

## Special Comment

# Moody's Credit Policy

March 2009

### Table of Contents:

Key Findings	1
An Overview of Rating Transitions in 2008	3
Sector Specific Analysis of Rating Transitions	14
Regional Comparisons of Rating Transitions	35
Rating Transitions Among Global Repackaged Securities and Structured Notes	42
Appendix I: Description of Data Sample and Glossary	44
Glossary	45
Appendix II: Methodology	48
Appendix III: Multi-Year Horizon Transition Matrices	50
Moody's Related Research	84

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## Structured Finance Rating Transitions: 1983-2008

This is Moody's seventh annual global structured finance rating transitions study. We review the 2008 and historical transition rates both on an aggregate basis and within key asset classes and provide comparisons to the corporate rating transition experience.

### Key Findings

- The 12-month downgrade rate for the global structured finance market climbed to a historical high of 35.5% in 2008 from 7.4% in 2007, while the upgrade rate decreased from 2.2% to 0.7%. Overall, 37,213 ratings from 6,263 deals were downgraded and 724 ratings from 284 deals were upgraded.
- The average number of notches lowered over the year per downgraded security also increased from 5.8 notches in 2007 to 8.3 notches in 2008; meanwhile, the average magnitude of upgrades fell from 2.3 notches to 2.1 notches.
- Aaa downgrades and transitions to Caa and below increased from the previous year and reached peak highs in 2008.
- The large numbers of downgrades in 2008 were primarily driven by the poor performance of recent vintage US mortgage-backed securities backed by subprime, Alt-A and Jumbo loans, structured finance CDOs with exposures to these securities and downgrades of the financial guarantors. The 12-month downgrade rate for US HEL (including subprime securities), US RMBS (including Alt-A and Jumbo securities), and US CDOs in 2008 rose to 54.3%, 37.3%, and 48.3%, respectively. However, if we exclude these poor performing asset classes and vintages, the global downgrade rate drops from 35.5% to 12.1%. Even the average size of the downgrade drops from 8.3 notches to 5.2 notches.
- Even though all structured finance sectors were exposed to negative headline risk, US CMBS performed better than the overall structured finance market in 2008 accounting for 63.8% of all upgrades and producing an upgrade-to downgrade ratio of nearly 1 to 1.



**Moody's Investors Service**

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 1 Global Structured Finance 12-Month Downgrade and Upgrade Rates by Sector in 2008, 2007, and Averaged over 1999-2008**

	12-month Downgrade Rate			12-month Upgrade Rate		
	2008	2007	1999-2008	2008	2007	1999-2008
US ABS ex HEL	16.1%	0.4%	5.5%	0.3%	2.5%	1.5%
US Autos	20.5%	0.0%	1.4%	1.3%	9.2%	5.1%
US Credit Cards	4.5%	0.0%	0.9%	0.0%	7.5%	2.0%
US Student Loans	23.9%	0.1%	2.0%	0.0%	0.7%	0.8%
US Equipment Lease	5.6%	1.7%	4.8%	5.2%	4.2%	2.3%
US HEL (includes subprime)	54.3%	18.5%	13.8%	0.1%	1.0%	0.9%
excl '05-'07 vintages	23.5%	9.4%	4.3%	0.2%	2.1%	1.2%
US RMBS (includes Alt-A, Jumbo)	37.3%	4.5%	5.0%	0.0%	0.7%	1.6%
excl '05-'07 vintages	6.6%	0.6%	0.4%	0.1%	1.7%	2.2%
US CMBS	4.3%	0.8%	2.6%	4.7%	10.2%	9.2%
US CDOs	48.3%	8.3%	13.9%	0.6%	1.3%	1.3%
excl US SF CDOs	18.1%	1.1%	6.7%	1.1%	1.3%	1.4%
US HY CBOs	5.9%	2.8%	14.9%	1.5%	4.3%	3.0%
US HY CLOs	2.5%	0.2%	1.3%	1.7%	0.6%	1.0%
US SF CDOs	90.8%	20.0%	32.0%	0.0%	1.3%	1.0%
US Synthetic Arbitrage CDOs	59.7%	0.9%	12.0%	0.0%	0.4%	0.3%
US Structured Finance	38.0%	8.1%	7.8%	0.6%	2.0%	2.2%
EMEA Structured Finance	19.1%	2.7%	4.5%	0.9%	3.0%	2.8%
Asia Pacific Structured Finance	7.7%	0.9%	1.3%	2.6%	4.6%	4.1%
Latin America Structured Finance	17.8%	1.0%	7.8%	3.5%	13.3%	7.2%
Global Structured Finance	35.5%	7.4%	7.4%	0.7%	2.2%	2.3%
excl SF CDOs, Other SF, and '05-'07 vintage US HEL & RMBS	12.1%	2.3%	3.2%	1.3%	3.6%	2.8%
Global Corporate	18.2%	8.8%	13.2%	4.6%	18.7%	11.2%

- Even though no region was spared from a sharp increase in the 12-month downgrade rate for the cohort ending 12/31/2008, the Asia-Pacific Structured market experienced the smallest increase. It also experienced the lowest rate and the smallest average downgrade size. The EMEA region was exposed to similar macro factors as was the US such as flat or declining home prices, corporate failures and increased refinancing risk. Latin America saw the bulk of its downgrades result from financial guarantor related downgrades.

## Structured Finance Rating Transitions: 1983-2008

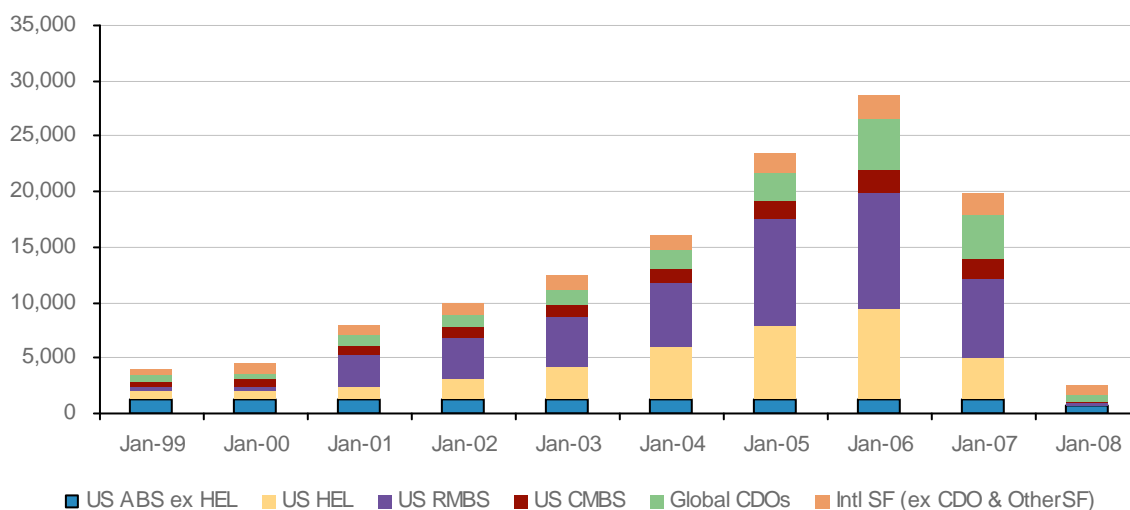
## An Overview of Rating Transitions in 2008

2008 marked the most tumultuous year experienced to date by the global structured finance market. The tip of the iceberg revealed itself in the second half of 2007 when house price declines in the US resulted in poor performance of recent vintage securities backed by subprime and Alt-A mortgages leading to series of downgrades. This in turn caused multiple negative rating actions to be taken against recently securitized CDOs with exposures to these downgraded mortgage-backed securities. The subsequent decline in the market value of structured finance securities and stressful conditions in the market in general had a devastating effect on transactions exposed to liquidity and market price volatility, such as structured investment vehicles and market-value CDOs. The size and scope of these cascading events eventually lead to bank failures and insurer downgrades across the globe as a result of leverage, margin calls, bleeding portfolios with limited refinancing opportunities and rising unemployment. As a result of these unprecedented market conditions, the 12-month downgrade rate increased to a historical high in 2008 and there was no sector or region that was immune from the deteriorating performance from 2007.

In this section we discuss rating transitions for the global structured finance market, excluding derivative securities such as structured notes and repackaged securities. Detailed rating transitions data for the major sectors in the US (ABS excluding HEL, HEL, RMBS, CMBS, and CDOs) and the other structured finance category are presented later in the report. Rating transitions in EMEA (Europe, the Middle East, and Africa), the Asia-Pacific region and Latin America, as well as the global derivatives sector, are also analyzed later in the report.<sup>1</sup> Multi-year horizon transition matrices can be found in the Appendix. Note that the criteria used to create the data set are the same as those used in last year's report. Pari-passu tranches remain uncollapsed and wrapped tranches are included. In addition, the rating immediately prior to withdrawal is now used to count downgrades and upgrades. For a more detailed description of the data sample and calculation methods, please see the Appendix.

In 2008, structured finance issuance was down sharply, 50% on a dollar volume basis and 87% by count from 2007 levels (Exhibit 2). The severe contraction was seen in all sectors from US mortgage-backed securities to Global CDOs. US HEL issuance (including subprime securities) dropped roughly 99.5% by volume and count, US RMBS issuance (including Alt-A securities) decreased about 92% by volume and 96% by count, US CMBS dropped roughly 90% by volume and count and CDOs, globally, fell approximately 80% by volume and 90% by count. While the US ABS (excluding HEL) and international structured finance market were down 50% by count, on a volume basis they were down moderately (20% and 2% respectively) (Exhibit 2).

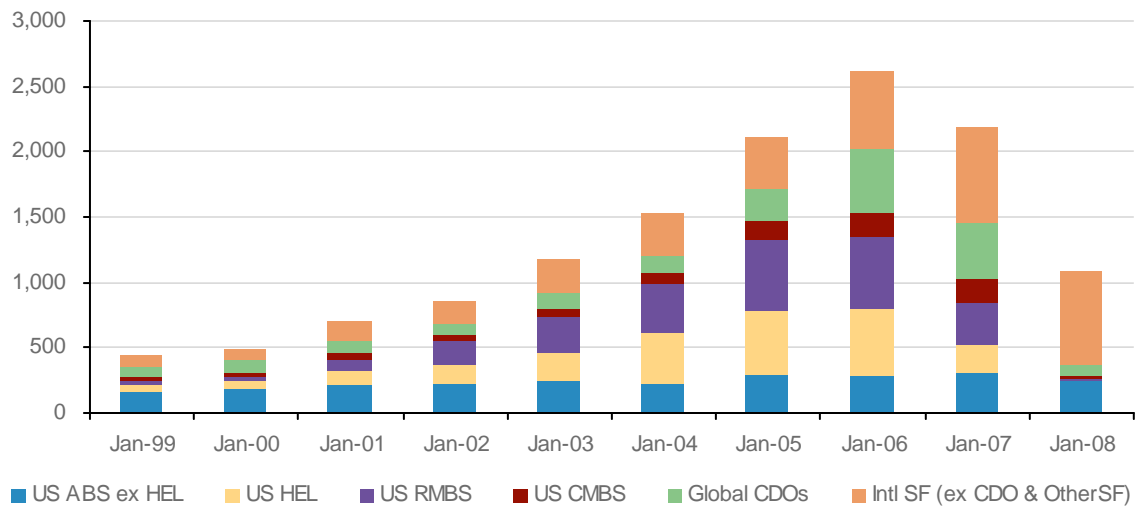
Exhibit 2A: Structured Finance Issuance by Rating Count per Year



<sup>1</sup> Moody's also publishes separate rating transition studies for EMEA, Japan, and the Asia Pacific region ex-Japan (forthcoming).

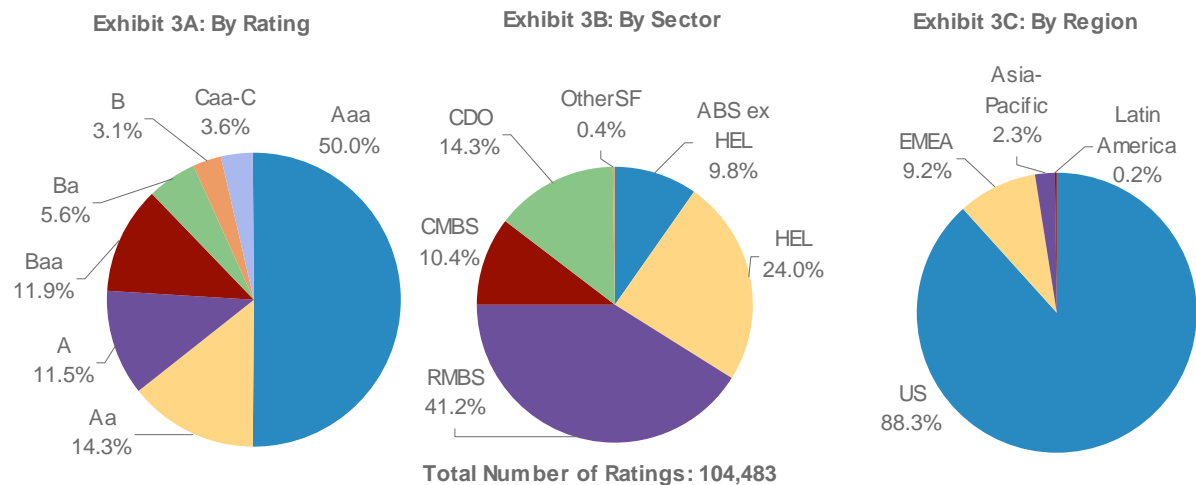
## Structured Finance Rating Transitions: 1983-2008

Exhibit 2B: Structured Finance Issuance Volume (US\$ billions) per Year



At the beginning of 2008, there were 104,483 global structured finance ratings outstanding from 14,792 deals. More than half the securities outstanding at the beginning of the year were Aaa-rated, with the rest of the investment-grade rating categories taking roughly equal shares of around 11.5%-14% each (Exhibit 3A). By sector, RMBS was the biggest share (41.2%), followed by HEL (24%), CDOs (14.3%), ABS excluding HEL (9.8%), CMBS (10.4%), and the other structured finance category (0.4%) (Exhibit 3B). Structured finance ratings were still heavily concentrated in the US,<sup>2</sup> which accounted for 88.3% of outstanding ratings (Exhibit 3C).

Exhibit 3: Distribution of Outstanding Ratings on 1/1/2008

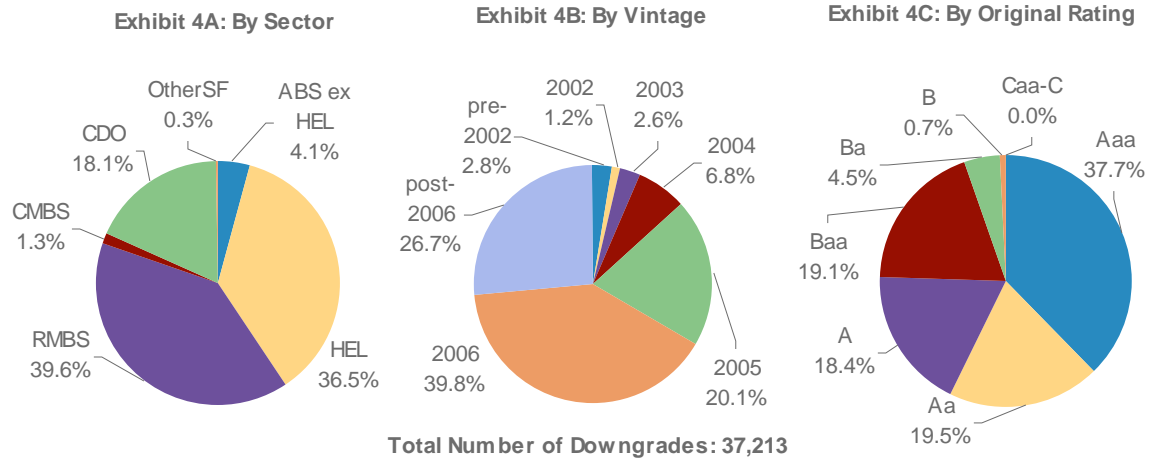


Over the course of 2008, 37,213 ratings from 6,263 deals were downgraded and 724 ratings from 284 deals were upgraded in the global structured finance market. Like 2007, downgrades were heavily skewed to a few specific sectors, vintages, and rating categories. 94% of the downgrades occurred in RMBS (39.6%), HEL (36.5%) and CDO (18%) sectors (Exhibit 4A). Securities issued post -2004 accounted for almost 86.6% of downgrade activity (Exhibit 4B), while close to 95% of the downgrades occurred in the originally investment grade rated category (Exhibit 4C). As discussed later, the bulk of the downgrades in 2008 involved poorly performing subprime, Alt-A, and SF CDO securities from the 2005H2, 2006 and 2007 vintages.

<sup>2</sup> Canadian structured finance securities are included in the US total. There were 382 Canadian structured finance ratings outstanding as of 1/1/2008, representing only 0.41% of the US total.

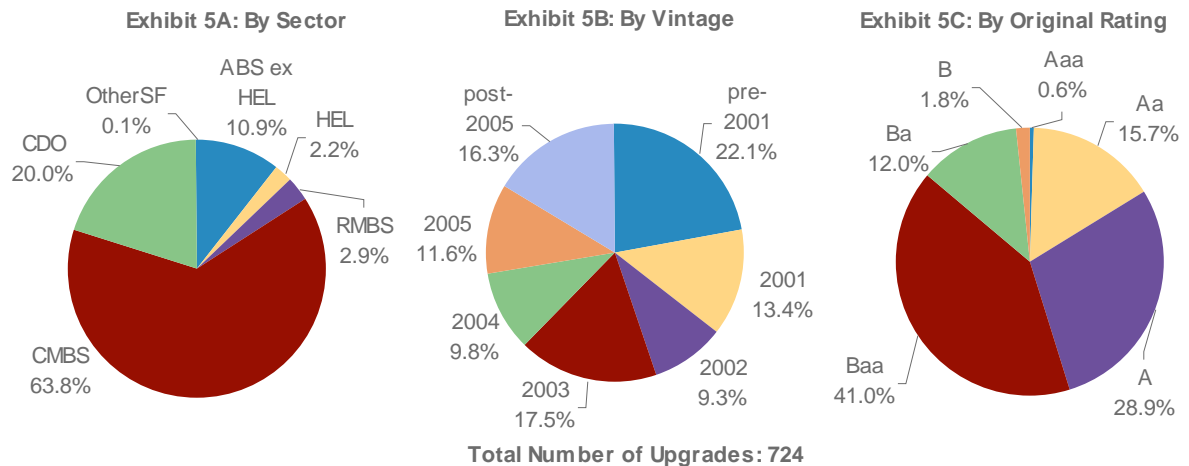
## Structured Finance Rating Transitions: 1983-2008

Exhibit 4: Distribution of Downgrades in 2008



As in 2005, 2006 and 2007, upgrades for the year were concentrated in the CMBS sector, the source of 63.8% of all upgrade activity in 2008 (Exhibit 5A). Unlike downgrades during the year, upgrades were more uniformly distributed by vintage (Exhibit 5B). Securities originally rated Baa and single-A were upgraded the most, but Aa-rated securities also accounted for a significant share of upgrade activity (Exhibit 5C). Upgrades were mostly caused by increased credit enhancement and/or strong collateral performance.

Exhibit 5: Distribution of Upgrades in 2008



## Analysis of Rating Transition Trends

The 12-month downgrade rate climbed from 7.4% to a historical high of 35.5% in 2008, while the 12-month upgrade rate declined from 2.2% to 0.6% (Exhibits 6A and 6E). The average magnitude of rating downgrades, measured as the average number of notches changed in the course of a 12-month period per downgraded security, also saw an increase to 8.3 notches from 5.8 in 2007 and 2.9 in 2006 (Exhibit 6B). Meanwhile, the average magnitude of upgrades stayed relatively flat in 2008 at 2.1 notches from 2.3 in 2007.

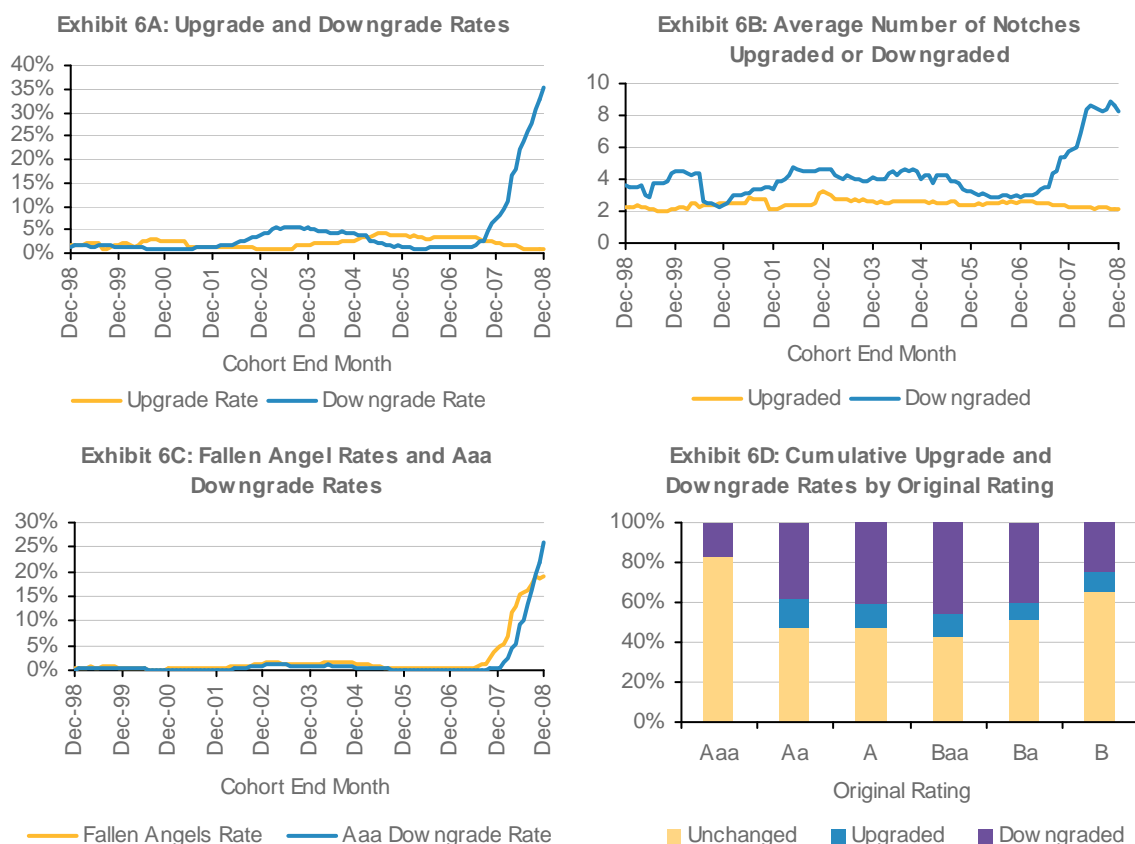
Both the fallen angel rate, defined as the rate at which investment-grade securities are downgraded to non-investment grade, and the Aaa downgrade rate increased to 19.2% and 26.1% respectively in 2008, mimicking the overall 12-month downgrade rate (Exhibit 6C).

Exhibit 6D shows the cumulative transition rates of securities issued between 1983 and 2008. It compares the original rating of the tranche to its rating as of 12/31/08 (or to its last rating prior to withdrawal). Despite the downgrades of 2008, Aaa ratings, which comprise of approximately 50% of the entire structured finance market, were relatively more stable than the other broad rating categories, having experienced a 16.6%

## Structured Finance Rating Transitions: 1983-2008

downgrade rate. The other broad rating categories have been less stable with more than half having lost their original ratings to a downgrade or upgrade event. The double-A and single-B rating categories experienced a 2.5 cumulative downgrade to upgrade ratio, the single-A rating category experienced a 3.2 cumulative downgrade to upgrade ratio and, the Baa and Ba broad rating categories experienced a 4.5 cumulative downgrade to upgrade ratio.

**Exhibit 6A: Global Structured Finance Rating Transition Trends**



**Exhibit 6E: Summary of Rating Transition Trends**

	2008	2007	1999-2008	1999-2007
Downgrade Rate	35.50%	7.41%	7.38%	2.63%
Upgrade Rate	0.69%	2.21%	2.30%	2.62%
Downgrade/Upgrade Ratio	51.59	3.35	3.21	1.00
Downgrade Rate (Notch Weighted)	294.64%	42.69%	52.98%	11.08%
Upgrade Rate (Notch Weighted)	1.46%	5.04%	5.68%	6.59%
Downgrade/Upgrade Ratio (Notch Weighted)	202.26	8.47	9.32	1.68
Rating Drift (Notch Weighted)	-293.18%	-37.65%	-47.30%	-4.49%
Rating Volatility (Notch Weighted)	296.09%	47.72%	58.67%	17.66%
Stability Rate	63.81%	90.37%	90.32%	94.75%
Average Number of Notches Downgraded	8.30	5.76	7.18	4.22
Average Number of Notches Upgraded	2.12	2.28	2.48	2.51

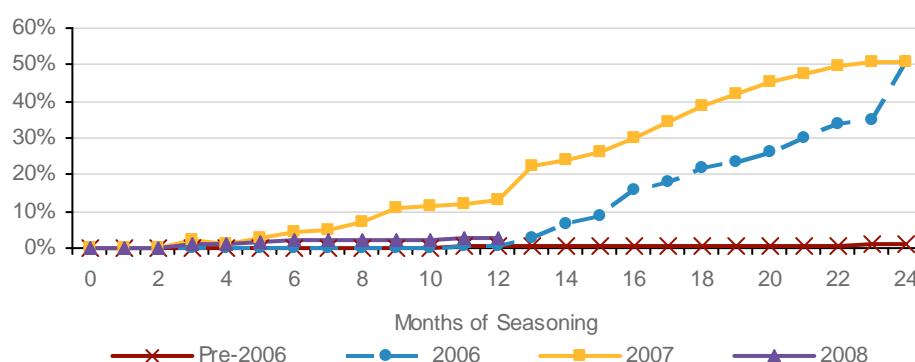
Securities issued in 2008 experienced much higher downgrades rates than historically observed for securities in their first year of seasoning. This creates an inconsistency between the downgrade counts shown in Exhibit 4 and some of the downgrade statistics in Exhibit 6. Exhibit 4 counts all securities that experienced a net

## Structured Finance Rating Transitions: 1983-2008

downgrade during 2008, regardless of when the security was issued, while the transition statistics in Exhibits 6A, 6B, and 6C only cover rating changes for ratings that were outstanding as of the beginning of the year.<sup>3</sup> For example, the 12-month downgrade rate for 2008 is calculated as a percentage of the ratings that were outstanding as of 1/1/08 that had a lower rating as of 12/31/08 (or before withdrawal, as the case may be). Therefore, securities that were issued during 2008 would not be counted in this calculation. This was not a significant issue in previous years because not many securities experienced rating changes within the first year of their lives.

To put this into context, Exhibit 6F graphs the cumulative downgrade rate by seasoning of various vintage groupings. Securities issued pre-2007 experienced negligible downgrade activity in the first year of seasoning. For securities in the 2007 vintage that had been seasoned 12 months, 13% had already experienced a downgrade, and for securities issued in 2008 that had reached 6 months of seasoning, almost 2% had already experienced a downgrade. Of course, the 2008 vintage was exposed to more stringent underwriting standards and has therefore performed better than the 2007 cohort at the same level of seasoning.

Exhibit 6F: Cumulative Downgrade Rate by Seasoning and Vintage



### Comparison to Structured Finance Rating Transitions excluding SF CDOs, 2005-2007 vintage US HEL and RMBS

Excluding the poor performing vintages/asset classes causes the 12-month downgrade rate for 2008 to drop to 12.1% from 35.5% and the average number of notches downgraded to drop to 5.2 notches from 8.3 notches (when all sectors and vintages are included). The upgrade rate climbs to 1.3% from 0.7% while the average magnitude of upgrades stays relatively flat in 2008 at 2.1 (Exhibits 6A, 6B, 6E, 7A, 7B and 7E). Both the fallen angel rate and the Aaa downgrade rate drop to 4.1% and 10.4% from 19.2% and 26.1% respectively (Exhibits 6C and 7C).

Exhibit 7D shows the cumulative transition rates of securities issued between 1983 and 2008. Excluding the poor performing asset classes and vintages would boost the Aaa ratings stability rate to 94.4% from 83.4%. The other broad rating categories would retain around 65% of their original ratings and lose the remaining 35% more evenly to an upgrade or downgrade event.

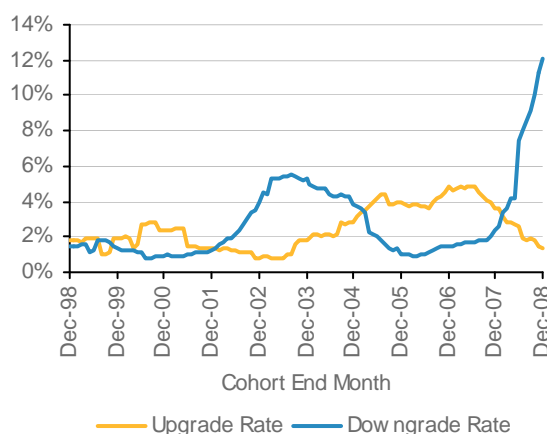
<sup>3</sup> This is not true of Exhibit 6D which includes all securities issued between 1983 and 2008.



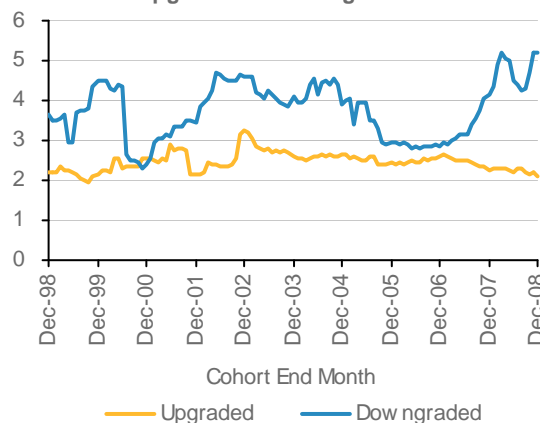
## Structured Finance Rating Transitions: 1983-2008

**Exhibit 7: Global Structured Finance Rating Transition Trends excl SF CDOs, Other, and '05-'07 Vintage US HEL & RMBS**

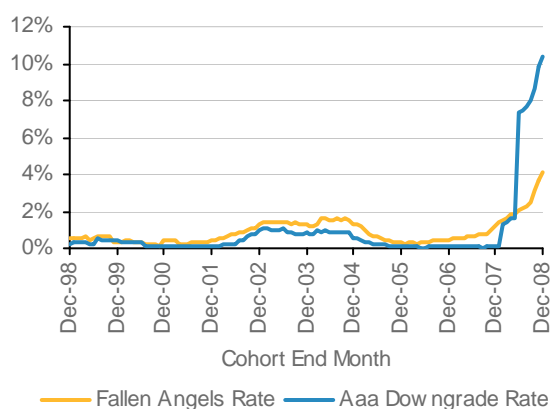
**Exhibit 7A: Upgrade and Downgrade Rates**



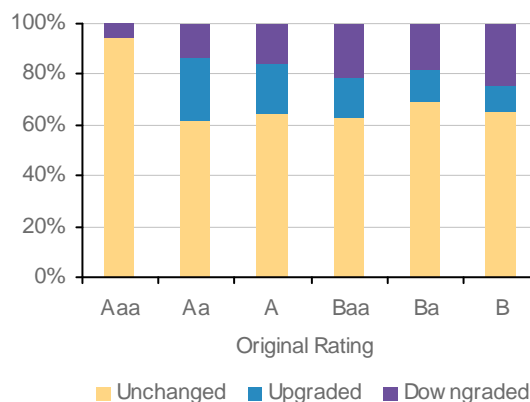
**Exhibit 7B: Average Number of Notches Upgraded or Downgraded**



**Exhibit 7C: Fallen Angel Rates and Aaa Downgrade Rates**



**Exhibit 7D: Cumulative Upgrade and Downgrade Rates by Original Rating**



**Exhibit 7E: Summary of Rating Transition Trends**

	2008	2007	1999-2008	1999-2007
Downgrade Rate	12.11%	2.33%	3.18%	2.41%
Upgrade Rate	1.31%	3.58%	2.85%	2.95%
Downgrade/Upgrade Ratio	9.23	0.65	1.12	0.82
Downgrade Rate (Notch Weighted)	63.23%	9.70%	13.37%	9.35%
Upgrade Rate (Notch Weighted)	2.78%	8.13%	7.06%	7.42%
Downgrade/Upgrade Ratio (Notch Weighted)	22.74	1.19	1.89	1.26
Rating Drift (Notch Weighted)	-60.45%	-1.57%	-6.32%	-1.93%
Rating Volatility (Notch Weighted)	66.01%	17.83%	20.43%	16.77%
Stability Rate	86.57%	94.09%	93.97%	94.64%
Average Number of Notches Downgraded	5.22	4.17	4.21	3.88
Average Number of Notches Upgraded	2.12	2.27	2.48	2.51



## Structured Finance Rating Transitions: 1983-2008

### Downgrades of Aaa-rated Securities

Due to the apparent vulnerability of Aaa-rated securities to downgrades, Exhibit 8 takes a closer look at this phenomenon. Exhibit 8 shows the cumulative rating migration experience to date of securities originally rated Aaa for transactions securitized prior to 2006 and deals issued in 2006, 2007 and 2008 (excluding the other structured finance category).

For the pre-2006 vintages, the overall Aaa downgrade rate was 7.8% by count and 9.1% by volume and the transition rate into the non-investment grade categories was 1.3% by count and 1.6% volume. However, the Aaa downgrade rates for securities that closed in 2006 and 2007 have already surpassed those of the pre-2006 vintages, which is unique given the relatively unseasoned status of these securities.

For the 2006 vintage, 40.4% of securities originally rated Aaa have been downgraded by count and 29.4% by volume while, 13.1% by count and 11.5% by volume downgraded to a non-investment grade rating. Aaa-rated securities issued in 2007 have performed even worse with a 43.2% downgrade rate by count and 26.3% by volume. Transitions to below investment grade ratings are also more frequent for the 2007 vintage than for the other vintages at 17.9% by count and 12.5% by volume.

The 2008 vintage looks the best so far. However, given the relatively unseasoned status of these securities, not much can be inferred about this cohort yet.

**Exhibit 8: Cumulative Rating Transitions of Securities Originally Rated Aaa as of 12/31/08**

Pre-2006 Vintages	Aaa	Aa	A	Baa	Ba	B	Caa	Ca/C
By Count	58,989	2,091	1,203	869	260	232	249	94
% By Count	92.2%	3.3%	1.9%	1.4%	0.4%	0.4%	0.4%	0.1%
By Volume (US\$ bil)	7908.8	332.5	136.0	175.4	36.5	52.6	47.6	11.9
% By Volume	90.9%	3.8%	1.6%	2.0%	0.4%	0.6%	0.5%	0.1%
2006 Vintage	Aaa	Aa	A	Baa	Ba	B	Caa	Ca/C
By Count	8,068	1,196	1,369	1,141	620	374	370	410
% By Count	59.6%	8.8%	10.1%	8.4%	4.6%	2.8%	2.7%	3.0%
By Volume (US\$ bil)	1702.0	159.2	159.3	111.6	58.7	48.9	87.0	84.9
% By Volume	70.6%	6.6%	6.6%	4.6%	2.4%	2.0%	3.6%	3.5%
2007 Vintage	Aaa	Aa	A	Baa	Ba	B	Caa	Ca/C
By Count	5,564	793	850	830	660	375	231	485
% By Count	56.8%	8.1%	8.7%	8.5%	6.7%	3.8%	2.4%	5.0%
By Volume (US\$ bil)	1468.3	92.1	89.0	93.7	52.2	59.1	34.3	103.6
% By Volume	73.7%	4.6%	4.5%	4.7%	2.6%	3.0%	1.7%	5.2%
2008 Vintage	Aaa	Aa	A	Baa	Ba	B	Caa	Ca/C
By Count	1,342	34	0	4	3	1	1	0
% By Count	96.9%	2.5%	0.0%	0.3%	0.2%	0.1%	0.1%	0.0%
By Volume (US\$ bil)	1003.5	8.7	0.0	1.4	0.4	0.5	0.0	0.0
% By Volume	98.9%	0.9%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%

*Note: Data does not include the Other Structured Finance category.*

## Structured Finance Rating Transitions: 1983-2008

### Transitions to Caa and Below

Another atypical feature of 2008 was the comparatively large proportion of downgrades into the lowest rating categories. Exhibit 9 shows the number and amount of securities downgraded to Caa and below by original rating category, again for the pre-2006 vintages, the 2006 vintage, the 2007 vintage and the 2008 vintage. By count, the overall transition rate to Caa and below is 5.6% for securities issued prior to 2006, 28.7% for securities issued in 2006, 23.8% for securities issued in 2007 and 0.4% for securities issued in 2008. By volume, the rates are 1.8%, 10.4%, 9.1% and 0.5%, respectively.

