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2008 US CDO Outlook and 2007 Review: Issuance Down in 2007 Triggered by Subprime Mortgages Meltdown; Lower Overall Issuance Expected in 2008

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2008 U.S. CDO Outlook and 2007 Review: Issuance Down in 2007 Triggered by Subprime Mortgages Meltdown; Lower Overall Issuance Expected in 2008

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1. SUMMARY

2008 OUTLOOK

To increase transparency on the macroeconomic and financial framework that underpins its risk assessments, Moody's has published a baseline outlook for the global economy, as well as three potential economic risk scenarios. These economic scenarios are intended to help Moody's analysts formulate the outlooks for their specific markets using a consistent set of assumptions that envisage various stressed economic and financial conditions.

The baseline outlook is inspired by major international organizations' economic outlooks. For 2008-2009, we assume robust yet more moderate global growth. However, it is also expected that there will be increased differentiation across geographies - specifically, a moderate downturn in the U.S. (and to a much lesser extent other mature market economies) and continued fast growth in emerging economies. This baseline outlook is affected by an unusually large degree of uncertainty, mostly related to the impact of credit tightening.

¹ Jeremy Gluck contributed to this report as a research consultant. Suzanna Sava contributed data to this report.



Moody's industry outlook for the mortgage sector in the U.S. is negative. Further declines in home prices combined with weaker economic fundamentals and credit tightening will continue to increase residential mortgage related delinquencies and losses for most of 2008.²

Moody's and other market participants currently project double-digit peak-to-trough home price declines, which are expected to contribute to further deterioration in the performance of subprime and Alt-A mortgage pools. As detailed in its updated loss projections for 2006 subprime loans, Moody's views on 2006 vintage subprime pools have become more bearish in recent months, with various stress scenarios resulting in a range of average projected losses, from 12% up to 24% depending on the scenario.³ It is expected that during the coming year deteriorating performance will continue to affect the ratings of many subprime RMBS originated in 2006 and early 2007, which will in turn affect a significant portion of the structured finance CDO sector.

A major question mark for 2008 is a recovery in investors' confidence. A recovery is unlikely until the effects of the subprime crisis have been fully measured, especially the effects on financial institutions. The turn in the credit cycle and the projected increase in corporate default rates may also start affecting the performance of corporate issuers and therefore heighten investors' caution in CDOs backed by corporate credits.⁴

In addition to performance considerations, investor demand will also be driven by the market's capacity to respond to an increased desire for information transparency in terms of underlying collateral and structural risks, so that investors can focus on deep fundamental analysis and apply sound judgment. Lessons have also been learned through the crisis with respect to the robustness of certain structures exposed to large market-value or correlation risks.

In terms of new issuance, we expect minimal SF CDO issuance in 2008. Cash-flow CLO issuance will be increasingly active during the year, but a lot will be dependent on the conditions in the primary leveraged loan market and the arbitrage opportunity of structuring CLOs. We expect synthetic corporate CDO issuance to slow down substantially in 2008.

In terms of rating performance, we expect to see significantly negative rating activity on SF CDOs during 2008 given Moody's higher loss projections on subprime mortgages. In addition, continued concerns about the credit markets, rising default rates and an overhang from the supply pipeline are likely to keep the leveraged loan market in a state of volatility at least during the first half of 2008. Currently, we do not expect this volatility pressure to be sufficient to induce significant downgrades of CLO liabilities thanks to prudent modeling assumptions and numerous structural enhancements. The projected increase in the U.S. corporate default rate is also partly captured in the ratings of the corporate loans that back CLOs. Additionally, loan default rates have historically been lower than bond default rates and Moody's projected loan default rate is also lower than the projected corporate default rate.⁵

More generally, given that we believe the deterioration in corporate credit quality is likely to continue, the performance of synthetic arbitrage corporate CDO portfolios is expected to weaken. The reduction of risk linked to CDO maturity shortening should, nevertheless, continue to partially offset this trend. The performance of investment-grade CDO deals with significant exposures to financials and housing-related credits will also be tested.

2007 REVIEW

The Collateralized Debt Obligation (CDO) market in the U.S. was very active in terms of issuance throughout the first half of 2007. That was before the subprime market crisis and general credit turmoil of

2 Beyond the general macroeconomic outlook, Moody's will additionally present its Outlook for the general credit fundamentals of the major structured finance sectors as well as various CDO sub-sectors. The Outlooks are intended to cover a period of 12 to 18 months and will be updated periodically on an as-needed basis. Moody's currently assigns five categories of collateral performance Outlook: Positive, Positive/Stable, Stable, Stable/Negative, and Negative. For example, a Stable/Negative collateral performance outlook indicates that the asset class is not expected to perform as well over the next year as it is performing currently.

3 See "Moody's Updates Loss Projections for 2006 Subprime Loans," Moody's Structured Finance Special Report, January 2008.

4 See "Monthly Default Report - January 2008," Moody's Global Credit Research, February 12, 2008.

5 See Moody's Special Comment, "Syndicated Bank Loans: 2007 Default Review and 2008 Outlook," January 2008.

the second half. In terms of performance and structural challenges, 2007 proved momentous, probably the most important year thus far in the history of CDOs.⁶

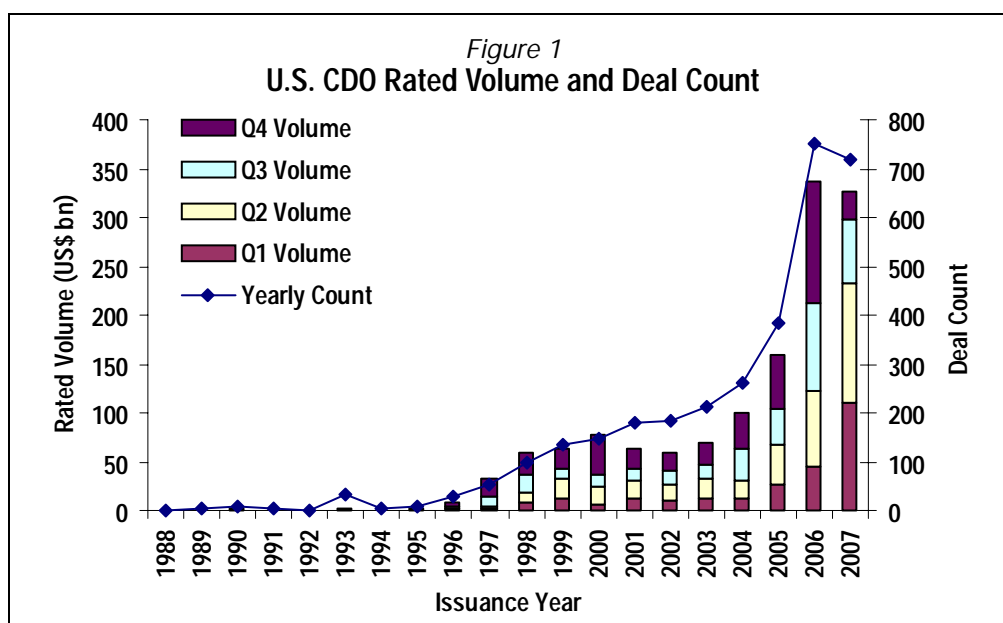
The most significant development in 2007 was certainly the U.S. subprime mortgage fallout. A confluence of factors has led to unprecedented deterioration in the subprime mortgage market. Important factors include the extended period of global excess liquidity that preceded it, the loose underwriting and lending standards during the peak of the subprime market boom in 2006, and the dramatic slowdown in the U.S. housing market.

