

Rating Research Services

Sector Review:

Taiwan Ratings Corp.'s Structured Finance Default And Rating Transition Study, 2003- 2012: Credit Quality Improved In 2012

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Taiwan Ratings Corp.'s Structured Finance Default And Rating Transition Study 2003-2012: Credit Quality Improved In 2012

Despite Taiwan's slowing economic growth throughout much of 2012, the credit quality of structured finance securities on which Taiwan Ratings Corp. has assigned ratings continued to improve during the year. This maintained a turnaround in credit quality that began in 2010. This contrasts with a fall in the credit quality of global structured finance securities for the sixth consecutive year in 2012, although downgrades have been less prevalent since 2010.

This study documents the historical default and transition rates for structured finance securities (also referred to as securitization notes) rated by Taiwan Ratings Corp. The study covers 92 ratings (87 long-term ratings and five short-term ratings) from 31 Taiwan-originated structured finance transactions that we have rated from 2003 through 2012. The transition rates included in the tables are calculated on long-term ratings only. An additional section provides insights on the transition and default behavior of our five short-term ratings. The study does not include CreditWatch placements in the calculation of transition and default rates.

It should be noted that the findings of this study may have several limitations due to the relatively small number of securities covered in this study, the short time period involved, the concentration on certain asset types securitized, and the limited default events during this period of review. For this reason, the findings should not be generalized to understand the credit performance of other existing or new transactions; any comparison between this study and other similar studies may be misleading due to these limitations.

Overview:

- The number of upgrades and rating affirmations continued to outweigh those of downgrades in 2012, reflecting the securitizations' stable collateral performance and the deleveraging of transactions with sequential-pay structures.
- There were no defaults in 2012; the total number of default events remains at four since 2003.
- The historical transition study shows that higher ratings are associated with higher credit stability or lower transition rates. This is also helped by Taiwan's relatively stable economy and the transactions' conservative structures.
- Most positive rating movements relate to collateralized loan obligations and real estate asset trust transactions.

Upgrades And Rating Stability Dominated In 2012

Upgrades and stable ratings dominated the ratings transition of Taiwan-originated structured finance securities in 2012 (see table 1), a direct result of the nine upgrades (compared with six in 2011) and much more stable ratings and withdrawals during the year.

Table 1

Taiwan Ratings' Structured Finance 2012 Rating Transition (%)													
From/to	Beginning no. of ratings	'twAAA'	'twAA'	'twA'	'twBBB'	'twBB'	'twB'	'twCCC'	'twCC'	D'	NR	Upgrade/Stable/NR	Downgrade
'twAAA'	11	45.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.55	100.00	0.0
'twAA'	4	25.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	100.00	0.0
'twA'	6	16.67	33.33	33.33	0.00	0.00	0.00	0.00	0.00	0.00	16.67	100.00	0.0
'twBBB'	4	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	100.00	0.0
'twBB'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
'twB'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
'twCCC'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
'twCC'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0

Notes: Ratings with modifiers (+ and -) are classified into the ratings in the same category. For instance, 'twAA+', 'twAA', and 'twAA-' are classified as 'twAA' category in this transition table. NR means the securities were repaid in full and we withdrew the ratings for the redemptions. Source: Taiwan Ratings Corp.

The credit stability and improvement prevailed across all asset types (see table 2). In particular, collateralized bond obligations (CBO) and residential mortgage-backed securities (RMBS) had the most positive rating transitions in 2012, with an upgrade ratio of 27% and 67% respectively. These were mainly attributed to the stable asset performance of these asset types together with the lowered leverage of rated tranches after the notes' sequential pay-down. There was mild deterioration in the counterparty creditworthiness of one CBO transaction that however resulted in just a one-notch downgrade on this transaction.

