

SECTOR IN-DEPTH

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Asian high-yield non-financial corporates

Default rate in 2019 will stay low but risks are rising

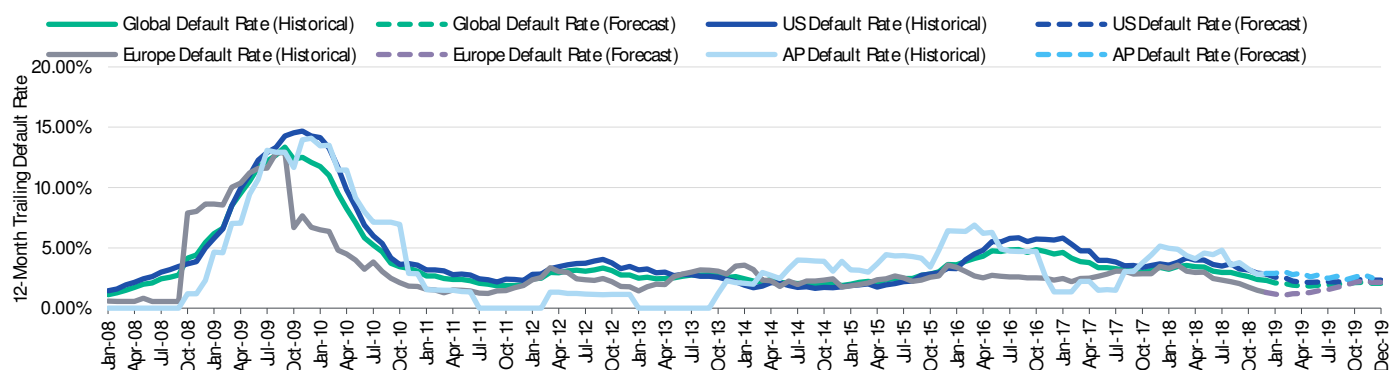
Summary

- » **We expect the Asian high-yield non-financial corporate default rate to stay low in 2019.** Moody's Credit Transition Model (CTM) forecasts that the trailing 12-month high-yield corporate default rate for Asia will be 2.5% at the end of 2019, similar to the 2018 default rate of 2.9%. The low default estimate reflects our expectation that the global economy will continue to grow, although at a decelerating pace, and that normalization of monetary policy will be at a measured pace.
- » **Slowing global economic growth and the US-China trade dispute add uncertainty to credit outlook.** Monetary policy normalization, protective trade policies and slowing demand from China will weigh on global economic growth in 2019, which will provide less support to revenue growth in most sectors compared to 2018. Meanwhile, we expect that the bilateral trade talks between the US and China will be long. The tensions will affect investor sentiment in 2019, which adds uncertainty for capital markets and the operating environment of some corporate sectors.
- » **Asian companies will face tighter credit conditions in 2019.** As global financial conditions tighten, although more slowly than last year, companies in Asia will face increasing refinancing costs and highly levered companies will be more vulnerable. In China, we believe the recent easing measures should alleviate refinancing pressure for corporates with better credit quality but weaker issuers will remain exposed to default risk because market sentiment has not changed toward them.
- » **The Asian trailing 12-month non-financial high-yield corporate default rate was 2.9% at the end of 2018,** lower than the 5.2% at the end of 2017. There were five defaults in 2018 compared to seven in 2017. Three out of the five defaults were Chinese companies. The default rate for Asian corporates was similar to the global rate of 2.3% and 2.8% for the US, while higher than the 1.3% in Europe.

Asian non-financial companies' high-yield default rate will remain low in 2019

Exhibit 1

Trailing 12-month Asian non-financial corporate high-yield default rate (January 2008 — December 2018)



Source: Moody's Investors Service

Moody's Credit Transition Model (CTM) forecasts that the high-yield corporate default rate for Asia in 2019 will remain low at 2.5%. This translates to about five potential defaulters in 2019.

Our forecast is based on two assumptions: i) the average US high-yield spread will be 533 basis points in 2019, higher than the 370 basis points in 2018, and ii) the GDP weighted average unemployment rate in Asia in 2019 will be unchanged from 2018 at 3.9%.

The low default estimate also reflects our expectation of continued, though moderating, global economic growth and corporate earnings, and that the normalization of monetary policies by central banks will progress in a gradual and measured pace.

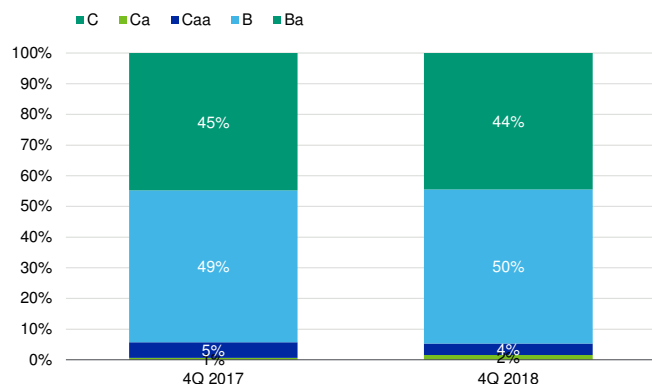
The average rating of the portfolio stayed at B1 at the end of December 2018, the same level as the end of December 2017. The share of ratings with a positive outlook increased to 12% at the end of December 2018 from 7% at the end of December 2017. As a result, the share of ratings with a stable outlook dropped to 70% from 73%, while the share of ratings with a negative outlook fell to 16% from 20%.

