

## STRUCTURED FINANCE RATING CRITERIA

# GLOBAL CRITERIA FOR RATING TRADE RECEIVABLES-BACKED SECURITISATIONS

This is an update to the methodology previously published in February 2020.

There are no material changes and as such no rating impact.

February 2021



## INTRODUCTION

This Criteria report (the 'Criteria') detail ARC Ratings' ('ARC') approach to rating trade receivables-backed securitisations. Trade receivables are unsecured obligations generated when a business sells goods or services on credit.

Trade receivables typically have the following characteristics:

- goods have already been delivered;
- the invoice specifies a due date for payment, typically at least 30 days in the future;
- the receivables carry no interest, although in some cases interest can be charged for late payment;
- the receivables can be subject to 'dilution' e.g. cancellation in full or in part due to product faults (in quality or quantity).

A 'classic' trade receivables securitisation would provide funding for a diverse portfolio of such receivables, with each receivable being purchased by the issuing entity at its face value less a discount reflecting three separate components: default risk, dilution risk and carry cost, each of which is described in detail below, together reflected in a portfolio Advance Rate which can fluctuate as old receivables pay off and new ones are added.

Notwithstanding these common characteristics, each trade receivables securitisation is unique, reflecting industry, business and company specific influences, and the analytical approach might need to be modified to accommodate the specifics of each transaction. For example, a seller might have all of is receivables insured against default, in which case the analysis would focus on the extent to which a reserve against defaults could be reduced which in turn will be dictated by the 'conditionality' of the insurance. It should also be noted that trade receivables are only a part of the larger trade finance market a range of other factors (such as transportation risk, commodity price risk) need to be analysed.

However, the general approach detailed in this report can be used as a guideline for all trade receivables transactions, whether term transactions rated on a stand-alone basis or for inclusion in an ABCP conduit. In its analysis, ARC considers both qualitative and quantitative factors. Qualitative factors will be covered in the review of the Originator/Servicer/Factoring Company, specifically its origination and collection processes while the quantitative analysis will focus on the underlying collateral and obligor characteristics, history of defaults, dilutions and timing of payments, each of which is supplemented by a review of the legal and structural issues as well as the operational capabilities of all key transaction parties. In combination, these factors will drive the required discount for the transaction.

These Criteria apply solely to existing receivables i.e. where goods or services have been provided and where the amount of outstanding debt by the SPV plus required reserves is



less than or equal to, at any time, the amount of eligible receivables in the securitisation pool. The Criteria do not apply to future receivables securitisations, where the full future amortisation of the SPV debt is contingent upon continuous replenishment of the pool, where the pool at any given time could be less than the total outstanding debt.

## II. RELATED RESEARCH

Each transaction will be accompanied by a transaction specific report that will disclose any additional observations or modifications to the Criteria. This Criteria should be read in conjunction with ARC' published 'Global Structured Finance Criteria and available at www.arcratings.com.

## III. RATING APPROACH

ARC will review the performance of the underlying assets in determining the appropriateness of the available credit enhancement, which is provided in the form of a dynamic loss reserve mechanism and a dynamic dilution reserve mechanism (discussed later in this report), which will both periodically adjust.

Trade receivables are short term and highly revolving – given these characteristics the credit quality of the Originator (or Factoring Company) is also factored into the analysis and in some cases, and may act as a rating cap to the transaction. ARC will analyse both the structural risk and the asset risk when rating a trade receivables transaction, as detailed further in this report.

ARC does not approve, recommend or structure transactions. Where a presented structure differs from ARC' standard expectations the analysis may be adjusted accordingly and detailed within the rating report.

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

As a qualitative approach ARC will also carry out a review of the Originator/Servicer to understand their process and procedures.

#### **ASSET RISK ANALYSIS**

ARC will analyse the historic performance of the pool of receivables. A list of information requirements is attached in Appendix B. ARC expects to receive a minimum of three years of historical performance information on an Originator's trade receivables portfolio. 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 higher credit support levels until adequate data is available.



Although ARC views obligor default risk similarly across all its asset-backed securitisations, trade receivables are unique in that their short-term nature coupled with their rapid repayment will see the underlying asset portfolio vary somewhat significantly on a monthly basis. Furthermore, trade receivables performance can also vary widely in accordance with industry and business practice. Therefore, in capturing obligor default risk, the constant reassessment of the portfolio and the subsequent adjustment of the required credit enhancement ('the dynamic reserve mechanism') is core to analysing the performance of the asset pool. However, on occasion asset pools may be less diversified with potential exposure to large obligors whose default risk may be not be adequately captured by the default analysis discussed below. In such cases, the total applied loss reserve is the higher of: (a) dynamic loss reserve (as discussed in the Default Analysis section); and (b) a floor which is established in respect of the loss reserve to account for Obligor concentration risk (the Obligor floor).