Comparing the overall downgrade rate between these three groups may be misleading because it does not control for differences in the rating distribution by closing year. In fact, there was a higher percentage of Aaa ratings and a lower percentage of speculative grade ratings in the pre-2006 vintages than in later vintages. However, even controlling for ratings, all securities rated Ba or higher that closed in 2006 or 2007 have similar or higher migration rates to Caa and below than securities that closed in 2005 or earlier. This is true despite the fact that the pre-2006 vintages are obviously more seasoned than the 2006 and 2007 vintages.

**Exhibit 9: Cumulative Rating Transitions to Caa and Below by Original Rating as of 12/31/08**

Pre-2006 Vintages	Aaa	Aa	A	Baa	Ba	B	Total
By Count	343	520	1,016	2,642	1,050	339	5,910
Total By Count	63,987	13,076	12,048	11,869	3,912	1,462	106,354
% By Count	0.5%	4.0%	8.4%	22.3%	26.8%	23.2%	5.6%
By Volume (US\$ bil)	59.5	20.9	24.6	56.0	12.4	4.9	178.3
Total By Volume	8,701.2	654.6	422.0	304.0	62.8	15.2	10,159.8
% By Volume	0.7%	3.2%	5.8%	18.4%	19.8%	32.0%	1.8%
2006 Vintage	Aaa	Aa	A	Baa	Ba	B	Total
By Count	780	1,610	2,318	2,602	871	54	8,235
Total By Count	13,548	4,789	4,172	4,258	1,612	313	28,692
% By Count	5.8%	33.6%	55.6%	61.1%	54.0%	17.3%	28.7%
By Volume (US\$ bil)	171.9	44.6	34.1	28.7	7.8	0.3	287.4
Total By Volume	2,411.6	140.2	103.4	88.3	23.5	3.8	2,770.8
% By Volume	7.1%	31.8%	33.0%	32.5%	33.0%	7.8%	10.4%
2007 Vintage	Aaa	Aa	A	Baa	Ba	B	Total
By Count	716	1,004	1,264	1,384	314	49	4,731
Total By Count	9,788	3,287	2,770	2,812	964	247	19,868
% By Count	7.3%	30.5%	45.6%	49.2%	32.6%	19.8%	23.8%
By Volume (US\$ bil)	137.9	26.9	18.6	19.7	3.0	1.8	208.0
Total By Volume	1,992.5	100.3	81.6	93.3	16.0	4.2	2,287.8
% By Volume	6.9%	26.8%	22.8%	21.2%	19.1%	42.9%	9.1%
2008 Vintage	Aaa	Aa	A	Baa	Ba	B	Total
By Count	1		5	1		4	11
Total By Count	1,385	263	337	341	156	62	2,544
% By Count	0.1%	0.0%	1.5%	0.3%	0.0%	6.5%	0.4%
By Volume (US\$ bil)	0.0	0.0	4.4	1.0	0.0	0.8	6.2
Total By Volume	1014.4	51.6	81.0	26.9	5.6	1.7	1181.2
% By Volume	0.0%	0.0%	5.4%	3.6%	0.0%	48.1%	0.5%

*Note: Data does not include the Other Structured Finance category.*

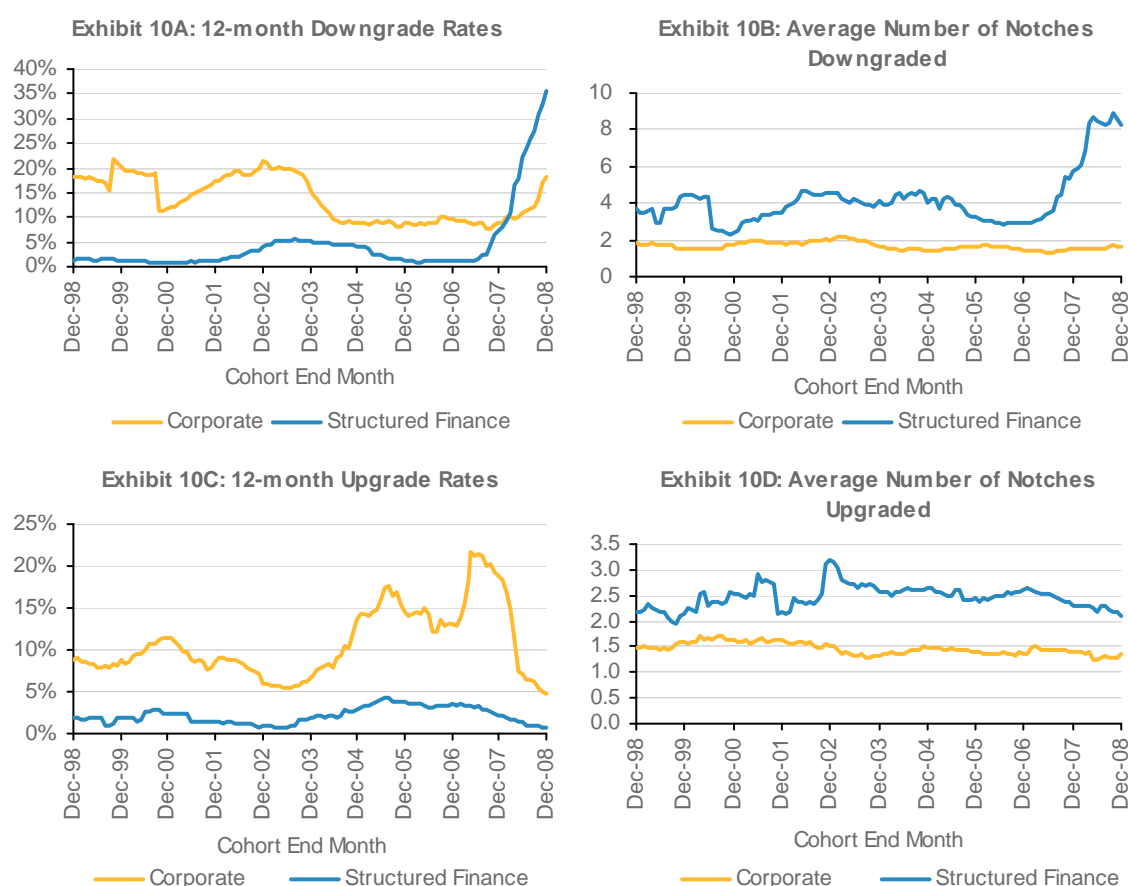
## Structured Finance Rating Transitions: 1983-2008

### Comparison to Corporate Rating Transitions

The rating transition experience of the structured finance and corporate finance markets<sup>4</sup> continued to diverge in 2008 even though both sectors saw their downgrade rates rise in 2008 (Exhibit 10). The past experience has been that corporate ratings are much less stable than structured ratings, but when rating changes do occur, the average magnitude of the change is much lower for corporate finance than structured finance. In 2008, not only did the structured finance downgrade rate far exceed the corporate, but the difference in the size of rating downgrades ballooned (8.3 notches for structured versus 1.6 notches for corporate).

Both the structured finance upgrade rate and the corporate upgrade rate dropped considerably, because of the deteriorating macroeconomic environment. The magnitude of rating upgrades also declined slightly in both sectors, remaining about a notch apart from each other.

**Exhibit 10: Comparison of Rating Transition Trends for Corporate and Structured Finance**



<sup>4</sup> The structured finance and corporate transition statistics presented in this section use different methodologies in treating rating withdrawals. The structured finance statistics use the rating before WR as the end rating, while the corporate statistics exclude non-defaulted withdrawn ratings from the calculation. In addition, defaults are treated as downgrades for the corporate sector.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 10E: Summary of Rating Transition Trends

	Structured Finance		Corporate Finance	
	2008	1984-2008	2008	1984-2008
Downgrade Rate	35.50%	6.25%	18.22%	13.47%
Upgrade Rate	0.69%	2.24%	4.64%	9.86%
Downgrade/Upgrade Ratio	51.59	2.79	3.92	1.37
Downgrade Rate (Notch Weighted)	294.64%	43.64%	29.96%	23.91%
Upgrade Rate (Notch Weighted)	1.46%	5.30%	6.24%	14.67%
Downgrade/Upgrade Ratio (Notch Weighted)	202.26	8.24	4.80	1.63
Rating Drift (Notch Weighted)	-293.18%	-38.35%	-23.72%	-9.24%
Rating Volatility (Notch Weighted)	296.09%	48.94%	36.20%	38.58%
Stability Rate	63.81%	91.52%	77.14%	76.67%
Average Number of Notches Downgraded	8.30	6.99	1.64	1.78
Average Number of Notches Upgraded	2.12	2.37	1.34	1.49

Exhibit 11 compares the 12-month rating transition matrices for global structured finance and global corporate finance in 2008 and averaged over the period 1984 to 2008. For the 2008 cohort and 1984-2008 cohort, structured finance securities were less stable than their corporate counterparts and experienced much higher downgrade rates. This contrasts with the historical experience when all structured finance rating categories were more stable. In addition, across rating categories, structured finance securities were also much more likely to be downgraded to Caa and below than were corporate securities, which is actually consistent with past experience.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 11: Global Structured Finance and Global Corporate Finance 12-month Rating Transition Matrices

Structured Finance in 2008							
	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	73.89%	7.23%	6.31%	5.32%	2.84%	1.74%	2.66%
Aa	1.00%	55.51%	7.29%	5.68%	4.83%	7.98%	17.71%
A	0.27%	0.92%	58.86%	7.72%	4.78%	6.39%	21.07%
Baa	0.10%	0.05%	0.82%	55.42%	5.47%	6.26%	31.88%
Ba	0.05%	0.02%	0.05%	0.67%	54.67%	3.81%	40.74%
B				0.09%	0.21%	45.65%	54.04%
Caa and below						0.13%	99.87%
Structured Finance: 1984-2008 average over 12-month horizon							
	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	97.79%	0.76%	0.53%	0.37%	0.19%	0.14%	0.21%
Aa	5.27%	87.19%	2.14%	1.12%	0.80%	1.72%	1.77%
A	1.10%	3.26%	85.61%	3.28%	1.39%	2.02%	3.34%
Baa	0.37%	0.47%	2.46%	83.17%	3.46%	2.92%	7.14%
Ba	0.15%	0.07%	0.45%	2.46%	82.33%	3.56%	10.98%
B	0.07%	0.04%	0.08%	0.34%	1.95%	83.63%	13.89%
Caa and below	0.03%			0.07%	0.08%	0.51%	99.30%
Corporate Finance in 2008							
	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	95.85%	4.15%					
Aa	4.43%	91.25%	4.12%	0.10%		0.10%	
A		10.02%	87.10%	2.69%	0.06%		0.13%
Baa		0.18%	7.30%	88.63%	3.60%	0.28%	
Ba			0.18%	8.06%	83.70%	7.33%	0.73%
B	0.10%			0.19%	6.67%	83.60%	9.44%
Caa and below						15.12%	84.88%
Corporate Finance: 1984-2008 average over 12-month horizon							
	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	92.76%	6.97%	0.26%		0.02%		
Aa	1.26%	91.45%	6.95%	0.27%	0.05%	0.02%	0.01%
A	0.07%	3.01%	90.91%	5.30%	0.55%	0.11%	0.04%
Baa	0.05%	0.21%	5.37%	88.33%	4.53%	1.00%	0.51%
Ba	0.01%	0.06%	0.43%	6.48%	81.47%	9.56%	2.00%
B	0.01%	0.05%	0.18%	0.40%	6.16%	81.72%	11.47%
Caa and below		0.03%	0.04%	0.19%	0.67%	11.44%	87.63%

## Structured Finance Rating Transitions: 1983-2008

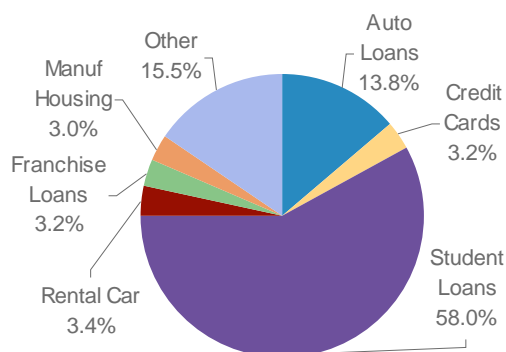
## Sector Specific Analysis of Rating Transitions

## US ABS ex HEL

The US ABS excluding HEL sector saw a total of 1320 ratings from 400 deals downgraded and 25 ratings from 19 deals upgraded in 2008. Most of the downgrades (80.7%) were caused by the downgrades of the financial guarantors backing these transactions and the modification of Moody's approach to rating a structured finance security that is wrapped by a financial guarantor in November 2008.<sup>5</sup> Moody's current rating for a wrapped tranche is now the higher of (i) the guarantor's financial strength rating or (ii) the current underlying rating (i.e., absent consideration of the guaranty) on the security, regardless of whether the underlying rating is published or not. If Moody's is unable to determine the underlying rating or if an issuer has requested that the guaranty constitute the sole credit consideration, the wrapped security will take the rating of the financial guarantor. This announcement led to downgrades across the entire ABS universe claiming 99% of all downgrades in the auto loans sector followed by 82% of all downgrades in the student loans sector, 75% of all downgrades in the manufactured housing sector and 67.5% of all downgrades in the remaining sectors (Exhibit 12).

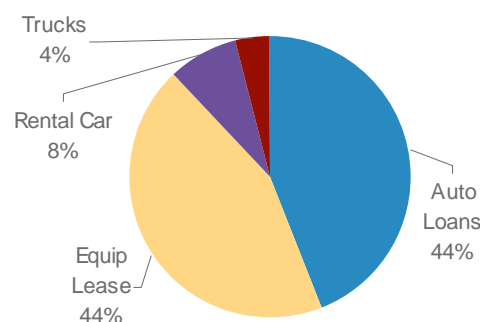
Exhibit 12: Distribution of US ABS Rating Changes in 2008

Exhibit 12A: Downgrades by Asset Class



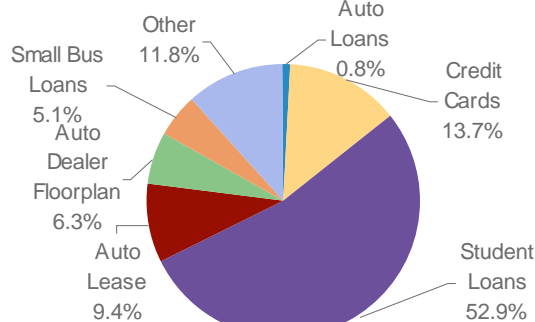
Total: 1,320

Exhibit 12B: Upgrades by Asset Class



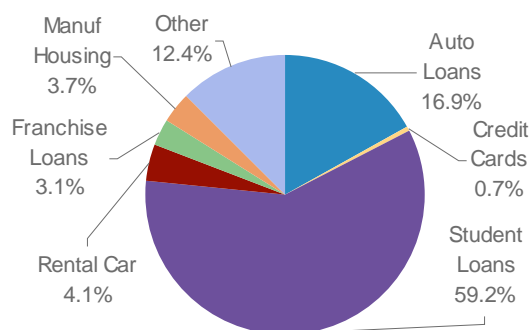
Total: 25

Exhibit 12C: Downgrades of Non-wrapped Securities by Asset Class



Total: 254

Exhibit 12D: Downgrades of Wrapped Securities by Asset Class



Total: 1,065

In addition to the financial guarantor related downgrades, the remaining 135 transactions backed by student loans were downgraded due to worse than expected collateral performance, negative changes to back-up servicer arrangements following the bankruptcy filing of The Education Resources Institute (TERI), increased funding costs of LIBOR and Prime rates and excess spread compression due to the prolonged and continuing dislocations in the Student Loan Auction Rate Securities (SLARS) market.<sup>6</sup> Thirty-five transactions backed by

<sup>5</sup> See "Moody's modifies approach to rating structured finance securities wrapped by financial guarantors", November 10, 2008.

<sup>6</sup> See "Rating Changes in the US Asset Backed Securities Market: 2008 Fourth Quarter Update", January 27, 2009.

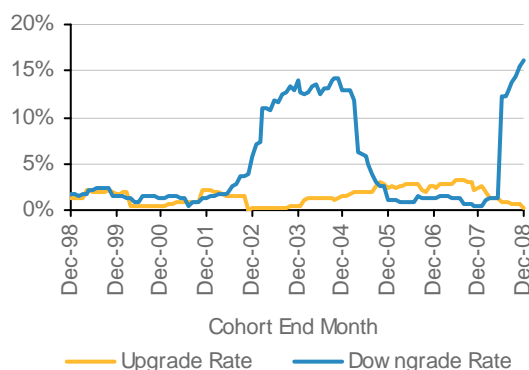
## Structured Finance Rating Transitions: 1983-2008

credit cards were downgraded as a result of the weakening of WAMU as seller/servicer and Specialty finance – Conn's exposure to mostly subprime obligors. Twenty-four auto lease tranches saw residual values stressed in the challenging environment and were consequently downgraded. Sixteen auto floorplans and nine franchise loan tranches were downgraded as a result of poor performance and distress in the auto manufacturing industry and bankruptcy in the restaurant industry. The remaining 36 downgrades across the various other ABS categories were caused by any and all combinations of poor performance of the portfolio, downgrades of insurers (like AIG), banks and timber companies and low credit enhancement relative to the stressed enhancement levels.

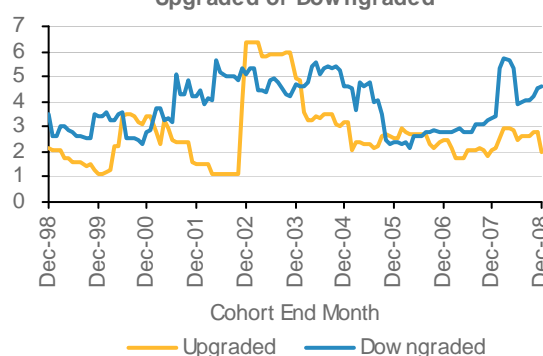
Eighteen of the 25 upgrades were from the 2005 vintage; the remaining seven were evenly distributed across the 2003, 2004, 2006 and 2008 vintages. Eleven tranches backed by auto loans, eleven tranches backed by equipment leases, three tranches backed by rental cars and one tranche backed by truck receivables all benefited from a strengthening in the credit profile of the securities, based upon the actual performance of the transactions and the build up of credit enhancement relative to expected future losses in the underlying receivables pools.

**Exhibit 13: US ABS ex HEL Rating Transition Trends**

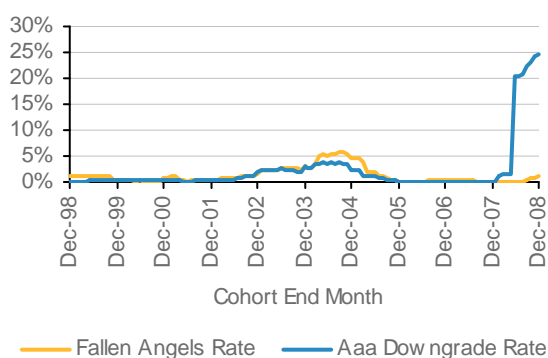
**Exhibit 13A: Upgrade and Downgrade Rates**



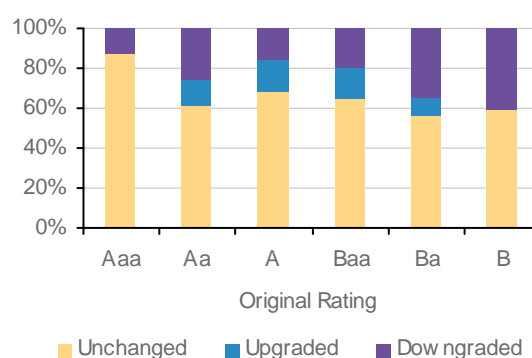
**Exhibit 13B: Average Number of Notches Upgraded or Downgraded**



**Exhibit 13C: Fallen Angel Rates and Aaa Downgrade Rates**



**Exhibit 13D: Cumulative Upgrade and Downgrade Rates by Original Rating**





## Structured Finance Rating Transitions: 1983-2008

Exhibit 13E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	16.12%	0.44%	5.46%	4.98%
Upgrade Rate	0.29%	2.46%	1.54%	1.61%
Downgrade/Upgrade Ratio	56.30	0.18	3.53	3.09
Downgrade Rate (Notch Weighted)	74.43%	1.45%	24.65%	22.79%
Upgrade Rate (Notch Weighted)	0.57%	5.16%	3.75%	3.88%
Downgrade/Upgrade Ratio (Notch Weighted)	130.00	0.28	6.58	5.88
Rating Drift (Notch Weighted)	-73.86%	3.71%	-20.90%	-18.91%
Rating Volatility (Notch Weighted)	75.01%	6.61%	28.39%	26.67%
Stability Rate	83.59%	97.11%	93.00%	93.41%
Average Number of Notches Downgraded	4.62	3.33	4.52	4.58
Average Number of Notches Upgraded	2.00	2.10	2.43	2.41

For the US ABS excluding HEL sector in 2008 (see Exhibit 13):

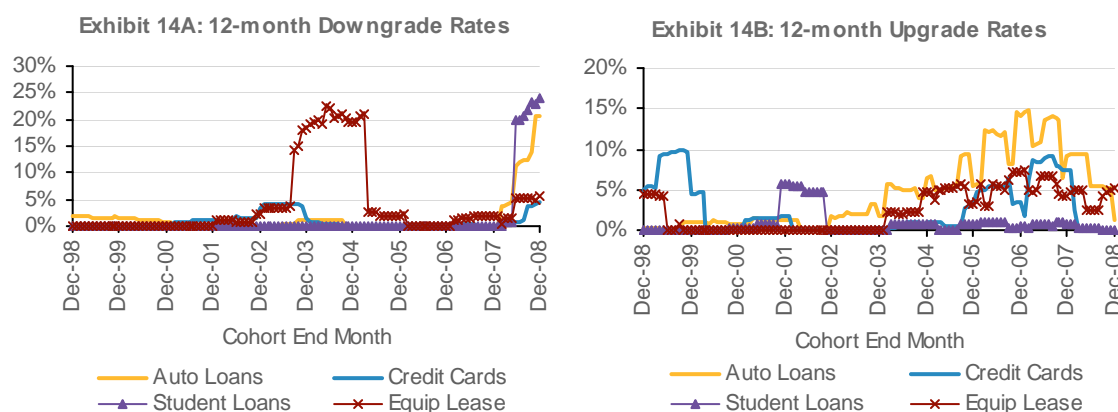
- The frequency of downgrades rose to 16.1% from 0.4% in 2007, while the upgrade rate declined from 2.5% to 0.3%.
- The average magnitude of rating downgrades rose 1.3 notches from 3.3 to 4.6, while the magnitude of upgrades fell from 2.1 to 2 notches in 2008.

The fallen angel rate crept up to 1.3% from 0.1% in 2007 while the Aaa downgrade rate increased to 25% in 2008 from 0% in 2007.

- Securities originally rated Aaa still maintain a stability rate of 87%, but for most other rating categories (with the exception of single-A) cumulative downgrade rates have exceeded cumulative upgrade rates to date.

Exhibit 14 plots the 12-month downgrade and upgrades rates for the major ABS asset classes, excluding HEL. After defying the slowdown for most of 2007, traditional consumer asset classes like transactions backed by auto loans, credit card receivables, and student loans finally succumbed to the challenging environment and experienced unprecedented spikes in their downgrade rates. The upgrade rates for these sectors also remain well below their historical averages. Meanwhile, the equipment lease sector was one of the few sectors that continued to experience vastly improved performance compared to 2003 and 2004, when the bankruptcy of one issuer caused downgrade rates to rise to 22.3%.

Exhibit 14: 12-month Transition Rates for Select US ABS Asset Classes



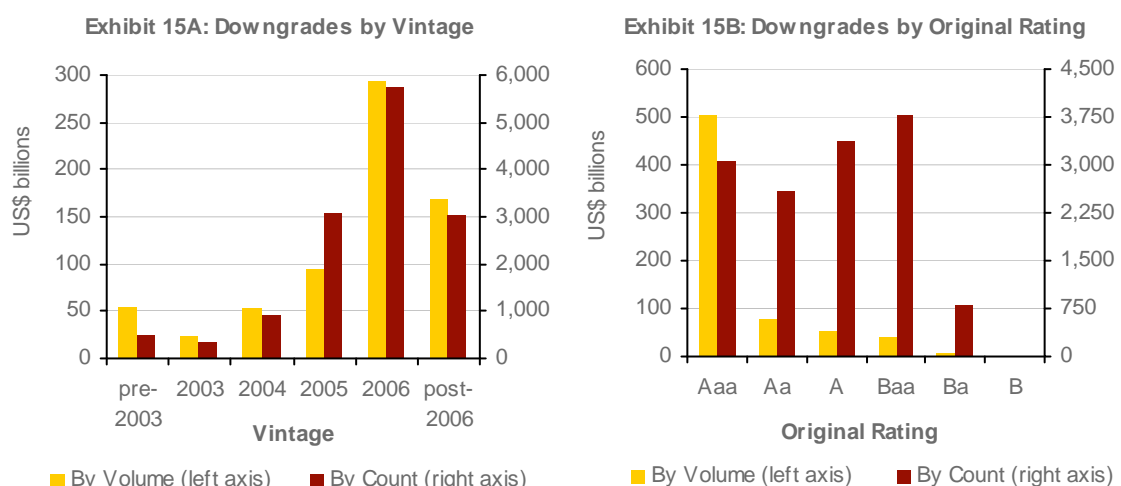
## Structured Finance Rating Transitions: 1983-2008

### US HEL (includes subprime)

The worst downturn in the post-World War II period continued to impact the subprime residential mortgage market. The effect on the structured finance market was that 13,601 US HEL tranches from 1,982 deals were downgraded in 2008 and 16 tranches from 6 deals were upgraded.

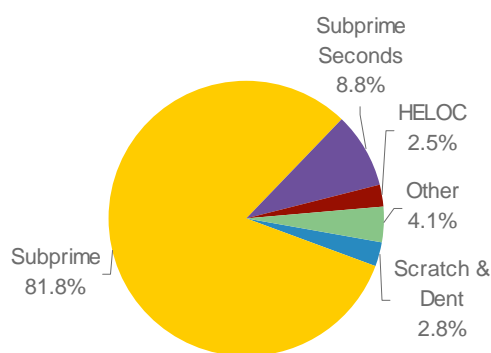
The downgrades were concentrated in the 2005, 2006 and 2007 vintages, which accounted for 22.6%, 42.3% and 22.4% of the downgrades respectively by count, and 13.7%, 42.6% and 24.6% of the downgrades respectively by volume (Exhibit 15A). The poor performance of these vintages is attributed to macro-environment stresses like the worsening home price environment, rising unemployment and a continued lack of refinancing opportunities. These factors coupled with weaker mortgage credit quality and financial guarantor downgrades resulted in Moody's revising its projected losses in 2008<sup>7</sup> which ultimately resulted in downgrades across the capital structure and across asset classes. Even for 2009, the situation continues to remain bleak and more downgrades are expected.

**Exhibit 15: US HEL Downgrades in 2008**

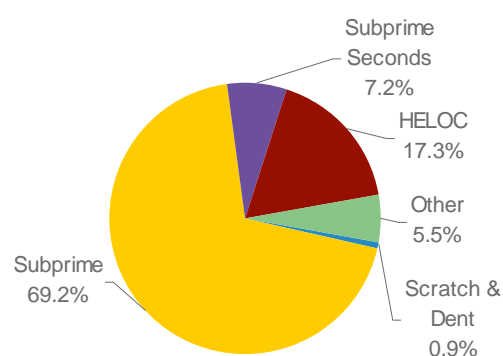


**Exhibit 15C: Count of downgrades by Loan Type**

**Exhibit 15D: Volume of downgrades by Loan Type**



Total Number of Downgrades: 13,601



Total Number of Downgrades: 13,601

By count, the Baa-rated securities experienced the most number of downgrades but, by volume, it was the Aaa-rated securities that were downgraded most (Exhibit 15B). By loan type, Subprime is dominant in this sector. Not surprisingly this sector experienced 82% of the downgrades by count and 69% of the downgrades by volume (Exhibit 15C and 15D).

<sup>7</sup> See "Subprime RMBS Loss Projection Update: September 2008", dated September 18, 2008.

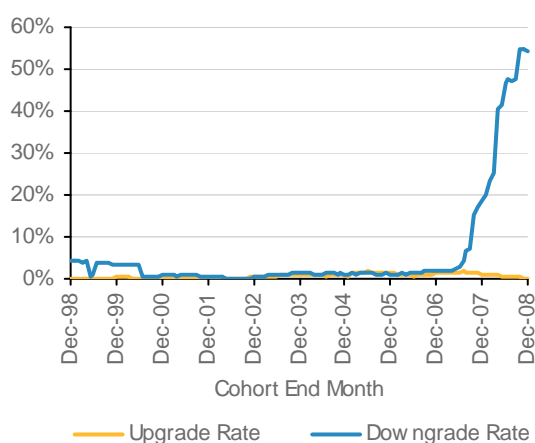
## Structured Finance Rating Transitions: 1983-2008

Out of 13,601 downgrades, 1,060 downgrades were caused by downgrades to financial guarantors and Moody's analysts' aligning the rating of the structured finance security with the revised rating of the financial guarantor. The remaining 12,541 downgrades were typically caused by poor performance of the underlying loan portfolio, erosion of credit enhancement provided by subordination, over-collateralization and/or excess spread relative to updated expected losses.

There were 16 upgrades for the sector in 2008, but those upgrades were limited to tranches that were originally rated high in the investment grade bucket and derived the benefits of seasoning. Thirteen of those 16 upgrades were linked to transactions issued in 2004 while the remaining three were issued in June 2005. The positive rating actions were caused by a strong build-up in credit enhancement and/or better than anticipated loan performance.

**Exhibit 16: US HEL Rating Transition Trends**

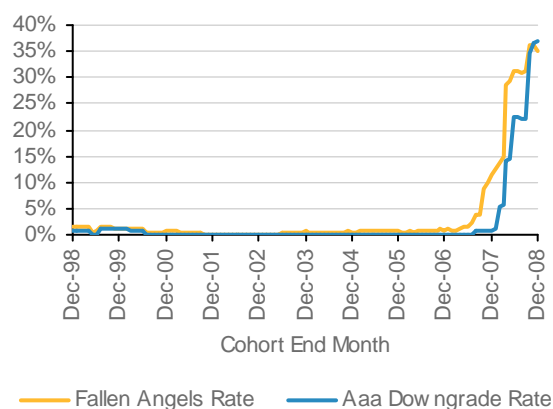
**Exhibit 16A: Upgrade and Downgrade Rates**



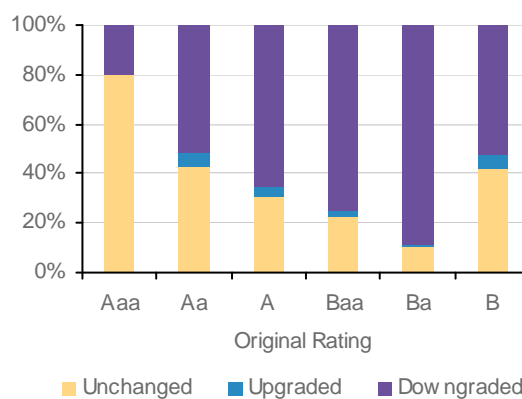
**Exhibit 16B: Average Number of Notches Upgraded or Downgraded**



**Exhibit 16C: Fallen Angel Rates and Aaa Downgrade Rates**



**Exhibit 16D: Cumulative Upgrade and Downgrade Rates by Original Rating**



## Structured Finance Rating Transitions: 1983-2008

Exhibit 16E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	54.29%	18.52%	13.75%	3.01%
Upgrade Rate	0.06%	1.04%	0.87%	1.00%
Downgrade/Upgrade Ratio	849.88	17.80	15.88	3.03
Downgrade Rate (Notch Weighted)	484.21%	116.52%	104.70%	15.71%
Upgrade Rate (Notch Weighted)	0.11%	2.15%	2.12%	2.55%
Downgrade/Upgrade Ratio (Notch Weighted)	4331.25	54.08	49.39	6.17
Rating Drift (Notch Weighted)	-484.10%	-114.36%	-102.58%	-13.17%
Rating Volatility (Notch Weighted)	484.32%	118.67%	106.82%	18.26%
Stability Rate	45.64%	80.44%	85.38%	95.99%
Average Number of Notches Downgraded	8.92	6.29	7.61	5.21
Average Number of Notches Upgraded	1.75	2.07	2.45	2.56

For the US HEL sector in 2008 (see Exhibit 16):

- The frequency of downgrades increased from 18.5% in 2007 to 54.3% in 2008, while the frequency of upgrades decreased from 1% to 0.06% over the same time.
- The average magnitude of rating downgrades rose by more than 2.5 notches to 8.9 in 2008 from 6.3 in 2007, while the magnitude of upgrades trended lower to 1.8 notches from 2.1 notches.
- The fallen angel rate was 11.6% for the cohort ending December 2007 and had been below 1.7% from 1998 to 2007H1. For the cohort ending December 2008, the frequency of fallen angels increased more than 3-fold to 35.1%, from 2007 levels. The Aaa-downgrade rate also increased from 0.9% a year ago to 37.1%.
- Despite the extreme rating volatility of 2008, Aaa-rated US HEL securities have still exhibited relative stability of around 80% to date. However, securities carrying original ratings of double-A or lower have all experienced high cumulative downgrade rates.

Since transactions backed by first and second lien subprime mortgages account for the vast majority of the US HEL universe, and those issued between 2005 and 2007 account for most of the rating actions in 2008, we focus on these vintages in the following exhibits. Exhibits 17 and 18 show the cumulative rating transition matrices for first and second lien subprime RMBS from the 2005, 2006, and 2007 vintages as of December 31, 2008.

