

Commentary: Understanding Our Approach to China Consumer Asset-Backed Securities

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Introduction

This commentary provides additional insight into how S&P Global (China) Ratings considers consumer asset-backed securities (ABS) in China. Our approach to analyzing consumer ABS is consistent with our general Structured Finance Rating Methodology.

Consumer ABS portfolios are generally collateralized by assets with relatively small balance and homogenous characteristics. The portfolios typically comprise a large number of obligations and a diverse range of obligors. We typically assess the creditworthiness of consumer ABS based on our estimation of the potential losses that may be incurred on a pool of non-real estate consumer assets and the impact of structural features on cash flows under various stress scenarios.

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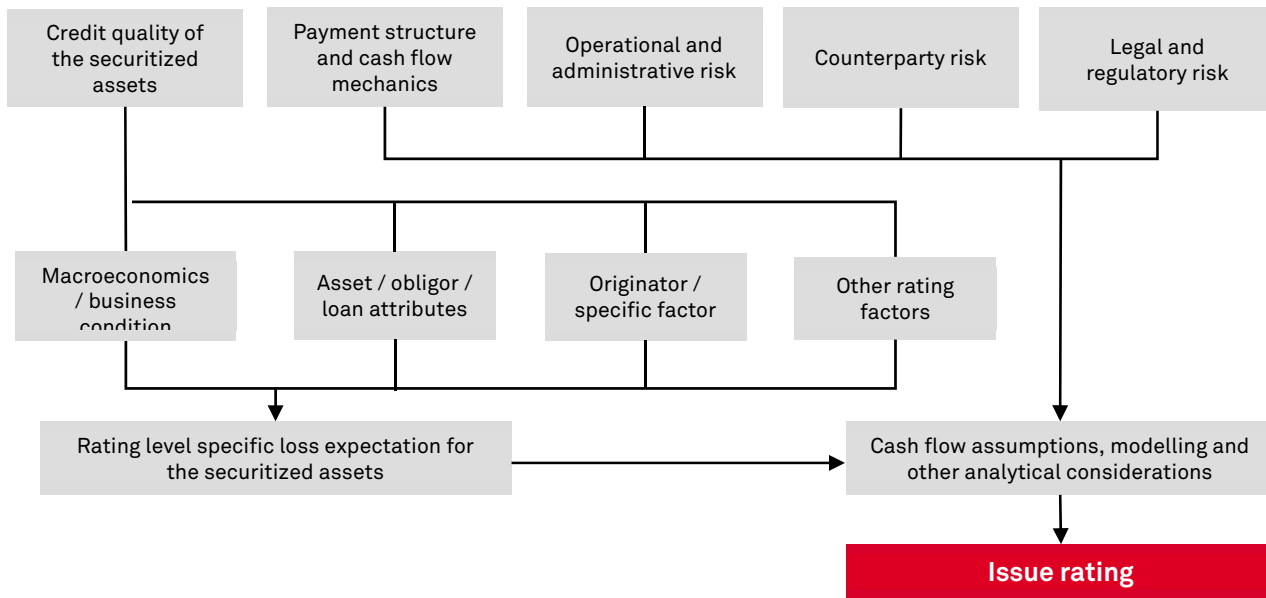
Analytical Approach

Framework

The analytical framework we may use for consumer ABS ratings is consistent with S&P Global (China) Ratings structured finance analytical framework which typically includes the assessment of the aspects outlined below (see chart 1). These factors tend to be fundamental to most consumer ABS transactions, while certain transaction types or structures may have features or conditions present that may require additional levels of alternative analysis, or may not require a detailed consideration of all of the below areas:

- Credit quality of the securitized assets;
- Payment structure and cash flow mechanics;
- Operational and administrative risks;
- Counterparty risk; and
- Legal and regulatory risks.

Chart 1



Fundamentals

Credit Quality of the Securitized Assets

Typically, the initial step in determining the credit support necessary to achieve a given rating level is analyzing the credit quality of the assets to be securitized. When assessing the credit quality of the securitized assets, the originator's and servicer's history and background are typically one of the starting points in our analysis. We may also review management's experience, the company's goals, and target market, which could range from high-quality prime obligors to credit-impaired individuals. By assessing these factors, we may gain a better perspective of the historical loss performance and how it may change in the future. Historical performance data is typically the foundation for developing our base-case gross loss, recovery, and net loss rates assumptions, which are further refined by forward-looking considerations.