Those U.S. Structured Finance CDOs (SF CDOs) that were exposed to significantly deteriorated subprime RMBS assets experienced significant downgrade activity by year-end.⁷ Uncertainty about the future performance of CDO assets and the complexity of CDO structures exacerbated illiquidity in the CDO market and heightened investors' caution toward structured finance products. As a result, we have seen a severe liquidity squeeze and drop in market value across virtually all structured asset classes, resulting in a significant amount of rating actions toward market-value structures.

In the U.S. leveraged loan market, activity set new records in the first half of the year as reflected in issuance amounts, leverage multiples, covenant restrictions and pricing levels.⁸ The introduction of the LCDX in May 2007 was another significant development in the leveraged loan market. However, the underlying attractive conditions in the market driving these trends evaporated over the summer, and speculative-grade debt issuance, including leveraged loans, dropped precipitously after July. There was concurrently a significant increase in the collateralized loan obligation (CLO) risk premium, and, after several years of vigorous growth, the leveraged loan CLO market experienced a slowdown in issuance.

2. U.S. CDO ISSUANCE FELL FOR THE FIRST TIME SINCE 2002

U.S. CDO issuance, whether measured by number of transactions or the dollar volume of liabilities, fell in 2007 (*Figure 1*). This decline in rated volume was the first since 2002, while the CDO transaction count had not fallen since 1994. But the apparently modest slowing of annual issuance activity belies the sharp change in the market environment that occurred around the middle of 2007. For example, though annual CDO issuance (dollar volume of liabilities) declined by just 3.2%, 2007 H2 volume was fully 56.3% below that of 2006 H2.



⁶ For 2007 review and 2008 outlook of EMEA CDOs, see "2007 Review & 2008 Outlook - EMEA Collateralised Debt Obligations: Strong First Half in 2007 Diluted by Global Credit Crisis; Lower Issuance Expected in 2008 Reflecting Continued Market Disruptions," February 4, 2008.

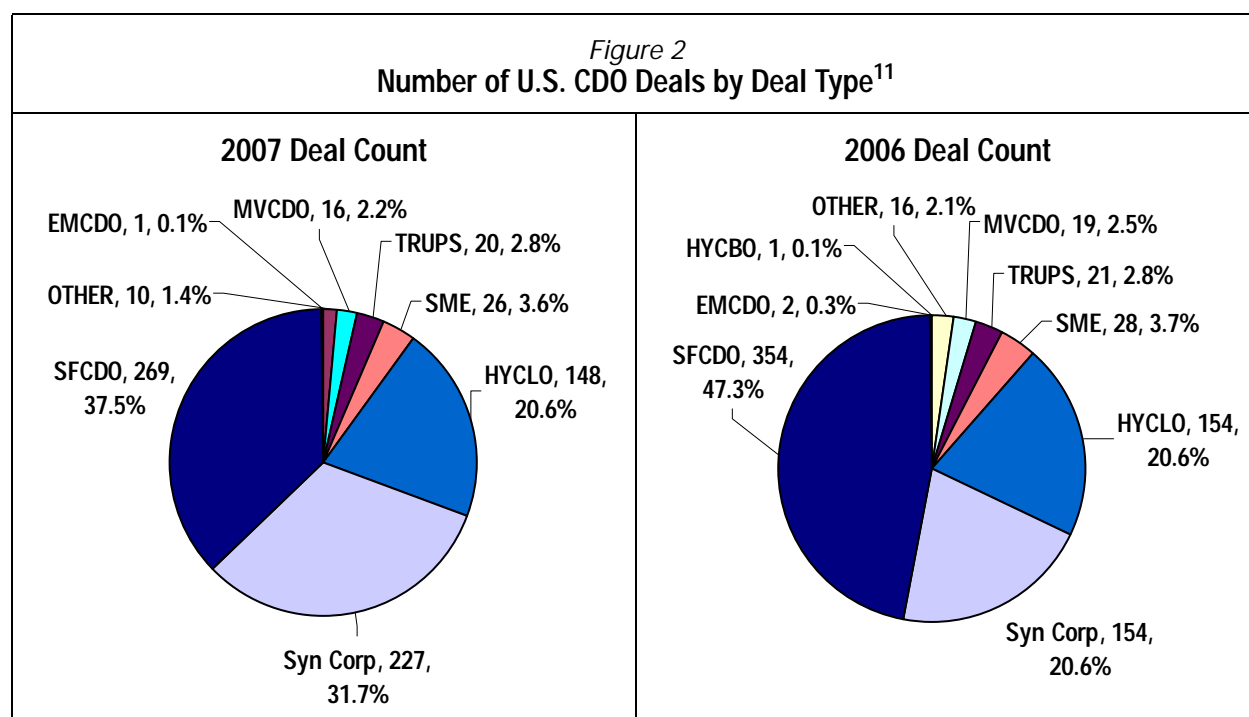
⁷ See "U.S. Subprime RMBS 2005-2007 Vintage Rating Actions: January 2008," February 2008, and "Structured Finance CDO Rating Surveillance Report: December 2007," January 2008.

⁸ See "2007 U.S. Cash-Flow CLO Review and 2008 Outlook," February 2008.

3. WHILE SLIGHTLY DOWN IN VOLUME, SF CDOS AND CLOS CONTINUED TO DOMINATE U.S. CDO ISSUANCE IN 2007

By CDO type, the composition in 2007 was not very different from the previous year (*Figures 2 and 3*). Structured Finance (SF) CDOs, synthetic corporate CDOs and CLOs (including HY CLOs and SME CLOs) again accounted for the vast majority of U.S. transactions in 2007 (about 90% by both transaction count and dollar volume of rated issuance). The most substantial change was that the proportion of SF CDOs within the overall CDO sector dropped both by transaction count and rated volume. Meanwhile, the share of CLOs remained largely unchanged (by deal count) or slightly higher (by dollar volume) compared to 2006, whereas the share of synthetic corporate CDO transactions rose sharply. In addition, the shares of Market-Value and TRUPS CDOs were largely similar (by deal count) between 2007 and 2006.⁹

Specifically, Moody's rated 269 SF CDO transactions totaling approximately US\$159.8 billion in 2007, down more than 20% from the 354 SF CDO transactions totaling roughly US\$200.6 billion rated in 2006. Moody's also rated 174 CLO transactions (including SME CLOs) totaling US\$91.2 billion in 2007, compared to 182 transactions totaling US\$87.2 billion rated in 2006. Additionally, *Figure 3* demonstrates that despite a decline in the number of CLOs in 2007, there was an increase in rated CLO volume, thanks to a few very large (multi-billion dollar) CLO deals rated during the year.¹⁰