Table 2

Taiwan Ratings' Structured Finance 2012 Rating Transition (%)						
By Asset Type						
Asset type	Beginning no. of ratings	Stable	Upgrade	Downgrade	Default	
ABS Commercial	1	100.00	0.00	0.00	0.00	
Other						
ABS Equipment	4	100.00	0.00	0.00	0.00	
CDO Cash Flow CBO	11	72.73	27.27	0.00	0.00	
CMBS	6	100.00	0.00	0.00	0.00	
RMBS Prime Jumbo	3	33.33	66.67	0.00	0.00	
Total	25	80.00	20.00	0.00	0.00	

Notes: Stable includes ratings withdrawn due to redemptions during the year. The downgrade rate includes defaults. Rating modifiers (+ and -) are used when determining rating transitions such as upgrades and downgrades. Source: Taiwan Ratings Corp.

The rating transition for asset-backed securities (ABS) and real estate asset trust (REAT; defined as commercial mortgage-backed securities (CMBS) in table 2), was relatively stable in 2012, mainly reflecting generally stable asset performance despite mild adverse changes and rating withdrawals after notes were fully paid down.

We expect the underlying collateral performance on outstanding structured finance transactions

to be largely stable in 2013, along with a stabilizing regional economy. This view is consistent with Standard & Poor's opinion on Asia-Pacific transactions (see "**Asia-Pacific Credit Outlook 2013: Structured Finance Ratings Likely To Remain Stable Despite Risks**," published Dec. 19, 2012, on RatingsDirect). Taiwan Ratings also provided a more detailed review on Taiwan's macroeconomic evolution and deal performance in 2012 in an article titled "**2012 Ratings Roundup Report**," published Dec. 27, 2012. The likely resilience of Taiwan-originated structured finance transactions is due mainly to the transactions' seasoned asset pools, sequential-pay structures, stable counterparty support, and structural protection for deal amortization if the credit quality of assets deteriorates quickly.

Transitions And Defaults Correlate With Ratings

The weighted average annual rating transitions continue to show high ratios of upgrades and stability for each rating category from 'twAAA' to 'twBBB' (ratings with modifiers included) over an average 12-month period (see table 3).

Table 3

Taiwan Ratings' Structured Finance Weighted Average One-Year Rating Transition (%) 2003-2012													
From/ to	Beginning no. of ratings	'twAAA'	'twAA'	'twA'	'twBBB'	'twBB'	'twB'	'twCCC'	'twCC'	'D'	NR	Upgrade/ Stable/NR	Downgrade
'twAAA'	82	63.41	3.66	1.22	0.00	0.00	0.00	1.22	0.00	0.00	30.49	93.90	6.10
'twAA'	64	10.94	56.25	0.00	0.00	1.56	0.00	3.13	0.00	0.00	28.13	95.31	4.69
'twA'	89	7.87	11.24	58.43	0.00	0.00	0.00	1.12	1.12	0.00	20.22	97.75	2.25
'twBBB'	73	2.74	2.74	15.07	67.12	0.00	0.00	1.37	1.37	0.00	9.59	97.26	2.74
'twBB'	2	0.00	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
'twB'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'twCCC'	9	0.00	0.00	0.00	11.11	0.00	0.00	44.44	0.00	22.22	22.22	77.78	22.22
'twCC'	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00

Notes: Ratings with modifiers (+ and -) are classified into the ratings in the same category. For instance, 'twAA+', 'twAA', and 'twAA-' are classified as 'twAA' category in this transition table. 'NR' means the securities were repaid in full and we withdrew the ratings for the redemptions. 'Beginning no. of ratings' sums all ratings on the category at the beginning of each year. Source: Taiwan Ratings Corp.

The ratio of ratings stability, defined as ratings unchanged or securities fully repaid in the calendar year, indicates that higher ratings are associated with higher credit stability (see table 4). This finding is generally in line with Standard & Poor's global results and Taiwan Ratings' corporate default study.

Table 4

Taiwan Ratings' Structured Finance Weighted Average One-Year Rating Transition (%) On Stability 2003-2012

From/to	Beginning no. of ratings	Stable	Upgrade	Downgrade
'twAAA'	82	93.90	0.00	6.10
'twAA'	64	84.38	10.94	4.69
'twA'	89	78.65	19.10	2.25
'twBBB'	73	76.71	20.55	2.74
'twBB'	2	0.00	100.00	0.00
'twB'	0	0.00	0.00	0.00
'twCCC'	9	66.67	11.11	22.22
'twCC'	2	0.00	0.00	100.00

Note: Stable includes withdrawn ratings due to redemptions during the year. Ratings with modifiers (+ and -) are classified into the ratings in the same category. Source: Taiwan Ratings Corp.

