

Default, Transition, and Recovery:

# 2023 Annual Taiwan Structured Finance Default And Rating Transition Study

March 28, 2024

## Key Takeaways

- There were no rating actions among Taiwan structured finance ratings in 2023.
- Among the 95 ratings assigned since the start of 2003, there have been five defaults, making the overall lifetime default rate 5.3%.
- The lifetime upgrade rate is 47.4%, and the lifetime downgrade rate is 11.6%.

The credit quality of structured finance securities rated by Taiwan Ratings Corp. remained stable in 2023, given there were no rating actions across the four tranches from two deals with outstanding ratings at the start of the year.

This S&P Global Ratings Credit Research & Insights study documents default and transition rates for structured finance securities--also referred to as securitization notes or tranches--rated by Taiwan Ratings Corp. The study covers 95 long-term ratings from 32 Taiwan-originated structured finance transactions that we rated since 2003.

The statistics presented in this study should not be generalized to draw conclusions about the credit performance of other new or existing structured finance transactions because of the relatively small number of securities included in this study, short time period, concentration on certain securitized collateral types, and limited number of defaults occurring during the review period. For these reasons, comparisons between this study and other similar studies may be misleading.

## Muted Rating Activity In 2023

Of the four ratings outstanding as of Jan. 1, 2023, two remained stable through the year while the other two migrated to not rated (NR) due to redemption (see table 1).

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Table 1

**Taiwan Ratings' structured finance rating transitions, 2023 (%)**

From/to	Beginning no. of ratings	twAAA	twAA	twA	twBBB	twBB	twB	twCCC	twCC	twC	D	NR
twAAA	2	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
twAA	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
twA	1	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
twBBB	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twBB	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twB	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twCCC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twCC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NR--Not rated. N/A--Not applicable. Source: S&P Global Ratings Credit Research & Insights.

All four outstanding ratings at the start of 2023 were in the asset-backed securities (ABS) sector (see table 2). The diversity in outstanding collateral has contracted over the past decade. In previous years, outstanding ratings in Taiwan were originated within the ABS commercial sector, as well as ABS equipment, prime residential mortgage-backed securities (RMBS) and structured credit (SC) cash flow corporate bonds.

Table 2

**Taiwan Ratings' structured finance transition and default summary, 2023**

**By asset class**

Asset class	Ratings (no.)	Stable (%)	Upgrades (%)	Downgrades* (%)	Defaults (%)
ABS Other	4	100	0	0	0
Overall	4	100	0	0	0

\*Including defaults. Securities whose ratings migrated to 'NR' over the period are classified based on their rating prior to 'NR'. ABS--Asset-backed securities. Source: S&P Global Ratings Credit Research & Insights.

**Stability Correlated With Ratings Over Time**

Considering a longer time frame, we calculated the one-year weighted-average rating transition matrix. For weighted-average transitions, we calculated the individual transition rates of different static pools of ratings outstanding at the beginning of each calendar year from 2004 to 2023. We then created a single averaged matrix, weighted by the number of ratings in each static pool. On this basis, Taiwan structured finance ratings have maintained high one-year rates of upgrade, stability, or withdrawal across most rating categories, on average, compared to downgrades and defaults (see table 3).

Table 3

**Taiwan Ratings' structured finance rating transitions, one-year weighted-average, 2004-2023 (%)**

From/to	twAAA	twAA	twA	twBBB	twBB	twB	twCCC	twCC	twC	D	NR
twAAA	64.29	2.68	0.89	0.00	0.00	0.00	0.89	0.00	0.00	0.00	31.25
twAA	8.86	56.96	0.00	0.00	1.27	0.00	2.53	0.00	0.00	1.27	29.11
twA	6.60	11.32	60.38	0.00	0.00	0.00	0.94	0.94	0.00	0.00	19.81
twBBB	2.74	2.74	15.07	67.12	0.00	0.00	1.37	1.37	0.00	0.00	9.59
twBB	0.00	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
twB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twCCC	0.00	0.00	0.00	11.11	0.00	0.00	44.44	0.00	0.00	22.22	22.22
twCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
twC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NR--Not rated. N/A--Not applicable. Source: S&P Global Ratings Credit Research & Insights.

