997	122.1	HE	✓		✓		3
LSI Auto Grantor Trust	1996-B	12/17/1996	37.5	AS	✓	✓			4
LTV Steel Product LLC		3/2/1998	250.0	OT			✓		1
LTV Steel Product LLC		1994		OT		✓			1
MBNA Credit Card Trust	1990-A	3/20/1990	500.0	CB	✓	✓		✓	3
Meridian Grantor Trust	1991-A	2/15/1991	303.2	AP	✓	✓			3
Merrill Lynch Mortgage Investors Inc.	1990-A	3/6/1990	140.4	MH		✓			4
Merrill Lynch Mortgage Investors Inc.	1990-C	6/6/1990	149.2	MH		✓			4
Merrill Lynch Mortgage Investors Inc.	1990-F	9/5/1990	176.5	MH		✓			4
Midlantic Home Equity Loan Trust	1990-A	6/22/1990	250.0	HE	✓	✓			3
National City Credit Card Trust	1990-A	3/7/1990	350.0	CB	✓	✓			3
Norwest Automobile Trust	1990-A	6/26/1990	396.7	AP	✓	✓			3
Oakwood Mortgage Investors Inc.	1997-A	2/21/1997	185.1	MH		✓	✓		3
Oakwood Mortgage Investors Inc.	1997-B	5/15/1997	178.5	MH		✓	✓		3
Oakwood Mortgage Investors Inc.	1997-C	8/14/1997	234.6	MH		✓	✓		3
Oakwood Mortgage Investors Inc.	1997-D	11/14/1997	252.4	MH	✓		✓		3
Oakwood Mortgage Investors Inc.	1998-B	5/28/1998	300.0	MH		✓	✓		3
Oakwood Mortgage Investors Inc.	1998-D	11/3/1998	319.4	MH	✓	✓			2
Oakwood Mortgage Investors Inc.	1999-A	1/14/1999	351.3	MH	✓		✓		3
Oakwood Mortgage Investors Inc.	1999-B	5/11/1999	255.6	MH	✓		✓		3
OMI Trust	1999-C	6/25/1999	320.1	MH		✓	✓		4
People's Bank Credit Card Master Trust	1997-2	9/17/1997	500.0	CB	✓	✓	✓		4
People's Bank Credit Card Master Trust	1998-1	3/24/1998	400.0	CB	✓	✓	✓		4
People's Bank Credit Card Master Trust	1999-1	9/22/1999	400.0	CB	✓	✓	✓		4
Prime Finance Corp.	1996-A	12/13/1996	66.3	EQ				✓	4
Prime Finance Corp. Equipment Lease Trust	1998-A	3/31/1998	106.2	EQ			✓	✓	4
Residential Asset Securities Corp.	1998-KS2	6/23/1998	847.0	HE	✓	✓	✓		4
Sadia IFC Trust	1996-4	12/31/1996	85.0	OT	✓				2
Securitized Multiple Asset Rated Trust	1995-1	5/31/1995	80.0	OT		✓			1

Issuer	Series	Date	Amount ($ mil.)	Asset Type	Moody's	S&P	Fitch	Duff	Credit Event
Securitized Multiple Asset Rated Trust	1995-2	12/22/1995	53.0	OT		✓			1
Securitized Multiple Asset Rated Trust	1996-1	3/25/1996	86.3	OT		✓			1
Securitized Multiple Asset Rated Trust	1996-2	6/19/1996	72.0	OT		✓			1
Securitized Multiple Asset Rated Trust	1996-3	8/27/1996	100.0	OT	✓	✓			1
Securitized Multiple Asset Rated Trust	1996-4	1996		OT	✓	✓			1
Securitized Multiple Asset Rated Trust	1997-1	2/21/1997	65.0	OT	✓	✓			1
Securitized Multiple Asset Rated Trust	1997-2	3/31/1997	150.0	OT		✓		✓	1
Securitized Multiple Asset Rated Trust	1997-3	4/15/1997	147.0	OT	✓			✓	1
Securitized Multiple Asset Rated Trust	1997-4	7/30/1997	176.0	OT		✓	✓	✓	1
Securitized Multiple Asset Rated Trust	1997-5	9/29/1997	190.0	OT		✓	✓	✓	1
Securitized Multiple Asset Rated Trust	1997-6	12/5/1997	220.0	OT		✓	✓	✓	1
Securitized Multiple Asset Rated Trust	1998-1	2/27/1998	206.1	OT		✓	✓	✓	1
Southern Pacific Secured Assets Corp.	1997-2	6/16/1997	375.0	HE		✓	✓	✓	1
Structured Asset Securities Corp.	1998-2	1/28/1998	600.1	HE		✓	✓		4
Structured Asset Securities Corp.	1998-6	7/3/1998	142.5	HE		✓			3
Team Fleet Financing Corp.	1997-1	5/2/1997	500.0	AS	✓			✓	2
The Money Store Home Improvement Trust	1997-1	3/27/1997	175.0	HE	✓	✓			3
The Money Store Home Improvement Trust	1997-2	6/26/1997	250.0	HE	✓	✓			3
The Money Store Home Improvement Trust	1998-I	9/28/1998	200.0	HE		✓	✓		3
The Money Store Trust	1998-B/1	8/17/1998	523.3	HE	✓	✓			3
Tower Financial Corporation		1992	24.5	OT			✓		1
Tower Financial Corporation		1992	24.5	OT			✓		1
Tower Financial Corporation		1991	50.0	OT			✓		1
Tower Financial Corporation		1991	41.5	OT			✓		1
Tower Financial Corporation		1990	56.5	OT			✓		1
Travelers Receivable Finance LLC	2000-1	11/20/2000	21.3	OT	✓				3
UCFC Manufactured Housing Contract Trust	1996-1	9/26/1996	115.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1997-1	3/25/1997	75.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1997-2	6/23/1997	75.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1997-3	9/24/1997	75.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1997-4	12/18/1997	80.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1998-1	3/24/1998	100.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1998-2	6/12/1998	110.0	MH	✓		✓		3
UCFC Manufactured Housing Contract Trust	1998-3	9/24/1998	150.0	MH		✓	✓		3
UCP LLC I/II	1999-1	9/3/1999	375.3	EQ	✓		✓	✓	2
Unicapital LLC I/II	2000-1	3/28/2000	301.5	EQ			✓	✓	2
University Support Services Inc.	1991-1	8/29/1991	86.0	SL		✓			4
WMC Mortgage Loan Trust	1997-1	8/21/1997	200.0	HE	✓	✓	✓		3
WMC Mortgage Loan Trust	1997-2	12/3/1997	400.0	HE	✓	✓	✓		2
WMC Mortgage Loan Trust	1998-1	3/5/1998	300.0	HE	✓	✓	✓		3

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