Securities backed by first lien mortgages from the 2005 vintage that were originally rated Aaa still exhibited high stability rates. However, the 2006 and 2007 vintages have underperformed, usually displaying downgrade rates in excess of 50% across the capital structure.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 17A: US Subprime Rating Transitions - 2005 Vintage First Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	96.9% (2,001)	1.1% (22)	0.4% (9)	0.8% (17)	0.3% (6)	0.3% (6)	0.1% (3)		
Aa		74.2% (733)	14.8% (146)	6.3% (62)	2.0% (20)	0.7% (7)	1.0% (10)	0.3% (3)	0.7% (7)
A			34.8% (352)	25.4% (257)	15.0% (152)	7.7% (78)	6.0% (61)	3.3% (33)	7.8% (79)
Baa				12.5% (135)	11.6% (125)	12.0% (129)	12.6% (136)	10.2% (110)	41.0% (442)
Ba					4.2% (14)	3.0% (10)	7.9% (26)	13.9% (46)	71.0% (235)

Exhibit 18A: US Subprime Rating Transitions - 2005 Vintage Second Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	60.0% (66)	3.6% (4)	1.8% (2)	11.8% (13)	9.1% (10)	3.6% (4)	10.0% (11)		
Aa	8.0% (8)	14.0% (14)	2.0% (2)	8.0% (8)	5.0% (5)	14.0% (14)	8.0% (8)	7.0% (7)	34.0% (34)
A	0.9% (1)	0.9% (1)	0.9% (1)	1.7% (2)	4.3% (5)	3.5% (4)	5.2% (6)	8.7% (10)	73.9% (85)
Baa						0.7% (1)	2.1% (3)	3.5% (5)	93.8% (135)
Ba									100.0% (65)

Exhibit 17B: US Subprime Rating Transitions - 2006 Vintage First Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	52.5% (1,109)	10.8% (228)	9.0% (191)	9.5% (201)	6.5% (138)	5.9% (124)	5.4% (114)	0.3% (6)	
Aa		10.3% (130)	7.3% (93)	9.7% (123)	9.5% (120)	9.0% (114)	11.6% (147)	5.6% (71)	37.0% (468)
A			3.0% (39)	3.0% (39)	3.4% (44)	4.3% (56)	5.9% (76)	2.9% (38)	77.5% (1,004)
Baa				0.7% (9)	0.5% (6)	1.2% (15)	1.9% (25)	1.4% (18)	94.4% (1,220)
Ba						0.2% (1)	0.9% (4)	1.1% (5)	97.8% (440)

## Structured Finance Rating Transitions: 1983-2008

Exhibit 18B: US Subprime Rating Transitions - 2006 Vintage Second Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	10.9% (20)	3.8% (7)		14.1% (26)	2.7% (5)	9.8% (18)	21.2% (39)	26.6% (49)	10.9% (20)
Aa		2.2% (4)					2.2% (4)	1.6% (3)	94.0% (172)
A			0.5% (1)	0.5% (1)				0.5% (1)	98.4% (184)
Baa						0.5% (1)		0.9% (2)	98.6% (211)
Ba									100.0% (99)

Exhibit 17C: US Subprime Rating Transitions - 2007 Vintage First Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	27.5% (291)	10.2% (108)	12.5% (132)	15.6% (165)	11.6% (123)	13.8% (146)	8.3% (88)	0.4% (4)	0.2% (2)
Aa		3.3% (21)	2.5% (16)	5.9% (38)	9.4% (61)	9.9% (64)	13.6% (88)	5.7% (37)	49.7% (321)
A			1.9% (12)	1.0% (6)	2.3% (14)	3.5% (22)	3.9% (24)	1.9% (12)	85.5% (530)
Baa				1.6% (9)	0.7% (4)	0.5% (3)	1.6% (9)	0.3% (2)	95.3% (551)
Ba					1.6% (2)	1.6% (2)	0.8% (1)		96.0% (120)

Exhibit 18C: US Subprime Rating Transitions - 2007 Vintage Second Lien Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	6.2% (4)	7.7% (5)	3.1% (2)	32.3% (21)	1.5% (1)	6.2% (4)	10.8% (7)	26.2% (17)	6.2% (4)
Aa		4.3% (2)			2.2% (1)		2.2% (1)	2.2% (1)	89.1% (41)
A			1.8% (1)			1.8% (1)	3.5% (2)		93.0% (53)
Baa				1.7% (1)				1.7% (1)	96.7% (58)
Ba								5.3% (1)	94.7% (18)

## Structured Finance Rating Transitions: 1983-2008

## US RMBS (includes Alt-A and Jumbo)

Just as many of the subprime mortgage pools backing HEL securities continued to be negatively impacted by the macro environment in 2008, so were many Alt-A and Jumbo mortgage pools backing RMBS. In fact, the number of downgrades in RMBS surpassed HEL for the first time in a decade. However, since by count RMBS is a much larger sector than HEL, by frequency and magnitude of downgrades RMBS fares better. In all, 14,386 US RMBS tranches from 1,416 deals were downgraded and 6 tranches from 2 deals were upgraded. In early 2009, Moody's announced updated Alt-A<sup>8</sup> and Option ARMs<sup>9</sup> loss projection numbers. This announcement should result in additional downgrades in 2009 as well.

Like the HEL sector, downgrades for US RMBS were concentrated in the more recent vintages. By count, the 2006 vintage comprised the bulk of the downgrades (44.2%), followed by the post-2006 vintages (30.5%), and the 2005 vintage (20%). Again, the investment grade ratings bore the brunt of the downgrades with fewer downgrades occurring among securities originally rated Ba or B. The majority of the downgrades were in the Alt-A sector (80% by count and 76.3% by volume), followed by the jumbo sector (18.6% of the downgrades by count and 22.2% by volume) (See Exhibit 19).

Exhibit 19: US RMBS Downgrades in 2008

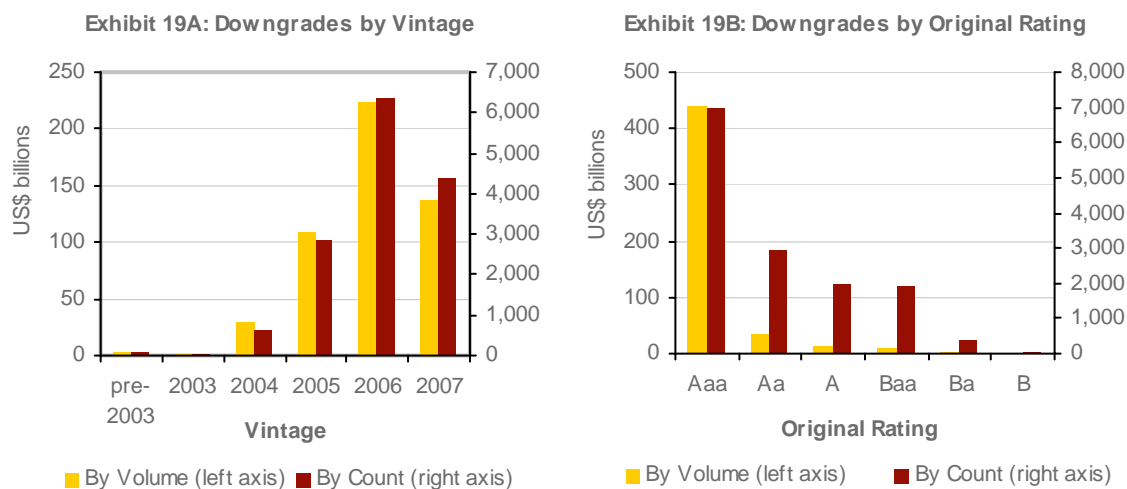
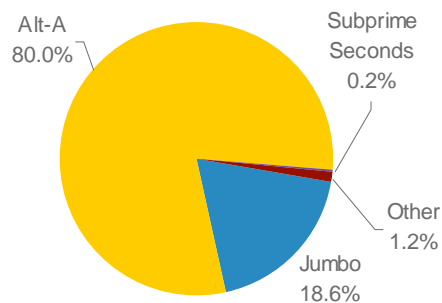
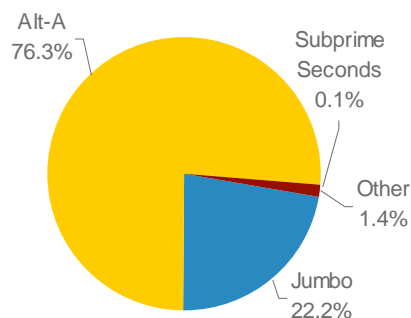


Exhibit 19C: Count of downgrades by Loan Type



Total Number of Downgrades: 14,386

Exhibit 19D: Volume of downgrades by Loan Type



Total Number of Downgrades: 14,386

Ninety-eight percent of the 14,386 ratings were downgraded as a result of higher than anticipated rates of delinquency, foreclosure, and REO in the underlying collateral relative to credit enhancement levels. The remaining 2% of the downgrades were caused by financial guarantor related downgrades. The six upgraded tranches were from two Resix Finance Limited Credit-Linked Notes, Series 2003-B and Series 2004-B. These

<sup>8</sup> See "Alt-A RMBS Loss Projection Update: January 2009", Rating Methodology, dated January 22, 2009.

<sup>9</sup> See "Option ARMs RMBS Loss Projection Update: February 2009", Rating Methodology, dated February 5, 2009.



## Structured Finance Rating Transitions: 1983-2008

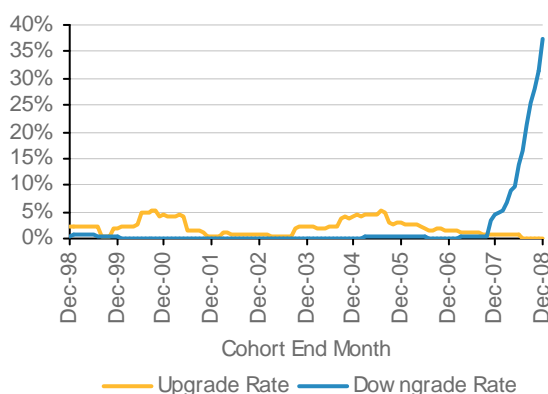
synthetic securitizations reference portfolios were made up of primarily jumbo mortgages and benefited from subordination and seasoning. Out of the six upgrades, two tranches were from the 2003 vintage while the remaining four were from the 2004 vintage.

For the US RMBS sector in 2008 (see Exhibit 20):

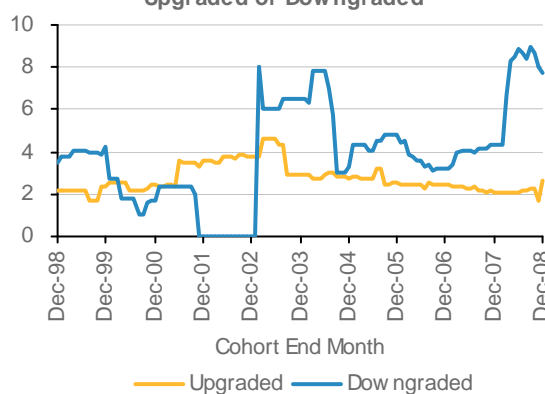
- After enjoying a 12-month downgrade rate of less than 1% for most of the last decade, the frequency of downgrades increased from 4.5% in 2007 to 37.3% in 2008. At the same time, the upgrade rate declined from 0.7% in 2007 to almost 0% in 2008.
- The average magnitude of rating downgrades rose more than three notches from 4.3 to 7.7, and the average size of rating upgrades increased to 2.7 notches from 2.1 notches.
- Both the Aaa downgrade rate and Fallen angel rate increased to unprecedented levels: 26.1% and 17.2% respectively from 0% and 2.5% in 2007.
- Securities originally rated Aaa experienced the highest stability rate of 83.6%. The single-A and Baa rating categories were most affected by the cumulative rating changes.

**Exhibit 20: US RMBS Rating Transition Trends**

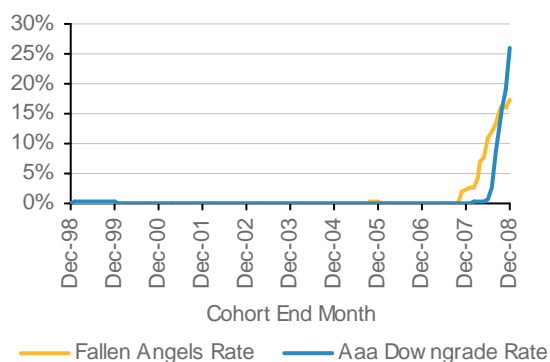
**Exhibit 20A: Upgrade and Downgrade Rates**



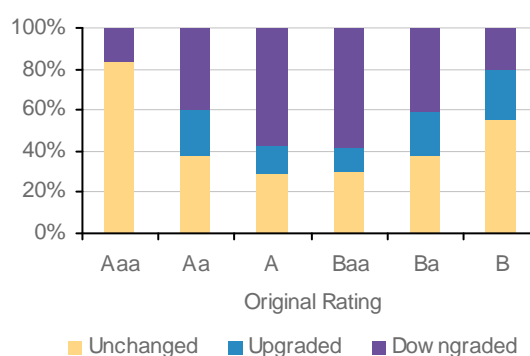
**Exhibit 20B: Average Number of Notches Upgraded or Downgraded**



**Exhibit 20C: Fallen Angel Rates and Aaa Downgrade Rates**



**Exhibit 20D: Cumulative Upgrade and Downgrade Rates by Original Rating**



## Structured Finance Rating Transitions: 1983-2008

Exhibit 20E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	37.31%	4.54%	5.04%	0.36%
Upgrade Rate	0.02%	0.72%	1.56%	1.99%
Downgrade/Upgrade Ratio	2397.00	6.29	3.23	0.18
Downgrade Rate (Notch Weighted)	288.09%	19.62%	40.18%	1.53%
Upgrade Rate (Notch Weighted)	0.04%	1.51%	4.07%	5.26%
Downgrade/Upgrade Ratio (Notch Weighted)	6941.25	12.99	9.88	0.29
Rating Drift (Notch Weighted)	-288.04%	-18.11%	-36.11%	3.73%
Rating Volatility (Notch Weighted)	288.13%	21.13%	44.24%	6.79%
Stability Rate	62.68%	94.74%	93.40%	97.65%
Average Number of Notches Downgraded	7.72	4.33	7.97	4.29
Average Number of Notches Upgraded	2.67	2.09	2.61	2.64

The deteriorating performance of the home price environment makes the 2005, 2006, and 2007 Alt-A vintages and Jumbo vintages particularly susceptible to downgrades. Exhibits 21 and 22 display the cumulative transition matrices by original rating for these vintages as of December 31, 2008. The size of the 2005, 2006 and 2007 Alt-A vintages combined is roughly five times the size of the Jumbo sector of those same vintages, and while both the Alt-A and Jumbo categories have experienced cumulative downgrade rates of 52% and 49.5% respectively through the end of 2008, the Alt-A Aaa-rated tranches have held up better in this environment. Alt-A Aaa-rated securities experienced cumulative downgrades of 21.8% compared to the 43% cumulative downgrades in the Jumbo sector.

Exhibit 21A: US Alt-A Rating Transitions - 2005 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	73.7% (3,614)	13.1% (643)	8.2% (401)	3.2% (155)	1.7% (81)	0.2% (10)			
Aa	0.3% (3)	45.1% (418)	17.2% (159)	14.2% (132)	6.6% (61)	10.0% (93)	4.1% (38)	1.9% (18)	0.5% (5)
A		0.5% (3)	27.6% (160)	7.9% (46)	12.1% (70)	17.4% (101)	10.0% (58)	19.7% (114)	4.7% (27)
Baa			0.2% (1)	24.5% (155)	6.2% (39)	10.3% (65)	9.6% (61)	34.4% (218)	14.8% (94)
Ba					25.7% (29)	5.3% (6)	4.4% (5)	43.4% (49)	21.2% (24)
B						47.8% (11)	4.3% (1)	21.7% (5)	26.1% (6)

## Structured Finance Rating Transitions: 1983-2008

Exhibit 21B: US Alt-A Rating Transitions - 2006 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	60.6% (2,968)	10.5% (516)	10.4% (510)	8.5% (415)	6.1% (299)	3.1% (154)	0.7% (32)	0.0% (1)	
Aa	0.2% (2)	18.2% (240)	7.2% (95)	7.6% (100)	8.9% (118)	30.3% (401)	10.9% (144)	13.9% (184)	2.9% (38)
A			5.1% (45)	3.7% (33)	2.2% (19)	21.2% (187)	9.9% (87)	38.3% (338)	19.7% (174)
Baa				3.7% (30)	1.2% (10)	10.9% (89)	4.4% (36)	40.6% (330)	39.1% (318)
Ba					0.7% (1)			48.6% (72)	50.7% (75)
B								50.0% (7)	50.0% (7)

Exhibit 21C: US Alt-A Rating Transitions - 2007 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	60.7% (2,045)	7.6% (257)	11.3% (382)	8.1% (274)	7.2% (241)	3.8% (127)	1.2% (42)	0.0% (1)	
Aa		22.9% (229)	7.2% (72)	7.4% (74)	9.4% (94)	30.6% (306)	7.9% (79)	11.1% (111)	3.4% (34)
A			6.5% (38)	5.3% (31)	6.7% (39)	25.8% (150)	10.0% (58)	32.6% (190)	13.1% (76)
Baa				3.5% (18)	1.4% (7)	16.3% (84)	8.0% (41)	44.9% (231)	26.0% (134)
Ba						4.9% (4)	1.2% (1)	64.2% (52)	29.6% (24)
B								72.2% (13)	27.8% (5)

Exhibit 22A: US Jumbo Rating Transitions - 2005 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	99.9% (1,559)			0.1% (1)					
Aa		99.5% (199)	0.5% (1)						
A		2.3% (1)	95.5% (42)		2.3% (1)				
Baa			2.0% (1)	94.0% (47)	2.0% (1)	2.0% (1)			
Ba				5.0% (1)	95.0% (19)				
B						100.0% (16)			

## Structured Finance Rating Transitions: 1983-2008

Exhibit 22B: US Jumbo Rating Transitions - 2006 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	22.5% (366)	16.8% (274)	33.8% (551)	19.3% (315)	7.2% (118)	0.2% (4)	0.1% (1)		
Aa		15.1% (30)	27.1% (54)	14.6% (29)	22.6% (45)	9.5% (19)	9.5% (19)	1.5% (3)	
A			7.1% (1)		21.4% (3)		35.7% (5)	35.7% (5)	
Baa				13.3% (2)		6.7% (1)	26.7% (4)	40.0% (6)	13.3% (2)
Ba							75.0% (3)	25.0% (1)	
B							100.0% (2)		

Exhibit 22C: US Jumbo Rating Transitions – 2007 Vintage Transactions as of 12/31/08

Current Rating/Last Rating before WR									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	21.1% (240)	19.1% (217)	19.5% (222)	13.7% (156)	21.9% (249)	4.0% (46)	0.8% (9)		
Aa		20.0% (28)	2.9% (4)	25.7% (36)	23.6% (33)	17.1% (24)	8.6% (12)	2.1% (3)	
A				10.0% (1)	30.0% (3)	10.0% (1)	10.0% (1)	40.0% (4)	
Baa							42.9% (3)	57.1% (4)	
Ba							66.7% (2)		33.3% (1)
B							33.3% (1)	33.3% (1)	33.3% (1)

## US CMBS

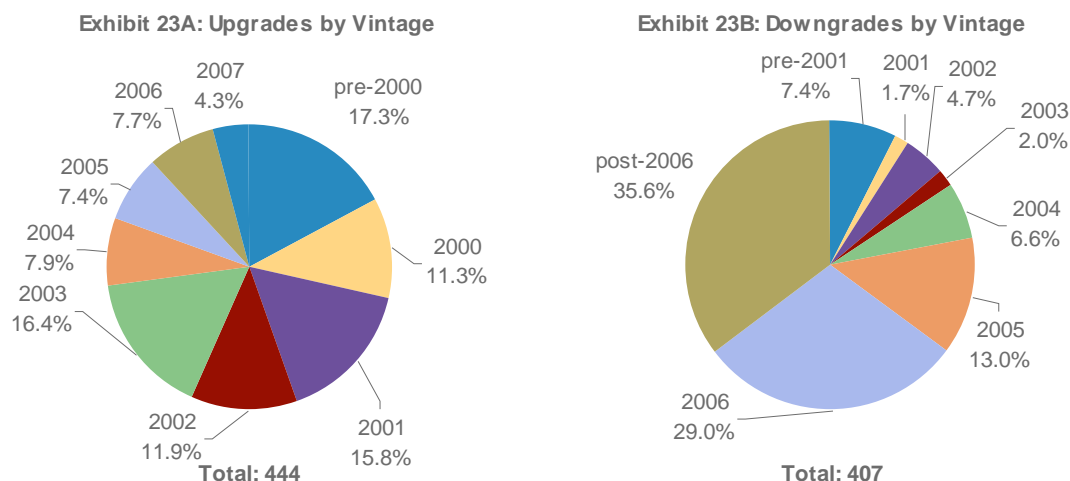
The US CMBS sector was one of the few sectors that had more upgrades than downgrades in 2008. In total, 444 ratings from 147 deals were upgraded and 407 ratings from 101 deals were downgraded in 2008. Increased subordination levels and defeasance were cited as the major cause for the great majority of CMBS upgrades, and for many, improved overall pool performance of the collateral or underlying pool was also a contributing factor. In addition, three transactions backed by net leases were upgraded to align the ratings with those of the bank/insurer guaranteeing the collateral.

Most of the CMBS downgrades resulted from realized and anticipated losses from specially serviced loans and LTV dispersion. The remaining eleven transactions backed by net leases and one CRE-CDO transaction were downgraded to align the ratings with those of the bank/insurer guaranteeing the collateral.

Upgrades were fairly evenly distributed across the vintages. Securities carrying investment-grade ratings at the beginning of the year were the main beneficiary of positive rating actions, contributing to 91.4% of upgrade activity. As was the case with HEL and RMBS downgrades, CMBS downgrades were concentrated in the post 2004 vintages, accounting for 77.6% of all downgrades (Exhibit 23).

## Structured Finance Rating Transitions: 1983-2008

Exhibit 23: Distribution of US CMBS Rating Changes in 2008



While rating change activity for US CMBS has been relatively positive in recent years, concerns about declining property values and rising delinquencies caused Moody's to announce in February 2009 a ratings review of all U.S. commercial mortgage backed securities (CMBS) conduit and fusion transactions rated during the period from 2006 through 2008, and all large loan and single borrower transactions regardless of vintage. The review will reflect adjustments Moody's is making to two key inputs to its CMBS rating model: stressed capitalization rates and property cash flows. The transactions under review have an outstanding balance of \$302.6 billion, which represents 52% percent of all outstanding Moody's-rated U.S. CMBS by dollar volume.<sup>10</sup> As announced in December 2008, a review of commercial real estate collateralized debt obligations (CRE CDOs) is still being conducted and will reflect any changes in the ratings of the underlying CMBS bonds.

For the US CMBS sector in 2008 (see Exhibit 24):

- The upgrade rate dropped from an all-time high of 16.5% in 2006 to 10.2% in 2007 and 4.7% in 2008, but still remained much higher than the upgrade rates of all other structured finance sectors. The downgrade rate rose more than 4-fold from 0.8 to 4.3%.
- The average magnitude of upgrades declined slightly from 2.3 notches in 2007 to 1.8 notches in 2008, while the average magnitude of downgrades increased slightly from 2.0 notches to 2.3 notches in 2008.
- The fallen angel rate and Aaa downgrade rate were negligible in 2007. However, the fallen angel rate and the Aaa downgrade rate rose slightly to 1% and 0.01% respectively in 2008. This Aaa downgrade rate remains well below the spike in late 2002 through early 2003 following concerns about terrorism insurance coverage for some deals.
- To date, the stability rate of Aaa-rated CMBS has been over 99%, while Aa and single-A rated CMBS have experienced roughly 40% cumulative upgrade rates. Only securities rated single-B have higher cumulative proportions of downgrades to upgrades.

<sup>10</sup> See "Rating Methodology Update: U.S. CMBS Review Prompted by Declining Property Values and Rising Delinquencies", Methodology Report, dated February 5, 2009.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 24: US CMBS Rating Transition Trends

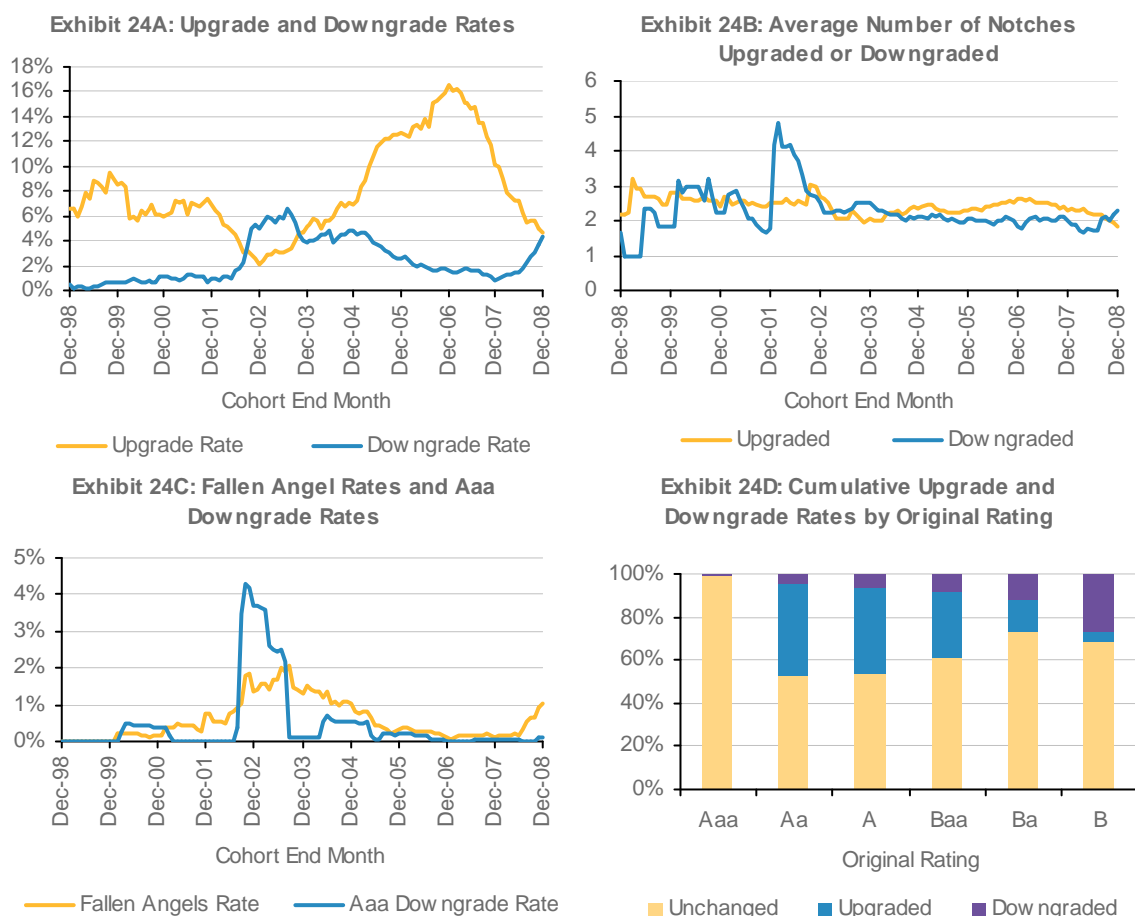


Exhibit 24E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	4.28%	0.80%	2.57%	2.69%
Upgrade Rate	4.68%	10.19%	9.21%	9.96%
Downgrade/Upgrade Ratio	0.91	0.08	0.28	0.27
Downgrade Rate (Notch Weighted)	9.77%	1.59%	5.58%	5.96%
Upgrade Rate (Notch Weighted)	8.62%	23.49%	21.92%	24.14%
Downgrade/Upgrade Ratio (Notch Weighted)	1.13	0.07	0.25	0.25
Rating Drift (Notch Weighted)	-1.15%	21.90%	16.35%	18.18%
Rating Volatility (Notch Weighted)	18.39%	25.08%	27.50%	30.10%
Stability Rate	91.03%	89.01%	88.23%	87.35%
Average Number of Notches Downgraded	2.28	2.00	2.17	2.21
Average Number of Notches Upgraded	1.84	2.30	2.38	2.42

## US CDOs

2008 marked a peak year in rating changes for US CDOs. The ongoing credit crisis - along with increased market volatility, limited near-term opportunities for consumers and corporates to refinance debt, and the increasingly negative credit outlook for the global economy - all contributed to the weakening performance of

## Structured Finance Rating Transitions: 1983-2008

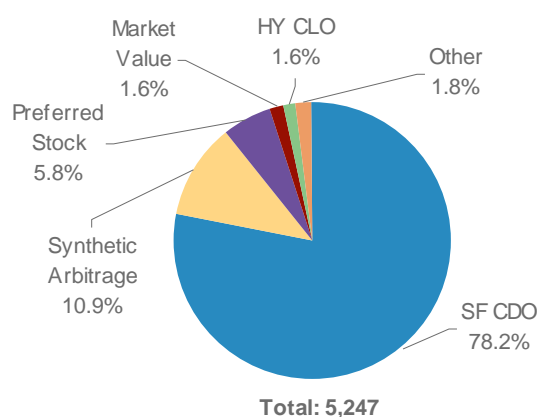
the CDO sector.<sup>11</sup> Overall, 5,345 securities from 1,451 transactions were downgraded and 70 tranches from 30 transactions were upgraded throughout the year.

The vast majority of downgrades occurred among SF CDOs (96%), also known as ABS CDOs. Downgrades also affected asset classes such as synthetic-arbitrage (11%), preferred stock (6%), market value (1.6%) and high-yield CLOs (1.6%) (Exhibit 25A). Almost 80% of the negatively affected securities were issued between 2005 and 2007. The primary reasons for the lowered ratings were the deteriorating credit quality of underlying assets, distress among various corporate and banking entities and heightened spread widening and volatility. Also, about 1.8% of the downgrades were related to financial guarantor downgrades.

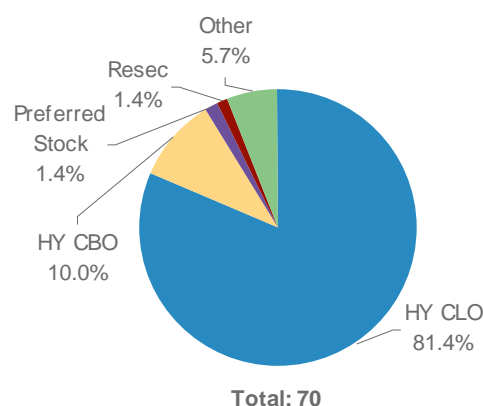
Upgrades (Exhibit 25B) were concentrated in HY CLOs (81%) and followed by HY CBOs (10%), preferred stock (1.4%) and SF CDOs (1.4%). Most of the upgrades in the CLOs and CBOs were due to amortizing of senior tranches and de-levering of the transactions.

**Exhibit 25: Distribution of US CDO Rating Changes in 2008**

**Exhibit 25A: Downgrades by Deal Type**



**Exhibit 25B: Upgrades by Deal Type**



<sup>11</sup> See, "Structured Finance CDO Ratings Surveillance Brief - Fourth Quarter 2008", dated January 27, 2009

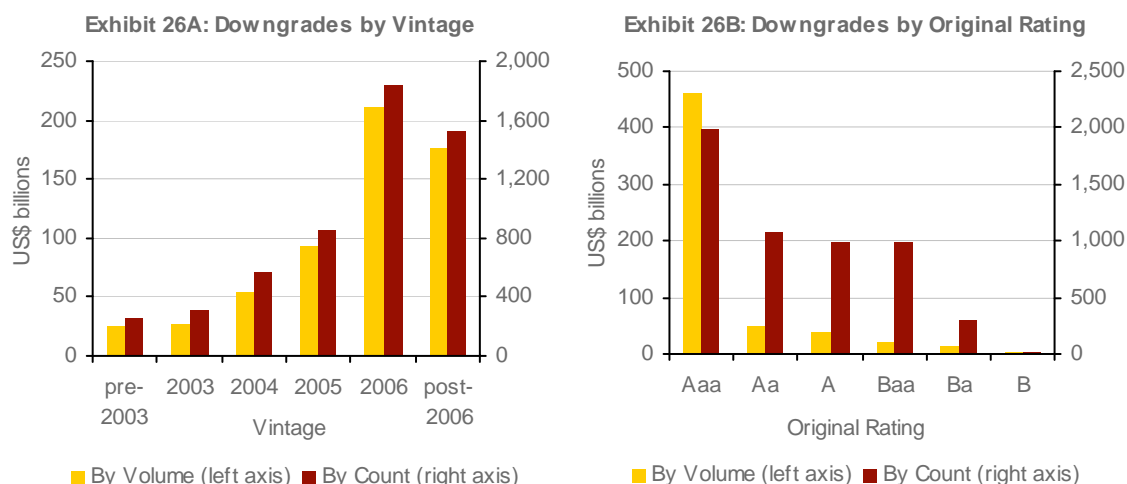


## Structured Finance Rating Transitions: 1983-2008

Exhibit 26 shows the distribution of downgrades by vintage and original rating. By vintage (Exhibit 26A), securities that were issued after 2005 made up roughly two-thirds of the downgrades, both by count and by volume, tracking the weak performance of residential mortgage-backed securities of recent vintages that were associated with the downgraded CDO transactions.

By original rating (Exhibit 26B), initially rated Aaa tranches made up the largest share of all downgrades by count (37%) and by volume (79%). The number of downgrades securities in the Aa, A and Baa rating categories was almost evenly distributed with each making up 18-20% of all downgrades.

**Exhibit 26: US CDO Downgrades in 2008**



For the US CDO sector in 2008 (see Exhibit 27):

- The 12-month downgrade rate rose to an all-time high of 48%, almost a 6-fold increase over the prior rate of 8.4% and 3.5 times higher than the historical average of 14%. At the same time, the upgrade rate declined to 0.64%, half of the 2007 and historical average rate of 1.3%.
- The average downgrade severity increased to almost 10 notches, roughly 3 notches above the 2007 average, while the average magnitude of upgrades fell slightly from 3 notches in 2007 to 2.7 notches in 2008.
- The fallen angel and Aaa downgrade rates increased to 35% and 47%, respectively.
- As of the end of 2008, securities that were first rated Aa, Baa and B saw cumulative downgrade rates that were slightly higher (50% each) than the rates exhibited by originally rated Aaa and A securities. Securities in the Ba rating category enjoyed the highest stability rate (61%).

## Structured Finance Rating Transitions: 1983-2008

Exhibit 27: US CDO Rating Transition Trends



Exhibit 27E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	48.34%	8.35%	13.90%	6.57%
Upgrade Rate	0.64%	1.29%	1.26%	1.54%
Downgrade/Upgrade Ratio	75.66	6.48	11.03	4.27
Downgrade Rate (Notch Weighted)	479.65%	57.13%	118.24%	26.93%
Upgrade Rate (Notch Weighted)	1.73%	3.89%	4.17%	5.22%
Downgrade/Upgrade Ratio (Notch Weighted)	278.05	14.69	28.33	5.16
Rating Drift (Notch Weighted)	-477.93%	-53.24%	-114.06%	-21.71%
Rating Volatility (Notch Weighted)	481.38%	61.02%	122.41%	32.15%
Stability Rate	51.02%	90.37%	84.84%	91.89%
Average Number of Notches Downgraded	9.92	6.85	8.50	4.10
Average Number of Notches Upgraded	2.70	3.02	3.31	3.39

Looking at upgrade and downgrade rates by deal type (Exhibit 28), downgrade rates of SF CDOs, preferred stock and MV CDOs set new highs in December 2008, reaching peaks of 91%, 55% and 34% respectively (Exhibits 28A and 28B). The frequency of downgrades among synthetic arbitrage securities also reached a peak in December 2008 (60%). At the same time, upgrade activity was rare and included a few upgrades

## Structured Finance Rating Transitions: 1983-2008

among SF CDOs, one upgrade among preferred stock CDOs and absolutely no upgrade activity for synthetic arbitrage and MV CDOs (Exhibit 28C and 28D).

Downgrade rates among high-yield CBOs (5.9%), investment-grade CBOs (8%), high-yield CLOs (2.5%) and SME CDOs (4.3%) rose slightly in December 2008 over their respective 2007 levels but remained relatively low (Exhibit 28A and 28B). Although the upgrade rate of HY CLOs more than doubled over the prior year level (1.7% vs. 0.6%), upgrades were still less frequent than downgrades. HY CBOs and IG CBOs experienced a decline in the frequency of upgrades and SME CDOs saw no upgrades for the first time since the cohort ending June 2005 (Exhibit 28C and 28D).

In addition, Moody's updated key assumptions with respect to probability of default and asset correlation for rating corporate synthetic CDOs in January 2009.<sup>12</sup> This should result in additional downgrades.