The migration from the initial securities ratings to the current ratings showed a similar pattern as the annual transition shown in table 4. From 2003 to 2012, among the 86 'twAAA', 'twAA', 'twA', and 'twBBB' ratings (with modifiers included) that we initially assigned, we subsequently raised, withdrew after full redemption, or made no changes to about 90% of the ratings (see table 5), and we lowered less than 10%.

Table 5

Taiwan Ratings' Structured Finance Original-to-Current Rating Transition (%) 2003-2012

Original last rating	Original no. of ratings	'twAAA'	'twAA'	'twA'	'twBBB'	'twBB'	'twB'	'twCCC'	'twCC'	'D'	NR	Upgrade/Stable/NR	Downgrade
'twAAA'	21	19.05	4.76	0.00	0.00	0.00	0.00	0.00	0.00	4.76	71.43	90.48	9.52
'twAA'	17	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	88.24	94.12	5.88
'twA'	26	3.85	7.69	7.69	0.00	0.00	0.00	0.00	0.00	3.85	76.92	96.15	3.85
'twBBB'	22	4.55	4.55	0.00	0.00	0.00	0.00	0.00	0.00	4.55	86.36	95.45	4.55
'twBB'	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	100.00	0.00
'twB'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'twCCC'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
'twCC'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Full rating categories are used when determining rating transitions such as upgrades and downgrades. Source: Taiwan Ratings Corp.

Table 5 also provides a gauge on transaction default rates in relation to the ratings initially assigned. The results generally echo the market perception that rating differences serve as an indication of the relative likelihood of defaults, but the differences between each rating category are not obvious. We believe this is due to the limited default events, the relatively small pool of our rating observations, and the short period covered in our analysis.

We are not reviewing the cumulative default rates for each rating. The limited number of default events makes the cumulative default rates less reliable than other comparisons. Moreover, since

most structured finance investors in Taiwan tend to buy securities upon their initial offerings and hold them throughout the transaction's maturity, we believe the original-to-current default review in table 5 should be of more relevance and offer greater insight.

Taiwan securitization transactions had higher rating upgrade and stability rates and lower downgrade rates in the annual rating transition and original-to-current rating transition compared with the global structured finance rating transitions tracked by Standard & Poor's (see tables 6 and 7). We believe this could be attributed to two reasons:

1. Taiwan's relatively stable economy in recent years and the typical sequential-pay structure and short reinvestment periods in Taiwan's transactions that support quicker credit enhancement accumulation; and
2. The significant limitations of Taiwan Ratings' rating data pool. The local structured finance market began in 2003, and we have a much smaller rating universe and much shorter periods in structured finance than the global universe (ratings on 87 securities over the past nine years in Taiwan, compared with near 120,000 ratings assigned globally from 1978 to 2012 inclusive). As a result, the ratings migration in aggregate could be sensitive to even a small number of rating actions, and the results could become not so meaningful.

Table 6

Standard & Poor's Global Structured Finance Weighted Average One-Year Rating Transition (%) 1978-2012

From/to	'AAA'	'AA'	'A'	'BBB'	'BB'	'B'	'CCC'	'CC'	'C'	'D'	NR
'AAA'	79.52	2.91	1.31	0.93	0.63	0.79	0.72	0.20	0.00	0.11	12.87
'AA'	3.62	74.81	3.43	2.34	1.74	2.09	3.47	0.93	0.01	0.30	7.25
'A'	0.94	3.45	72.27	4.08	2.56	2.45	4.59	1.81	0.00	0.57	7.28
'BBB'	0.47	0.89	2.63	68.98	4.63	4.38	6.74	3.32	0.00	1.35	6.60
'BB'	0.10	0.13	0.74	3.13	63.05	7.73	11.18	5.86	0.02	3.04	5.03
'B'	0.02	0.03	0.07	0.50	2.64	57.72	18.37	9.84	0.02	7.40	3.40
'CCC'	0.03	0.01	0.01	0.08	0.57	1.71	44.81	21.84	0.02	26.95	3.96
'CC'	0.00	0.00	0.00	0.01	0.01	0.12	0.12	50.82	0.00	47.13	1.80
'C'	0.00	0.00	0.00	0.00	0.00	0.00	4.08	0.00	48.98	46.94	0.00