There was no notable change in the rating distribution in the past 12 months. The share of B-rated issuers of the speculative-grade portfolio remained stable during the period at 50% at the end of December 2018 compared to 49% at the end of December 2017.

Of the 20 non-financial corporates rated B3 or below (excluding defaulted issuers) at the end of December 2018, property developers (five) and technology companies (four) accounted for nine of them.

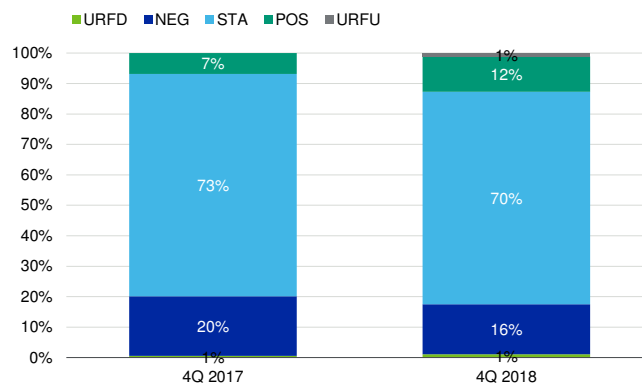
This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Exhibit 2

Rating Distribution of Speculative-Grade Portfolio 4Q 2017 vs 4Q 2018

Source: Moody's Investors Service

Exhibit 3

Outlook Distribution of Speculative-Grade Portfolio 4Q 2017 vs 4Q 2018

Source: Moody's Investors Service

Our Asian high-yield corporates default estimate is similar to the global high-yield corporates default forecast in 2019. Our CTM forecasts that the global HY corporates default rate will be 2.1% at the end of 2019 compared to 2.3% at the end of 2018. By region, we expect the US default rate to be 2.3%, compared to 2.8% at the end of 2018, while we expect the European rate to be around 2.1%, up from 1.3%.

Slowing global economic growth and the US-China trade dispute add uncertainty to the credit outlook

We expect economic growth to decelerate in advanced and emerging markets in 2019, which will provide less support to revenue growth in most sectors compared to 2018. Slower demand from China, higher oil prices and tightening monetary policy resulting in a gradual rise in funding costs will weigh on corporates' profit margins and undermine their financial and credit profiles.

The US-China trade dispute adds further uncertainty to the credit outlook. Although bilateral trade talks between the two countries are in progress, we expect that the negotiations will be long. The tensions between the world's two largest economies will create uncertainty around companies' investment decisions, moderation of global trade flows and likely shifts in supply chains, leading to more adverse consequences for global growth and increase in financial market volatility.

Asian non-financial corporates will face tighter credit conditions in 2019

We expect global financial conditions will continue to tighten in 2019 as monetary policy normalization proceeds in advanced economies, but more slowly than last year in view of slowing economic expansion across major economies. As liquidity tightens and currency pressures continue, most emerging market central banks will be compelled to follow tighter monetary policy. As a result, we believe companies in Asia will face tighter credit conditions in 2019 with increasing refinancing costs, and highly levered companies will be more vulnerable.

The policy stance of the US Federal Open Market Committee appeared to have softened since December last year and there is some evidence of concern about maintaining steady growth in the US as fiscal stimulus wears off. We expect that the Federal Reserve to raise the federal funds rate at most two times this year while the European Central Bank is to start increasing the interest rate on the deposit facility as well as refinancing rate only in 2020 instead of in the second half of 2019. The Bank of Japan has indicated that it will maintain short-term and long-term rates close to current lows for an extended period, with the short-term rate at minus 0.1% and the target 10-year bond yield at zero percent. As a result, global interest rates will rise more slowly this year compared with last year.

In China, after a series of regulatory reforms and monetary tightening measures to slow down credit growth and fend off financial risks, the central bank has pledged to maintain its "prudent and neutral" monetary policy and to use multiple tools to keep liquidity adequate as China's slowing economy faces increasing pressure from the US-China trade dispute. Since June 2018, China's government has launched several measures to ease financial and monetary conditions, including injecting liquidity into the banking system

and encouraging financial institutions to provide financing for fundamentally sound private-owned enterprises (POEs) and public infrastructure projects to maintain economic growth.

We believe the Chinese government's easing measures will help Chinese non-financial corporates improve their credit quality and refinance their debts. However, weaker issuers still face rising borrowing costs and growing refinancing risk as market sentiment has not changed toward these companies.

