New Issue Rating Report

# Griffon Funding Ltd

## CMBS/Structured Finance

Scope Ratings

www.scoperatings.com

## Ratings

| Class | Rating | Notional (GBP m) | Notional (% of loans) | CE[a] (% of loans) | Coupon | Final maturity |
|---|---|---|---|---|---|---|
| **A1 loan debenture** | **AAA$_{SF}$** | 1,822.3 | 75.00 | 25.25 | 3-month Libor + margin[b] | July 2028 |
| AVC A (interest only) | (not rated) | — | — | — | (excess spread) | July 2028 |
| **A2 loan debenture** | **AA+$_{SF}$** | 328.0 | 13.50 | 11.75 | 3-month Libor + margin[b] | July 2028 |
| **A3 loan debenture** | **A+$_{SF}$** | 133.6 | 5.50 | 6.25 | 3-month Libor + margin[b] | July 2028 |
| **B1 loan notes** | **BBB+$_{SF}$** | 85.0 | 3.50 | 2.75 | 3-month Libor + margin[b] | July 2028 |
| **B2 loan notes** | **B+$_{SF}$** | 60.7 | 2.50 | 0.25 | 3-month Libor + margin[b] | July 2028 |
| AVC B (interest only) | (not rated) | — | — | — | Fixed rate[c] | July 2028 |
| **Total portfolio** | | **2,429.8** | 100.0 | | | |

The transaction closed on 26 September 2016. The ratings are based on the final portfolio, as of September 2016 and provided by the originator. Scope's *SF Rating Definitions* are available at *www.scoperatings.com*.

[a] Gross credit enhancement from overcollateralisation by assets, assuming sequential amortisation and including the cash in the spread reserve account. [b] Interest is only accrued on the effective balance after written-off losses. [c] Interest accrued on total effective balance of the notes.

**Rated issuer**

| | |
|---|---|
| Purpose | Balance sheet/Liquidity/Funding |
| Issuer | Griffon Funding Ltd |
| Originator | Barclays Bank PLC (A+/S-1/Stable) |
| Asset class | CMBS |
| Country of assets | United Kingdom |
| Closing date | 26 September 2016 |
| Scheduled maturity | 21 July 2021 |
| Legal final maturity | 21 July 2028 |
| Payment frequency | Monthly |
| Payment dates | 15th day of every month. |

**Transaction profile**

Griffon Funding Ltd is the true-sale cash securitisation of commercial real estate loans that were originated in the UK in the ordinary course of business by Barclays Bank PLC. The legal maturity date is 21 July 2028. The portfolio is static and comprises 57 loans secured by 1,516 underlying properties and more than 12,000 lease contracts.

**Analysts**


| | |
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### 1.1 Rating rationale (summary)

The ratings reflect the legal and financial structure of the transaction; the quality of the underlying collateral in the context of both the current and long-term macroeconomic conditions in the UK, including the effect of the recent Brexit vote; the ability of the originator and servicer, Barclays; the counterparty credit risk exposure to Barclays as account bank and basis-swap counterparty; and the management ability of Elavon Financial Services Ltd as collateral administrator, calculation agent and principal-paying agent. All liabilities of the issuer benefit from the high credit quality of the collateral portfolio. Scope expects losses of 10bp from this portfolio, which has a weighted average life of 3.0 years, even after accounting for expected post-Brexit scenarios. The transaction benefits from significantly better asset-pool diversification than the traditional European CMBS, which are typically exposed to a much smaller number of loans.

The A1 loan debenture is strongly protected by its senior position, benefiting from 25.25% of credit enhancement from the overcollateralisation provided by high-quality assets and a cash reserve. Further, the structure also ensures liquidity can support the timely payment of interest to this class. The probability of missed coupons is extremely remote.

The A2 loan debenture is also strongly protected by 11.75% of credit enhancement, and Scope expects losses on this tranche to be commensurate with the highest rating. Nevertheless, Scope assigns a AA+$_{SF}$ rating to this class because it is vulnerable to extensions of the workout period, which could be up to seven years according to the terms in the documentation. The A3 loan debenture benefits from 6.25% of credit enhancement. All A loan debentures benefit from structural mechanisms which subordinate and trap cash flows for the B1 and B2 loan notes in order to ensure sufficient collateralisation.

The credit enhancement available to the B1 loan notes (i.e. 2.75%) is sufficient to support the BBB+$_{SF}$ rating given the high quality of the loan portfolio, even accounting for the structural subordination of payments to this class under the cash flow mechanics of the issuer.

The B2 loan notes benefit mainly from the step-down mechanism, which reduces the coupon due on this tranche as the transaction amortises. This mechanism supports the B+$_{SF}$ rating, without which the rating would be materially lower. The step-down mechanism does not significantly impact the ratings of the other tranches. Credit enhancement available to tranche B2 is 0.25% from a cash reserve only.

## Rating drivers and mitigants

| Positive rating drivers | Negative rating drivers and mitigants |
|---|---|
| **Low expected losses from assets**. Scope expects very low losses from the portfolio of commercial real estate mortgages (i.e. 10bp indicating an A-quality portfolio). A low term probability of default results from the high interest-coverage and debt-service coverage ratios (4.6 and 4.4, respectively), while a low refinancing probability of default and high recovery rates result from a low loan-to-value (45.5%). | **Interest-only strip erodes excess spread.** The additional vendor consideration interest-only strip, which ranks senior to all rated tranches except the A1 loan debenture, erodes excess spread that would otherwise be used to cover losses from the assets. This aspect is captured in Scope's ratings. |
| **Diversification.** The granularity of the property and tenancy bases securing the loans provides significant diversification and supports stable cash flows for the A1 loan debenture. The initial portfolio comprises 57 loans backed by 1,516 commercial properties in the UK. | **Brexit.** Scope has adjusted its long-term view on the UK commercial property markets upon the country's decision to leave the European Union. The agency believes Brexit will result in slower price growth. Consequently, the ratings incorporate marginally lower recovery rates and higher refinancing probabilities of default. |
| **Credit enhancement.** The A1 loan debenture benefits from the substantial excess spread and credit enhancement from overcollateralisation as all other tranches are subordinated (25.2%). | **Pro-rata amortisation.** The tranches only partially benefit from overcollateralisation through the subordination of more-junior liabilities. The transaction will switch to strictly sequential amortisation when the portfolio factor is 50%, or will amortise early if, for example, cumulative defaults exceed 4% of the initial principal balance. This is mitigated at closing by the high quality of the assets, which have very low expected losses. |
| **Strong liquidity coverage.** The structure provides strong liquidity protection to the tranches via a fully interconnected set of rules on distributing interest, principal and recovery collections from the assets. Additionally, the structure features a GBP 80m liquidity facility, which would cover interest on the A loans and B1 loan note, including other more senior items, for more than one year. | |

| Positive rating-change drivers | Negative rating-change drivers |
|---|---|
| There is very limited upside to the ratings because: i) A loans and B1 and B2 loan notes amortise pro-rata; and ii) the interest-only strip senior to the A2 loan debenture drains excess spread. Furthermore, subordinated tranches will have a high exposure to tail concentration risk arising from individual loans in the latter stages of the transaction's life. | Realised defaults and recoveries worse than Scope's expectation (e.g. due to an unprecedented adverse refinancing environment) could result in a reassessment of stressed recovery rates and could result in downgrades. |

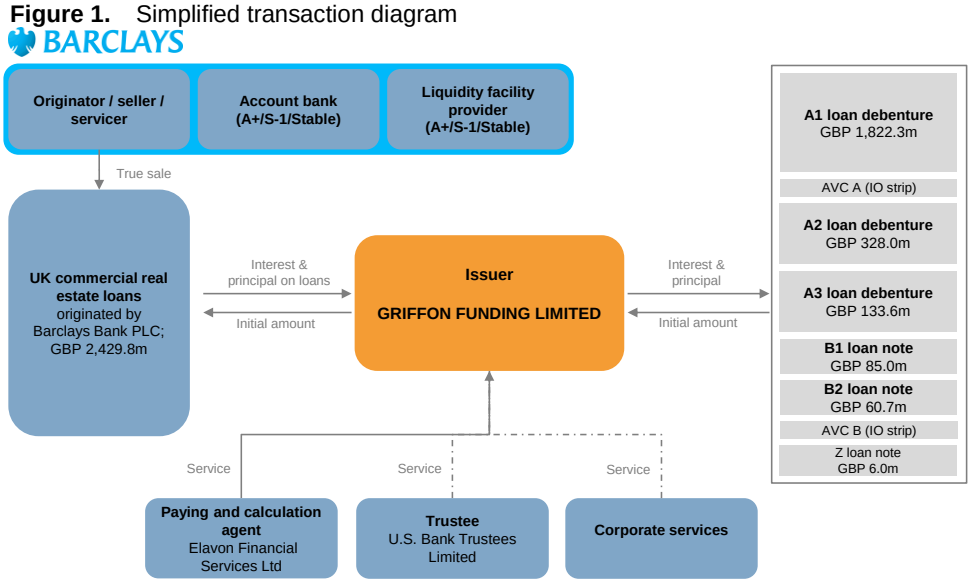
## Related reports

*General Structured Finance Rating Methodology*, dated August 2016.

*Rating Methodology for Counterparty Risk in Structured Finance Transactions*, dated August 2016.

# 2 Transaction summary

**Figure 1.** Simplified transaction diagram




Source: Transaction documents.

The sections of this rating report are ordered as follows: i) originator, seller and servicer; ii) assets; iii) financial structure; iv) ratings; v) counterparty risk; vi) sovereign risk; vii) legal structure; and viii) monitoring.

# 3 Originator, seller and servicer

Barclays aims to be a "focused international bank" and has three core businesses: Personal and Corporate Banking, Barclaycard, and Investment Bank. The group is concentrating on businesses capable of generating strong returns, as well as on areas where it already has robust capabilities, such as credit, equities, rates and foreign exchange, primarily in its two large home markets, the US and UK.

## 3.1 Positioning

We believe that this transaction is consistent with Barclays' strategy of: i) managing its balance sheet and costs; ii) improving return on capital; iii) increasing lending where returns justify it; and iv) investing in key franchises, such as Barclaycard, to improve earnings.

Barclays expanded its corporate lending portfolio by 7% in the two years before September 2015, to GBP 69bn in total, even though the market actually shrunk by 8% over the same period. This expansion was not at the cost of net interest margin, which effectively increased to 2.97%, up from 2.91%, and remained fairly stable in that period.

This is in the context of the meaningful progress in strengthening its capital and leverage position to be more in line with the peer group of large universal banks. This peer group includes HSBC, BNP Paribas, Societe Generale, Deutsche Bank, UBS and Credit Suisse.

## 3.2 Origination and underwriting

Barclays uses two alternative channels for the origination of the commercial real estate loans in this securitisation: i) the large corporate business unit of the bank; or ii) the UK real estate specialist units (i.e. UK Real Estate and Specialist Real Estate). The first channel takes the form of the more standard lending process for corporates. The second channel processes mandates of highly structured and complex UK real estate financings, typically representing more than GBP 25m.

We consider that the workflows for sanctioning and executing the corporate channel's credit applications are effective, and limit risk in accordance with the risk appetite of the originator. Barclays always involves real estate specialists at the beginning of the sanctioning process as well as during the final execution stages when required by the complexity of certain debt structures. The processes are not significantly different from

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standard processes of comparable banks, and they involve the proper segmentation of sanctioning authority as well as the separation of business and risk-sanctioning power. Barclays outsources documentation to external specialist law firms, sometimes also leveraging on professional advisors.

Business approval may require the approval of a special lending-commitment committee when total facilities granted to the obligor exceed GBP 50m. Origination may autonomously approve (from a business perspective only) smaller facilities less than GBP 25m, subject to the agreement from the pricing team.

Credit approval involves a three-stage process: transactions are pre-screened, then analysed in detail, and finally approved when due-diligence output and agreed loan terms are closed.

The alternative channel involves the core investment banking expertise of the originator. The sanctioning process is comprehensive and involves all stages of the transaction – from structuring to distribution strategy – and is controlled by real estate specialists.

### *3.2.1 Risk models*

We have compared Barclay's credit quality assessments with our own credit analysis for the loans in this portfolio, and have found Barclay's assessment to be sound and to reflect the key risk factors in commercial real estate. The qualitative models of the originator have a relatively short track record because Barclays has only recently migrated to the slotting mechanism to classify the risk of corporate loans, following the introduction of guidelines from the Bank of England's Prudential Regulation Authority. Further, commercial real estate loans originated by Barclays exhibit very low rates of default.

We have found that Barclays' risk models and processes enable the originator to control the quality of the commercial real estate loans it originates and to closely monitor the performance of such loans. Scope's analysis has looked through the internal slots and has confirmed the average high quality of the loan portfolio.

Barclays produces 'risk slots', which are assigned to obligors. Risk slots are risk ratings which refer to a number of relevant factors for this type of loan. Slots are ultimately determined through the judgment of an expert. The slots and associated risk metrics are reviewed at least annually by the risk department as part of the monitoring process. Figure 2 and Figure 3 show the risk weights and expected loss for the regulatory capital calculation that correspond to each obligor-slot category. The risk models are Basel III-compliant and have been reviewed by the Bank of England as the regulator.

Barclays uses slotting when income from the property is generated primarily by the property itself and not by a given business model operating in the premises.

**Figure 2.** Mapping of obligor risk slots to risk weights for regulatory capital calculation

| Risk weights | Category 1 Strong | Category 2 Good | Category 3 Satisfactory | Category 4 Weak | Category 5 Default |
|---|---|---|---|---|---|
| < 2.5 years | 50% | 70% | 115% | 250% | (bespoke) |
| ≥ 2.5 years | 70% | 90% | 115% | 250% | (bespoke) |

Source: Barclays.

**Figure 3.** Mapping of obligor risk slots to expected loss for regulatory capital calculation

| Expected loss | Category 1 Strong | Category 2 Good | Category 3 Satisfactory | Category 4 Weak | Category 5 Default |
|---|---|---|---|---|---|
| < 2.5 years | 0.0% | 0.4% | 2.8% | 8% | 50% |
| ≥ 2.5 years | 0.4% | 0.8% | 2.8% | 8% | 50% |

Source: Barclays.

## 3.3 Staffing

We believe that Barclays is adequately staffed to originate and service the loans securitised in this transaction. The UK specialist team includes executive middle managers responsible for the origination and execution of commercial real estate loans, with the support of associate directors and analysts. On the credit-risk side, risk analysts each have more than 20 years of banking experience on average.