The one-year average stability rate (the proportion of ratings unchanged in the year and averaged across the calendar years from 2004 to 2023) indicates higher ratings tend to have more ratings stability (see table 4).

Table 4

**Taiwan Ratings' structured finance rating transition rates, one-year weighted-average, 2004-2023 (%)**

**By rating category**

	Stable (%)	Upgrades (%)	Downgrades* (%)	Defaults (%)
twAAA	95.54	0.00	4.46	0.00
twAA	79.75	13.92	6.33	1.27
twA	76.42	21.70	1.89	0.00
twBBB	68.49	28.77	2.74	0.00
twBB	0.00	100.00	0.00	0.00
twB	N/A	N/A	N/A	N/A
twCCC	33.33	22.22	44.44	22.22
twCC	0.00	0.00	100.00	100.00
twC	N/A	N/A	N/A	N/A

\*Including defaults. Securities whose ratings migrated to 'NR' over the period are classified based on their rating prior to 'NR'. N/A--Not applicable. Source: S&P Global Ratings Credit Research & Insights.

We also calculate lifetime transition rates, where we take all the ratings we have assigned beginning in 2003 and consider their transition from the original rating date to the end of 2023. These lifetime transitions show a similar pattern to the one-year average transition rates shown in

table 4. From 2003 to 2023, among the 95 ratings we initially assigned, we subsequently raised, withdrew after full redemption, or made no changes to about 95%.

Table 5

**Taiwan Ratings' structured finance rating transitions, original-to-current, 2003-2023 (%)**

From/to	Original no. of ratings	twAAA	twAA	twA	twBBB	twBB	twB	twCCC	twCC	twC	D	NR
twAAA	25	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	92.00
twAA	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	94.12
twA	30	0.00	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	6.67	90.00
twBBB	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	95.45
twBB	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
twB	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twCCC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twCC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
twC	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NR--Not rated. N/A--Not applicable. Source: S&P Global Ratings Credit Research & Insights.

**CLOs And CMBS Have Recorded The Most Life Upgrades**

The overall lifetime default rate of our Taiwan structured finance ratings remained at 5.3% in 2023, given muted rating activity coupled with no new securities being rated in 2023 (see table 6). There have been five defaults within two transactions spanning 2003 through 2023.

The differences between default rates at each rating category are relatively minor, and there is no clear pattern showing that higher ratings have shown a lower default rate. However, this is likely due to the limited number of defaults and small sample sizes.

SC corporate loan collateralized loan obligations (CLOs) have the highest lifetime upgrade rate of 78.8%, followed by commercial mortgage-backed securities (CMBS), with a lifetime upgrade rate of 66.7%.

Table 6

**Taiwan Ratings' structured finance transition and default summary, original-to-current, 2003-2023**

By asset class

Asset class	Ratings (no.)	Stable (%)	Upgrades (%)	Downgrades* (%)	Defaults (%)
ABS Commercial Other	1	100.0	0.0	0.0	0.0
ABS Consumer Other	1	100.0	0.0	0.0	0.0
ABS Equipment	6	50.0	50.0	0.0	0.0
ABS Other	8	87.5	12.5	0.0	0.0
CMBS Other	6	33.3	66.7	0.0	0.0

RMBS Prime	10	70.0	30.0	0.0	0.0
SC Cash Flow CDO of CDO	9	11.1	0.0	88.9	44.4
SC Cash Flow Corporate Bond CBO	19	42.1	42.1	15.8	5.3
SC Cash Flow Corporate Loan CLO	33	21.2	78.8	0.0	0.0
SC Other	2	100.0	0.0	0.0	0.0
Overall	95	41.1	47.4	11.6	5.3

\*Including defaults. Securities whose ratings migrated to 'NR' over the period are classified based on their rating prior to 'NR'. Source: S&P Global Ratings Credit Research & Insights.

The upgrades of CLOs were because of the quick accumulation of credit enhancement on the notes' sequential-pay structure within the sector. The CMBS upgrades were generally owing to the transactions' robust tenant performance, even during times of economic stress, and the increase in properties values.