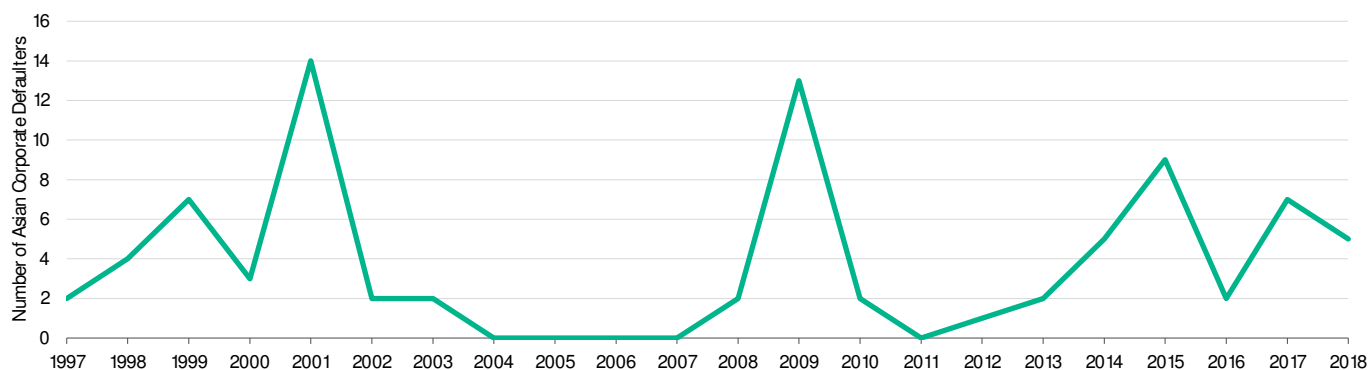
Other Asian countries are also exposed to the risk of capital outflows, prompting a more significant tightening of financial conditions. Within the region, the currencies of India, Indonesia and the Philippines depreciated the most in 2018 against the USD and the respective central banks have increased policy rates and intervened in the currency markets as a result.

2018 Asian high-yield corporate default rate was low at 2.9%

The trailing 12-month high-yield default rate for Asian non-financial corporates at the end of 2018 was 2.9%, lower than the 5.2% at the end of 2017. There were five rated defaults recorded in 2018 compared to seven in 2017. Three out of the five defaulters were Chinese companies, the highest number since 2015. The default risk for Chinese non-financial corporates is rising, given our expectations of softening economic growth in 2019 and tighter availability of credit. We forecast China's economic growth to slow to 6% in 2019 following an estimated 6.6% growth in 2018, driven by potential external trade shocks and the resultant effect from deleveraging measures, but only partly offset by the recent monetary and fiscal measures by the authorities.

Exhibit: 4

Number of Asian high-yield rated company defaults, 1997 to December 2018



Source: Moody's Investors Service

Noble Group Limited (Ratings withdrawn): In March 2018, the company decided not to repay its \$379 million bond at maturity during its discussions with creditors to restructure its debt, which involved converting half its debt to equity.

MNC Investama Tbk. (P.T.) (B3 negative): In April 2018, the company announced an exchange offer as it does not have sufficient funds on its balance sheet to repay its maturing \$365 million senior secured notes due on 16 May 2018. The transaction was completed in May 2018 and we assessed it as comprising a distressed exchange and a default due to the extension of the maturity date beyond its initial terms as well as the conversion of a portion of the notes into subordinated debt and ultimately equity.

Wuzhou International Holdings Limited (Ratings withdrawn): The company failed to fulfill the redemption obligations of its convertible notes with principal amount of \$100 million due 6 July 2018. Besides, the company announced that the event of default under the note debenture for its \$300 million senior notes dated 26 September 2013 was triggered because the company defaulted on principal repayments to certain creditors. This was followed by its failure to make payment for its \$300 million senior notes due September 2018.

Huachen Energy Co., Ltd. (Ca negative): On 12 November 2018, the company announced it had discussed with Xiamen International Bank the possible extension of the maturity date of a loan with a principal amount of RMB48 million due on 20 September 2018. However, the company stated that the loan extension procedures were not completed on time by the bank, which led to its default on the loan.

Reward Science and Tech. Industry Grp. Co Ltd (Ratings withdrawn): The company announced default on its domestic commercial paper issued in 2017, due on 6 December 2018, and the default amount totaled RMB322.5 million. This event is likely to trigger cross default on its US-dollar senior unsecured notes.

Recovery rate

At the end of December 2018, the trailing 12-month average recovery rate for senior secured obligations of the Asian defaulters was 69.8%, higher than the global average, while that for senior unsecured obligations was 45.4%, similar to the global average.

One caveat is that the average recovery rate in Asia can easily be skewed by a few exceptionally high or low figures because the number of defaulters is relatively small compared with the global number.

Exhibit 5

Defaulted bond recovery rates in Asia-Pacific and globally, 1 January 2018-31 December 2018

Type	Asia Pacific	Global
Senior Secured: First Lien (Percentage and Number of Recoveries)	69.8 (2)	56.8 (26)
Senior Unsecured (Percentage and Number of Recoveries)	45.4 (3)	48.8 (52)
Subordinated (Percentage and Number of Recoveries)	NA	45.6 (7)

Source: Moody's Investors Service

Rating transition

Multi-notch movements, fallen angels and rising stars

In 2018, 84% of ratings for Moody's-rated corporates in Asia were unchanged, 13% were changed by one notch and 3% were changed by more than one notch. These results translated to 17 corporates experiencing multi-notch rating movements.

During 2018, three companies' ratings were moved to non-investment grade from investment grade: [Lippo Malls Indonesia Retail Trust](#) (ratings withdrawn), [Nippon Yusen Kabushiki Kaisha](#) (Ba1 stable) and [Zhuzhou City Construction Dev. Group Co Ltd](#) (Ba1 stable). The moves were driven, respectively, by weakened financial metrics, elevated debt leverage and our reassessment of potential lowering of government support to some LGFVs.

