

CREDIT OPINION

1 November 2023

New Issue

✓ Send Your Feedback

Closing Date

1 November 2023

TABLE OF CONTENTS

Capital structure	1
Summary	1
Credit strengths	3
Credit challenges	4
Key characteristics	5
Asset description	7
Asset analysis	10
Securitisation structure description	18
Securitisation structure analysis	22
ESG considerations	25
Methodology and monitoring	26
Modelling assumptions	28
Appendix 1: Summary of the originator's underwriting policies and procedures	29
Appendix 2: Summary of the servicer's collection procedures	32
Appendix 3: Originator and servicer reviews	34

Contacts

Son Nguyen +44.20.7772.8721
AVP-Analyst
son.nguyen@moodys.com

Emmanuel Baah +44.20.7772.5689
VP-Senior Analyst
emmanuel.baah@moodys.com

» Contacts continued on last page

Paragon Mortgages (No. 29) PLC

New Issue - Paragon Mortgages Group issues 29th Paragon Mortgages UK buy-to-let RMBS

Capital structure

Exhibit 1

Definitive ratings

Series	Rating	Amount (million)	% of assets	Legal final maturity	Coupon*	Subordi- nation**	Reserve fund ***	Total credit enhancement****
Class A	Aaa(sf)	£747.00	83.00%	Dec/2055	SONIA+1.20%	17.00%	1.43%	17.00%
Class B	Aa1(sf)	£33.75	3.75%	Dec/2055	SONIA+1.90%	13.25%	1.43%	13.25%
Class C	Aa2(sf)	£29.25	3.25%	Dec/2055	SONIA+2.75%	10.00%	0.12%	10.00%
Class D	A2(sf)	£45.00	5.00%	Dec/2055	SONIA+3.80%	5.00%	0.12%	5.00%
Class Z	NR	£45.00	5.00%	Dec/2055	SONIA+4.00%	0.00%	0.00%	0.00%
Class S	NR	£13.88	1.54%	Dec/2055	SONIA+4.00%	0.00%	0.00%	0.00%
Class S VFN	NR	£85.00	N/A	Dec/2055	SONIA+4.00%	0.00%	0.00%	0.00%
Total		£998.88	100.00%					

*Compounded daily Sterling Overnight Index Average rate (SONIA). On each quarterly interest payment date, the coupon on the notes is calculated by compounding the daily SONIA rate for the calculation period. On the interest payment date falling in December 2028, the margin payable on classes A to D notes increases. Interest payable on classes B, C, D and Z notes is deferrable with interest accruing on deferred payments at a rate equal to SONIA plus the relevant margin shown in the table above as long as such notes are not the most senior outstanding class of notes.

**Subordination is as a % of the asset pool at closing.

*** The reserve funds are a % of the asset pool at closing and do not provide credit enhancement. They are amortising subject to compliance with certain triggers and with no floor.

**** Does not include the benefit of excess spread. Class A to Z sums to 100% of the asset pool at closing.

Source: Paragon Mortgages (No. 29) PLC prospectus, Moody's Investors Service

Summary

This transaction is a 5-year revolving cash securitisation of buy-to-let (BTL) mortgage loans extended to borrowers in the UK. Paragon is a regular issuer in the UK BTL sector. The transaction is backed exclusively by BTL mortgage loans originated by members of the Paragon Banking Group (Paragon).

As of the cut-off date of 11 October 2023, the closing portfolio consisted of loans secured by mortgages on residential properties in the UK extended to 3,041 borrowers for BTL purposes. The pool balance is £899.2 million. 34% of the pool consists of mortgages from Paragon Mortgages (No. 25) PLC, that was called and repaid in May 2023, and the rest are newly originated.

Our credit view is the result of our analysis of a wide array of quantitative and qualitative factors, including the pool characteristics and the originator and servicer reviews. The credit opinion of the transaction also takes into consideration the structural features such as credit enhancement and liquidity available for each class of notes, the support provided by the interest rate swap and the mitigants to financial disruption risk.

In general, we consider this transaction to have low exposure to environmental and governance risks and low to moderate exposure to social risks. The transaction has low exposure to environmental risks owing to the pool's geographic diversification and presence of insurance. Disaster types that frequently lack insurances coverage, such as earthquakes and flooding outside of specified zones could increase defaults and losses on affected loans, should they occur. The low social risk is due to the governmental efforts to alleviate burdens to mortgage borrowers in times of stress, which could sometimes negatively impact the loan performance. Transaction features such as risk retention, comprehensive agreed upon procedures (AUPs) report, servicing oversight, and R&W enforcement mitigate the governance risks. For further details, please see "ESG Considerations".

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

Credit strengths

The following factors were the strongest features of this transaction:

» **Asset quality:**

- *No prior adverse credit:* None of the borrowers in the securitised pool has been subject to any personal bankruptcy, individual voluntary arrangements or country court judgements (see "Asset analysis - Comparables").
- *Originator's long origination history:* The originator has provided historical information since 1996 and has an extensive track record of operating in its market segment. Analysis shows that the performance of its securitisations has been better than the average in the UK BTL sector (see "Asset analysis - Comparables").
- *Weighted average (WA) loan-to-value (LTV) ratio:* The pool has a current weighted average LTV ratio of 69.4%, with no loans with WA LTV ratios higher than 90.0% (see "Asset analysis - Comparables").
- *Property valuations:* At origination, a full valuation has been performed by the relevant seller's valuer or a valuer appointed to act on the seller's behalf. In case of further advances, an assessed valuation by reference to an applicable house price index can be carried out. None of the valuations of properties underlying the loans in the pool have been valued using an Automated Valuation Model (AVM) or a desktop valuation (see "Asset analysis - Comparables").
- *No loans in arrears:* None of the loans is in arrears in the securitised pool.

» **Structure:**

- *Two amortising reserve funds:* The deal benefits from two amortising reserve funds sized on aggregate at closing at 1.5% of the rated notes, funded through class S notes. One reserve fund equals 1.5% of class A and class B notes' outstanding principal amount and is dedicated solely to provide liquidity to class A and class B notes, and cover senior expenses. Once the Class A and B Liquidity Reserve has been fully utilised, the other reserve fund is available for all the rated notes and senior expenses and it is sized as a percentage of class C and class D notes' outstanding principal amount. The reserve funds amortise sequentially except if there has been a required amount trigger event. (see "Securitisation structure description - Detailed description of the structure - Reserve fund").
- *Protection of yield through swap:* 82.46% of the pool consists of fixed-rate loans, which will reset to the seller's standard variable rate (SVR). The fixed-floating mismatch between these assets and the notes is mitigated by a fixed-floating swap, provided by Banco Santander S.A. and Natwest Markets PLC. (see "Securitisation structure analysis - Primary structural analysis - Spread compression").

Credit challenges

The transaction contains the following challenges:

- » **Risk of margin compression:** The spread could potentially compress in the transaction because of the following reasons:
 - *Unhedged SVR exposure:* This could lead to a decrease in the average yield on the whole pool of loans during the life of the transaction. However, Paragon has the obligation to ensure a minimum WA spread of 2.5% over SONIA (after taking into account swap payments and any funds standing to the credit of the Mortgage Margin Reserve Fund) is maintained at all times.
 - *Product switches:* The transaction allows for unlimited product switches, subject to certain conditions, before the step-up date in December 2028. Upon a product switch, the issuer will, within 30 days, enter into an additional swap agreement to hedge the fixed-floating interest rate exposure in relation to such converted mortgage only if and when the notes become under- or over-hedged by more than £15.0 million. This feature could lead to further spread compression (see "Securitisation structure analysis - Primary structural analysis - Spread compression")
- » **Affordability of mortgage payments:** 95.35% of the loans have been advanced on an interest-only (IO) basis. There is a risk that IO borrowers could have more stretched finances and the result of the Financial Conduct Authority's (FCA) mortgage market review could limit refinancing opportunities for such borrowers (see "Asset analysis - Comparables").
- » **Servicing disruption risk:** The servicers/administrators are not rated by us. The transaction is therefore exposed to financial disruption risk. This risk is mitigated by the fact that there is a backup servicing facilitator, Intertrust Management Limited, which undertakes to facilitate the search for a suitable backup servicer/administrator in case either the original servicer or administrator is terminated from its role (see "Securitisation structure analysis - Additional structural analysis - Mitigating servicing disruptions").
- » **Receiver of rent:** Paragon Banking Group uses a receiver of rent as a means of controlling arrears and losses. We believe that should the house prices weaken significantly, it could lead to an increase in loss severities. In a severe recession, a receiver of rent may be unable to successfully re-let a vacant property and so repossession would occur in any case but with a lag and increased loss severity. Additionally, excess spread can leak out of the transaction instead of covering losses and amortising the notes down, as in the case of repossession. Finally, this is an operationally more complex method of resolving payment problems compared with attempting to foreclose sooner, which could be compounded in cases where the servicer itself is under financial pressure (see "Primary asset analysis - Additional asset analysis - Receiver of rent").
- » **Interest rate mismatch:** 82.46% of the contracts pay fixed rate while the notes pay a floating rate linked to daily compounded SONIA. As a result, the issuer is subject to fixed-floating interest rate mismatch. However, the transaction benefits from an interest rate swap. Banco Santander S.A. (A3(cr) / P-1 (cr)) and Natwest Markets PLC (A1(cr) / P-1 (cr)) will act as swap counterparties. The transaction also provides that an additional hedging arrangement needs to be entered into within 30 days upon a product switch or addition of new loans. See "Securitisation structure analysis – Additional structure analysis - Interest rate mismatch").

Key characteristics

Exhibit 2

Asset characteristics

(Securitized pool, cut-off date of 11 Oct 2023)

Seller/Originator:	Paragon Mortgages 2010 Limited (PML) and Paragon Bank plc (PB), wholly owned subsidiaries of Paragon Banking Group (Paragon)
Servicers and legal title holders:	PML and PB
Receivables:	First-lien (or first and second lien) buy-to-let loans to individuals secured by property located in the UK
Methodology used:	Residential Mortgage-Backed Securitizations, October 2023
Total amount:	£899,186,750.0
Number of borrowers:	3,041
Borrower concentration:	Top 20 borrowers make up 8.7%
WA remaining term (in years):	18.4
WA seasoning (in years):	3.2
Interest basis:	82.46% fixed rated loans
WA current LTV:	69.4%
WA original LTV:	69.8%
Moody's calculated WA indexed	65.5%
Borrower credit profile:	Prime borrowers
Delinquency status:	0.0%

Sources: Paragon Mortgages (No.29) PLC prospectus, Moody's Investors Service

Exhibit 3

Securitisation structure characteristics

Issuer:	Paragon Mortgages (No.29) PLC
Back-up servicer(s):	None appointed at closing
Back-up servicer facilitator:	Intertrust Management Limited
Cash manager:	PML
Back-up cash manager:	None appointed at closing
Principal paying agent:	Citibank, N.A., London Branch (Aa3(cr)/P-1(cr))
Issuer account bank:	HSBC Bank Plc (A1/P-1; Aa3(cr)/P-1(cr))
Collection account banks:	Barclays Bank PLC (A1/P-1; A1(cr)/P-1(cr)); National Westminster Bank plc (A1/P-1 deposit ratings; Aa3(cr)/P-1(cr))
Trustee:	Citicorp Trustee Company Limited
Arrangers:	Banco Santander, S.A. (A2/P-1; A3(cr)/P-2(cr)); Merrill Lynch International
Swap provider:	Banco Santander, S.A. (A2/P-1; A3(cr)/P-2(cr)); Natwest Markets PLC (A1/P-1; A1(cr)/P-1(cr))
Calculation agent:	Citibank, N.A., London Branch (Aa3(cr)/P-1(cr))
Issuer services provider:	Paragon Finance PLC
Liabilities, credit enhancement and liquidity	
Annualised excess spread at closing:	1.72% at closing
Length of revolving period in years:	5.0
Credit enhancements:	Subordination of the Classes B through Z, Excess spread
Form of liquidity:	The Class A and Class B Liquidity Reserve (solely for Class A and Class B notes interest; senior fees, excluding PDL); the General Reserve (for Class A to D notes, and senior fees, excluding PDL); principal to pay interest (subject to PDL tests).
Number of interest payments covered by liquidity:	The cash reserves amount provide around 6.0 months of liquidity assuming a SONIA rate of 5.0%
Interest payments:	Quarterly in arrears on each payment date
Principal payments:	Pass-through on each payment date
Payment dates:	15th of March, June, September and December First payment date: 15th December 2023
Hedging arrangements:	There is fixed-floating swap hedging for the fixed portion of the pool. The fixed/floating hedge will adjust to hedge the current fixed rate portion of the portfolio, with a tolerance margin of £15million above/below such balance to retain conversion loans (not as a general limit).