### Exhibit 28: 12-month Transition Rates for Select US CDO Deal Types

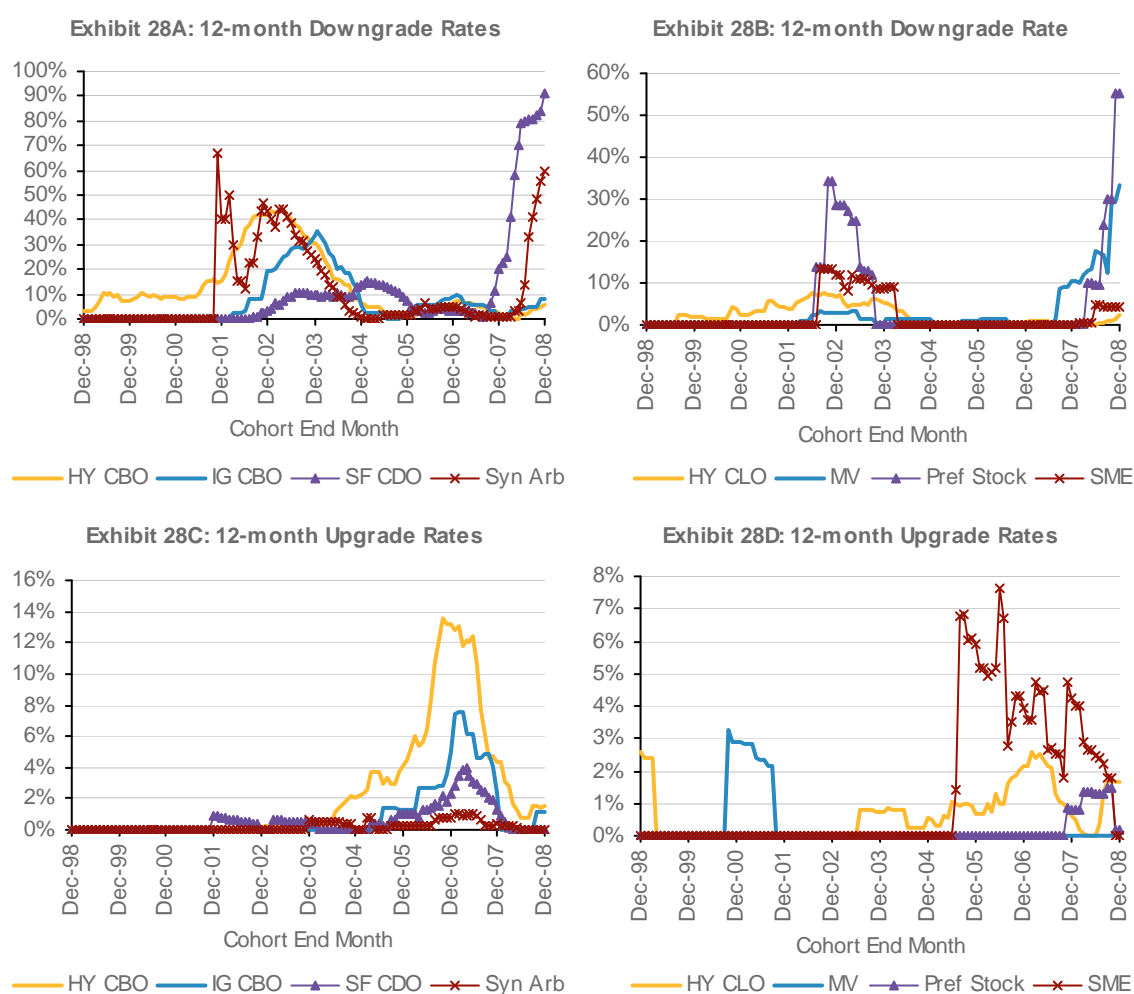


Exhibit 29 shows the cumulative transition matrices for all SF CDOs outstanding and SF CDOs of 2006 and 2007 vintages. For the year ending December 2008, SF CDOs registered an unusually high number of downgrades and a rating stability in the teens or below across all rating categories. The Aaa rating category, on average, has roughly 54% of its ratings transition into the Caa and below rating category, but the 2006 and 2007 vintages performed much worse with 75% and 86% of their original Aaa securities transitioning to Caa and below, respectively.

<sup>12</sup> See, "Moody's updates key assumptions for rating corporate synthetic CDOs", dated January 15, 2009.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 29A: Rating Transition Matrix for All US SF CDOs by Original Rating

Rating as of 12/31/08									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	13.8% (268)	8.6% (166)	5% (97)	5.5% (107)	5.6% (108)	8% (156)	14% (271)	20.9% (405)	18.7% (363)
Aa	0.3% (3)	8.1% (73)	9.4% (84)	4.1% (37)	3.2% (29)	4.8% (43)	12% (108)	29.8% (267)	28.2% (253)
A		2.3% (18)	11.4% (91)	6.6% (53)	1.5% (12)	2.3% (18)	6.9% (55)	19% (152)	50.1% (401)
Baa		0.1% (1)	0.8% (7)	7.2% (66)	4.4% (40)	3.4% (31)	5.8% (53)	16% (146)	62.4% (570)
Ba			0.4% (1)	2.2% (6)	5.8% (16)	6.8% (19)	1.4% (4)	12.2% (34)	71.2% (198)
B					16.7% (1)	16.7% (1)		16.7% (1)	50% (3)

Exhibit 29B: Rating Transition Matrix for 2006-Vintage US SF CDOs by Original Rating

Rating as of 12/31/08									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	5.2% (30)	3% (17)	1.2% (7)	1.7% (10)	5.2% (30)	8.5% (49)	21.4% (123)	30.6% (176)	23.3% (134)
Aa		1.9% (6)	2.8% (9)	2.8% (9)	1.6% (5)	2.5% (8)	11% (35)	41% (130)	36.3% (115)
A			0.7% (2)	3.2% (9)	0.4% (1)	0.4% (1)	7% (20)	23.9% (68)	64.4% (183)
Baa				0.4% (1)	1.1% (3)	1.1% (3)	2.9% (8)	16.4% (45)	78.2% (215)
Ba					0.9% (1)	0.9% (1)		5.6% (6)	92.6% (100)
B									100% (2)

Exhibit 29C: Rating Transition Matrix for 2007-Vintage US SF CDOs by Original Rating

Rating as of 12/31/08									
Orig Rtg	Aaa	Aa	A	Baa	Ba	B	Caa	Ca	C
Aaa	2.3% (13)	2.5% (14)	0.9% (5)	1.4% (8)	2.5% (14)	4.9% (28)	11.6% (66)	34.6% (197)	39.5% (225)
Aa		1.4% (3)	3.7% (8)	0.5% (1)			7% (15)	29.4% (63)	57.9% (124)
A			12.1% (27)	2.7% (6)		0.4% (1)	2.7% (6)	16.1% (36)	65.9% (147)
Baa					2.6% (6)		0.9% (2)	12.2% (28)	84.3% (193)
Ba					1.6% (1)	4.9% (3)		13.1% (8)	80.3% (49)
B								100% (1)	

## Structured Finance Rating Transitions: 1983-2008

### Other Structured Finance

The other structured finance category contains a diverse group of asset types outside of the four major sectors (ABS, RMBS, CMBS, and CDOs), including asset-backed commercial paper (ABCP), structured covered bonds, insurance-linked securities such as catastrophe bonds, structured investment vehicles (SIVs), and derivative product companies (DPCs) both in the US and EMEA region.<sup>13</sup> Prior to 2007, the performance of this sector had been excellent with very few downgrades and a scattering of upgrades. All that changed in the post-2006 era. In 2008, the turmoil in the credit markets resulted in 101 downgrades and one lone upgrade in this asset category.

In summary for 2008:

- ABCP: 24 notes from 20 ABCP programs were downgraded. All rating actions were caused by downgrades of counterparties or monoline insurers providing credit or liquidity support to the programs.
- Structured Covered Bonds: one covered bond upgrade and six covered bond downgrades all in the EMEA region were related to the upgrades and downgrades of the issuers associated with these transactions. The reason these transactions cannot be de-linked from their issuers is the refinancing risk that is inherent in these structures. The downgrades were linked to issuers such as Bradford & Bingley, CCM, FHB Mortgage Bank Co. Plc, Glitner Bank, Irish Nationwide Building Society and Kaupthing Bank. The lone upgrade was related to the upgrade of Irish Life and Permanent Plc.
- DPCs: 21 ratings were downgraded as a result of significant deterioration in the credit quality of the underlying/reference portfolio due to credit exposure to ABS CDOs, Lehman Brothers Holdings Inc. (filed for protection under Chapter 11 of the U.S. Bankruptcy Code on September 15, 2008), Washington Mutual Inc. (filed for Chapter 11 on September 26, 2008), or Fannie Mae and Freddie Mac (placed into the conservatorship of the U.S. government on September 8, 2008). In addition, the financial subsidiaries or DPCs associated with these transactions were themselves downgraded as a result of bankruptcy or downgrade of the parent company and the stressed market conditions.
- Insurance Linked Notes: nine ratings were downgraded as result of downgrades of the monoline insurers securing these transactions.
- SIVs:<sup>14</sup> Nearly all SIVs have suffered some negative rating action, but the magnitude has varied from vehicle to vehicle depending on leverage, liquidity gap, asset pricing/composition and restructuring factors. By the end of 2008, 41 ratings from 25 programs had been downgraded and more remain on review for downgrade in 2009 as managers explore their options in the current difficult environment. The main rationale behind the negative rating actions is the deterioration of SIV portfolio market values, the inability of SIVs to issue new debt or refinance maturing debt. In Europe, which accounted for 85% of all SIV downgrades, the significant declines in portfolio market value left the majority of the senior debt ratings in these vehicles fully dependent on the performance of the bank/insurer to meet its obligations. Hence the downgrade was a result of either aligning the ratings of the SIV with the sponsoring entity or in some cases the result of a bank/insurer downgrade directly.

The cumulative transition matrix for SIVs by original rating is presented in Exhibit 30. It should be noted that prior to 2007, no SIV had ever experienced a downgrade. However, now that downgrades have occurred, they have affected all rating categories. For the mezzanine and capital notes (those rated below Aaa), at least 75% have been downgraded in every rating category, usually to Caa and below. For the medium term note programs and senior notes (those rated Aaa), close to 70% have been downgraded, in some cases to below investment-grade.

<sup>13</sup> This study only covers long-term ratings issued under these programs. A short-term rating transition study is forthcoming.

<sup>14</sup> Moody's has published a number of recent reports on SIVs. For example, see "FAQs Regarding Current State of the Structured Investment Vehicle (SIV) Market," *Moody's Special Report*, January 15, 2008 and "Moody's Update on Structured Investment Vehicles," *Moody's Special Report*, January 16, 2008.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 30: Global SIV Rating Transitions by Original Rating as of 12/31/08

Current Rating/Last Rating before WR								
Orig Rtg	Total	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	35	31.43%	25.71%	8.57%			20.00%	14.29%
Aa	4		25.00%					75.00%
A	8			12.50%				87.50%
Baa	18				5.56%	5.56%		88.89%

Note: Each unique program within the SIV (i.e. each program with the same rating) is counted once, regardless of how many securities are issued out of the program.

## Regional Comparisons of Rating Transitions

EMEA and US Rating Transitions<sup>15</sup>

The lack of subprime mortgage securitizations in the EMEA region did not prevent the global credit crisis from reaching its shores. All told, 1866 ratings from 678 deals were downgraded and 90 ratings from 33 deals were upgraded during the year. CDOs led both downgrade (72.9%) and upgrade (65.6%) activity. The second largest source of upgrades was ABS (15.6%), followed by CMBS (12.2%), RMBS (5.6%) and one covered bond (1.1%). The downgrade activity was concentrated in RMBS (11.8%), followed by ABS (9.8%), and CMBS (3%). The other structured finance category, namely EMEA SIVs, ABCP, DPCs and covered bonds accounted for the remaining 2.5% of downgrade activity.

Historically the 12-month downgrade rates for EMEA and the US have tracked each other closely. While Europe experienced a 6-fold increase in its 2008 downgrade rate (19.1%) compared to 2007 (2.7%), the US experienced a 3.7-fold increase over the same period (from 8.1% in 2007 to 38% in 2008) (Exhibit 31). The average magnitude of rating downgrades also remains highly correlated between the regions, with EMEA averaging downgrades of 8.05 notches compared to the US average of 8.34 notches in 2008. Similarly, the size of both EMEA and US upgrades was around 2 notches for the cohort ending December 2008.

Nine percent of the overall downgrade activity was due to downgrades of the financial guarantors. However, in some sectors like ABS<sup>16</sup> and CMBS,<sup>17</sup> financial guarantor related downgrades accounted for up to 64% of all downgrades and RMBS accounted for the remaining 8% of the financial guarantor related downgrades. The remaining downgrades (66 in ABS, 1357 in CDOs, 20 in CMBS, 204 in RMBS and 46 in Other) were the result of several interconnected factors such as declining property values and a stressed macro environment. Poor portfolio performance was seen across asset classes. Lehman's bankruptcy and downgrades of AIG and several banks exacerbated various counterparty risks at the same time net asset values were falling, spreads were widening, and refinancing risk was increasing. Even the foreign exchange markets were not spared, seeing significant currency fluctuations which increased redenomination risk especially of ruble denominated ABS portfolios and between the USD and local emerging markets' referenced CDO portfolios.

The CDO sector benefited from the bulk (59 of 90) of the upgrades in the EMEA region. ABS, CMBS, RMBS and OtherSF sectors each accounted for 14, 59, 11, 5 and one upgrades respectively. The upgrades were largely the result of better than expected collateral performance, de-leveraging of the structures arising from amortization of the portfolio, positive credit migration in the underlying pools, increase in the level of credit enhancement, and in Covered Bonds the upgrade of the issuer Irish Life and Permanent.

<sup>15</sup> A separate study for EMEA structured finance rating transitions is forthcoming.

<sup>16</sup> See, "EMEA Asset-Backed Securities and Residential Mortgage-Backed Securities: 2008 Review and 2009 Outlook", January 19, 2009.

<sup>17</sup> See, "2008 Review and 2009 Outlook EMEA CMBS: Limited primary issuance and credit market turmoil affecting transaction performance", January 29, 2009.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 31: Comparison of Rating Transition Trends for EMEA and US Structured Finance

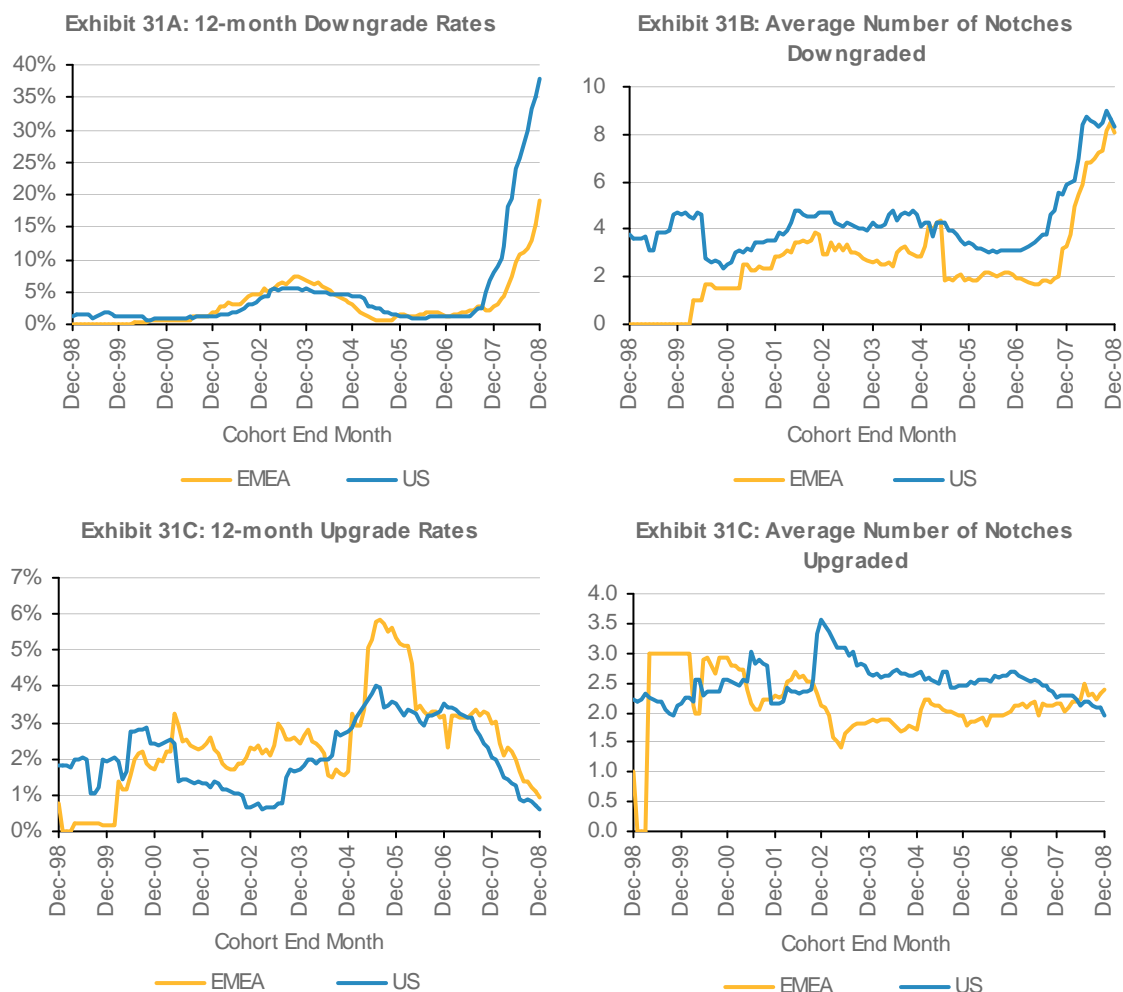


Exhibit 31E : Summary of Rating Transition Trends

	EMEA			US		
	2008	2007	1999-2008	2008	2007	1999-2008
Downgrade Rate	19.10%	2.69%	4.46%	37.97%	8.10%	7.85%
Upgrade Rate	0.94%	3.00%	2.83%	0.61%	2.03%	2.17%
Downgrade/Upgrade Ratio	20.38	0.89	1.57	62.67	3.98	3.62
Downgrade Rate (Notch Weighted)	153.71%	8.72%	24.07%	316.65%	47.41%	57.35%
Upgrade Rate (Notch Weighted)	2.23%	6.43%	5.82%	1.19%	4.61%	5.44%
Downgrade/Upgrade Ratio (Notch Weighted)	68.96	1.35	4.14	266.59	10.29	10.55
Rating Drift (Notch Weighted)	-151.48%	-2.28%	-18.25%	-315.46%	-42.80%	-51.92%
Rating Volatility (Notch Weighted)	155.94%	15.15%	29.89%	317.84%	52.02%	62.79%
Stability Rate	79.96%	94.31%	92.71%	61.43%	89.87%	89.98%
Average Number of Notches Downgraded	8.05	3.24	5.40	8.34	5.85	7.31
Average Number of Notches Upgraded	2.38	2.14	2.05	1.96	2.27	2.51



## Structured Finance Rating Transitions: 1983-2008

Exhibit 32 compares the US and EMEA 12-month rating transition matrix for 2008. The US experienced much higher transitions to the Caa and below category across the capital structure (except for the Aaa rating category). All rating categories were more stable in the EMEA zone, with at least 75% of the ratings remaining unchanged compared to about 50% in the US (73% for Aaa).

**Exhibit 32: EMEA and US Structured Finance 12-month Rating Transition Matrices for 2008**

EMEA in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	82.63%	6.24%	2.52%	2.68%	1.29%	1.34%	3.31%
Aa	1.14%	75.17%	6.36%	2.44%	3.07%	3.47%	8.35%
A	0.29%	0.94%	79.87%	5.46%	1.76%	1.88%	9.80%
Baa	0.06%		0.84%	84.83%	6.26%	2.58%	5.42%
Ba	0.33%			1.49%	83.31%	7.27%	7.60%
B					4.69%	78.13%	17.19%
Caa and below							100.00%
US in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	72.59%	7.50%	6.76%	5.61%	3.04%	1.82%	2.68%
Aa	0.92%	51.37%	7.66%	6.29%	5.24%	8.90%	19.62%
A	0.19%	0.83%	54.33%	8.30%	5.42%	7.34%	23.60%
Baa	0.02%	0.06%	0.77%	50.08%	5.41%	6.97%	36.69%
Ba	0.02%		0.06%	0.55%	49.90%	3.41%	46.06%
B				0.09%	0.09%	44.30%	55.51%
Caa and below						0.14%	99.86%

### Asia-Pacific and US Rating Transitions<sup>18</sup>

The Asia-Pacific structured finance downgrade rate increased to 6.3% in July 2008 after staying flat around 1% for the past 8 years. During the year, 185 ratings from 158 deals were downgraded and 62 ratings from 37 deals were upgraded.

Of the 185 downgrades, 113 occurred in RMBS, 37 in CDOs, 20 in CMBS and 15 in ABS. In ABS, 40% of the downgrades were related to monoline downgrades; the remaining two monoline downgrades were in RMBS. Downgrades were dominant in the two largest Asian markets, Japan<sup>19</sup> and Australia.<sup>20</sup> The downgrades were the result of several factors including poor performance in the underlying receivables pool, CDOs referencing obligors in the US and Iceland that experienced negative credit events, liquidation of originator and primary servicers, downgrades of mortgage insurers like PMI Mortgage Insurance Ltd., Genworth and AIG, concerns about refinancing of the loans and/or uncertainty about collateral recovery. In addition, in Japan, downgrades in ABS were also the result of updates to the real-estate backed SME methodology, and in consumer finance they were the result of revisiting the risk of overpaid interest claims.

Of the 62 upgrades, 30 were in ABS, 16 in CDOs, nine in RMBS and seven in CMBS. Upgrades were the result of better than expected collateral performance and/or build up of credit enhancement relative to originally expected losses.

The structured finance downgrade rates of the Asia-Pacific and the US have been historically uncorrelated. However, in 2008, the Asia-Pacific downgrade rate increased more than 8-fold from 0.9% in 2007 to 7.7% in 2008. The upgrade rate almost halved to 2.6% from 4.6% in 2007 but was significantly better than the 0.6% upgrade rate in the US in 2008. Both the average size of the downgrades (3.1 notches) and upgrades (3.3 notches) indicate that the Asia-Pacific sector experienced the most stable performance compared to any other

<sup>18</sup> This study clubs together all regions in the Asia-Pacific zone including Australia. However, two separate studies focusing on structured finance rating transitions in Japan and in the Asia-Pacific region ex. Japan are forthcoming.

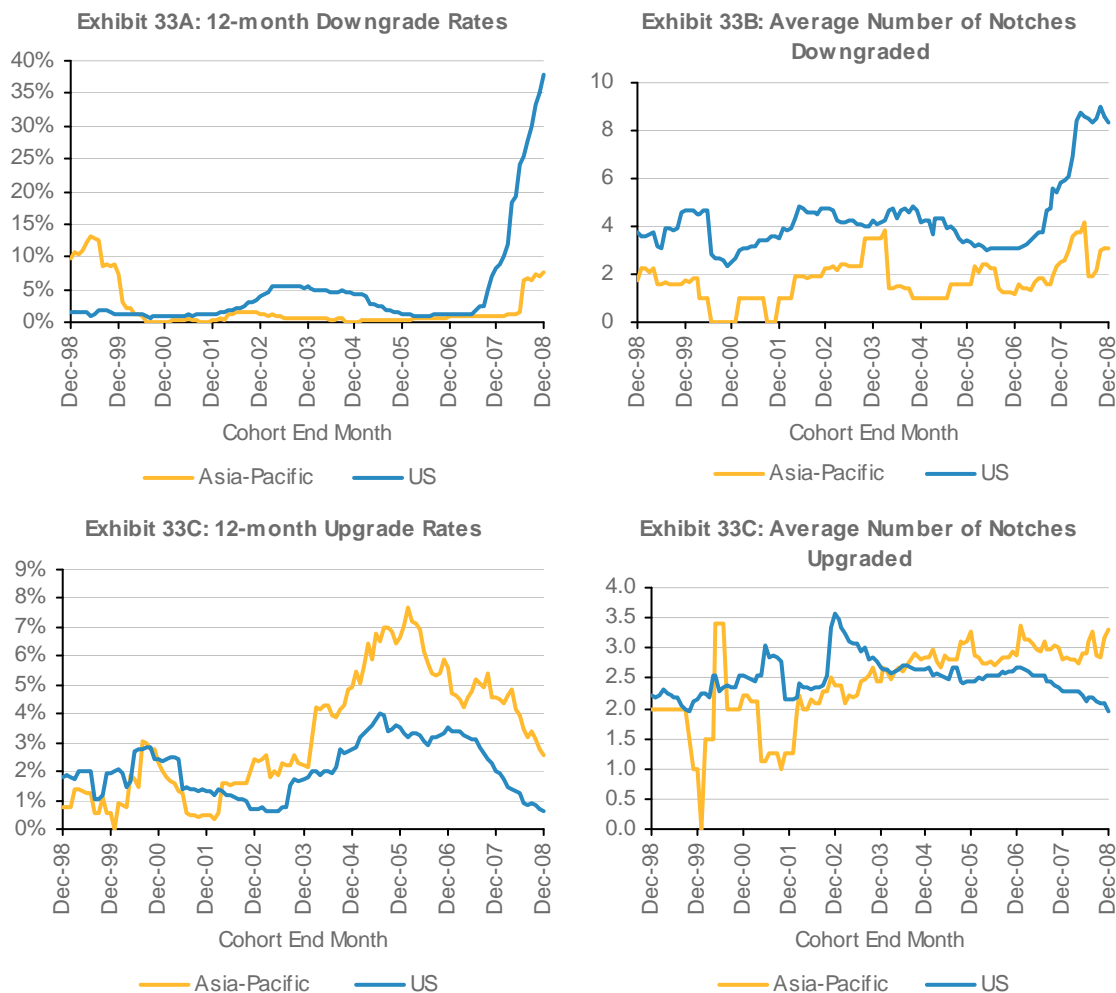
<sup>19</sup> See "2008 Review and 2009 Outlook Japan's Securitization Market", January 23, 2009.

<sup>20</sup> See "2008 Review and 2009 Outlook Australian Structured Finance: Global Financial Crisis Takes Toll, Difficult Year Ahead", February 12, 2009.

## Structured Finance Rating Transitions: 1983-2008

region covered in this report. Most regions mimicked the US average size of downgrades and upgrades of 8.3 notches and 2 notches respectively.

**Exhibit 33: Comparison of Rating Transition Trends for Asia-Pacific and US Structured Finance**



## Structured Finance Rating Transitions: 1983-2008

Exhibit 33E: Summary of Rating Transition Trends

	Asia-Pacific			US		
	2008	2007	1999-2008	2008	2007	1999-2008
Downgrade Rate	7.74%	0.94%	1.28%	37.97%	8.10%	7.85%
Upgrade Rate	2.59%	4.55%	4.14%	0.61%	2.03%	2.17%
Downgrade/Upgrade Ratio	2.98	0.21	0.31	62.67	3.98	3.62
Downgrade Rate (Notch Weighted)	23.95%	2.35%	3.03%	316.65%	47.41%	57.35%
Upgrade Rate (Notch Weighted)	8.55%	12.86%	11.75%	1.19%	4.61%	5.44%
Downgrade/Upgrade Ratio (Notch Weighted)	2.80	0.18	0.26	266.59	10.29	10.55
Rating Drift (Notch Weighted)	-15.40%	10.51%	8.72%	-315.46%	-42.80%	-51.92%
Rating Volatility (Notch Weighted)	32.50%	15.20%	14.79%	317.84%	52.02%	62.79%
Stability Rate	89.66%	94.51%	94.58%	61.43%	89.87%	89.98%
Average Number of Notches Downgraded	3.09	2.50	2.38	8.34	5.85	7.31
Average Number of Notches Upgraded	3.30	2.82	2.84	1.96	2.27	2.51

Across all rating categories, Asia-Pacific structured finance securities were much more stable than US structured finance securities and experienced very few transitions to Caa and below rating categories in 2008 (Exhibit 34).

Exhibit 34: Asia-Pacific and US Structured Finance 12-month Rating Transition Matrices for 2008

Asia-Pacific in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	99.09%	0.25%	0.25%	0.33%			0.08%
Aa	2.77%	94.03%	0.64%	1.28%	0.21%		1.07%
A	2.88%	3.96%	88.49%	1.44%	0.72%	0.72%	1.80%
Baa	3.57%		2.38%	86.90%	3.17%	1.59%	2.38%
Ba		0.89%		0.89%	92.86%	5.36%	
B					3.23%	83.87%	12.90%
Caa and below							100.00%
US in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	72.59%	7.50%	6.76%	5.61%	3.04%	1.82%	2.68%
Aa	0.92%	51.37%	7.66%	6.29%	5.24%	8.90%	19.62%
A	0.19%	0.83%	54.33%	8.30%	5.42%	7.34%	23.60%
Baa	0.02%	0.06%	0.77%	50.08%	5.41%	6.97%	36.69%
Ba	0.02%		0.06%	0.55%	49.90%	3.41%	46.06%
B				0.09%	0.09%	44.30%	55.51%
Caa and below						0.14%	99.86%

## Structured Finance Rating Transitions: 1983-2008

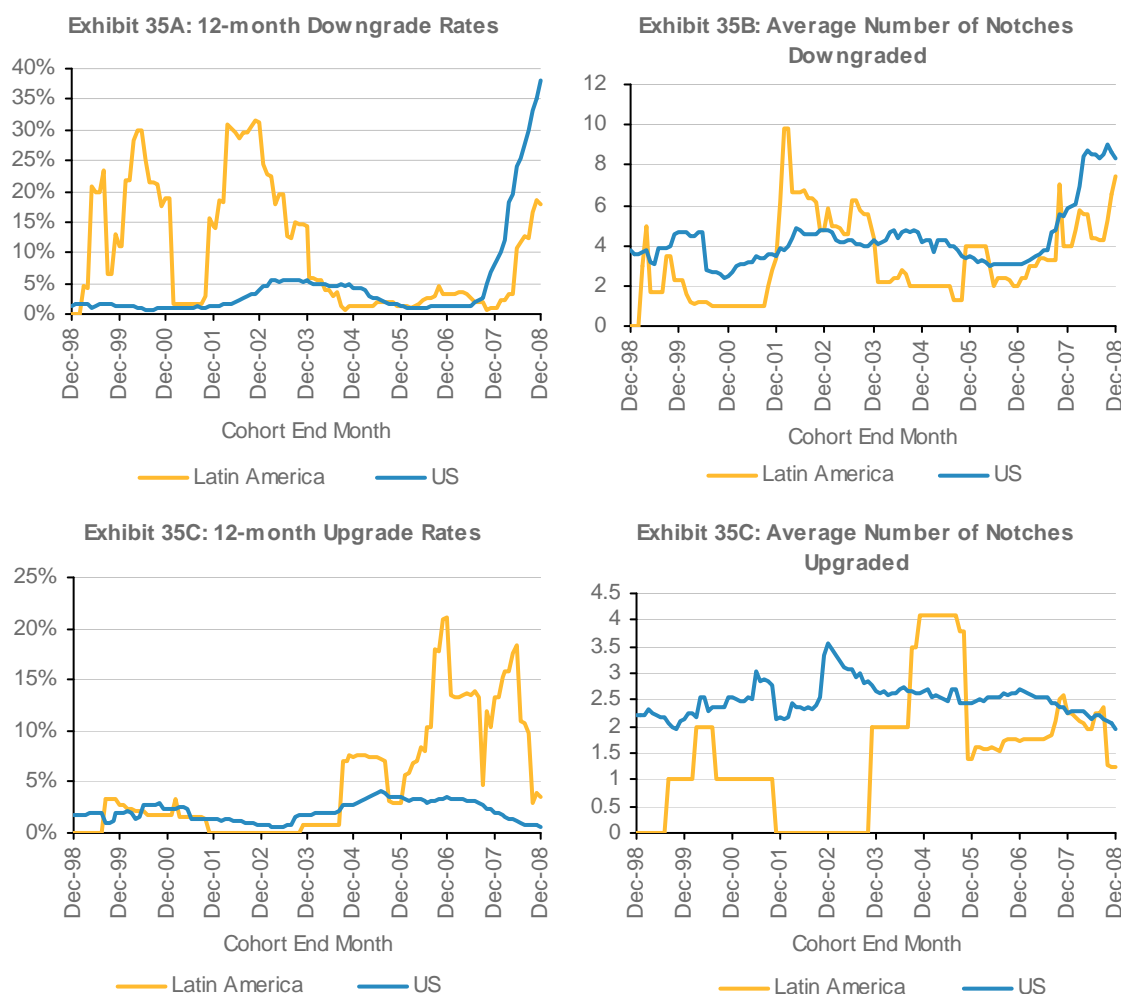
### Latin America and US Rating Transitions

The rating drift was decidedly negative in 2008 compared to 2007 for the Latin American structured finance market. In 2008, the region experienced 48 downgrades from 47 deals and 11 upgrades from 10 deals.

All 21 tranches backed by ABS receivables were downgraded as a result of monoline downgrades which largely affected cross-border and future receivables deal types. Of the 27 downgrades in RMBS, 14 were the result of monoline downgrades and 13 the result of poor portfolio performance and concerns about Metrofinanciera as a servicer. All 10 upgrades in ABS were primarily attributable to upgrades of related third parties and the lone RMBS upgrade was due to an improved loan to value ratio of the collateral.

The Latin American 12-month downgrade rate experienced the same trend as the US downgrade rate, increasing from 1% in 2007 to 17.8% in 2008 (Exhibit 35). Similar to the US, the average size of downgrades almost doubled from 4 notches to 7.4 notches. Having reached a historical high of 21.0% in 2006, the upgrade rate dropped to 3.5% in 2008. At the same time, the magnitude of Latin American upgrades also decreased by a notch from 2.3 notches to 1.2 notches.

**Exhibit 35: Comparison of Rating Transition Trends for Latin America and US Structured Finance**



## Structured Finance Rating Transitions: 1983-2008

Exhibit 35E: Summary of Rating Transition Trends

	Latin America			US		
	2008	2007	1999-2008	2008	2007	1999-2008
Downgrade Rate	17.83%	0.95%	7.85%	37.97%	8.10%	7.85%
Upgrade Rate	3.49%	13.33%	7.17%	0.61%	2.03%	2.17%
Downgrade/Upgrade Ratio	5.11	0.07	1.09	62.67	3.98	3.62
Downgrade Rate (Notch Weighted)	131.78%	3.81%	35.48%	316.65%	47.41%	57.35%
Upgrade Rate (Notch Weighted)	4.26%	30.00%	15.56%	1.19%	4.61%	5.44%
Downgrade/Upgrade Ratio (Notch Weighted)	30.91	0.13	2.28	266.59	10.29	10.55
Rating Drift (Notch Weighted)	-127.52%	26.19%	-19.91%	-315.46%	-42.80%	-51.92%
Rating Volatility (Notch Weighted)	136.05%	33.81%	51.04%	317.84%	52.02%	62.79%
Stability Rate	78.68%	85.71%	84.99%	61.43%	89.87%	89.98%
Average Number of Notches Downgraded	7.39	4.00	4.52	8.34	5.85	7.31
Average Number of Notches Upgraded	1.22	2.25	2.17	1.96	2.27	2.51

For the Latin American structured finance market in 2008, all Aaa rated securities experienced a negative migration largely to the Baa broad rating category. The Baa category in turn was the only category to experience migrations to the Caa and below rating category (Exhibit 36). Finally, excluding the Aaa-rated securities, all other rating categories were quite stable compared to the US.

