CRITERIA FOR RATING TRADE RECEIVABLE SECURITISATIONS

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Scope of the Criteria

1. These rating criteria (the "Criteria") should be read in conjunction with GCR Rating's ("GCR") Criteria for Rating Structured Finance Transactions, updated and published in September 2018, and available on www.GCRratings.com.

2. A rating report will be published for all publicly rated trade receivables transactions detailing the analysis applied. Any deviations from these criteria will be explained within the rating report.

3. This Criteria applies globally, although each individual jurisdiction and each specific transaction may give rise to additional observations and/or deviations, which will be disclosed in the transaction-specific reports.

Summary of the Criteria Changes

4. The Criteria is an update to the version published in May 2017[1]. There are no significant amendments to the Criteria. The update of this Criteria will not have an impact on any existing transactions that have been rated under it. Going forward, all new transactions will be rated using this Criteria.

[1] This version of the criteria, published in September 2019, has been updated for formatting, naming conventions and alignment with GCR's updated Rating Symbols, Scales and Definitions only. This criteria is applicable to all previous publications referring to "Global Trade Receivables Securitisation Rating Criteria, November 2018".

Introduction

5. This Criteria details GCR's approach to rating trade receivables-backed securitisations. Each trade receivables securitisation is unique and the methodology may require certain adjustments depending on the specifics of each transaction, however, the following general approach can be used as a guideline for all trade receivables transactions. GCR considers both qualitative and quantitative factors in its approach. In addition to the review of the originator/servicer and underlying collateral/obligor characteristics, GCR analyses the legal and structural issues as well as the operational capabilities of all key transaction parties in determining the appropriateness of credit enhancement provided before according a rating to a trade receivables transaction.

6. Trade receivables securitisations can enable access to investment grade funding even if the underlying corporate/originator does not have an investment grade rating. Structured finance ratings are based primarily on the creditworthiness of isolated assets or asset pools, whether sold or pledged to secure debt, without regard to the creditworthiness of the seller or originator. The structured finance transaction seeks to isolate transactions from entities that are either lowly rated or unrated. Since a worst-case scenario assumes the bankruptcy of each transaction participant, a key criterion for any securitisation is the sale of receivables to a special purpose vehicle ("SPV") that must satisfy bankruptcy remote criteria.

7. Trade receivables are unsecured obligations generated when a business sells goods or services on credit. Typically, they are non-interest bearing, obligors will be more concentrated than in a consumer Asset Backed Securitisation ("ABS") transaction, and performance is driven by the originator's underwriting policies, strategic direction, financial condition and relationships with sellers. Assets turn rapidly, typically within 1 to 2 months. Receivables may be diluted for reasons other than payment or default; this may be through returns, refunds, incorrect invoice amounts, rebates, warranty claims and disputes. The funding of trade receivables is usually a critical source of working capital to the originator of the receivables. Enhancement is driven by asset performance, granularity of the underlying obligors and dilution.

8. The Criteria applies solely to existing receivables i.e. where goods or services have been provided. It does not apply to future receivables.

Rating Approach

9. GCR will review the performance of the underlying assets in determining the appropriateness of the available credit enhancement. The credit enhancement mechanism is calculated on a dynamic basis which will periodically adjust to account for delinquency and dilution of the portfolio – discussed later in this criteria.

10. Trade receivables are short term and highly revolving – given these characteristics the credit quality of the originator is also factored into the analysis.

11. GCR will analyse both the structural risk and the asset risk when rating a trade receivables transaction, as detailed further in this report.

12. GCR considers both qualitative and quantitative factors in its rating approach for trade receivables transactions. GCR does not approve, recommend or structure transactions. Where a presented structure differs from GCR's standard expectations the analysis may be adjusted accordingly and detailed within the rating report.

13. As part of its review, GCR will also review the full set of transaction documents to consider the operational aspects of the transaction and the rights and obligations of each transaction party. GCR also expects to receive legal and tax opinions in respect of the transaction to confirm that assumptions made within the analysis are legal and binding.

14. As a qualitative approach, GCR will also carry out a review of the originator/servicer to understand their process and procedures.

Credit Enhancement

15. The primary risk associated with most asset types is the risk of obligor delinquency and default. The receivables represent indebtedness of obligors from the sale of goods or services. The obligors are the customers that are directly indebted to the originator following the provision of goods or services. A similar methodology to analysing obligor default risk is applied to all asset-backed financing transactions, starting with a review of portfolio performance. Historic delinquency and write-off performance is generally the best indicator of portfolio credit quality.

16. Typically credit enhancement will be provided for a trade receivables transaction in the form of over-collateralisation, subordination and/or reserves.

17. GCR also expects a transaction to comply with an asset/liability test. This should be tested at each purchase date to ensure that the amount of outstanding debt plus required reserves is less than or equal to the amount of eligible receivables.

18. As many trade receivables settle weekly or daily, this ensures any non-compliance with the test is then corrected frequently and before it becomes too large. Non-compliance with the test is often a precursor to originator bankruptcy and can be utilised to assess any deterioration in the receivables balance.