An issuer's ability to provide detailed performance data can affect our base-case and stress-scenario performance assumptions for the securitized pool and our ability to assign a rating. For example, not having sufficient performance history may preclude us from issuing a rating or lead to a rating cap on the transaction. Since our approach to estimating base-case losses for most consumer ABS transactions is data-driven, our confidence in estimating base-case lifetime losses on a pool of consumer loans generally increases as the amount of available data increases. When the performance track record is, for example, short or erratic, or if the level of segmentation data is limited, our expected loss levels will account for this and are generally higher than otherwise.

In situations where we are analyzing a pool of amortizing receivables, we generally establish a base-case default and recovery rate and then apply a rating-specific stress scenario to determine the net loss rates at a given rating level. We typically establish base-case default, recovery, and net loss rates primarily by considering and analyzing the following factors, where applicable:

Table 1

Typical analytical factors for China consumer ABS base-case assumption
Static pool data (originator-specific vintage pool data or securitized pool data)
Pool composition and data granularity
Dynamic portfolio performance data
Peer/benchmark comparisons
Operating and administrative risks
Recoveries on defaulted assets
Charge-off policies
Seasoning
Macroeconomic factors and business conditions
Transaction-specific considerations, such as revolving structures

*Data source: S&P Global (China) Ratings

The static pool analysis generally involves tracking the performance of a discrete pool or vintage of receivables as the assets amortize. The vintage refers to the period in which the receivables were originated, usually a month or quarter. We typically analyze the static pool performance based on different time periods, such as monthly, quarterly, semi-annually or annually, by referring to the origination data. We may also analyze the performance of past securitizations, to the extent the originator has securitized consumer assets before. While the performance of past static pools is typically a strong indicator of a new pool's performance, adjustments to the base-case gross loss, recovery, and net loss rate may be necessary to the extent pool characteristics or economic conditions have changed.

We typically analyze the static pool results of various vintages, taking note of how performance may have changed due to economic conditions as well as due to changes in the collateral pool mix and origination standards, amongst other things. To better understand the effects of changes in the pool composition, we generally also analyze pools by specific collateral characteristics. Examples of the collateral characteristics on which we may examine performance due to changes in the collateral pool mix include the following:

Table 2

Typical credit quality indicators for pool data analysis
Credit score or credit grade
Product type
Key customer demographics
Term/seasoning
Loan features (e.g., LTV)
Presence of refinancing risk (e.g., balloon loans)
Obligor concentration
Geographic concentration
Collateral type (e.g., models, new/used, age, residual value)
Other loan or collateral specific credit quality indicators

*Data source: S&P Global (China) Ratings

We typically analyze dynamic portfolio data statistics. Dynamic portfolio performance data may be used as a stand-alone method of establishing base-case expectations or as a supplemental method to the analysis of static pool data. We may use the portfolio performance data to measure default, repossession, net losses, and delinquencies relative to the average or period-end portfolio balances. There are certain limitations associated with portfolio performance data, especially as it relates to a rapidly growing portfolio or a significant change in the underlying collateral being originated. However, the analysis is still useful in providing a better understanding of the trends of an originator's performance. For example, a rising delinquency trend may signal a worsening economy, a liberalization of underwriting standards, or simply that the originator has grown faster than its infrastructure. The portfolio data may also provide more information with default, net loss, and recovery rate trends for the aggregate portfolio.

We may compare actual securitized pools with its historical transactions' securitized pools, or one or more individual pools that were originated by other lenders. Our comparison may cover aspects like pool-level characteristics, collateral characteristics, or transaction specific features. While we generally place more emphasis on issuer-specific static pool performance for determining the base-case loss assumptions for the pool being analyzed, the peer comparisons are effective and useful in identifying trends and market developments that may be less apparent when looking exclusively at a single portfolio or originator.

We also believe that underlying loan performance is strongly influenced by an originator's operational and administrative framework, track record, and practices, including how they have changed over time. We typically consider both quantitative (historical data if available) and qualitative factors in the rating process and in the refinement of our base-case loss levels. The primary focus areas are generally management and organization, origination process and underwriting standards, credit/risk modelling tools, servicing and collection, and internal controls. However, if we deem other areas to be relevant to our analysis, we may also include them in our review.

We typically consider the stability of historical recovery rates, where relevant, and the factors that may affect the timing, amount, and availability of future recoveries for the securitized pool. If in our view, the recovery rates are volatile or the availability of recoveries is subject to significant credit, operational or legal risks, historical recovery rates may be discounted in developing stress scenario cumulative net losses.

We may adjust our base-case default rates based on an analysis of historical delinquencies and the issuer's charge-off policies. In some cases, a late-stage delinquency rate may be used as a proxy for default rates. If, in our view, historical loss rates potentially understate the credit risk profile of the pool based on an analysis of delinquency trends or the issuer's charge-off policies, base-case default assumptions may be adjusted. For example, if the issuer's charge-off policies are out of line with industry norms and loans are being charged off at a later stage of delinquency, base-case default rates may be increased to adjust for the more liberal charge-off policies.