## **Default Analysis**

ARC 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 writeoff statistics. ARC expects to be presented with stable performance information; and where there is volatile performance in the information, ARC will investigate the reasons for such volatility.

A technical default date is defined in the transaction documents, whereby a receivable which is deemed not to have performed is considered by ARC to be an ineligible asset and therefore is not considered for over-collateralisation purposes. The technical default date 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 ('Sales-based approach', see Chart 1), 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.



		Elig	ible receivabl	es	Ineligible	Write-offs	D - (	
	Sales	Days past due Defaulted		WILE-OIS	Default Ratio			
	Sches	Current	1-30	31-60	61-90			
July					<b>J</b> 10	0	=10/200=2.3%	
June				<b>J</b> 10	2.5	0	=2.5/300=0.8%	
Мау			_ 50	5	3	0	=3/150=2.0%	
April ③	200	275	40	5				
March (2)	300	250	40					
February (1)	150	175						
Monthly sales	-based default r	atio =	61-90 DPI		e-offs prior to to	•		

#### **Assumptions**

Payment term: 30 days

Deemed default: 61-90 days past due

.: 3 month default horizon

In cases where a seller makes use of a variety of payment terms, ARC will utilize the weighted average (as set forth in the transaction documents) of the payment terms in the formulation of its Loss Ratio. This will also apply in cases where a seller accounts for receivables on a past due basis. ARC will factor the aforementioned into to its Loss Horizon calculation to ensure sufficient losses are captured from the respective sales embedded in the Loss Horizon. The Loss Horizon is calculated by summing the weighted average payment term and the number of days during which the receivables are delinquent but have not defaulted. Further bespoke adjustments may be made to more accurately reflect the dynamics of a given portfolio may be made, although this is not expected too significantly deviate from the above. In such cases, ARC will relay such deviations in the accompanying rating report.

## **Dilution Analysis**

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.

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



#### **Payment Terms**

ARC 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 ARC' 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.

#### STRUCTURAL RISK ANALYSIS

ARC 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.

## True Sale and Bankruptcy Remoteness

In a typical trade receivables transaction, the existing trade receivables of the Originator are sold via a 'true-sale' to a special-purpose vehicle (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.

As such, the structural integrity of a securitisation transaction from a legal perspective is crucial. As in other asset backed transactions, when rating trade receivable-backed securities, it is normal procedure for ARC 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 a 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 are legal, valid, binding and enforceable.

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. ARC 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. ARC's stress scenarios for establishing legal requirements are structured accordingly. ARC will also need to review the final signed legal documentation prior to according 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. 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 audit opinion from a suitably qualified independent auditor 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, ARC expects to see insurance documents pertaining to the underlying receivables. In instances where an audit opinion is not provided, ARC may undertake a file review on a random selection of files relating to the underlying collateral; and
- Any previous or existing cession over book debts to be included in the SPV have been cancelled and ARC expects this to be addressed in the legal opinion.

## **Eligibility Criteria**

Eligibility criteria are key to a trade receivables transaction. ARC 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.

Typically, a breach of the eligibility criteria is rectified by the Originator by the substitution or repurchase of ineligible receivables. A failure to repurchase ineligible receivables will result in an early amortisation of the transaction. Receivables that are discovered to be ineligible after being sold to the transaction should be repurchased by the Originator, failing which any collections from such receivables can be used in the normal way. 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 And Early Amortisation Triggers**

Stop purchase or early amortisation 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 ('DSO'), as well as cash not invested in receivables.

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.

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. For example, in cases where the Originator is a rated entity, a downgrade of the Originator's rating below a specific level may constitute a stop purchase event. In cases where an Originator is rated sub investment grade, triggers should be in place to detect a deterioration of the Originator (e.g. an Originator solvency trigger) before the impact becomes noticeable in the asset portfolio's performance.

## Seller and Servicer Representations and Warranties

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.

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. 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

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**

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.

## Originator/Servicer Insolvency-Related Liquidity Risk

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 ARC' counterparty guidelines. The sizing of the liquidity facility will vary between transactions. Senior costs included in the calculation of the liquidity facility and senior costs reserve will normally include interest payable on the fully drawn amount of the liquidity facility, as well as any commitment fees.