19. GCR will analyse the historic performance of the pool of receivables. A list of information requirements is attached in Appendix B. GCR expects to receive 3 to 5 years of historical performance information on a pool. If this information is not available, analysts will rely on the available data and may make conservative assumptions where gaps in data exist. In some cases, this may lead to artificially high credit support levels until adequate data is available.

Default Analysis

20. GCR will consider historical information on delinquent and written off receivables as well as payment terms in its analysis. The underwriting and servicing processes and procedures of the originator provide an important insight into the delinquency and write-off statistics. GCR expects to be presented with stable performance information; and where there is volatile performance in the information, GCR will investigate the reasons for such volatility.

21. A technical default date is defined in the transaction documents, after which a receivable is deemed not to have performed and to have become an ineligible asset; once ineligible it cannot therefore provide over-collateralisation. This is typically set at 60 days or 90 days past the receivable's original due date. The amount of receivables that default in any month is compared with the sales levels in the month when the receivables were generated, thus calculating the monthly default ratio. The monthly default ratio is then used to determine a loss ratio. The loss ratio is the percentage of the eligible receivable pool that is expected to default. The result is a factor used in deriving the over-collateralisation of assets or a reserve to cover the expected losses in various rating scenarios.

Dilution Analysis

22. The term dilution is used broadly to refer to any non-cash reduction to a receivable balance that is not attributable to default or write-off. Product returns, cash discounts, advertising allowances, volume rebates, good customer programs and standard pricing disputes are all examples of dilution.

23. The factors contributing to dilution are considered and GCR ensures that the credit enhancement implemented is sufficient to cover any potential dilution. GCR may stress dilution amounts that are expected to change over time and this will be factored into the dilution reserve calculation.

Payment Terms

24. GCR will review the payment terms extended to the underlying obligors and any factors that may result in an extension of such payment terms. The payment terms feed into the dynamic credit enhancement calculation and as such are crucial to GCR's analysis. Amendment of payment terms may reflect a change in the originator's business or general market conditions. A transaction will typically limit the

payment terms that can be extended and this limit is factored into the analysis.

Obligor Concentration

25. Obligor concentrations are present in most portfolios. To ensure that losses or disputes from large obligors do not translate into significant losses for the pool, concentration limits are set. Limits can be set by region, country and currency, but are generally set based on the rating level of obligors. Since the composition of a pool can change over time, concentration limits must be specified and will depend on the specific transaction and the rating targeted for the transaction. To the extent that an obligor exceeds its specified limit for a transaction, the excess balance should either become ineligible for the borrowing base calculations or be covered by additional credit enhancement. GCR monitors concentration levels on a quarterly basis, at a minimum, throughout the duration of the transaction to ensure adequate credit enhancement is applied.

26. GCR will review the underlying obligors and any special obligor limits pertaining to them on an individual level as well as at a group level. GCR will also review whether the originator can monitor potential concentrations going forward.

27. A floor is established in respect of the loss reserve to account for obligor concentration risk. The total applied loss reserve is the higher of: (a) dynamic loss reserve; and (b) the obligor floor. The obligor floor protects against a number of obligors defaulting during the amortisation period and therefore resulting in a decrease in cash flow available to the transaction.

28. The obligor floor is driven by GCR's assumption that in each rating scenario a number of obligors will default and therefore are covered by the obligor floor. The floor matrix acts as a guide for the diversified pool. Where a portfolio deviates from this the coverage detailed in the floor matrix may be adjusted accordingly. To calculate the obligor floor, one should, multiply the number of obligors expected to be covered by the concentration limit for the obligors, as specified in the transaction documents. The floor applied at different rating levels is shown in the **Error! Reference source not found.** table:

Table 1: Obligor Floor Matrix

Highest transaction rating	AAA$_{(sf)}$	AA$_{(sf)}$	A$_{(sf)}$	BBB$_{(sf)}$	</= BB$_{(sf)}$
Obligor rating					
AA	-	-	-	-	-
AA- to AA+	1	-	-	-	-
A- to A+	2	1	1	-	-
BBB- to BBB+	3	2	1	1	-
BB- to BB+	4	3	3	2	-
</=BB+ or unrated	6	5	5	4	2

Source: GCR

29. In cases where all receivables in respect of obligors are fully insured with the insurance policies having been ceded to the SPV, then dependent upon the conditions of the insurance policy, should the receivables and the claim period on the policy mature prior to the notes, then the obligors may potentially be excluded from the obligor floor matrix on a case by case basis.

30. The calculation for dynamic credit enhancement is detailed in *Appendix D*.

Structural Considerations

31. GCR reviews key structural issues that are particularly relevant to trade receivables in its analysis. Structural components are typically designed specifically to protect the noteholders from deterioration in either the asset quality or the ongoing servicing capabilities of the originator.