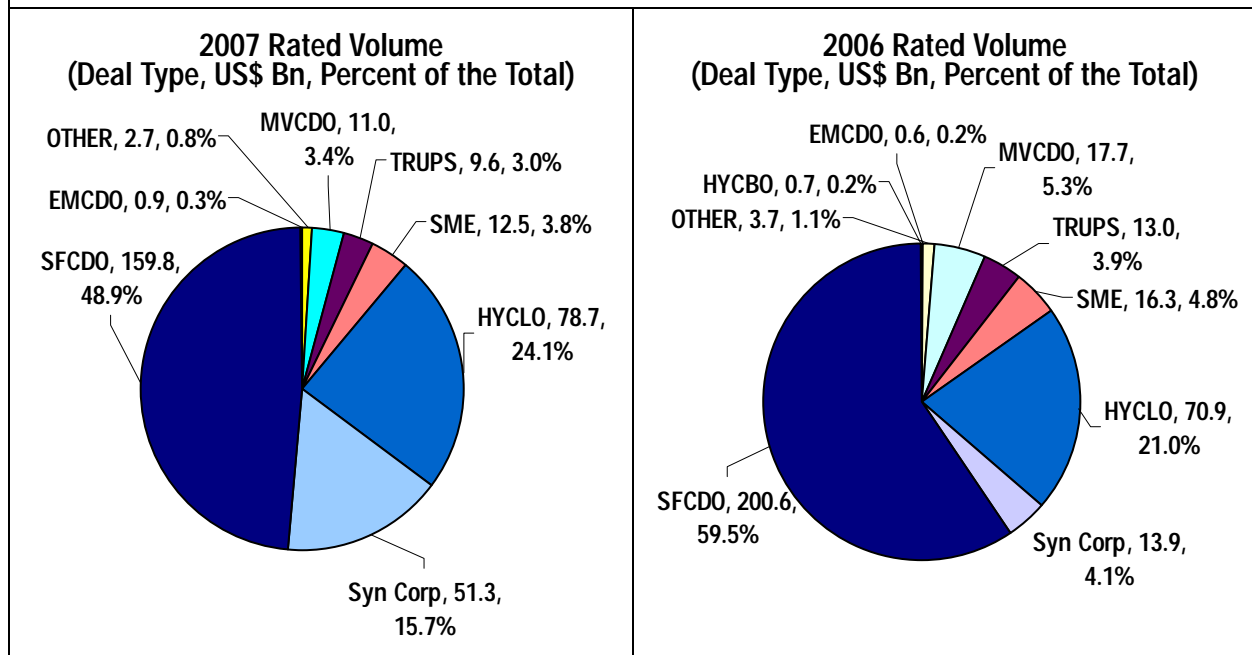


⁹ Rated synthetic CDO volumes can be misleading because transaction sponsors may choose to sell single tranches, or the entire capital structure of the transactions. In particular, the selling or retention of supersenior tranches greatly affects volume figures. The synthetic CDO transaction count rose by 32 percent.

¹⁰ See Moody's Special Comment, "U.S. CLOs 2007 Review and 2008 Outlook," February 2008.

¹¹ Deal type notation: "EMCDO" stands for emerging-market CDO, "HYCBO" stands for high-yield collateralized bond obligations (CBO), "HYCLO" stands for high-yield collateralized loan obligations (CLO), "MVCDO" stands for market-value CDO, "SME" stands for small-medium enterprise loan CLOs, "SF CDO" stands for structured-finance CDO, "TRUPS" stands for CDO backed by trust preferred securities, "Syn Corp" stands for synthetic corporate CDO. The "OTHER" category includes collateralized fund obligation (CFO), iit-to-default, CDO backed by distressed debt, and catastrophic (CAT) bonds. In addition, Credit Derivative Product Companies (CDPC) are not included in the data sample of this report. Please see "2007 U.S. Credit Derivative Product Companies Review and 2008 Outlook," Moody's Structured Finance Special Report, March 2008.

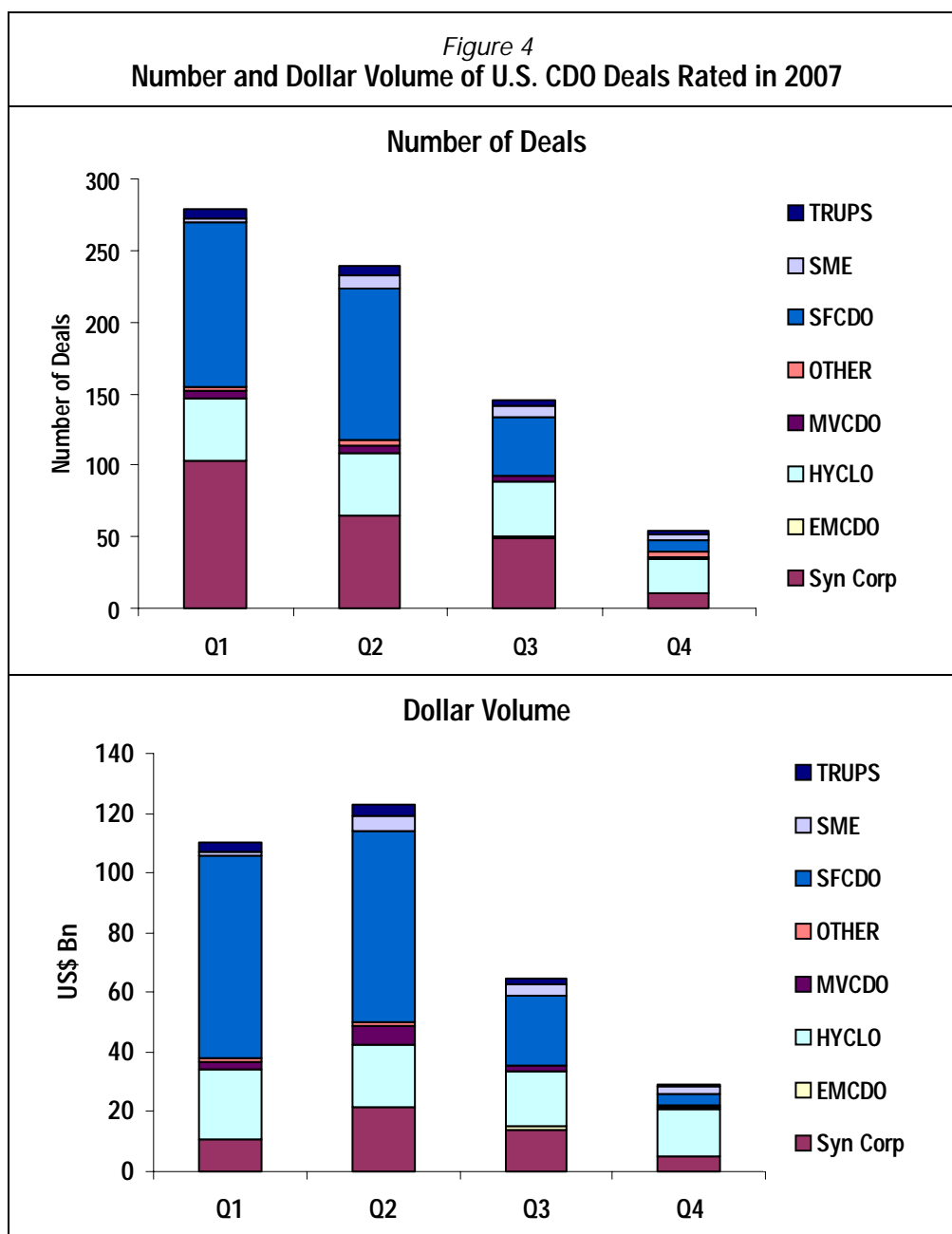
Figure 3
Rated Volume of U.S. CDOs by Deal Type



4. STRONG FIRST AND SECOND QUARTERS OFFSET DECLINES IN THE THIRD AND FOURTH QUARTERS OF 2007

The year 2007 saw a sea change for the CDO market. Moody's rated more than 100 SF CDO transactions in each of the first two quarters, but the number fell sharply to 40 in the third quarter and to just eight in the fourth quarter as the sheer speed and magnitude of the subprime mortgage fallout significantly weakened investors' confidence. In fact, the overall CDO market nearly seized up by the fourth quarter, during which Moody's rated just over 50 deals totaling US\$28.9 billion, compared to 250 deals totaling US\$124.2 billion in the fourth quarter of 2006. *Figure 4* depicts the drop in rated deals by quarter in 2007.