Sources: Paragon Mortgages (No.29) PLC prospectus, Moody's Investors Service

Asset description

The assets backing the notes are first-ranking prime BTL mortgage loans originated by the sellers under the trading name of Paragon Banking Group. All the loans in the pool are secured on residential properties in the UK; exhibits 4-8 detail additional high-level information regarding the assets in the pool.

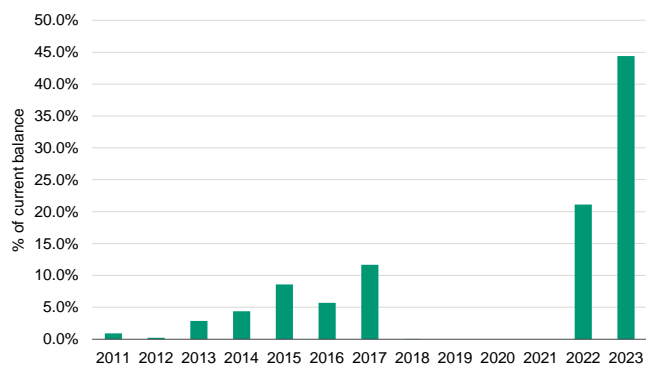
Asset description as of the portfolio cut-off date

The securitised pool cut-off date is 11 Oct 2023.

Pool characteristics

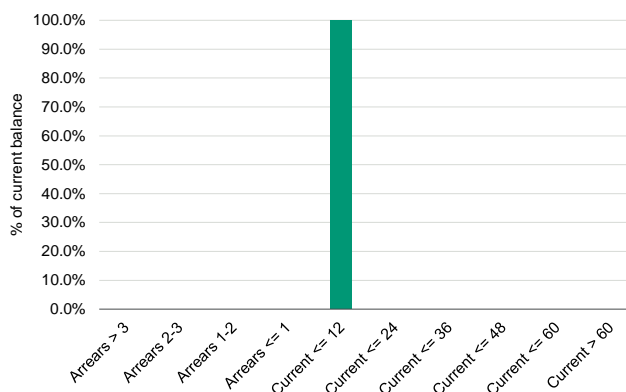
The WA LTV ratio of the pool is 69.4%, and Exhibit 6 shows that more than half of the pool (63.39%) has a current LTV ratio of 70.0% - 80.0%. Around 25.5% of the loans are concentrated in London, as Exhibit 7 shows, and 15.6% of the pool is concentrated in the South East region. As is fairly common for this type of portfolios, there are some material borrower concentrations because the borrowers tend to have multiple properties. In this portfolio, the top 20 borrowers represent 8.7% of the pool.

Exhibit 4
Portfolio breakdown by year of origination



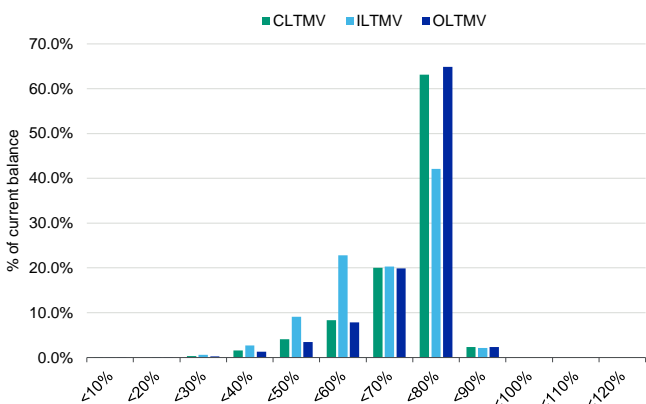
Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Exhibit 5
Portfolio breakdown by arrears



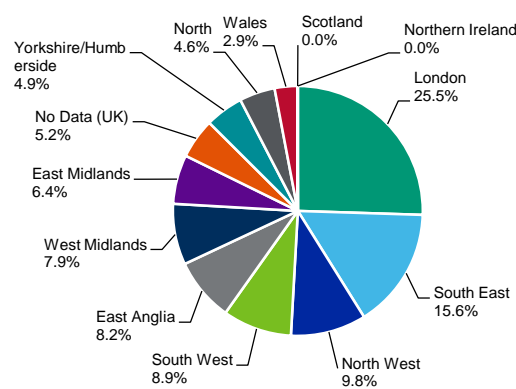
Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Exhibit 6
Portfolio breakdown by current/indexed LTV ratio



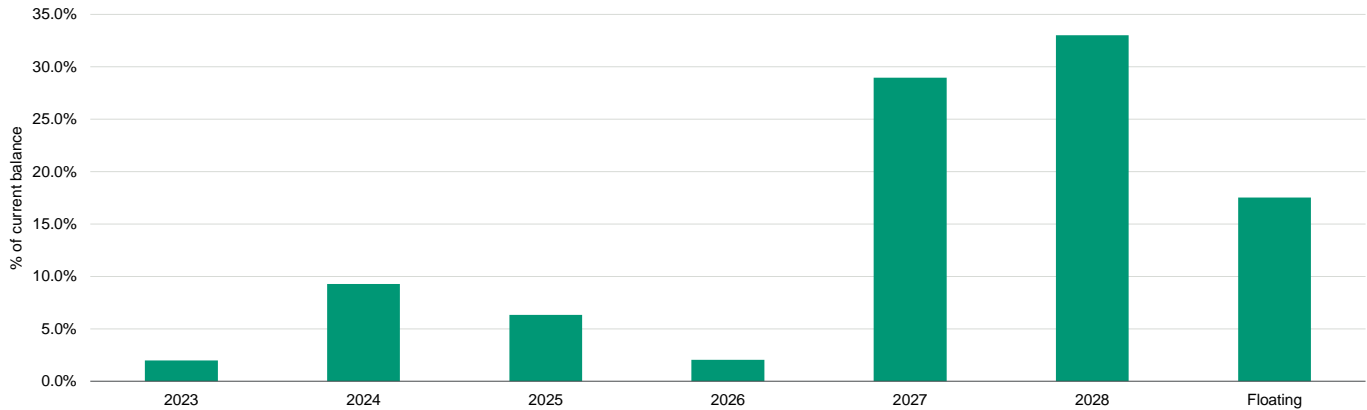
Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Exhibit 7
Portfolio breakdown by geography



Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Exhibit 8
Portfolio breakdown by year of reset



Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Originator/servicer

The sellers, Paragon Bank Plc and Paragon Mortgages (2010) Limited (PML), are part of the Paragon Banking Group (neither seller is rated). PML is an origination vehicle, established in 2010, while Paragon Bank Plc is a bank licensed to take deposits and provide finance including regulated consumer credit. Paragon Bank Plc is authorised and regulated by the Prudential Regulation Authority (PRA) and the FCA, and is the parent company of Paragon Mortgage (2010) Ltd.

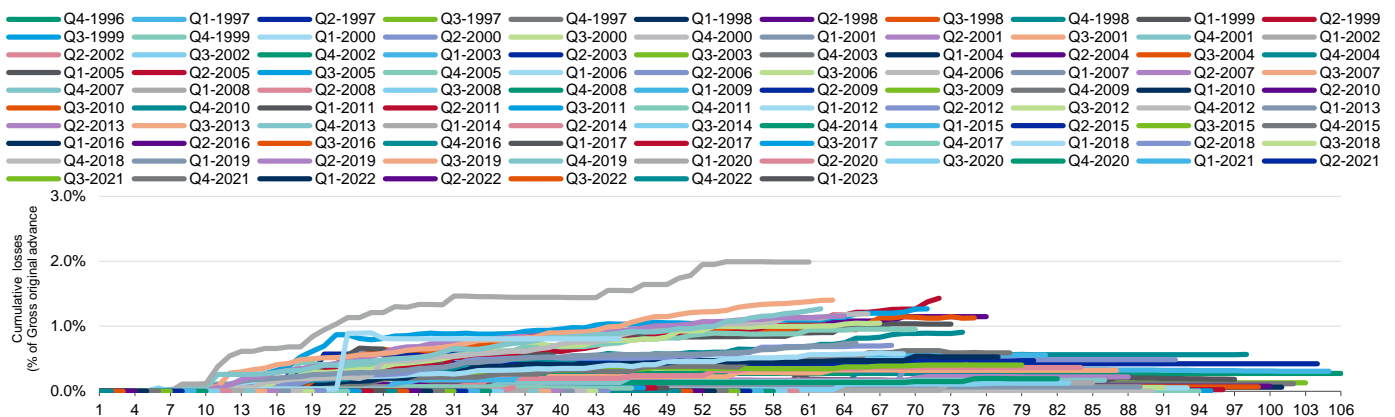
All the loans securitised were originated under the Paragon brand. Paragon Banking Group provides mostly BTL loans to professional landlords, who are borrowers with portfolios of properties. Therefore, there is above-average borrower concentration in the pool. Where the borrower is a Limited company, directors are required to provide full personal guarantees.

The sellers are also the servicers and cash administrators of the transaction, with PML taking the primary lead as the administrator. They have agreed to take on each other's role in case of servicing disruption by the other party.

Further information regarding the servicer and originator, including our originator and servicer reviews, can be found in Appendix 3. This is Paragon Group's 34th securitisation transaction to include BTL loans.

We have received cumulative defaults and losses data from Q4'1996 to Q1'2023.

Exhibit 9
Cumulative losses as a % of Gross original advance



Source: Paragon Bank PLC, Paragon Mortgages (2010) Limited

Eligibility criteria

The sellers provide the seller asset warranties, which, if not met, mean that the loans need to be repurchased. All loans upon entry in the portfolio must meet the following asset acquisition guidelines (*inter alia*):

- » First ranking security in respect of properties located in England or Wales;
- » Each loan satisfies the seller's lending guidelines;
- » Final maturity date of each mortgage is no later than 30 November 2053;
- » No mortgage is subject to any right of set-off; and
- » No obligation to make a further advance if a borrower is in breach of the mortgage conditions;
- » Each receivable, at the time of origination is denominated and payable in pound sterling;
- » No borrower is a current employee of any Paragon Banking Group company;
- » No mortgage is in arrears.