We may consider pool seasoning when assessing credit quality. Generally, we believe there is a relationship between the frequency of default on a consumer loan pool and the degree to which loans in the pool are seasoned.

Besides the static pool performance and the other quantitative data previously mentioned, we may also consider additional forward-looking factors, such as the economic outlook, when estimating base-case net losses. The economic cycle may influence pool performance, as unemployment, inflation, and household income may all affect an obligor's ability to make loan payments. Table 3 below shows the typical range of rating-specific stressed default rates as a multiple of base-case performance. The stress multiples in this table illustrate the relationship between the defaults we

may expect in a benign economic environment and the level of defaults we may expect in the stress scenario consistent with the rating categories outlined in the left column of the table.

Table 3

Typical multiples of the base-case default rates across different consumer asset types	
Rating scenarios	Stressed default rate range (x)
AAA	2.5 - 7.0
AA	2.0 - 5.0
A	1.7 - 3.8
BBB	1.4 - 2.5
BB	1.3 - 2.0
B	1.0 - 1.5

*All credit quality levels indicated above are S&P Global (China) Ratings credit opinions.

*Data source: S&P Global (China) Ratings

In most cases, applied stresses will fall within the range. However, we may apply multiples outside these ranges, taking into considerations the base-case assumptions and different qualitative factors based on different transactions, such as default definition, revolving period, balloon risk, historical data volatility and economic cycle, etc. The range of rating-specific scenario default rates as a multiple of the base case indicated in table 3 is an across-asset-type range. The asset-specific ranges are generally narrower, reflecting the typical credit quality of the asset type and a narrower range of typical base-case default rates. For example, the 'AAA' specific assumed default rate as a multiple of the base case for auto loan ABS would generally be in the range of 3.5x to 6.0x. Cumulative net loss rates are a function of the default and recovery rates assumed. Therefore, relative to assumed default rates, assumed cumulative net loss rates may be a higher multiple of the applicable net loss base case in a rating-specific stress scenario.

Additionally, consumer loan ABS transactions that have transaction-specific features, such as revolving structures, may differ in several ways from a normal amortizing loan transaction. Revolving structures allow for the reinvestment of principal collections for a specified period, followed by an amortization period where the investor's share of principal collections is passed through to pay down securities. Such transactions typically include eligibility criteria and portfolio parameter conditions for the purchase of new assets after the securities are sold. For example, the eligibility criteria may include the minimum obligor credit quality considerations, interest rate, and maximum tenure of the assets. The purchase of new receivables may also be subject to portfolio parameter conditions related to portfolio performance (e.g., yield, delinquency, or annualized net loss rates) or concentration limits. These structures also typically have asset performance, seller insolvency, and servicer default related amortization events that, if triggered, may cause the amortization period to begin early. We typically consider transaction-specific eligibility criteria, portfolio parameter conditions, payment allocation provisions, and amortization events, the term of the revolving period, as well as historical asset performance and abovementioned analytical aspects, in establishing rating-specific cash flow assumptions for each performance variable.

Payment Structure and Cash Flow Mechanics

We generally perform a cash flow analysis to determine if a transaction has sufficient credit and liquidity enhancement to pay timely interest and principal by legal final maturity. We expect the asset cash flows to be able to withstand stresses commensurate with the ratings assigned to a

security, and still meet payment obligations in a timely manner. Asset cash flows are typically generated from a combination of securitized assets, eligible investments, and any support facilities. Payment obligations may include the coupon and principal payments to the rated securities, as well as any fees and expenses of the ongoing management of the securitized assets, and transaction operations.

A cash flow analysis typically combines our qualitative and quantitative assessments of the amount and timing of asset cash flows available, as well as factors that may affect the cash flows. We may apply a range of stress scenarios to ascertain the amount of cash flow that is expected to be available to meet all required payment obligations in a timely manner. More specifically, when analyzing cash flow, we typically assess the robustness of structural mechanisms, the level of credit enhancements to absorb losses, the level of collections after stresses to cover expenses and coupon payments, and the amount of liquidity to meet timely payment under the relevant rating scenarios. Where an issuer has an option to redeem notes before the legal maturity date (a clean-up call option), we typically assume the option will not be exercised, and analyze the tail-end risk when the transaction approaches its legal maturity.