As a result, SF CDOs accounted for 56.8% of U.S. CDO issuance (by dollar volume) during 2007 H1, but only for 29.5% in 2007 H2. Though CLO volume was also adversely affected by the credit crisis, the strong historical performance of CLOs and lack of a direct connection to the mortgage markets kept issuance from contracting as sharply as that of SF CDOs. A consequence was a substantial increase in the share of CLOs within U.S. CDO issuance—from approximately 21.8% in 07H1 to 43.2% by 07H2 (and 62.9% in the fourth quarter) by dollar volume.



5. UNPRECEDENTED SF CDO DOWNGRADES IN 2007 SHATTER HISTORICAL RECORD

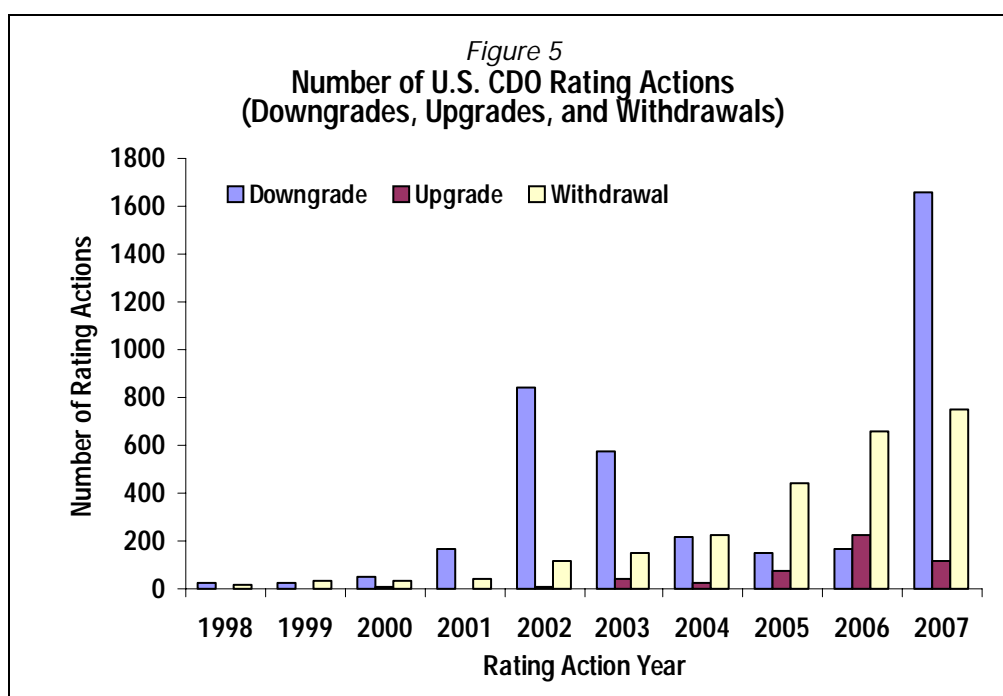
As a result of the subprime mortgage crisis and its severe impact on the ratings of RMBS/HEL tranches purchased by SF CDOs (including CDOs of CDOs) and other CDOs, the scope and degree of CDO downgrades in 2007 was unprecedented (*Figure 5*). Moody's took a record 1,655 downgrade actions (including multiple rating actions on the same tranche during the year), roughly ten times the number of downgrade actions in 2006 and twice as many as in 2002, which had been the most volatile year for CDOs before 2007.

The magnitude of the downgrades was also large by historical standards. On average, tranches that were downgraded during 2007 had their ratings lowered by roughly seven notches, compared to a pre-2007 norm of around three or four notches. Interested readers can find more detailed statistics of SF CDO rating actions in the Moody's monthly publication, "Structured Finance CDO Rating Surveillance Brief."¹²

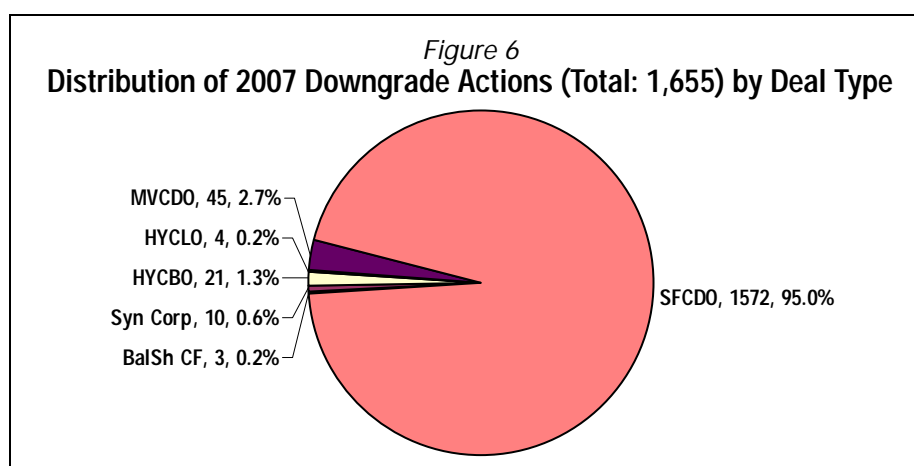
¹² See for example, "Structured Finance CDO Rating Surveillance Brief: December 2007," January 17, 2008.

As difficult as the structured credit environment was in 2007, corporate credit performance was only modestly affected by the turmoil in the housing market during the year. The absolute number of CDO upgrade actions declined in 2007 vis-à-vis 2006 as concerns grew on the potential spill-over effect of the subprime mortgage crisis on the broad economy and the corporate sector (*Figure 5*). In addition to the subprime stress that dramatically affected SF CDOs, potential upgrades were limited by a declining number of older, deleveraging high-yield CBOs/CLOs.

While the absolute number of withdrawals increased in 2007, the figure relative to beginning-of-year outstanding ratings declined in comparison to 2006. As noted below, some withdrawals (of Market-Value CDOs) were associated with negative credit developments. The number of CLO withdrawals also declined, partly because the incentive to refinance older CLOs diminished as credit spreads widened in mid-2007.