Loan amendments (product switches)

Amendments of loans in the pool are possible only in relation to interest rate conversions (to change the basis upon which the interest rate is charged) and repayment terms (to change from IO or part to repayment only).

Interest rate conversions are subject to the following conditions:

- » No unremedied event of default has occurred at the time of the proposed conversion;
- » There are no material changes to the terms of the mortgage documentation other than interest rate applicable;
- » The conversion of the applicable mortgage is effected by such means as would be adopted by a reasonable prudent mortgage lender;
- » No conversion shall extend the final maturity date of the relevant mortgage to a date later than 30 November 2053;
- » Where the loan is to be converted to a fixed-rate loan, the administrator will within 30 days enter into a fixed-floating hedge and the WA swap rate does not exceed 4.0%;
- » The product of WA fixed rate period (in years) and the aggregate balance of fixed rate loans does not exceed 5.25 years;
- » The hedging corridor of under/over-hedging (£15,000,000) has been met;
- » The borrower under such loan is not more than a month in arrears;
- » The conversion takes place on or before the step-up date;
- » The conversion margin reserve fund has sufficient funds to ensure that the issuers' available revenue receipts are not reduced by the conversion;
- » No administrator termination event has taken place.

PML, as the administrator, may also on each interest payment date debit the revenue ledger and credit a discretionary reserve fund (the conversion MRF discretionary fund) in accordance with the revenue priority of payments to fund the amounts required for future conversions. Such amounts can be used, *inter alia*, to ensure that the effect of the conversion is that the issuer does not receive less revenue receipts in respect of such interest rate conversions.

Replenishment criteria

Addition of further loans into the pool is subject to the following conditions:

- » The further sale date should falls before the step-up date;
- » The WA current LTV ratio of all mortgages in the portfolio should not exceed 75%;
- » The WA interest rate is not less than compounded daily SONIA or the alternative base rate plus 2.5% and in case the WA interest rate is less than the required threshold, the mortgage margin reserve fund should be equal to or greater than its target level;
- » MFA pre-funding reserve ledger or the principal ledger should be maintained at or above its target level;
- » A hedging arrangement should be entered into within 30 days to hedge the fixed-floating interest rate exposure in relation to such additional mortgages;
- » The aggregate outstanding current balance of mortgages with a current LTV ratio of more than 77% should not exceed 20% of the aggregate portfolio balance;
- » Regional concentration in London or South east of England (individually) should not exceed 40%;
- » Regional concentration of other regions should not exceed 20%;
- » Loans whose related properties are classed as houses in multiple occupation should not be greater than 40%;
- » The weighted average rental cover to all the mortgages in the portfolio should not be less than 125%;
- » The remaining fixed rate period applicable to each additional mortgage that is a fixed rate mortgage will not be longer than 5 years and 6 months;
- » Fixed rate mortgages may only be purchased by the issuer where the weighted average swap rate does not exceed 4%;
- » The reversionary interest is PML or PB's standard variable rate;
- » Further sale period termination event has not occurred;
- » Paragon banking group company's holding or beneficial interest on the Residual certificates should not be less than 50%;
- » There is no debit balance on the PDL;
- » The product of WA fixed rate period (in years) and the aggregate balance of fixed rate loans should not exceed 5.25 years;
- » The hedging corridor of under/over-hedging (£15,000,000) has been met;
- » Administrator termination event has not occurred.

Asset analysis

Primary asset analysis

The first step in the analysis of the credit quality of the pool is to determine a loss distribution of the mortgage loans to be securitised. Because of the large number of mortgage loans and supporting historical data, we use a continuous distribution to approximate the loss distribution: the lognormal distribution. To determine the shape of the curve, two parameters are needed: the expected loss and the volatility around this expected loss. These parameters are mainly derived from two important sources: historical loss data and the MILAN loan-by-loan model.

Expected loss

We use performance data provided by the originator in addition to other relevant data to extrapolate expected losses for the loan pool. Examples of data include market and sectorwide performance data, the performance of other securitisations and other originators' data.

The expected loss of 1.0%, which is among the lowest in the UK BTL sector, is driven by (1) the portfolio characteristics, including a weighted-average current LTV of 69.4%; (2) the good performance of the seller's precedent transactions as well as the historical

performance of the seller's loan book; (3) benchmarking with comparable transactions in the UK RMBS market; and (4) the current economic conditions in the UK.

MILAN model

To obtain the volatility under stressed scenarios, we take into account historical data. However, historical volatility may not be significant (given insufficient data points, or incomplete data), and, in addition, may not be representative of the future transactions because it is based on the previous economic environments experienced.

Consequently, we determine the loss (incorporating interest accrued on defaulted loans during the foreclosure period) we expect the portfolio to incur in a severe economic stress. This loss number (the MILAN Stressed Loss number) is produced by using a loan-by-loan model that looks at each loan in the pool individually and based on its individual characteristics, such as LTV or other identified drivers of risk, produces a benchmark loss number. This assumes stressed recovery rates (through house price decline), time to recovery and costs to foreclosure. The loan benchmark loss number is then adjusted according to positive and negative characteristics of each loan and of the pool as a whole to produce the MILAN Stressed Loss number.

MILAN Stressed Loss for this pool is 9.3%, which is lower than the UK BTL average and follows our assessment of the loan-by-loan information, taking into account (i) the portfolio characteristics including the weighted-average current LTV of 69.41% for the pool; (ii) the potential changes to the initial pool due to substitution, product switches and further advances; (iii) benchmarking with other UK Prime RMBS transactions as well as with the previous transactions of Paragon.

Lognormal distribution

The MILAN Stressed Loss number and the expected loss number are used to derive the lognormal distribution of the pool losses. Because of the large number of loans and supporting historical data, we use a continuous distribution to approximate the loss distribution.

The standard deviation of the distribution is found by setting the expected loss of the area of the lognormal distribution beyond the MILAN Stressed Loss equal to the expected loss that is consistent with the idealised expected loss of a Aaa tranche.

Risk of yield compression

82.4% of pool currently comprises of fixed-rate loans reverting to SVR + margin after the reset date.

The fixed-floating risk between the fixed-rate loans and the SONIA due under the notes is hedged via a fixed notional interest rate swap with Banco Santander S.A. (A3(cr) / P-1 (cr)) and Natwest Markets PLC (A1(cr) / P-1 (cr)). Under the swap agreement:

- » The issuer pays a fixed rate;
- » The swap counterparty pays SONIA on the same notional balance.

The transaction is unhedged with respect to SVR-linked mortgages as Paragon's SVR is not explicitly tied to SONIA. As in previous Paragon transactions, the transaction benefits from an obligation for Paragon to maintain a minimum spread over the index rate paid on the notes. Under this obligation, the servicer will have to set the rate on the variable-rate mortgages in the pool so that a minimum WA spread of 2.5% over SONIA (after taking into account swap payments) is maintained at all times.

Stressed yield vector

We typically determine two portfolio yield vectors: a base-case yield vector and a stressed yield vector. To derive our stressed yield vector, we stress the portfolio yield to account for prepayments, possible yield compression during a revolving period, basis risk and any other unhedged interest rate exposures. In the stressed-case yield, we assumed that loans resetting have an interest rate equal to SONIA plus 2.5% and the weighted average contractual margin.

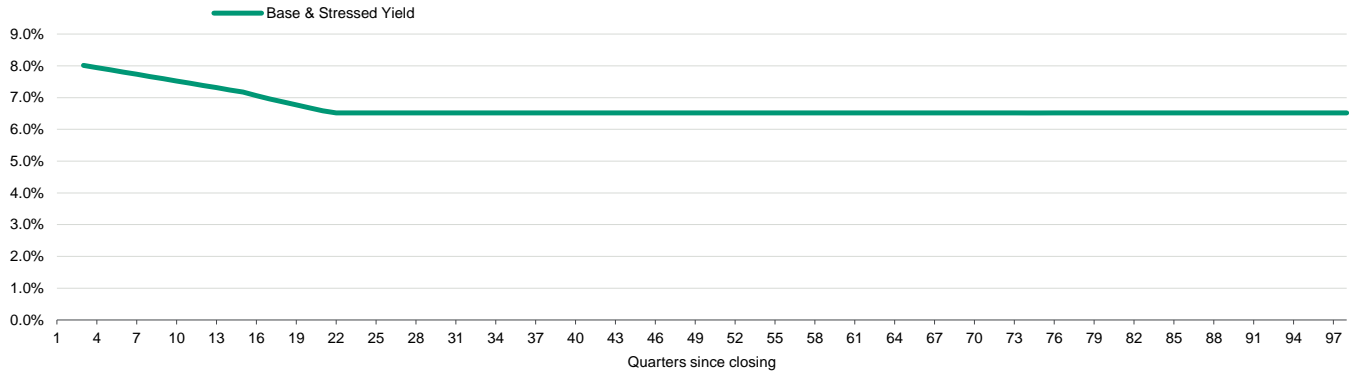
Base-case yield vector

Our base-case yield vector represents the expected portfolio yield and is based on the scheduled amortisation. In line with the stressed yield vector, the base-case yield incorporates the expected yield reduction for the fixed-rate loans that reset to floating. As Paragon has the obligation to ensure a minimum portfolio WA spread of 2.5% over SONIA (after taking into account swap payments), we have

assumed that loans resetting, have an interest rate equal to SONIA plus 2.5% and the weighted average contractual margin in the base-case yield.

Exhibit 10

Stressed and base yield



Source: Moody's Investors Service

Comparables

Exhibit 11

Benchmark table with other transactions by the same originator and comparable transactions

Deal information	Paragon Mortgages (no. 29) plc	Paragon 25	Paragon 28	Canada Square 7	Lanebrook 2022-1	Mortimer BTL 2022-1 PLC
Closing date	01/Nov/2023	26/Apr/2018	11/Nov/2020	14/Oct/2022	12/Oct/2022	12/May/2022
Originator(s)	Paragon	Paragon	Paragon	Fleet Mortgages	TML	Default Originator
Servicer(s)	Paragon	Paragon	Paragon	Fleet Mortgages	TML	Default Servicer
Pre-funding: end date	N/A	N/A	N/A	N/A	N/A	N/A
Pre-funding: target pool balance	N/A	N/A	N/A	N/A	N/A	N/A
Replenishments: end date	15/Dec/2028	15/May/2023	N/A	N/A	N/A	N/A
MILAN Loss: closing	9.30%	N/A	N/A	N/A	N/A	N/A
MILAN CE	N/A	14.5%	11.5%	11.0%	13.0%	13.0%
Expected loss: closing % OB	1.0%	1.3%	1.3%	1.3%	1.4%	1.3%
Recovery rate: closing	67.5%	N/A	N/A	N/A	N/A	N/A
Recovery lag (in months): closing	N/A	N/A	N/A	N/A	N/A	N/A
Pool information: closing model						
Cut-off date	11/10/2023	17/04/2018	30/10/2020	1/10/2022	28/09/2022	4/4/2022
Current balance	£899,186,750	£705,272,72	£720,119,71	£237,396,02	£342,829,05	£270,000,84
Loans per borrower (avg.)	£295,721	£206,522	£270,416	£293,443	£182,744	£275,230
Non-benchmark loan (% of current balance)	100.0%	N/A	N/A	N/A	N/A	N/A
Borrower top 20	8.7%	4.6%	7.3%	10.2%	6.7%	10.4%
WA interest rate	4.7%	3.8%	3.5%	4.3%	3.5%	3.3%
WA seasoning (years)	3.2	2.4	0.5	4.0	0.7	0.4
WA time to maturity (years)	18.4	18.7	21.3	17.8	23.7	21.7
Max maturity date	28/Nov/2053	30/11/2042	29/Oct/2045	30/Sep/2049	30/Jun/2057	11/Mar/2052
Max vintage concentration	2023 (44.4%)	2017 (31.7%)	2020 (97.7%)	2018 (48.7%)	2022 (57.2%)	2021 (66.8%)
Max regional concentration	London (25.50)	South East (35.8%)	South East (35.0%)	London (43.3%)	South East (25.9%)	South East (34.4%)
House price stress rate (avg.)	37.5%	33.6%	36.8%	42.0%	40.7%	40.0%
Loan to value characteristics: closing model (% of current balance)						
Original WA LTV	69.8%	70.9%	71.7%	69.7%	73.1%	72.8%
Current WA LTV	69.4%	70.3%	71.5%	69.2%	73.0%	72.8%
Indexed WA LTV	65.5%	64.6%	70.6%	56.6%	68.2%	71.1%
Current LTV: >= 90%	0.0%	0.0%	0.00%	0.0%	0.0%	0.0%
Indexed LTV: >= 90%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Sources: Paragon Bank PLC, Paragon Mortgages (2010) Limited, Moody's Investors Service