32. In a typical trade receivables transaction, the existing trade receivables of the originator are sold via a 'true-sale' to a SPV, which issues securities backed by the receivables. The rating is based primarily on the creditworthiness of the asset pool, without regard to the creditworthiness of the originator. In essence, the structured finance transaction seeks to isolate transactions from entities, such as receivables sellers or originators, which are either lowly rated or unrated. A worst-case scenario assumes the bankruptcy of each transaction participant that is not a bankruptcy-remote entity and that is rated lower than the transaction. A key requirement is that the SPV must therefore satisfy bankruptcy remote criteria.

33. As such, the structural integrity of a securitisation transaction from a legal perspective is crucial. As in other ABS transactions, when rating trade receivable-backed securities higher than the originator, it is normal procedure for GCR to obtain an independent legal opinion from a recognised firm of attorneys on the relevant legal aspects. This includes confirmation of the following, amongst others:

- That a true-sale has taken place;
- Bankruptcy remoteness of the SPV;
- The activities of the SPV comply with all the requirements of the relevant legislation; and
- The transaction structure and documentation is legal, valid and binding.

34. Although the impact of a bankruptcy of the originator is a major consideration in analysing a trade receivable pool, the originator's credit quality is not the major factor in the rating process. Notwithstanding the bankruptcy of the originator, the transaction is structured so that the SPV should survive. GCR generally takes a weak-link approach and assumes that the originator, if not rated as high as the securitised issue, will, for purposes of the structured analysis, enter bankruptcy. GCR's stress scenarios for establishing legal requirements are structured accordingly. GCR will also need to review the final signed legal documentation prior to the accordance of the final rating. The specific requirements for a particular transaction will determine the requirements of the legal opinions. Other confirmations required will include:

- Written confirmation by the auditors of the originator that the obligor data supplied is accurate or an on-site file review will be undertaken by GCR. For existing transactions an originator/servicer review is expected to be carried out on an annual basis to assess changes to policies and procedures. In addition to the review, an independent audit opinion on the underlying collateral/portfolio is required for each transaction, except in cases where the collateral is fully insured by an external insurance counterparty. In respect of insured receivables GCR expects to see insurance documents pertaining to the underlying receivables. GCR may request an additional audit opinion where it is felt the auditor has a conflict of interest or is not a highly recognised audit firm. In instances where an audit opinion is not provided, GCR will do a file review on a random selection of files relating to the underlying collateral.

- Any previous or existing cession over book debts to be included in the SPV have been cancelled. As part of the legal review, GCR will also request a letter of confirmation from the issuer that the pool of assets forming security to the transaction has not been dual-ceded to another party.

35. Eligibility criteria are key to a trade receivables transaction. GCR will review the eligibility criteria as part of its analysis. Eligibility is defined within the transaction documents and sets the limits for the purchase of receivables. The originator represents and warrants upon sale that the eligibility criteria have been conformed with. Eligibility criteria are expected to reflect the particular transaction and its receivables as detailed in Appendix A.

36. Typically, a breach of the eligibility criteria is rectified by the originator through the substitution or repurchase of ineligible receivables. A failure to repurchase ineligible receivables will result in an early amortisation of the transaction. Receivables that become ineligible after being sold to the transaction are removed from the pool. All receivables being funded at any point in time must conform to the eligibility criteria of the transaction. A risk arises if the originator is insolvent when the transaction starts to amortise. At that point ineligible receivables may not be substituted or repurchased. During amortisation, collections arising from ineligible receivables shall remain in the transaction and are used to meet payments on the notes. In some cases, the transaction may include an early amortisation trigger if ineligible receivables sold to the transaction exceed a certain level. Compliance with eligibility criteria is expected to be confirmed by the trustees or an independent third party on a regular basis.

Stop Purchase Triggers

37. Stop purchase triggers are implemented to protect noteholders against a decline in the credit quality of the pool of receivables. A decline in pool quality may highlight a fundamental problem with the seller's origination and servicing abilities, or a change in market conditions that may not be fully covered by the dynamic reserve mechanism. Performance triggers can assist in minimising the deterioration of asset performance. Asset performance triggers are typically set on delinquency, default, dilution, average payment terms, days' sales outstanding, as well as cash not invested in receivables. An unresolved breach of trigger may result in a stop-purchase of further receivables.

38. Trigger levels are usually determined based on the historical performance of the portfolio. Triggers should be set at a reasonable level as tight triggers may result in an aggressively early amortisation whilst loose

triggers may not enhance the protection of the portfolio and may expose investors to higher risk.

39. A stop-purchase trigger based upon a breach of financial covenants or the insolvency or material deterioration in the financial condition of the originator is also expected within the transaction.

Seller and Servicer Representations and Warranties

40. Seller and servicer representations and warranties should be reflected within the transaction documents to maintain the quality of servicing and administration of the receivables pool.

41. It is crucial that the quality of receivables is maintained throughout the life of the transaction as triggers and credit enhancement are based upon the underlying pool at closing. The seller and servicer should warrant to no significant change in their credit and collection or underwriting polices. They should also represent to frequent auditing and reporting information.

