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# Private credit for insurers

Observations on industry practice

by the “Private credit for insurers” Working Party

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**Title**

Private credit for insurers – observations on industry practice

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**Abstract**

The investment strategy of global insurance companies is evolving, driven by the low-yield environment and the increasing introduction of risk-based capital regimes such as Solvency II.

One such trend is the rotation of investments into private credit assets, particularly within the portfolios backing UK annuity business. For this paper, we have defined “private credit” as assets which are of fixed income nature and do not have an active secondary market.

The regulatory requirements arising from these private credit investments have been a key area of focus for UK insurers.

This paper is intended to support insurance companies that invest, or are assessing potential investments, in private credit.

**Keywords**

Private credit; Prudent person principle; Fair value; Internal credit rating

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## Introduction

The investment strategy of global insurance companies is evolving, driven by the low-yield environment and the increasing introduction of risk-based capital regimes such as Solvency II.

One such trend is the rotation of investments into private credit assets, particularly within the portfolios backing UK annuity business. For this paper, we have defined “private credit” as assets which are of fixed income nature and do not have an active secondary market.

The regulatory requirements arising from these private credit investments have been a key area of focus for UK insurers. We understand that investment in private credit assets is an area of emerging practice.

In December 2016, the Institute and Faculty of Actuaries (IFoA) Finance and Investment Board established a working party to provide timely input on the topical issue of meeting the regulatory requirements in respect of Private Credit Investment.

The main output of the working party is this paper.

This paper is intended to support insurance companies that invest, or are assessing potential investments, in private credit, primarily focusing on the additional regulatory requirements relative to an investment in public credit (such as investment grade corporate bonds):

- For investment practitioners and actuaries, the paper should provide insight into current and emerging industry practice.
- For risk managers, Chief Finance Officers and Chief Executive Officers, the paper should provide insight into the investment process and monitoring of these investments, supporting early interaction in any potential investment.
- For Non-Executive Directors, the paper should provide insight into the broad principles that the Executive would typically be able to demonstrate when investing in private assets.

The paper focuses on the risks and regulatory requirements arising from private credit assessment. It has not sought to assess the returns provided by private credit investments, nor the attractiveness of private credit investment relative to the other asset classes.

Following the drafting of this paper the Prudential Regulatory Authority (PRA) issued Policy Statement PS14/17 Solvency II: matching adjustment - illiquid unrated assets and equity release mortgages. Where relevant, we have included brief updates to the relevant sections of this paper.

The main body of this paper is structured as follows:

- Section 1 focuses on risk assessment – understanding the risks of the investment.
- Section 2 focuses on valuation – how to price the investment.
- Section 3 focuses on credit assessment – how to quantify the credit risk associated with the investment.
- Section 4 focuses on capital – how much capital to hold against the investment.

The main body of this paper provides insight into the practices that are typically adopted by companies investing in private credit assets, as well as insights into areas of industry best practice.

We have also set out some practical considerations for insurers, in text boxes.

## Main text

### Section 1 Risk Assessment

#### Identification of Risk Exposures

Firms typically identify and assess the risks associated with the investment, in the context of their risk appetite and interpretation of the Prudent Person Principle (PPP) as set out in Article 132 of the Solvency II Directive (European Commission, 2009).

Risk appetite will often be expressed by way of a set of approved asset classes or sub-classes, combined with concentration limits, ramp-up periods and restrictions on investments with certain characteristics. For example, a firm might only invest in social infrastructure projects, only in projects with availability-based revenue streams, or only in projects in the operational rather than the construction phase.

Firms will sometimes break down risk appetite into subclasses e.g.

- Total market risk
- Total credit risk
- Credit risk for a particular sector and subsector
- Credit risk for a particular asset class
- Credit risk for specific obligor

Private credit investments can involve new risks for an insurer. Insurers typically ensure that their risk framework and risk appetite reflect these new risks and any increase in the materiality of other risks.

The risks associated with private credit include:

- valuation and pricing risk
- credit risk to borrowers, tenants or other
- model risk (extensive use of models in credit assessment, valuation, capital)
- reputational risk (for example, in respect of foreclosure of social infrastructure)
- political risk
- legal risks (for example, enforceability of security packages)
- project risk
- financing risks
- liquidity risk
- outsourcing risks (primarily in relation to the use of external asset managers)

Insurers typically consider the liquidity risks arising from the private nature of these assets. This may include consideration of future liquidity position of the firm (allowing for the projected run-off of assets and liability) in best estimate and stressed conditions, as well as consideration of the reduced ability to trade assets should credit conditions deteriorate.

Insurers typically also consider the risks arising due to the structure and nature of the private credit investment. This can include (inter alia) risks arising from the underlying asset and/or security, the structure of the investment, service providers, equity holders, and originator transfer risks.

Insurers typically assess how these risks will interact with the other exposures within their portfolio.

## **Management of Risk Exposures**

Where firms have decided to invest in private credit, they will typically have a clear strategy as to how this investment will take place.

Firms typically assess their internal capability to manage the private credit assets and source specialist skills where required, e.g. due diligence prior to investment, credit assessment, property (or other asset) valuation, workout of assets in credit events.