Exhibit 12

Benchmark table with other transactions by the same originator and comparable transactions

Deal name	Paragon Mortgages (no. 29) plc	Paragon 25	Paragon 28	Canada Square 7	Lanebrook 2022-1	Mortimer BTL 2022-1 PLC
Loan characteristics (% of current balance)						
Principal payment type: initial IO > 10 years	95.4%	92.1%	93.7%	94.2%	91.7%	100.0%
Principal payment type: investment account	0.0%	N/A	N/A	N/A	N/A	N/A
Principal payment type: with life insurance	0.0%	N/A	N/A	N/A	N/A	N/A
Principal payment type: savings policy	0.0%	N/A	N/A	N/A	N/A	N/A
Social programme: help to buy	0.0%	N/A	N/A	N/A	N/A	N/A
Social programme: right to buy or tenant purchase						
Borrower characteristics (% of current balance)						
Employment type: protected life time support	0.0%	N/A	N/A	N/A	N/A	N/A
Employment type: self-employed*	87.8%	N/A	N/A	N/A	N/A	N/A
Employment type: companies	0.0%	N/A	N/A	N/A	N/A	N/A
Income verification: low documentation	0.0%	N/A	N/A	N/A	N/A	N/A
Bad credit history: total	0.0%	0.0%	0.0%	0.6%	0.0%	0.2%
Property characteristics (% of current balance)						
Occupancy type: Non-owner occupied/second home	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Occupancy type: professionally let/commercial use	100.0%	N/A	N/A	N/A	N/A	N/A
Valuation type: desktop valuations (includes: drive by, AVMs and index)	0.0%	0.0%	9.3%	0.0%	0.0%	0.0%
Loan performance status (% of current balance)						
Arrears: total	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%
Arrears: > 3 month	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%
Restructured: total	0.0%	N/A	N/A	N/A	N/A	N/A
Restructured: in arrears	0.0%	N/A	N/A	N/A	N/A	N/A
Other characteristics (% of current balance)						
Guaranteed loans: NHG	0.0%	N/A	N/A	N/A	N/A	N/A
PTZ loans (interest-free loans)	0.0%	N/A	N/A	N/A	N/A	N/A
Sociétés civiles immobilières	0.0%	N/A	N/A	N/A	N/A	N/A

*Self-employed includes limited companies.

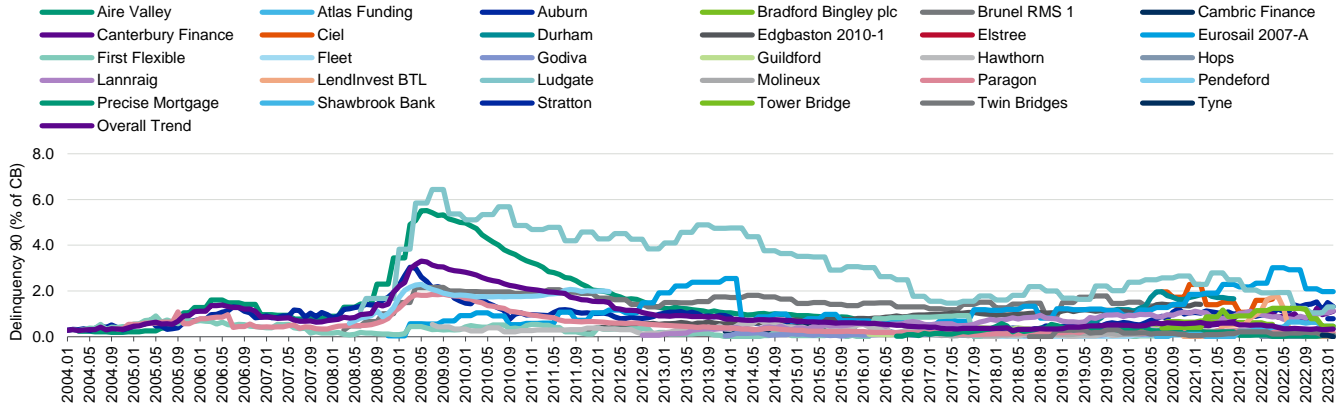
Sources: Paragon Bank PLC, Paragon Mortgages (2010) Limited, Moody's Investors Service

Performance of UK BTL deals

Exhibits 13-16 present the performance of comparable deals.

Exhibit 13

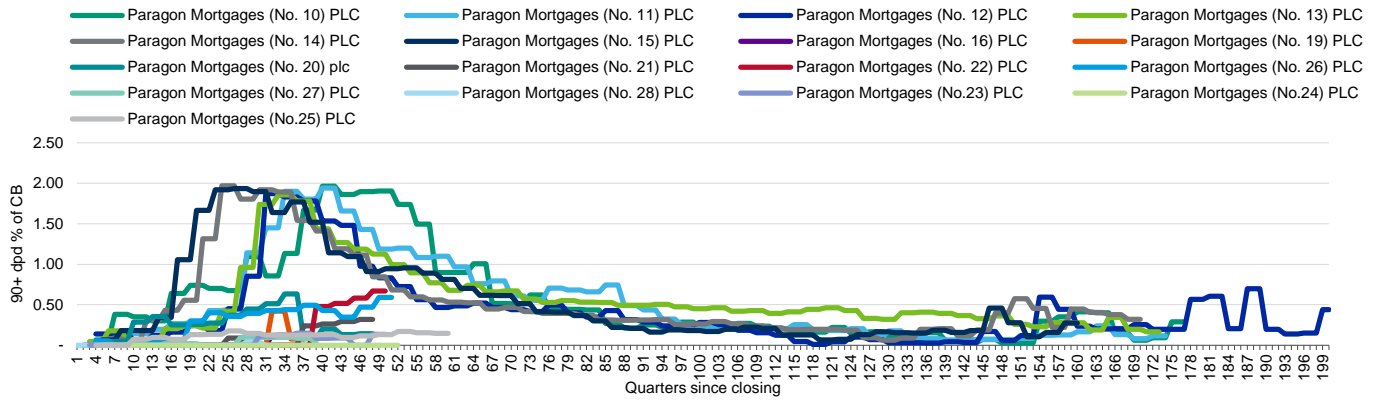
BTL RMBS - UK 90+ days delinquency Percentage of current portfolio balance



Sources: Moody's Investors Service, periodic investor/servicer reports

Exhibit 14

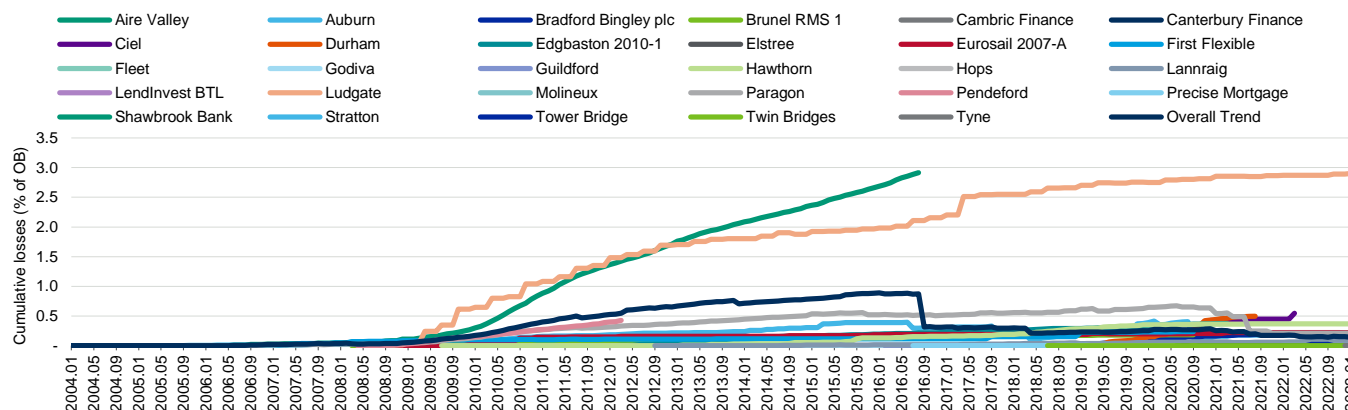
Paragon Mortgages deals - UK 90+ days delinquency Percentage of current portfolio balance



Sources: Moody's Investors Service, periodic investor/servicer reports

Exhibit 15

BTL RMBS - UK cumulative losses

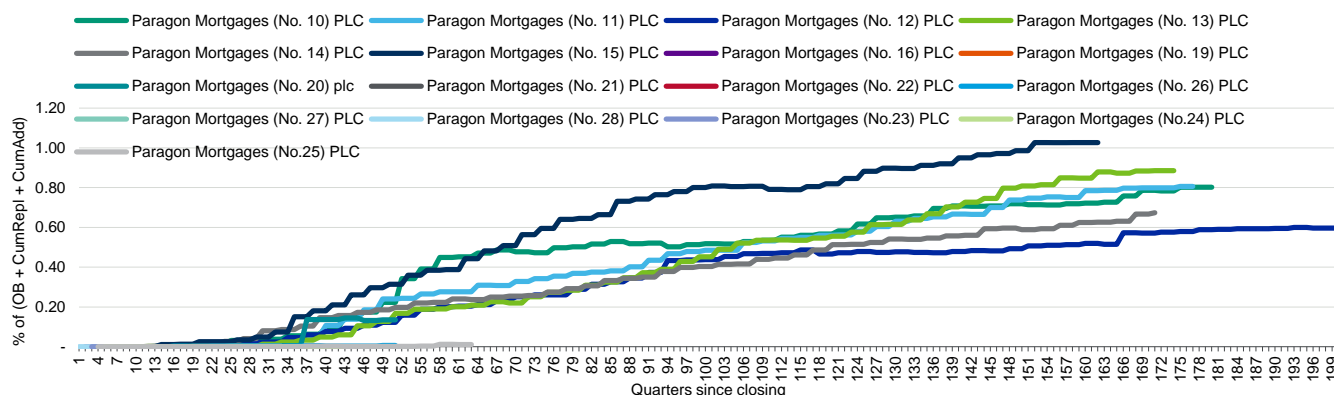


Numerator: Cumulative losses since closing date. Denominator: Original pool balance plus cumulative replenishments for stand alone deals, and current pool balance plus cumulative additions for master trusts.