Exhibit 36: Latin America and US Structured Finance 12-month Rating Transition Matrices for 2008

Latin America in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa		3.13%	28.13%	68.75%			
Aa							
A			100.00%				
Baa			2.08%	83.33%	5.21%		9.38%
Ba				1.69%	98.31%		
B						100.00%	
Caa and below							100.00%
US in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	72.59%	7.50%	6.76%	5.61%	3.04%	1.82%	2.68%
Aa	0.92%	51.37%	7.66%	6.29%	5.24%	8.90%	19.62%
A	0.19%	0.83%	54.33%	8.30%	5.42%	7.34%	23.60%
Baa	0.02%	0.06%	0.77%	50.08%	5.41%	6.97%	36.69%
Ba	0.02%		0.06%	0.55%	49.90%	3.41%	46.06%
B				0.09%	0.09%	44.30%	55.51%
Caa and below						0.14%	99.86%

## Structured Finance Rating Transitions: 1983-2008

## Rating Transitions Among Global Repackaged Securities and Structured Notes

The repackaged securities and structured notes<sup>21</sup> experienced many more negative than positive rating changes in 2008. In total, 485 ratings from 353 deals were downgraded and 195 ratings from 172 deals were upgraded. Since structured notes and repackaged securities made up 61.2% and 36.2%, respectively, of the ratings outstanding at the beginning of the year for this sector, it is not surprising that rating changes were concentrated in these two asset types. Structured notes comprised 70% of downgrades and 60% of upgrades and repackaged securities made up 28% of downgrades and 42% of upgrades. Most rating changes were caused by changes in the rating of the underlying reference credit, while 59 negative rating changes were linked to downgrades of the financial guarantors.

The 12-month downgrade rate in 2008 increased to 25.8%, close to the highs experienced by the sector a decade ago (Exhibit 37). The 12-month upgrade rate stayed around 10.3%, similar to its 2007 level. The average size of rating downgrades (5.4 notches) was almost 3 notches higher than the historical average of 2.3 notches while the average size of the upgrades stayed on par with its historical average of 1.5 notches.

The fallen angel and Aaa downgrade rates increased to 7.6% and 20.9% respectively. Ratings in the derivatives sector have historically experienced substantially more volatility than those in the global structured finance market generally, likely reflecting their closer ties to corporate and sovereign ratings which have also historically experienced comparatively higher migration rates. The Aaa rating category however, experienced a relatively high stability rate (82%).

## Exhibit 37: Global Repacks &amp; Structured Notes Rating Transition Trends

Exhibit 37A: Upgrade and Downgrade Rates

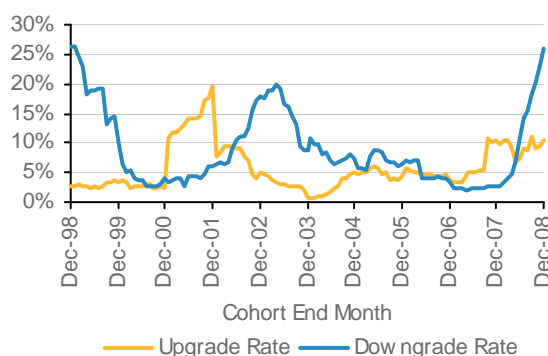


Exhibit 37B: Average Number of Notches Upgraded or Downgraded

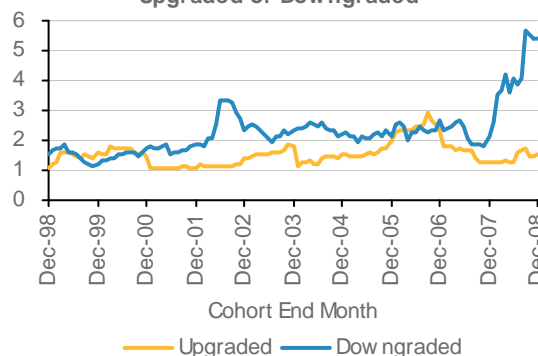


Exhibit 37C: Fallen Angel Rates and Aaa Downgrade Rates

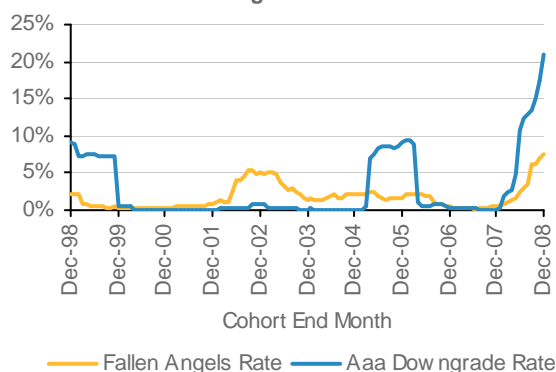
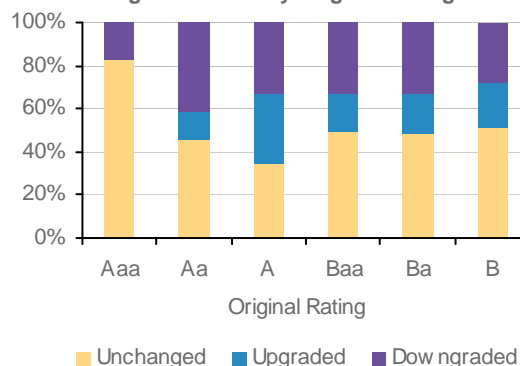


Exhibit 37D: Cumulative Upgrade and Downgrade Rates by Original Rating



<sup>21</sup> The composition of the derivatives sector has changed from previous transition studies as some of the asset types that were included in this sector have now been shifted to the "Other Structured Finance" category and are included in the global structured finance statistics. Please see the description of the data sample and glossary in the Appendix for more details.

## Structured Finance Rating Transitions: 1983-2008

Exhibit 37E: Summary of Rating Transition Trends

	2008	2007	1999-2008	1999-2007
Downgrade Rate	25.80%	2.70%	7.86%	6.93%
Upgrade Rate	10.33%	10.38%	6.07%	5.43%
Downgrade/Upgrade Ratio	2.50	0.26	1.29	1.28
Downgrade Rate (Notch Weighted)	140.09%	5.80%	23.21%	15.85%
Upgrade Rate (Notch Weighted)	15.91%	12.90%	9.03%	8.19%
Downgrade/Upgrade Ratio (Notch Weighted)	8.80	0.45	2.57	1.94
Rating Drift (Notch Weighted)	-124.18%	7.09%	-14.18%	-7.67%
Rating Volatility (Notch Weighted)	156.00%	18.70%	32.23%	24.04%
Stability Rate	63.87%	86.93%	86.07%	87.65%
Average Number of Notches Downgraded	5.43	2.15	2.95	2.29
Average Number of Notches Upgraded	1.54	1.24	1.49	1.51

Because ratings in the derivatives sector are heavily linked to global corporate and sovereign ratings, it is more appropriate to compare derivative rating transitions with corporate rating transitions. In 2008, derivative ratings performed poorly compared to their corporate counterparts across all rating categories (Exhibit 38). Not only were derivative ratings less stable compared to their corporate counterparts, the derivative sector also experienced several migrations to the Caa and below rating categories.

Exhibit 38: Comparison of 12-month Rating Transition Matrices between Global Repacks &amp; Structured Notes and Global Corporate Finance for 2008

Repacks & Structured Notes in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	79.06%	5.05%	6.50%	5.60%	0.36%	1.08%	2.35%
Aa		67.66%	21.89%	1.24%	2.49%		6.72%
A		17.37%	68.37%	6.46%	0.22%	0.22%	7.35%
Baa	0.46%		1.38%	84.33%	8.76%		5.07%
Ba		2.67%		16.00%	72.00%	6.67%	2.67%
B					10.00%	70.00%	20.00%
Caa and below							100.00%
Corporate in 2008	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aaa	95.85%	4.15%					
Aa	4.43%	91.25%	4.12%	0.10%		0.10%	
A		10.02%	87.10%	2.69%	0.06%		0.13%
Baa		0.18%	7.30%	88.63%	3.60%	0.28%	
Ba			0.18%	8.06%	83.70%	7.33%	0.73%
B	0.10%			0.19%	6.67%	83.60%	9.44%
Caa and below						15.12%	84.88%

## Structured Finance Rating Transitions: 1983-2008

**Appendix I: Description of Data Sample and Glossary**

The data sample used in this report includes all public, 144A, and private tranches with a published Moody's long-term global debt rating among global asset-backed securities (ABS), commercial and residential mortgage-backed securities (CMBS and RMBS), collateralized debt obligations (CDOs), and other structured finance, including asset backed commercial paper (ABCP), structured investment vehicles (SIVs), structured covered bonds, catastrophe bonds, and derivative product companies. Provisional ratings, credit estimates or evaluations, short-term ratings, and national scale ratings are not included. In addition, the following types of securities are excluded from the definition of global structured finance and are analyzed separately in the report: repackaged securities, structured notes, and other credit derivatives which are basically pass-throughs of the rating of another entity.

This data set is an expansion of data sets that were used in annual structured finance transition studies published prior to 2008. In particular, this data sample:

- Includes tranches wrapped by financial guarantors, government agencies, and government sponsored enterprises (GSEs);
- Includes interest-only (IO) and residual tranches;
- Includes some transactions outside of the four major sectors (ABS, CDO, CMBS, RMBS) of structured finance, such as ABCP, SIVs, structured covered bonds, catastrophe bonds and derivative product companies;
- Does not collapse tranches with the same rating from the same deal, i.e. all pari-passu tranches are counted in the data sample. The exceptions to this are notes with the same rating issued out of the same program for ABCP, SIVs and structured covered bonds, in which case only the rating of the program and not each individual security is counted.

The corporate data set used to compare corporate rating transitions to structured finance rating transitions includes international corporate and sovereign issuers, but excludes US municipal ratings.

*The data used to create this report are commercially available via Moody's Structured Finance Default Risk service and Moody's Corporate Default Risk service. For more information, please email [DefaultResearch@moody.com](mailto:DefaultResearch@moody.com)*



## Structured Finance Rating Transitions: 1983-2008

### Glossary

#### Broad Ratings and Refined Ratings

Broad ratings refer to the following Moody's long-term bond rating categories: Aaa, Aa, A, Baa, Ba, B, and Caa and below. Refined ratings or ratings with numeric modifiers refer to Aaa, Aa1, Aa2, Aa3, A1, A2, A3, Baa1, Baa2, Baa3, Ba1, Ba2, Ba3, B1, B2, B3, Caa1, Caa2, Caa3, Ca, and C. The broad rating category Caa and below includes the following refined ratings: Caa1, Caa2, Caa3, Ca, and C.

#### Investment-Grade (IG) and Below Investment-Grade (BIG)/Speculative-Grade (SG) Ratings

Investment-grade ratings refer to Aaa, Aa1, Aa2, Aa3, A1, A2, A3, Baa1, Baa2, and Baa3. Below investment-grade or speculative-grade ratings refer to Ba1, Ba2, Ba3, B1, B2, B3, Caa1, Caa2, Caa3, Ca, and C.

#### Downgrade (Upgrade) Rate

A security is considered to have been downgraded (upgraded) if its rating at the end of a pre-specified time period is lower (higher) than at the beginning of the time period on the basis of ratings with numeric modifiers (also known as refined ratings or modified ratings). The downgrade (upgrade) rate is the number of securities downgraded (upgraded) divided by the total number of outstanding securities at the beginning of the time period. Note that in measuring downgrade rates and upgrade rates, only ratings at the beginning and the end of the time period are considered. If a rating was withdrawn by the end of the time period, then the rating prior to withdrawal is used as the end rating. Note that a security will only be counted if it was outstanding as of the cohort formation date.

#### Average Number of Total Notches Downgraded (Upgraded) per 12-month Cohort

The number of total notches downgraded (upgraded) per 12-month cohort for a downgraded (upgraded) security is the difference in the rating of that security at the beginning and end of a 12-month period based on refined ratings. This term is also referred to as the magnitude, size, or severity of the rating change. The average number of total notches downgraded (upgraded) per 12-month cohort averages this quantity for all downgraded (upgraded) securities over the 12-month period. A security can experience multiple rating actions during a 12-month period, and therefore, this measure is different from the average number of notches changed per rating action. For example, if a security is downgraded from Baa1 to Baa2 and then Baa2 to Baa3 over 12 months, then the average number of notches changed per rating action would be one, but the average number of total notches changed per 12-month cohort would be two.

#### Weighted Downgrade (Upgrade) Rate

The weighted downgrade (upgrade) rate is computed as the number of securities downgraded (upgraded), weighted by the number of total notches changed per downgrade (upgrade) per year, divided by the total number of outstanding securities at the beginning of the 12-month period. For example, a security downgraded from Baa1 to B1 over 12 months is counted as three downgrades in the calculation of a weighted downgrade rate, but counted as only one downgrade in the calculation of the unweighted downgrade rate.

#### Fallen Angel Rate

A fallen angel is a security that was downgraded from an investment-grade rating to a below investment-grade rating. The fallen angel rate is the number of such securities over a 12-month period divided by the total number of investment grade securities outstanding at the beginning of the 12-month period. Note that a security will only be counted if it was outstanding as of the cohort formation date.

## Structured Finance Rating Transitions: 1983-2008

### Cumulative Downgrade (Upgrade) Rate

A security is considered to have experienced a cumulative or lifetime downgrade (upgrade), if its rating before withdrawal or rating at the end of the study period is lower (higher) than its original rating. The cumulative downgrade (upgrade) rate for a particular group of securities is computed as the number of securities to experience a cumulative downgrade (upgrade) divided by the total number of securities in the group

### Downgrade-to-Upgrade Ratio (weighted)

The downgrade-to-upgrade ratio is calculated as the total number of downgraded ratings divided by the total number of upgraded ratings. The weighted downgrade-to-upgrade ratio is the number of downgraded ratings, weighted by the number of notches changed, divided by the number of upgraded ratings, weighted by the number of notches changed.

### Rating Drift

The rating drift is defined as the weighted upgrade rate minus the weighted downgrade rate.

### Rating Volatility

The rating volatility is defined as the weighted upgrade rate plus the weighted downgrade rate.

### Rating Stability Rate

The rating stability rate is a measure of the proportion of ratings that were unchanged over a pre-specified time period. It is calculated as one minus the sum of the downgrade rate and upgrade rate.

### ABS

ABS stand for asset-backed securities. This structured finance sector includes securities backed by home equity loans (HEL) and both traditional asset types such as auto loans, credit card receivables, student loans, and manufactured housing loans, and non-traditional asset types such as mutual fund fees, tax liens, tobacco settlement payments, and intellectual property.

### HEL

The home equity loan or HEL sector includes securities backed by subprime (B&C) mortgage loans, home improvement loans, high loan-to-value (high LTV) loans, home equity lines of credit (HELOCs), and closed-end second-lien loans, as well as net interest margin (NIM) securitizations. It does not include securities backed by Alt-A mortgages, which are included in the RMBS sector. HEL is part of the ABS sector.

Prior to 1998, RMBS collateral was generally defined as first-lien residential mortgages, regardless of the credit quality of the borrower. HEL collateral generally included junior liens such as HELOCs or closed-end seconds. However, as subprime lending became more prevalent, the market shifted its definition such that HEL encompassed subprime first-lien residential mortgages while RMBS included first-lien mortgages made to higher quality borrowers. Since 1998, a deal classified as RMBS by Moody's is generally backed by prime or Alt-A quality first-lien residential mortgages, while a deal classified as HEL is generally backed by subprime first-lien mortgages or junior liens. Therefore, a subprime deal which would be classified as HEL today may have been classified as RMBS in the past.

### CDOs

CDOs stand for collateralized debt obligations. Derivative securities such as structured notes and repackaged securities are not considered to be part of this sector. Commercial real estate (CRE) CDOs, where 70% or more of the collateral is comprised of CRE loans, are classified as CMBS. If the collateral backing the transaction contains less than 70% CRE loans, then the deal is classified as a CDO.

## Structured Finance Rating Transitions: 1983-2008

### CMBS

CMBS stand for commercial mortgage-backed securities. Commercial real estate (CRE) CDOs, where 70% or more of the collateral is comprised of CRE loans, are classified as CMBS. If the collateral backing the transaction contains less than 70% CRE loans, then the deal is classified as a CDO.

### RMBS

RMBS stand for residential mortgage-backed securities. The vast majority of these securities are backed by first-lien prime mortgages or by Alt-A mortgages. For further details, see the definition of HEL.

### Other Structured Finance

Other structured finance consists of structured finance securities not categorized in the four major sectors (ABS, CDO, CMBS, and RMBS) including asset-backed commercial paper (ABCP) programs, structured investment vehicles (SIVs), some structured covered bonds, insurance-linked securities such as catastrophe bonds, and derivative product companies. However, notes carrying only short-term ratings such as commercial paper are excluded.

### Global Structured Finance

Global structured finance captures securities issued around the world in the four major sectors - ABS, CDO, CMBS, and RMBS – and in the other structured finance category. For further details, see the definition of Other Structured Finance.

### US Structured Finance

US structured finance securities are denominated in US dollars and issued in the US market or denominated in Canadian dollars and issued in Canada. In cases where the source of the underlying collateral and the denomination of the securities cross multiple countries/regions, deals are classified by the location at which they are monitored.

### EMEA Structured Finance

EMEA is an abbreviation of Europe, the Middle East, and Africa. EMEA structured finance securities are denominated in a currency from or issued out of a country in the EMEA region. In cases where the source of the underlying collateral and the denomination of the securities cross multiple countries/regions, deals are classified by the location at which they are monitored.

### Asia-Pacific Structured Finance

Asia-Pacific structured finance securities are denominated in the currency of a country in the Asia-Pacific region or issued in an Asia-Pacific country (including Japan and Australia). In cases where the source of the underlying collateral and the denomination of the securities cross multiple countries/regions, deals are classified by the location at which they are monitored.

### Latin American Structured Finance

Latin American structured finance securities are denominated in a Latin American currency or issued in Latin America. In cases where the source of the underlying collateral and the denomination of the securities cross multiple countries/regions, deals are classified by the location at which they are monitored.

### Global Repacks & Structured Notes

This sector consists primarily of structured notes, repackaged securities, and other credit derivatives which are basically pass-throughs of the rating of another entity.

## Structured Finance Rating Transitions: 1983-2008

### Appendix II: Methodology

#### Computation of Rating Transition Statistics

Rating transition statistics can be reported by cohort rating or by original rating. For statistics calculated by cohort rating, every month the rating migrations of all outstanding securities are tracked over a pre-specified time period regardless of when the security was issued. For statistics calculated by original rating, every month the rating migration of all securities issued in that month are tracked over a pre-specified time period, in which case each security carries its original rating at the start of the period.

Unless otherwise stated, transition statistics in the report are calculated by cohort rating and usually the pre-specified time period is one year, although multi-year statistics are also reported. In any case, the rating (including WR) must exist over the entire time period in order to be counted, e.g. a rating must be seasoned at least three years to be counted in a three-year downgrade rate, and only the rating outstanding at the beginning and end of the time period are used.

All average transition statistics (downgrade rates, upgrade rates, transition matrices, etc.) are calculated by averaging over the rates calculated on a monthly basis, where each month's contribution to the total is weighted by the number of ratings used in that month's computation. For example, the average 12-month downgrade rate over 1999 to 2008 is calculated by taking a weighted average of the 12-month downgrade rates of all cohorts in that 10-year period, starting from the cohort ending December 1999 and ending with the cohort ending December 2008.

#### Counting Downgrades and Upgrades

Within the main body of the report, a downgrade (upgrade) of a security is counted if its rating at the end of a pre-specified time period or immediately prior to withdrawal, if the rating had been withdrawn during the time period, is lower (higher) than at the beginning of the time period.<sup>22</sup>

Note that if a security is downgraded (upgraded) multiple times over the period under consideration, this will still be counted as one downgrade (upgrade). Moreover, if a tranche is downgraded and then upgraded (or upgraded and then downgraded) so that its start rating and end rating are the same, then no rating change will be considered as having occurred and neither the downgrade nor the upgrade will be counted.

When reporting the absolute number of downgrades (upgrades), all rating changes that occurred during the year under the above definition are counted, regardless of when the rating was issued. In contrast, transition statistics by cohort rating only consider changes to ratings that were outstanding as of the cohort formation date. In particular, if a security was issued in 2007 and downgraded in the same year, then it would not be counted in the 12-month downgrade rate by cohort rating for 2007 because it had not been outstanding as of 1/1/07. This is true of both the transition statistics presented in the main body of the text and the transition matrices in Appendix III.

In addition, the rating transition matrices in Appendix III show the migration to WR rather than the rating just prior to withdrawal. For those who are interested in rating changes prior to withdrawal, some information is provided in the bottom-most transition matrix for the 5-year transition matrices by original rating in Appendix III.

Below is an excerpt from the transition matrix for withdrawn securities for the 5-yr cohort by original rating for global structured finance. The universe of securities under consideration in this row are those that were originally rated Aa, seasoned at least 5 years, and had WR ratings 5 years after issuance. For these tranches, 71.94% were still rated Aa immediately before withdrawal, 21.31% had been upgraded to Aaa, 3.87% had been downgraded to single-A, 1.62% had been downgraded to Baa, etc..

<sup>22</sup> This differs from how withdrawals were treated in annual transition studies published prior to 2008 when rating changes prior to WR were not counted. In the structured finance transition studies published between 2005 and 2007, half the withdrawn ratings were deducted from the population, and in 2003 and 2004, all withdrawn ratings were deducted from the population.

## Structured Finance Rating Transitions: 1983-2008

Sample Row from a Transition Matrix of Ratings prior to WR

Original Rating	Rating before WR						
	Aaa	Aa	A	Baa	Ba	B	Caa and below
Aa	21.31%	71.94%	3.87%	1.62%	0.23%	0.18%	0.86%

## Structured Finance Rating Transitions: 1983-2008

## Appendix III: Multi-Year Horizon Transition Matrices

## Matrices by Cohort Rating

Exhibit 39: Global Structured Finance Rating Transition Matrices by Cohort Rating (1984-2008)								
1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	85.2%	0.7%	0.5%	0.4%	0.2%	0.1%	0.2%	12.7%
Aa	4.8%	80.8%	2.1%	1.1%	0.8%	1.7%	1.7%	6.9%
A	1.0%	3.1%	79.4%	3.3%	1.4%	2.0%	3.2%	6.7%
Baa	0.3%	0.4%	2.3%	77.9%	3.4%	2.9%	6.9%	5.9%
Ba	0.1%	0.1%	0.4%	2.3%	77.2%	3.5%	10.5%	5.9%
B	0.1%	0.0%	0.1%	0.3%	1.7%	79.0%	13.1%	5.7%
Caa and below	0.0%	0.0%	0.0%	0.1%	0.1%	0.5%	89.3%	10.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	71.2%	0.8%	0.5%	0.3%	0.1%	0.1%	0.1%	27.0%
Aa	9.6%	66.7%	2.8%	1.5%	0.7%	0.9%	1.2%	16.7%
A	2.4%	5.5%	66.6%	3.7%	1.6%	1.4%	2.7%	16.1%
Baa	0.8%	1.1%	4.5%	65.2%	4.2%	3.2%	7.0%	14.0%
Ba	0.3%	0.2%	1.1%	4.3%	64.9%	4.3%	11.2%	13.7%
B	0.1%	0.0%	0.2%	0.7%	3.3%	69.0%	14.9%	11.8%
Caa and below	0.1%	0.0%	0.0%	0.1%	0.3%	0.9%	81.4%	17.3%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	57.6%	0.7%	0.4%	0.2%	0.1%	0.1%	0.1%	40.9%
Aa	13.4%	51.8%	3.0%	1.6%	0.6%	0.5%	0.7%	28.4%
A	3.7%	6.9%	53.3%	3.8%	1.8%	0.8%	1.6%	28.1%
Baa	1.5%	1.7%	6.0%	51.9%	4.9%	3.4%	6.5%	24.1%
Ba	0.4%	0.4%	1.8%	5.7%	52.6%	4.6%	11.9%	22.6%
B	0.1%	0.1%	0.3%	1.0%	4.0%	56.3%	19.4%	18.9%
Caa and below	0.1%	0.0%	0.0%	0.2%	0.3%	0.8%	72.1%	26.5%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	45.7%	0.6%	0.4%	0.2%	0.1%	0.1%	0.1%	52.9%
Aa	15.6%	38.0%	2.8%	1.7%	0.7%	0.6%	1.0%	39.7%
A	4.6%	7.1%	40.4%	3.2%	1.8%	0.8%	1.8%	40.3%
Baa	2.1%	2.2%	6.7%	39.1%	4.6%	3.1%	7.7%	34.5%
Ba	0.6%	0.6%	2.3%	6.3%	40.6%	4.5%	13.4%	31.8%
B	0.2%	0.0%	0.3%	1.4%	3.9%	44.7%	22.9%	26.8%
Caa and below	0.0%	0.0%	0.0%	0.3%	0.3%	0.6%	63.4%	35.4%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	35.8%	0.5%	0.4%	0.2%	0.1%	0.1%	0.1%	62.9%
Aa	15.8%	27.6%	2.5%	1.6%	0.6%	0.7%	1.2%	49.9%
A	5.2%	6.1%	29.9%	2.8%	1.7%	0.7%	2.2%	51.3%
Baa	2.7%	2.5%	6.5%	28.9%	3.6%	2.6%	9.3%	43.9%
Ba	0.6%	0.7%	2.5%	6.3%	30.4%	3.9%	15.2%	40.4%
B	0.2%	0.0%	0.2%	1.6%	3.2%	35.0%	24.9%	34.9%
Caa and below	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	54.8%	44.2%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 40: Global Structured Finance Rating Transition Matrices excluding SF CDOs, and 2005 -2007 Vintage US HEL &amp; RMBS by Cohort Rating (1984-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	84.7%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	14.4%
Aa	6.1%	82.8%	1.7%	0.5%	0.1%	0.1%	0.1%	8.5%
A	1.2%	3.7%	83.7%	2.4%	0.6%	0.3%	0.2%	8.0%
Baa	0.4%	0.5%	2.9%	83.7%	2.9%	1.5%	1.2%	7.0%
Ba	0.2%	0.1%	0.5%	2.8%	83.6%	3.0%	3.8%	6.2%
B	0.1%	0.0%	0.1%	0.3%	1.9%	82.9%	9.3%	5.5%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	0.5%	90.5%	8.9%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	70.1%	0.5%	0.3%	0.1%	0.0%	0.0%	0.0%	28.8%
Aa	10.9%	66.2%	2.3%	1.1%	0.3%	0.2%	0.3%	18.7%
A	2.7%	6.0%	68.0%	3.1%	1.2%	0.5%	0.6%	17.8%
Baa	0.9%	1.2%	5.1%	67.9%	4.0%	2.4%	2.9%	15.5%
Ba	0.3%	0.3%	1.2%	4.7%	68.3%	4.1%	7.3%	13.9%
B	0.1%	0.0%	0.2%	0.7%	3.3%	69.3%	14.5%	11.9%
Caa and below	0.1%	0.0%	0.0%	0.1%	0.2%	0.8%	81.0%	17.8%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	57.0%	0.6%	0.3%	0.2%	0.0%	0.1%	0.1%	41.8%
Aa	14.1%	51.1%	2.7%	1.5%	0.5%	0.4%	0.5%	29.3%
A	3.9%	7.1%	53.3%	3.4%	1.6%	0.7%	1.1%	29.0%
Baa	1.6%	1.8%	6.3%	52.6%	4.7%	3.1%	5.0%	25.0%
Ba	0.5%	0.5%	1.9%	5.8%	53.9%	4.5%	10.6%	22.3%
B	0.1%	0.1%	0.3%	1.1%	4.0%	56.6%	19.0%	19.0%
Caa and below	0.1%	0.0%	0.0%	0.2%	0.2%	0.7%	71.7%	27.1%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	45.4%	0.5%	0.3%	0.2%	0.1%	0.1%	0.1%	53.3%
Aa	15.9%	37.8%	2.8%	1.6%	0.6%	0.5%	0.8%	40.0%
A	4.7%	7.0%	40.4%	3.2%	1.7%	0.8%	1.6%	40.5%
Baa	2.2%	2.2%	6.8%	39.4%	4.6%	3.1%	6.9%	34.8%
Ba	0.6%	0.6%	2.3%	6.3%	41.3%	4.5%	13.2%	31.1%
B	0.2%	0.0%	0.3%	1.4%	3.8%	44.9%	22.6%	26.8%
Caa and below	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	63.4%	35.6%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	35.5%	0.5%	0.3%	0.2%	0.1%	0.1%	0.1%	63.2%
Aa	16.0%	27.5%	2.5%	1.5%	0.5%	0.7%	1.1%	50.1%
A	5.3%	6.0%	29.9%	2.8%	1.7%	0.7%	2.0%	51.5%
Baa	2.8%	2.5%	6.6%	29.1%	3.7%	2.6%	8.5%	44.2%
Ba	0.6%	0.7%	2.6%	6.2%	30.9%	4.0%	15.1%	39.9%
B	0.2%	0.0%	0.2%	1.6%	3.1%	35.1%	24.9%	34.9%
Caa and below	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	54.8%	44.3%



## Structured Finance Rating Transitions: 1983-2008

Exhibit 41: US ABS Rating Transition Matrices by Cohort Rating (1984-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	81.9%	1.0%	0.7%	0.5%	0.2%	0.2%	0.1%	15.4%
Aa	2.0%	82.0%	2.8%	1.6%	1.1%	2.3%	2.5%	5.7%
A	0.4%	1.8%	79.4%	4.3%	1.7%	2.3%	3.3%	6.7%
Baa	0.1%	0.2%	0.9%	75.1%	4.9%	4.5%	9.7%	4.7%
Ba	0.0%	0.1%	0.1%	0.9%	62.2%	6.5%	25.1%	5.1%
B	0.0%	0.0%	0.1%	0.1%	0.1%	58.7%	35.8%	5.3%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.1%	11.8%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	65.9%	1.0%	0.6%	0.4%	0.1%	0.1%	0.1%	31.6%
Aa	3.9%	71.4%	3.6%	2.3%	0.9%	1.2%	2.3%	14.4%
A	0.9%	3.3%	68.1%	5.0%	2.0%	1.5%	3.0%	16.2%
Baa	0.3%	0.4%	1.8%	64.2%	6.4%	5.1%	10.5%	11.4%
Ba	0.1%	0.2%	0.3%	1.0%	50.4%	7.5%	28.4%	12.2%
B	0.0%	0.0%	0.2%	0.2%	0.3%	54.9%	34.3%	10.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	80.9%	19.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	52.3%	0.9%	0.7%	0.4%	0.1%	0.1%	0.2%	45.3%
Aa	5.4%	58.6%	4.1%	2.9%	0.9%	1.0%	1.6%	25.4%
A	1.1%	3.9%	55.6%	5.2%	2.4%	0.9%	1.8%	29.0%
Baa	0.4%	0.5%	2.4%	52.2%	8.0%	5.7%	10.1%	20.7%
Ba	0.2%	0.3%	0.3%	1.3%	39.6%	7.5%	30.8%	20.0%
B	0.0%	0.0%	0.4%	0.4%	0.5%	40.3%	40.5%	18.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	69.8%	30.1%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	41.9%	0.9%	0.7%	0.4%	0.2%	0.2%	0.2%	55.5%
Aa	5.9%	44.8%	4.2%	3.3%	1.0%	1.6%	2.6%	36.6%
A	1.1%	3.6%	43.3%	4.4%	2.5%	1.0%	2.2%	42.0%
Baa	0.3%	0.6%	2.3%	40.4%	7.8%	5.3%	12.5%	30.7%
Ba	0.2%	0.3%	0.4%	1.2%	27.9%	6.6%	34.9%	28.5%
B	0.1%	0.0%	0.5%	0.6%	0.8%	26.5%	43.9%	27.6%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	57.3%	42.6%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	33.1%	0.9%	0.8%	0.5%	0.2%	0.2%	0.3%	64.1%
Aa	5.5%	34.2%	4.1%	3.4%	0.9%	2.1%	3.5%	46.2%
A	1.2%	2.7%	32.7%	3.9%	2.4%	1.0%	2.8%	53.3%
Baa	0.4%	0.7%	2.0%	30.5%	6.0%	4.0%	16.5%	39.9%
Ba	0.3%	0.3%	0.5%	1.1%	18.7%	4.2%	39.0%	36.0%
B	0.3%	0.0%	0.4%	1.0%	1.0%	16.4%	41.9%	39.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	41.0%	58.9%