For China consumer ABS, such as auto loans and consumer receivables transactions, we typically analyze and stress the variables including default or loss rate, default or loss timing, voluntary prepayment speed, recovery rate, and recovery timing if applicable. Wherever relevant, we may also apply cash flow stresses to account for legal, operational, and counterparty risks that are not mitigated by the transaction structure. Examples include set-off losses, commingling losses, and interest rate or basis risk if the assets or liabilities are floating-rate and/or unhedged.

We typically consider cash flow modelling to assess any potential implications of various stress scenarios on cash flows. The stress assumptions for default timing (or "loss curve") reflect our view on the distribution of loss within the transaction's lifetime. The curve applied in our cash flow analysis also reflects consideration of the structure of the transaction. For pro-rata structures or transactions with significant balloon payments concentrated in later times, a slower loss curve is typically applied, as credit enhancement can be eroded and may be unavailable if losses occur later in the transaction. For sequential structure, such as most China auto ABS transactions, where the subordinated classes do not amortize until the more senior classes are fully amortized, we typically apply a front-end loss curve where most gross losses are assumed to occur in the first 18 to 36 months of the transaction, depending on the weighted-average life of the securitized consumer receivables pool. We may shift the default timing forward or backward or alter the pattern to tailor the specific transaction default timing in line with product-specific historic observations and/or portfolio remaining tenor.

The amount of time it takes to realize recoveries ("recovery time lag") is, in our view, another important cash flow modelling assumption. After default, an asset generally does not produce interest collections, thus reducing the amount of interest collections available to pay interest on outstanding notes ("negative carry"). In our stressed cash flow modelling analysis, we generally assume that recoveries are received between 6 months and 18 months after default. Transaction-specific assumptions are based on an analysis of issuer-specific historical recovery data, as well as peer group comparisons. The level of granularity and time frames of the historical servicer-specific recovery rate data will typically affect the level of stress applied to the timing of recoveries assumed in our cash flow analysis.

Our standard annualized constant prepayment rate (CPR) assumptions for China consumer ABS include only voluntary early principal repayments, excluding scheduled principal and unpaid principal due to arrears or defaults. CPR assumptions are generally calculated as a percentage of the current total portfolio principal outstanding (including scheduled principal payments for the

current period). The standard prepayment rates typically range from 0% to 15% and may be altered where appropriate for different ABS sub-asset classes. The timing and magnitude of prepayments may affect the timing of investor principal repayment as well as the amount of excess yield that is available to cover credit losses and transaction expenses. We may adjust the standard voluntary prepayment stresses applied in our analysis to account for observations on servicer's historical data or transaction's structural features that, in our view, make alternative assumptions more appropriate.

While fees and expenses are typically stipulated in transaction documents, we assume that some unexpected costs and expenses may arise during the transaction's life, and that some transaction parties' fees may increase, especially when a replacement party is required. We would expect that free cash flow available or cash reserve from securitized assets are sufficient to cover necessary costs and expenses and enable transaction parties to perform their duties in managing the transaction and servicing the loan portfolio.

We may model the asset portfolio's weighted-average margin compression in the cash flow analysis based on the portfolio's yield distribution (a homogeneous pool may not be applied with margin compression). The margin compression typically assumes that the loans paying the highest coupons are the first to exit the portfolio. The magnitude of spread compression may also depend on the dispersion of loan margins.

The rated securities should survive a range of scenarios from stress conditions at their rating levels.

Operational and Administrative Risks

The analysis of operational and administrative risks typically focuses on the participants in a transaction, such as the servicer, the trustee, the custodial bank, the paying agent and any other relevant parties, to consider their capability to perform their responsibilities related to a securitization over its life.

The analysis generally considers the possibility that a transaction's participants may become unable or unwilling to perform its duties during the transaction's life. We may consider the potential impact of a disruption in the participant's services on the issuer's cash flows and the ease with which the participant could be replaced if needed. Generally, we would consider the following key performance attributes:

Table 4

Operational and administrative risks key attributes analysis	
Key performance attributes	Negative example
Track record in asset class and role	The entity has experienced material performance failures in the past, and we believe there is a risk of an adverse ratings impact due to future nonperformance.
Experience and capacity	The entity has a low level of experience in view of the asset class and the complexity of its role, and we believe its service performance could be affected by the system's capacity or other operational issues brought on by its experience.
Quality of internal controls	We view the entity's ability to perform could be adversely affected because of weak internal controls (e.g., with regard to segregation of duties, review and approval authorizations, accountability of assets, or preventing/detecting errors or fraud).
Regulatory or legal issues	We view the entity's ability to fulfill its performance obligations is likely to be materially and adversely affected by ongoing regulatory, government, or legal actions.