The ABS and RMBS sectors had higher rating stability rates than most other asset classes, meaning fewer upgrades and downgrades over their lifetimes. This has primarily been because of stable collateral performance, despite some economic uncertainty and capital market volatility in recent years. The more diversified collateral pools in these asset classes also helped to reduce the impact of individual asset performance on portfolio credit quality.

The highest lifetime downgrade rate, including defaults, belongs to the SC Cash Flow Collateralized Debt Obligation (CDO) of CDO at 88.9%.

From 2003 to 2023, there were five defaults across two transactions out of the 95 long-term ratings we assigned, translating into a 5.3% default rate overall. The SC Cash Flow CDO of CDOs subsector has the highest lifetime default rate of 44.4%, while the SC Cash Flow Corporate Bond CBO subsector has a default rate of 5.3%. We attribute the weaker credit performance of these subsectors largely to the credit quality deterioration of referenced global corporate obligors during 2008 and 2009.

Subsectors' rating transition rates varied by vintage year, the year the transaction was issued (see table 7). Most transactions were originated in 2007, 2004, and 2006 (62% of ratings), and a majority of the defaults were in a single 2005 vintage transaction. The default of the only origination in 2008 of a SC corporate bond CBO makes it the only vintage with a 100% default rate.

Table 7

**Taiwan Ratings Corp. Structured Finance Transition And Default Summary, Original-To-Current, 2003-2023**

By vintage

Vintage	Ratings (no.)	Stable (%)	Upgrades (%)	Downgrades (%)*	Defaults (%)
2003	9	33.33	66.67	0.00	0.00
2004	17	41.18	58.82	0.00	0.00
2005	10	40.00	20.00	40.00	40.00
2006	16	37.50	37.50	25.00	0.00

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2007	26	30.77	61.54	7.69	0.00
2008	1	0.00	0.00	100.00	100.00
2009	3	33.33	66.67	0.00	0.00
2010	3	66.67	33.33	0.00	0.00
2011	2	50.00	50.00	0.00	0.00
2012	0	N/A	N/A	N/A	N/A
2013	0	N/A	N/A	N/A	N/A
2014	2	100.00	0.00	0.00	0.00
2015	0	N/A	N/A	N/A	N/A
2016	2	100.00	0.00	0.00	0.00
2017	0	N/A	N/A	N/A	N/A
2018	0	N/A	N/A	N/A	N/A
2019	2	50.00	50.00	0.00	0.00
2020	0	N/A	N/A	N/A	N/A
2021	0	N/A	N/A	N/A	N/A
2022	2	100.00	0.00	0.00	0.00
2023	0	N/A	N/A	N/A	N/A
Overall	95	41.05	47.37	11.58	5.26

\*Including defaults. Securities whose ratings migrated to 'NR' over the period are classified based on their rating prior to 'NR'. N/A-- Not applicable. Source: S&P Global Ratings Credit Research & Insights.

## Related Criteria

- General Criteria: National And Regional Scale Credit Ratings Methodology, June 8, 2023

## Related Research

- 2024 Taiwan Credit Outlook: Tech Demand To Determine Pace Of Recovery, Dec. 14, 2023
- Asia-Pacific Corporate Credit in 2024: Taking The Slow Road, [www.capitaliq.com](http://www.capitaliq.com), Jan. 30, 2024
- Asia-Pacific Sovereign Rating Trends 2024: Geopolitics Continue To Cloud Outlook, [www.capitaliq.com](http://www.capitaliq.com), Dec. 14, 2023
- Economic Outlook Asia-Pacific Q1 2024: Emerging Markets Lead The Way, [www.capitaliq.com](http://www.capitaliq.com), Nov. 26, 2023
- 2022 Annual Taiwan Ratings Corp. Structured Finance Default And Rating Transition Study, April 26, 2023
- Ratings On Taiwan Affirmed At 'AA+/A-1+'; Outlook Stable, [www.capitaliq.com](http://www.capitaliq.com), April 26, 2023
- Taiwan Ratings' Ratings Definitions, Nov. 11, 2021
- Glossary Of Taiwan Securitization Terms, April 30, 2010

## **Appendix: Terminology, Data Selection, And Calculation Approaches**

This Appendix discusses the data and calculations and explains the terminology we use in this report.