### 3.4 Servicing and recovery

We believe the monitoring processes of the originator result in a reasonably proactive framework for anticipating performance issues and help reduce the obligor's default risk. During monitoring, the following information is tracked: i) management information; ii) audited and interim accounts; iii) covenant-compliance certificates; iv) general and specific market information; v) interaction with the obligor; and vi) the updated value of real estate assets.

Barclays maintains an early-warning list identifying potential problem loans, which takes place during the monitoring process. The eligibility criteria for this transaction explicitly exclude loans in the early-warning list.

We believe the recovery strategy suits the sophisticated relationship of the originator with corporate obligors. The recovery function is performed by a unit called Barclays Business Support. The approach is cooperative, with the aim of identifying solutions which would help a stressed or distressed obligor become performing again. The unit collaborates with external advisors who can assist borrowers throughout the process. Barclays would only seek a managed exit solution or a liquidation strategy when a cure is not possible. Scope has had access to Barclays' confidential data, which showed high rates of cure and full recovery.

Figure 4 shows the relation between the actions of the recovery function and the different levels on the early-warning list. No loan in the securitised portfolio is in the early-warning list.

**Figure 4.** Early-warning list levels and associated actions

| | Level 1 (Low) | Level 2 (Medium) | Level 3 (High) | Bad & doubtful (Defaulted) |
|---|---|---|---|---|
| **Definition** | Caution | Doubt – close control required | Concern – actively minimise risk | Default – actively minimise risk |
| **Description** | Prudent temporary classification | Viability is questioned, but performance over next 12 months not compromised | Failure could occur if position deteriorates | Non-performing, insolvent or default |
| **Risk of obligor failure** | Low | Medium or high (6- to 12-month horizon) | High (6-month horizon) | Very high or failed |
| **Potential loss** | Unlikely | Low or medium | High | (Impairment policy applies) |
| **Exposure policy** | Maintain or reduce | Maintain or reduce or exit | Reduce or exit | Reduce or exit |
| **Headroom of lending facility** | To be reconsidered | Discontinued if unnecessary | Discontinued if unnecessary | Limits cancelled (if appropriate) |

Source: Barclays

### 3.5 Alignment of interests

The exposure of the originator to the transaction results in the adequate alignment of interests between the originator and the investor.

## 4 Asset analysis

The issuer represents the true-sale, pass-through cash securitisation of the beneficial ownership of 57 commercial real estate loans originated in the UK by Barclays in the ordinary course of business. Assets are purchased through a declaration of trust. The obligors are the originator's large commercial real estate customers. The size and average economic strength of the obligors in this transaction counters their concentration in the portfolio. Further, the selected assets have scores ranging from strong to good (the two strongest categories of the UK Prudential Regulatory Authority's slotting system), and no loan is in the monitoring watch-list of the originator.

This section describes the analysis of the assets of this securitisation. Appendix II shows in detail the framework we have applied to analyse commercial real estate loans, and this approach complements our General Structured Finance Rating Methodology. We analyse in sequence the tenant base, the mortgaged properties and, finally, the loan itself.

## 4.1 Analysis of tenants

Scope performed an analysis of the transaction's tenant base in order to derive the term, or ongoing, probabilities of default for each loan in the portfolio. We have assumed that tenants have the average credit quality of UK enterprises. This assumption is granted by the high granularity of the tenant base.

### *4.1.1 Limited risk of disruption to rental cash flow*

The lease expiry schedule of the underlying portfolio is relatively flat, with more than 60% of rental cash flows contractually secured up to the transaction's maturity. Figure 5 shows the lease expiry schedule over the expected life of the transaction, which includes our stress of high-rent contract terminations and existing lease-break options.

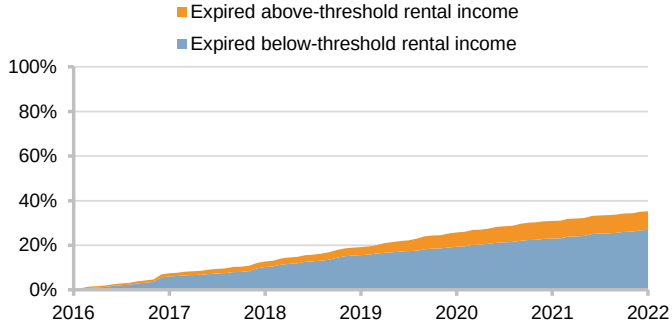
We believe the portfolio bears limited risk from tenant concentration in spite of the fact that more than 10 per cent of net rental income stems from a small number of the largest tenants. Scope analysed the largest tenant and concluded that its diversified turnover significantly reduced the risk of this exposure. Other exposures to large tenants benefit from above-average credit qualities.

Stable demand for office space in central London reduces single-event risk from the exposure to largest tenants. We expect that the market corrections in prime London locations will be average or better than average in a post-Brexit environment.

Scope has built the modelling assumptions on tenant behaviour – at lease expiration or lease break-up – considering the current rent relative to a sustainable level on the market, as described in Appendix II. This approach is granted because the tenant base is granular.

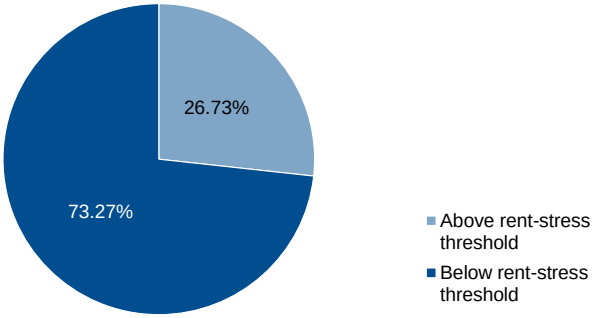
We have accounted for the risk of a substantial reduction of rental income resulting from the termination of contracts with the highest rents (i.e. 27% by net rental income). We have modelled an average reduction of 31% of net rental income for 11% of the portfolio balance over the scheduled life of the transaction. Figure 6 shows the distribution of rental income as classified in relation to the rental-value threshold we have defined for this transaction.

**Figure 5.** Lease expiration schedule by net rental income




Source: Barclays and Scope

**Figure 6.** Contracts by rent level




Source: Barclays and Scope

### *4.1.2 Creditworthiness of tenants*

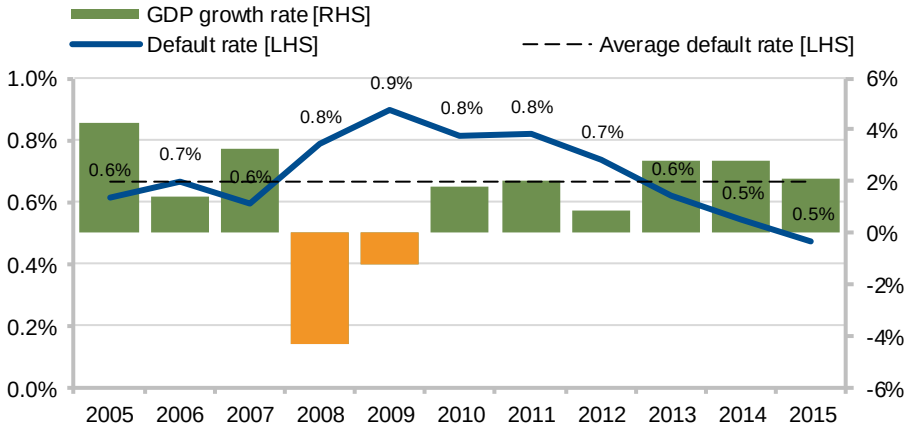
The credit quality of the tenants underlying the lease contracts of this portfolio is average. The weighted average probability of default among tenants is commensurate with the probability of default of a BB+ rating by Scope.

Scope has estimated the credit quality of the tenants by assuming they are UK enterprises of average credit quality. We have considered the public ratings of the tenants when available. This generic approach is granted given the high granularity of the tenant base, with more than 8,000 tenants in the initial portfolio. This approach results in a prudent, albeit relatively conservative, analysis because it dismisses the positive selection resulting from underwriting.

The probabilities of default of UK enterprises are commensurate with those of the BB rating-category curve of Scope's idealised probability-of-default table. Default probabilities in this analysis represent historical insolvency rates and are consequently not subject to

any cure rate. We have analysed the insolvency frequency in the UK between 2005 and 2015 and have estimated one-year default rates for UK enterprises. Figure 7 shows the performance during the last crisis, a period of significant stress.

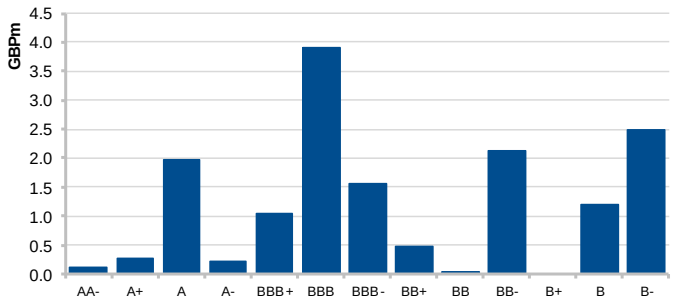
**Figure 7.** Insolvencies in the UK vs GDP growth rates from 2005 to 2015




Source: Companies House UK, National Statistics UK, Scope.

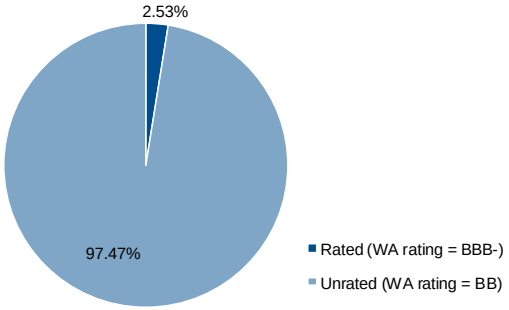
The average quality of publicly rated tenants is better than that of the non-publicly-rated tenants as well as being low investment grade on average (i.e. BBB-). Figure 8 and Figure 9 show the rating distribution of publicly rated tenants and their share (2.5%) by net rental income.

**Figure 8.** Rating distribution of publicly rated tenants




Source: Barclays and Scope

**Figure 9.** Rated and unrated tenants by net rental income




Source: Barclays and Scope

### *4.1.3 Tenant-concentration analysis*

Scope has analysed the largest tenant, which has a highly diversified turnover base because of its business model. Scope has assumed a credit quality commensurate with BB because of this tenant's dependence on external factors. We believe this assumption is reasonable for producing a central expectation because the same factors would drive the credit quality of unrated tenants in the portfolio.

Furthermore, the expected credit performance of tenants in central London is supported by their relevance to the UK economy, even when highly exposed to the financial sector – which faces severe uncertainties in a post-Brexit environment. A similar rationale would also apply to other large tenants with similar business models.

The exposure to the second- and fifth-largest tenants in the portfolio poses significant concentration risk for one loan in the portfolio. These tenants are exposed to the same economic sector.

However, Scope believes this concentration risk is offset by the strong credit quality of both tenants and the long weighted average unexpired lease term of more than 11 years. Scope has assessed the credit quality of the second-largest tenant to be in the low investment grade category, based on publicly available information. We believe that the

fifth-largest tenant is also of investment grade quality, based on its relationship with its parent company.

The third-largest tenant is publicly rated at a level commensurate with the average credit quality of the tenant portfolio.

## 4.2 Analysis of mortgaged properties

Scope performed an analysis of the mortgaged properties backing the loans in this transaction in order to derive loan-specific refinancing probabilities of default at contract maturity. Our analysis considers the value of a property under a long-term view in the economic cycle, indicative of its sustainable value, and takes into account the market conditions we expect following the Brexit vote.

Our market-value-decline assumptions incorporate the distance between the sustainable value and current market conditions. The larger the value haircuts, the higher the rating stress (i.e. rating-conditional property-value haircuts).

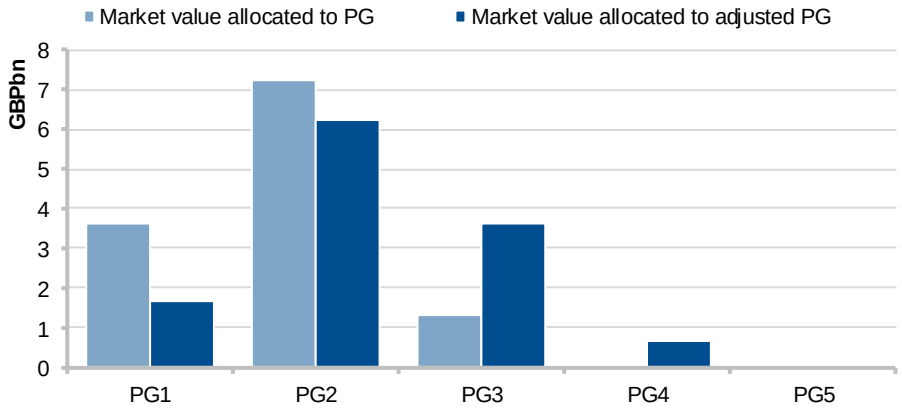
### *4.2.1 Quality of mortgaged properties*

The average property quality in this portfolio is good to average. The weighted average property grade is PG2.3, after Scope's adjustments to quality scores in appraisal reports. As a result, we see some downside market-value risk with regard to property values. The market value of high-quality properties tends to be more cyclical than that of lower-quality properties in consolidated markets.

Scope mapped the property qualities reported in the valuation reports to a scale of 'property grades' which reflect the quality of a property from best (PG1) to worst (PG5). The mapping considered the originator's methodology for assessing property quality. Appendix II provides details about the factors we considered for property grade analysis.

Scope lowered the property-quality assumptions reported by the sponsor, as a function of the regional location. We believe that the assessment of property quality in appraisal reports is slightly aggressive when judged under an international European perspective, despite being in line with the standards on UK property markets. Scope's mapping incorporates conclusions from on-site visits for a random selection of properties in the London area. Figure 10 compares the distribution of portfolio property values by property grades, both before and after Scope's adjustments to reported quality scores.

**Figure 10.** Distribution of property grades (PG) by adjusted market value




Source: Scope.

### *4.2.2 Property-market environment*

Risks have increased in a context of uncertainty after the Brexit vote on 23 June 2016. Investment volume dropped by more than 20% from Q1 2015 to Q1 2016. Take-up has shrunk at the same pace. The likely reduction of demand for commercial real estate space from the micro- and macroeconomic environments (see 'Sovereign risk' on page 23) will partly be offset by the slow-down in commercial development activity, which has reduced for the first time since August 2012.