Three companies — [Nexteer Automotive Group Limited](#) (Baa3 stable), [BlueScope Steel Ltd.](#) (Baa3 stable) and [XL Axiata Tbk \(P.T.\)](#) (Baa3 stable) — were moved to investment grade from non-investment grade, driven by their strengthened financial and business profiles as a result of improved operating performance.

Rating transition of Asia-Pacific companies

Exhibit 6 shows the one-year historical rating migration rates for Asia-Pacific corporates between 1 January 2018 and 31 December 2018. The data show the weighted-average proportion of issuers that held the column ratings at the beginning of 1 January 2018, with a given row rating at 31 December 2018.

Exhibit 6

One-year rating migration rates for Asian non-financial companies, 1 January 2018-31 December 2018

From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Def
Aaa	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50%	-
Aa1	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa2	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa3	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A1	-	-	-	4%	85%	7%	-	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	2%	-
A2	-	-	-	-	1%	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3%	-
A3	-	-	-	-	2%	10%	87%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2%	-
Baa1	-	-	-	-	-	1%	5%	85%	2%	-	-	-	-	-	-	-	-	-	-	-	-	7%	-
Baa2	-	-	-	-	-	-	8%	79%	1%	-	-	-	-	-	-	-	-	-	-	-	-	11%	-
Baa3	-	-	-	-	-	-	-	17%	78%	2%	-	-	-	-	-	-	-	-	-	-	-	3%	-
Ba1	-	-	-	-	-	-	-	5%	11%	42%	11%	-	-	-	-	-	-	-	-	-	-	32%	-
Ba2	-	-	-	-	-	-	-	-	-	14%	64%	-	-	7%	-	-	-	-	-	-	-	14%	-
Ba3	-	-	-	-	-	-	-	-	-	-	10%	77%	3%	-	3%	3%	-	-	-	-	-	3%	-
B1	-	-	-	-	-	-	-	-	-	-	-	12%	59%	-	9%	68%	-	3%	-	-	-	18%	-
B2	-	-	-	-	-	-	-	-	-	-	-	-	9%	68%	-	5%	5%	-	-	-	-	9%	5%
B3	-	-	-	-	-	-	-	-	-	-	-	-	6%	19%	41%	6%	6%	-	3%	-	-	19%	-
Caa1	-	-	-	-	-	-	-	-	-	-	-	-	5%	5%	5%	73%	5%	-	-	-	-	9%	-
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9%	-	27%	36%	-	-	-	9%	18%
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33%	-	17%	-	-	-	33%	17%
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

The information in the rating transition table is based on Moody's senior rating tables (SRTs), which help in turn to derive a single senior unsecured rating history for every issuer. The senior unsecured rating can be notched off an issuer's ratings for other seniorities, if a senior unsecured rating is unavailable. An issuer is eligible to be included in the SRT if its debt (bond/loan) rating or corporate family rating is not externally backed.

Source: Moody's Investors Service

In 2018, Asian investment-grade non-financial corporate issuers displayed a generally high rating stability and overall they continued to be higher than speculative-grade issuers. Rating stability for Aa to Baa-rated companies was around or over 80% in 2018 and the rating stability for investment-grade corporates in Asia was similar to that for investment-grade companies globally.

Speculative-grade corporates' ratings were less stable than investment-grade companies with rating transition rates for Ba to B-rated issuers at around 40%-70%, which was also more volatile than issuers globally.

There was one large rating movement, a rating change to Baa2 from A1, for an investment-grade company during the year. [Takeda Pharmaceutical Company Limited](#) (Baa2 stable) was first downgraded to A2 from A1 in May 2018, prompted by its increased leverage, and it was further downgraded to Baa2 from A2 in December 2018 following a debt-funded acquisition, which caused its leverage to increase sixfold.

Exhibit 7

One-year rating migration rates for global non-financial companies, 1 January 2018-31 December 2018

From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Def
Aaa	85%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15%	-
Aa1	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa2	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa3	-	-	3%	82%	13%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3%	-
A1	-	-	-	5%	87%	3%	1%	-	1%	-	-	-	-	-	-	-	-	-	-	-	-	3%	-
A2	-	-	-	-	1%	94%	3%	1%	1%	-	-	-	-	-	-	-	-	-	-	-	-	2%	-
A3	-	-	-	-	0%	2%	81%	12%	1%	0%	-	-	-	-	-	-	-	-	-	-	-	3%	-
Baa1	-	-	-	-	-	0%	7%	84%	7%	1%	0%	-	-	-	-	-	-	-	-	-	-	2%	-
Baa2	-	-	-	-	-	-	-	9%	82%	5%	0%	-	-	-	-	-	-	-	-	-	-	4%	-
Baa3	-	-	-	-	-	-	-	0%	13%	79%	1%	2%	0%	-	-	-	0%	-	-	-	-	4%	-
Ba1	-	-	-	-	-	-	-	-	1%	15%	68%	8%	1%	1%	-	1%	-	-	-	-	-	7%	-
Ba2	-	-	-	-	-	-	-	-	-	4%	10%	70%	3%	2%	2%	-	-	-	-	-	-	9%	-
Ba3	-	-	-	-	-	-	-	-	-	1%	4%	9%	66%	3%	1%	3%	1%	-	0%	-	-	13%	-
B1	-	-	-	-	-	-	-	-	-	-	-	3%	8%	69%	5%	4%	0%	0%	-	-	-	10%	-
B2	-	-	-	-	-	-	-	-	-	-	-	-	3%	10%	64%	6%	2%	1%	1%	-	-	13%	2%
B3	-	-	-	-	-	-	-	-	-	-	-	-	1%	4%	8%	62%	7%	2%	0%	0%	-	15%	1%
Caa1	-	-	-	-	-	-	-	-	-	-	-	-	0%	1%	1%	5%	64%	10%	2%	0%	0%	15%	1%
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	2%	5%	68%	7%	1%	1%	16%	2%
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1%	3%	12%	45%	4%	2%	21%	12%
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5%	15%	35%	7%	11%	27%
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4%	4%	38%	19%	35%