42. Given that reasonable triggers have been implemented for the transaction, should the triggers be hit following an originator insolvency, then less reliance is placed upon an insolvent originator to remedy a breach of representations and warranties.

Reserves

43. Given that trade receivables are not interest bearing, a trade receivables transaction should reserve for senior costs and expenses, and interest during the amortisation period.

Negative Carry Risk

44. A trade receivables pool may fluctuate in size throughout the course of a year. If insufficient receivables are sold to the transaction over a prescribed period, the transaction should automatically enter early amortisation.

Liquidity Risk

45. Liquidity risk typically arises where an originator is insolvent and a back-up servicer steps in to collect on receivables. During this period, obligors may take longer to pay than when the originator was servicing the portfolio. Some obligors may use the originator's insolvency as an excuse to try to avoid payment for as long as possible, or until threatened with legal action. Transactions typically provide sufficient liquidity so that all senior costs and interest on the notes can be paid during this transition. This timing delay should be covered by a liquidity facility from an appropriately rated bank in accordance with GCR's counterparty guidelines. The size of the liquidity facility will vary between transactions. Senior costs included in the calculation of the liquidity facility and senior costs reserved will normally include interest payable on the fully drawn amount of the liquidity facility, as well as any commitment fees.

Commingling Risk

46. GCR expects all cash flows in respect of the transaction to flow through a bank account held in the name of the SPV. If this is not implemented at the outset of the transaction there should be a daily sweep from the originators account to the SPV's account. For example, commingling risk may occur if the seller is rated lower than the rating of the notes and a transfer of monies from the seller's account to the SPV account does not occur immediately. GCR expects to receive written confirmation from the board of directors of the SPV, as well as to be included in the representations and warranties that:

- No transfer can be made out of the SPV account without being supported by an appropriate schedule evidencing that no representation or warranty will be breached post transfer, and no automatic sweeping may be imposed on the SPV account. GCR will also review signatories on the SPV account to ensure they are deemed to be sufficiently independent.

47. If an originator does not notify obligors of the sale of receivables, obligors will continue to pay to the originator's account. In this circumstance commingling risk exists. If commingling risk exists in the transaction, GCR will calculate a commingling reserve based on (a) the number of days of collections that could be trapped in an originator's bankruptcy estate, and (b) peak historical daily collection levels. Following originator insolvency, GCR expects all future collections to flow directly to an account held in the name of the SPV.

48. Another way to mitigate commingling risk is a documented notification trigger, which requires that all collections be paid directly to the SPV prior to an insolvency of the originator. Alternatively, an effective pledge, in favour of the SPV, can be created over the amounts in the seller's bank account. In this situation GCR expects to see satisfactory evidence of such pledge/cession as well as relevant transaction legal opinions to confirm that such arrangement is an enforceable contractual obligation and is sufficient to eliminate the risk of cash being trapped in the originator's insolvency estate.

Origination and Servicing

49. As already highlighted, the origination and servicing of the portfolio is critical to the ongoing performance of the transaction. In order for a transaction to operate effectively the originator must be able to continue to generate eligible receivables, service and monitor a pool of receivables over the life of the transaction and segregate cash received in respect of securitised receivables. The ability of the originator, servicer and back-up servicer is crucial in GCR forming a qualitative view on the transaction.

50. GCR will carry out an originator/servicer review as detailed in its Criteria for Rating Structured Finance Transactions and as detailed in *Appendix C*, to ascertain the ability of the originator/servicer to carry out their role. Excessive originator/servicer risks may impose ratings caps on the transaction, therefore it may be difficult for non-investment grade originators (those rated 'BB+' or below) to achieve a 'AAA$_{(sf)}$' transaction rating.

Back-up Servicer

51. The role of the back-up servicer is to take over collections activities in the event of bankruptcy of the originator/servicer, in order to wind down the SPV book and settle senior debt investors from the proceeds. The back-up servicer plays a crucial role in ensuring that securitisation structures are "bankruptcy remote" in practical terms.

52. GCR will also perform an onsite review of the back-up servicer, and the back-up servicer should have performed an "on-premises" systems review of the originator and ensured that the collection systems can be seamlessly interfaced, that a backup of all relevant invoicing and client data will be obtained and stored by themselves on a regular basis, as well as a review of the back-up servicers processes, procedures and previous experience.

53. The transaction documents should also reflect that in the event the back-up servicer wishes to withdraw from the back-up servicer role, they would be required to give at least 6 months advance written notice. The SPV should be able to cancel the standby administration agreement at any time and appoint an alternate back-up servicer to perform the function in the event that they do not perform their obligations satisfactorily.

54. Compliance with the above criteria should address any practical concerns, while also enabling suitable quantification of the extent to which a particular asset pool may be diminished in value as a result of the originator/servicer going into bankruptcy.