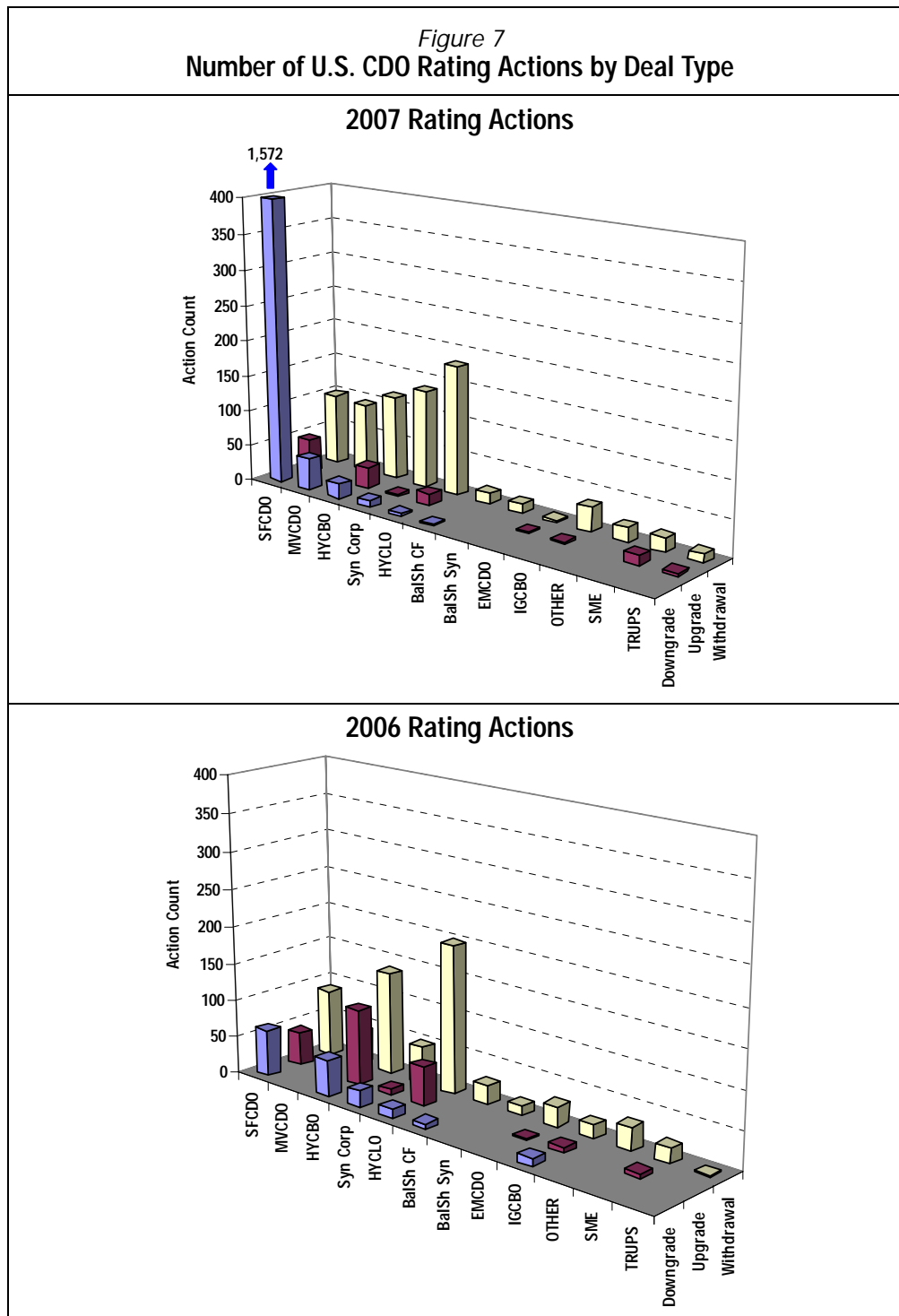


The vast majority (about 95%) of the downgrade actions in 2007 occurred with respect to SF CDOs (*Figure 6*).¹³ Consistent with the development of the subprime mortgage problem, the downgrades were focused on the CDOs that purchased RMBS/HEL collateral from the 2006-2007 vintages (or that purchased other CDOs with such exposures). CDOs backed by earlier vintage subprime RMBS assets were not materially affected.



¹³ Multiple actions on the same tranche are counted separately. While the figures may be slightly different, our commentaries remain unchanged if the count and percentage are based on distinct tranches, which are used to compute rating action statistics in a monthly Special Report "Structured Finance CDO Ratings Surveillance Brief". In addition, Moody's will soon release its annual credit migration study for CDOs in a separate Special Report.

Though small in absolute number, a significant proportion of Market-Value (MV) CDO tranches—roughly 15% of the total outstanding at the beginning of July—were also downgraded. These transactions also came under stress during the credit/liquidity crisis in the second half of 2007. Those MV CDOs that held RMBS collateral were, of course, most sharply affected. The transactions were forced to at least partially liquidate assets in order to maintain required overcollateralization ratios in the highly illiquid environment of 2007 H2. The sales occurred at the same time that other entities, such as Structured Investment Vehicles (“SIV”), were liquidating similar instruments, putting further downward pressure on liquidation proceeds. Eighty-six tranches from five MV CDOs were completely liquidated during the year, contributing to an unusually large number of withdrawn ratings for these transactions (*Figures 7 and 8*).¹⁴

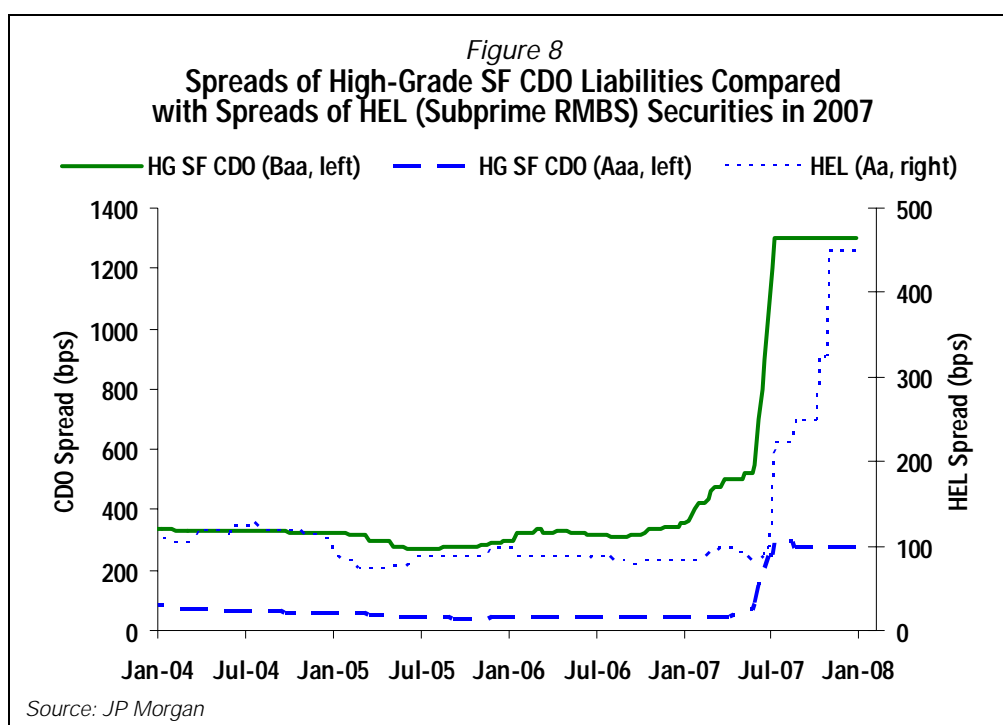


¹⁴ Catastrophic risk (CAT) bonds in the “OTHER” category have become increasingly popular among investors due to the uncorrelated nature between natural catastrophic events and credit market cycles. Moody’s rated eleven CAT bond transactions in 2006 and seven in 2007, compared to seven rated transactions in 2004 and three transactions in 2005. We expect CAT bond issuance to remain healthy in 2008.