Source: Moody's Investors Service

Rating transition of Chinese companies

Rating stability for most investment-grade Chinese corporates generally stayed around or in excess of 80% (except the Baa2 ratings) during 2018, which was higher than that of speculative-grade issuers. The speculative-grade companies in the Chinese portfolio exhibited a relatively low rating stability when compared with our Asian and global portfolios.

Exhibit 8

One-year rating migration rates for Chinese non-financial companies, 1 January 2018-31 December 2018

From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Def
Aaa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A1	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2	-	-	-	-	4%	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A3	-	-	-	-	4%	-	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baa1	-	-	-	-	-	3%	8%	79%	3%	-	-	-	-	-	-	-	-	-	-	-	-	8%	-
Baa2	-	-	-	-	-	-	-	7%	64%	4%	-	-	-	-	-	-	-	-	-	-	-	25%	-
Baa3	-	-	-	-	-	-	-	-	4%	86%	4%	-	-	-	-	-	-	-	-	-	-	7%	-
Ba1	-	-	-	-	-	-	-	-	-	14%	29%	-	-	-	-	-	-	-	-	-	-	57%	-
Ba2	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Ba3	-	-	-	-	-	-	-	-	-	-	8%	75%	-	-	-	8%	8%	-	-	-	-	-	-
B1	-	-	-	-	-	-	-	-	-	-	-	-	19%	56%	-	-	-	6%	-	-	-	19%	-
B2	-	-	-	-	-	-	-	-	-	-	-	-	-	18%	55%	-	9%	9%	-	-	-	-	9%
B3	-	-	-	-	-	-	-	-	-	-	-	-	-	5%	11%	47%	11%	5%	-	5%	-	16%	-
Caa1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13%	13%	50%	13%	-	-	-	13%	-
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20%	-	-	40%	-	-	-	40%
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Moody's Investors Service

Exhibit 9

One-year rating migration rates for Japanese non-financial companies, 1 January 2018-31 December 2018

From/To	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca	C	WR	Def
Aaa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aa3	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A1	-	-	-	-	67%	17%	-	-	17%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A2	-	-	-	-	-	91%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9%	-
A3	-	-	-	-	-	9%	91%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baa1	-	-	-	-	-	-	-	80%	-	-	-	-	-	-	-	-	-	-	-	-	-	20%	-
Baa2	-	-	-	-	-	-	-	40%	60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Baa3	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ba1	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-
Ba2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ba3	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-
B1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
B2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Caa1	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-
Caa2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Caa3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ca	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Moody's Investors Service

Appendix

Exhibit 10

List of issuers rated B3 or below at 31 December 2018

Issuer Name	Country	Industry	Corporate Family Ratings	Senior Unsecured	Senior Secured	Outlook
Lippo Karawaci Tbk (P.T.)	Indonesia	Property Developer	B3			NEG
STATS ChipPAC Pte. Ltd.	Singapore	Technology	B3		B3	NEG
Bumi Resources Tbk (P.T.)	Indonesia	Metals & Mining	B3			STA
Vinacomin Holding Corporation Limited	Vietnam	Metals & Mining	B3			STA
Parkson Retail Group Limited	China	Retailer	B3			STA
MNC Investama Tbk. (P.T.)*	Indonesia	Investment Mgt	B3		Caa1	NEG
Renhe Commercial Holdings Company Limited	China	Property Developer	B3			STA
iEnergizer Limited	India	Technology	B3			STA
Maoye International Holdings Ltd.	China	Retailer	B3			POS
Honghua Group Limited	China	Energy	B3	Caa1		NEG
Hydoo International Holding Limited	China	Property Developer	B3			NEG
Kangde Xin Composite Material Group Co., Ltd.	China	Manufacturing	B3			NEG
Yida China Holdings Limited	China	Property Developer	B3	Caa1		NEG
Jiangsu Nantong Sanjian Const. Grp. Co., Ltd.	China	Construction & Engineering	B3			NEG
LVGEM (China) Real Estate Investment Co. Ltd.	China	Property Developer	B3			STA
Tahoe Group Co., Ltd	China	Property Developer	B3			NEG
Toba Bara Sejahtera Tbk (P.T.)	Indonesia	Metals & Mining	B3			STA
HC Group Inc.	China	Technology	B3			STA
Noble Group Limited*	Hong Kong	Services: Business	Caa1	Ca		NEG
Pactera Technology International Ltd.	China	Technology	Caa1			NEG
Imperial Pacific International Holdings Ltd.	Hong Kong	Gaming	Caa1			NEG
GCX Limited	Singapore	Telecommunications	Caa1		Caa1	NEG
Panda Green Energy Group Limited	China	Energy	Caa1	Caa2		URFD
SAI Global Holdings II (Australia) Pty Ltd.	Aus/NZ	Services: Business	Caa1			NEG
Atlas Iron Limited	Aus/NZ	Metals & Mining	Caa2			URFU
Wuzhou International Holdings Limited*	China	Property Developer	Ca			NEG
Reward Science and Tech. Industry Grp. Co Ltd*	China	Consumer Products	Ca			NEG
Huachen Energy Co., Ltd.*	China	Utility	Ca	Ca		NEG

Issuers that defaulted over the last 12 months are denoted by *.