We believe that the UK property market is dynamic and still healthy. Consequently, the market will adjust to the new environment, subject to the value corrections expected. The

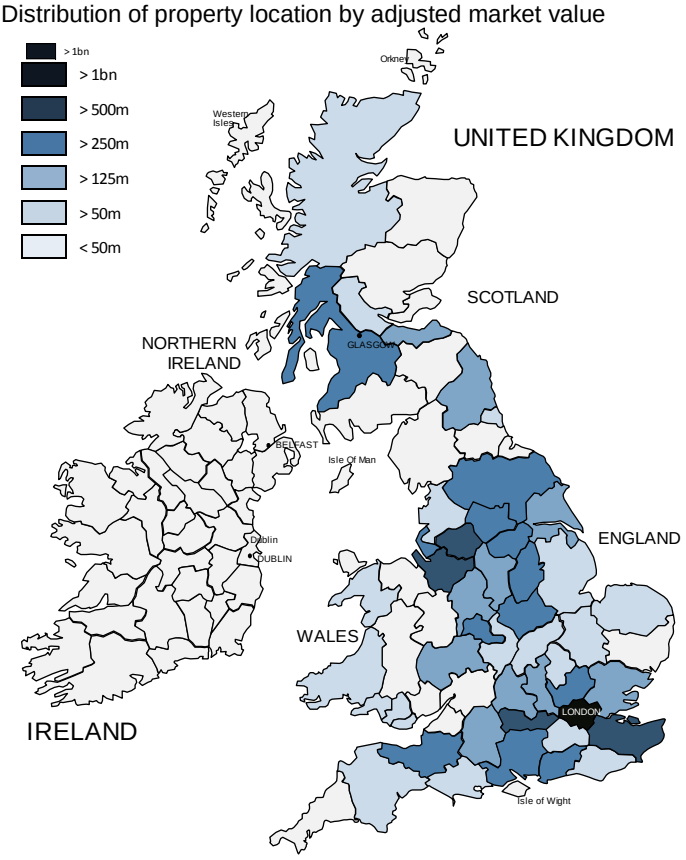
pre-Brexit environment was one of growing capital values, boosted by increasing rents, with yield reductions flattening out. Nevertheless, high uncertainty will remain for at least two years until the negotiations of terms of Brexit unfold.

The short- and medium-term reduction of take-up and rents will impact the performance of this portfolio slowly. Lease expirations are distributed over a long risk horizon, as evidenced by the long weighted average unexpired lease terms of more than 12 years.

Further, yields are expected to rise because property prices adjust faster than the pace at which rental contracts can be restructured. The higher leverage of the loans as a result is not a problem for this portfolio as it has a relatively low loan-to-value ratio.

Scope has built assumptions for average UK property markets, leveraging on historical figures and forecasts provided by industry experts[1]. This approach is granted by the high granularity of the portfolio and the fairly even distribution of property types and locations (Figure 11, Figure 12 and Figure 13).

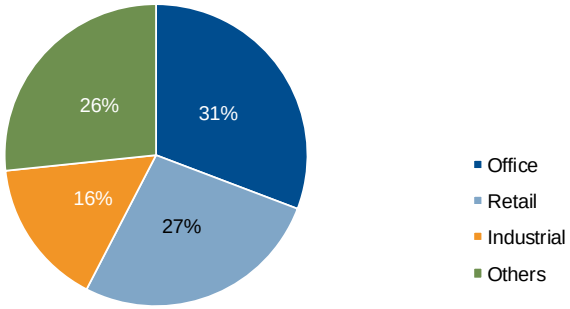
**Figure 11.** Distribution of property location by adjusted market value




Source: Barclays and Scope.

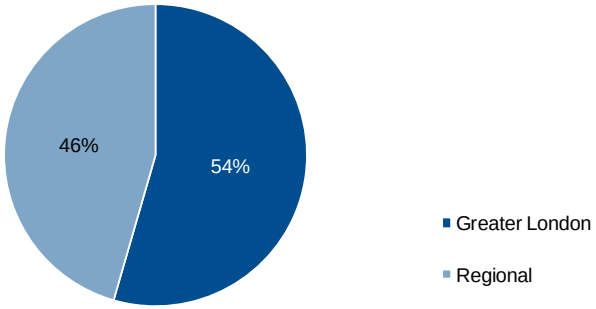
[1]CBRE - Real Estate Market Outlook 2016; CBRE - Continental Drift, C&W - Great Wall of Money 2016; Savills - Key Themes for UK Real Estate in 2016 , BNP - 2016: The year of the UK regions; LHS - Office Report 2015.

**Figure 12.** Property types by adjusted market value




Source: Barclays and Scope

**Figure 13.** Property location by adjusted market value




Source: Barclays and Scope

#### 4.2.2.1 Length of vacancy periods and re-letting likelihood

Scope has stressed the cash flows from the properties by considering vacancy periods after a tenant defaults as well as if the tenant vacates (i.e. when the property is over-rented). We assumed vacancy periods after a rental termination of 10 months for office space, 19 months for retail space, and 11 months for industrial space – considering an average property quality (i.e. property grade PG3). Figure 14 shows these vacancy periods as they relate to average lease durations and structural vacancy rates. The average vacancy period for 'Other' is highly biased by the short lease durations (i.e. 6-12 months) associated with certain properties in the portfolio, which heavily reduce the average. We have derived these assumptions from our internal real estate database and publicly available data.

**Figure 14.** Vacancy periods by property type (assuming property grade PG3)

| | Office | Retail | Industrial | Other |
|---|---|---|---|---|
| Average lease duration (months) | 120 | 150 | 120 | 60 |
| Structural vacancy rate | 8% | 13% | 9% | 6% |
| Vacancy period (months) | 10 | 20 | 11 | 4 |

Source: Scope, Cushman & Wakefield, Springboard, UKWA, Savills

We have adjusted the vacancy rates around the market averages for property grade PG3 by taking +/- 50% deviations from the mean. For example, we assumed a vacancy period of five months for an office with property grade PG1, the highest quality (i.e. ten months for property grade PG3 minus 50%).

We include structural market vacancies into our re-letting assumptions because we believe re-letting is always generally possible despite the quality of a property, as long as rent is adjusted accordingly. For example, the re-letting rent for a PG3-grade office building reflects the full market rent minus the structural vacancy of eight per cent, thus 92% of market rent.

#### 4.2.2.2 Scope's sustainable property value

We believe the sustainable property value of the portfolio is lower than the current market value. Current values still reflect the bullish pre-Brexit environment of UK property markets. Low interest rates have brought yields close historical lows. Scope's sustainable property value is based on its assumptions on both yields and the net rental cash flows of the properties backing the portfolio's loans.

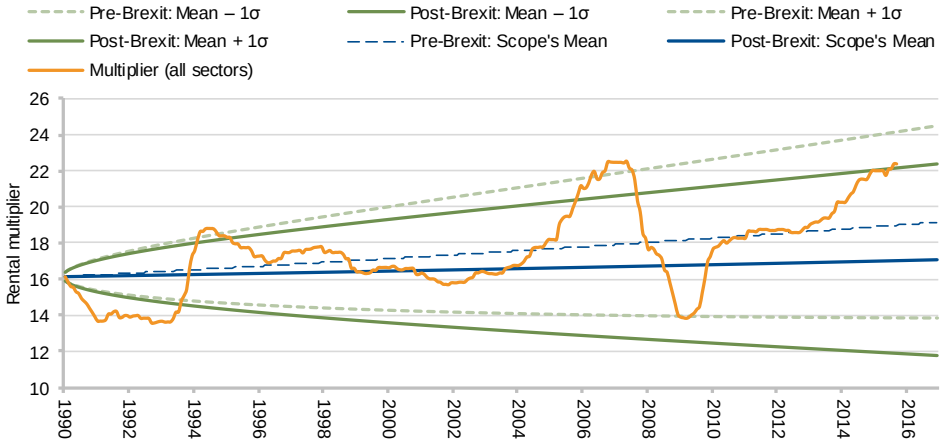
Scope has produced a yield assumption based on a price index that we constructed specifically for the UK commercial property market. This index considers all property types and is based on the weighted average net initial yield. The reliance on one single index is granted for this transaction due to the fair representation of all property types in the portfolio.

Figure 15 shows the price index, representing prices as rental multipliers. The figure also shows the pre- and post-Brexit adjustments, which reflect a healthier development of the market.

Scope's sustainable property value is primarily driven by our yield assumptions because the decrease of net rental income is very gradual over time (see Figure 5). Nonetheless,

Scope accounts for a 5% decrease of the portfolio's rental income. This decrease would result from structural market vacancies and re-letting rental adjustments for over-rented space.

**Figure 15.** UK property-price index and Scope's pre- and post-Brexit assumptions




Source: Scope and Savills.

## 4.3 Loan analysis

The loans in the initial portfolio of mortgages have low probability of default, on average, during the life of the contract (term default probability). The probability of default at maturity (refinancing default probability) is higher, which creates a back-loaded term structure of defaults for the assets in this portfolio. Nevertheless, the granularity of the portfolio results in a fairly even distribution of maturity dates, which spreads refinancing risk over the life of the transaction. The low weighted average loan-to-value ratio of the portfolio results in generally high recoveries for all loans in the portfolio.

Scope's loan analysis brings together the analysis of tenants and properties in order to produce loan-specific default and recovery modelling assumptions, which are, in turn, used to create the distributions of portfolio defaults and losses.

### *4.3.1 Default probability during the life of the loan*

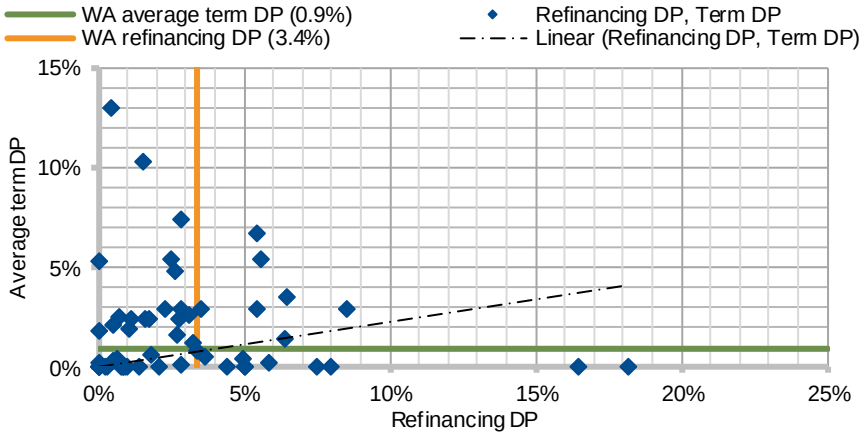
The term, or ongoing, default probability of the loans is relatively low (i.e. average marginal one-year probability of 0.9%) because the portfolio's weighted average interest coverage ratio (ICR) is above four times. We believe the ICR of the portfolio will not be materially affected, even if the portfolio loses loans with stronger ICRs up to year-end 2017. This view is supported by the track record of the originator, which has consistently originated debt with high ICRs since January 2015 despite the increased competition in the UK debt markets which led to ICR and margin compression. High ICR and debt-service coverage ratios (DSCR) reduce the risk posed by tenant quality.

### *4.3.2 Default probability at loan maturity*

The loans' probability of default at maturity is generally low because loan-to-value (LTV) levels are low and debt yields sufficiently cover a potential, but unexpected, rise in interest rates. The probability of default at maturity for most loans is higher than the ongoing probability of default (weighted average of 3.4% vs 0.9%, respectively; see Figure 16). Refinancing default probabilities are a loan-specific function of loan-to-value ratios and property quality.

The relation between refinancing and term probabilities of default in this portfolio indicates that Barclays would take more term risk when the loan's leverage makes it easier to foreclose the property and amortise the loan; and Barclays would take more refinancing risk when the rental income generated by the property would make it easier to novate existing debt with low default probabilities. This relationship is also evident in Figure 16.

**Figure 16.** Refinancing and average term default probabilities of portfolio loans




We assume that an average 35% equity contribution is necessary to refinance a property of average quality (i.e. PG3) under the current market conditions. This is equivalent to assuming that no lender will refinance a property of PG3 quality by granting a loan with a loan-to-value higher than 65%.

We believe that lenders allow a higher leverage when properties are of very good quality (i.e. PG1). In these cases, loan-to-value ratios could reach 85%, equivalent to a 15% equity contribution. Figure 17 shows the minimum equity and maximum loan-to-value ratios we assume to be necessary to refinance a property, as a function of its property quality expressed as a property-grade score.

**Figure 17.** Minimum equity and maximum loan-to-value to enable property refinancing

| Property grade | PG1 | PG2 | PG3 | PG4 | PG5 |
|---|---|---|---|---|---|
| Minimum equity contribution | 15% | 25% | 35% | 45% | 55% |
| Maximum loan-to-value ratio | 85% | 75% | 65% | 55% | 45% |

Scope's estimates of refinancing default probabilities is based on the volatility of UK property prices (i.e. all-property-types price index) and the risk horizon of typical loans – five years. Figure 18 shows these probabilities of default at maturity as a function of the property grade and loan-to-value at maturity.

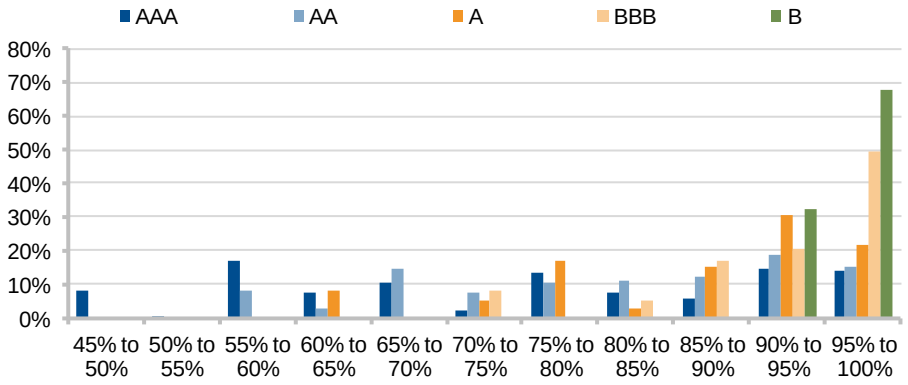
**Figure 18.** Refinancing default probabilities for a five-year risk horizon

| LTV at maturity | PG1 | PG2 | PG3 | PG4 | PG5 |
|---|---|---|---|---|---|
| 40% | 0.5% | 0.5% | 1.0% | 2.0% | 2.0% |
| 50% | 1.0% | 1.0% | 2.1% | 4.4% | 6.1% |
| 60% | 2.1% | 2.4% | 4.7% | 10.0% | 17.2% |
| 70% | 5.2% | 6.2% | 11.2% | 22.1% | 38.6% |
| 80% | 13.8% | 16.3% | 26.0% | 43.1% | 65.4% |
| 90% | 37.6% | 42.0% | 54.5% | 71.3% | 87.4% |
| 100% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

### *4.3.3 Rating-conditional loan-level recovery rates*

We expect high recoveries for most loans in the portfolio, even under a AAA-conditional stress, thanks to the low loan-to-value ratios. Figure 19 shows the loan-level recovery rates under different rating stresses.

