Speculative-grade liquidity ratings and credit spreads

Moody's Speculative-Grade Liquidity Ratings can be used to assess liquidity risk, likely credit spread movement and heightened default risk. **Christopher Mann**, senior analyst at Moody's Investors Service, explains the latest research on this emerging rating bellwether

Research from Moody's Investors Service is demonstrating that our Speculative-Grade Liquidity (SGL) Ratings successfully isolate the liquidity aspect of an issuer's overall default risk. Preliminary studies show that issuers, as expected, generally have weak SGL ratings immediately prior to a default, risk that the markets are indeed reflecting in assigning these issuers wider credit spreads. We have also learned that credit spreads not only anticipate SGL upgrades and downgrades, but that SGL upgrades and downgrades may well signal likely future moves in these spreads.

SGL ratings are Moody's opinion of a speculative-grade issuer's relative ability to generate cash from internal resources and external sources of committed financing in relation to their cash obligations over the coming 12 months. SGL ratings range from a score of SGL-1 for 'very good' liquidity to SGL-4 for 'weak' liquidity. Moody's introduced SGL ratings in October 2002. Three years later, at the end of October 2005, we had assigned SGL ratings to 358 companies, accounting for about $713 billion in outstanding debt.

Since their introduction, we have been eager to learn how our SGL ratings interact with our long-term ratings, and how they influence credit markets. Last year we published a preliminary study on the relationship between SGL and long-term ratings and found, among other observations, that issuers rated 'very good' (SGL-1) or 'good' (SGL-2) do tend to migrate to higher ratings, while those rated with 'adequate' (SGL-3) or 'weak' (SGL-4) tend to migrate to a lower rating (see 'Moody's Observations on Speculative-Grade Liquidity Ratings', *Moody's Special Comment*, November 2004). However, we consider the sample too small to be conclusive, and also possibly limited because we have only been able to observe the behaviour of SGLs during a credit cycle upswing – their relationship to long-term ratings could change during a downturn.

We have also been interested in how Moody's assessment of liquidity risk, as captured in an SGL rating, squares with the credit market's assessment, as captured in credit default swap (CDS) spreads, as well as how SGLs and CDS spreads may interact. This summer, we decided enough data was available to conduct a publishable study on this topic (see 'Relationships between Speculative-Grade Liquidity Ratings and Credit Default Swap Spreads', *Moody's Special Comment*, July 2005). The study's most important findings are:

- With one exception, all issuers with SGLs that have defaulted have done so with a 'weak' SGL-4 rating;
- For issuers with the same long-term rating, we find CDS premiums are significantly larger for lower SGL ratings;
- CDS spreads tend to widen during the weeks and days before an SGL downgrade and narrow before an SGL upgrade. Moreover,

1. Relationship between SGL ratings and senior implied ratings

	SGL-1	SGL-2	SGL-3	SGL-4	# of issuers
Ba	37.9%	53.4%	8.6%	0.0%	116
B	9.0%	41.8%	42.9%	6.2%	177
Caa	9.1%	27.3%	45.5%	18.2%	11
Total	20.1%	45.7%	29.9%	4.3%	304

NB SGLs as % of issuers as of April 2005

2. Average spreads on five-year CDS (Oct 02–Apr 05)

	SGL-1	SGL-2	SGL-3	SGL-4
All firms				
Ba	2.0%	2.2%	3.3%	3.4%
B	4.4%	6.6%	5.7%	10.7%
Caa	14.5%	6.6%	14.6%	43.4%

3. Median differences between the five-year and one-year CDS spreads by SGLs

	SGL-1	SGL-2	SGL-3	SGL-4
Ba	0.7%	0.8%	1.1%	1.6%
B	1.3%	1.2%	0.9%	2.2%
Caa	9.1%	5.5%	1.1%	-6.6%
Memo items:				
Number of monthly observations				
Ba	210	168	25	6
B	38	133	53	11
Caa	7	6	13	8
Number of unique issuers				
Ba	35	34	9	1
B	8	25	13	5
Caa	1	2	3	1

NB Sample: all issuers with SGLs and CDS price data: Oct 2002–Apr 2005

these spreads tend to continue to widen and narrow in the same direction during the weeks following the change in the SGL rating.