6. OVERALL U.S. FINANCIAL MARKET CONDITIONS REMAIN DIFFICULT HEADING INTO 2008

There is little expectation that CDO performance will quickly turn around in 2008. The difficult market conditions that prevailed during the second half of 2007 remain. While credit spreads have widened in general, the increases have been particularly sharp for CDO liabilities (*Figures 8-10*). The most notable jump has been in the spreads for SF CDO liabilities, which have more than tripled at the Baa level and increased more than five times at the Aaa level during the last year. Of course, spreads on the underlying HEL securities that have backed many of these transactions have also jumped (from 85 bps to 450 bps for Aa HEL securities), but not to the point where expected returns can foster significant market demand for SF CDO liabilities.¹⁵

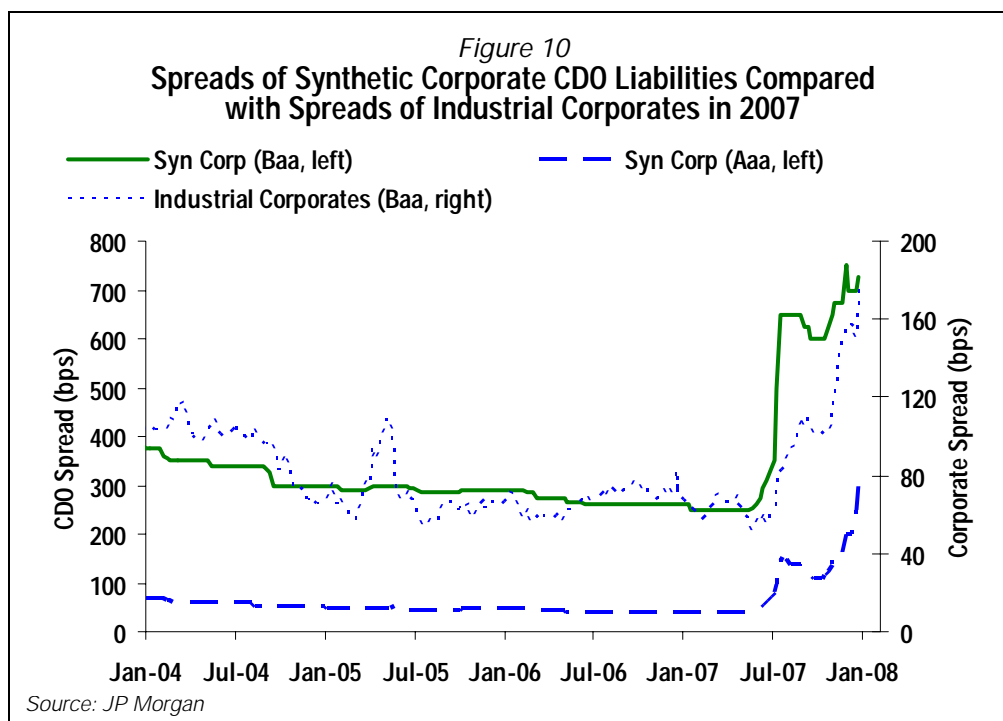
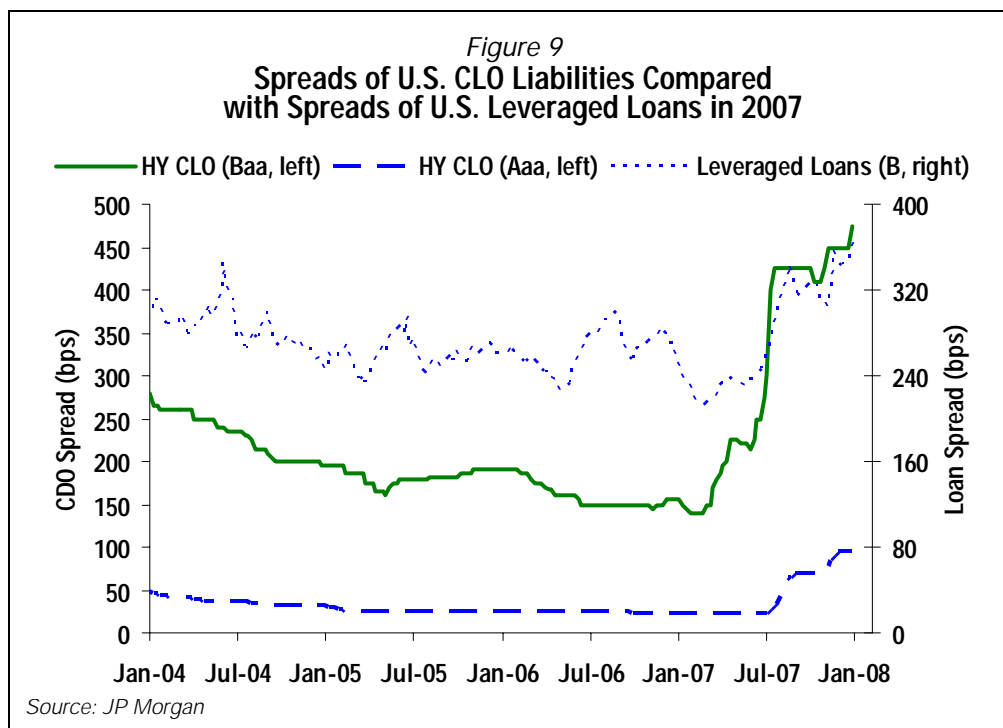
Spreads for other CDO liabilities, such as those issued by CLOs and synthetic CDOs were significantly impacted by the spill-over effect of the subprime market crisis and increased sharply as well. On a relative basis, most of these increases were similar to those for SF CDO obligations while the spreads of the underlying corporate assets did not increase as much. For example, Aaa CLO spreads jumped from 24 bps to 95 bps from the beginning to the end of last year, whereas single-B leveraged loan spreads rose from roughly 270 bps to 350 bps during the same period.¹⁶ In some cases, the relative increases in spreads such as those for Aaa-rated synthetic corporate CDO liabilities were even larger (leaped by more than six times)¹⁷ than for SF CDO liabilities.