**Figure 19.** Distribution of rating-conditional loan-level recovery rates




We believe that the UK market is currently overpriced, with property prices above the level we believe is sustainable (Figure 15). Nevertheless, the degree of 'overheating' is not as severe as in 2008. The interest rate environment and the real margins embedded in the yields suggest that the current price level is healthier from a fundamentals perspective.

We applied property-value haircuts designed to anticipate the reversion to the mean of UK property prices (i.e. long-term or through-the-cycle recovery analysis). Scope seeks to increase the stability of high investment grade ratings by avoiding pro-cyclicality in modelling inputs.

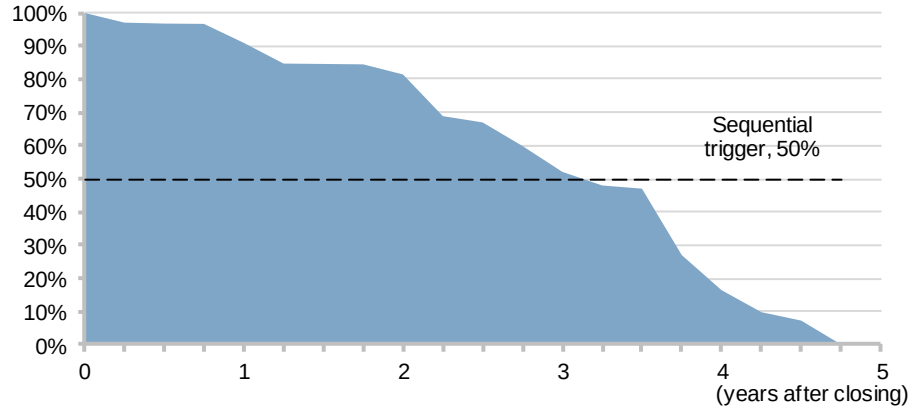
The AAA-conditional loan-level recovery rates assume a full reversion to a price that we believe is sustainable for specific properties, minus an additional value haircut. This haircut accounts for fire-sale discounts and potential value volatility over the risk horizon and until the maturity of the loan.

We give credit to the current price environment when we estimate B-conditional loan-level recoveries (i.e. point-in-time recovery analysis), but we apply an additional 5% haircut to property values to account for fire-sale discounts and the value volatility over the risk horizon and until the maturity of the loan.

### *4.3.4 Amortisation profile*

The amortisation of the portfolio reflects the granularity of the pool and the even distribution of loan-maturity dates. The weighted average life is relatively short at 3.0 years. Figure 20 shows the amortisation profile, including the 50% threshold which triggers the sequential amortisation of the A loans, and the B1 and B2 loan notes.

**Figure 20.** Portfolio amortisation profile



## 4.4 Portfolio modelling

### *4.4.1 Portfolio lifetime default rate*

We expect an average 4.1% default rate for this portfolio. The mean default rate is nevertheless hiding a bar-belled distribution where there is a high probability of no or very few loans defaulting, and a sizeable probability of up to 40% of loans in the portfolio defaulting. This is shown in Figure 21 and Figure 22.

The dispersion of the default-rate distribution is also evident in the very high coefficient of variation[2] (125%), which reflects the portfolio's high correlation as well as the probability of extreme events. Expected portfolio losses are nevertheless very low (i.e. 10bp), due to the high recovery rates that result from the low loan-to-value ratios and the properties' good average quality and location.

Scope has produced a non-parametric probability distribution of portfolio default rates for this transaction. Scope has used a concentrated-portfolio approach and modelled individual loan defaults with a Monte Carlo simulation.

**Figure 21.** Portfolio default-rate probability distribution

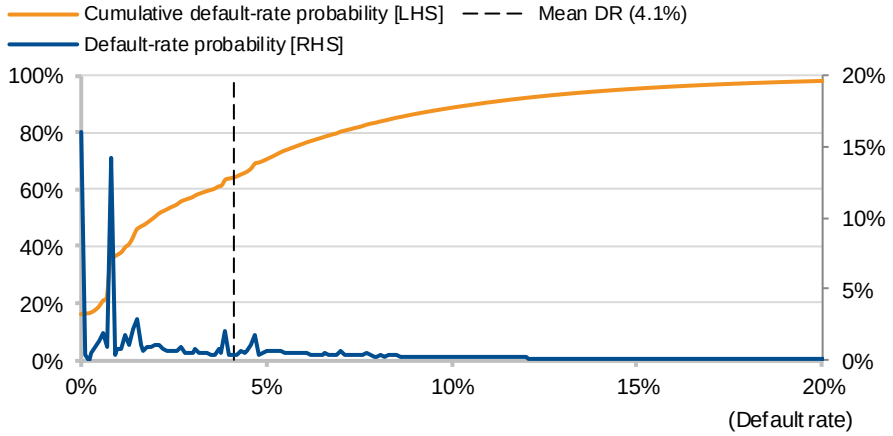
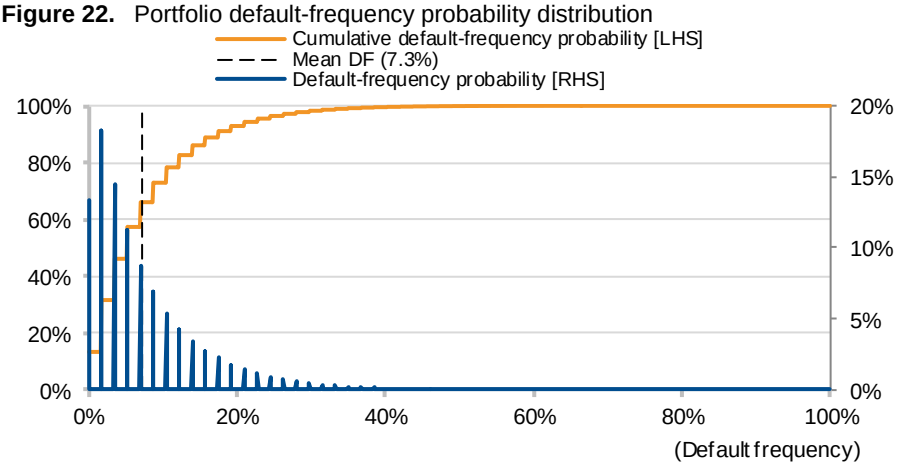



**Figure 22.** Portfolio default-frequency probability distribution




Scope's Monte Carlo simulation has implemented a multi-factor correlation framework adjusted for highly concentrated portfolios to account for the single-sector exposures. This framework is designed to capture the characteristics of the underlying properties because these drive the default probabilities of the loans in the portfolio.

We have modelled a maximum pair-wise correlation of 50% for the assets, split in three factor categories. Each loan is exposed to one or more factors in each of the factor categories. Loans that represent more than five per cent of the portfolio are stressed by

[2] The coefficient of variation is standard deviation divided by the mean. The default distribution is non-parametric and this metric is provided for reference purposes only.

adding an additional 20pp to the pair-wise correlation (i.e. maximum pair-wise correlation is 70%).

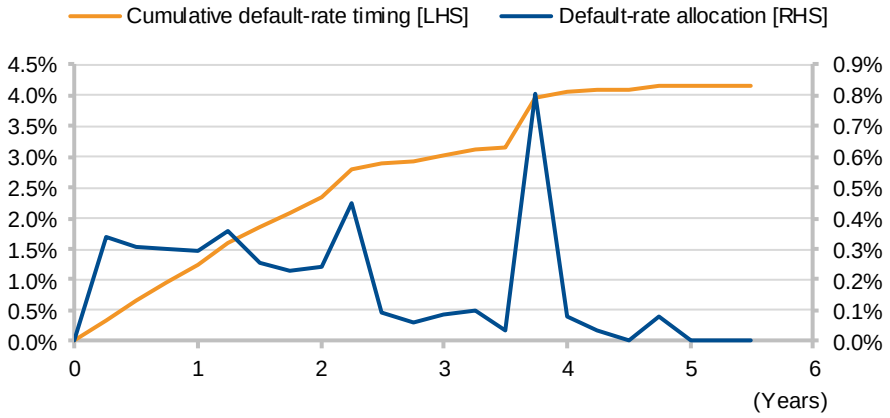
This correlation framework creates dependencies between the defaults to capture the complex nature of the loans, which are often exposed to multiple UK regions and property types. Figure 23 summarises the correlation framework we have applied.

**Figure 23.** Indicative correlation framework

| Factor category | Factor values | Correlation |
|---|---|---|
| Global | N/A | 15% |
| Location | Greater London, regional | 15% |
| Property type | Industrial, office, residential, retail, other | 20% |
| Largest loans (> 5%) | Largest loan | 20% |

The portfolio simulation also produces the expected timing of defaults. Portfolio default timing is a reflection of the underlying loans' term and refinancing default probabilities. The default-timing vector shows a spike just before four years after closing, the period when significant refinancing risk is clustered. Figure 24 shows the expected default timing.

**Figure 24.** Default timing resulting from simulation




Scope has taken a forward-looking, long-term view on the risk of the portfolio for the analysis of this transaction. We believe that the current conditions of the market are highly volatile. See 'Sovereign risk' on page 23.

### *4.4.2 Portfolio recovery rate*

The portfolio recovery rates are very high, even after capturing post-Brexit stresses. This is the result of the low loan-to-value of the loans in the portfolio. We have modelled a AAA-conditional recovery rate of 70.5% and expect a 98% recovery rate on the portfolio (i.e. B-conditional recovery rate).

Scope has modelled the portfolio-level recovery rates using the Monte Carlo engine. The Monte Carlo simulation blends the loan-level recovery rates calculated during the analysis of the individual assets and produces a portfolio-level default-weighted average. 0 lists the resulting portfolio-level recovery rates.

We have addressed the idiosyncratic recovery risk of the loans by applying loan-level caps to the maximum recovery rate achievable under each rating-conditional recovery stress. This cap is a very significant stress because it dismisses the loan-to-value buffer available at individual loan level, which results in very high recovery rates.

We have modelled a weighted average time to recovery of two years, which creates an additional liquidity stress in the structure. Additionally, we have also tested the sensitivity to extended recovery periods of up to seven years, as these are possible under the terms in the documentation. Nevertheless, we highlight that the property-value haircuts considered in our analysis implicitly assume short foreclosure periods.

**Figure 25.** Rating-conditional recovery rate assumptions

| Rating stress | Loan-level recovery cap applied[a] | Rating-conditional recovery rate |
|---|---|---|
| AAA | 95% | **70.5%** |
| AA | 96% | **77.7%** |
| A | 97% | **84.9%** |
| BBB | 98% | **91.9%** |
| BB | 99% | **95.0%** |
| **B (base case)** | **100%** | **98.0%** |

[a] Loan-level recovery caps dismiss the loan-to-value buffer of a loan and thus represent a significant stress used to address idiosyncratic recovery risk of loans with very high recovery rates.

#### *4.4.3 Constant prepayment rate*

We have tested the structure against the most conservative 0% prepayment assumption and against a high prepayment assumption of 10%. These prepayment assumptions do not depend on the rating-stress scenario being considered. We believe that both high and low prepayment scenarios are a possibility in the uncertain environment that has followed the Brexit vote.

# 5 Financial structure

## 5.1 Capital structure

The liability structure features six principal and interest tranches and two interest-only tranches: i) senior loan debenture A1; ii) unrated senior interest-only strip, the additional vendor consideration A (AVC A); iii) mezzanine loan debenture A2; iv) mezzanine loan debenture A3; v) subordinated B1 loan notes; vi) subordinated B2 loan notes; vii) unrated deeply subordinated interest-only strip, the additional vendor consideration B (AVC B); and viii) unrated deeply subordinated Z notes used to fund the spread reserve. Scope only rates the A1, A2 and A3 loan debentures and the B1 and B2 loan notes.

Subordination is not strict, as principal will be repaid on a pro-rata basis between all of the different tranches under certain benign circumstances. The AVC A strip is detrimental to all tranches except the A1 loan because the strip extracts excess spread. The structure still leaves some excess spread for the rated instruments in the form of the interest due on the AVC B. At closing, the proceeds from the A1, A2 and A3 loan debentures, and the B1 and B2 notes were used to pay the par value of the assets.

The A1 loan will pay monthly interest, referenced to 3-month Libor, plus a constant margin[3]. The A2 and A3 loans, and the B1 and B2 notes, promise to pay 3-month Libor plus a margin every month that reduces over the life of the transaction. Interest is only accrued on the effective balance, calculated after deducting any realised losses, which are applied strictly in reverse sequential order of seniority (i.e. first to the B2 note, last to the A1 loan).

The amount due under the AVC A strip is calculated on scheduled amounts, irrespective of the defaulted status of some assets, until the moment when they are written off in the structure. The amount due under the AVC B is a fixed coupon on the effective portfolio balance, i.e. the balance of non-written-off assets.

The structure features complex priority-of-payments mechanisms, a liquidity facility, a fully funded cash reserve, hedging derivatives and buffer-building mechanisms.

## 5.2 Default and realised-loss definitions

We believe the structure establishes a prudent definition of default for the loans in the portfolio. The definition of realised loss considers a rather prolonged workout period of seven years, or less if the servicer deems that no additional recoveries are possible. Loan-level covenants also provide the servicer with adequate flexibility for the workout of impaired loans.

Long workout periods have a detrimental effect on the credit strength of the A2 loan. This sensitivity to extended workout periods justifies the A rating.

[3] Margins on this transaction represent confidential information and are not disclosed in this rating report.

Defaulted assets are loans in which the obligor i) has filed for insolvency; or ii) is in arrears of more than 90 days – or less if a shorter delinquency threshold is defined in the loan agreement; iii) is considered to be in subjective default by the collateral manager; or iv) is deemed to have defaulted after another more senior or pari passu debt has defaulted.

Realised losses take into account the corresponding defaulted interest and will be provisioned from excess spread and moneys in the spread reserve account by pushing the corresponding amount for distribution under the recovery priority of payments.

## 5.3 Issuer-related events of default

The structure is protected by standard events of default, which are effective at triggering the post-enforcement priority of payments. Figure 26 lists the most relevant events of default defined in the structure.