Note: 'AAA' ratings from the same transaction are treated as a single rating in the calculation of this table. Full rating categories are used when determining rating transitions such as upgrades and downgrades. Each period's outstanding number of unique ratings is used for weighted average statistics. Source: Standard & Poor's Ratings Services.

Table 7

Standard & Poor's Global Structured Finance Original-To-Current Rating Transitions (%) 1978-2012														
Original /last rating	Original no. of ratings	'AAA'	'AA'	'A'	'BBB'	'BB'	'B'	'CCC'	'CC'	'C'	'D'	NR	Upgrade/Stable/NR	Downgrade
'AAA'	30,053	9.64	5.95	3.20	2.33	1.39	1.67	3.76	1.40	0.00	7.81	62.85	72.49	27.51
'AA'	25,432	1.52	10.84	3.48	2.67	3.10	3.70	6.34	4.33	0.02	25.60	38.39	50.75	49.25
'A'	24,836	0.66	1.97	11.23	2.92	2.19	2.96	6.66	5.29	0.00	30.13	35.99	49.85	50.15
'BBB'	23,728	0.17	0.64	1.29	8.74	2.54	2.84	4.88	6.28	0.00	41.50	31.13	41.97	58.03
'BB'	9,854	0.05	0.25	0.39	0.78	8.79	4.52	5.76	5.18	0.00	48.71	25.57	35.83	64.17
'B'	5,005	0.00	0.06	0.06	0.20	0.58	5.67	4.30	5.61	0.00	61.46	22.06	28.63	71.37
'CCC'	177	0.00	0.00	0.00	0.00	0.00	0.56	7.34	1.13	0.00	58.76	32.20	40.11	59.89
'CC'	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	33.33	50.00	66.67	33.33
'C'	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes: AAA ratings from the same transaction are treated as a single rating in the calculation of this table. Full rating categories are used when determining rating transitions such as upgrades and downgrades. Source: Standard & Poor's Ratings Services.

The Highest Ratio Of Upgrades Was On CLOs And REATs

From 2003 to 2012, collateralized loan obligations [CLOs, denoted in table 8 as "collateralized debt obligation cash flow CLO" (CDO Cash Flow CLO)] had the highest upgrade ratio of 79%, followed by real estate asset trusts [REATs, denoted as commercial mortgage-backed securities ("CMBS"), 67%]. The positive rating movements of CLOs were due to their quick accumulation of credit enhancements on the notes' sequential pay-down. The REAT upgrades were generally due to the transactions' robust tenant performance, even during times of economic stress, and the pickup of properties values.

The rating performance of asset-backed securities (ABS) and real estate mortgage-backed securities (RMBS) had a higher rating stability ratio than other asset types, meaning less upgrades and downgrades during the observation period. This was mainly due to the generally stable asset performance of these asset types, despite rising economic uncertainty and capital market volatility in recent years. The more-diversified pool nature of these asset types also helped to reduce the impact of individual asset performances on portfolio credit quality.

Collateralized bond obligations [CBOs, denoted as "collateralized debt obligation cash flow CBO" (CDO Cash Flow CBO)] had more diverse rating transitions during the study period, which can be attributed to their gradually increasing reliance on a small pool of obligors and counterparties following repayments of most of their underlying bonds. Such a lumpy asset portfolio makes CBO transactions more susceptible to rating changes on a single obligor or key counterparty.

From 2003 to 2012, there were four defaults out of the 87 long-term ratings we assigned, representing a 4.60% default rate. All defaults came from the CDO-Squared sector (denoted as "CDO Cash Flow CDO of CDO"). The negative ratings movements mainly reflected the credit quality deterioration of referenced global corporate obligors during 2008-2009.