Sources: Moody's Investors Service, periodic investor/servicer reports

Exhibit 16

Paragon RMBS - UK cumulative losses



Numerator: Cumulative losses since closing date. Denominator: Original pool balance plus cumulative replenishments for stand alone deals, and current pool balance plus cumulative additions for master trusts.

Sources: Moody's Investors Service, periodic investor/servicer reports

Additional asset analysis

Data quantity and content

We have received some historical performance data from the originator (see Exhibit 9). The data series covers the period between Q4'1996 to Q1'2023. In our view, the quantity and quality of data received are similar compared with those of other transactions that have achieved high investment-grade ratings in the UK BTL sector.

Data quality

An AUP was performed by Deloitte LLP before closing of the transaction. The AUP results are in line with what we have seen for previous comparable transactions and do not highlight any particular concerns regarding the quality of the data. In our assessment we have classified the data quality as similar compared with those in transactions that have achieved high-investment-grade ratings in this sector.

Origination strength and experience

We believe that Paragon Banking Group has adequate controls and procedures in place to generate high-quality loans, and according to our originator review, the overall origination ability and stability of Paragon has been classified as average. For more information, see Appendix 3, which contains the originator review.

Exhibit 17

Originator assessment

Date of operational review:	23-Jun-23
Originator name:	Paragon Mortgages 2010 Limited (PML) and Paragon Bank plc (PB)
Rating:	Not rated
Ownership structure:	Both the originators are wholly owned subsidiaries of Paragon Banking Group (Paragon)
% of transaction retained:	100.0%
Originator assessment:	
Originator strength	Average
Originator experience	Experienced Entity
Other assessment:	N/A
Reps and warranties	Average
AUP	Average

Sources: Paragon Bank PLC, Paragon Mortgages (2010) Limited, Moody's Investors Service

Servicing strength and experience

We have reviewed Paragon's procedures and practices, and found Paragon acceptable in the role of servicer. According to our servicer review, the overall servicing ability and stability has been classified as average. For more information, see Appendix 3, which contains the servicer review.

Exhibit 18

Servicer assessment

Date of operational review:	23-Jun-23
Servicer name:	Paragon Mortgages 2010 Limited (PML) and Paragon Bank plc (PB)
Rating:	Not rated
Regulated by:	FCA and PRA
Servicer assessment	
Servicer strength	Average
Servicer experience	Experienced Entity

Sources: Paragon Bank PLC, Paragon Mortgages (2010) Limited, Moody's Investors Service

Receiver of rent

The sellers/administrators use a receiver of rent as a means of controlling arrears and losses for third-party loans that they service and it could be used in the future for the loans in this transaction.

We believe that should the house prices weaken significantly, it could lead to an increase in loss severities. In a severe recession, a receiver of rent may be unable to successfully re-let a vacant property and so repossession would occur in any case but with a lag and an increased loss severity. Additionally, excess spread can leak out of the transaction instead of covering losses and amortising the notes down, as in the case of repossession. Finally, this is an operationally more complex method of resolving payment problems compared with attempting to foreclose sooner, which could be compounded in case the servicer itself is under financial pressure.

Representations and warranties

Essential characteristics of R&W has been assessed including, mechanism in place, limitations on re-purchase obligations and entity providing R&W. In our analysis we have classified the R&W as average.

Set-off

Some of the borrowers have an account with Paragon Bank Plc (PB); however, only a few have an account balance above £85,000, which is the limit above which the UK deposit scheme does not reimburse the account holder in case the deposits are lost because of, for example, insolvency of Paragon Bank. Loans to Paragon Bank Plc borrowers who have deposits in excess of £85,000 may not be added to the portfolio on the closing date as per the portfolio eligibility criteria, thus mitigating set-off risk. Therefore, set-off risk has not been modelled in this transaction.

Securitisation structure description

The originators and sellers, Paragon Mortgages (2010) Limited (PML) and Paragon Bank PLC, sold portfolios of residential BTL mortgage loans to the issuer, Paragon Mortgages (No.29) PLC.

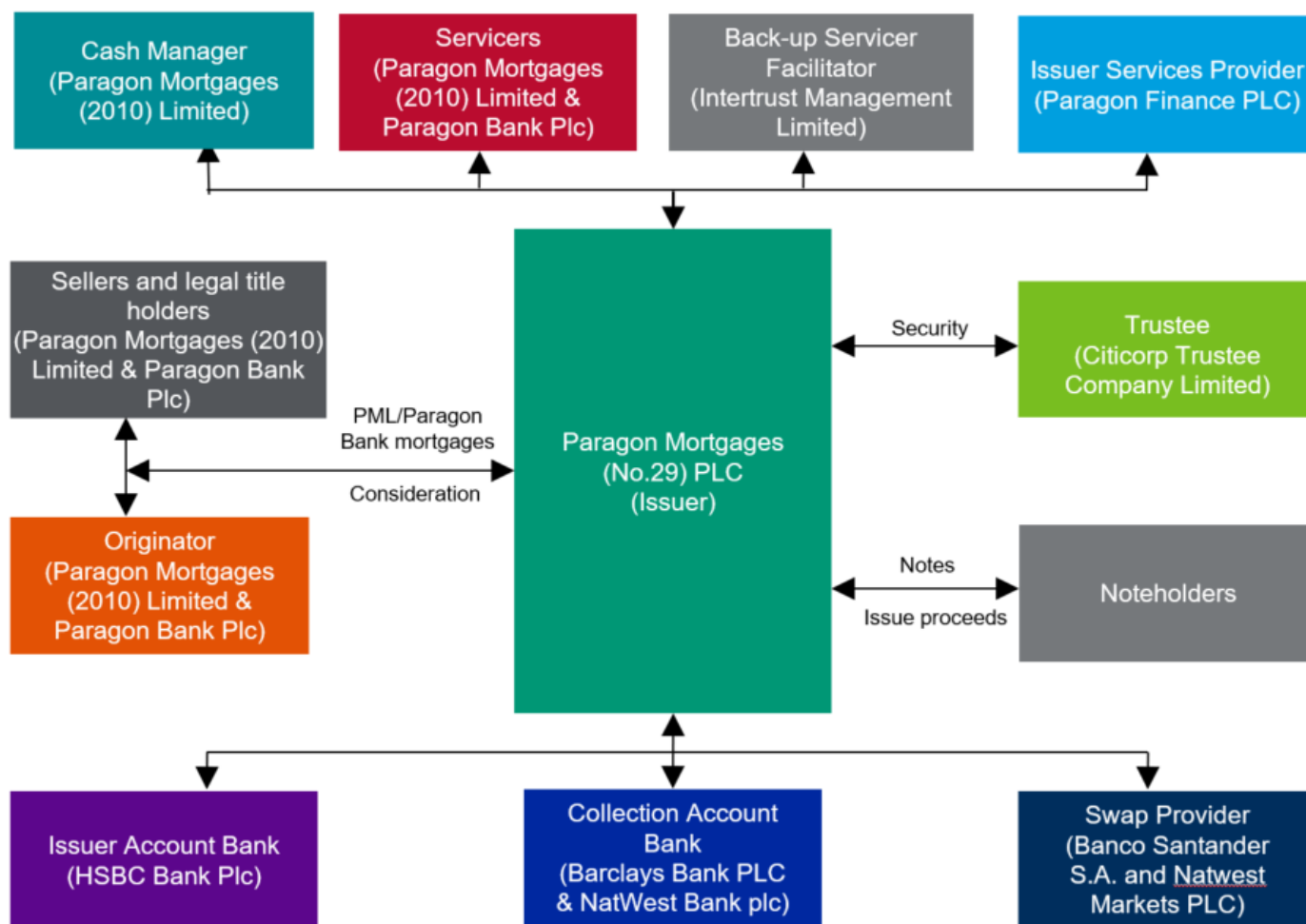
At closing, the issuer issued the notes and certificates to finance the purchase of the asset pool. Each seller services the assets it sold to the issuer, although PML takes the lead in servicing with respect to any dealings with the issuer.

Issuing the residual certificates to the sellers entitles them to receive deferred consideration on the loans sold to the issuer. Exhibit 19 illustrates all the parties and their respective roles.

Structural diagram

Exhibit 19

Paragon Mortgages 29 PLC transaction structure



Source: Paragon Mortgages (No.29) PLC prospectus

Detailed description of the structure

Credit enhancement

The class A notes benefit from the subordination provided by more junior notes, namely classes B-Z notes.

The transaction also has annualised excess spread at closing of around 1.72% (after swap payments).

Flow of funds

Allocation of payments/pre-accelerated revenue waterfall: On each quarterly payment date, the issuer's available funds (that is, interest amounts received from the portfolio, the reserve funds, funds received under the swap agreement, interest earned on the issuer's account and eligible investments, principal addition amounts and amounts released from the conversion, and margin reserves) will be applied in the following simplified order of priority and only to the extent that the payments of higher priority have been made in full:

1. Senior fees and expenses to various parties;
2. Payments to the swap providers (other than subordinated amounts);
3. Interest on class A notes;
4. Eliminating any debit balance on the PDL that exceeds the aggregate current principal outstanding of classes B, C, D and Z notes;
5. Interest on class B notes;
6. Amounts required to replenish the class A and class B liquidity reserve fund up to its target size;
7. Eliminating any debit balance on the PDL that exceeds the aggregate current principal outstanding of classes C, D and Z notes;
8. Interest on Class C notes;
9. Eliminating any debit balance on the PDL that exceeds the aggregate current principal outstanding of classes D and Z notes;
10. Interest on class D notes;
11. Eliminating any debit balance on the PDL that exceeds the current principal outstanding of the class Z notes;
12. Amounts required to replenish the General Reserve Fund up to its target size;
13. Eliminating any remaining debit balance on the PDL;
14. On any interest payment date occurring before the step-up date, towards funding the mortgage Mortgage MRF Discretionary Fund Ledger or Conversion MRF Discretionary Fund Ledger (as applicable);
15. Other costs, payments or fees to third parties;
16. Hedge subordinated amounts;
17. On any interest payment date occurring on or after the step-up date or the final redemption date, to apply all amounts as available principal receipts;
18. Interest due on class Z notes;
19. Interest due on class S notes;
20. Principal due on the S notes (subject to the principal payment not reducing the balance of the S note below the required level of the respective reserve fund);
21. First interest and then principal due on the S VFN;
22. Purchase of additional hedging arrangements;
23. Junior fees and expenses;
24. On any interest payment date before (but excluding) the step-up date, all excess amounts to be paid to the RC1 certificate holders and thereafter, to the RC2 certificate holders.

Interest on classes B, C, D and Z notes is deferrable as long as they are not, at that point, the most senior outstanding class of notes. Interest is not deferrable on class A or the most senior class of notes.