**Figure 26.** Issuer-related events of default

| Issuer-related events of default |
|---|
| Non-payment of interest on the most senior liability outstanding, subject to a grace period of five business days – seven days if due to an administrative error. |
| Non-payment of principal, subject to a grace period of five business days – seven days if due to an administrative error. |
| Non-payment under the priority of payments, subject to a grace period of five business days – seven days if due to an administrative error. |
| Breach of other contractual obligations of the issuer, except for collateral and portfolio tests and triggers, subject to a 30-day grace period – 15 days if related to collateral. |
| Insolvency |
| Illegality |

## 5.4 Issuer accounts

The issuer will have several purpose-specific accounts, held by the account bank (or eventually the custodian). These accounts are instrumental in allowing mechanisms to implement the priorities of payments and the protection mechanisms of the structure. Investors are not exposed to potential negative interest accrued on the issuer's accounts.

## 5.5 Pre-funded spread reserve

The structure does not need to trap excess spread from the moment of closing and features a fully funded cash reserve (the spread reserve) of GBP 6m, or 25bp of the initial portfolio balance. The reserve will be funded with the proceeds of the Z notes – not rated – granted by Barclays and will not be replenished if used over the life of the transaction.

## 5.6 Liquidity facility

We believe that the support provided by the liquidity facility is sufficient given the strength of the servicer and the high credit quality of the assets. The liquidity facility alone provides liquidity coverage to enable the issuer to pay its non-deferrable obligations accrued over more than one year. We believe this liquidity coverage is adequate for solving any unlikely disruption of collections from the assets.

The structure features an amortising liquidity facility of initially GBP 80m to support the timely payment of i) the security trustee fee and senior expenses of the issuer; ii) interest on the A loans; iii) the vendor trustee fee; and iv) B1 loan note interest.

The facility accrues a variable fee on drawn amounts, which is a function of the number of consecutive periods in which the liquidity facility was drawn. Additionally, the liquidity facility accrues a fee on the undrawn commitment.

The maximum commitment is amortising as the effective balances of the A loans and the B1 and B2 loan notes amortise or are written off. The maximum commitment at any payment date is calculated to ensure the liquidity provided by the facility always represents the same multiple of the promised interest due. The available commitment equals the maximum commitment minus outstanding drawings.

## 5.7 Expense reserve and expense subordination

Expense mechanisms in the structure provide liquidity to cover the timely payment to counterparties, while preserving the seniority of the rated instruments. The structure

features a mechanism to create a cash reserve to cover senior expenses. Additionally, the priority of payments sets forth the subordination of senior expenses that are in excess of a pre-defined cap, which provides better protection for investors in the A loans. On every payment date, moneys are trapped when the amounts paid out as senior expenses are less than a pre-defined cap.

## 5.8 Amortisation and provisioning

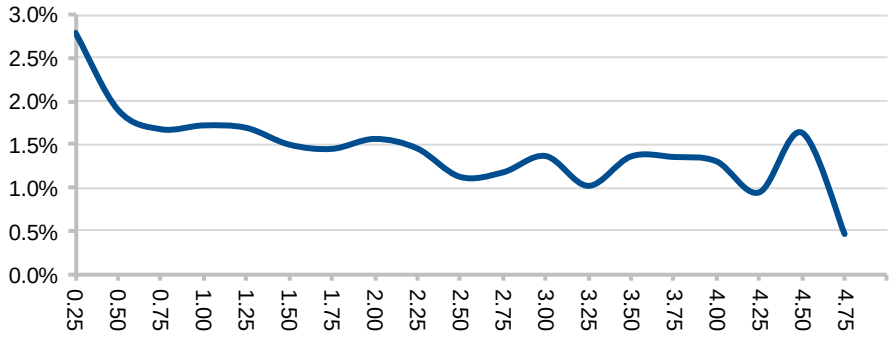
The pass-through amortisation through principal collections from the assets is allocated pro-rata between the rated instruments, except when strictly sequential amortisation starts after any of five senior-amortisation triggers are hit for the first time (i.e. non-reversible triggers). Figure 27 lists the triggers that activate sequential amortisation.

**Figure 27.** Senior-amortisation triggers

| Risk factor | Trigger |
|---|---|
| Loan security | Amortisation becomes sequential if the weighted average loan-to-value is greater than 60%. |
| Defaults | Amortisation becomes sequential if cumulative defaults exceed 4% of the initial balance of the assets. |
| Yield | Amortisation becomes sequential if the weighted average interest coverage ratio of the loans drops below 2.0x. |
| Enforcement | Enforcement notice received by collateral administrator. |
| Pool amortisation | Effective portfolio balance is less than 50% of the initial balance of the assets. |

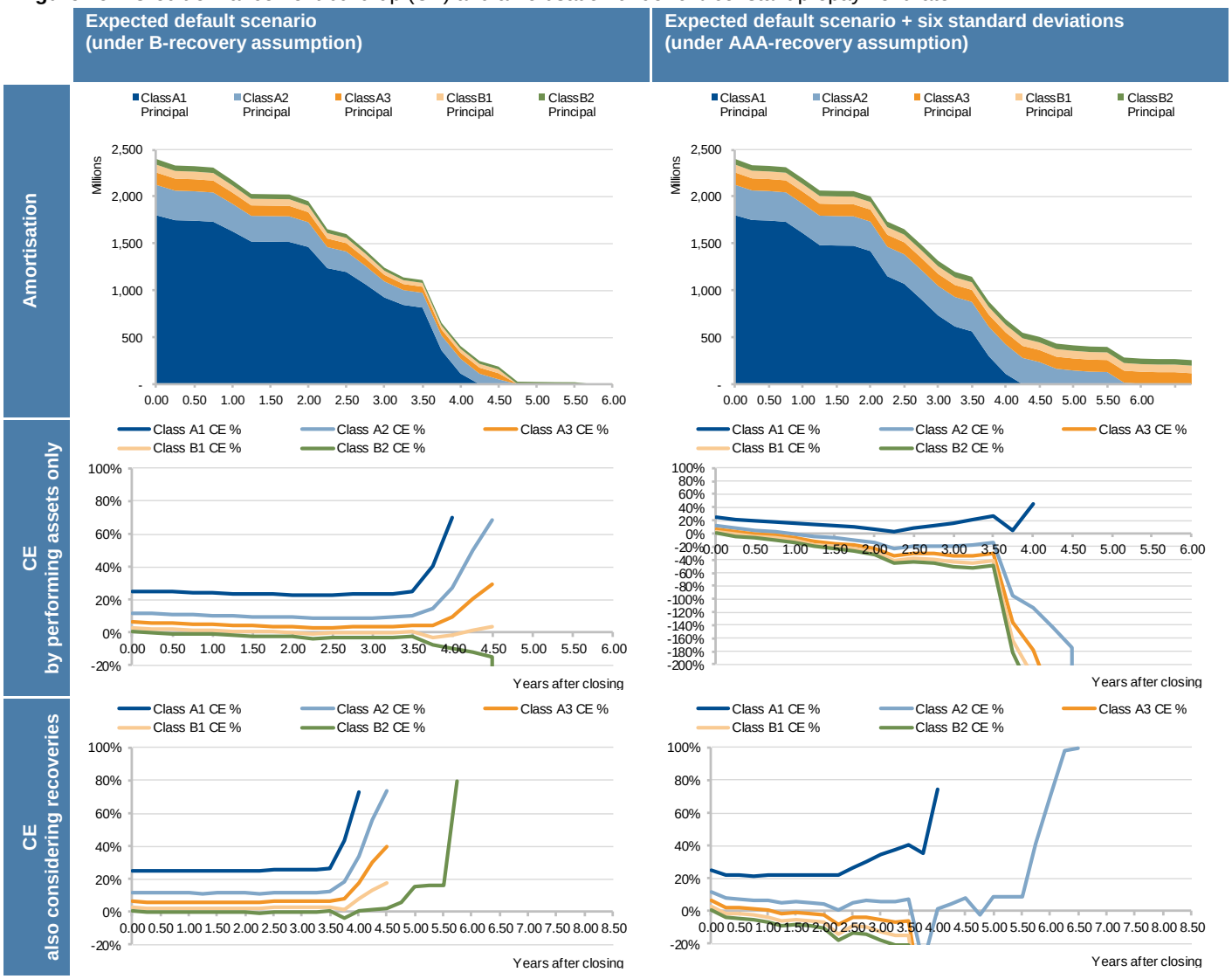
Pro-rata amortisation increases the senior tranches' exposure to the tail risk from the asset portfolio. This is captured in our analysis, which also reflects the mitigating effect from the improvement of the portfolio's weighted-average credit quality. Figure 28 shows how we expect the quality of the pool to improve soon after closing and marginally improve over time. The improvement results from riskier loans having shorter maturities than stronger loans.

**Figure 28.** Marginal quarterly probability of default of the portfolio (annualised)




The amortisation mechanism seeks to preserve the proper collateralisation of the A loans by trapping principal due to the B1 and B2 loan notes in the buffer-cash collateral account.

**Figure 29.** Credit enhancement build-up (CE) and amortisation under 0% constant prepayment rate




0 illustrates the credit strength of the A1 loan, which remains properly collateralised by performing assets, even under tail risk. The strength of all other classes depends largely on the recovery performance, which we expect will be strong for this transaction thanks to the low loan-to-value ratios.

0 also shows the amortisation of the rated instruments and credit enhancement build-up. This figure shows the expected scenario and a significantly stressed scenario. The default rates are respectively 4.1% (i.e. the mean) and 34.8% (i.e. the mean plus six standard deviations). The recovery rates are respectively 98.0% (i.e. B-rating conditional recovery rate) and 70.5% (i.e. AAA-rating conditional recovery rate).

## 5.9 Priority of payments

The payment mechanics implemented by the structure are complex, creating a source of operational risk. This risk is mitigated by the experience and capability of the counterparties involved.

Otherwise, the mechanics for distributing all cash collected by the issuer are effective at subordinating the interests of the different stakeholders and creditors, reflecting the hierarchy implied by the seniority of claims. This is reflected in the gradually weaker credit strength of the liabilities of the issuer, evident in the ratings we have assigned.

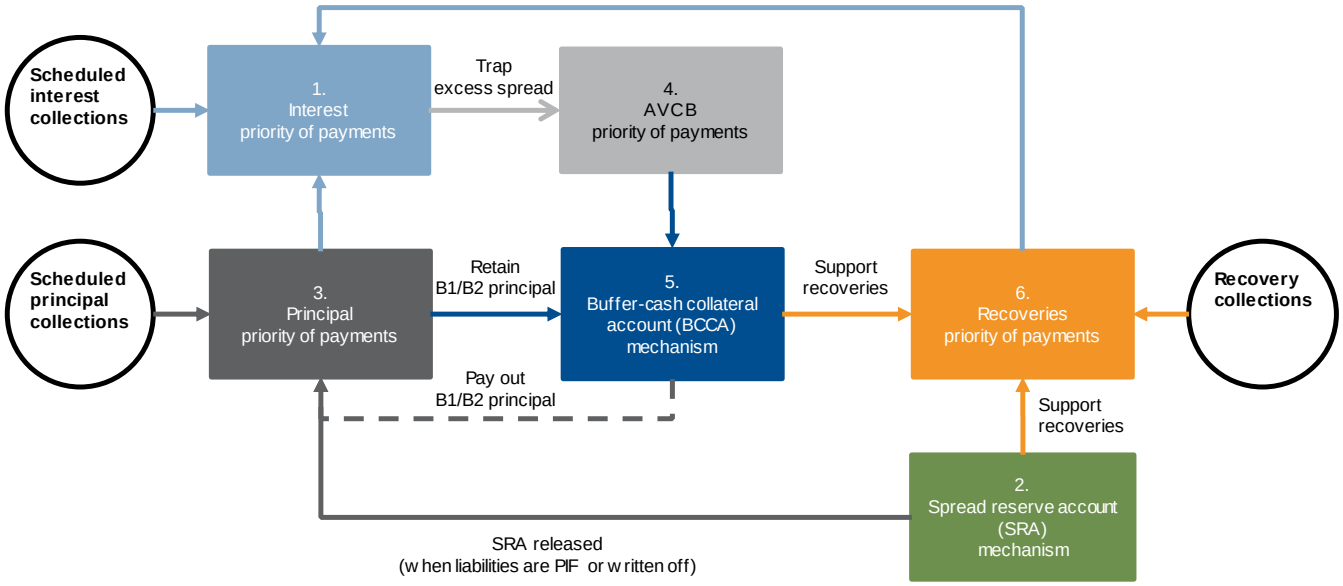
The structure features four priorities of payments and two account mechanisms for the distribution of principal collections, interest collections and recoveries collections among

the issuer's liability-holders. Figure 30 shows the connections between these priorities of payments and accounts.

The structure will trap excess spread to compensate for negative carry from defaulted assets and to maintain proper overcollateralisation of the A loans by non-defaulted assets.

The structure is effective at protecting the A loans via the subordination of the B1 and B2 loan notes. The structure builds a cash reserve to cover potential future losses when the A loans are not collateralised by performing assets. The money is released into the recovery priority of payments when losses from the assets crystallise.

**Figure 30.** Diagram of connections between priorities of payments in the structure




## 5.10 Hedging agreements

We believe that the hedging agreements in this transaction represent a convenience mechanism, but are not really necessary to cover interest rate risk as the transaction is, by and large, naturally hedged against basis risk. The structure features the rolling of basis swap contracts to match cash flows of the underlying loans and the amounts due on the A loans and the B1 and B2 loan notes on the payment dates.

We do not think the B1 and B2 loan notes are materially exposed to the default of the swap provider. A swap-termination payment, which would be senior to the interest of the B1 and B2 loan notes in the interest priority of payments, is expected to be negligible because of the pure basis nature of the swap and the reference to homogeneous interest-rate indices.

The characteristics of the hedging agreements and the natural hedge between assets and liabilities result in the very low marked-to-market values of these swap contracts, which, when weighted with the probability of the swap provider's default, results in a negligible contribution to the expected loss of subordinated tranches.

# 6 Ratings

Scope has assigned an $AAA_{SF}$ rating to the A1 loan debenture, based on the notes' resilience to default, interest and prepayment stresses. We ran a cash flow analysis under a non-parametric portfolio-default-rate distribution, which reflects the characteristics of the assets. We expect a weighted average life of 2.9 years for the A1 loan under 0% prepayments, or as low as 2.4 years under 10% prepayments. This compares to the initial portfolio's weighted average life of 3.0 years, reflecting the pro-rata nature of the structure.