Tax

55. Where tax arises in respect of the receivables or the transaction, i.e. transfer tax, VAT, withholding tax etc. GCR expects this to be adequately addressed by the transaction parties as well as to receive a tax opinion on the effect of the taxes on the noteholders. Where tax arises this should be adequately mitigated and such mitigation will be considered in the rating analysis.

Rating Sensitivity

56. During the revolving period, a new discount rate, which will impact the over-collateralisation, is calculated upon each purchase date based upon the performance of the pool. If no new purchases occur the transaction will enter into early amortisation. Given the dynamic nature of this, combined with the eligibility criteria and performance triggers, GCR considers that any rating sensitivity to the deterioration of the performance of the underlying pool is largely mitigated.

57. It is also considered that an originator downgrade, unless related to negative payment behaviour, will not directly impact the rating of the notes provided sufficient back-up servicer arrangements are in place.

Performance Monitoring

58. Ongoing performance monitoring of the transactions and the underlying receivables are key to the rating process and maintaining current ratings. GCR expects sufficient performance information to be provided on a monthly/quarterly basis. GCR also expects to be notified of any changes to the transaction such as amendments to concentration limits etc. that may impact the current rating and its analysis.

59. The key performance reporting items are the amount of eligible receivables and ineligible receivables, ageing breakdown of the receivables, default ratio, dilution ratio, turnover rate of the receivables pool, performance in respect of trigger limits, exposure to large obligors and obligor concentration limits, collections, new purchases, and the calculation of dynamic credit enhancement calculated on each reporting date.

60. Upon each reporting period, GCR will review the performance information provided to ensure it is reflective of the information / analysis that was reviewed at the outset. In addition, surveillance rating panels are held annually at a minimum or as events warrant. Given the short term nature of trade receivables, reviews are typically performed on a quarterly basis. Negative or improved performance of the underlying portfolio may trigger a potential rating action. For public transactions, GCR will publish a performance report on an annual basis at a minimum or as events warrant.

Disclaimer

61. Note that GCR is not a legal, tax or financial adviser and will only provide a credit opinion of the rated securities. For example, a rating does not cover a potential change in the applicable laws nor can it be regarded as an audit. Moreover, GCR is not a party to the transaction documents nor does it provide legal, tax or structuring advice.

Appendix A – Eligibility Criteria

As discussed earlier in the report, eligibility criteria are key to maintaining the quality of the underlying pool. An eligible receivable is, amongst others:

- Originated in respect of goods or services already performed or delivered.
- Is owned by the originator.
- Can be sold/assigned/transferred free of charge and in respect of which all legal requirements for enforceability, creation and completion of the sale/assignment/transfer have been complied with.
- Is not subject to set-off.
- Is not subject to any reduction, cancellation, or refund or any dispute, offset, counterclaim, lien or defence whatsoever.
- Has arisen in the ordinary course of business of the originator.
- Is current i.e. not overdue or defaulted.
- The payment terms do not exceed a specified timeframe.
- Obligor concentration limits are not breached.
- Seller has complied with its representations and warranties.
- Is owed by an eligible obligor.
- Does not form an executory contract.
- Is not a Bill and hold receivable.

An eligible obligor is one which, amongst others:

- Is domiciled in a specified country.
- Is not in insolvency proceedings and in respect of which no bankruptcy petition has been made.
- Is not a subsidiary or an affiliate of the originator.
- Does not owe amounts in respect of defaulted receivables, or receivables which are delinquent beyond a specified limit.

Appendix B – Information Requirements

The following core information is typically required as a minimum, although, depending on the nature of the transaction, additional information may also be requested:

- Monthly receivable balances for the last three years. The period should preferably cover at least one recession cycle of the concerned industry.
- Details on the underwriting and credit vetting procedures, including the use of credit scoring models.
- Details of the loan approval process, including lender application documents.
- Details regarding recovery rates and the recovery process.
- Monthly receivables balance and the breakdown of receivables into different aging buckets.
- Monthly credit sales volumes.
- Monthly credit notes or dilutions issued.
- Monthly write-offs.
- Monthly turnover rate of the trade receivable pool (measured by days of sales outstanding).
- Monthly delinquency statistics for the last three years with an explanation of the aging process (aged from the invoice date or the due date).
- A summary of payment terms offered and a historical analysis of the percentage of the receivables pool subject to a particular payment term, including weighted average payment terms figures. Receivables must be aged on a past due rather than a past invoice basis.
- Monthly dilution figures for the last three years, together with a summary of the items giving rise to dilution and an explanation of each item.
- A breakdown of the top obligor concentrations (the top twenty exposures are requested) and their related ratings, if any.
- Audited financial statements of the originator, together with forecasts and strategic initiatives.