Allocation of payments/pre-accelerated principal waterfall: On each quarterly payment date, the available principal receipts, which include principal amounts received from the portfolio, amounts applied to clear the PDL, but which are reduced by principal addition amounts (principal receipts to pay class A and in certain circumstances class B, C and D interest), will be applied in the following order of priority and only to the extent that the payments of higher priority have been made in full:

1. Towards mandatory further advances to the extent that the issuer has insufficient reserves to cover such amounts;
2. Towards discretionary further advances;
3. Towards reimbursement of any amounts payable under direct debit scheme;
4. Prior to expiration of further sale period, payment of any initial purchase consideration in respect of any additional mortgages acquired;
5. Prior to expiration of further sale period, retained principal ledger funded to the maximum principal retained amount;
6. To amortise the notes sequentially in order of seniority;
7. All remaining amounts to be applied as available revenue receipts.

Allocation of payments/PDL-like mechanism

A PDL is recorded for realised losses on the portfolio and when there has been application of principal receipts to meet any items in the interest waterfall.

Realised losses are defined as any losses arising in relation to a loan in the portfolio, which cause a shortfall in the amount available to pay principal on the notes, but may be reduced if subsequent recoveries are received by the issuer on those loans. Losses arising because of borrowers applying set-off have not been included in the definition of realised loss.

Triggers

Revolving period termination event

The revolving period would be terminated if any of the below events occur:

- » An issuer event of default;
- » An insolvency event of either seller;
- » An unremedied breach by either seller of any of their respective obligations under the relevant documents;
- » On any interest payment date, the amount debited to the PDL exceeds 1% of the aggregate initial principal amount outstanding of all Classes A-Z notes;
- » On any interest payment date, the general reserve is not funded up to its required level;
- » On any interest payment date, the liquidity reserve is not funded up to its required level;
- » Loans which are more than 3 months in arrears exceeds 3% of the current pool balance.

Administrator/Servicer termination event

The appointment of PML or PB as administrator would be terminated if any of the below events occur:

- » Default in making payments, unremedied for 2 business days;
- » Material non-compliance of covenants or obligations, unremedied for 14 days;
- » Insolvency of either servicer;

- » Failure by the issuer, to pay principal or interest on the notes due to an administrator failure to comply with its obligations.

In case of termination of either administrator, the other non terminated administrator will take over the obligations of the terminated administrator.

Liquidity

Liquidity is provided as follows: in the event of a shortfall in available revenue funds to pay senior expenses, class A and class B interest, the class A and B liquidity reserve fund is used.

If the issuer still has a shortfall in revenue receipts to pay rated note interest or senior expenses, or both, then the general reserve fund may be used.

Finally, once the above two reserves have been exhausted, principal is available to pay senior expenses, class A note interest and class B, C and D note interest once the above two reserves have been exhausted (subject to no more than 10.0% PDL on the applicable PDL sub-ledger). Such diversions of principal result in a debit to the PDL.

Asset transfer

The residential mortgage loans in the pool have been transferred to the issuer through an equitable assignment. Notification of redirection of payments to the issuer's account occurs upon perfection of legal title, which would take place, for example, in case of insolvency of the seller/servicer or an enforcement notice being served on the issuer.

Cash manager

The cash manager in the transaction is PML. Its main responsibilities include the determination of cash flow amounts, maintenance of ledgers and preparation of investor report. The main responsibility of the backup servicer facilitator, Intertrust Management limited, is to use its best efforts to appoint a backup servicer in case PML or PB cannot perform their servicing duties any longer.

Enforcement of representations and warranties (R&W)

Loan repurchase following breach of R&W: if material breaches of R&W have not been remedied within 28 days of the issuer notifying such breaches, the relevant seller shall repurchase the loan from the issuer.

Securitisation structure analysis

Our ratings are based upon the quality of the asset pool, the levels of credit enhancement furnished by the subordinated tranches, liquidity and also the structural and legal integrity of the transaction. Our ratings address only the credit risks associated with the transaction.

Primary structural analysis

We consider the probability of default under the notes, as well as the estimated severity of loss, when assigning a rating.

Tranching of the notes

Once the loss distribution of the pool under consideration has been computed, a cash flow model is used to assess the impact of structural features of the transaction. It calculates the average lives and the losses experienced by the notes for every loss scenario for the portfolio. Based on these numbers, the expected loss and the weighted-average lives for the notes are calculated as weighted averages based on the probabilities of the respective scenarios. The expected loss on each tranche together with the notes' weighted-average life determines the rating, which is consistent with our target losses for each rating category.

Interest rate mismatch

The transaction benefits from a fixed-floating swap provided by Banco Santander S.A. (A3(cr) / P-1 (cr)) and Natwest Markets PLC (A1(cr) / P-1 (cr)), whose notional covers the fixed portion of the pool until the fixed-rate loans switch to their reversionary floating rate or SVR. Under the swap agreement, the issuer pays a fixed rate of 1.35% and receives SONIA as is owed to the notes. Upon a product switch, the issuer will, within 30 days, enter into an additional swap agreement to hedge the fixed-floating interest rate exposure in relation to such converted mortgages only if and when the notes become over- or under-hedged by more than £15 million.

The collateral trigger for the fixed-rate swap has been set at loss of A3(cr) and the replacement trigger at loss of Baa1(cr).

The swap documents are substantially consistent with our methodology to assess counterparty exposure (see [Moody's Approach to Assessing Counterparty Risks in Structured Finance](#), published in June 2022).

Reserve fund

At closing, the class A and B liquidity reserve fund has been funded with the proceeds of the class S notes for an amount corresponding to 1.5% of the aggregate class A and B notes issuance size. The general reserve fund has been funded via the same means at 1.5% of the sum of the class C and D notes issuance sizes.

The reserve funds amortise to maintain 1.5% of the respective principal outstanding of the relevant notes. The reserve funds stop amortising if the balance of mortgages more than three months in arrears exceeds 3.0% of the outstanding balance of the securitised mortgage pool or if the cumulative amount debited to the PDL since closing exceeds 1.0% of the initial notes balance (A to Z).

Comparables

Exhibit 20 shows the main structural features of the current transaction compared with those of the peers that our rating committee made the main benchmarking against.

Exhibit 20

Benchmark table for structural features

Structural features	Paragon Mortgages (no. 29) plc	Paragon 25	Paragon 28	Canada Square 7	Lanebrook 2022-1	Mortimer BTL 2022-1 PLC
Notes payment frequency	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Revolving period (years)	5	5	0	None	N/A	N/A
Rating and CE for senior note	Aaa(sf) with 17.00% CE	Aaa(sf) with 15.01% CE	Aaa(sf) with 13.50% CE	Aaa with 12.39% CE	Aaa(sf)/ 14.0%	Aaa(sf) with 14.17% CE
Reserve fund: % of total assets at closing	1.43%	1.50%	1.50%	1.0% of Class A notes	1.50%	1.35% of Class A notes
Reserve fund: fully funded at closing?	Yes	Yes	Yes	No	Yes	Yes
Set-off risk?	No	None	None	N/A	N/A	N/A
Set-off: mitigant/s	N/A	Potential set off covered by seller obligation	Potential set off covered by seller obligation	N/A	N/A	N/A
Set-off: total exposure	N/A	N/A	N/A	N/A	N/A	N/A
Commingling risk?	No	N/A	N/A	N/A	N/A	N/A
Commingling: mitigant/s	N/A	N/A	N/A	N/A	N/A	N/A
Ops risk: back up servicer name	None appointed at closing	N/A	Homeloan Management	N/A	Shawbrook Bank Limited	Pepper (UK) Limited
Ops risk: back up servicer facilitator name	Intertrust Management	Intertrust Corporate	Maples Fiduciary	CSC Capital Markets UK	Intertrust Management	Law Debenture Corporate
Ops risk: other mitigant/s	N/A	N/A	N/A	N/A	N/A	N/A
Ops risk: number of months liquidity coverage (based on moody's assumptions)	6	3	18	3	5.2	8.8
Swap in place?	Yes	Yes	Yes	Yes	Yes	Yes
Swap: counterparty name	Banco Santander, S.A. & Natwest Markets PLC	Lloyds Bank Plc	Lloyds Bank Corporate Markets Plc	Citibank Europe plc, UK Branch	Lloyds Bank Corporate Markets Plc	Citibank N.A., London Branch
Swap: counterparty (counterparty risk assessment)	(A2/P-1; A3(cr)/P-2(cr)) & (A1/P-1; A1(cr)/P-1(cr))	Aa3(cr)/P-1(cr)	A1(cr)/P-1(cr)	Aa3(cr)/P-1(cr)	A1(cr)/P-1(cr)	Aa3(cr)/P-1(cr)
Swap: type	Fixed-floating	Fixed-floating	Fixed-floating	Fixed-floating	Fixed-floating	Fixed-floating
Swap: notional balance	There is a fixed notional schedule closely based on a 0% CPR scenario.	N/A	N/A	N/A	N/A	N/A
Swap: swap rate or guaranteed xs (if applicable)	1.35%	Variable average swap rate, no guaranteed XSS	0.40%	5.00%	1.50%	1.10%
Master trust: current seller share	N/A	N/A	N/A	N/A	N/A	N/A
Master trust: minimum seller share	N/A	N/A	N/A	N/A	N/A	N/A
Master trust: minimum trust size	N/A	N/A	N/A	N/A	N/A	N/A

Sources: Paragon Mortgages (No.29) PLC prospectus, Moody's Investors Service

Additional structural analysis

Cash commingling

All the payments under the loans in this pool are paid into a collection account in the name of each seller, either at [NatWest Bank](#) (A1/P-1 deposits ratings; Aa3(cr)/P-1(cr)) or [Barclays Bank PLC](#) (A1/P-1; A1(cr)/P-1(cr)). The following mitigants to commingling risk and collection account bank default risk are included in the structure:

- » Daily transfer of payments to the issuer account held at [HSBC Bank Plc](#) (A1/P-1; Aa3(cr)/P-1(cr));
- » *Collection account declaration of trust*: The seller has declared a trust (among the issuer, the seller and the collection account banks) over the collection accounts in favour of the issuer;
- » *Transfer trigger for the collection account*: Should either of the collection account banks be downgraded below Baa3, they need to be replaced.

Given the aforementioned mitigants, commingling risk has not been modelled.

Mitigating servicing disruptions

There is no back-up servicer appointed at closing. However, if the termination occurs in relation to either administrator, the other active administrator will take up the performance obligations of the terminated administrator within 5 days of the occurrence of the termination event.

Intertrust Management Limited has been appointed as the back-up servicer facilitator in case the appointment of the administrators is terminated. In case the sellers/administrators are unable to perform their duties, it will use its best efforts to appoint a replacement servicer.

In the event the servicer report is not delivered in time, the servicer shall base the payments on estimates using the last three verified servicing reports, and once it receives the servicer report, it will reconcile the estimates with the actual figures and if needed make additional payments.

Also, the swap payment can be based on estimates in absence of the servicer report. It should be noted that revenue receipts can leak out of the transaction during a servicer interruption. However, any reconciling amounts arising because of a swap counterparty following estimation as a result of operational disruption will only be paid to the extent cash is available and such a shortfall will not cause a termination of the swap.

Liquidity of around 6 months of interest payments and senior expenses on the rated notes is provided by the two reserve funds assuming current SONIA and current hedging in place, including the swap costs.