The A1 loan debenture is strongly protected by its senior position, benefiting from 25.2% of credit enhancement from the overcollateralisation provided by high-quality assets. Further, the structure also ensures liquidity can support the timely payment of interest to this class.

| Tranche | WAL | Scenario |
|---|---|---|
| A1 | 2.44 | AAA-RR High CPR |
| A2 | 3.32 | AAA-RR Low CPR |
| A3 | 3.13 | A-RR High CPR |
| B1 | 3.12 | BBB-RR High CPR |
| B2 | 3.48 | BB-RR Low CPR |

The probability of missed coupons is extremely remote and would require portfolio default rates of more than 67%.

The A2 loan debenture is strongly protected by 11.7% of credit enhancement from overcollateralisation. Scope expects losses on this tranche to be commensurate with the highest rating. Nevertheless, Scope has assigned a AA+$_{SF}$ rating to this class because it is vulnerable to extensions of the workout period, which could be up to seven years according to the terms in the documentation.

The A3 loan debenture benefits from 6.2% of credit enhancement. All A loan debentures benefit from structural mechanisms which subordinate and trap cash flows for the B1 and B2 loan notes in order to ensure sufficient collateralisation.

The credit enhancement available to the B1 loan notes (i.e. 2.7%) is sufficient to support the BBB+$_{SF}$ rating given the high quality of the loan portfolio, even accounting for the structural subordination of payments to this class under the cash flow mechanics of the issuer.

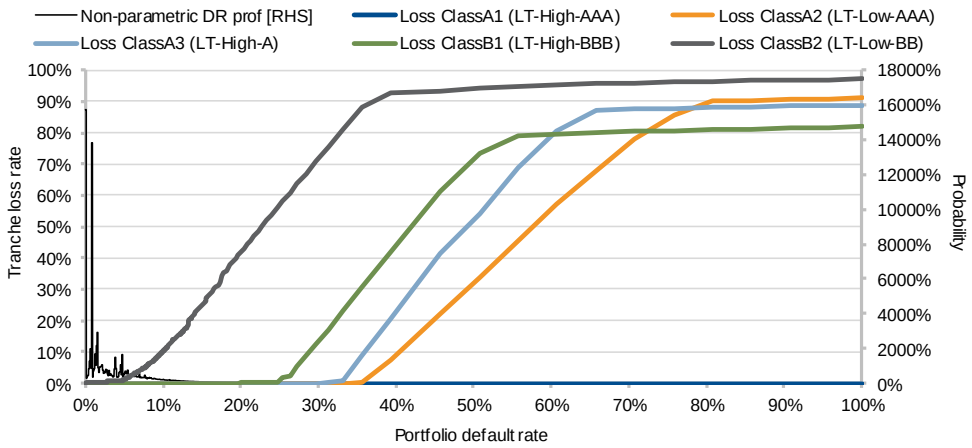
The B2 loan notes benefit mainly from the step-down mechanism, which reduces the coupon due on this tranche as the transaction amortises. This mechanism supports the B+$_{SF}$ rating, without which the rating would be materially lower. The step-down mechanism does not significantly impact the ratings of the other tranches.

All ratings, except the rating of the A1 loan debenture, reflect the excess spread consumed by the interest-only strip, which is only junior to the A1 loan. The magnitude of the effect becomes evident when considering the gross credit quality of the portfolio of assets: we deem the initial portfolio to be of a credit quality that is almost three rating categories higher than the rating on the B2 loan note. The expected weighted average life of the B2 loan notes is, at 3.5 years, only slightly longer than that of the A loan, reflecting: i) the low defaults expected; ii) the pro-rata amortisation until the portfolio factor is 50% under most scenarios; and iii) the relevance of recovery cash flows in supporting the credit quality of junior tranches.

Scope has used a bespoke cash flow tool to analyse the transaction. The model accurately implements the structural features of this transaction. The modelling of the AVC A interest-only strip is important to calculate the impact of the erosion of excess spread available to the loan notes. Step-down coupons support the rating of the B2 loan notes.

The results of the cash flow analysis are shown in Figure 31, which also illustrates the break-even portfolio default rates under different recovery assumptions.

**Figure 31.** Tranche losses for all portfolio default rates




## 6.1 Rating stability

### *6.1.1 Rating sensitivity*

The stability of the ratings is supported by i) the protective mechanisms in the structure and ii) Scope's use of both rating-conditional recovery rate assumptions and a long-term performance reference for the assets, capturing post-Brexit stresses.

Scope tested the resilience of the rating against deviations of main input parameters: portfolio mean default rate and portfolio recovery rate. This analysis has the sole purpose of illustrating the sensitivity of the rating to input assumptions and is not indicative of expected or likely scenarios.

The following list shows how the model-implied rating for each rated tranche changes when the portfolio's expected default rate is increased by 50% and the portfolio's expected recovery rate is reduced by 50% (respectively):

A Loan Debenture A1: zero notches and zero notches;

A Loan Debenture A2: four notches and seven notches[4];

A Loan Debenture A3: three notches and nine notches;

B Loan Note B1: two notches and nine notches;

B Loan Note B2: one notches and three notches.

### *6.1.2 Break-even analysis*

The resilience of the A1 loan is evident in the break-even default rate analysis. The tranche would not experience any loss at portfolio default rates of: i) 22.4% or lower, under a zero recovery rate assumption; or ii) 67.3% or lower, under the portfolio's AAA recovery rate assumption of 71%, compared to a base case recovery rate of 98%.

The A2 loan would not experience any loss for portfolio lifetime default rates of up to 10.1% under a zero recovery rate assumption. This break-even default rate is more than two times the expected default rate for the portfolio.

## 7 Counterparty risk

The credit strength of Barclays Bank PLC (A+/S-1/Stable) mitigates counterparty risk in this transaction, together with structural protection that triggers the replacement of the counterparty upon loss of BBB quality as assessed by Scope.

We found none of the counterparty exposures to be excessive. We deem an exposure to be excessive if the crystallisation of counterparty risk could prompt downgrades of six notches or more to the rated instruments.

| Role | Counterparty | Trigger (eligibility level) |
|---|---|---|
| Issuer | Griffon Funding Ltd | N/A |
| Originator (vendor, vendor trustee, A loan debenture agent, initial A loan debenture holder, original noteholder, account bank, liquidity facility provider and collateral manager) | Barclays Bank PLC | N/A |
| Collateral manager (servicer) | Barclays Bank PLC | B by the three large CRAs |
| Account bank | Barclays Bank PLC | Scope BBB [a] |
| Collateral administrator Calculation agent | Elavon Financial Services Ltd | N/A |
| Principal paying agent | Elavon Financial Services Ltd | Scope BBB [a] |
| Arranger | Barclays Bank PLC | N/A |
| Portfolio auditors | Confidential (big four) | N/A |
| Liquidity-facility provider | Barclays Bank PLC | Scope BBB [a] |
| Loan note agent | Situs Asset Management Ltd | N/A |
| Security trustee | U.S. Bank Trustees Limited | N/A |
| Basis swap counterparty | Barclays Bank PLC | Transfer: Scope BBB [a] |

[a] The counterparty is also eligible if Scope deems it to be eligible, either by performing private credit estimates or by relying on other CRA's public ratings.

We believe that the collateral manager's discretion to invest the moneys held in the principal, interest or collateral accounts does not compromise the credit quality of the A loans, or the B1 and B2 loan notes. Investments will be subject to term and credit-quality

[4] The rating assigned to the A2 loan debenture is lower than the model-implied rating in order to capture this sensitivity.

criteria, which we deem does not significantly increase the credit risk borne by the instruments and is already captured in the rating.

In our analysis, we applied the principles defined in Scope's '*Rating Methodology for Counterparty Risk in Structured Finance Transactions'* (August 2016, available on *www.scoperatings.com)*.

### 7.1 Operational and commingling risk from servicer

Scope believes that a disruption of the servicer function, initially performed by the originator as collateral manager, is highly unlikely and does not contribute material expected losses to any of the rated tranches. The collateral manager is a resolvable financial institution highly rated by Scope and, consequently, we expect its contractual obligations to be honoured throughout a resolution process as a going concern.

We considered operational risk in our analysis by assuming an increase of servicing costs after the replacement of the collateral manager under rating stress of AAA. The documentation envisages initiation of servicer replacement if the collateral manager were to be rated below B by any of the three large rating agencies.

### 7.2 Operational risk from collateral administrator

The role of the collateral administrator is critical to this transaction, involving significant operational risk. The complexity of the priority of payments and the related account mechanisms in this structure requires a thorough understanding and the preparation of systems in order to successfully perform the calculations of triggers and amounts due, as well as to create the reports that are the responsibility of the collateral administrator and the calculation agent.

We believe that this operational risk is reduced because of the expertise and financial strength of the counterparty. Elavon Financial Services Ltd has the systems and staff required to perform the collateral administrator and calculation agent roles, leveraging on the systems of the originator to service the loans.

### 7.3 Commingling risk from account bank and paying agent

Scope considers the risk of commingling losses from the account bank and the paying agent to be commensurate with the highest rating category, thanks to the protection provided by risk-substitution triggers at the loss of the BBB rating.

Scope's analysis of counterparty risk leverages on the stability of our Issuer Credit Strength Ratings and the resolvability of the financial counterparties involved. The assumption of orderly resolvability generally enables Scope to rule out jump-to-default scenarios. This analysis also considers the life of the rated instruments as a factor limiting counterparty risk.

## 8 Sovereign risk

Sovereign risk does not limit the ratings on this transaction. The risks of an institutional-framework meltdown, legal insecurity, capital transfer or problems converting currency are immaterial in the UK for the rating of the A loans or the B loans notes, even in the context of an exit from the European Union.

We have incorporated into our analysis the likely contraction of commercial real estate prices resulting from post-Brexit scenarios. The misallocation of capital in the UK was particularly strong in real estate investments during the credit expansion that led to the financial crisis. The crisis was aggravated by the weight of financial intermediation in the UK economy – close to 30% of the economy at the height of the banking industry.

Furthermore, we expect several macroeconomic factors will challenge the development of commercial real estate prices. Economic growth in the UK will weaken as investment decisions are postponed until the effects of Brexit can be quantified. We expect that conditions in the UK will worsen. However, the uncertainty about the consequences of Brexit remains very large.

We expect a significant drop of investment because companies need time to revise their strategies and are expected to lower their production in the UK. We expect that economic growth will particularly weaken in 2017. The mid- and long-term consequences of Brexit depend heavily on political actions on the side of the EU and of the British government.

The process of leaving the EU will persist for two years. After that, the UK's growth potential will depend on access to the European single market.

We expect unemployment to rise, especially in the financial sector and in international companies that want to secure access to the EU market. The effects will still be visible in the mid-term, slowing down growth rates.

Retail properties will suffer particularly, because the trade sector is especially vulnerable and reflects the dependency on imports and little effort to repair deficiencies in international competitiveness. Most external balances are deeply negative. The strong depreciation of the pound, as a reaction to the Brexit, might mitigate some of these effects.

Industrial properties are also challenged, now that the UK has to deal with a shrunken industrial base that has failed to improve both productivity and profitability – with few exceptions.

# 9 Legal structure

## 9.1 Legal framework

This securitisation is governed by the laws of England and Wales. The transaction represents the true sale of the assets to a bankruptcy-remote vehicle, represented by the trustee, US Bank Trustees Limited.

The transaction conforms to international securitisation standards and supports the general legal analytical assumptions of Scope (see '*Legal Risks in Structured Finance – Analytical Considerations*', dated January 2015 and available in www.scoperatings.com).

## 9.2 Use of legal and tax opinions

Scope has reviewed and considered the legal and tax opinions produced by the legal adviser of the issuer. Scope has concluded that no legal question grants a specific analytical treatment in the rating analysis.

# 10 Monitoring

Scope will monitor this transaction on the basis of performance reports produced by the servicer and any other information received from the originator. The ratings will be monitored continuously and reviewed at least once a year, or earlier if warranted by events.

Scope analysts are available to discuss the rating analysis in detail, the risks to which this transaction is exposed, and ongoing monitoring of the transaction.

# 11 Applied methodology and data adequacy

For the analysis of this transaction, Scope applied its '*General Structured Finance Rating Methodology*', dated August 2016, and '*Rating Methodology for Counterparty Risk in Structured Finance Transactions*', dated August 2016. Both files are available on *www.scoperatings.com*.

## APPENDIX I SUMMARY OF PORTFOLIO CHARACTERISTICS

The following table shows the summary of portfolio characteristics considered in Scope's analysis.

**Figure 32.** Main portfolio characteristics

| | |
|---|---|
| **Cut-off date** | **13 September 2016** |
| **Balance at cut-off** | **2,429,782,782.00** |
| **Loans** | **57** |
| **Properties** | **1,516** |
| **Large loans** | **4** |
| **Weighted average life (years)** | **3.0** |
| Minimum / **Weighted average (WA)** / Maximum **LTV (unadjusted)** | 18% / **46%** / 67% |
| Minimum / **WA** / Maximum **LTV (long-term adjusted)** | 23.5% / **57.6%** / 82% |
| **Weighted average unexpired lease term (years)** | **14.0** |
| **WA interest coverage ratio** | **4.6** |
| **WA margin** | **(undisclosed)** |
| **WA average term default probability** | **0.9% (BB+)** |
| **WA refinancing default probability** | **3.4% (B+)** |
| **Recovery rates (weighted by simulated defaults)** | |
| WA recovery rate AAA | **70.5%** |
| WA recovery rate AA | **77.7%** |
| WA recovery rate A | **84.9%** |
| WA recovery rate BBB | **91.9%** |
| WA recovery rate BB | **95.0%** |
| WA recovery rate B | **98.0%** |

## APPENDIX II COMMERCIAL REAL ESTATE LOAN ANALYSIS

Scope has used the following framework to analyse the commercial real estate loans in this transaction and to produce assumptions to model the credit quality of each loan in the portfolio. Scope has generated two assumptions for each loan: the loan's default probability, both over its term and at maturity, and the recovery rate upon default (Figure 33).