*Data source: S&P Global (China) Ratings

The analysis may also consider both the potential for hiring a substitute or successor and any arrangements that provide for a designated backup option. This part of the analysis would typically consider whether the fee is sufficient to attract a substitute, its seniority in the payment priorities, and the availability of substitutes. In addition, we may also review the third-party due diligence results (if any) of the loans to assess the data quality.

Counterparty Risk

The analysis of counterparty risk typically focuses on third-party obligations to either hold assets (including cash) or make financial payments that may affect or support the rated securities' creditworthiness. Examples of counterparty risks include exposure to institutions that maintain key accounts and exposure to the providers of derivative contracts such as interest rate and currency swaps. The counterparty risk analysis generally considers both the type of dependency and the credit quality of counterparties in a transaction.

The foundation of counterparty analysis is the analysis of exposure to counterparty risk and any remedies that mitigate this risk, such as a contractual commitment the counterparty makes to take certain actions upon deteriorating creditworthiness. For example, counterparties typically commit to replacing themselves in the event their credit quality ceases to be eligible.

Typically, the starting point in our analysis is to determine the applicable counterpart's credit quality. If the counterparty is rated by S&P Global (China) Ratings, the applicable counterparty rating would be used to determine the maximum supported rating on the securities. Where a counterparty is not rated by S&P Global (China) Ratings, we may assess their credit quality and consider whether its credit quality is sufficient to mitigate the counterparty risk on the rated notes. In general, we typically expect the minimum eligible counterparty's credit quality (i.e., the level below which a counterparty typically commits to implementing remedies) to be equivalent to a high bbb level or above to be able to support an 'AAA' rating on the securities.

We would separately analyze and apply the maximum supported rating for the derivative obligations from the analysis of other obligations due to the specific considerations applicable to the analysis of derivative agreements (in particular, collateralization and termination events).

In summary, our framework for the analysis of counterparty risk would generally cover three broad fact patterns:

- The rating on the supported securities is not constrained by the credit quality on the counterparty because counterparty risk is mitigated by legal or structural factors. For example, we may consider that commingling risk is fully mitigated if our legal analysis concludes that the issuer would not be exposed to commingling risk upon a counterparty insolvency or if structural mechanisms in the transaction protect the issuer from any loss or delay in receiving funds upon a counterparty insolvency.
- The rating on the supported securities may be higher than the counterparty's credit quality because counterparty risk is mitigated by the counterparty's commitment to taking certain remedial actions if its credit quality falls below a certain level.
- The rating on the supported securities is no higher than the credit quality on the counterparty because the counterparty does not commit to taking any appropriate remedy actions when necessary or because we have determined that the materiality of the counterparty risk is too great to be mitigated by any remedies. We would generally reach this conclusion if the counterparty is substantially the sole source of repayment for the supported security, as in a credit substitution. In determining whether a specific exposure matches this description, we may consider the exposure's nature, size, and duration.

Legal and Regulatory Risks

The analysis of legal and regulatory risks typically focuses on the asset isolation and the insolvency remoteness of special-purpose entities (SPEs) in structured finance transactions. SPEs are entities that are typically used in a securitization transaction to house the assets that support the payment obligations on the securities issued by the SPE. SPEs are typically structured to minimize the risk of their insolvency (voluntary or involuntary). We typically consider related legal issues that may affect insolvency remoteness, including claw-back risk, set-off risk, and tax risk, etc.

We may consider the extent to which a securitization structure isolates the securitized assets from the insolvency risk of the entities that participate in the transaction. Typically, our analysis focuses on isolation from the entity or entities that originated and owned the assets before the securitization transaction. A true sale of assets from the originator/seller to an insolvency-remote issuer is one method commonly used to achieve asset isolation in a securitization. From a legal perspective, a true sale is generally understood to result in the assets ceasing to be part of the seller's bankruptcy or insolvency estate. There might also be other legal mechanisms, apart from true sale, that could achieve analogous isolation.

We may assess various legal risks that we view as relevant to our analysis of creditworthiness based on factors including, but not limited to, the review of information, documentation, and/or legal opinions.

Other Considerations

We may apply additional quantitative and/or qualitative analysis in certain limited circumstances, where a particular transaction or the loans collateralizing a particular transaction have factors or unique features that may affect our rating determination or view of necessary credit enhancement at a given rating level.

Surveillance Considerations for Securitization

Our view on the credit quality of a pool of assets may change over time and reflect performance of the assets and changing market conditions, amongst other things. Through our ongoing surveillance, we typically consider the portfolio performance on a periodic basis, based on information regarding the observed performance and other factors we deem relevant.

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