ESG considerations

Our Cross-Sector Rating Methodology: [General Principles for Assessing Environmental, Social and Governance Risks](#), 28 September 2023, which explains our general principles for assessing ESG risks in our credit analysis globally:

- » **Environmental:** Environmental risks to RMBS can arise from natural disasters, such as flooding, earthquakes, hurricanes, or wildfires, which can disrupt borrowers' lives and increase delinquencies or defaults, and can damage or destroy properties backing loans in the transaction or surrounding infrastructure, lowering collateral value. Pool diversification mitigates the impact of many environmental risks on deals, but regional concentrations can occur. Insurance is also a mitigant to many types of property damage. However, insurance often will not fully cover the cost of the resulting damage. Furthermore, some risks are typically not covered by insurance on individual loans. These include damage from earthquakes and flooding outside specified areas that require mandatory flood insurance, as well as loss of value from damage to critical infrastructure.
- » **Social:** Social risks to RMBS can arise from a variety of sources. Such risks can arise from phenomena that affect public health and safety (such as the coronavirus), which cause sickness, death, or loss of income to borrowers, or from governmental efforts to alleviate burdens on homeowners from the effects of such phenomena, such as payment holidays, directives to modify loans to lower payments, foreclosure moratoria, or other borrower protection measures which can be intensified during the recession. Potential consumer protection legislation, which is more likely to be enacted during a recession, could also make it more difficult to collect loan payments or realize recoveries on defaulted loans, or in some cases can expose RMBS issuers to penalties. Social risks can also arise from changing demographic trends such as aging, urbanization, an increase in telecommuting and flight from cities, population declines or ways of living trends in general that impact the supply or demand for housing in particular areas, which can reduce home values. Factors related to confidentiality and data protection in general may also pose risks, such as payment disruption resulting from a breach in servicer or trustee systems.
- » **Governance:** Strong RMBS governance relates to transaction features that promote the integrity of the operations of transaction for the benefit of investors, as well as the data provided to investors. The following are some of the governance considerations related to the transaction:
 - › **Risk retention:** This transaction is subject to the UK risk retention requirements, which require the sponsor to hold at least 5% of the credit risk. The transaction will also be subject to EU retention requirements at closing. The risk retention is achieved via the seller holding a pool of randomly selected loans equivalent to not less than 5% of the nominal value of the securitised exposures.
 - › **Agreed upon procedures (AUPs):** An independent due diligence firm reviewed a sample of the portfolio and provided an AUP report for data integrity matters. This increases our confidence that the data that we and investors relied on is accurate.
 - › **Servicing oversight:** Although this transaction does not include an independent master servicer that monitors servicer performance, the servicer is not rated but has independent control and audit functions as well as internal credit policies and servicing procedures in relation to the granting of mortgage and home loans.
 - › **Bankruptcy remoteness:** We expect to receive legal opinions to the effect that in the event of a bankruptcy or insolvency proceeding with respect to key transaction parties, the provisional mortgage loans would not be treated as part of the estate of such party. Also the special purpose vehicle (SPV) is a special purpose entity and is independently owned and managed. SPV directors are not incentivised by applicable bankruptcy law to file for bankruptcy.

Methodology and monitoring

Overview

The principal methodology used in this rating was [Residential Mortgage-Backed Securitizations](#), published in October 2023.

We will monitor the transaction on an ongoing basis to ensure that it continues to perform in the manner expected, including checking all supporting ratings and reviewing periodic servicing reports. Any subsequent changes in the rating will be publicly announced and disseminated through Moody's Client Service Desk.

Servicing disruption: PML acts as the originator, seller, servicer and cash manager. However, the appointment of a backup servicer facilitator and a backup cash manager facilitator will mitigate the financial disruption risk.

Significant influences: In addition to the counterparty issues noted, a further deterioration in the housing market beyond that modeled may have an impact on the subject transaction's ratings.

Factors that could lead to a downgrade

- » Weaker than expected asset performance
- » Significant deterioration in the UK economy and real estate market
- » Counterparty risk, based on a weakening of a counterparty's credit profile
- » Unforeseen legal or regulatory changes

Monitoring triggers

*Interest rate swap triggers:*¹

- » Remedy for loss of A3(cr) is to post collateral;
- » Remedy for loss of Baa1(cr) is to replace the swap counterparty or obtain a guarantee from a guarantor.

*For issuer account bank triggers:*²

- » Loss of A3 (senior unsecured rating), remedy is to replace or find a guarantor;

*Eligible investments:*³

- » Eligible investments must be rated at least A2 and P-1 or A3 (up to one month investments).

Monitoring report

Data quality

- » The investor report format is being finalised;
- » The report will be in line with previous Paragon deals and so in line with other transactions in the sector;
- » There is an undertaking to provide us with an updated pool cut once a quarter;
- » Loan modifications for arrears management are not reported separately;
- » Further advances are reported in the investor reports.

Data availability

- » The report is provided by Paragon Mortgages (2010) Limited;
- » The timeline for the investor report is provided in the transaction documentation and the priority of payment section is published on the interest payment date;

- » The investor report is likely to be completed no later than 30 days following the end of the relevant collection period;
- » The frequency of the publication of the investor report is quarterly and the frequency of the interest payment date is quarterly;
- » Investor reports are publicly available on a website.

The analysis that we undertook at the initial assignment of a rating for an RMBS may focus on aspects that become less relevant or typically remain unchanged during the surveillance stage. Please see [Residential Mortgage-Backed Securitizations](#) for further information on our analysis at the time of the initial rating assignment and the ongoing surveillance in RMBS.

Modelling assumptions

Sensitivity to variation in some of the modelling assumptions may have been considered in the analysis.

Exhibit 21

Expected loss:	1.00%
MILAN loss:	9.3%
Covariance (Cov):	74.8%
Timing of Defaults/Losses:	Sine (3-11-21 quarters)
Recovery rate:	71.0%
Recovery lag:	N/A
Conditional Prepayment Rate (CPR):	15.0%
Fees (as modelled):	0.3%, with a floor of £150,000
PDL definition:	Losses
Amortization Profile:	Scheduled amortisation of the assets
Country ceiling:	Aaa
Margin compression:	Stressed SONIA over underhedged portfolio
Basis Risk Adjustment - Lender Variable Rate:	N/A
Basis Risk Adjustment - Other Basis Mismatch:	N/A
Interest on cash:	Yes (Index - 0.5%)
Commingling risk modelled?	No
Excess spread (model output)*:	1.7%

* Annualised excess spread in a zero default scenario based upon the first payment period value using Moody's stressed asset yield and fees assumptions.

Source: Moody's Investors Service

Appendix 1: Summary of the originator's underwriting policies and procedures

Exhibit 22

Originator Ability	At closing
Sales and marketing practices	
Role of the intermediaries/brokers:	Brokers can submit a paper application or apply using the Lenders on-line system
Frequency of intermediaries/brokers monitoring:	Upon registration any intermediary is subject to a robust due diligence process which includes FCA, DPA and Group Financial Crime checks. Only if all checks are satisfied are the intermediaries provided with access to the on-line application facility Upon receipt of any application a further check is carried out to ensure that the intermediary hold the relevant permissions (FCA, Consumer BTL, etc) In accordance with the Sales Distribution Guide, where an intermediary submits 10 applications or more within a 12 month period an annual review is carried out by the Regional Managers and a record of meeting and outcome stored upon panel of intermediary database
Compensation/ incentive structure of sales team (brokers/intermediaries and branches):	Paragon employs a small field sales team of 9, who are responsible for the relationship with our intermediaries who act as advisers and agents of applicants. i.e There is no direct influence on the customer it is the intermediary that provides advice and product recommendation. The Sales team do participate in a bonus scheme which is linked to business plans /volumes and regional targets. The sales team have a fixed salary and potential can earn dependent upon performance around 20% to 25% of fixed salary amount in additional bonus
Separation and independence of sales and approval function:	Regional Sales Mangers carry out the Sales relationship functionality whilst operational underwriters independently assess the acceptability or not of any application submission
Underwriting policies and procedures	
Back-testing of automatic underwriting/internal score (if applicable):	Testing is undertaken on a regular basis and would normally follow any enhancements or implementations
Average experience in underwriting or tenure with company:	The size of the team has grown in recent years and is supported by experienced staff with > 10 years experience
Ratio of loans underwritten per FTE1 per day:	FT U/W's assess between 2 – 4 new applications per day. The average time spent u/w an case from application to offer is, Complex – 185 mins, Simple – 105 mins
Criteria for compensation of underwriters:	Underwriters are compensated on basic salary only (no performance related bonus)
Approval rate:	Our conversion from app to completion is 55%. We decline around 22% of applications and another 22% are withdrawn/do not proceed
Mandate/lending authority for first level underwriter/personnel:	A level 6 mandate holder can approve loans of up to £150k
Percentage of exceptions to underwriting policies:	2017 Exception Rate = 0.2% 2016 Exception Rate = 0.1% Exceptions are defined as completions processed without the appropriate mandated authority
Process and tools for the borrower identity check:	KYC policy is followed on every application, this can be satisfied using electronic checks. Additional checks are undertaken on borrowers from sanctioned, investment banned or high risk countries
Fraud prevention tools and % of applicants checked for fraud:	Every application received is fed into the fraud system and checked, not only for potential fraud but also for PEPs and Sanctions matches. 100% of all matches are then reviewed by the Financial Crime team. Fraud training is provided to the lending areas so that manual fraud checks are also conducted on all cases underwritten with any suspicions or concerns being referred for investigation by the Financial Crime team
Source of credit history checks:	3 years address history is required, any missed payments may be considered depending on the severity and profile of the application
Use of external credit bureau scores:	We use our own scoring system utilising Equifax data, the minimum score acceptable is 321
Methods used to assess borrowers' repayment capabilities:	For non portfolio borrowers the ICR is determined by the tax band applicable to the applicants income. For basic tax payer = 125%, higher rate tax payer = 140%. For portfolio borrowers the ICR is determined using a combination of the tax band and the property type. Single self contained properties range from 125% - 140% and HMO's multi-unit blocks from 130% - 145%
Income taken into account in affordability calculations:	We would consider using all forms of income when assessing affordability
Other borrower's exposures (i.e. other debts) taken into account in affordability calculations:	The applicants overall debt position will be considered
Is interest rate stressed to calculate affordability?	Current Affordability (ICR reference rate) <ul style="list-style-type: none"> o Non 5 year fixed product uses charging + 2% or 5.5%, whichever is the greater o 5 year fixed currently uses 5.50% (outside of regulation) <p style="text-align: right;">Future Affordability</p> <ul style="list-style-type: none"> o Non-5 year fixed products uses reversion rate + predicated change in bank base rate o 5 year fixed products uses reversion rate + 0.5% (outside of regulation)