Source: Moody's Investors Service

Exhibit 11

List of fallen angels, 1 January 2018-31 December 2018

Issuer Name	Rating/Outlook on 31 December 2018	Rating/Outlook on 31 December 2017
1 Lippo Malls Indonesia Retail Trust*	WR/WR	Baa3/URFD
2 Zhuzhou City Construction Dev. Group Co Ltd	Ba1/STA	Baa3/STA
3 Nippon Yusen Kabushiki Kaisha	Ba1/STA	Baa3/NEG

*The company was downgraded to Ba1 negative from Baa3 RUR-down in March 2018 and the rating was withdrawn in April 2018

Source: Moody's Investors Service

Exhibit 12

List of rising stars, 1 January 2018-31 December 2018

Issuer Name	Rating/Outlook on 31 December 2018	Rating/Outlook on 31 December 2017
1 Nexteer Automotive Group Limited	Baa3/STA	Ba1/POS
2 BlueScope Steel Ltd.	Baa3/STA	Ba1/STA
3 XL Axiata Tbk (P.T.)	Baa3/STA	Ba1/POS

Source: Moody's Investors Service

Exhibit 13

Issuers with multi-notch movements, 1 January 2018-31 December 2018

Issuer Name	Country	Industry	Rating/Outlook on 31 December 2017	Rating/Outlook on 31 December 2018	Notch Movement
Toshiba Corporation	Japan	Manufacturing	Caa1 / STA	B1 / STA	3
MNC Investama Tbk. (P.T.)	Indonesia	Investment Mgt	Caa3 / NEG	B3 / NEG	3
Noble Group Limited	Hong Kong	Services: Business	Caa3 / NEG	Caa1 / NEG	2
Yingde Gases Group Company Limited	China	Chemicals	B3 / POS	B1 / STA	2
Emeco Holdings Limited	Aus/NZ	Metals & Mining	Caa1 / POS	B2 / POS	2
Guangzhou Metro Group Co., Ltd.	China	Transportation	A3 / STA	A1 / STA	2
Atlas Iron Limited	Aus/NZ	Metals & Mining	B3 / STA	Caa2 / URFU	-2
Lippo Karawaci Tbk (P.T.)	Indonesia	Property Developer	B1 / STA	B3 / NEG	-2
Tahoe Group Co., Ltd	China	Property Developer	B1 / NEG	B3 / NEG	-2
SAI Global Holdings II (Australia) Pty Ltd.	Aus/NZ	Services: Business	B2 / STA	Caa1 / NEG	-2
Panda Green Energy Group Limited	China	Energy	B1 / STA	Caa1 / URFD	-3
Wuzhou International Holdings Limited	China	Property Developer	Caa1 / NEG	Ca / NEG	-3
Kangde Xin Composite Material Group Co., Ltd.	China	Manufacturing	Ba3 / STA	B3 / NEG	-3
Dr. Peng Telecom & Media Group Co., Ltd.	China	Telecommunications	Ba2 / STA	B2 / NEG	-3
Reward Science and Tech. Industry Grp. Co Ltd	China	Consumer Products	B3 / NEG	Ca / NEG	-4
Takeda Pharmaceutical Company Limited	Japan	Pharmaceuticals	A1 / NEG	Baa2 / STA	-4
Huachen Energy Co., Ltd.	China	Utility	B1 / STA	Ca / NEG	-6

The exhibit above excludes withdrawn issuers during 2018.

Source: Moody's Investors Service

Exhibit 14

Recovery data per obligation for Asian bond defaulters, 1 January 2018-31 December 2018

Year	Issue Default Month	Company Name	Domain	Seniority	Default Type	Recovery
2018	3	Noble Group Limited	Hong Kong	Senior Unsecured	Missed principal payment	46
2018	4	Noble Group Limited	Hong Kong	Senior Unsecured	Missed principal payment	42.57
2018	5	MNC Investama Tbk. (P.T.)	Indonesia	Senior Secured: First Lien	Distressed exchange	94.63
2018	8	Noble Group Limited	Hong Kong	Senior Unsecured	Missed principal payment	47.75
2018	9	Wuzhou International Holdings Limited	China	Senior Secured: First Lien	Missed principal and interest payments	44.95