### **Issues included in this study**

The study analyzes the rating histories of 95 Taiwan structured finance instruments that Taiwan Ratings Corp. first rated between 2003 and Dec. 31, 2023. The term "structured finance" in this report refers to ABS, CMBS, residential mortgage-backed securities (RMBS), structured credit, and single-name synthetic transactions. For some analyses, we break down these sectors further into subsectors.

### **Vintage definition**

In this report, we classify securities' vintages based on the date on which we first assigned a rating. Usually this is close to the security's original issuance date. However, in some cases, we may first assign a rating to a security sometime after closing.

### **Rating transitions**

Our rating transition statistics use a "static pool" approach. To calculate the transition statistics over a given time period (or "transition window"), we consider the static pool of ratings outstanding at the beginning of that time period. The transition statistics for that static pool of ratings are then based on the movements in ratings between the start and end of the transition window.

For instance, we calculate the 2023 transition rates by determining the ratings on each security outstanding at the start of 2023 and determining the ratings on those same securities at the end of 2023. For "original-to-current" transitions, we give each rating under consideration its own transition window, from the date we originally assigned a rating to the end of 2023. We then calculate statistics such as upgrade, downgrade, and stability rates, equivalent to the proportion of securities in the static pool whose ratings moved up, down, or remained the same respectively over the transition window.

During this process, we count each security only once, even if the security experienced more than one rating change during the transition window being observed. In other words, we use the rating on a security at the start and end of the transition window to calculate the transition rates, disregarding any interim rating changes.

### **Rating modifiers**

We use rating modifiers ('+' and '-') to calculate the upgrade, downgrade, and stability rates quoted in the text, tables, and charts throughout this study. However, the transition matrices in this report show only the less granular full rating categories for practical reasons. In other words, we count transitions such as 'twAA' to 'twAA+' as an upgrade and 'twBBB+' to 'twBBB-' as a downgrade, in the transition statistics we cite in this report. However, in the transition matrices, these transitions would appear in the cells corresponding to a stable rating category classification, such as 'twAA' to 'twAA', or 'twBBB' to 'twBBB'.

### **Rating discontinuance or withdrawal**

We may discontinue ratings when, for example, a rated obligation's payments have been made in full in accordance with its terms or when a rated issue matures. Ratings may also be withdrawn, for example, because of a lack of sufficient information of satisfactory quality or at the issuer's request. In these cases, the rating may change to 'NR' (not rated).

When we withdraw or discontinue ratings within the transition window under consideration, we may either derive our reported statistics by classifying the rating transition as a move to 'NR' (the "NR-included" approach), or--for some other analyses--we may classify the transition as a move to the last "non-NR" rating before withdrawal or discontinuance (the "NR-adjusted" approach). In the text of this report, when we refer to upgrade and downgrade rates, for example, we use the latter approach. In the tables and charts, we clarify the approach used in the footnotes. We do not include a security with a withdrawn rating at the beginning of a transition window in the transition and default rate calculations for that period.

### **Treatment of 'D' ratings**

Counts of defaults and default rate statistics in this report are based on securities whose ratings we lowered to 'D'. For the purposes of this report, when the rating on a security has moved to 'D', we consider this a terminal state and do not, for example, include such a security in any transition windows that start on a subsequent date.

In practice, however, some securities whose ratings have migrated to 'D' may later once again be assigned a different rating. This can occur, for example, if the defaulted security is subsequently restructured to different terms, such as a lower coupon. In these cases, we treat the security's post-default rating history as if it were a new security, beginning from the date that the rating changed from 'D'. Where we segment statistics by vintage, however, we continue to base the vintage on the date we originally assigned a rating to the security.

### **Weighted-average transition and default rate calculation**

For weighted-average transition rates (including default rates), we calculate the individual transition rates for different static pools. We then calculate a single averaged transition rate, weighted by the number of ratings in each static pool. We use this technique, for example, to determine the one-year weighted-average transition rates by analyzing different static pools over different one-year periods and aggregating.

This report does not constitute a rating action.



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