## **Commingling Risk**

ARC 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. ARC 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. ARC will also review signatories on the SPV account to ensure they are deemed to be sufficiently independent.

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, ARC 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 ARC expects all future collections to flow directly to an account held in the name of the SPV.

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 ARC 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.

## Asset/Liability Test

ARC also expects a transaction to comply with an asset/liability test. This should be tested at each purchase date to ensure compliance that the amount of outstanding debt plus required reserves is less than or equal to the amount of eligible receivables due to the dynamic and revolving nature of the pool. 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. A breach of the asset/liability test will typically lead to a stop purchase event and a potential wind down of the transaction.

#### **CREDIT ENHANCEMENT**

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 generally are the best indicator of portfolio credit quality.

Typically credit enhancement, is dynamic and adjusts for deteriorating asset performance. Credit enhancement may be provided for a trade receivables transaction in the form of over-collateralisation, subordination and/or reserves. The total applied loss reserve is the higher of: (a) dynamic loss reserve; and (b) the Obligor floor.

#### **Concentration Limits And Obligor Floor**

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, industry 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. ARC monitors concentration levels on a quarterly basis at a minimum throughout the duration of the transaction to ensure adequate credit enhancement is applied.

ARC will review the underlying Obligors and any special Obligor limits pertaining to them on an individual level as well as at a group level. ARC will also review whether the Originator



can monitor potential concentrations going forward. The total applied loss reserve is the higher of: (a) dynamic loss reserve; and (b) the Obligor floor. A floor is established in respect of the loss reserve to account for Obligor concentration risk. The Obligor floor protects against the likelihood of a certain number of Obligors defaulting during the amortisation period and therefore resulting in a decrease in cash flow available to the transaction.

The Obligor Floor Matrix sets out for each rating scenario a number of Obligors ARC assumes will default and should be covered by the Obligor floor. The floor matrix acts as a guide for the diversified pool; where portfolio characteristics deviate from this, the number of concentrations to be covered as detailed in the floor matrix may be adjusted accordingly. To calculate the Obligor floor, one should, multiply the number of Obligors that should be covered, as shown in the table below, by the permitted concentration limit for the Obligors, as specified in the transaction documents. The floor applied at different rating levels is shown in the table:

**Obligor Floor Matrix** 

Highest Transaction Rating	AAA(sf)	AA(sf)	A(sf)	BBB(sf)	≤ BB(sf)
Obligor Rating					
AAA	0	0	0	0	0
AA- to AA+	1	0	0	0	0
A- to A+	2	1	1	0	0
BBB- to BBB+	3	2	1	1	0
BB- to BB+	4	3	3	2	0
≤ BB+ or unrated	5	4	4	3	2

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. In circumstances where an insurance policy only partially covers default risk, a variation of the above matrix will be utilised. The degree of variation is determined by the extent of the cover provided and the insurer's rating. In all the aforementioned cases ARC will require that the credit enhancement required be determined by the dynamic loss reserve and in the case of partially covered pools the obligor floor result, taking into account the relief provided by the insurance cover, will still be weighed against the dynamic loss reserve result.

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



### **ORIGINATION AND SERVICING**

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 ARC forming a qualitative view on the transaction, however, the Originator does not necessarily need to have a rating. If it is not rated, ARC may utilise its Financial Institutions or Corporates sectors to undertake a credit assessment on the Originator. The credit assessment should be maintained throughout the life of the transaction. When rating a securitisation of factoring receivables, if the factoring company itself is unrated but is the subsidiary of larger recognised financial institution the factoring company itself may not need to be rated.

ARC will carry out an Originator/Servicer review as detailed in its Global Structured Finance Rating Criteria and as detailed in Appendix C, to ascertain the ability of the Originator/Servicer to carry out their role. Such a review will cover credit approval process, collection and charge-off policies and procedures, as well as industry- and business-specific factors that could impact the portfolio's credit risk profile and receivable behaviour. 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. A lower rated originator would be expected to have a committed back-up servicer in place at the onset of a transaction, this to ensure an orderly transition of servicing when necessary.

In respect of factoring companies ARC will review the agreements containing the eligibility requirements for a factoring facility in order to gauge the underwriting standards of the factoring company. Further attention will be paid to the factoring companies' collections track record in the particular underlying factored receivables industries, and the separation of collection accounts.