## Structured Finance Rating Transitions: 1983-2008

Exhibit 42: US ABS ex HEL Rating Transition Matrices by Cohort Rating (1984-2008)								
1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	83.4%	1.0%	0.6%	0.2%	0.1%	0.0%	0.0%	14.6%
Aa	2.7%	81.6%	3.2%	1.3%	0.4%	0.4%	0.8%	9.7%
A	0.7%	2.2%	82.0%	3.1%	0.7%	0.3%	0.4%	10.6%
Baa	0.4%	0.4%	1.4%	82.6%	4.3%	1.4%	1.7%	7.9%
Ba	0.1%	0.1%	0.3%	1.9%	73.4%	6.7%	10.9%	6.6%
B	0.0%	0.0%	0.0%	0.0%	0.0%	74.2%	22.7%	3.1%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	93.0%	6.9%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	67.9%	1.2%	0.8%	0.3%	0.1%	0.1%	0.1%	29.5%
Aa	3.6%	65.3%	3.8%	3.2%	1.2%	1.0%	2.0%	19.9%
A	1.3%	3.0%	66.1%	3.8%	1.5%	0.6%	1.1%	22.6%
Baa	0.8%	0.8%	1.9%	66.6%	5.8%	2.3%	4.3%	17.5%
Ba	0.2%	0.2%	0.5%	1.3%	52.7%	8.0%	22.1%	14.9%
B	0.0%	0.0%	0.0%	0.0%	0.0%	56.5%	37.0%	6.5%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	85.8%	14.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	53.8%	1.2%	0.8%	0.4%	0.2%	0.2%	0.2%	43.1%
Aa	3.9%	51.8%	3.8%	4.4%	1.6%	1.8%	3.1%	29.5%
A	1.3%	2.8%	52.1%	3.4%	2.0%	0.8%	1.9%	35.7%
Baa	0.8%	0.7%	1.8%	51.9%	6.4%	2.9%	7.5%	28.0%
Ba	0.4%	0.2%	0.2%	1.2%	36.2%	7.4%	32.1%	22.3%
B	0.0%	0.0%	0.0%	0.0%	0.0%	40.6%	48.7%	10.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	78.3%	21.5%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	42.6%	1.1%	0.9%	0.5%	0.3%	0.3%	0.3%	54.0%
Aa	4.0%	40.9%	3.4%	4.4%	1.6%	2.7%	4.4%	38.6%
A	1.0%	2.2%	41.1%	3.1%	2.3%	0.8%	2.5%	47.0%
Baa	0.6%	0.5%	1.4%	40.8%	7.2%	3.3%	11.0%	35.2%
Ba	0.3%	0.3%	0.1%	0.8%	20.1%	6.1%	44.3%	28.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	24.0%	58.9%	17.1%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	68.6%	31.3%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	33.9%	1.0%	1.0%	0.5%	0.3%	0.4%	0.4%	62.4%
Aa	4.2%	32.2%	2.9%	4.0%	1.3%	3.3%	5.4%	46.7%
A	1.1%	1.8%	31.9%	2.8%	2.2%	0.8%	3.0%	56.4%
Baa	0.7%	0.6%	1.2%	31.1%	6.2%	3.4%	16.0%	40.8%
Ba	0.4%	0.3%	0.0%	0.7%	9.4%	2.9%	52.5%	33.7%
B	0.0%	0.0%	0.0%	0.0%	0.0%	13.8%	61.4%	24.8%
Caa and below	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	53.6%	46.3%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 43: US HEL Rating Transition Matrices by Cohort Rating (1989-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	80.5%	1.0%	0.8%	0.9%	0.3%	0.3%	0.2%	16.1%
Aa	1.7%	82.1%	2.6%	1.8%	1.4%	3.3%	3.4%	3.8%
A	0.2%	1.5%	77.0%	5.5%	2.7%	4.2%	6.0%	3.0%
Baa	0.0%	0.1%	0.7%	72.2%	5.2%	5.7%	12.7%	3.5%
Ba	0.0%	0.0%	0.1%	0.5%	57.3%	6.4%	31.3%	4.4%
B	0.0%	0.0%	0.1%	0.1%	0.2%	46.1%	46.4%	7.1%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.2%	19.8%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	63.8%	0.7%	0.5%	0.6%	0.1%	0.1%	0.2%	33.9%
Aa	4.1%	75.4%	3.6%	1.7%	0.8%	1.2%	2.5%	10.7%
A	0.4%	3.6%	70.5%	6.6%	2.7%	2.7%	5.4%	8.2%
Baa	0.1%	0.2%	1.7%	63.0%	6.7%	6.4%	13.4%	8.6%
Ba	0.0%	0.1%	0.2%	0.8%	48.9%	7.2%	32.3%	10.6%
B	0.0%	0.0%	0.4%	0.4%	0.7%	52.7%	30.6%	15.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	69.3%	30.7%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	50.6%	0.6%	0.4%	0.5%	0.0%	0.0%	0.1%	47.8%
Aa	6.9%	65.0%	4.4%	1.4%	0.3%	0.2%	0.3%	21.6%
A	0.8%	6.1%	62.0%	8.6%	3.0%	1.2%	1.6%	16.7%
Baa	0.1%	0.4%	2.7%	52.5%	9.1%	7.4%	11.8%	16.0%
Ba	0.0%	0.3%	0.4%	1.5%	42.8%	7.7%	29.5%	17.9%
B	0.0%	0.0%	0.8%	0.8%	1.1%	40.0%	29.9%	27.3%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.0%	47.0%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	40.9%	0.7%	0.5%	0.4%	0.0%	0.0%	0.1%	57.3%
Aa	8.4%	49.8%	5.3%	1.9%	0.3%	0.1%	0.2%	34.1%
A	1.3%	7.1%	49.0%	7.9%	3.0%	1.4%	1.4%	28.9%
Baa	0.1%	0.6%	3.1%	40.1%	8.3%	7.0%	13.9%	26.9%
Ba	0.1%	0.4%	0.7%	1.8%	37.2%	7.1%	23.6%	29.0%
B	0.2%	0.0%	0.9%	1.3%	1.6%	29.1%	28.0%	38.8%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	41.1%	58.9%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	32.1%	0.7%	0.5%	0.4%	0.0%	0.0%	0.2%	66.2%
Aa	7.7%	37.3%	6.0%	2.6%	0.4%	0.1%	0.5%	45.4%
A	1.7%	5.7%	35.5%	8.0%	3.1%	1.6%	2.0%	42.4%
Baa	0.1%	0.7%	2.9%	29.9%	5.8%	4.6%	17.0%	39.0%
Ba	0.1%	0.3%	1.0%	1.6%	29.5%	5.6%	23.3%	38.6%
B	0.5%	0.0%	0.7%	1.8%	1.8%	18.5%	26.8%	49.9%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.5%	69.5%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 44: US RMBS Rating Transition Matrices by Cohort Rating (1984-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	87.3%	0.5%	0.4%	0.3%	0.2%	0.1%	0.0%	11.3%
Aa	6.1%	80.7%	1.6%	0.9%	0.7%	2.1%	1.0%	6.9%
A	1.0%	4.1%	76.2%	2.9%	1.5%	4.0%	4.7%	5.6%
Baa	0.3%	0.4%	3.4%	76.2%	2.4%	3.4%	8.9%	4.9%
Ba	0.1%	0.1%	0.8%	4.6%	79.5%	1.9%	7.9%	5.0%
B	0.0%	0.0%	0.1%	0.4%	3.9%	83.0%	6.3%	6.3%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	91.6%	8.3%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	74.2%	0.4%	0.3%	0.2%	0.1%	0.0%	0.0%	24.7%
Aa	12.7%	65.3%	2.1%	0.9%	0.5%	1.0%	0.6%	16.8%
A	3.3%	8.0%	64.2%	2.3%	1.5%	2.5%	3.8%	14.5%
Baa	0.8%	1.4%	7.0%	66.1%	1.9%	2.5%	7.1%	13.2%
Ba	0.3%	0.3%	2.7%	8.6%	68.0%	1.8%	5.8%	12.6%
B	0.1%	0.1%	0.3%	0.9%	7.5%	70.8%	5.1%	15.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	82.9%	16.6%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	60.5%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	38.9%
Aa	17.9%	49.8%	2.2%	0.8%	0.2%	0.1%	0.1%	28.9%
A	6.2%	10.9%	51.1%	2.0%	1.2%	0.9%	1.2%	26.6%
Baa	1.5%	2.5%	9.6%	55.3%	1.6%	1.5%	3.1%	24.9%
Ba	0.6%	0.3%	4.7%	10.8%	56.0%	1.9%	3.5%	22.2%
B	0.1%	0.2%	0.3%	1.6%	8.9%	57.7%	5.6%	25.6%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	76.0%	23.3%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	47.5%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	52.2%
Aa	20.3%	35.9%	2.0%	0.7%	0.2%	0.1%	0.1%	40.6%
A	8.4%	11.4%	36.7%	1.7%	0.8%	0.5%	1.1%	39.5%
Baa	2.3%	3.2%	10.1%	42.6%	1.3%	1.1%	2.2%	37.2%
Ba	0.8%	0.5%	5.8%	11.0%	43.7%	1.8%	3.1%	33.3%
B	0.2%	0.1%	0.2%	2.2%	8.0%	45.9%	5.7%	37.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	70.1%	29.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	36.8%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	62.76%
Aa	20.0%	26.0%	1.8%	0.6%	0.2%	0.2%	0.2%	50.85%
A	8.8%	9.7%	27.1%	1.4%	0.6%	0.4%	1.3%	50.09%
Baa	2.9%	3.0%	8.8%	33.5%	1.0%	1.2%	2.2%	45.52%
Ba	0.8%	0.7%	5.8%	9.8%	34.1%	1.6%	3.3%	41.67%
B	0.4%	0.1%	0.1%	2.5%	5.5%	36.5%	5.8%	47.81%
Caa and below	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	64.4%	41.37%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 45: US CMBS Rating Transition Matrices by Cohort Rating (1987-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	90.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	9.2%
Aa	15.6%	76.4%	0.7%	0.1%	0.1%	0.1%	0.0%	7.0%
A	3.8%	9.7%	79.8%	1.1%	0.2%	0.0%	0.0%	5.2%
Baa	0.9%	1.2%	6.4%	82.5%	1.7%	0.3%	0.2%	6.8%
Ba	0.2%	0.0%	0.5%	3.1%	90.6%	2.1%	0.2%	3.3%
B	0.1%	0.0%	0.0%	0.2%	1.0%	91.5%	5.1%	2.1%
Caa and below	0.1%	0.0%	0.0%	0.0%	0.1%	0.9%	91.8%	7.2%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	80.3%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	19.1%
Aa	26.3%	55.1%	1.1%	0.2%	0.2%	0.0%	0.1%	16.9%
A	10.0%	15.3%	59.7%	1.7%	0.5%	0.0%	0.0%	12.6%
Baa	2.9%	3.2%	11.2%	64.2%	2.1%	0.5%	0.3%	15.5%
Ba	0.5%	0.2%	1.2%	5.8%	80.5%	3.7%	0.7%	7.3%
B	0.1%	0.0%	0.1%	0.4%	1.9%	82.3%	10.3%	4.9%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	1.4%	83.9%	14.5%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	70.7%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	28.6%
Aa	32.4%	39.1%	1.2%	0.4%	0.4%	0.0%	0.2%	26.2%
A	16.0%	17.5%	43.8%	2.0%	0.7%	0.1%	0.0%	19.9%
Baa	5.5%	5.1%	13.8%	49.0%	2.1%	0.5%	0.4%	23.6%
Ba	0.8%	0.7%	1.9%	8.0%	70.2%	5.1%	1.7%	11.7%
B	0.1%	0.0%	0.2%	0.6%	2.3%	71.6%	16.5%	8.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.1%	1.9%	76.6%	21.4%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	62.3%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	36.9%
Aa	35.4%	27.5%	1.4%	0.3%	0.6%	0.0%	0.3%	34.4%
A	20.8%	18.4%	31.5%	2.2%	0.6%	0.1%	0.0%	26.3%
Baa	7.9%	6.2%	15.2%	36.5%	2.1%	0.4%	0.6%	31.0%
Ba	1.0%	1.2%	2.4%	9.8%	59.2%	6.5%	3.2%	16.7%
B	0.0%	0.0%	0.2%	1.0%	2.5%	59.8%	23.3%	13.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	70.3%	27.2%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	54.7%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	44.4%
Aa	35.4%	19.3%	1.5%	0.3%	0.8%	0.0%	0.4%	42.3%
A	25.5%	17.8%	21.5%	2.1%	0.6%	0.1%	0.0%	32.3%
Baa	10.0%	7.3%	16.1%	27.0%	1.8%	0.5%	0.7%	36.6%
Ba	1.1%	1.8%	3.0%	10.9%	49.1%	7.5%	4.9%	21.7%
B	0.0%	0.0%	0.2%	1.3%	2.6%	49.1%	28.8%	18.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	65.2%	31.5%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 46: US CDO Rating Transition Matrices by Cohort Rating (1990-2008)								
1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	82.7%	2.2%	1.4%	1.0%	1.1%	1.1%	3.7%	6.8%
Aa	1.3%	78.7%	3.5%	2.1%	1.5%	1.1%	5.4%	6.4%
A	0.6%	1.2%	79.6%	2.9%	1.8%	1.1%	6.5%	6.4%
Baa	0.2%	0.4%	0.6%	78.7%	3.5%	2.4%	8.1%	6.2%
Ba	0.0%	0.1%	0.2%	0.9%	77.4%	3.4%	10.1%	7.8%
B	0.0%	0.1%	0.2%	0.8%	1.9%	64.0%	24.2%	8.7%
Caa and below	0.0%	0.0%	0.0%	0.1%	0.2%	0.8%	92.0%	6.9%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	75.3%	3.3%	1.9%	1.1%	0.9%	0.7%	1.4%	15.4%
Aa	2.8%	66.5%	5.4%	3.5%	2.2%	1.5%	3.1%	15.1%
A	1.3%	2.5%	68.7%	3.6%	2.1%	1.6%	5.0%	15.2%
Baa	0.5%	0.8%	1.1%	65.2%	5.3%	3.9%	9.0%	14.4%
Ba	0.1%	0.3%	0.4%	2.1%	61.9%	4.8%	13.1%	17.3%
B	0.1%	0.1%	0.2%	1.5%	3.2%	45.8%	31.0%	18.0%
Caa and below	0.0%	0.0%	0.1%	0.3%	0.5%	1.5%	85.4%	12.3%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	63.9%	4.1%	2.4%	1.4%	0.7%	0.5%	0.4%	26.7%
Aa	3.6%	51.8%	6.8%	4.9%	3.0%	1.7%	2.0%	26.1%
A	1.9%	3.5%	54.7%	3.7%	2.6%	2.0%	4.3%	27.2%
Baa	0.7%	1.0%	1.5%	48.4%	6.3%	5.3%	12.7%	24.0%
Ba	0.1%	0.5%	0.5%	2.7%	45.4%	5.3%	17.7%	27.8%
B	0.3%	0.2%	0.3%	2.0%	3.8%	31.6%	36.5%	25.4%
Caa and below	0.0%	0.0%	0.1%	0.5%	0.6%	1.6%	79.0%	18.3%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	51.3%	4.3%	2.4%	1.6%	0.9%	0.5%	0.4%	38.5%
Aa	4.2%	37.2%	6.8%	5.9%	3.6%	2.1%	3.1%	37.1%
A	2.2%	4.3%	40.2%	3.3%	2.7%	2.0%	5.1%	40.2%
Baa	0.8%	1.2%	1.7%	33.1%	6.4%	5.6%	17.3%	33.9%
Ba	0.1%	0.5%	0.3%	2.8%	32.1%	5.0%	21.3%	37.8%
B	0.2%	0.0%	0.3%	1.9%	3.5%	23.7%	39.0%	31.3%
Caa and below	0.0%	0.0%	0.1%	0.4%	0.6%	1.0%	74.4%	23.5%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	39.5%	4.0%	2.0%	1.7%	1.0%	0.7%	0.5%	50.6%
Aa	4.7%	25.0%	6.3%	6.1%	3.7%	2.0%	4.3%	47.9%
A	2.3%	4.7%	26.1%	3.0%	2.4%	2.0%	5.7%	53.8%
Baa	0.6%	1.2%	1.5%	20.7%	6.4%	5.7%	20.4%	43.5%
Ba	0.1%	0.2%	0.4%	2.3%	20.6%	4.6%	24.2%	47.5%
B	0.1%	0.0%	0.2%	1.2%	2.6%	16.2%	43.8%	36.0%
Caa and below	0.0%	0.0%	0.0%	0.4%	0.1%	0.2%	72.0%	27.3%

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 47: One-Year Rating Transition Matrices by Cohort Rating and Sector (1999-2008)**

Global SF	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	83.6%	0.9%	0.7%	0.5%	0.3%	0.2%	0.3%	13.5%
Aa	4.2%	79.5%	2.3%	1.4%	1.1%	2.3%	2.4%	6.8%
A	0.9%	3.1%	77.9%	3.5%	1.6%	2.3%	3.7%	6.9%
Baa	0.3%	0.4%	2.3%	76.7%	3.4%	3.1%	7.5%	6.2%
Ba	0.1%	0.1%	0.3%	2.0%	76.4%	3.6%	11.2%	6.2%
B	0.1%	0.0%	0.1%	0.3%	1.7%	78.0%	13.8%	5.9%
Caa and below	0.0%	0.0%	0.0%	0.1%	0.1%	0.5%	89.4%	9.9%
<b>Global SF ex SFCDOs &amp; '05-'07 US HEL &amp; RMBS</b>								
	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	82.6%	0.5%	0.3%	0.2%	0.0%	0.0%	0.0%	16.3%
Aa	5.9%	81.9%	1.7%	0.6%	0.2%	0.1%	0.2%	9.3%
A	1.2%	3.9%	82.7%	2.5%	0.7%	0.3%	0.3%	8.4%
Baa	0.4%	0.5%	3.0%	83.0%	2.8%	1.5%	1.2%	7.6%
Ba	0.2%	0.1%	0.4%	2.5%	83.3%	3.1%	3.9%	6.6%
B	0.1%	0.0%	0.1%	0.3%	1.9%	82.4%	9.5%	5.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	90.7%	8.7%
<b>US ABS</b>								
	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	79.2%	1.3%	1.0%	0.7%	0.2%	0.2%	0.1%	17.2%
Aa	2.0%	80.8%	2.9%	1.8%	1.3%	2.7%	2.9%	5.6%
A	0.4%	2.0%	77.2%	5.0%	2.0%	2.8%	3.9%	6.8%
Baa	0.1%	0.2%	0.9%	74.1%	4.9%	4.7%	10.3%	4.9%
Ba	0.0%	0.0%	0.1%	0.6%	61.0%	6.7%	26.4%	5.2%
B	0.0%	0.0%	0.0%	0.1%	0.1%	57.1%	37.4%	5.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.3%	11.6%
<b>US ABS ex HEL</b>								
	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	80.8%	1.3%	0.9%	0.3%	0.1%	0.0%	0.1%	16.5%
Aa	2.8%	78.2%	4.4%	1.8%	0.6%	0.6%	1.1%	10.4%
A	0.7%	2.7%	78.2%	4.3%	0.9%	0.5%	0.5%	12.2%
Baa	0.4%	0.4%	1.4%	81.1%	4.3%	1.5%	2.0%	8.9%
Ba	0.1%	0.1%	0.2%	1.2%	73.0%	7.0%	11.7%	6.7%
B	0.0%	0.0%	0.0%	0.0%	0.0%	74.5%	22.4%	3.1%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	93.0%	6.9%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 47: One-Year Rating Transition Matrices by Cohort Rating and Sector (1999-2008)

US HEL	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	77.9%	1.2%	1.0%	1.1%	0.3%	0.3%	0.2%	17.9%
Aa	1.7%	81.7%	2.4%	1.8%	1.5%	3.5%	3.6%	3.9%
A	0.1%	1.5%	76.5%	5.5%	2.8%	4.4%	6.2%	3.0%
Baa	0.0%	0.1%	0.7%	71.8%	5.1%	5.8%	13.0%	3.6%
Ba	0.0%	0.0%	0.0%	0.4%	56.1%	6.6%	32.4%	4.6%
B	0.0%	0.0%	0.1%	0.1%	0.3%	41.2%	51.1%	7.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.3%	19.7%
US RMBS	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	86.5%	0.6%	0.6%	0.4%	0.3%	0.1%	0.0%	11.4%
Aa	4.2%	78.2%	1.7%	1.5%	1.4%	4.2%	2.0%	6.7%
A	0.8%	3.5%	73.7%	2.9%	1.9%	5.1%	6.2%	5.9%
Baa	0.2%	0.4%	3.3%	72.4%	2.5%	4.2%	11.2%	5.8%
Ba	0.1%	0.1%	0.7%	4.5%	76.7%	1.7%	9.8%	6.4%
B	0.0%	0.0%	0.1%	0.4%	4.8%	80.5%	6.6%	7.6%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	9.0%
US CMBS	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	90.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%
Aa	18.0%	74.7%	0.6%	0.0%	0.0%	0.0%	0.0%	6.6%
A	4.1%	10.4%	79.0%	1.1%	0.2%	0.0%	0.0%	5.2%
Baa	0.9%	1.2%	6.7%	82.1%	1.6%	0.3%	0.1%	7.0%
Ba	0.3%	0.0%	0.5%	2.8%	90.9%	2.2%	0.3%	3.1%
B	0.1%	0.0%	0.0%	0.1%	0.8%	91.7%	5.3%	1.9%
Caa and below	0.1%	0.0%	0.0%	0.0%	0.1%	0.7%	92.2%	7.0%
US CDO	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	82.4%	2.3%	1.4%	1.1%	1.1%	1.1%	3.8%	6.8%
Aa	1.3%	77.9%	3.5%	2.2%	1.6%	1.2%	5.7%	6.5%
A	0.6%	1.2%	79.5%	2.9%	1.8%	1.1%	6.7%	6.2%
Baa	0.2%	0.4%	0.6%	78.1%	3.4%	2.5%	8.5%	6.3%
Ba	0.0%	0.1%	0.2%	0.9%	76.9%	3.4%	10.4%	7.9%
B	0.0%	0.1%	0.3%	0.8%	2.1%	61.7%	25.7%	9.3%
Caa and below	0.0%	0.0%	0.0%	0.1%	0.2%	0.8%	92.0%	6.9%



## Structured Finance Rating Transitions: 1983-2008

Exhibit 48: Global Structured Finance One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	52223	69.9%	1.8%	1.9%	3.4%	2.6%	2.1%	1.5%	2.8%	1.2%	1.2%	0.9%	1.2%	0.7%	0.5%	0.6%	0.7%	0.6%	0.3%	0.5%	0.7%	0.4%	4.5%
Aa1	4495	1.3%	47.8%	1.6%	2.2%	3.2%	2.6%	2.6%	2.5%	2.4%	2.4%	2.1%	2.2%	3.3%	2.8%	2.7%	4.3%	1.6%	2.4%	0.9%	2.6%	4.0%	2.1%
Aa2	7032	0.8%	0.5%	55.0%	2.9%	2.5%	2.4%	1.7%	1.6%	1.6%	1.2%	1.4%	1.0%	1.1%	1.5%	2.1%	3.0%	1.2%	2.1%	1.9%	5.2%	6.5%	2.9%
Aa3	3403	0.6%	0.5%	1.0%	42.3%	1.9%	2.3%	2.8%	2.5%	2.1%	1.6%	1.4%	1.1%	1.4%	2.0%	2.4%	3.9%	1.4%	2.5%	2.1%	5.7%	15.0%	3.8%
A1	2290	0.4%	0.2%	0.7%	0.9%	46.8%	2.0%	2.7%	3.8%	2.6%	1.9%	1.8%	1.9%	1.3%	1.5%	2.3%	3.6%	1.1%	3.1%	1.4%	5.7%	9.1%	5.1%
A2	6495	0.1%	0.1%	0.3%	0.3%	0.6%	60.7%	1.1%	2.5%	3.2%	1.5%	1.4%	1.0%	1.5%	1.2%	1.8%	2.8%	1.4%	1.5%	1.6%	5.1%	6.7%	3.7%
A3	3230	0.1%	0.1%	0.2%	0.3%	0.4%	0.6%	43.9%	2.3%	2.7%	3.2%	2.5%	1.8%	2.0%	2.3%	1.9%	2.8%	1.6%	2.8%	2.3%	8.5%	15.1%	2.9%
Baa1	2884	0.0%		0.1%	0.1%	0.4%	0.6%	0.8%	46.2%	1.6%	1.9%	2.8%	1.7%	1.8%	2.2%	2.3%	2.6%	1.8%	2.5%	1.4%	8.7%	18.1%	2.4%
Baa2	5883	0.1%			0.0%	0.1%	0.3%	0.2%	0.5%	54.2%	1.2%	2.0%	2.3%	1.1%	1.5%	1.7%	2.7%	1.5%	1.7%	1.4%	8.2%	15.0%	4.2%
Baa3	3640						0.1%	0.2%	0.2%	0.6%	48.1%	1.2%	1.7%	1.9%	1.6%	1.6%	2.8%	1.3%	1.5%	1.5%	10.3%	22.4%	3.1%
Ba1	1822	0.1%					0.1%	0.1%	0.3%	0.4%	0.3%	42.2%	1.2%	0.9%	0.8%	1.0%	1.8%	0.9%	1.2%	1.3%	11.3%	32.7%	3.6%
Ba2	2659			0.0%					0.0%	0.3%	0.2%	0.3%	56.8%	0.8%	0.9%	1.2%	1.4%	0.9%	1.5%	1.4%	9.4%	21.6%	3.3%
Ba3	1371							0.1%		0.1%	0.3%	0.3%	0.3%	50.5%	1.5%	1.2%	2.0%	0.6%	0.5%	0.4%	8.5%	31.0%	2.9%
B1	883								0.3%					0.1%	43.8%	2.4%	1.0%	1.5%	0.8%	0.6%	8.7%	36.5%	4.3%
B2	1114												0.5%		0.3%	53.3%	2.1%	2.7%	1.2%	0.7%	10.3%	26.8%	2.1%
B3	1293															0.1%	32.0%	2.0%	2.0%	1.3%	8.2%	51.0%	3.3%
Caa1	439														0.2%			36.0%	0.9%	2.3%	8.7%	47.4%	4.6%
Caa2	478																0.6%		29.7%	1.7%	10.7%	50.4%	6.9%
Caa3	413															0.2%				26.2%	13.1%	49.9%	10.7%
Ca	959																				33.8%	52.0%	14.2%
C	1477																					75.6%	24.4%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 49: Global Structured Finance excluding SFCDs &amp; 2005-2007 US RMBS &amp; HEL One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	
Aaa	26453	83.7%	0.7%	0.8%	2.6%	0.7%	1.4%	0.4%	1.8%	0.4%	0.4%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	6.5%	
Aa1	1320	4.5%	82.0%	0.6%	1.2%	1.1%	1.3%	0.5%	0.4%	0.4%	0.7%		0.7%	1.0%	0.1%		0.1%	0.1%				0.2%	5.2%	
Aa2	3945	1.3%	0.9%	80.3%	3.8%	1.7%	1.0%	1.3%	0.9%	0.7%	0.7%	0.5%	0.4%	0.3%	0.3%	0.4%	0.2%	0.5%	0.2%	0.3%	0.1%		4.3%	
Aa3	1526	1.2%	1.0%	2.2%	73.7%	1.4%	1.4%	1.8%	1.4%	1.8%	0.5%	0.9%	0.7%	0.7%	0.1%	0.5%	0.7%	0.7%	0.4%	0.9%	0.1%	0.1%	7.9%	
A1	1175	0.9%	0.3%	1.4%	1.8%	74.3%	1.3%	2.6%	2.0%	1.6%	0.7%	0.7%	0.6%	0.4%	0.3%	0.3%	0.8%	0.1%	0.3%	0.3%	0.6%		8.9%	
A2	4400	0.2%	0.1%	0.4%	0.4%	0.9%	80.6%	1.0%	1.9%	1.9%	1.1%	0.6%	0.7%	0.9%	0.5%	0.5%	1.0%	0.7%	0.4%	0.6%	0.8%	0.1%	4.9%	
A3	1650	0.2%	0.1%	0.3%	0.6%	0.8%	1.2%	73.9%	2.0%	3.0%	2.8%	2.5%	1.0%	0.7%	1.4%	0.7%	1.0%	0.8%	0.6%	0.8%	1.0%	0.4%	3.9%	
Baa1	1532	0.1%		0.1%	0.1%	0.7%	1.2%	1.5%	77.9%	1.3%	2.2%	1.8%	1.6%	1.5%	1.3%	0.9%	0.4%	0.5%	0.7%	0.3%	0.9%	1.0%	3.9%	
Baa2	3715	0.2%			0.1%	0.2%	0.4%	0.3%	0.8%	77.6%	1.5%	2.4%	2.3%	0.9%	0.9%	0.9%	1.6%	0.6%	0.7%	0.4%	1.7%	0.6%	5.9%	
Baa3	2058						0.1%	0.3%	0.4%	1.1%	79.1%	1.8%	2.0%	2.0%	1.5%	1.0%	1.7%	0.6%	0.8%	0.7%	1.9%	1.0%	3.9%	
Ba1	926	0.2%					0.1%	0.1%	0.5%	0.9%	0.5%	79.6%	2.2%	1.3%	1.0%	1.1%	2.4%	0.6%	0.5%	0.3%	1.5%	1.6%	5.5%	
Ba2	1716			0.1%					0.1%	0.5%	0.3%	0.5%	82.1%	1.2%	1.3%	1.1%	1.7%	0.9%	0.9%	1.5%	2.9%	1.0%	4.0%	
Ba3	804							0.1%		0.1%	0.5%	0.5%	0.5%	83.1%	2.2%	2.0%	2.7%	1.0%	0.5%	0.4%	2.4%	1.1%	2.9%	
B1	475									0.6%					0.2%	81.3%	4.4%	1.9%	2.5%	0.8%	1.1%	2.1%	1.1%	4.0%
B2	645												0.9%		0.5%	80.0%	3.6%	4.0%	1.9%	0.8%	2.6%	3.4%	2.3%	
B3	495															0.2%	81.8%	5.3%	4.4%	2.6%	2.4%	1.8%	1.4%	
Caa1	209														0.5%			73.7%	1.4%	4.8%	5.7%	9.6%	4.3%	
Caa2	180																1.7%		76.1%	4.4%	8.3%	6.1%	3.3%	
Caa3	132															0.8%				78.0%	5.3%	10.6%	5.3%	
Ca	323																				84.8%	9.0%	6.2%	
C	486																					92.0%	8.0%	

## Structured Finance Rating Transitions: 1983-2008

Exhibit 50: US ABS One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	12861	62.0%	1.0%	1.8%	5.4%	1.9%	3.1%	1.4%	5.8%	1.4%	1.3%	1.1%	0.7%	0.8%	0.6%	0.9%	1.2%	1.6%	0.8%	0.3%	0.3%	0.1%	6.4%
Aa1	1382	0.2%	50.5%	0.7%	0.8%	2.1%	1.7%	0.9%	2.8%	2.3%	1.1%	3.0%	2.2%	1.7%	2.2%	1.5%	2.1%	0.9%	5.4%	0.9%	4.1%	11.4%	1.4%
Aa2	2281	0.2%	0.2%	56.2%	1.3%	3.5%	2.2%	1.5%	1.4%	1.5%	0.9%	1.8%	0.8%	1.0%	1.0%	1.5%	1.1%	0.5%	3.7%	0.9%	2.8%	14.7%	1.1%
Aa3	1433	0.1%	0.3%	0.2%	36.7%	2.9%	3.3%	2.3%	3.4%	2.5%	1.3%	1.1%	1.0%	1.3%	1.4%	2.3%	1.1%	0.3%	3.8%	0.5%	2.3%	30.4%	1.3%
A1	1006			0.2%		44.1%	2.7%	3.6%	5.5%	4.4%	2.2%	2.7%	2.2%	1.5%	1.5%	1.5%	1.8%	0.2%	4.8%	0.6%	2.7%	16.1%	1.9%
A2	2319		0.0%	0.0%	0.3%	0.2%	60.8%	0.9%	3.5%	3.8%	2.5%	2.0%	0.9%	1.1%	0.9%	1.8%	2.0%	1.4%	2.1%	0.6%	1.5%	11.0%	2.6%
A3	1371		0.1%		0.1%			37.6%	3.0%	3.8%	4.6%	4.0%	2.6%	2.6%	2.2%	1.8%	1.8%	0.4%	4.8%	0.9%	3.4%	24.7%	1.5%
Baa1	1410								40.0%	1.9%	2.7%	3.8%	2.6%	2.9%	2.6%	2.6%	1.8%	1.8%	4.0%	1.4%	3.3%	28.0%	0.5%
Baa2	1815									44.1%	0.7%	2.8%	3.0%	1.7%	1.9%	2.3%	3.1%	1.3%	3.5%	1.5%	3.5%	28.0%	2.7%
Baa3	1513										36.9%	0.8%	1.7%	2.2%	2.2%	1.7%	2.8%	1.3%	2.6%	1.8%	6.7%	37.3%	1.9%
Ba1	772											25.1%	0.3%	0.8%	0.9%	0.6%	2.5%	1.4%	2.3%	1.2%	6.6%	57.0%	1.3%
Ba2	703												26.7%		1.4%	0.3%	1.4%	2.0%	2.4%	2.7%	5.4%	55.3%	2.3%
Ba3	414													27.8%		0.5%	2.4%	0.2%	1.0%	0.7%	3.1%	63.0%	1.2%
B1	337														26.4%		0.3%	0.6%	1.2%	0.6%	3.6%	65.6%	1.8%
B2	329															30.7%		2.7%	0.9%	0.6%	3.0%	61.1%	0.9%
B3	732																17.1%	0.1%	0.7%	1.2%	2.6%	76.1%	2.2%
Caa1	228																	36.0%		2.6%	1.3%	57.5%	2.6%
Caa2	278																		30.6%		2.2%	61.2%	6.1%
Caa3	181																			28.7%	2.2%	59.7%	9.4%
Ca	514																				26.3%	61.3%	12.5%
C	1201																					71.8%	28.2%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 51: US ABS ex HEL One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	4717	69.7%	0.1%	0.5%	10.0%	1.8%	4.7%	0.8%	3.1%	0.6%	1.0%	0.0%		0.0%	0.0%								7.6%
Aa1	174	1.7%	92.5%				0.6%						0.6%										4.6%
Aa2	243	0.4%	0.8%	91.8%		0.4%		1.6%		0.4%													4.5%
Aa3	181	1.1%		1.7%	81.8%	1.1%		0.6%	1.1%	1.1%			1.1%										10.5%
A1	170			1.2%		86.5%	0.6%	0.6%		0.6%	0.6%						0.6%						9.4%
A2	739		0.1%	0.1%	0.3%	0.4%	85.7%	0.3%		0.1%	0.8%			0.1%	0.4%	0.3%	1.5%	2.7%					7.2%
A3	138		0.7%		0.7%			89.9%					1.4%		2.9%	2.2%	0.7%						1.4%
Baa1	190								95.8%			1.1%	0.5%										2.6%
Baa2	359									82.5%	0.3%	1.4%	3.9%			1.1%	1.4%						9.5%
Baa3	314										95.2%		0.3%	0.3%	0.3%	0.3%		0.3%					3.2%
Ba1	111											95.5%											4.5%
Ba2	77												84.4%		6.5%					1.3%			7.8%
Ba3	45													91.1%			4.4%				4.4%		
B1	38														94.7%								5.3%
B2	45															80.0%		8.9%	2.2%	2.2%	2.2%		4.4%
B3	51																98.0%						2.0%
Caa1	41																	87.8%		7.3%		2.4%	2.4%
Caa2	29																		96.6%				3.4%
Caa3	27																			88.9%			11.1%
Ca	98																				89.8%	1.0%	9.2%
C	247																					92.7%	7.3%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 52: US HEL One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	8144	57.6%	1.5%	2.6%	2.8%	2.0%	2.2%	1.7%	7.5%	1.9%	1.5%	1.7%	1.1%	1.2%	1.0%	1.4%	1.9%	2.5%	1.2%	0.5%	0.4%	0.1%	5.6%
Aa1	1208		44.5%	0.8%	0.9%	2.4%	1.8%	1.1%	3.2%	2.6%	1.2%	3.4%	2.5%	2.0%	2.5%	1.7%	2.4%	1.0%	6.2%	1.1%	4.6%	13.1%	0.9%
Aa2	2038	0.2%	0.1%	52.0%	1.4%	3.9%	2.5%	1.5%	1.6%	1.7%	1.0%	2.0%	0.9%	1.1%	1.1%	1.7%	1.2%	0.5%	4.2%	1.0%	3.2%	16.5%	0.7%
Aa3	1252		0.3%		30.2%	3.1%	3.8%	2.6%	3.8%	2.7%	1.4%	1.3%	1.0%	1.5%	1.6%	2.6%	1.3%	0.4%	4.4%	0.6%	2.6%	34.8%	
A1	836					35.5%	3.1%	4.2%	6.6%	5.1%	2.5%	3.2%	2.6%	1.8%	1.8%	1.8%	2.0%	0.2%	5.7%	0.7%	3.2%	19.4%	0.4%
A2	1580				0.3%	0.1%	49.2%	1.3%	5.2%	5.5%	3.3%	2.9%	1.4%	1.5%	1.1%	2.5%	2.2%	0.8%	3.0%	0.8%	2.2%	16.1%	0.4%
A3	1233							31.8%	3.3%	4.2%	5.1%	4.5%	2.7%	2.9%	2.1%	1.8%	1.9%	0.4%	5.4%	1.1%	3.8%	27.5%	1.5%
Baa1	1220								31.3%	2.2%	3.1%	4.3%	2.9%	3.4%	3.0%	3.0%	2.1%	2.1%	4.6%	1.6%	3.9%	32.4%	0.2%
Baa2	1456									34.6%	0.8%	3.1%	2.7%	2.1%	2.3%	2.5%	3.6%	1.6%	4.4%	1.9%	4.3%	35.0%	1.0%
Baa3	1199										21.6%	1.0%	2.1%	2.8%	2.8%	2.1%	3.5%	1.7%	3.2%	2.3%	8.5%	47.0%	1.6%
Ba1	661											13.3%	0.3%	0.9%	1.1%	0.8%	2.9%	1.7%	2.7%	1.4%	7.7%	66.6%	0.8%
Ba2	626												19.6%		0.8%	0.3%	1.6%	2.2%	2.7%	2.9%	6.1%	62.1%	1.6%
Ba3	369													20.1%		0.5%	2.2%	0.3%	1.1%	0.8%	3.0%	70.7%	1.4%
B1	299														17.7%		0.3%	0.7%	1.3%	0.7%	4.0%	73.9%	1.3%
B2	284															22.9%		1.8%	0.7%	0.4%	3.2%	70.8%	0.4%
B3	681																11.0%	0.1%	0.7%	1.3%	2.8%	81.8%	2.2%
Caa1	187																	24.6%		1.6%	1.6%	69.5%	2.7%
Caa2	249																		22.9%		2.4%	68.3%	6.4%
Caa3	154																			18.2%	2.6%	70.1%	9.1%
Ca	416																				11.3%	75.5%	13.2%
C	954																					66.4%	33.6%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 53 US RMBS One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	26856	73.0%	2.5%	2.2%	3.0%	3.8%	2.2%	2.0%	2.2%	1.4%	1.5%	1.1%	1.7%	0.9%	0.4%	0.4%	0.5%	0.2%	0.1%	0.1%	0.0%		26856
Aa1	2239		40.6%	2.4%	3.6%	3.5%	3.7%	4.3%	2.9%	3.0%	3.5%	2.4%	2.6%	4.8%	4.2%	4.4%	7.0%	2.5%	1.3%	0.7%	2.3%	0.3%	2239
Aa2	1844			42.7%	2.4%	3.9%	2.3%	2.8%	3.3%	2.6%	1.7%	1.6%	1.5%	2.0%	3.0%	4.8%	9.1%	2.3%	2.4%	1.7%	8.2%	1.6%	1844
Aa3	764				25.9%	1.4%	2.9%	2.7%	2.4%	2.1%	3.0%	2.0%	1.8%	1.7%	5.1%	5.4%	13.1%	3.7%	2.9%	3.1%	15.4%	5.1%	764
A1	449					26.3%	1.8%	1.8%	1.6%	1.6%	2.9%	1.1%	3.8%	1.6%	3.8%	8.2%	12.7%	4.5%	3.8%	2.2%	17.8%	4.5%	449
A2	1373						44.9%	1.6%	3.1%	2.5%	2.1%	2.8%	1.6%	3.1%	3.1%	3.9%	7.7%	3.1%	2.3%	1.7%	13.2%	2.9%	1373
A3	657							29.2%	1.4%	1.1%	1.2%	1.7%	2.3%	3.3%	3.8%	4.3%	8.4%	4.7%	2.6%	1.8%	25.6%	8.5%	657
Baa1	537								20.3%	0.9%	1.7%	1.3%	0.9%	0.9%	3.5%	4.3%	8.8%	5.0%	2.4%	1.7%	32.8%	15.5%	537
Baa2	1279									41.4%	1.1%	2.0%	1.4%	1.4%	2.3%	2.3%	6.1%	3.6%	1.9%	1.8%	23.6%	10.8%	1279
Baa3	668										24.6%	0.6%	1.2%	1.3%	1.9%	3.3%	6.9%	4.2%	1.0%	1.6%	31.4%	21.6%	668
Ba1	281											22.4%	0.4%			1.8%	2.1%	1.8%	1.1%	0.4%	42.0%	28.1%	281
Ba2	528									0.4%			43.4%	0.4%	0.6%	0.6%	1.1%	0.8%	2.3%	1.7%	31.8%	16.7%	528
Ba3	189										1.1%			25.9%	1.1%	1.1%			0.5%		41.3%	29.1%	189
B1	116														15.5%			1.7%		0.9%	45.7%	35.3%	116
B2	320												0.3%			50.3%		0.3%		1.6%	27.5%	19.7%	320
B3	160															0.6%	13.8%				43.8%	41.3%	160
Caa1	71																	31.0%			21.1%	47.9%	71
Caa2	57																		14.0%		35.1%	50.9%	57
Caa3	50																			18.0%	34.0%	46.0%	50
Ca	60																				51.7%	46.7%	60
C	53																					92.5%	53