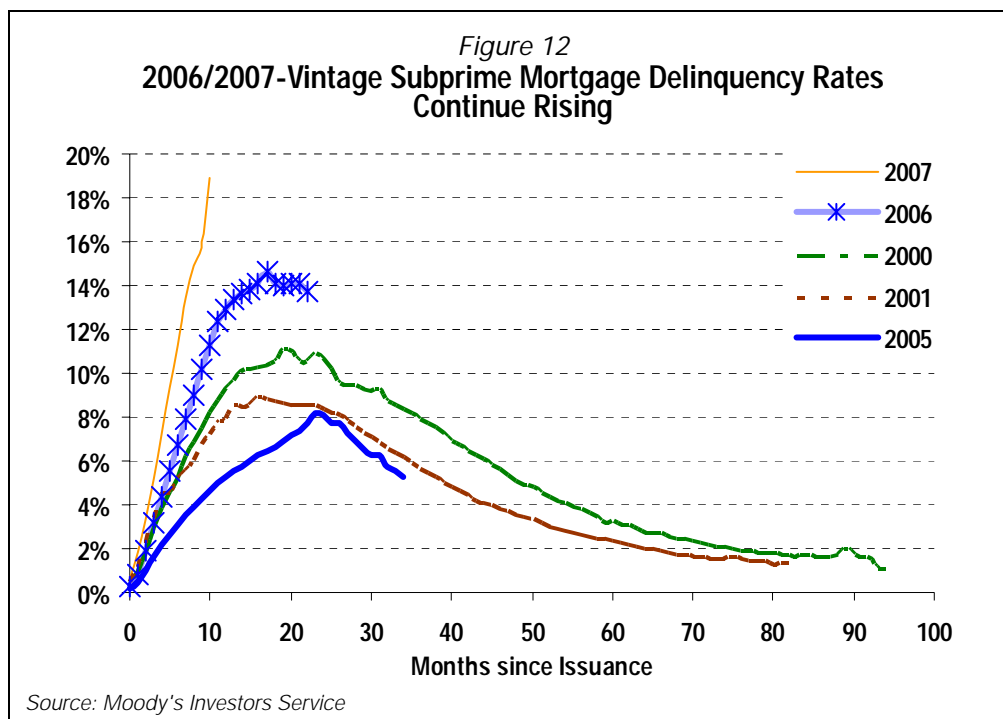
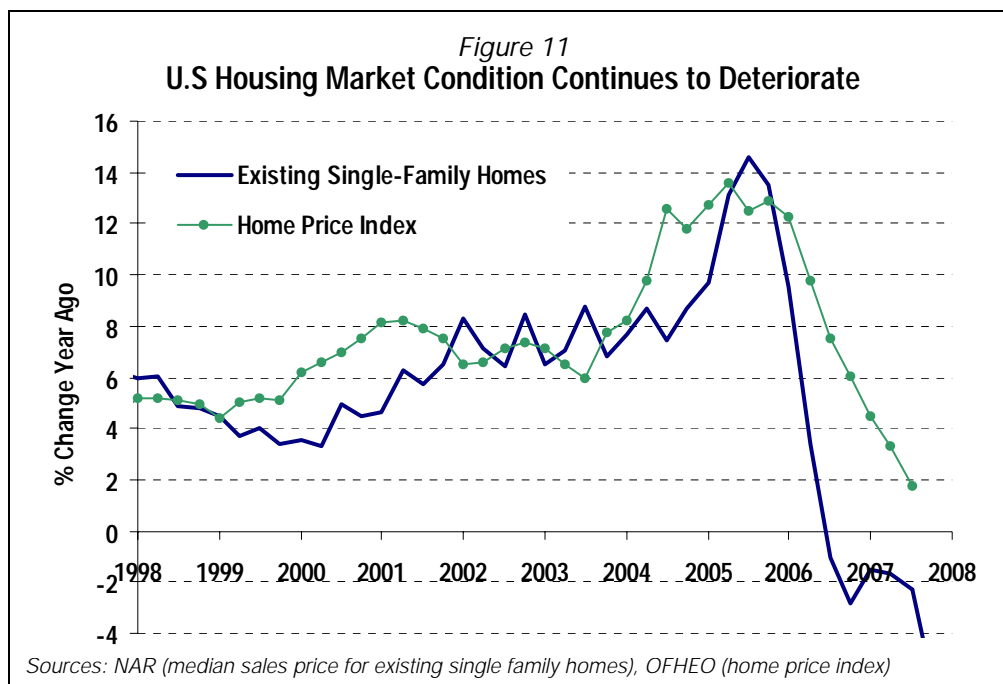
¹⁵ In the absence of a significant number of new SF CDO transactions, these liability spreads are best viewed as indicative, rather than well-defined averages.

¹⁶ The average rating of a CLO portfolio is in the single-B range.

¹⁷ The spreads on CDO liabilities have continued to rise in the first two months of 2008. As of February 22, 2008, the indicative spread of senior Aaa HG SF CDOs stood above 500 bps, whereas the spread of Aaa U.S. CLOs was about 185 bps.



The real economy has already slowed and some analysts believe the U.S. has already entered a recession. In particular, both home sales and home prices have deteriorated to an extent not seen in decades (*Figure 11*). Delinquency rates for 2006 and 2007 mortgage loans continue to significantly exceed those of earlier cohorts (*Figure 12*).

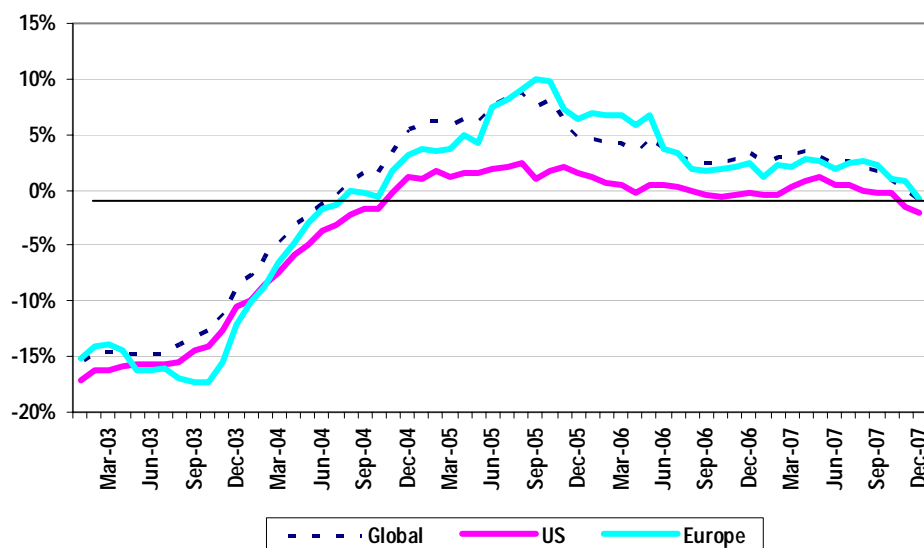


The slumping housing sector, its spill-over into financial markets and the slowing of the U.S. general economy have begun to have an adverse impact on Moody's corporate ratings. *Figure 13* shows that the 12-month trailing ratings drift (the difference between upgrades and downgrades relative to outstanding ratings) turned negative in the latter part of 2007.

Moody's anticipates a sharp rise in U.S. defaults during 2008 in comparison with recent years (*Figure 14*). Moody's baseline forecast is for an increase in the trailing 12-month speculative-grade default rate from just 0.9% in 2007 to 5.3%, a level slightly above the historical average of 4.7%, by the end of 2008.¹⁸ Moody's pessimistic case contemplates default rates similar to the double-digit peaks that occurred during the 1991-1992 and 2001-2002 periods.