Source: Paragon Banking Group

Exhibit 23

Originator Ability	At closing
Underwriting policies and procedures	
Method used for income verification	We would accept 3 months payslips or P60 for employed applicants, 2 years accounts (prepared by a suitably qualified accountant) or last 2 years self-assessment tax returns together with the corresponding SA302 tax calculation and tax year overview for self-employed applicants
Criteria for non-income verified and %:	All self employed applicants income is verified at Underwriting
Maximum age at maturity & assessment of income for pensioners:	Not applicable
Maximum loan size:	Any loan > £2m would need to be approved by Credit Committee
Valuation types used for purchase & LTV limits:	A full valuation is undertaken on every application
Valuation types used for remortgage & LTV limits:	A full valuation is undertaken on every application.
Valuation types used for further advances & LTV limits:	If the main loan product has six months or less remaining on the incentive period, the property is a single unit and meets a certain criteria, an AVM valuation is used
LTV limit for Buy-to-let	75%-85% - up to 65% LTV: maximum loan up to £4,000,000 - up to 70% LTV: maximum loan up to £1,500,000 - up to 75% LTV: maximum loan up to £1,000,000 - up to 80% LTV: maximum loan up to £750,000 Any fees added to the loan will be taken into account for higher LTV applications and included within the maximum loan available and LTV calculations. The total amount of loan plus any fees added must not exceed 80% LTV.
Collateral valuation policies and procedures	
Value in the LTV calculation for underwriting purpose:	Lower of the PP or valuation
Value in the LTV recorded in database system if different than above	Lower of the PP or valuation
Type, qualification and appointment of valuers:	MRICS / FRICS Chartered Surveyors plus limited acceptance of AssocRICS qualified Valuers. Internal and External (Appointed by lender). In-house are specialists in terms of experience & training received in valuing Buy-To-Let properties including the more complex residential investment types ie Houses in Multiple Occupation and Multi-unit blocks. Valuation instructions are sent to selected panel companies reflecting their experience and ability to advise on the more complex property types referred to
Monitoring of quality of valuers:	There is an in-house dedicated audit function that undertakes an audit of in-house valuations on a sample basis that includes a separate Drive-By or full inspection (where access is possible). All panel completed reports are reviewed by an in-house Surveyor to confirm acceptability in terms of this "validation" process. Comprehensive in-house, panel and RICS guidance is in place
Closing policies and procedures	
Quality check before releasing funds:	A validation call is undertaken with every applicant
Entity responsible for the deed registration & time needed:	Legal charge registered with land registry – anything from 7 days to 10 weeks. Registration of charge with Companies House – 21 days
Credit risk management	
Credit risk team employees and experience:	Credit risk team operates with 19 staff. The Dept Director has 15 years with Paragon (26 years in credit risk industry) and is supported by 3 senior managers each with at least 20 years banking and credit experience. The experience of other staff members ranges from 1 to 35 years in the banking and risk sector
Reporting line of Chief Risk Officer :	Chief Executive Officer
Ability to track loan performance by specific loan characteristics?:	Performance can be tracked by any characteristic captured during the application and underwriting process

Source: Paragon Banking Group

Exhibit 24

Originator Stability:		At closing
Quality controls and audits		
Responsibility of quality assurance:	The Quality Monitoring team within the FMNL department audit all staff, regardless of task. This includes managers and team leaders and covers all teams including underwriting, completions, support services and complaints	
Number of files per month being monitored:	The Quality Monitoring team audit 2 cases (3 when the previous months results were below bench) or 5% of all offered cases whichever is higher	
Recording of quality assurance findings and analysis of causes:	The QM team produce monthly audit sheets for all underwriters, this breaks down the low level findings of each case reviewed. The sheets are forwarded to the u/w and team leader. Where individuals fall below an acceptable standard, the QM team meet with them, and their line manager to discuss our findings in greater detail, this also gives us an opportunity to review their training needs. We also provide high level MI that is shared with our stakeholders	
Frequency of operational audits for the underwriting processes:	Operation audits are undertaken on a regular basis and will often focus on different area's	
Management strength and staff quality		
Training of new hires and existing staff:	All new starters follow a 3 week training plan which covers all processes and teams with the new lending department. Weekly follow ups are conducted to ensure full understanding. Following this the new starters works in a live environment with a mentor and 121 referral. An informal test is undertaken between the 6-8 week stage and all cases are signed off by mentor, team leader or manager to ensure consistency. Training continues until the new starter can work alone. Average time for first mandate 3-6 months	
Technology		
Main software used:	IBM platform with the majority of software written in RPG. Third party software starting to replace AS/400 based software for customer facing websites, apps etc, the servers for which are in the Cloud. Automated interfaces to e.g. bureau data, valuation software, payment software, decision tools etc. are built in	
Tools/infrastructure available:	Most processes are automated. Non-automation is mostly around underwriting, where there is manual credit searching for apps 3+. Land registry search is not provided by an automated link within the core system	
Back-up server synchronisation and distance from main server:	Hourly snapshots are performed and replicated across to back-up server at alternate site 5km away	
Frequency of disaster recovery plan test:	Switch test is performed on an annual basis	
Securitisation related		
%age of book securitised	As at September 2023, the securitised assets, as a percentage of the buy to let assets, was approximately 11.84%.	
Previous experience with buy backs from securitisations	No loans have been repurchased due to a breach of the R&W's. Repurchases made from securitisations have been due to structural limits being reached. For example, the 10% limit on Interest Rate Conversions (product switches)	

Source: Paragon Banking Group

Appendix 2: Summary of the servicer's collection procedures

Exhibit 25

Servicer Ability	At closing
Loan administration	
Entities involved in loan administration:	Centralised in HQ
Abandonment rate (% call not answered within 20 seconds):	3%-5% rate
Early arrears management	
Entities involved in early stage arrears:	Centralised in HQ
Hours & days of operation:	Customer services 8:30 to 17:00 M to F, Collections 8:00 to 20:00 M to F, 8:00 to 16:00 Saturday
Ratio of loans per collector (FTE) ¹ :	>200 loans
Definition of arrears & default	Arrears: 1 to 7 days overdue, Default: UK Standard - 3 periods
Pre-arrears strategy: Do you contact the borrower to remind that the payment prior to account is due?	Yes
Pre-arrears strategy: If yes, how do you select the account to be called,	Yes, using a predictive default system
Arrears strategy for 1-29 days delinquent	From day 1 - letter sent & collection calls, supported with Field Calls and daily attempts at contact
Arrears strategy for 30 to 59 days delinquent	From day 30 - as above
Arrears strategy for 60 to 89 days delinquent	At Day 60 - normally final pre-Receiver-of-Rent Field Call and then instruction of Receiver-of-Rent From day 60-90 Receiver-of-Rent normally appointed
Arrears strategy for 90 days or more delinquent to late stage (please select and if needed customise the relevant option)	Simultaneous collections contact continues Receiver-of-Rent normally appointed
Prioritisation rules for delinquent accounts:	Via dedicated work queues, eg, canx DD, new arrears, due payment no DD, represented DD, broken arrangement
Use of historical payment behaviour in the collection strategy:	Aged history used showing arrears now, previous month and previous year
Data enhancement if borrower is not contactable:	Field calls, directory enquiries, bank letters and trace companies
Reason for non-payment:	Reason for non payment is recorded (mandatory)
Loss mitigation and asset management practices:	
Transfer of a loan to the late stage arrears team:	3 months in arrears
Entities involved in late stage arrears:	Collections, Portfolio Relationship, Receiver, Field Team
Entities involved in loss mitigation	Portfolio Relationship, Pre-Salvage, Receiver, Litigation, Negligence review, external solicitors, Telephone Collections
Hours & days of operation:	From Monday to Saturday
Ratio of loans per collector (FTE):	< 10 Loans
Analysis performed to assess/propose loss mitigation solutions:	Review including LTV, interest due vs. interest paid, pre-salvage review, information from PRM visits and negligence review
Types of loss mitigation solutions including percentage defined as the number of accounts which were 30+ delinquent for which one solution has been applied divided by the total number of accounts which were 30+ delinquent over the past 12 months.	N/A
Role of field agents:	Explain RoR process, identify and feedback customer circumstances
Borrowers re-defaulting 90 days or more after loss mitigation:	N/A
Contact with borrower during the legal process:	Servicer keeps contact with letter/calls
Time from first default to litigation and from litigation to sale:	N/A
Average recovery rate on closed files, recovery time and change in price of properties sold:	<45% recovery rate

Source: Paragon Banking Group

Exhibit 26

Servicer Stability**IT and reporting**

Main software used and its operating manual:	IBM platform with the majority of software written in RPG integrated into inbuilt customer facing websites, apps etc, the servers for which are in the Cloud. Automated interfaces to e.g. bureau data, valuation software, payment software, decision tools etc. are built in
Tools/infrastructure available:	Most processes are automated. Non-automation is mostly around underwriting, where there is manual credit searching for apps 3+. Land registry search is not provided by an automated link within the core system
Automatic tracking and reporting of specific characteristics:	We can receive applications paper based, electronic through website, electronic through automated XML links and all can be tracked by source and applicant
Back-up server synchronisation and distance from main server:	Backup server is located at an alternate site. Hourly snap shots are taken and replicated across
Frequency of disaster recovery plan test:	Switch test is performed annually

Securitisation related

Securitized loans in the servicers portfolio	As at September 2023, the securitized assets, as a percentage of the buy to let assets, was approximately 11.84%.
Are defaulted loans in the securitisations checked for breach of representations and warranties?	All arrears loans are checked for breach of representations and warranties

Source: Paragon Banking Group

Appendix 3: Originator and servicer reviews

Exhibit 27

Summary of originator and servicer assessment

Originator Assessment	Main Strengths (+) and Challenges(-)
Overall assessment:	Average
Originator ability	
Sales & marketing practices	+ Separate sales and underwriting function + One-to-one meetings with professional landlords - Origination channels: 90% brokers vs. 10% packagers
Underwriting policies & procedures	+ Depending on the complexity of the file underwriters underwrite 2 - 4 applications per day + No exceptions allowed. + No CCJ and no self-certification
Property valuation policies & procedures	- Income data is collected yet is not relied upon in the affordability calculation +/- Full internal valuation performed by internal qualified surveyors with 10 years of qualified experience. Expertise on rentability of property is needed.
Closing policies & procedures	+ All checks are performed through notary with all documents being imaged
Credit risk management	- Specific product though moving more to more risky non-professional landlords + Independent risk management team with separate reporting lines. + Average credit risk experience of management is 20 years +/- No changes to underwriting criteria since previous issuance
Originator stability	
Quality control & audit	+ Independent team with 6 people in their team. Small centralised team that can do the checks on underwriters locally.
Management strength & staff quality	+ Average experience of underwriter's manager is 17 years + Large part of underwriting have more than ten years' experience + Training involves "buddy" principle with four eyes review
Technology	+/- Internally built system + Timely information received upon request + Documents are scanned and are available in the head office.
Servicer Assessment:	
Main Strengths (+) and Challenges(-)	
Overall assessment:	Average
Servicer ability	
Loan administration	+ All loan administration functions performed centrally + 100% of collections through direct debit
Early arrears management	+ Early warning signs used such as cancelled direct debits and through monthly external credit checks for all loans. + Proactive and early contacting of the borrowers.
Loss mitigation and asset management	+ Few repossessions and low losses + Ability to implement portfolio based recovery measures - Active receiver of rent strategy to mitigate losses
Servicer stability	
Management strength & staff quality	+ Very experienced staff + Low turnover
IT & Reporting	+ Frequent back up testing.
Quality control & audit	+ Overall robust quality control framework + Daily audits to examine the adequacy between issues encountered by borrowers and action taken by collectors
Strength of back-up servicer arrangement:	+ Warm

Sources: Moody's Investors Service based on information provided by Paragon

Endnotes

- 1 See [Approach to Assessing Counterparty Risks in Structured Finance](#), October 2023.
- 2 See [Approach to Assessing Counterparty Risks in Structured Finance](#), October 2023.
- 3 See [Approach to Assessing Counterparty Risks in Structured Finance](#), October 2023.

© 2023 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1379454

Contacts

Tomas Marcilese +44.20.7772.1890
Associate Analyst
tomas.marcilese@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454