Table 8

Taiwan Ratings' Original-to-Current Structured Finance Rating Transition (%) by Asset Type, 2003 - 2012

Asset type	Beginning no. of ratings	Stable	Upgrade	Downgrade	Default
ABS Commercial Other	1	100.00	0.00	0.00	0.00
ABS Consumer Other	1	100.00	0.00	0.00	0.00
ABS Equipment	6	83.33	16.67	0.00	0.00
CDO Cash Flow CBO	19	42.11	47.37	10.53	0.00
CDO Cash Flow CDO of CDO	9	11.11	0.00	88.89	44.44
CDO Cash Flow CLO	33	21.21	78.79	0.00	0.00
CDO Other	2	100.00	0.00	0.00	0.00
CMBS	6	33.33	66.67	0.00	0.00
RMBS Prime Jumbo	10	70.00	30.00	0.00	0.00
Total	87	39.08	49.43	11.49	4.60

Notes: Stable includes withdrawn ratings due to redemptions, for which the rating before withdrawal was the same as the initially assigned. Downgrade rate includes defaults. Rating modifiers (+ and -) are used when determining rating transitions such as upgrades and downgrades. Source: Taiwan Ratings Corp.

Subsectors' original-to-current rating transition rates varied by issuance year (the vintage, see table 9). Most CDO-Squared transactions originated in 2005 and 2006, while CLO and CBO issuances spanned from 2003 to 2008, explaining the fluctuation of cumulative rating transitions in those years.

Table 9

Taiwan Ratings' Structured Finance Rating Transition (%) By Issuance (Vintage) Year 2003 - 2012

	Number of ratings	Stable	Upgrade	Downgrade	Default
2003	9	33.33	66.67	0.00	0.00
2004	18	44.44	55.56	0.00	0.00
2005	13	38.46	30.77	30.77	30.77
2006	15	33.33	40.00	26.67	0.00
2007	27	33.33	59.26	7.41	0.00
2008	1	0.00	100.00	0.00	0.00
2009	0	0.00	0.00	0.00	0.00
2010	2	100.00	0.00	0.00	0.00
2011	2	100.00	0.00	0.00	0.00
2012	0	0.00	0.00	0.00	0.00
Total	87	39.08	49.43	11.49	4.60

Notes: Stable includes withdrawn ratings due to redemptions, for which the rating before withdrawal was the same as the initially assigned. Downgrade rate includes defaults. Rating modifiers (+ and -) are used when determining rating transitions such as upgrades and downgrades. Source: Taiwan Ratings Corp.

Limited Observations From Short-Term Ratings

Taiwan Ratings has assigned five short-term ratings to securities issued in the commercial paper market. Among these, two were related to account receivables transactions, two related to CDO transactions collateralized by RMBS, and one to CDOs backed by corporate bonds.

The two short-term ratings on the CDO of RMBS transactions had moderate negative rating transitions during the recent financial crisis, because we lowered the rating from 'twA-2' to 'twA-3', before the securities were fully redeemed. In contrast, the other three short-term ratings remained unchanged before rating withdrawals on full redemption. There were no defaults among Taiwan Ratings short-term rated securities between 2003 and 2012.

Credit Deterioration Slowed For Global Structured Finance Securities In 2012

According to a study by Standard & Poor's, the credit quality of global structured finance securities fell for the sixth consecutive year in 2012, but the number of downgrades in 2012 was less pervasive than in previous years. Standard & Poor's lowered 32.3% of all structured finance ratings in 2012, down from 35.3% in 2011 and the percentage of classes upgraded rose to 9.2% in 2012 from 5.3% in 2011. Overall, global structured ratings declined by an average of 0.9 notches in 2012, less than the 1.4 notches in 2010 and 1.2 notches in 2011.