Appendix C – Originator/Servicer Review Agenda

GCR will discuss an overview of the business at an onsite review visit with the originator / servicer and back-up servicer to include, amongst others:

- History.
- Organisational structure.
- Recent material developments and competition.
- Market share statistics.
- Financial performance and funding profile as well as future prospects.
- A description of the main features of the assets to be securitised.
- Experience and qualifications of senior management.
- An overview of the underwriting/credit and collection policies.
- An overview of the underwriting department and origination channels.
- An overview of the credit department.
- Experience of credit personnel, procedures for granting new credit and the ageing policy.
- Rehabilitation programs.
- Collection procedures, including expectations for future write offs.
- IT systems and disaster recovery.
- A historical overview of the performance of the relevant asset book.
- Dynamic arrears rates, dynamic prepayment rates and dynamic portfolio yield.
- Static cumulative default rates by vintage static and cumulative recovery rates by vintage.
- Portfolio composition by relevant characteristics ideally for each vintage, as well as other relevant performance information.
- If possible, a comparison with the performance of competitors.
- An overview of the proposed transaction and how it will be managed.
- Depending on the specific transaction, other information may be requested.
- In addition to the above a review of the back-up servicer may be deemed necessary.
- In the absence of an audit report a sample file review may be carried out.

Appendix D – Dynamic Credit Enhancement Reserve Calculation

A dynamic credit enhancement reserve reflects the underlying performance of the pool as it adjusts based upon performance and underlying characteristics of the assets. As such a dynamic reserve protects against deterioration of the pool.

The level of the reserve calculated at transaction closing represents the discount rate applied to the receivable at transaction closing. On subsequent receivables purchase dates the discount rate may be adjusted to reflect the dynamic credit enhancement for the given rating level, calculated on the latest historical performance of the receivables.

Calculating the Dynamic Credit Enhancement Reserve:

The Dynamic Credit Enhancement Reserve is calculated by summing the Loss Reserve, Dilution Reserve and Carrying Cost Reserve.

The Loss Reserve may be subject to a minimum reserve floor based on debtor concentrations as demonstrated in the Obligor Floor Matrix of the report.

The Loss Reserve is calculated by multiplying the Loss Ratio by the Loss Horizon Ratio and Rating Multiplier and adding on the Default Volatility Factor.

Loss Ratio

The loss ratio is the highest three-month rolling average default ratio in the most recent 12 months. The default ratio is the monthly level of receivables that fall into the deemed default bucket, plus any identified write-offs occurring prior to the deemed default date, divided by the total sales in the month in which these deemed defaulted receivables were generated.

Default Horizon

The timing difference between the origination of a receivable and the date at which the receivable is deemed in default is the default horizon. The default horizon is used to relate defaulted receivables back to the month in which they were generated.

Loss Horizon Ratio

The loss horizon ratio equals the cumulative sales that occurred during the loss horizon divided by the end balance of the eligible and non-defaulted receivables. The loss horizon is calculated as the sum of the weighted average payment terms and the number of days during which the receivables are delinquent but have not defaulted plus the reporting period.

Combining the loss horizon ratio with the loss ratio, estimates the amount of receivables likely to generate a loss that are embedded in the current portfolio.

Rating Multiplier

The rating multiplier is used to stress the loss reserve appropriately in respect of the rating levels under the same rating scenario.

Table 2: Rating Multiplier

Rating	Rating Multiplier
AAA(sf)	2.50x to 3.50x
AA(sf)	2.00x to 3.00x
A(sf)	1.75x to 2.75x
BBB(sf)	1.50x to 2.50x

Source: GCR

GCR's ratings for trade receivables are accorded in respect of timely repayment and as such its analysis does not give credit to collections on receivables that come in after technical default or the cash collected on ineligible receivables held by the SPV, however, these collections will benefit the transaction.

Default Volatility Factor

The default volatility factor is measured by the 12-month standard deviation of the monthly default ratio, multiplied by the Z value. This volatility factor aims to protect noteholders from volatility occurring after a period of relatively stable performance and to smooth out potential decreases of the loss reserve.

Dilution Reserve

The Dilution Reserve is calculated by multiplying the Dilution Ratio by the Rating Multiplier, adding the Dilution Volatility factor to the result and then multiplying the overall result by the Dilution Horizon Ratio.

Dilution Ratio

The dilution ratio is calculated as the 12-month average of the percentage of current dilutions over the sales in the month in which the diluted receivables were originated.

Dilution Horizon Ratio

The dilution horizon ratio is calculated as the cumulative sales in the dilution horizon divided by the end balance of the eligible receivables. The dilution horizon is the weighted average time difference between the sale and the occurrence of the dilution. The dilution horizon ratio combined with the dilution ratio, estimates the amount of receivables likely to be subject to dilution that are embedded in the current portfolio.

Dilution Volatility Factor

The dilution volatility factor is a sample standard deviation over 12 months of the dilution ratio, multiplied by the Z value. The dilution ratio is calculated as a 12-month average ratio that gives an expected dilution for a portfolio over the past 12 months. The volatility factor added to the dilution ratio addresses deviations from the expected dilution ratio and smoothes potential decreases to the dilution reserve.

Carrying Cost Reserve

The Carrying cost reserve is implemented to cover interest, and senior costs and expenses during the stressed amortisation period. The amortisation period is calculated as the current average day sales outstanding multiplied by the stress factor. All fees and expenses senior to the notes should be included in the calculation.