Source: Moody's Investors Service

Exhibit 15

Asian rated company defaults, 1997-31 December 2018

Year	Issuer Name	Country	Default Event
1997	Australis Holdings Pty Limited	Australia	Missed interest payment
1997	Australis Media Limited	Australia	Missed interest payment
1998	Polysindo Eka Perkasa (P.T.)	Indonesia	Missed principal payment
1998	FSW International Finance Company B.V.	Indonesia	Payment moratorium
1998	Polysindo International Finance Company B.V.	Indonesia	Missed interest payment
1998	Polytama International Finance B.V.	Indonesia	Missed interest payment
1999	Guangdong Enterprises (Holdings) Ltd.	Hong Kong	Suspension of payments
1999	Inti Indorayon Utama (P.T.)	Indonesia	Missed principal and interest payments
1999	Indorayon International Finance B.V.	Indonesia	Missed interest payment
1999	AC Real Estate Corporation	Japan	Loan forgiven
1999	Cathay International Limited	China	Missed interest payment
1999	Tri Polyta Finance B.V.	Indonesia	Missed interest payment
1999	Singer Company N.V. (The)	Hong Kong	Chapter 11
2000	Zhu Hai Highway Company Limited	China	Missed interest payment
2000	DGS International Finance Company B.V.	Indonesia	Missed interest payment
2000	Kumagai Gumi Co. Ltd.	Japan	Loan forgiven
2001	MYCAL Corporation	Japan	Bankruptcy
2001	Tjiwi Kimia Finance Mauritius Limited	Indonesia	Missed interest payment
2001	Tjiwi Kimia International Finance Company BV	Indonesia	Suspension of payments
2001	APP China Group Limited	China	Suspension of payments
2001	Pindo Deli Finance Mauritius Limited	Indonesia	Suspension of payments
2001	Indah Kiat Finance Mauritius Limited	Indonesia	Suspension of payments
2001	APP International Finance Company B.V.	Indonesia	Suspension of payments
2001	APP Global Finance (III) Cayman Limited	Indonesia	Suspension of payments
2001	Indah Kiat International Finance Company B.V.	Indonesia	Suspension of payments
2001	Centaur Mining & Exploration Limited	Australia	Placed under administration
2001	United Australia/Pacific, Inc.	Australia	Missed interest payment
2001	Indah Kiat Pulp & Paper Corporation (P.T.)	Indonesia	Suspension of payments
2001	Advance Agro Public Company Limited	Thailand	Missed principal and interest payments
2001	Bayan Telecommunications, Inc.	Philippines	Missed interest payment
2002	Daiei, Inc. (The)	Japan	Loan forgiven
2002	Asia Global Crossing Ltd.	Asia - MultiNational	Missed Interest Payment
2003	Newmont Yandal Operations Limited	Australia	Bankruptcy
2003	Snow Brand Milk Products Co., Ltd.	japan	Loan forgiven
2008	3D-GOLD Jewellery Holdings Limited	Hong Kong	Missed interest payment
2008	Mobile-8 Telecom Tbk (P.T.)	Indonesia	Missed principal and interest payments
2009	MagnaChip Semiconductor Corporation	Korea	Missed interest payment
2009	MagnaChip Semiconductor S.A.	Korea	Missed interest payment
2009	ASAT Holdings Limited	Hong Kong	Missed interest payment
2009	Asia Aluminum Holdings Limited	China	Placed under administration
2009	Shanghai Ind. Urban Development Group Ltd.	China	Distressed exchange
2009	Greentown China Holdings Limited	China	Distressed exchange
2009	G Steel Public Company Limited	Thailand	Missed principal and interest payments
2009	Davomas Abadi Tbk (P.T.)	Indonesia	Missed interest payment
2009	Mandra Forestry Holdings Ltd.	China	Missed interest payment
2009	Gajah Tunggal Tbk (P.T.)	Indonesia	Distressed exchange
2009	China Glass Holdings Limited	China	Distressed exchange
2009	Griffin Coal Mining Company Pty Ltd (The)	Australia	Missed interest payment
2009	Japan Airlines International Co., Ltd.	Japan	Alternative Dispute Resolution
2010	Central Proteinaprima Tbk (P.T.)	Indonesia	Missed interest payment

Year	Issuer Name	Country	Default Event
2010	Titan Petrochemicals Group Ltd	China	Distressed exchange
2012	Sino-Forest Corporation	China	Bankruptcy
2013	Winsway Enterprises Holdings Limited	China	Distressed exchange
2013	Mirabela Nickel Ltd	Australia	Missed interest payment
2014	Midwest Vanadium Pty Ltd	Australia	Missed interest payment
2014	China Forestry Holdings Co Ltd	China	Missed interest payment
2014	Bumi Resources Tbk (P.T.)	Indonesia	Distressed exchange
2014	Hidili Industry International Development Ltd	China	Distressed exchange
2014	Renhe Commercial Holdings Company Limited	China	Distressed exchange
2015	Kaisa Group Holdings Ltd	China	Missed interest payment
2015	Glorious Property Holdings Limited	China	Missed principal and interest payments
2015	Winsway Enterprises Holdings Limited	China	Missed interest payment
2015	Berau Coal Energy TBK (P.T.)	Indonesia	Bankruptcy
2015	CFG Investment S.A.C.	Hong Kong	Liquidated
2015	China Fishery Group Limited	Hong Kong	Liquidated
2015	Hidili Industry International Development Ltd	China	Missed principal and interest payments
2015	Emeco Holdings Limited	Australia	Distressed exchange
2015	Emeco Pty Limited	Australia	Distressed exchange
2016	Mongolian Mining Corporation	Mongolia	Missed principal and interest payments
2016	Atlas Iron Limited	Australia	Distressed exchange
2017	Emeco Holdings Limited	Australia	Distressed exchange
2017	Emeco Pty Limited	Australia	Distressed exchange
2017	Global A&T Electronics Ltd.	Singapore	Missed interest payment
2017	Quintis Limited	Australia	Missed interest payment
2017	Onsite Rental Group Pty Ltd	Australia	Distressed exchange
2017	Reliance Communications Limited	India	Missed interest payment
2017	Artsonig Pty Limited	Australia	Distressed exchange
2018	Noble Group Limited	Hong Kong	Missed principal payment
2018	MNC Investama Tbk. (P.T.)	Indonesia	Distressed exchange
2018	Wuzhou International Holdings Limited	China	Missed principal and interest payments
2018	Huachen Energy Co., Ltd.	China	Missed principal payment
2018	Reward Science and Tech. Industry Grp. Co Ltd	China	Missed principal payment

Source: Moody's Investors Service

Data and methodology

The data used for the Asian non-financial corporate high-yield default estimates cover around 196 speculative-grade issuers with rated debt outstanding.