The performance of different asset sectors and regions continued to diverge in 2012. U.S. CLO and U.S. consumer ABS generally performed well, so did most structured finance securities in the Asia-Pacific region. The creditworthiness of U.S. housing-market related sectors, most CMBS worldwide, and CDOs backed by RMBS continued to decline in 2012. However, Standard & Poor's noted that the rating transition in recent years represents the combination of criteria updates and adverse transaction credit performance. This means that such rating transition may be less indicative of credit trends than in previous periods when credit performance primarily drove the rating changes.

Standard & Poor's expects global structured finance securities to have fewer rating transitions and increased credit stability in 2013, amid marginally improving global economic prospects and easing risks. The improving global credit conditions could also help support structured finance credit stability, although moderate rating volatility could still occur because structured finance collateral performance usually lags behind the overall economy.

In 2012, 71.2% of global structured securities rated 'AAA' by Standard & Poor's remained at 'AAA' or were paid off in full, and none defaulted, down from 0.16% a year earlier. ABS had a 74.9% stability rate for 'AAA' rated securities in 2012, compared with 94.1% for CDOs, 97.5% for CMBS, and 61.0% for RMBS in the same period.

It should again be noted that the comparison of rating transition and default rates in Taiwan's structured finance securities to Standard & Poor's global results may not be so meaningful due to data limitations. There are many differences in assumptions and data between Taiwan and the

global studies, particularly the different rating scales used, which prevent meaningful comparison. Other limitations include the small number of ratings and the short time frame, as well as the concentration of issuance on particular asset types, and the limited default events in Taiwan Ratings study.

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Related Criteria And Research

- **Taiwan Ratings Corp.'s 2012 Corporate Default And Rating Transition Study**, www.taiwanratings.com, April 30, 2013
- **Default Study: Global Structured Finance Default Study, 1978-2012: A Defining Moment For Credit Performance Stability**, March 30, 2013
- **Industry Credit Outlook: Taiwan's Structured Finance Sector Outlook Remains Stable For 2013**, www.taiwanratings.com, Jan. 10, 2013
- **2012 Ratings Roundup Report**, www.taiwanratings.com, Dec. 27, 2012
- **Asia-Pacific Credit Outlook 2013: Structured Finance Ratings Likely To Remain Stable Despite Risks**, Dec. 19, 2012
- **Understanding Taiwan Ratings Rating Definitions**, www.taiwanratings.com, Aug.6, 2010
- **Glossary Of Taiwan Securitization Terms**, www.taiwanratings.com, April 30,2010

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APPENDIX: Methodology And Terminology

This section provides a detailed discussion of Taiwan Ratings' rating transition and default methodology. It also explains the study's terminology, including definitions of transition windows, rating modifiers versus full-rating categories, and the treatment of rating withdrawals.

Rating transition

The rating transition of a single static pool (cohort approach) is based on the rating of each security at the beginning and end of the observed transition window. For instance, we calculated the transition rates by determining the ratings of each security at the beginning and end of the period. We then tabulated these ratings in a two-dimensional table to calculate the percentage of ratings that stayed the same and the percentage of ratings that changed. During this process, we count every security only once, even if it had more than one rating change during the period. In other words, we use the rating on a security on the first day of the period and the last day of the period to calculate the transition rates, while disregarding the interim rating changes.

Weighted average transition

For weighted average transition rates, we calculate the individual transition rates of static pools as described earlier. We then create a single averaged matrix weighted by the number of ratings in each static pool.

Transition window

A transition window refers to a defined period in which we observe the rating transition for a given security. For example, the 2012 performance transition window starts on Jan. 1, 2012 and ends on Dec. 31, 2012. Transition windows for historical data also follow annual windows, running from January 1 to December 31 of the same year.

Rating modifiers

We use rating modifiers ("+" and "-") to calculate the upgrade and downgrade percentages, as well as the magnitude of rating changes throughout this study. However, some transition tables may use full rating categories for practical reasons. In other words, the use of a full rating category suggests that transitions from, for example, 'twAA' to 'twAA-' or from 'twBBB+' to 'twBBB-' are not considered as rating transitions because the rating remained within the full rating category.

Rating withdrawal

A security with a withdrawn rating at the beginning of a transition window is not included in the transition and default rate calculations for that period.

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