## **Back-up Servicer**

The role of the back-up Servicer is to take over collection 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.

ARC 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.



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.

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

Where tax arises in respect of the receivables or the transaction, e.g. transfer tax, VAT, withholding tax etc. ARC 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.

## IV. RATING SENSITIVITY

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, ARC considers that any rating sensitivity to the deterioration of the performance of the underlying pool is largely mitigated.

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.

## V. PERFORMANCE MONITORING

Upon each reporting period, typically monthly, ARC will review the performance information provided to ensure the reserves are correctly calculated and that no triggers have been breached and, for public transactions, ARC will publish a surveillance report. In addition, a formal rating review will be held annually at a minimum, or as events warrant.

## VI. RATING MODIFIERS

Indicative Rating - evidenced by the suffix (ind) - is a rating assigned by ARC to an issuer or an instrument (most commonly structured or project finance debt issues) when the assignment of a final rating is dependent upon the fulfilment of specific contingencies. Any material deviation in the fulfilment of these contingencies from the assumptions



underlying the Indicative Rating can have a material impact on the final rating accorded, which accordingly may be fundamentally different to the initial Indicative Rating. Moreover, ARC reserves the right not to issue a final rating. Potential investors are advised to bear this in mind when considering any indicative rating.

As with all other structured finance ratings, trade receivables ratings are required to include the suffix (sf) following the rating assigned.

## VII. QUALIFICATION

Note that ARC 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, ARC 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. These are determined at the outset of the Transaction with their purpose being to limit/control the quality of the receivables being sold.

An eligible receivable has, amongst others, the following characteristics:

- Originated in respect of goods or services already performed or delivered;
- Is owed by an eligible obligor;
- 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; and
- 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; and
- 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 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, these to be broken down into their respective ageing buckets.
- Details on the underwriting and credit vetting procedures, including the use of credit scoring models;
- Details of the Obligor approval process, including any supporting 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 dilution figures for the last three years, together with a summary of the items giving rise to dilution and an explanation of each item;
- 'Constant' dilutions, to be highlighted e.g. volume discounts;
- Monthly write-offs;
- Monthly turnover rate of the trade receivable pool (measured by days of sales outstanding (DSO));
- 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;
- 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; and,
- If applicable, insurance policy documentation.

## APPENDIX C: ORIGINATOR/SERVICER REVIEW AGENDA

ARC 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, competition and 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;
- Collection procedures, including expectations for future write offs;
- IT systems (such as Account Receivables packages/systems) and disaster recovery;
- A historical overview of the performance of the relevant asset book;
- Portfolio composition by relevant characteristics ideally for each payment term, 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;
   and
- In absence of an audit report a sample file review may be carried out.

## APPENDIX D: ORIGINATOR/SERVICER REVIEW AGENDA

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.

## Dynamic Reserve as of month X = Dynamic Loss Reserve + Dynamic Dilution Reserve + Dynamic 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 Reserve = (Rating Multiplier x Loss Ratio x Loss Horizon Ratio) + 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 time period 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.

Rating	Rating Multiplier
AAA(sf)	2.5x to 3.5x
AA(sf)	2.0x to 3.0x
A(sf)	1.75x to 2.75x
BBB(sf)	1.5x to 2.5x

ARC' rating 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 1.96.

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 1.96.

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.

## **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.

Where 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. To note specifically, the higher or the Servicer and Back-Up Servicer's costs will be utilised in the formulation of this reserve.

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.



Where the Yield Reserve is calculated by multiplying the Days Sales Outstanding by the Rating Multiplier and the Annual Coupon.

Where Annual Coupon is the sum of margin, the base interest rate and the interest rate stress.

It is key that tis 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.

## ILLUSTRATIVE EXAMPLE: CALCULATION OF DYNAMIC RESERVE AT 'BBB(SF)' RATING LEVEL

Below is an illustrated example of the Dynamic Reserve Calculation, this yielding the required discount rate to be applied to receivables to be sold to achieve the targeted rating. As discussed above, this calculation will be done on the earlier of each purchase date or month end to calculate the dynamic credit enhancement required for the targeted rating level. The calculation is based on the latest historical performance data thus a deterioration in one month may therefore take up to full annual cycle to decrease in significance.

The below demonstrates the calculation of credit enhancement required for a transaction targeting a BBB(sf) rating.