The CTM forecast assumes the weighted averages of quarterly forecasts for the unemployment rates of major economies in the region (Australia, China, India, and Korea), and an Asian high-yield spread proxy.

Quarterly unemployment forecasts are available at Moody's Economy.com.

For a discussion of Moody's CTM, see "[Introducing Moody's Credit Transition Model](#)" published in August 2007 (104290); for a more technical discussion, please see "[A Cyclical Model of Multiple-Horizon Credit Rating Transitions and Default](#)" also published in August 2007 (103869).

Because of the absence of an established and representative high-yield spread for Asian corporates, we have created two scenarios using one or the other of two alternatives as the Asian high-yield spread proxy.

Scenario 1 uses as a proxy a high-yield spread based on an econometric regression of US high-yield spreads and forecast US unemployment rates with forecast Asian unemployment rates.

Scenario 2 uses as a proxy the US high-yield spread forecast.

Although the CTM forecast will provide a useful insight into the default trend, it may not accurately predict the default rate, because both proxies have their inadequacies. Moody's final default estimate is therefore an adjusted outcome, taking into consideration not only the CTM forecasts based on the two alternatives, but also prevailing default developments and idiosyncrasies of the portfolio, including assessments of systemic, liquidity, and covenant risk.

Limitations of applying CTM to Asian high-yield corporate default estimates

1. RELATIONSHIP BETWEEN UNEMPLOYMENT AND DEFAULT RATES

Both alternatives use Asia unemployment estimates as an input to derive default estimates for the region, based on the assumption that CTM's derived relationship between unemployment and credit transitions from North American and European data will also apply to Asia.

Specifically, CTM takes into consideration changes in the unemployment rate to reflect changes in real economic activity, which ultimately correlates with rating transitions. Currently, there are no empirical studies comparing the relationship between unemployment rates and economic activity in the two regions of North America and Asia. We are aware that, with regard to employment, cultural, and social factors — such as an employer's willingness to terminate employment and a country's welfare system — differ to some extent. But we believe that changes in the unemployment rate and real economic activity correlate strongly regardless of the region, and applying the relationship between them as it exists in North America to Asia is an appropriate approach.

2. RELATIONSHIP BETWEEN HIGH-YIELD SPREAD AND THE DEFAULT RATE

Although almost all the rated debt of Asian high-yield, non-financial corporates is USD-denominated, the cohort accounts for only a small percentage of the US high-yield spread forecast. As such, the correlations between US high-yield spreads, credit transitions, and defaults may not always be appropriate to apply to Asia. For example, high-yield spreads in Asia are sometimes higher than those in the US, due in part to emerging market risk premiums or lower market liquidity, but this does not necessarily mean that the probability of default is higher.

3. A RELATIVELY SMALL PORTFOLIO

CTM is an issuer-based model. The Asian corporate forecast default rate is an average of the default rates estimated for individual issuers. Given the small size of Moody's Asian non-financial corporate high-yield portfolio — relative to the US, for example — the actual realized Asian corporate default rate may deviate from our forecast.

For instance, if we forecast a 30% probability of default for each of three issuers over the next three months, and none goes on to default, the differential between our forecast and the actual rate would be a considerable 0% versus 30%. Such a deviation would ordinarily be significant, but the problem here lies in the limited number of issuers being considered. For example, if we were to forecast a 30% probability of default for 300 issuers over the next three months and 60 of them eventually defaulted, the actual rate would be 20%; a much smaller differential compared to our forecast of 30%.

Moody's related publications

Data Report:

- » [January 2019 Default Report: Global speculative-grade default rate declines to 2.1% in January \(1160072\)](#)
- » [December 2018 Default Report: Global defaults fell for the second consecutive year \(1156856\)](#)

Sector In-Depths:

- » [Asian High-Yield Interest Chartbook Q4 2018 \(Non-financial Corporates\) \(1158059\)](#)
- » [Asian Liquidity Stress Index - December 2018 \(1156264\)](#)
- » [Renminbi Bonds Monitor_January 2019 \(1149867\)](#)
- » [Global Trade Monitor - January 2019 - Trade uncertainty is beginning to affect investment decisions \(1157723\)](#)
- » [Bond market - China - Policy easing will alleviate issuer refinancing pressure but will not eliminate defaults \(1135342\)](#)

Outlook:

- » [Global Macro Outlook 2019 -20: Global growth to decelerate amid tightening global liquidity and elevated trade tensions \(1147191\)](#)
- » [2019 Outlook - Global credit conditions to weaken amid slowing growth and rising risks \(1143117\)](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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