## Structured Finance Rating Transitions: 1983-2008

Exhibit 54: US CMBS One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	3726	93.5%	0.1%	0.0%	0.0%																		6.4%
Aa1	239	20.5%	75.7%	0.8%	0.8%	0.4%																	1.7%
Aa2	460	7.8%	5.2%	83.3%	0.4%	0.9%	0.2%	0.2%															2.0%
Aa3	304	4.9%	2.6%	8.9%	79.9%	0.3%	0.7%	0.3%				0.3%						0.3%					1.6%
A1	253	3.2%	1.2%	4.3%	6.3%	78.3%	1.2%		1.2%	0.4%			0.4%						0.4%				3.2%
A2	440	0.2%		1.6%	2.0%	5.7%	84.5%	2.3%	0.7%	0.7%	0.2%		0.2%	0.2%						0.2%			1.4%
A3	395	0.5%	0.3%	0.3%	1.8%	2.3%	4.3%	86.1%	1.5%	0.5%	0.5%	0.5%			0.3%						0.3%		1.0%
Baa1	434			0.2%	0.5%	2.5%	3.0%	3.9%	84.1%	1.6%	0.9%	0.5%	0.5%	0.5%		0.2%					0.2%		1.4%
Baa2	502				0.4%	0.6%	2.2%	1.6%	3.4%	84.5%	1.8%	1.2%	1.2%			1.0%	0.6%				0.2%		1.4%
Baa3	542						0.2%	1.3%	1.1%	3.1%	85.6%	2.4%	1.3%	1.7%	0.4%	0.2%	0.4%				0.2%		2.2%
Ba1	374						0.3%	0.3%	1.3%	1.9%	0.8%	86.6%	3.5%	2.7%	0.5%	0.8%	0.5%	0.3%					0.5%
Ba2	409									0.7%	0.5%	1.2%	89.2%	3.4%	2.0%	1.0%	1.0%	0.5%	0.2%				0.2%
Ba3	346							0.3%		0.3%	0.3%	0.6%	0.3%	90.2%	3.8%	2.3%	0.9%	0.6%	0.3%				0.3%
B1	282													0.4%	85.5%	7.4%	2.8%	2.8%	0.4%	0.4%			0.4%
B2	321														0.6%	83.8%	6.5%	5.6%	2.5%	0.3%	0.3%		0.3%
B3	290																83.4%	7.9%	5.9%	2.1%	0.3%		0.3%
Caa1	39														2.6%			69.2%	5.1%	10.3%	10.3%	2.6%	
Caa2	42																2.4%		76.2%	14.3%	7.1%		
Caa3	21																			85.7%	9.5%		4.8%
Ca	25																				84.0%	12.0%	4.0%
C	34																					91.2%	8.8%



## Structured Finance Rating Transitions: 1983-2008

Exhibit 55: US CDO One-Year Refined-Rating Transition Matrix by Cohort Rating in 2008

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	3610	48.2%	2.1%	2.6%	4.2%	1.7%	1.8%	1.0%	1.1%	1.7%	1.5%	1.2%	0.9%	1.2%	1.7%	1.2%	1.2%	1.6%	1.0%	4.5%	8.4%	4.7%	6.5%
Aa1	252	0.8%	59.1%	1.6%	1.2%	6.7%	1.6%	1.2%	2.4%	2.0%	4.0%		0.4%	1.6%	1.2%	0.4%	0.8%	0.4%	1.2%	2.4%	4.4%	0.4%	6.3%
Aa2	1236	0.1%	0.6%	51.5%	1.0%	0.5%	4.1%	2.6%	1.1%	1.3%	2.3%	1.4%	1.7%	0.8%	1.1%	1.0%	1.0%	1.9%	0.8%	4.5%	11.1%	6.5%	3.3%
Aa3	249	0.8%	1.2%		19.3%	2.8%	0.8%	3.2%	4.8%	4.4%	3.6%	4.4%	2.4%	4.0%	0.8%	0.8%	3.2%	2.0%	0.4%	8.0%	14.5%	10.4%	8.0%
A1	132			1.5%		45.5%		0.8%	6.1%		0.8%		1.5%	2.3%	2.3%		1.5%		2.3%	3.0%	12.9%	11.4%	8.3%
A2	1166	0.3%		0.4%	0.2%	0.3%	57.6%	0.4%	1.9%	3.7%	0.9%	0.5%	1.5%	2.2%	0.3%	1.5%	1.9%	0.4%	1.0%	2.5%	8.4%	10.5%	3.7%
A3	428	0.5%		0.9%	0.5%	0.7%		24.5%	3.0%	5.6%	5.6%	2.6%	1.2%	0.9%	2.6%	0.9%	2.6%	3.0%	1.2%	8.4%	11.9%	17.8%	5.6%
Baa1	159	0.6%		0.6%			0.6%		33.3%	0.6%		5.7%		0.6%	3.8%	3.1%	1.9%		1.3%	5.7%	15.7%	18.9%	7.5%
Baa2	1255					0.1%	0.2%	0.2%	0.2%	55.9%	1.9%	1.1%	3.0%	0.3%	1.8%	1.1%	1.2%	1.4%	0.9%	1.5%	8.3%	16.5%	4.4%
Baa3	374									0.5%	38.0%	0.5%	2.1%	2.1%	1.1%	1.1%	1.1%		1.3%	3.2%	15.5%	25.7%	7.8%
Ba1	180	0.6%										28.3%	2.2%		1.1%	1.1%				1.7%	18.9%	38.3%	7.8%
Ba2	662									0.2%			69.5%	0.2%	0.3%	2.3%	0.5%	0.5%	0.9%	1.2%	6.5%	13.0%	5.1%
Ba3	197										0.5%	1.0%	1.5%	17.8%	1.5%		2.5%	2.0%	0.5%	1.0%	12.7%	52.8%	6.1%
B1	113									2.7%					17.7%				1.8%	0.9%	10.6%	53.1%	13.3%
B2	83												1.2%			24.1%		1.2%			16.9%	42.2%	14.5%
B3	82																15.9%	2.4%	3.7%	1.2%	19.5%	40.2%	17.1%
Caa1	81																	18.5%			18.5%	51.9%	11.1%
Caa2	85																2.4%		15.3%		21.2%	43.5%	17.6%
Caa3	142															0.7%				14.8%	21.8%	47.9%	14.8%
Ca	319																				31.7%	46.7%	21.6%
C	151																					92.1%	7.9%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 56: Global Structured Finance One-Year Refined-Rating Transition Matrix by Cohort Rating (1984-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	3537273	85.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	12.7%
Aa1	189938	7.6%	77.3%	0.7%	0.6%	0.8%	0.5%	0.5%	0.3%	0.3%	0.4%	0.3%	0.3%	0.4%	0.6%	0.4%	0.6%	0.2%	0.2%	0.1%	0.3%	0.3%	7.3%
Aa2	421160	4.3%	1.5%	80.5%	0.9%	0.7%	0.6%	0.5%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.4%	0.4%	0.5%	0.1%	0.2%	0.1%	0.6%	0.5%	6.7%
Aa3	152503	2.9%	1.7%	1.9%	74.2%	1.3%	1.1%	1.0%	0.8%	0.6%	0.4%	0.3%	0.3%	0.4%	0.8%	1.0%	1.1%	0.4%	0.3%	0.2%	1.0%	1.2%	6.9%
A1	128033	1.8%	0.9%	1.5%	2.4%	70.7%	1.7%	1.7%	1.4%	2.0%	0.7%	0.4%	0.3%	0.3%	0.6%	1.0%	1.3%	0.7%	0.4%	0.2%	0.8%	1.0%	8.3%
A2	398888	0.8%	0.4%	1.4%	1.0%	1.3%	80.6%	0.6%	0.8%	0.9%	0.6%	0.4%	0.3%	0.3%	0.3%	0.5%	0.7%	0.4%	0.3%	0.2%	0.7%	0.9%	6.6%
A3	153708	0.8%	0.3%	0.6%	1.3%	1.2%	1.4%	73.1%	1.2%	1.9%	1.7%	1.1%	0.8%	0.7%	0.6%	0.8%	1.4%	0.9%	0.7%	0.7%	1.5%	1.7%	5.5%
Baa1	123670	0.5%	0.1%	0.2%	0.3%	1.0%	1.2%	1.3%	72.5%	1.2%	2.0%	1.6%	1.0%	1.1%	0.9%	0.9%	1.6%	1.2%	1.1%	0.9%	2.3%	2.3%	4.8%
Baa2	330463	0.2%	0.1%	0.2%	0.2%	0.3%	1.2%	1.0%	1.3%	77.2%	1.3%	1.4%	1.0%	0.7%	0.7%	0.7%	1.1%	0.6%	0.6%	0.5%	1.9%	2.0%	5.9%
Baa3	188359	0.3%	0.0%	0.1%	0.1%	0.2%	0.3%	0.7%	0.8%	1.2%	74.0%	1.2%	1.3%	1.4%	1.0%	0.8%	1.6%	0.7%	0.8%	0.9%	2.9%	3.2%	6.5%
Ba1	66563	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.5%	0.7%	1.7%	68.8%	1.0%	1.5%	1.3%	1.0%	1.9%	1.0%	1.4%	1.3%	3.8%	7.6%	5.6%
Ba2	119047	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.3%	1.2%	0.9%	1.2%	77.7%	0.7%	0.9%	0.9%	1.1%	0.9%	0.9%	0.8%	2.3%	4.1%	5.7%
Ba3	55974	0.1%			0.0%	0.1%	0.2%	0.1%	0.1%	0.2%	1.1%	0.7%	1.0%	77.5%	1.3%	1.1%	1.5%	0.9%	1.1%	0.8%	1.9%	3.6%	6.6%
B1	25825	0.1%			0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.8%	0.6%	73.4%	1.9%	2.5%	1.8%	1.4%	1.5%	2.3%	5.9%	7.0%
B2	47978	0.0%	0.0%			0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%	1.2%	0.9%	0.7%	80.9%	1.5%	1.8%	1.6%	0.7%	2.1%	2.9%	4.9%
B3	32036	0.0%		0.0%		0.0%			0.0%		0.1%	0.1%	0.2%	0.4%	0.3%	0.4%	73.1%	2.8%	3.6%	2.0%	3.3%	7.8%	5.7%
Caa1	11681	0.1%									0.1%		0.1%	0.1%	1.0%	0.1%	0.4%	68.3%	2.7%	3.6%	6.4%	10.5%	6.6%
Caa2	12781	0.1%										0.2%	0.1%			0.2%	0.8%	2.1%	65.9%	3.7%	8.5%	10.0%	8.5%
Caa3	9080								0.0%		0.1%				0.3%	0.4%	0.2%	0.4%	0.1%	64.5%	7.9%	14.4%	11.7%
Ca	22014										0.1%		0.0%		0.1%		0.0%	0.1%		0.0%	76.9%	13.1%	9.6%
C	26604								0.0%										0.1%			87.9%	12.0%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 57: Global Structured Finance excluding SFCDs &amp; 2005-2007 US HEL &amp; RMBS One-Year Refined-Rating Transition Matrix by Cohort Rating (1984-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	2992140	84.7%	0.1%	0.1%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.4%
Aa1	128997	11.0%	76.6%	0.6%	0.3%	0.6%	0.2%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	10.3%
Aa2	350874	5.0%	1.7%	82.5%	0.9%	0.6%	0.5%	0.4%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.8%
Aa3	113453	3.9%	2.1%	2.5%	77.0%	1.3%	1.0%	1.0%	0.5%	0.5%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	0.0%	8.8%
A1	97391	2.3%	1.2%	1.8%	3.2%	74.5%	1.4%	1.2%	1.1%	1.8%	0.4%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	10.5%
A2	341378	0.9%	0.5%	1.6%	1.1%	1.5%	84.0%	0.4%	0.5%	0.6%	0.4%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%
A3	110266	1.1%	0.4%	0.8%	1.8%	1.7%	1.9%	79.0%	1.0%	1.7%	1.4%	0.8%	0.3%	0.3%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	6.9%
Baa1	89573	0.6%	0.2%	0.3%	0.4%	1.4%	1.7%	1.7%	80.4%	1.0%	1.8%	1.2%	0.6%	0.6%	0.5%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	6.3%
Baa2	265265	0.3%	0.1%	0.2%	0.2%	0.4%	1.5%	1.2%	1.6%	81.5%	1.3%	1.2%	0.8%	0.6%	0.5%	0.4%	0.4%	0.2%	0.2%	0.2%	0.3%	0.2%	6.9%
Baa3	147537	0.3%	0.0%	0.1%	0.1%	0.3%	0.4%	0.9%	1.1%	1.5%	80.2%	1.2%	1.1%	1.3%	0.8%	0.5%	0.8%	0.3%	0.3%	0.3%	0.6%	0.3%	7.5%
Ba1	47873	0.2%	0.0%	0.0%	0.0%	0.1%	0.3%	0.4%	0.7%	1.0%	2.3%	79.5%	1.2%	1.5%	1.1%	0.8%	1.3%	0.5%	0.8%	0.4%	0.8%	0.6%	6.4%
Ba2	99160	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	1.4%	1.1%	1.4%	82.5%	0.8%	0.8%	0.8%	0.8%	0.7%	0.6%	0.5%	0.7%	0.9%	6.1%
Ba3	49722	0.1%			0.0%	0.1%	0.2%	0.1%	0.1%	0.2%	1.1%	0.8%	1.1%	80.6%	1.4%	1.1%	1.5%	0.9%	1.1%	0.8%	1.2%	1.3%	6.0%
B1	24268	0.1%			0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.8%	0.6%	77.6%	2.0%	2.7%	1.9%	1.3%	1.5%	1.6%	2.5%	6.5%
B2	43652	0.1%	0.0%			0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	0.3%	1.3%	1.0%	0.7%	82.7%	1.6%	1.9%	1.6%	0.6%	1.5%	1.2%	5.0%
B3	29028	0.0%		0.0%		0.1%			0.0%		0.1%	0.1%	0.2%	0.5%	0.4%	0.4%	79.5%	3.1%	3.8%	1.9%	2.7%	1.9%	5.3%
Caa1	10719	0.1%									0.2%		0.1%	0.1%	1.1%	0.1%	0.2%	73.8%	2.9%	3.9%	6.3%	5.3%	6.0%
Caa2	11645	0.1%											0.1%			0.2%	0.9%	2.3%	70.1%	3.8%	8.0%	6.2%	8.3%
Caa3	7990								0.0%		0.1%				0.3%	0.2%	0.3%	0.4%	0.1%	70.3%	6.5%	9.9%	11.9%
Ca	19438												0.0%		0.1%		0.0%	0.1%		0.1%	82.6%	8.3%	8.8%
C	22837								0.0%													90.5%	9.5%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 58: US ABS One-Year Refined-Rating Transition Matrix by Cohort Rating (1984-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	1147771	81.9%	0.1%	0.2%	0.7%	0.1%	0.4%	0.2%	0.2%	0.1%	0.3%	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	15.4%
Aa1	39853	1.7%	79.0%	0.7%	1.0%	2.0%	1.1%	0.9%	0.7%	0.5%	0.9%	0.7%	0.6%	0.6%	1.4%	0.5%	0.4%	0.3%	0.7%	0.2%	0.5%	1.2%	4.5%
Aa2	135779	2.5%	0.7%	83.4%	0.3%	0.7%	0.8%	0.6%	0.3%	0.4%	0.3%	0.3%	0.2%	0.2%	0.8%	0.6%	0.2%	0.1%	0.3%	0.1%	0.2%	0.8%	6.2%
Aa3	55810	0.9%	0.7%	0.5%	75.7%	1.0%	1.3%	1.3%	1.2%	1.1%	0.4%	0.4%	0.5%	0.5%	1.4%	1.9%	1.1%	0.4%	0.5%	0.1%	1.0%	2.5%	5.6%
A1	62729	0.7%	0.3%	0.6%	2.7%	69.7%	1.1%	2.1%	2.3%	3.5%	0.9%	0.5%	0.4%	0.3%	0.8%	1.4%	1.3%	0.8%	0.6%	0.2%	0.3%	1.4%	7.9%
A2	196128	0.4%	0.2%	0.7%	0.6%	0.9%	82.7%	0.4%	1.0%	1.0%	0.8%	0.5%	0.4%	0.3%	0.3%	0.5%	0.6%	0.4%	0.4%	0.2%	0.2%	0.7%	6.8%
A3	61697	0.3%	0.1%	0.3%	0.5%	0.5%	0.3%	70.4%	1.4%	2.8%	2.7%	1.8%	1.1%	1.0%	0.9%	1.4%	2.0%	1.2%	1.5%	1.3%	0.9%	2.7%	4.9%
Baa1	63522	0.1%	0.1%	0.0%	0.1%	0.3%	0.2%	0.3%	72.0%	1.3%	2.7%	2.2%	1.4%	1.5%	1.3%	1.3%	2.4%	1.8%	1.8%	1.5%	1.6%	3.3%	2.8%
Baa2	119984	0.1%	0.0%	0.1%	0.1%	0.2%	0.6%	0.4%	0.9%	74.6%	1.9%	2.1%	1.6%	1.1%	1.0%	1.0%	1.7%	0.9%	1.3%	1.0%	1.6%	2.7%	5.0%
Baa3	79645	0.2%	0.0%	0.0%	0.1%	0.0%	0.2%	0.2%	0.3%	0.2%	70.3%	1.6%	1.6%	1.8%	1.5%	1.2%	2.6%	1.2%	1.4%	1.8%	3.0%	5.3%	5.6%
Ba1	28088							0.0%		0.1%	0.8%	58.1%	1.0%	2.3%	1.7%	1.7%	3.4%	1.8%	2.3%	2.6%	5.0%	14.6%	4.6%
Ba2	27967	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%		0.1%	0.2%	0.5%	0.2%	63.4%	0.4%	1.6%	2.1%	2.5%	2.3%	2.4%	2.1%	3.5%	13.2%	5.2%
Ba3	9213					0.2%	0.1%	0.1%	0.2%	0.1%	0.8%	0.4%		58.7%	1.3%	1.7%	3.6%	2.4%	2.5%	3.1%	4.0%	14.3%	6.3%
B1	4673														51.4%	1.0%	4.2%	4.2%	2.5%	4.4%	3.8%	23.1%	5.4%
B2	8315					0.1%			0.1%					0.3%		68.0%	1.2%	3.7%	3.0%	1.4%	5.1%	12.8%	4.1%
B3	6831																47.2%	1.8%	5.1%	3.4%	6.0%	29.8%	6.7%
Caa1	4216										0.1%			0.3%				61.0%	1.5%	3.6%	7.5%	19.8%	6.3%
Caa2	4541																0.3%		66.5%	0.6%	8.0%	16.3%	8.3%
Caa3	4221																			68.1%	2.3%	17.7%	11.9%
Ca	11131																0.0%				73.2%	14.9%	11.9%
C	16572																					85.8%	14.2%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 59: US ABS ex HEL One-Year Refined-Rating Transition Matrix by Cohort Rating (1984-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	560986	83.4%	0.1%	0.1%	0.8%	0.1%	0.4%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.6%	
Aa1	12575	2.8%	77.8%	1.0%	1.1%	4.6%	1.6%		0.1%		0.2%		0.0%	0.0%	0.4%	0.1%	0.0%	0.1%	0.0%			10.1%	
Aa2	38018	3.3%	0.8%	82.3%	0.3%	0.6%	0.8%	0.6%	0.1%	0.4%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	9.7%
Aa3	24827	1.6%	1.0%	0.7%	77.7%	0.7%	1.1%	1.6%	1.0%	1.4%	0.1%	0.1%	0.3%	0.2%	0.4%	0.3%	0.2%	0.3%	0.0%	0.0%	1.4%	0.1%	9.6%
A1	35770	1.1%	0.5%	0.8%	4.6%	70.9%	0.3%	1.6%	2.0%	4.2%	0.6%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	12.7%
A2	103177	0.5%	0.3%	0.3%	0.4%	1.4%	85.2%	0.2%	0.3%	0.4%	0.4%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	9.6%
A3	15545	1.0%	0.4%	0.6%	0.8%	1.1%	0.9%	69.5%	1.2%	3.8%	3.1%	2.0%	0.5%	0.4%	0.3%	0.4%	0.7%	0.2%	0.3%	0.2%	0.1%	0.4%	12.0%
Baa1	15114	0.3%	0.3%	0.2%	0.1%	0.5%	0.2%	0.8%	80.3%	2.2%	3.2%	2.1%	0.6%	0.8%	0.9%	0.3%	0.4%	0.2%	0.1%	0.0%	0.1%	0.5%	5.7%
Baa2	37221	0.2%	0.0%	0.2%	0.2%	0.4%	0.8%	0.5%	2.5%	75.0%	4.5%	2.8%	1.0%	0.8%	0.4%	0.6%	0.4%	0.3%	0.2%	0.1%	0.6%	0.7%	7.6%
Baa3	19654	0.7%		0.2%	0.2%	0.1%	0.5%	0.2%	0.9%	0.6%	79.6%	2.3%	0.8%	1.3%	0.3%	0.4%	0.4%	0.4%	0.2%	0.2%	0.6%	0.3%	9.9%
Ba1	7231									0.3%	2.2%	76.2%	2.2%	4.0%	1.3%	1.5%	2.1%	0.3%	1.3%	0.1%	0.7%	1.4%	6.4%
Ba2	7752	0.3%	0.1%		0.1%	0.1%	0.2%		0.3%	0.1%	0.8%	0.5%	68.9%	0.7%	2.1%	3.9%	2.1%	2.1%	2.0%	0.8%	2.2%	6.0%	6.7%
Ba3	4842					0.4%	0.2%	0.1%	0.2%	0.2%	1.5%	0.7%		64.3%	1.9%	2.0%	3.3%	2.8%	2.4%	2.4%	3.1%	7.4%	6.9%
B1	2389														69.0%	1.5%	7.7%	3.6%	0.5%	3.9%	0.9%	10.2%	2.7%
B2	3239															70.3%	1.5%	6.6%	3.1%	1.6%	6.6%	7.5%	2.9%
B3	3251																73.6%	3.0%	5.1%	2.5%	6.9%	5.2%	3.7%
Caa1	2534										0.2%			0.5%				70.0%	2.4%	4.8%	10.4%	8.6%	3.0%
Caa2	2002																0.6%		66.2%	0.5%	15.1%	13.1%	4.4%
Caa3	1904																			72.5%	2.8%	15.3%	9.5%
Ca	5802																0.1%				79.7%	11.9%	8.4%
C	12745																					93.1%	6.9%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 60: US HEL One-Year Refined-Rating Transition Matrix by Cohort Rating (1989-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	586723	80.5%	0.2%	0.3%	0.5%	0.2%	0.4%	0.3%	0.3%	0.1%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	16.1%
Aa1	27278	1.1%	79.5%	0.5%	1.0%	0.9%	0.9%	1.4%	1.0%	0.8%	1.2%	1.0%	0.8%	0.9%	1.9%	0.7%	0.5%	0.3%	1.0%	0.3%	0.7%	1.8%	1.9%
Aa2	97718	2.2%	0.6%	83.9%	0.3%	0.8%	0.7%	0.6%	0.4%	0.3%	0.3%	0.4%	0.2%	0.3%	1.1%	0.8%	0.2%	0.2%	0.3%	0.2%	0.3%	1.1%	4.8%
Aa3	30983	0.3%	0.4%	0.3%	74.1%	1.2%	1.4%	1.0%	1.4%	0.8%	0.6%	0.7%	0.6%	0.7%	2.2%	3.1%	1.8%	0.5%	0.9%	0.2%	0.7%	4.5%	2.4%
A1	26942	0.1%	0.1%	0.4%	0.2%	68.1%	2.2%	2.8%	2.7%	2.5%	1.3%	1.1%	0.8%	0.6%	1.9%	3.1%	3.0%	1.8%	1.4%	0.4%	0.7%	3.2%	1.6%
A2	92908	0.2%	0.2%	1.1%	0.8%	0.3%	80.0%	0.7%	1.8%	1.6%	1.2%	0.8%	0.7%	0.5%	0.5%	1.0%	1.1%	0.8%	0.9%	0.3%	0.3%	1.4%	3.7%
A3	46152	0.0%	0.0%	0.2%	0.4%	0.3%	0.1%	70.7%	1.4%	2.5%	2.5%	1.8%	1.4%	1.2%	1.1%	1.7%	2.5%	1.6%	1.9%	1.7%	1.2%	3.5%	2.5%
Baa1	48408	0.0%			0.1%	0.3%	0.2%	0.1%	69.4%	1.0%	2.5%	2.2%	1.7%	1.7%	1.5%	1.6%	3.0%	2.3%	2.4%	1.9%	2.1%	4.2%	1.9%
Baa2	82763	0.0%	0.0%	0.0%	0.0%	0.1%	0.6%	0.3%	0.1%	74.4%	0.8%	1.8%	1.9%	1.3%	1.2%	1.2%	2.3%	1.2%	1.7%	1.4%	2.1%	3.6%	3.9%
Baa3	59991	0.0%	0.0%		0.0%	0.0%	0.0%	0.2%	0.2%	0.0%	67.3%	1.4%	1.8%	1.9%	1.9%	1.4%	3.3%	1.4%	1.8%	2.3%	3.8%	6.9%	4.2%
Ba1	20857							0.1%			0.3%	51.9%	0.5%	1.7%	1.9%	1.8%	3.8%	2.3%	2.7%	3.4%	6.5%	19.2%	4.0%
Ba2	20215			0.1%		0.1%			0.1%	0.3%	0.4%	0.1%	61.2%	0.3%	1.4%	1.4%	2.6%	2.4%	2.6%	2.6%	4.0%	16.0%	4.7%
Ba3	4371							0.3%						52.5%	0.6%	1.4%	4.0%	1.9%	2.7%	4.0%	5.0%	22.0%	5.7%
B1	2284														33.1%	0.5%	0.5%	4.7%	4.7%	4.8%	6.8%	36.5%	8.3%
B2	5076					0.2%		0.2%						0.5%		66.6%	1.0%	1.8%	3.0%	1.3%	4.2%	16.3%	4.9%
B3	3580																23.2%	0.8%	5.0%	4.3%	5.2%	52.1%	9.5%
Caa1	1682																	47.4%		1.8%	3.1%	36.6%	11.2%
Caa2	2539																		66.6%	0.7%	2.5%	18.8%	11.3%
Caa3	2317																			64.5%	1.9%	19.6%	14.0%
Ca	5329																				66.2%	18.1%	15.7%
C	3827																					61.7%	38.3%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 61: US RMBS One-Year Refined-Rating Transition Matrix by Cohort Rating (1984-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	1791798	87.3%	0.2%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.3%	
Aa1	113277	8.3%	78.5%	0.4%	0.4%	0.4%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.5%	0.8%	0.2%	0.1%	0.1%	0.2%	0.0%	7.2%
Aa2	152727	5.1%	1.5%	80.1%	0.8%	0.6%	0.6%	0.4%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.4%	0.5%	0.9%	0.2%	0.1%	0.1%	0.4%	0.1%	6.9%
Aa3	42431	3.7%	1.9%	1.5%	74.4%	1.5%	1.1%	0.8%	0.6%	0.3%	0.5%	0.3%	0.3%	0.4%	0.8%	1.0%	2.4%	0.6%	0.2%	0.2%	1.2%	0.4%	5.9%
A1	23708	1.6%	0.9%	1.6%	0.9%	67.6%	3.5%	1.9%	0.8%	1.0%	0.7%	0.4%	0.4%	0.4%	0.8%	1.6%	3.4%	1.5%	0.4%	0.2%	2.6%	0.7%	7.0%
A2	75701	0.7%	0.4%	3.3%	1.1%	0.9%	76.7%	0.7%	0.8%	0.9%	0.8%	0.6%	0.3%	0.4%	0.6%	0.9%	1.7%	0.7%	0.2%	0.1%	2.0%	0.5%	5.7%
A3	30038	1.4%	0.2%	0.5%	2.3%	0.8%	0.8%	72.0%	1.2%	1.7%	1.0%	0.7%	0.6%	1.0%	0.8%	1.0%	2.6%	1.3%	0.3%	0.2%	4.4%	1.2%	4.1%
Baa1	16984	0.4%		0.1%	0.1%	1.1%	1.2%	0.9%	65.0%	1.1%	2.0%	1.9%	1.1%	1.2%	1.2%	1.4%	2.9%	1.7%	0.6%	0.3%	9.8%	2.7%	3.4%
Baa2	67728	0.3%	0.1%	0.2%	0.3%	0.4%	2.7%	1.1%	0.8%	77.0%	0.6%	1.0%	0.5%	0.5%	0.8%	0.8%	1.5%	0.6%	0.3%	0.2%	4.1%	1.2%	5.0%
Baa3	38264	0.2%	0.1%	0.2%	0.0%	0.4%	0.5%	1.4%	0.4%	0.3%	75.1%	0.4%	0.9%	1.0%	0.7%	0.8%	1.7%	0.8%	0.6%	0.2%	6.2%	2.5%	5.4%
Ba1	7544	0.3%				0.0%	0.9%	0.3%	0.7%	1.4%	1.2%	71.8%	0.6%	0.8%	0.8%	0.4%	2.2%	0.7%	0.6%	0.2%	7.9%	3.0%	6.0%
Ba2	30486	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.5%	3.4%	1.2%	1.4%	79.0%	0.2%	0.3%	0.5%	0.9%	0.5%	0.5%	0.4%	4.3%	1.6%	4.5%
Ba3	9212	0.1%			0.1%	0.5%	0.4%	0.4%	0.3%	0.9%	2.6%	1.5%	0.8%	78.4%	0.2%	0.4%	0.8%	0.5%	1.6%	0.3%	2.6%	1.8%	5.9%
B1	2820									0.4%			1.2%	0.7%	77.6%	0.1%	2.0%	1.1%	0.8%	0.1%	4.4%	2.6%	8.9%
B2	16314		0.0%				0.1%			0.1%	0.2%	0.8%	2.6%	1.6%	0.9%	83.3%	0.3%	0.3%	0.7%	2.2%	1.0%	5.5%	
B3	5832					0.3%			0.2%		0.4%		0.2%	1.6%	0.4%	0.2%	79.9%	1.6%	1.8%	0.4%	3.3%	2.6%	7.1%
Caa1	2737																	90.3%			3.4%	2.3%	4.1%
Caa2	1506											0.8%						10.0%	68.9%	3.2%	4.0%	5.5%	7.7%
Caa3	455																			69.0%	9.2%	8.1%	13.6%
Ca	1253																				83.7%	4.6%	11.7%
C	718																					83.8%	16.2%

## Structured Finance Rating Transitions: 1983-2008

Exhibit 62: US CMBS One-Year Refined-Rating Transition Matrix by Cohort Rating (1987-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	170633	90.4%	0.2%	0.1%	0.0%	0.0%											0.0%						9.2%
Aa1	9828	30.2%	56.6%	1.5%	0.2%	0.3%	0.0%		0.0%		0.1%			0.1%									10.9%
Aa2	38019	12.9%	4.7%	74.6%	0.4%	0.2%	0.2%	0.1%	0.0%	0.0%	0.1%			0.0%			0.0%		0.0%				6.7%
Aa3	13510	12.6%	5.1%	8.1%	67.2%	0.6%	0.2%	0.7%	0.1%		0.0%	0.1%			0.1%			0.0%	0.0%				5.1%
A1	10739	10.1%	4.4%	5.4%	6.4%	63.3%	0.4%	0.6%	0.3%	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%				0.0%				8.4%
A2	31267	2.9%	2.0%	3.5%	4.1%	5.4%	75.4%	0.8%	0.5%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%					0.0%			4.7%
A3	21462	2.1%	1.2%	2.1%	3.2%	4.6%	6.0%	74.3%	0.6%	0.7%	0.6%	0.0%	0.1%	0.1%	0.0%	0.0%					0.0%		4.2%
Baa1	18945	1.8%	0.3%	0.9%	1.2%	2.8%	4.3%	4.8%	73.7%	0.8%	0.7%	0.6%	0.2%	0.4%	0.3%	0.0%			0.1%		0.0%		7.2%
Baa2	35119	0.8%	0.2%	0.5%	0.6%	0.9%	2.7%	3.7%	4.7%	77.7%	0.8%	0.6%	0.4%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%		0.0%	0.0%	5.9%
Baa3	33085	0.5%		0.2%	0.2%	0.6%	0.5%	1.2%	3.0%	4.5%	78.4%	0.8%	0.8%	0.9%	0.1%	0.1%	0.1%	0.0%	0.2%		0.1%		7.6%
Ba1	16558	0.4%		0.1%	0.0%	0.1%	0.3%	0.6%	0.8%	1.4%	4.0%	85.3%	1.2%	1.0%	0.5%	0.2%	0.2%	0.1%	0.0%				4.0%
Ba2	21660	0.2%				0.2%	0.1%	0.1%	0.2%	1.0%	1.1%	3.2%	87.4%	1.5%	1.0%	0.4%	0.5%	0.1%	0.1%	0.0%	0.0%		3.1%
Ba3	17591	0.2%					0.0%	0.1%	0.1%	0.1%	1.0%	1.0%	2.0%	88.6%	1.8%	1.2%	0.6%	0.3%	0.1%		0.0%		2.9%
B1	12569	0.2%					0.0%			0.0%	0.3%	0.2%	0.6%	0.8%	89.6%	2.5%	2.0%	0.8%	0.3%	0.1%	0.1%	0.1%	2.4%
B2	17711	0.1%					0.0%	0.0%	0.0%		0.1%	0.1%	0.6%	0.6%	0.6%	88.6%	3.2%	2.3%	1.3%	0.2%	0.2%	0.1%	1.9%
B3	15303	0.0%		0.0%							0.0%	0.1%	0.0%	0.1%	0.4%	0.6%	87.4%	4.0%	3.2%	1.0%	0.8%	0.2%	2.0%
Caa1	1980	0.4%													0.5%	0.3%	0.6%	69.4%	8.6%	6.7%	5.5%	3.5%	4.4%
Caa2	3449												0.1%			0.2%	1.0%	1.2%	73.2%	7.4%	7.9%	4.4%	4.4%
Caa3	854																		0.7%	71.7%	10.9%	10.8%	6.0%
Ca	1437														0.4%			0.4%			73.6%	18.5%	7.1%
C	1100																					77.8%	22.2%