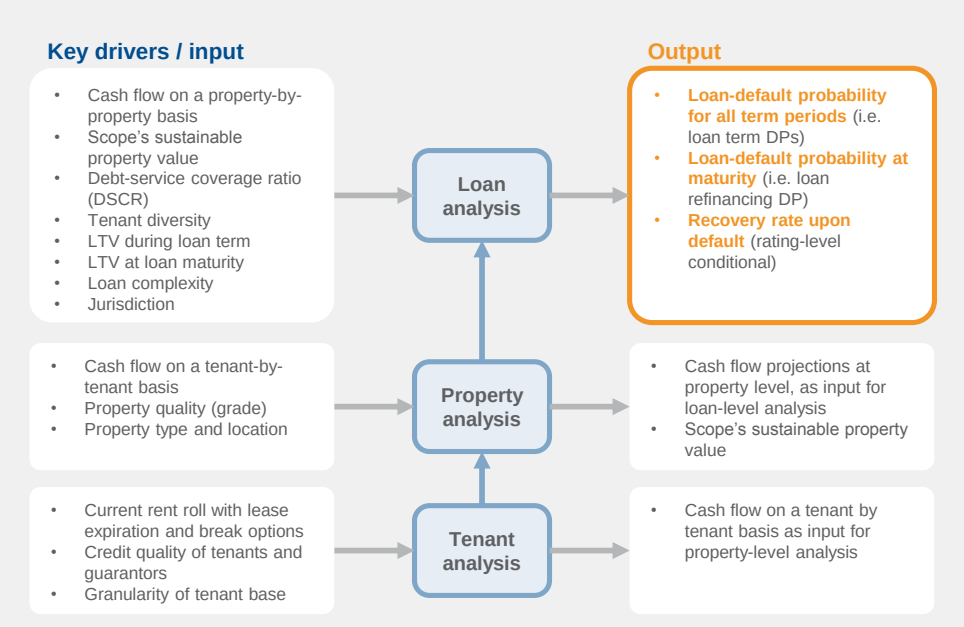
Our fundamental analysis of risk is performed in the following order: i) tenants and tenancy contracts, ii) properties, and ii) the loan characteristics. Each phase of the analysis builds on the results from the previous phase, i.e. bottom-up approach. This analysis takes into account the originator's strategic positioning in the market, the consistency of this positioning with its risk appetite, and the characteristics of the credit products it originates.

The diagram in Figure 33 also shows the analytical steps to derive the expected loss on a loan. Scope calculates projections of cash flow available to service the loan.

Stressed cash flows over a loan's life influence the probability of a loan defaulting before its maturity, i.e. the 'term default probability'; while the property's market value drives refinancing risk and the probability of a loan defaulting at maturity, i.e. the 'refinancing default probability', as well as the severity of default. Refinancing risk plays a vital role because commercial real estate loans typically do not fully amortise.

Our analysis is based on the available cash generated by rent (net of operating expenses) and by potential workout proceeds. The cash available to repay both the loan and the market value of underlying properties is stressed under rating-conditional scenarios (i.e. the higher the target rating scenario, the higher the stress applied). We derive the level of rating-conditional stress from previous commercial real estate cycles observed in the relevant market and in Europe.

**Figure 33.** Analytical framework for commercial real estate loans




Rental income is the main factor used to derive a loan's default probability and recovery rate, as it drives both the ability to service a loan (term default probability) and the property's sustainable value. The sustainable value is used to derive refinancing default probability and loss given default.

The framework applies to most commercial property types found in typical commercial real estate loans, such as office, retail or multi-family properties. A typical commercial real estate loan benefits from a mortgage security over the finished properties as well as pledges on rental income. The framework is not applicable to the analysis of portfolios backed by commercial real estate construction loans or project-development loans.

## Tenancy analysis

Scope has analysed the current rent roll for all properties that secure a given loan. We then used the assumptions derived from the rent-roll analysis to forecast the cash flow available to service future debt instalments. Scope has analysed the quality of tenants in a given property by considering their financial strength, creditworthiness, business sectors and geographic diversification. Tenant quality drives the term default probability.

The second-most-important factor driving property values and loan default is the likelihood of a tenant exercising break options on a lease. Break options also worsen the risk of property vacancies during a market downturn. Scope's analysis also considers the likelihood of a lease's renewal upon its expiry.

### *Creditworthiness of tenants*

Scope performed a detailed credit analysis of large tenants and a generic analysis for smaller tenants because the tenant base is granular. Further details on Scope's approach to analyse tenants can be found in Scope's *Corporate Rating Methodology*. We followed a standard approach based on the one-year default rates of companies in the specific country, also because the tenant base is highly granular.

Our cash flow projections on a property have incorporated the default of tenants, the corresponding vacancy periods, and corrections in rent after a lease contract's termination. We model a dependency framework between tenant defaults using conservative group and industry dependencies.

### *Lease expiries and break options*

Scope has also analysed the factors that would affect a tenant's decision to either remain in a property or exercise a break option. Such factors are: the level of competition on the local market (i.e. supply versus demand for the property's type and location); contractual rental levels compared to the average on the local market; and characteristics of the tenant's line of business.

Scope believes a property's risk of vacancy increases when the region of its location also has a high rate of vacancy. This risk also increases when the nature of a tenant's business allows the option to vacate a property when the lease expires, e.g. law firms or consultancy firms.

If the tenant base is granular, Scope derives its assumptions in relation to tenants' behaviour – at lease contract expiry or break option – by comparing contractual rent with the current level on the market, i.e. the estimated rental value (ERV). For example, we assume a lease will be terminated if a tenant's rent is 10% higher than the estimated rental value. Conversely, we assume a tenant is more likely to extend a lease if the rent is fairly priced or under-rented.

## Property analysis

Scope's property analysis looks at a property's characteristics and quality – which results in a property grade – and the local property market's characteristics and condition. These factors influence our cash flow projections and view on a property's sustainable value.

### *Scope's property grade (PG1 to PG5)*

Scope's property grades give its view on the quality of a property and reflect assumptions used to model cash flows a property can generate sustainably. This is also used to derive the property's sustainable value.

The property grades take into account a property's distinct characteristics i.e. type, location and attributes. Property grades reflect the properties' condition and attractiveness to the market by examining: i) maintenance costs and capex (historical and expected); ii) vacancy rates (historical and expected); iii) micro and macro location; iv) age; and v) the expiry profile of lease contracts. The information used for the analysis is sourced from: i) on-site visits; ii) valuation reports from established industry experts; and iii) market studies from reputable sources.

The highest property grade is PG1, e.g. a prime landmark building in a micro/macro location ideal for its usage type. The lowest is PG5, e.g. a property in poor condition in a degraded or undeveloped/unconsolidated location.

Figure 34 shows the weights Scope has applied to the fundamental drivers of property quality in order to derive the property grade ranking.

**Figure 34.** Scope's indicative weights to derive property grades

| Property attributes | Weight | Ranges |
|---|---|---|
| **1. Location** | | |
| 1.1 Micro location | 20% | Very attractive/average/poor micro location, on a 1-5 scale. |
| 1.2 Macro location | 20% | Very attractive/average/poor macro location, on a 1-5 scale. |
| **2. Property condition** | 20% | New or fully refurbished/standard/poor, on a 1-5 scale. |
| **3. Property quality** | 20% | Luxury/average/poor, on a 1-5 scale. |
| **4. Lease expiry/break option profile** | 20% | Very long/average/very short weighted-average unexpired lease-term, on a 1-5 scale. |

The property grade has a significant impact on the estimated sustainable property value. This is because property grade affects projected cash flows and sustainable yield, which are factors used to determine the level and volatility of the sustainable property value. High property-grade properties have a more stable sustainable value.

### *Market environment*

The market attractiveness for a type of property influences: i) prices and rental levels; ii) the volatility of prices and rental levels; iii) property yields; and iv) take-up[5].

**Rental level development.** Scope adjusts rental levels upon the expiry of a lease if these deviate from the estimated rental value. We derive estimated rental values for the respective sub-markets from benchmarks and market research from reputable public and private sources such as the Investment Property Database.

**Duration of vacancy periods.** The duration of a vacancy after a lease is terminated is a function of both the average lease length in a specific market and the peak vacancy rate observed in the last cycle. This base assumption applies to property grade PG3. The property-specific assumption results from upward adjustments for lower-quality properties, i.e. PG4 or PG5, and vice versa for PG 1 or PG 2.

**Figure 35.** Calculation of vacancy periods for the UK and property grade PG3

| | Office | Retail | Industrial | Other |
|---|---|---|---|---|
| Average lease duration (months) | 120 | 150 | 120 | 90 |
| Structural vacancy rate | 8% | 13% | 9% | 6% |
| Vacancy period for a PG3 property (months) | 10 | 19 | 11 | 6 |
| Adjustment for property quality | Analytical judgment on a property-by-property basis | | | |

**Re-letting likelihood.** We have assumed that re-letting after a lease's termination is generally possible. However, this likelihood can be limited by i) the lease terms; ii) market vacancy rates; and iii) the property's quality. This is illustrated in Figure 37.

Tenant behaviour upon lease termination or lease-break options depends on current lease terms and their relation with the estimated rental value. We assume that tenants would remain in a property at current conditions if a tenant's rent is not 10% higher than the estimated rental value (i.e. fairly priced or under-rented).

Scope has adjusted re-letting assumptions when contract-specific information indicates an increased likelihood that a tenant will vacate the leased space. For instance, a lower likelihood of re-letting is considered if tenant demand is weaker (e.g. if it is known that the tenant's headquarters will relocate or if the tenant has reduced its staff numbers over the recent years).

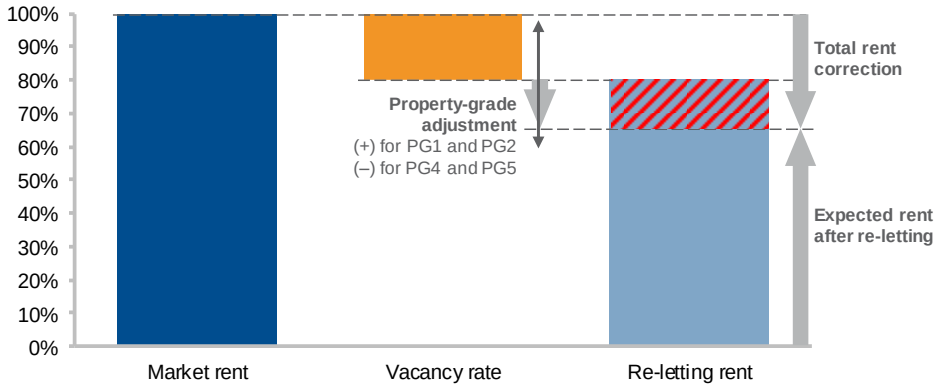
We have assumed re-letting is possible, but after a vacancy period and subject to a rental-level haircut that equals the vacancy rate. These adjustments reflect the impact market vacancies have on the likelihood of re-letting and the terms of new contracts.

[5] Newly rented space, typically in square meters, for a given property market or submarket in a given period of time.

Scope has distinguished between structural and cyclical vacancy rates. This distinction is relevant for the analysis of re-letting likelihood over the projected period. Cyclical vacancy is swiftly reduced during economic upturns. In contrast, we expect structural vacancies to persist through the cycle.

Scope has adjusted the applicable vacancy rate for the current market in line with the specific property grade, which reflects the property quality. We believe higher property grades increase the likelihood of re-letting as well as raise the expected rental value after re-letting. See Figure 36.

**Figure 36.** Derivation of re-letting rent level




### *Property cash flow projections*

Scope has built its expectation of sustainable cash flow for each property for every year over the life of the loan. Cash flow projections leverage on all previous stages of the analysis (i.e. tenancy analysis, market environment and property grade).

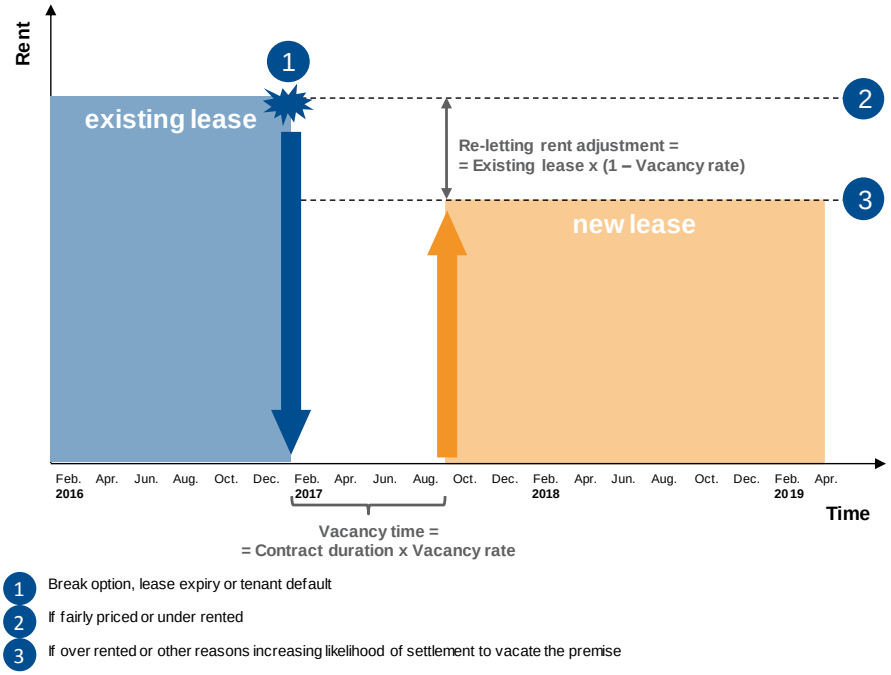
Sustainable cash flow discounted at the sustainable yield determines the property's sustainable value. Sustainable value, in turn, drives the refinancing probability of default and the recovery rate after term or refinancing defaults.

We have also calculated the debt-service coverage ratio and interest coverage ratios by using sustainable cash flow, rather than actual cash flow.

Figure 37 shows an example of events that might affect a property's cash flow over the life of a loan. A vacancy period will follow the termination of a rental contract upon tenant default, lease expiry or the exercise of a break option. The vacancy period and the re-letting rental levels depend on the factors already presented.

Scope has combined cash flow available from all properties securing the loan and simulates tenant defaults, vacancy periods and re-letting leases.

**Figure 37.** Example - Sustainable cash flow of a property




1 Break option, lease expiry or tenant default
2 If fairly priced or under rented
3 If over rented or other reasons increasing likelihood of settlement to vacate the premise

### *Scope's sustainable property value*

The property yield is the sustainable return on the investment in a property. It is defined as the relationship between sustainable rental income (cash flow) and sustainable property value. We apply property yields currently observed for comparable properties and locations for the purpose of deriving sustainable yield and valuing a given property.

Scope has based its opinion on the property yield on reputable sources of market research relevant for the sub-market and property type. Scope also considers information from on-site visits and valuation reports.

Scope calculates the sustainable value of a property by discounting the sustainable cash flow at the corresponding yield. Sustainable value consequently reflects the cash flow developments possible during both the life of the loan and at maturity under normal, through-the-cycle, market conditions. The sustainable property-value assumption estimates the mid-point between the boom and bust points of a market cycle.

Scope uses the sustainable property value to calculate the loan-to-value ratio. The loan-to-value, in turn, makes it possible to calculate the severity of loan defaults and the probability of a default at maturity.