The Carrying Cost Reserve is calculated as the sum of the Senior Costs Reserve multiplied by the Yield Reserve. The Senior Costs Reserve is calculated by multiplying the Days Sales Outstanding, Rating Multiplier and the Annual Senior Expenses that rank higher than the notes in the priority of payments. The Days Sales Outstanding estimates the turnover rate of the receivables pool. Given a monthly reporting period, the days sales outstanding is calculated as the total amount of receivables divided by the sales generated in that month, multiplied by 30 days. The Yield Reserve is calculated by multiplying the Days Sales Outstanding by the Rating Multiplier and the Annual Coupon. Annual Coupon is the sum of margin, the base interest rate and the interest rate stress.

It is key that a reserve is sized to ensure sufficient cash flow on the notes during an amortisation period, given the non-interest bearing nature of the underlying receivables.

Glossary of Terms/Acronyms

Administrator	A transaction appointed agent responsible for the managing of a Conduit or a Special Purpose Vehicle. The responsibilities may include maintaining the bank accounts, making payments and monitoring the transaction performance.
Advance	A lending term, to transfer funds from the creditor to the debtor.
Agent	An agreement where one party (agent) concludes a juristic act on behalf of the other (principal). The agent undertakes to perform a task or mandate on behalf of the principal.
Amortisation	From a liability perspective, the paying off of debt in a series of installments over a period of time. From an asset perspective, the spreading of capital expenses for intangible assets over a specific period of time (usually over the asset's useful life).
Arrears	General term for non-performing obligations, i.e. obligations that are overdue.
Asset	An item with economic value that an entity owns or controls.
Bond	A long term debt instrument issued by either: a company, institution or the government to raise funds.
Borrower	The party indebted or the person making repayments for its borrowings.
Call Option	A provision that allows an Issuer the right, not the obligation, to repurchase a security before its maturity at an agreed price. The seller has the obligation to sell the security if the call option holder exercises the option.
Capital	The sum of money that is used to generate proceeds.
Cash Flow	A financial term for monetary changes in operations, investing and financing activities.
Collateral	An asset pledged as security in event of default.
Commingling	The mixing of various transaction parties' funds in an account.
Coupon	Interest payment on a security.
Covenant	A provision that is indicative of performance. Covenants are either positive or negative. Positive covenants are activities that the borrower commits to, typically in its normal course of business. Negative covenants are certain limits and restrictions on the borrowers' activities.
Credit	A contractual agreement in which a borrower receives something of value now, and agrees to repay the lender at some date in the future, generally with interest. The term also refers to the borrowing capacity of an individual or company
Credit Enhancement	Limited protection to a transaction against losses arising from the assets. The credit enhancement can be either internal or external. Internal credit enhancement may include: Subordination; over-collateralisation; excess spread; security package; arrears reserve; reserve fund and hedging. External credit enhancement may include: Guarantees; Letters of Credit and hedging.
Credit Rating	An opinion regarding the creditworthiness of an entity, a security or financial instrument, or an issuer of securities or financial instruments, using an established and defined ranking system of rating categories.
Credit Risk	The probability or likelihood that a borrower or issuer will not meet its debt obligations. Credit Risk can further be separated between current credit risk (immediate) and potential credit risk (deferred).
Debt	An obligation to repay a sum of money.
Debt Sponsor	Usually as Investment bank that brings a transaction to the capital markets, similar to an Arranger.
Default	A default occurs when: 1.) The Borrower is unable to repay its debt obligations in full; 2.) A credit-loss event such as charge-off, specific provision or distressed restructuring involving the forgiveness or postponement of obligations; 3.) The borrower is past due more than X days on any debt obligations as defined in the transaction documents; 4.) The obligor has filed for bankruptcy or similar protection from creditors.
Desktop	An assessment of the property value, with the value being compared to similar properties in the area.
Downgrade	The assignment of a lower credit rating to a corporate, sovereign of debt instrument by a credit rating agency. Opposite of upgrade.
Enforcement	To make sure people do what is required by a law or rule et cetera.
Environment	The surroundings or conditions in which an entity operates (Economic, Financial, Natural).
Excess Spread	The net weighted average interest rate receivable on a pool of assets being greater than the weighted average interest rate payable for the debt securities.
Guarantee	An undertaking for performance of another's obligations in event of default.
Guaranteed Investment Contract	A contract that guarantees the principal and interest repayment over a period of time. Typically GIC are used in relation to a bank account.
Income	Money received, especially on a regular basis, for work or through investments.
Index	An assessment of the property value, with the value being compared to similar properties in the area.
Issuer	The party indebted or the person making repayments for its borrowings.
Junior	A security that has a lower repayment priority than senior securities.
Liability	All financial claims, debts or potential losses incurred by an individual or an organisation.
Liquidity	The ability to repay short-term obligations or short-term availability of liquid assets to a market or entity.
Liquidity Risk	The risk that a company may not be able to meet its financial obligations or other operational cash requirements due to an inability to timeously realise cash from its assets. Regarding securities, the risk that a financial instrument cannot be traded at its market price due to the size, structure or efficiency of the market.
Loan	A sum of money borrowed by a debtor that is expected to be paid back with interest to the creditor. A debt instrument where immovable property is the collateral for the loan. A mortgage gives the lender a right to take possession of the property if the borrower fails to repay the loan. Registration is a prerequisite for the existence of any mortgage loan. A mortgage can be registered over either a corporeal or incorporeal property, even if it does not belong to the mortgagee. Also called a Mortgage bond.
Loss	A tangible or intangible, financial or non-financial loss of economic value.
Market	An assessment of the property value, with the value being compared to similar properties in the area.