## Structured Finance Rating Transitions: 1983-2008

Exhibit 63: US CDO One-Year Refined-Rating Transition Matrix by Cohort Rating (1990-2008)

	Total	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR
Aaa	137427	82.7%	0.8%	0.7%	0.7%	0.4%	0.5%	0.4%	0.3%	0.3%	0.4%	0.4%	0.3%	0.3%	0.5%	0.2%	0.4%	0.2%	0.4%	0.4%	1.7%	1.0%	6.8%
Aa1	10181	3.0%	81.4%	1.1%	1.1%	0.8%	1.0%	0.7%	0.2%	0.2%	0.9%	0.2%	0.2%	0.3%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%	1.0%	0.0%	7.4%
Aa2	45729	0.8%	0.5%	78.8%	1.2%	1.1%	0.8%	1.0%	0.6%	0.5%	0.7%	0.6%	0.4%	0.3%	0.4%	0.3%	0.7%	0.4%	0.3%	0.5%	2.9%	1.8%	5.5%
Aa3	12191	1.7%	0.2%	0.4%	67.5%	2.8%	1.6%	2.4%	1.6%	0.8%	1.6%	1.0%	0.8%	0.9%	0.2%	0.3%	0.6%	0.3%	0.2%	0.7%	3.7%	1.8%	8.7%
A1	7893	1.6%	0.6%	1.9%	0.6%	74.6%	0.8%	1.0%	1.3%	1.0%	1.4%	0.5%	0.2%	0.2%	0.3%	0.3%	0.6%	0.2%	0.2%	0.3%	1.2%	1.3%	9.8%
A2	38322	0.3%	0.1%	0.2%	0.2%	0.3%	79.9%	0.5%	0.6%	0.8%	0.8%	0.6%	0.6%	0.4%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	2.7%	4.3%	5.8%
A3	23780	0.6%	0.2%	0.4%	0.9%	0.4%	0.3%	78.1%	1.1%	1.4%	1.3%	1.0%	1.0%	0.5%	0.6%	0.4%	0.4%	0.7%	0.2%	0.7%	1.5%	2.0%	6.3%
Baa1	7236	1.1%	0.7%	0.1%	0.0%	0.7%	0.6%	0.2%	72.7%	0.4%	1.8%	1.7%	0.5%	1.1%	0.6%	0.3%	0.4%	0.2%	0.4%	0.6%	2.5%	3.4%	10.0%
Baa2	58566	0.1%	0.0%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	79.6%	1.1%	1.1%	1.0%	0.7%	0.8%	0.5%	0.7%	0.5%	0.6%	0.5%	2.4%	4.0%	5.5%
Baa3	19458	0.2%	0.2%	0.0%	0.2%	0.0%	0.2%	0.3%	0.2%	0.1%	73.3%	1.6%	1.6%	2.4%	2.0%	1.0%	0.9%	0.4%	0.7%	0.7%	3.0%	4.0%	6.8%
Ba1	6654	0.3%	0.2%		0.2%		0.2%	0.0%	1.1%	0.4%	0.2%	59.5%	1.8%	0.7%	2.9%	1.5%	1.1%	0.8%	2.6%	1.4%	7.1%	10.7%	7.5%
Ba2	25569				0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.5%	0.1%	82.1%	0.7%	0.8%	1.0%	0.7%	0.7%	0.6%	0.8%	1.7%	2.4%	7.3%
Ba3	12345						0.4%	0.1%		0.0%	0.6%	0.3%	0.5%	73.3%	1.7%	0.7%	1.7%	1.4%	1.6%	0.9%	3.3%	4.3%	9.1%
B1	4047				0.3%	0.3%	0.0%	0.3%	0.1%	0.7%	0.3%	0.6%	0.9%		58.4%	2.3%	2.9%	2.9%	4.0%	3.6%	6.6%	8.7%	7.0%
B2	3931										0.9%		0.7%	0.5%	0.6%	70.3%	0.2%	2.4%	4.1%	1.8%	4.3%	3.1%	11.1%
B3	2763											0.9%	1.7%	0.8%	0.3%	0.4%	53.6%	1.7%	6.2%	6.6%	10.9%	9.1%	7.7%
Caa1	1864										0.3%		0.6%		0.6%		1.3%	60.2%	0.5%	5.6%	10.9%	13.2%	6.7%
Caa2	2594											0.9%				0.5%	1.8%		55.4%	4.0%	13.9%	11.0%	12.5%
Caa3	2749								0.1%		0.3%				1.0%	1.3%	0.3%	0.8%		56.3%	16.7%	14.6%	8.5%
Ca	7061										0.2%							0.2%			81.0%	12.3%	6.3%
C	7610								0.0%										0.3%			94.6%	5.1%

## Structured Finance Rating Transitions: 1983-2008

## Matrices by Original Rating

Exhibit 64: Global Structured Finance Rating Transition Matrices by Original Rating (1984-2008)

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	94.0%	0.5%	0.3%	0.3%	0.1%	0.1%	0.3%	4.3%
Aa	0.7%	92.3%	1.3%	0.8%	0.8%	1.7%	1.2%	1.0%
A	0.1%	0.5%	87.4%	3.4%	1.9%	2.7%	2.8%	1.2%
Baa	0.0%	0.0%	0.3%	87.2%	2.3%	2.5%	6.6%	1.0%
Ba	0.0%	0.0%	0.0%	0.4%	88.9%	1.9%	7.6%	1.2%
B	0.0%	0.0%	0.0%	0.0%	0.7%	93.4%	1.4%	4.5%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.3%	7.7%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	82.5%	1.0%	0.7%	0.5%	0.3%	0.3%	0.5%	14.3%
Aa	3.1%	80.8%	2.5%	1.3%	1.2%	3.2%	4.2%	3.7%
A	0.6%	2.4%	77.4%	3.7%	1.1%	3.5%	7.7%	3.6%
Baa	0.2%	0.2%	1.6%	76.6%	3.0%	2.4%	11.2%	4.7%
Ba	0.0%	0.1%	0.1%	1.8%	76.1%	3.4%	13.6%	4.9%
B	0.1%	0.0%	0.1%	0.2%	2.4%	87.3%	3.0%	7.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	78.9%	21.1%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	70.4%	1.0%	0.5%	0.3%	0.2%	0.1%	0.1%	27.4%
Aa	6.9%	74.5%	3.6%	2.1%	0.9%	0.7%	1.1%	10.3%
A	1.7%	4.6%	72.2%	5.8%	2.3%	1.5%	3.2%	8.6%
Baa	0.6%	0.8%	3.3%	69.7%	4.5%	3.7%	7.8%	9.5%
Ba	0.0%	0.2%	1.1%	3.6%	69.0%	4.0%	13.7%	8.3%
B	0.1%	0.1%	0.2%	0.3%	4.4%	78.3%	7.0%	9.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	67.2%	31.3%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	58.8%	0.9%	0.3%	0.2%	0.1%	0.1%	0.1%	39.5%
Aa	12.8%	59.7%	3.7%	2.1%	0.8%	0.3%	0.7%	19.9%
A	2.4%	8.0%	59.6%	5.8%	2.5%	0.7%	1.8%	19.2%
Baa	0.8%	1.2%	5.8%	56.1%	6.2%	4.2%	6.6%	19.2%
Ba	0.2%	0.3%	1.7%	6.0%	60.1%	4.6%	11.6%	15.6%
B	0.0%	0.1%	0.3%	0.3%	5.9%	67.7%	11.6%	14.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	60.0%	38.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	47.2%	0.7%	0.3%	0.2%	0.1%	0.1%	0.2%	51.2%
Aa	17.0%	44.0%	4.0%	2.4%	0.9%	0.6%	1.2%	29.9%
A	3.4%	8.7%	45.6%	4.7%	2.7%	0.8%	2.3%	31.8%
Baa	1.1%	1.7%	6.6%	42.8%	5.1%	3.2%	8.5%	30.9%
Ba	0.2%	0.3%	2.2%	6.7%	50.3%	3.8%	11.1%	25.4%
B	0.0%	0.1%	0.2%	0.7%	5.7%	58.9%	15.0%	19.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%	70.0%	25.0%
For WR Ratings in the 5-year cohort								
Rating before WR								
Original Rating	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	98.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
Aa	21.3%	71.9%	3.9%	1.6%	0.2%	0.2%	0.9%	0.0%
A	8.5%	12.2%	73.3%	3.6%	1.2%	0.4%	0.8%	0.0%
Baa	4.0%	4.2%	9.1%	73.6%	4.3%	1.8%	3.0%	0.0%
Ba	1.0%	1.1%	5.3%	9.7%	69.8%	5.5%	7.4%	0.0%
B	2.8%	0.6%	1.1%	5.6%	19.7%	48.3%	21.9%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	90.0%	0.0%

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 65: Global Structured Finance excluding SFCDs & 2005-2007 US RMBS & HEL Rating Transition Matrices by Original Rating (1984-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	93.6%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	5.8%
Aa	1.2%	95.9%	1.1%	0.1%	0.1%	0.0%	0.1%	1.6%
A	0.2%	0.8%	95.6%	1.5%	0.2%	0.0%	0.1%	1.6%
Baa	0.1%	0.0%	0.4%	97.2%	0.7%	0.2%	0.2%	1.2%
Ba	0.0%	0.0%	0.0%	0.5%	97.8%	0.5%	0.2%	0.9%
B	0.0%	0.0%	0.0%	0.0%	0.8%	94.3%	0.5%	4.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.3%	7.7%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	81.6%	0.5%	0.2%	0.1%	0.0%	0.0%	0.0%	17.6%
Aa	4.6%	86.9%	2.3%	0.6%	0.1%	0.1%	0.2%	5.1%
A	0.8%	3.4%	87.2%	3.2%	0.6%	0.2%	0.4%	4.2%
Baa	0.3%	0.3%	2.5%	88.5%	2.0%	0.5%	0.5%	5.4%
Ba	0.0%	0.1%	0.1%	2.6%	89.8%	2.0%	1.6%	3.8%
B	0.1%	0.0%	0.1%	0.2%	2.6%	88.1%	2.5%	6.5%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	78.7%	21.3%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	68.6%	0.6%	0.2%	0.1%	0.0%	0.0%	0.0%	30.3%
Aa	8.5%	74.3%	2.5%	1.6%	0.4%	0.1%	0.2%	12.4%
A	2.1%	5.3%	75.8%	4.2%	1.3%	0.4%	0.7%	10.1%
Baa	0.8%	1.0%	4.1%	76.1%	3.2%	1.7%	1.8%	11.3%
Ba	0.0%	0.2%	1.3%	4.4%	76.9%	3.6%	5.7%	7.9%
B	0.1%	0.1%	0.2%	0.3%	4.6%	78.5%	6.5%	9.8%
Caa and below	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	67.2%	31.3%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	58.6%	0.8%	0.2%	0.1%	0.1%	0.1%	0.1%	40.0%
Aa	13.2%	59.7%	3.5%	2.1%	0.7%	0.2%	0.5%	20.1%
A	2.5%	8.1%	59.8%	5.7%	2.5%	0.7%	1.4%	19.4%
Baa	0.8%	1.1%	6.0%	56.6%	6.2%	4.1%	5.8%	19.4%
Ba	0.2%	0.3%	1.8%	6.2%	61.5%	4.5%	11.4%	14.2%
B	0.0%	0.1%	0.3%	0.3%	6.0%	67.9%	11.7%	13.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	60.0%	38.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	47.0%	0.6%	0.3%	0.1%	0.1%	0.1%	0.2%	51.7%
Aa	17.4%	43.9%	3.8%	2.3%	0.8%	0.5%	1.0%	30.2%
A	3.4%	8.7%	45.7%	4.8%	2.7%	0.8%	2.0%	32.0%
Baa	1.2%	1.7%	6.7%	43.4%	5.2%	3.2%	7.5%	31.1%
Ba	0.2%	0.4%	2.3%	6.7%	52.2%	3.8%	10.8%	23.6%
B	0.0%	0.1%	0.2%	0.7%	5.7%	59.1%	15.2%	19.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	2.5%	2.5%	70.0%	25.0%
For WR Ratings in the 5-year cohort								
Rating before WR								
Original Rating	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	99.0%	0.8%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
Aa	21.7%	71.4%	3.9%	1.7%	0.2%	0.2%	0.9%	0.0%
A	8.6%	12.3%	73.0%	3.7%	1.1%	0.4%	0.9%	0.0%
Baa	4.1%	4.2%	9.4%	73.2%	4.3%	1.8%	3.0%	0.0%
Ba	1.1%	1.3%	6.0%	11.0%	66.7%	5.6%	8.2%	0.0%
B	2.9%	0.6%	1.2%	5.8%	20.2%	46.8%	22.5%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	90.0%	0.0%

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 66: US ABS Rating Transition Matrices by Original Rating (1984-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	95.6%	0.8%	0.5%	0.4%	0.1%	0.1%	0.0%	2.5%
Aa	0.2%	91.6%	1.5%	1.5%	1.5%	2.6%	0.7%	0.5%
A	0.0%	0.4%	85.1%	4.0%	2.6%	3.7%	2.5%	1.6%
Baa	0.0%	0.0%	0.1%	83.9%	2.5%	3.6%	9.4%	0.4%
Ba	0.0%	0.0%	0.0%	0.4%	77.0%	3.3%	18.1%	1.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	97.7%	1.5%	0.8%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	80.4%	1.2%	0.8%	0.7%	0.4%	0.3%	0.4%	15.8%
Aa	1.0%	79.3%	2.6%	2.2%	1.6%	4.1%	7.0%	2.2%
A	0.3%	2.0%	76.1%	4.3%	1.0%	4.0%	8.7%	3.6%
Baa	0.1%	0.1%	0.7%	73.7%	3.2%	2.8%	15.9%	3.6%
Ba	0.0%	0.1%	0.0%	0.8%	55.2%	7.2%	30.0%	6.7%
B	0.0%	0.0%	0.0%	0.0%	0.0%	94.7%	3.5%	1.8%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	63.9%	0.8%	0.4%	0.3%	0.2%	0.1%	0.1%	34.2%
Aa	3.1%	80.0%	3.4%	3.3%	0.7%	0.4%	1.7%	7.3%
A	1.4%	3.8%	71.2%	8.8%	2.6%	1.2%	3.1%	7.9%
Baa	0.6%	0.6%	2.0%	67.5%	6.9%	5.6%	11.3%	5.5%
Ba	0.1%	0.1%	0.4%	1.5%	43.9%	7.0%	37.0%	10.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	69.5%	23.2%	7.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	53.4%	1.2%	0.4%	0.3%	0.2%	0.2%	0.2%	44.3%
Aa	6.3%	65.9%	4.1%	3.7%	1.3%	0.4%	1.4%	16.9%
A	1.0%	6.2%	60.1%	8.1%	3.4%	0.8%	1.7%	18.8%
Baa	0.4%	0.6%	3.2%	53.9%	10.5%	7.6%	9.4%	14.4%
Ba	0.2%	0.6%	0.4%	2.7%	37.2%	9.2%	31.6%	18.0%
B	0.0%	0.0%	1.1%	0.0%	1.1%	53.4%	22.7%	21.6%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	44.5%	0.9%	0.4%	0.3%	0.2%	0.2%	0.4%	53.1%
Aa	6.7%	49.9%	5.1%	5.4%	1.0%	1.1%	2.8%	28.1%
A	1.0%	5.7%	46.3%	6.7%	4.0%	0.9%	2.5%	32.9%
Baa	0.3%	0.6%	2.5%	41.8%	8.4%	6.0%	13.5%	26.8%
Ba	0.0%	0.6%	0.0%	2.9%	33.8%	4.5%	29.9%	28.3%
B	0.0%	0.0%	1.3%	0.0%	3.8%	40.0%	20.0%	35.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
For WR Ratings in the 5-year cohort								
Rating before WR								
Original Rating	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	99.0%	0.6%	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%
Aa	13.3%	75.2%	4.2%	4.0%	0.2%	0.2%	3.0%	0.0%
A	5.3%	10.6%	78.2%	4.4%	0.3%	0.2%	1.1%	0.0%
Baa	4.7%	3.0%	5.9%	78.5%	1.4%	1.1%	5.4%	0.0%
Ba	0.0%	1.1%	3.4%	5.7%	75.0%	3.4%	11.4%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	75.0%	0.0%
Caa and below								

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 67: US ABS ex HEL Rating Transition Matrices by Original Rating (1984-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	96.2%	0.6%	0.4%	0.4%	0.0%	0.0%	0.1%	2.3%
Aa	0.7%	95.2%	1.4%	0.2%	0.1%	0.0%	0.7%	1.7%
A	0.1%	1.0%	91.4%	3.2%	0.1%	0.1%	0.1%	4.1%
Baa	0.0%	0.0%	0.3%	97.0%	1.9%	0.4%	0.2%	0.2%
Ba	0.0%	0.0%	0.0%	2.2%	92.6%	3.0%	1.1%	1.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	95.7%	4.3%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	85.7%	0.9%	0.5%	0.2%	0.1%	0.0%	0.2%	12.4%
Aa	2.6%	83.5%	4.7%	2.2%	0.1%	0.1%	1.4%	5.4%
A	0.7%	4.9%	79.7%	7.4%	0.4%	0.2%	0.5%	6.1%
Baa	0.4%	0.6%	3.6%	85.9%	4.2%	1.4%	1.5%	2.3%
Ba	0.0%	0.4%	0.0%	4.9%	73.2%	6.9%	8.5%	6.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	92.3%	5.1%	2.6%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	70.7%	1.4%	0.6%	0.2%	0.2%	0.1%	0.2%	26.5%
Aa	4.7%	69.4%	4.6%	7.6%	1.1%	0.1%	1.8%	10.7%
A	2.8%	5.5%	65.5%	9.1%	2.2%	0.6%	1.3%	13.1%
Baa	2.7%	2.4%	3.7%	68.1%	5.4%	3.0%	5.2%	9.4%
Ba	0.5%	0.5%	1.9%	4.7%	44.6%	8.0%	24.9%	15.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	62.5%	37.5%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	56.3%	1.6%	0.5%	0.2%	0.3%	0.3%	0.3%	40.6%
Aa	2.9%	54.1%	5.3%	7.6%	3.0%	0.9%	3.3%	23.0%
A	1.3%	5.1%	53.4%	7.2%	3.8%	0.8%	2.4%	26.0%
Baa	1.3%	1.0%	2.5%	54.1%	6.2%	2.3%	9.2%	23.4%
Ba	0.5%	0.5%	1.0%	3.7%	30.9%	4.2%	35.1%	24.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	44.8%	37.9%	17.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	43.8%	1.0%	0.6%	0.3%	0.3%	0.4%	0.6%	53.0%
Aa	3.3%	42.7%	3.8%	9.1%	1.8%	2.1%	5.3%	31.8%
A	1.1%	3.5%	41.6%	6.3%	4.1%	0.5%	3.0%	39.8%
Baa	0.8%	0.6%	1.2%	40.5%	6.6%	2.6%	11.9%	35.8%
Ba	0.0%	0.6%	0.0%	1.7%	18.6%	4.7%	41.3%	33.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	29.2%	41.7%	29.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
For WR Ratings in the 5-year cohort								
Rating before WR								
Original Rating	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	98.3%	1.1%	0.2%	0.1%	0.0%	0.0%	0.3%	0.0%
Aa	8.3%	73.7%	7.3%	7.0%	0.0%	0.0%	3.7%	0.0%
A	6.0%	10.3%	77.4%	4.8%	0.2%	0.2%	1.1%	0.0%
Baa	9.1%	4.7%	6.2%	74.3%	1.4%	0.7%	3.6%	0.0%
Ba	0.0%	0.0%	5.3%	5.3%	82.5%	0.0%	7.0%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	57.1%	42.9%	0.0%
Caa and below								

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 68: US HEL Rating Transition Matrices by Original Rating (1989-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	95.1%	1.0%	0.5%	0.4%	0.1%	0.1%	0.0%	2.7%
Aa	0.1%	90.7%	1.5%	1.8%	1.9%	3.2%	0.7%	0.2%
A	0.0%	0.0%	81.7%	4.5%	4.1%	5.8%	3.8%	0.2%
Baa	0.0%	0.0%	0.0%	81.2%	2.7%	4.3%	11.4%	0.4%
Ba	0.0%	0.0%	0.0%	0.1%	74.3%	3.4%	21.1%	1.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	98.8%	0.0%	1.2%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	76.4%	1.4%	1.0%	1.1%	0.6%	0.6%	0.6%	18.4%
Aa	0.5%	78.2%	2.0%	2.2%	2.1%	5.3%	8.5%	1.3%
A	0.0%	0.3%	73.8%	2.3%	1.3%	6.4%	13.9%	2.0%
Baa	0.0%	0.0%	0.1%	71.2%	3.0%	3.1%	18.9%	3.9%
Ba	0.0%	0.0%	0.0%	0.1%	51.8%	7.3%	34.0%	6.9%
B	0.0%	0.0%	0.0%	0.0%	0.0%	96.0%	2.7%	1.3%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	58.1%	0.4%	0.1%	0.4%	0.1%	0.0%	0.1%	40.8%
Aa	2.4%	84.3%	3.0%	1.6%	0.6%	0.5%	1.7%	6.0%
A	0.1%	2.3%	76.3%	8.5%	3.0%	1.8%	4.8%	3.2%
Baa	0.1%	0.1%	1.6%	67.3%	7.2%	6.3%	13.0%	4.5%
Ba	0.0%	0.0%	0.0%	0.5%	43.7%	6.7%	40.5%	8.6%
B	0.0%	0.0%	0.0%	0.0%	0.0%	73.0%	15.9%	11.1%
Caa and below								
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	50.5%	0.8%	0.2%	0.4%	0.0%	0.1%	0.1%	47.9%
Aa	8.5%	73.6%	3.3%	1.0%	0.2%	0.1%	0.2%	12.9%
A	0.5%	7.8%	69.7%	9.4%	2.8%	0.8%	0.6%	8.4%
Baa	0.1%	0.4%	3.4%	53.9%	12.2%	9.5%	9.4%	11.1%
Ba	0.0%	0.7%	0.0%	2.1%	41.5%	12.5%	29.3%	13.9%
B	0.0%	0.0%	1.7%	0.0%	1.7%	57.6%	15.3%	23.7%
Caa and below								
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	45.3%	0.8%	0.2%	0.3%	0.0%	0.0%	0.2%	53.1%
Aa	10.1%	57.0%	6.3%	1.7%	0.2%	0.1%	0.2%	24.3%
A	1.0%	10.6%	57.2%	7.6%	3.8%	1.9%	1.1%	16.8%
Baa	0.1%	0.6%	3.3%	42.5%	9.5%	8.0%	14.4%	21.5%
Ba	0.0%	0.7%	0.0%	4.3%	52.5%	4.3%	15.8%	22.3%
B	0.0%	0.0%	1.8%	0.0%	5.4%	44.6%	10.7%	37.5%
Caa and below								
For WR Ratings in the 5-year cohort								
Rating before WR								
Original Rating	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa	19.7%	77.2%	0.0%	0.0%	0.4%	0.4%	2.2%	0.0%
A	1.2%	12.4%	82.2%	2.4%	0.6%	0.0%	1.2%	0.0%
Baa	0.4%	1.4%	5.7%	82.7%	1.4%	1.4%	7.1%	0.0%
Ba	0.0%	3.2%	0.0%	6.5%	61.3%	9.7%	19.4%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	85.7%	0.0%
Caa and below								

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 69: US RMBS Rating Transition Matrices by Original Rating (1984-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	93.9%	0.3%	0.2%	0.1%	0.1%	0.0%	0.0%	5.5%
Aa	1.0%	93.6%	1.1%	0.6%	0.5%	2.2%	0.2%	0.7%
A	0.1%	0.3%	85.3%	5.0%	2.0%	4.4%	2.7%	0.2%
Baa	0.0%	0.0%	0.3%	84.1%	4.0%	4.4%	6.7%	0.5%
Ba	0.0%	0.0%	0.0%	0.7%	90.0%	3.0%	5.8%	0.5%
B	0.0%	0.0%	0.0%	0.0%	0.8%	95.1%	3.7%	0.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	83.3%	0.7%	0.7%	0.3%	0.3%	0.2%	0.0%	14.4%
Aa	4.5%	81.5%	2.3%	1.0%	1.3%	4.6%	2.3%	2.6%
A	0.4%	3.7%	69.7%	4.3%	1.7%	7.9%	11.2%	1.1%
Baa	0.1%	0.2%	3.2%	69.3%	3.1%	5.7%	16.8%	1.6%
Ba	0.0%	0.3%	0.3%	5.5%	76.8%	1.5%	14.0%	1.5%
B	0.0%	0.0%	0.2%	0.4%	7.0%	88.3%	2.4%	1.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	73.1%	0.9%	0.5%	0.3%	0.2%	0.0%	0.0%	25.1%
Aa	11.0%	71.9%	3.9%	1.4%	0.8%	1.1%	0.5%	9.3%
A	2.7%	8.2%	69.4%	2.6%	2.6%	3.6%	4.9%	5.9%
Baa	0.3%	1.5%	7.8%	68.1%	1.7%	4.2%	9.4%	7.0%
Ba	0.0%	0.4%	3.7%	11.5%	69.7%	0.6%	7.8%	6.3%
B	0.0%	0.0%	0.5%	0.2%	13.5%	73.4%	4.0%	8.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	61.2%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	38.3%
Aa	19.5%	57.7%	3.1%	0.9%	0.2%	0.1%	0.0%	18.5%
A	6.8%	14.9%	57.6%	2.4%	1.5%	0.5%	0.8%	15.6%
Baa	1.2%	3.6%	13.5%	60.0%	1.9%	1.3%	2.2%	16.2%
Ba	0.3%	0.3%	6.3%	16.5%	59.5%	1.5%	3.2%	12.3%
B	0.0%	0.3%	0.6%	0.6%	17.7%	61.2%	4.1%	15.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	48.6%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	51.0%
Aa	25.5%	42.5%	3.4%	0.8%	0.4%	0.2%	0.2%	27.0%
A	10.2%	17.5%	44.4%	2.0%	1.2%	0.2%	1.4%	23.1%
Baa	2.6%	5.2%	15.3%	47.9%	1.6%	0.3%	2.2%	24.9%
Ba	0.6%	0.4%	8.4%	17.6%	52.0%	1.3%	1.5%	18.1%
B	0.0%	0.4%	0.4%	2.2%	15.5%	53.5%	4.1%	24.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
For WR Ratings in the 5-year cohort								
Original Rating	Rating before WR						Caa and below	WR
	Aaa	Aa	A	Baa	Ba	B		
Aaa	99.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aa	25.6%	71.5%	2.4%	0.3%	0.0%	0.0%	0.1%	0.0%
A	14.7%	25.6%	58.3%	1.4%	0.0%	0.0%	0.0%	0.0%
Baa	3.4%	11.6%	19.3%	63.9%	0.9%	0.9%	0.0%	0.0%
Ba	2.4%	0.0%	21.4%	22.6%	45.2%	1.2%	7.1%	0.0%
B	3.1%	0.0%	0.0%	4.6%	40.0%	46.2%	6.2%	0.0%
Caa and below								

## Structured Finance Rating Transitions: 1983-2008

**Exhibit 70: US CMBS Rating Transition Matrices by Original Rating (1987-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	98.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%
Aa	1.7%	96.8%	0.4%	0.0%	0.1%	0.0%	0.0%	0.9%
A	0.2%	0.8%	96.4%	1.2%	0.6%	0.1%	0.0%	0.6%
Baa	0.0%	0.1%	0.5%	96.1%	0.8%	0.3%	0.0%	2.2%
Ba	0.0%	0.0%	0.0%	0.4%	98.8%	0.3%	0.0%	0.4%
B	0.0%	0.0%	0.0%	0.0%	0.1%	99.0%	0.5%	0.5%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	97.3%	2.7%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	91.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	8.1%
Aa	8.1%	83.3%	0.8%	0.1%	0.0%	0.2%	0.0%	7.5%
A	1.5%	4.3%	85.5%	1.3%	1.2%	0.1%	0.0%	6.1%
Baa	0.3%	0.4%	3.4%	81.1%	2.6%	0.3%	0.1%	11.8%
Ba	0.0%	0.0%	0.1%	1.3%	93.0%	1.6%	0.0%	4.1%
B	0.1%	0.0%	0.0%	0.1%	0.4%	95.1%	2.8%	1.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.9%	6.1%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	83.1%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	16.0%
Aa	10.7%	68.4%	1.4%	1.0%	0.0%	0.0%	0.0%	18.6%
A	3.0%	5.9%	73.0%	1.9%	1.9%	0.2%	0.0%	14.1%
Baa	1.1%	1.1%	3.9%	66.8%	2.6%	1.1%	0.1%	23.2%
Ba	0.0%	0.1%	0.8%	1.7%	87.9%	3.1%	0.2%	6.2%
B	0.1%	0.1%	0.1%	0.3%	0.7%	90.5%	4.7%	3.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	3.1%	0.0%	87.5%	9.4%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	75.9%	0.6%	0.1%	0.0%	0.0%	0.1%	0.0%	23.5%
Aa	23.6%	47.3%	1.0%	0.5%	0.7%	0.0%	0.2%	26.7%
A	4.6%	14.8%	55.6%	2.4%	1.6%	0.1%	0.0%	21.0%
Baa	2.1%	1.4%	8.0%	52.7%	2.7%	0.4%	0.3%	32.3%
Ba	0.4%	0.3%	0.6%	4.1%	80.9%	4.8%	0.9%	8.0%
B	0.0%	0.0%	0.0%	0.2%	1.2%	80.3%	11.6%	6.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84.4%	15.6%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	67.5%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	31.8%
Aa	29.2%	35.2%	1.2%	0.3%	0.9%	0.0%	0.6%	32.6%
A	9.3%	17.8%	42.2%	3.1%	1.4%	0.6%	0.0%	25.7%
Baa	2.6%	2.6%	10.1%	42.3%	2.1%	0.3%	0.4%	39.7%
Ba	0.0%	0.6%	0.8%	5.5%	72.1%	6.2%	2.3%	12.6%
B	0.0%	0.0%	0.0%	0.0%	1.5%	71.1%	15.8%	11.7%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%	81.3%	15.6%
For WR Ratings in the 5-year cohort								
Original Rating	Rating before WR						Caa and below	WR
	Aaa	Aa	A	Baa	Ba	B		
Aaa	96.7%	2.7%	0.4%	0.0%	0.0%	0.2%	0.0%	0.0%
Aa	41.4%	54.1%	1.4%	1.4%	0.0%	1.4%	0.5%	0.0%
A	19.7%	21.3%	49.2%	2.7%	6.6%	0.0%	0.5%	0.0%
Baa	6.0%	4.9%	10.7%	64.7%	9.6%	2.9%	1.3%	0.0%
Ba	3.0%	4.5%	10.4%	17.9%	47.8%	13.4%	3.0%	0.0%
B	5.6%	1.9%	1.9%	11.1%	16.7%	40.7%	22.2%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	80.0%	0.0%



## Structured Finance Rating Transitions: 1983-2008

**Exhibit 71: US CDO Rating Transition Matrices by Original Rating (1990-2008)**

1-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	86.0%	1.1%	1.1%	1.5%	1.5%	1.6%	5.7%	1.5%
Aa	0.0%	86.4%	1.7%	1.0%	1.4%	1.1%	7.1%	1.2%
A	0.0%	0.0%	85.2%	2.5%	1.7%	1.0%	8.8%	0.7%
Baa	0.0%	0.0%	0.1%	85.1%	2.2%	1.2%	10.6%	0.8%
Ba	0.0%	0.0%	0.0%	0.0%	90.2%	1.3%	7.7%	0.8%
B	0.0%	0.0%	0.0%	0.0%	0.0%	92.0%	3.0%	5.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
2-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	83.4%	1.8%	0.9%	1.0%	1.4%	1.4%	6.7%	3.5%
Aa	0.4%	78.9%	2.5%	1.8%	1.2%	1.1%	10.4%	3.7%
A	0.0%	0.2%	81.2%	2.4%	1.0%	0.9%	11.4%	2.8%
Baa	0.0%	0.1%	0.2%	82.4%	3.0%	0.8%	10.6%	2.8%
Ba	0.0%	0.0%	0.0%	0.2%	84.8%	1.4%	10.8%	2.8%
B	0.0%	0.0%	0.0%	0.0%	0.0%	83.2%	9.5%	7.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
3-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	84.4%	3.6%	1.5%	1.7%	0.7%	1.0%	1.3%	5.7%
Aa	1.4%	75.9%	5.9%	3.6%	2.7%	1.8%	3.0%	5.7%
A	0.4%	1.0%	79.9%	4.0%	2.1%	1.8%	5.8%	5.0%
Baa	0.1%	0.5%	0.5%	76.4%	5.3%	3.5%	9.8%	4.0%
Ba	0.0%	0.0%	0.0%	0.9%	75.6%	5.9%	13.5%	4.1%
B	0.0%	0.0%	0.0%	0.0%	0.0%	59.1%	29.5%	11.4%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
4-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	74.5%	5.6%	3.4%	1.0%	0.9%	0.5%	0.4%	13.6%
Aa	1.7%	63.4%	7.8%	5.8%	2.8%	2.3%	2.6%	13.6%
A	0.2%	1.5%	66.2%	5.5%	3.5%	1.4%	5.5%	16.2%
Baa	0.1%	0.5%	1.0%	58.1%	6.0%	5.9%	16.0%	12.5%
Ba	0.0%	0.0%	0.0%	0.9%	59.6%	4.9%	21.2%	13.3%
B	0.0%	0.0%	0.0%	0.0%	0.0%	48.2%	38.6%	13.3%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	50.0%
5-year	Aaa	Aa	A	Baa	Ba	B	Caa and below	WR
Aaa	60.0%	5.7%	2.9%	1.5%	1.2%	0.8%	0.6%	27.3%
Aa	1.8%	48.3%	8.0%	7.0%	4.1%	2.2%	3.5%	25.2%
A	0.2%	2.4%	50.4%	3.8%	2.4%	2.6%	5.4%	32.8%
Baa	0.1%	0.3%	0.7%	40.6%	7.1%	6.3%	20.4%	24.5%
Ba	0.0%	0.0%	0.0%	1.3%	45.1%	4.5%	22.6%	26.5%
B	0.0%	0.0%	0.0%	0.0%	0.0%	37.2%	48.7%	14.1%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
For WR Ratings in the 5-year cohort								
Original Rating	Rating before WR						Caa and below	WR
	Aaa	Aa	A	Baa	Ba	B		
Aaa	94.8%	3.1%	1.8%	0.3%	0.0%	0.0%	0.0%	0.0%
Aa	2.6%	84.9%	8.6%	2.0%	1.3%	0.0%	0.7%	0.0%
A	2.5%	4.5%	84.6%	4.5%	3.5%	0.0%	0.5%	0.0%
Baa	0.9%	1.4%	3.6%	82.0%	5.4%	2.3%	4.5%	0.0%
Ba	0.0%	0.0%	0.0%	3.2%	80.6%	5.6%	10.5%	0.0%
B	0.0%	0.0%	0.0%	0.0%	0.0%	81.8%	18.2%	0.0%
Caa and below	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%

## Structured Finance Rating Transitions: 1983-2008

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