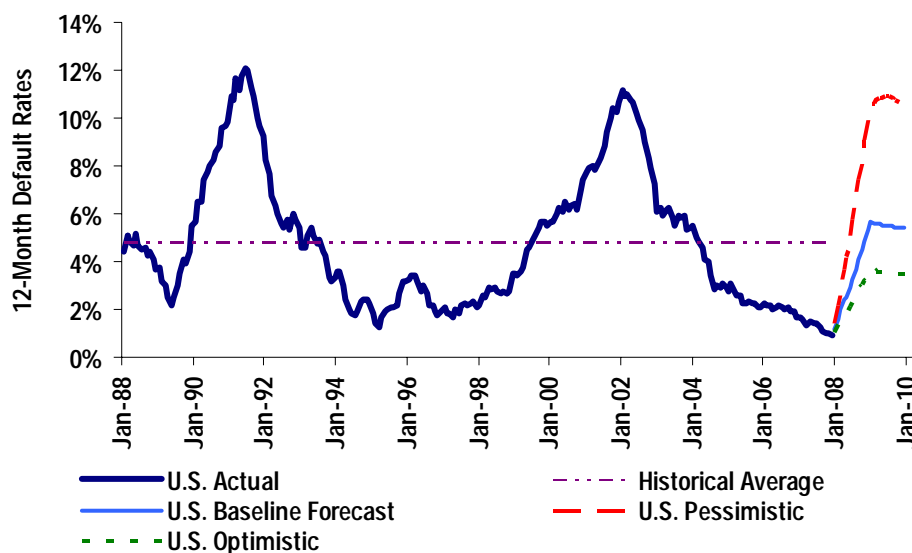
¹⁸ Moody's expects that the speculative-grade U.S. loan default rate will increase to approximately 3.0% from its current 0.1% by the end of 2008. See Moody's Special Comment, "Syndicated Bank Loans: 2007 Default Review and 2008 Outlook," January 2008.

Figure 13
Corporate Credit Quality
(Trailing 12-Month Rating Drift) Has Trended Lower



Source: Moody's Investors Service. Rating drift=(issuer upgrades-issuer downgrades)/Rated Issuers

Figure 14
12-Month U.S. Speculative-Grade Default Rate
Is Expected to Rise to the Historical Average Level



Source: Moody's Investors Service

7. GENERALLY SLOWER ISSUANCE AND MORE NEGATIVE RATING ACTIVITY ARE EXPECTED IN 2008

ISSUANCE ACTIVITY OUTLOOK

The difficult market and real-sector conditions that are likely to prevail during 2008 will continue to pressure both CDO activity and performance. We anticipate declining activity across all CDO types with the sharpest downturn naturally in the SF CDO sector. The heightened asset price volatility in the current environment will also reduce the demand for market-value structures. Even sectors that have exhibited

strong historical performance, such as CLOs and TRUPS CDOs, will slow in 2008.¹⁹ We expect the bulk of issuance activity in 2008 to revolve around cash-flow CLOs and synthetic corporate CDOs.

If the credit environment improves somewhat in the latter part of the year, there may be pick-up in volume at that time. Also, the deterioration in capital experienced by a number of financial institutions as a result of mortgage-related losses could foster more balance-sheet CDOs. In addition, SME CLO balance-sheet transactions may rebound quicker than arbitrage CLOs as these balance sheet transactions are issued primarily as a source of funding rather than as a result of asset/liability arbitrage.

RATING PERFORMANCE OUTLOOK

CDO performance in general will continue to suffer in 2008, especially within the SF CDO subsector. Moody's has revised upward its subprime RMBS loss projections and has warned that even highly-rated RMBS tranches may be downgraded by several notches.²⁰ Such downgrades would put significant downward pressure on the ratings of SF CDOs. As a result, our 2008 outlook for the SF CDO collateral performance is negative with significant rating implications on SF CDO securities.

Though the projected increase in the U.S. corporate default rate is partly reflected in the ratings of the corporate instruments that back CLOs and synthetic corporate CDOs, the likelihood of continued negative ratings drift may pressure these CDOs' liability ratings. Still, we do not expect this pressure to be sufficient to induce significant downgrades of CLOs and corporate CDO liabilities. Indeed, existing corporate transactions with the ability to trade could benefit from wider spreads on collateral. Consequently, our 2008 outlook for CLO and synthetic corporate CDO collateral performance is stable/negative with limited rating implications.²¹

The rating outlook for MV CDOs backed by structured instruments continues to be negative in view of ongoing liquidity deterioration in the credit market. Market prices remain weak as a variety of institutions attempt to unload structured instruments, especially RMBS and CDOs with direct or indirect exposure to subprime mortgage assets. In addition, the heightened price volatility of leveraged loans has put pressure on MV CLOs. Therefore, we assign a stable/negative outlook for the MV CDO collateral performance with limited rating implications.

19 For the 2007 Review and 2008 Outlook of TRUPS CDOs, please see "The U.S. Trust Preferred CDO Sector Review and 2008 Outlook," March 2008.

20 See "Moody's updates loss projections for 2006 subprime RMBS," Moody's Announcement, January 31, 2008."

21 A stable/negative collateral performance outlook indicates that the asset class is not expected to perform as well over the next year as it is performing currently.

RELATED RESEARCH

1. ["Structured Finance CDO Ratings Surveillance Brief, January 2008."](#) Moody's Structured Finance Special Report, February 2008.
2. ["Structured Finance CDO Ratings Surveillance Brief, December 2007."](#) Moody's Structured Finance Special Report, January 17, 2008.
3. "2007 U.S. CLO Review and 2008 Outlook," Moody's Structured Finance Special Report, February 2008. (Forthcoming)
4. "The U.S. Trust Preferred CDO Sector Review and 2008 Outlook," Moody's Structured Finance Special Report, March 2008. (Forthcoming)
5. "2007 U.S. Credit Derivative Product Companies Review and 2008 Outlook," Moody's Structured Finance Special Report, March 2008. (Forthcoming)
6. ["2007 Review & 2008 Outlook - EMEA Collateralised Debt Obligations: Strong First Half in 2007 Diluted by Global Credit Crisis: Lower Issuance Expected in 2008 Reflecting Continued Market Disruptions."](#) Moody's International Structured Finance Special Report, February 4, 2008.
7. ["Understanding the Consequences of ABS CDO Events of Default Triggered by Loss of Overcollateralization."](#) Moody's Structured Finance Special Report, January 7, 2008.
8. ["Impact of Subprime Downgrades on OC-Linked Events of Default in CDOs."](#) Moody's Structured Finance Special Report, November 1, 2007.
9. ["U.S. Subprime RMBS 2005-2007 Vintage Rating Actions: January 2008."](#) Moody's Structured Finance Special Report, February 1, 2008.
10. ["U.S. Alt-A RMBS 2005-2007 Vintage Rating Actions Update: January 2008."](#) Moody's Structured Finance Special Report, February 1, 2008.
11. ["Moody's Updates Loss Projections for 2006 Subprime Loans."](#) Moody's Structured Finance Special Report, January 30, 2008.
12. ["Syndicated Bank Loans: 2007 Default Review and 2008 Outlook."](#) Moody's Special Comment, January 2008.

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