Obligation	The title given to the legal relationship that exists between parties to an agreement when they acquire personal rights against each other for entitlement to perform.
Option	Either a call or a put option. A call option gives the holder the right to buy assets at an agreed price on or before a particular date. A put option gives the holder the right to sell assets at an agreed price on or before a particular date.
Origination	A process of creating assets.
Originator	An entity that created assets and hold on balance sheet for securitisation purposes.
Owner Trust	Owner of a securitisation vehicle that acts in the best interest of the Noteholders.
Payment Date	The date on which the payment of a coupon is made.
Prepayment	Early or excess repayment of an obligation. Partial or full prepayment of the outstanding loan amount.
Prepayment Rate	The rate of prepayment in relation to the pool of obligations. Also called prepayment speed.
Principal	The total amount borrowed or lent, e.g. the face value of a bond, excluding interest.
Private	An issuance of securities without market participation, however, with a select few investors. Placed on a private basis and not in the open market.
Property	Movable or immovable asset.
Provision	An amount set aside for expected losses to be incurred by a creditor.
Rating Outlook	A Rating Outlook indicates the potential direction of a rated entity's rating over the medium term, typically one to two years. An outlook may be defined as: 'Stable' (nothing to suggest that the rating will change), 'Positive' (the rating symbol may be raised), 'Negative' (the rating symbol may be lowered) or 'Evolving' (the rating symbol may be raised or lowered).
Recovery	The action or process of regaining possession or control of something lost. To recoup losses.
Repayment	Payment made to honour obligations in regards to a credit agreement in the following credited order: 3.) Satisfy the due or unpaid interest charges; 4.) Satisfy the due or unpaid fees or charges; and 5.) To reduce the amount of the principal debt.
Reserves	A portion of funds allocated for an eventuality.
Seasoning	The age of an asset, the time period passed since origination.
Securities	Various instruments used in the capital market to raise funds.
Securitisation	Is a process of repackaging portfolios of cash-flow producing financial instruments into securities for sale to third parties.
Security	An asset deposited or pledged as a guarantee of the fulfilment of an undertaking or the repayment of a loan, to be forfeited in case of default.
Senior	A security that has a higher repayment priority than junior securities.
Servicer	A transaction appointed agent that performs the servicing of mortgage loans, loan or obligations.
Shareholder	An individual, entity or financial institution that holds shares or stock in an organisation or company.
Spread	The interest rate that is paid in addition to the reference rate for debt securities.
Stock Code	A unique code allocated to a publicly listed security.
Structured Finance	A method of raising funds in the capital markets. A Structured Finance transaction is established to accomplish certain funding objectives whist reducing risk.
Subordinated Loan	A loan typically given by the Issuer to the securitisation vehicle that is more junior than a junior tranche.
Surveillance	Process of monitoring a transaction according to triggers, covenants and key performance indicators.
Timely Payment	The principal debt, interest, fees and expenses being repaid promptly in accordance with the contractual obligation.
Tranche	In a structured finance, a slice or portion of debt securities offered that is structured or grouped to resemble the same degree of risk associated with the underlying asset or with a similar degree of risk. A junior tranche has a higher degree of default risk than a senior tranche.
Transaction	A transaction that enables an Issuer to issue debt securities in the capital markets. A debt issuance programme that allows an Issuer the continued and flexible issuance of several types of securities in accordance with the programme terms and conditions.
Trust	A third party that acts in the best interest of another party, according to the trust deed, usually the investors. Owner of a securitisation vehicle that acts in the best interest of the Noteholders.
Trustee	A third party that acts in the best interest of another party, according to the trust deed, usually the investors. Owner of a securitisation vehicle that acts in the best interest of the Noteholders.
Ultimate Payment	A measure of the principal debt, interest, fees and expenses being repaid over a period of time determined by recoveries.
Valuation	An assessment of the property value, with the value being compared to similar properties in the area.
Waterfall	In securitisation, the order in which the cash flows are allocated to the transaction parties.
Weighted	The weight that a single obligation has in relation to the aggregated pool of obligations. For example, a single mortgage principal balance divided by the aggregated mortgage pool principal balance.
Weighted Average	An average resulting from the multiplication of each component by a factor reflecting its importance or, relative size to a pool of assets or liabilities.