Scope discounts cash flows over a ten-year horizon; the tenth year is discounted for perpetuity. We assess sustainable market values during our monitoring process. Scope may adjust sustainable values and related assumptions if there are significant shifts in cash flow or yield.

## Loan analysis

Scope has calculated the default term structure (i.e. the time distribution of default probabilities) in the loan-analysis phase. The default term structure of the loan reflects: i) default probabilities for every period over the life of the loan (term default probabilities); and ii) the default probability at the loan's maturity (refinancing default probability).

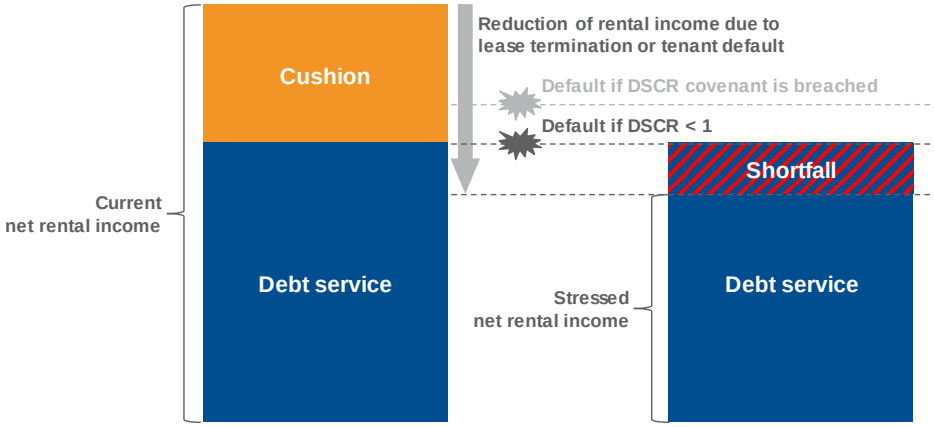
Scope also estimates the severity of loan defaults during the loan-analysis phase. Expected loss upon default is driven by the asset's loan-to-value ratio.

### *Default probability during the life of the loan*

The aggregated sustainable cash flows for each property represent the amount available for interest and principal payments due on a given loan. This is reflected in the debt-service coverage ratio expectations or the interest coverage ratio.

Scope has accounted for loan characteristics such as strong covenants, cash-trapping mechanisms, cash reserves, and hedging. Scope deems a loan as defaulted if cash flows are insufficient to service debt, or when loan-level DSCR covenants are breached. We have simulated the probability of default for every period over the life of the loan, which captures tenant defaults, vacancy periods and the adjustment to rent after a property is re-let. In general, a higher DSCR provides a better cushion against deteriorating cash flows, which could ultimately lead to a default of a loan.

**Figure 38.** Tenant defaults and lease termination drive term default-probability




Scope also takes into consideration the complexity of the loan when determining its default probability. Loan syndications – especially A/B loan splits with specific rights for the holders of the subordinated tranches – could add significant complexity and introduce the risk that junior creditors could trigger foreclosure acceleration.

Scope analyses the loan documentation in order to adjust general assumptions like recovery timing or recovery costs. A high likelihood of support from the loan sponsor could also reduce the loan's credit risk, for example, when the sponsor provides significant equity for the property.

### *Refinancing default probability*

The risk of the failure to refinance outstanding debt at the scheduled maturity increases the default probability at the end of the contract. Generally, the larger the balloon component of any partially amortising loan, the greater the risk. This risk is highest for bullet loans.

The main driver of the refinancing default probability is the expected loan-to-value at maturity, (exit LTV). Other factors also contribute: loan features, property type, property grade, and market conditions at refinancing.

Scope's expectation of the exit LTV reflects expected contractual amortisation during the life of the loan. The expected exit LTV is the total outstanding loan amount expected at maturity divided by Scope's assumption on expected sustainable property value.

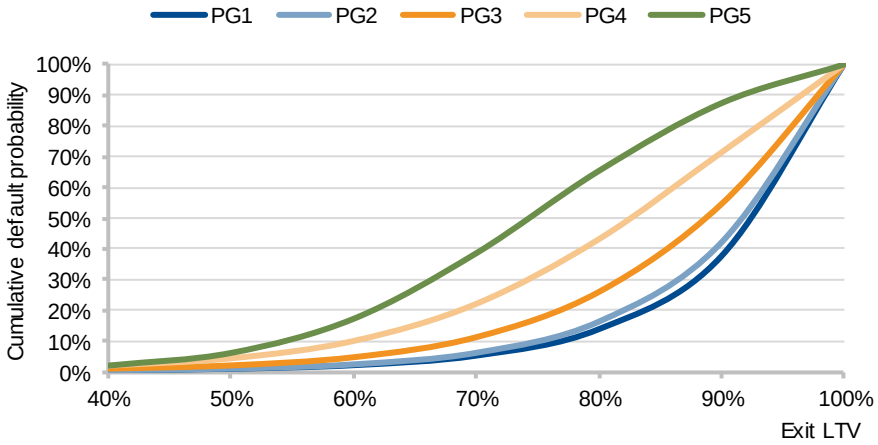
At maturity, Scope deems a loan as defaulted when the property's value is lower than the loan's outstanding balance (i.e. when the exit LTV is above one). The actual value of the property when a loan matures is a random variable that may deviate from the expected sustainable property value.

Refinancing default probability is higher for properties with low property grades and equates to the probability that the loan's outstanding balance at maturity exceeds the sustainable property value. This effectively uses the Merton approach to analyse default at the moment of refinancing. The volatility of the sustainable exit property value is a function of the property grade.

Figure 39 illustrates typical default probability curves at loan maturity for varying exit LTV levels and property grades. Scope assumes that for an average property of property grade PG3, a lender would be indifferent about refinancing the loan if the exit LTV is 90% (i.e. equal likelihood of default and successful refinancing). Scope uses similar curves to derive the market-specific tables indicating the refinancing default probability for a given exit LTV and property-grade pairs.

Under an alternative view, defaults occur when a borrower cannot provide sufficient equity for the loan. Equity contribution is essential for commercial real estate financing. Lenders require more equity on loans when these are used to finance lower-quality properties. The maximum loan amount that can be refinanced depends on the property grade.

**Figure 39.** Refinancing default probabilities as a function of exit LTV and property grade




We have modelled the volatility of property values with a random process[6] that captures adverse-value paths over the life of the loan. Scope's forecast of a property's value, or the expected exit value, equates to its sustainable value, calculated as described in the previous sections. The longer the life of the loan, the higher the chance of adverse-value paths, and the more dispersed the probability distribution of exit values becomes. Refinancing default probability tables are typically constructed for the average duration of loan contracts in that market (i.e. five years for the UK).

Figure 40 illustrates the derivation of a loan's refinancing default probability using the cumulative probability distribution of property values at maturity as well as relevant value thresholds. The default probability is the probability that a property's value falls below the break-even value, which is derived from rental cash flow analysis. The break-even value is calculated using the loan's outstanding balance at maturity and the indifference exit LTV of lenders for the corresponding property grade. This is represented by the following expressions:

$$Refinancing\ DP = probability\{property\ values\ < Break - even\ value\}$$

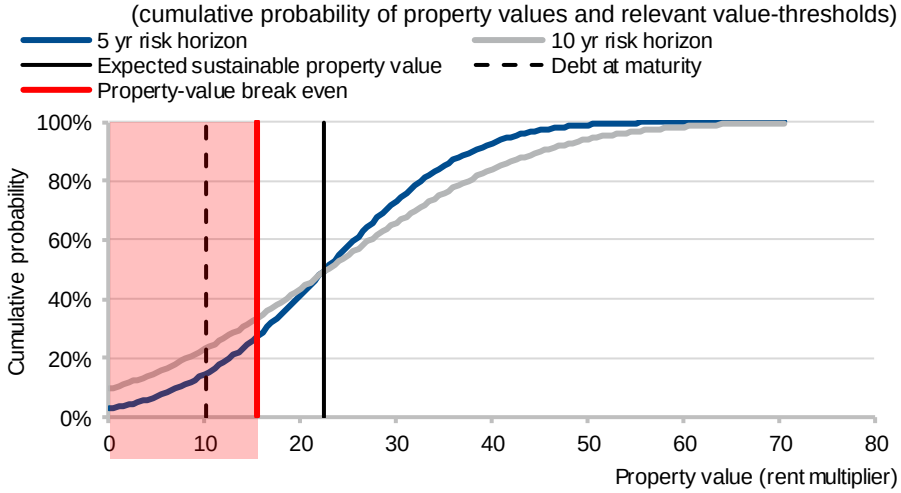
where

$$Break - even\ value = Balance_{maturity} \times Indifference\ exit\ LTV|_{property\ grade}$$

A property value below the break-even line (red-shaded area in Figure 40) would result in a loan defaulting at maturity because it is impossible to refinance outstanding debt at the maturity date. Figure 40 also shows that the refinancing default probability increases when the risk horizon is longer (i.e. increasing the risk horizon from five years to 10 years increases the probability that property values will fall below the break-even threshold).

[6] Ornstein-Uhlenbeck model with drift.

**Figure 40.** Example of derivation of refinancing default probability (cumulative probability of property values and relevant value-thresholds)




Finally, high exit yields make it more likely that a lender will refinance a loan. The exit yield equals the sustainable cash flow divided by the loan's expected balance at maturity. The exit yield is the maximum interest rate that the sustainable cash flow can support. For example, a loan with an exit yield of 8% can only support refinancing at an interest rate of up to 8%; a higher interest rate would result in interest coverage ratios of below one.

### *Recovery rate*

Scope derives the recovery assumptions for severity calculations from foreclosure analysis. We have assumed property foreclosure will occur during a recovery process, even when refinancing into a new loan contract after default is often the more likely option. Consequently, the money recovered after default is the net amount received after the enforcement of the mortgaged security. The recovered amount is net of enforcement costs and any claims that rank senior to the loan being analysed.

Recovery rates take into account the expected property value at maturity, subject to the following adjustments: i) distressed sales discounts; ii) any other claims against the security value that rank senior to the loan; iii) any other claims against the security value ranking pari passu to the loan; iv) any break-up costs (i.e. debt or hedging derivatives); and v) the time and cost of the enforcement process. These factors vary significantly across jurisdictions.

We believe distressed-sale discounts are a function of the property grade. High-quality properties in liquid markets are, all things being equal, in higher demand, and therefore the expected distressed-sale discount is lower than that affecting PG5 properties in rural locations.

The UK is a creditor-friendly jurisdiction and, consequently, creditor reimbursement is the main goal of the enforcement process. UK creditors benefit from significantly more opportunities to influence the enforcement process than creditors in less creditor-friendly jurisdictions such as Italy or Portugal.

Figure 41 shows the recovery cost and recovery-timing assumptions considered in our analysis. The loan's complexity and size play a crucial role in recovery analysis. Scope performs a sensitivity analysis to understand deviations from assumptions which represent averages for a given jurisdiction.

**Figure 41.** Indicative recovery cost and timing assumptions

| | **United Kingdom** (very creditor-friendly) |
|---|---|
| Recovery costs (% of loan balance) | 10% – 15% |
| Recovery timing (years) | 1.0 – 1.5 |

# APPENDIX III REGULATORY AND LEGAL DISCLOSURES

## Important information

Information pursuant to Regulation (EC) No 1060/2009 on credit rating agencies, as amended by Regulations (EU) No. 513/2011 and (EU) No. 462/2013.

## Responsibility

The party responsible for the dissemination of the financial analysis is Scope Ratings AG, Berlin, District Court for Berlin (Charlottenburg) HRB 161306 B, Executive Board: Torsten Hinrichs (CEO), Dr Stefan Bund, Dr Sven Janssen.

The rating analysis has been prepared by Carlos Terré, Lead Analyst. Guillaume Jolivet, Committee Chair, is the analyst responsible for approving the rating.

## Rating history

The rating concerns newly-issued financial instruments, which were evaluated for the first time by Scope Ratings AG.

## Information on interests and conflicts of interest

The rating was prepared independently by Scope Ratings but for a fee based on a mandate of the issuer of the investment, represented by the management company.

As of the time of the analysis, neither Scope Ratings AG nor companies affiliated with it hold any interests in the rated entity or in companies directly or indirectly affiliated to it. Likewise, neither the rated entity nor companies directly or indirectly affiliated with it hold any interests in Scope Ratings AG nor any companies affiliated to it. Neither the rating agency, the rating analysts who participated in this rating, nor any other persons who participated in the provision of the rating and/or its approval hold, either directly or indirectly, any shares in the rated entity or in third parties affiliated to it. Notwithstanding this, it is permitted for the above-mentioned persons to hold interests through shares in diversified undertakings for collective investment, including managed funds such as pension funds or life insurance companies, pursuant to EU Rating Regulation (EC) No 1060/2009. Neither Scope Ratings nor companies affiliated with it are involved in the brokering or distribution of capital investment products. In principle, there is a possibility that family relationships may exist between the personnel of Scope Ratings and that of the rated entity. However, no persons for whom a conflict of interests could exist due to family relationships or other close relationships will participate in the preparation or approval of a rating.

## Key sources of information for the rating

Offering circular and transaction-related contracts; management due diligence presentation provided by the originator; fundamental property and tenant information provided by the originator; historical loss ratios provided by the originator; loan-by-loan portfolio information, portfolio audit report, and legal opinions.

Scope Ratings considers the quality of the available information on the evaluated entity to be satisfactory. Scope ensured as far as possible that the sources are reliable before drawing upon them, but did not verify each item of information specified in the sources independently.

## Examination of the rating by the rated entity prior to publication

Prior to publication, the rated entity was given the opportunity to examine the rating and the rating drivers, including the principal grounds on which the credit rating or rating outlook is based. The rated entity was subsequently provided with at least one full working day, to point out any factual errors, or to appeal the rating decision and deliver additional material information. Following that examination, the rating was not modified.

## Methodology

The methodology applicable for this rating is "*General Structured Finance Rating Methodology*", dated August 2016, and "*Rating Methodology for Counterparty Risk in Structured Finance Transactions*", dated August 2016. Both files are available on www.scoperatings.com. The historical default rates of Scope Ratings can be viewed on

the central platform (CEREP) of the European Securities and Markets Authority (ESMA): http://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml. A comprehensive clarification of Scope's default rating, definitions of rating notations and further information on the analysis components of a rating can be found in the documents on methodologies on the rating agency's website.

## Conditions of use / exclusion of liability



## Rating issued by

Scope Ratings AG, Lennéstraße 5, 10785 Berlin.