				Dynamic Loss	Reserve calculat	ion - example				
ВВВ	А	(i)	(ii)	В	(iii)	(iv)	С	(v)	D	=
Month	Rating Mu <b>l</b> tiplier	Defau <b>l</b> t proxy/ sales 4 months prior (%)	3-month rolling average of (i) (%)	Defau <b>l</b> t ratio 12-month peak of (ii) (%)	4 months' cumulative sales	Eligible receivable balance	Loss horizon ratio (iii)/(iv)	12-month sample standard deviation (%)	Default volatility factor (1.96 x (v)) (%)	Loss reserve ((AxBxC)+D) (%)
1	2.0x	0.27	0.47	0.94	290,750	188,988	1.54	0.29	0.57	3.47
2	2.0x	0.32	0.34	0.94	294,050	197,014	1.49	0.29	0.57	3.38
3	2.0x	0.45	0.35	0.94	315,100	198,513	1.59	0.29	0.57	3.56
4	2.0x	0.31	0.36	0.94	327,300	199,653	1.64	0.29	0.57	3.65
5	2.0x	0.46	0.41	0.94	340,000	234,600	1.45	0.29	0.57	3.29
6	2.0x	0.55	0.44	0.94	342,500	239,750	1.43	0.29	0.57	3.26
7	2.0x	0.42	0.48	0.94	343,600	202,724	1.69	0.29	0.57	3.76
8	2.0x	0.53	0.50	0.94	370,000	240,500	1.54	0.29	0.57	3.46
9	2.0x	1.35	0.77	0.94	382,300	263,787	1.45	0.30	0.58	3.31
10	2.0x	0.81	0.90	0.94	372,300	264,333	1.41	0.30	0.58	3.23
11	2.0x	0.72	0.96	0.96	310,900	208,303	1.49	0.30	0.58	3.45
12	2.0x	0.44	0.66	0.96	299,900	194,935	1.54	0.30	0.58	3.54

ARC measures the time to recognition of dilution in formulating the Dilution Horizon Ration, with the weighted average time lag (months) the given metric. In the illustrative example below, it was determined that the time to recognition was 2 months.



## STRUCTURED FINANCE RATING CRITERIA

			Diluti	on Loss Reserve	calculation – exc	ımple			
	А	(i)	В	(ii)	(iii)	С	(iv)	D	=
Month	Rating Multiplier	Dilution/sales 2 months prior (%)	Dilution ratio (12m average of (i))	2 months' cumulative sales	Eligible receivable balance	Dilution horizon ratio (ii(/(iii)	12-month sample standard deviation (%)	Dilution volatility factor (1.96 x (iv)) (%)	Dilution reserve ((AxB)+D)xC) (%)
1	2.0x	0.51	1.60	145,375	188,988	0.77	1.08	2.12	4.09
2	2.0x	2.34	1.75	147,025	197,014	0.75	1.04	2.04	4.14
3	2.0x	1.67	1.70	157,550	198,513	0.79	1.03	2.01	4.29
4	2.0x	4.76	1.95	163,650	199,653	0.82	1.35	2.65	5.38
5	2.0x	2.41	1.99	170,000	234,600	0.72	1.36	2.67	4.81
6	2.0x	1.23	1.91	171,250	239,750	0.71	1.38	2.70	4.65
7	2.0x	2.68	1.94	171,800	202,724	0.85	1.39	2.72	5.59
8	2.0x	1.27	1.92	185,000	240,500	0.77	1.40	2.74	5.07
9	2.0x	3.01	2.07	191,150	263,787	0.72	1.41	2.77	5.01
10	2.0x	0.85	2.13	186,150	264,333	0.70	1.33	2.62	4.84
11	2.0x	0.97	2.15	155,450	208,303	0.75	1.32	2.59	5.13
12	2.0x	2.23	1.99	149,950	194,935	0.77	1.18	2.31	4.84

	Dynamic Carrying Cost Reserve								
Со	rrying cost reserve = (A+B) (%)								
Α	Senior costs reserve (%)	(a/360)xbxc	1.375						
а	Annual senior expenses		2.75						
Х	Higher of servicer and back-up servicer cost (%)	2.25							
У	Trustee fees	0.25							
Z	Other fees	0.25							
В	Yield reserve (%)	(a/360)xbxc	1.5						
а	Annual coupon rate		3.00						
х	Sonia (%)	1.75							
У	Margin (%)	1.25							
b	Days sales outstanding		90						
С	Stress factor		2						

Total Dynamic Reserve as of month 12 = 3.54% + 4.84% + 2.88% = 11.26%.



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