Higher SGLs, higher ratings? Not so fast

When we look at the relationship between long-term ratings and SGLs, we find that higher-rated issuers tend to also have better SGL ratings, but the correlation is loose – SGL ratings, after all, only reflect one aspect of the total credit risk that an issuer carries. This partial disaggregation of the risk allows lenders to be more informed about an issuer's short-term liquidity or about the weight they need to place on short-term versus long-term default risk (*see chart 1*).

SGL ratings also show a good track record at signalling weak liquidity immediately before default. Of the seven SGL-rated issuers that have defaulted since their introduction, six have had an SGL rating of 4, or 'weak'. Long-term ratings at time of default, meanwhile, have varied between B2 and Caa2.

CDS premiums increase sharply as SGLs move from SGL-1 down to SGL-4 (*see chart 2*). Spreads are considerably higher for issuers with weaker SGLs, even within the same rating category. Ba issuers with SGL-1 ratings had an average CDS spread of 2.0% (200 basis points) compared with 3.4% for an SGL-4 issuer. Similarly, a B rated issuer with an SGL-1 rating had an average CDS spread of 4.4% compared with 10.7% for an SGL-4 issuer.

We were also eager to look at the term structure of these spreads. If two issuers had the same long-term rating, but one had a weak liquidity rating, while the second had a strong one, we hypothesised that the higher default risk of the first would be captured in a wider spread in its one-year credit default swap. However, we also expected to find that its five-year spread would be lower. With the same long-term ratings, the overall default risk of the two issuers is similar. The weak liquidity rating signals that short-term risk, however, is higher. But with overall risk the same, risk should actually decline after the short term, a drop we expected to see reflected in the term structures of the CDSs (*see chart 3*).

The data does not, however, support our hypothesis about the declining term structure for the credit spreads. Looking at the differences between the five-year and the one-year CDS premiums for issuers with the same long-term ratings and different SGLs, we see that the slopes for Ba rated and B rated issuers increase as SGLs decline from SGL-1 to SGL-4, rather than decrease as expected. Caa issuers do show the predicted relationship, but our sample here is limited. When we looked at bond spreads, the results were similar.

We offer a number of interpretations for these findings. Perhaps the markets may not be agreeing with Moody's assessment of relative liquidity risk; market pricing may be inefficient at incorporating short-term credit risk into the term structure; or pricing data on maturities other than the more liquid five-year CDS is unreliable.

We find fewer surprises when we look at the relationship between movements in spreads before, during and after SGL rating changes. We looked at B rated and Ba rated issuers. For these rating categories, we measured spreads of upgraded and downgraded issuers as a percentage of a daily control we created by averaging spreads for all issuers at that rating level – differences could therefore be interpreted as being above and beyond movements due to the market as a whole. As we see in charts 4 and 5, issuers that experience SGL upgrades trade at less than 100% of the average spread for all issuers with the same long-term rating in the days and weeks before the SGL change. Issuers that see SGL downgrades, in turn, trade at lower than average spreads. The markets appear to be anticipating the SGL changes.

We note there is typically only a very small change or none at all in spreads on the actual day of the SGL rating change. These actions, however, suggest the future movement in the spreads. In the days and weeks following an SGL upgrade, credit spreads tend to continue to narrow; they tend to expand after a downgrade.

Moody's SGL ratings have shown their ability to isolate the short-term liquidity element of a creditor's credit risk. They send strong signals to markets that cannot be ignored. How exactly they may be harbingers of possible changes in longer-term ratings, defaults and credit spreads is subject to further study as more data is gathered.

Moody's Investors Service

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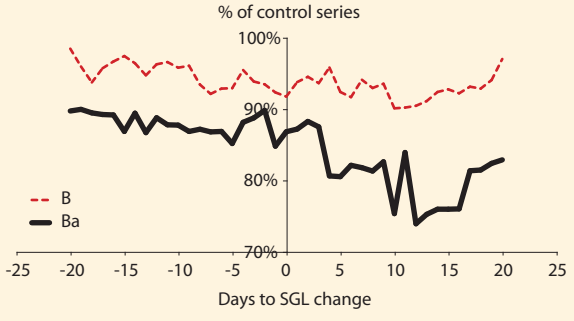
4. CDS spreads of issuers with upgraded SGLs
As a % of spreads on similarly rated issuers



5. CDS spreads of issuers with downgraded SGLs
As a % of spreads on similarly rated issuers