By way of example, specific skills may be sourced from specialist asset managers, loan servicers, valuation agents, credit rating agents, lawyers or consultants.

Firms typically ensure that there is sufficient knowledge and understanding of private credit assets, including at Board level (both executives and non-executives), to support effective decision-making, effective challenge, and to mitigate key person risks.

Firms typically clearly document their private credit operating model, including origination strategy, form of investment, and outsourcing model.

In doing so, firms (particularly those in the UK) often consider how this relates back to PRA's four level framework as set out in Paragraph 197 of The Prudential Regulation Authority's approach to insurance supervision (Prudential Regulatory Authority, 2016).

Where appropriate, firms typically supplement internal views with external views e.g. consultancies, expert judgement panels, ratings agencies, validation evidence from outsource provider.

## **Control of Risk Exposures**

Firms typically have well defined limits and controls to ensure that investment takes place consistent with the firm's risk appetite and limits framework.

Investment mandates are typically clear, well-defined and include relevant restrictions and limits to the discretion of the investment team or asset manager. This can include limits on:

- size of deals
- term of deals
- concentration limits
- allowable sectors and industries
- fixed or floating rate restrictions
- requirements on voluntary prepayment clauses

## **Outsourcing**

Outsourcing can be a cost-effective and practical means of gaining access to specialist expertise. Firms typically retain internal capacity to provide challenge to external providers. Firms may be mindful of areas where internal capabilities to challenge outsourcers may be limited owing to a lack of internal expertise.

Firms typically ensure that outsourcers are subject to sufficient due diligence prior to contracting, and that arrangements are established to provide a proportionate ongoing level of oversight. Areas of specific focus are likely to include the robustness over time of credit rating and valuation processes.

There is typically an alignment of interest between the insurer and its key external suppliers, including asset managers. This is typically reflected in fee structures and contracts. Any potential conflicts should be identified up front and arrangements put in place to ensure that these can be appropriately handled.

Firms (particularly those in the UK) often assess how their outsourcing processes relate to the PRA's four level framework as set out in Paragraph 197 of "The Prudential Regulation Authority's approach to insurance supervision" (Prudential Regulatory Authority, 2016).

### **Measurement of Risk Exposures**

Firms must be able to measure the risks associated with the investment, including assessing the expected return for accepting those risks. We consider Credit Assessment and Capital in more detail in Sections 3 and 4.

Relevant historical data available to insurers relating to private credit investments can be sparse. Firms typically consider the suitability of data used to assess risks, and should seek expert input where appropriate.

Data limitations are expected in private credit. Scenario testing can be a useful way to explore and communicate such limitations.

Stress and scenario analysis can be a useful means of assessing harder to quantify risks, and risks not included in Solvency Capital Requirement, such as reputational risk.

Firms will typically define how they have applied materiality and proportionality.

### **Monitoring and Reporting of Risk Exposures**

Firms typically have robust capabilities to monitor exposures arising from private credit.

Private credit assets often require specialist knowledge and proprietary data. In reporting to Boards, it is important to consider how the information is presented and risks are quantified. Actuaries involved in this reporting should have regard to the requirements of Technical Actuarial Standard 100: Principles for Technical Actuarial Work.

Some firms make use of visualisations and analytic techniques to present the different return profiles, risks and characteristics of private assets to aid Boards in decision making for new asset classes and also for monitoring assets.

Roles and responsibilities are typically clearly defined, across all lines of defence and between internal and external resources.

The oversight and performance monitoring of the asset is typically proportionate, taking into account the risks and complexity of the assets.

There is typically regular, and sufficiently detailed, oversight and performance monitoring of asset managers and key third parties.

Risks concentrations are regularly measured against clearly defined concentration limits. Firms typically identify and manage hidden risk concentrations within a portfolio / with other asset classes.

Firms may keep under review the level of sophistication required for managing operational risk, including ensuring that relevant processes and controls are adequate.

Firms may monitor the expenses arising from private credit investment (relative to the expected level), allowing action to be taken to manage instances of expense overruns.

### **Considerations for Restructured Assets**

Firms typically demonstrate a sound understanding of the asset, any requirement for structuring and, where relevant, how structuring impacts the risk profile.

For example, structuring may be needed to meet Matching Adjustment (MA) requirements where underlying asset cashflows are not fixed, as is the case with Equity Release Mortgages (ERMs). The risk profile of the respective tranches of the structure will differ, by design, and risks such as liquidity will typically need particular attention.

Firms would typically give due consideration to whether structures involving higher levels of complexity have justifiable benefits relative to simpler alternatives. The complexity of the structure should be proportionate to the level of variability in future asset cashflows.

Examples of restructuring arrangement used by insurers, for which the filings of the relevant Special Purpose Vehicles are available from Companies House, may form useful context in this area.



## Section 2 Valuation

Firms typically have a defined process for producing fair values for private credit assets, at inception and on an ongoing basis.

Firms typically use an appropriate valuation methodology to fair value private credit assets.

Firms recognise that certain valuation techniques may break down in periods of stress and so have alternative valuation methods to utilise in such circumstances.

The most common valuation approach is to discount contractual cashflows at the prevailing risk-free curve plus relevant risk premia. The risk premia will differ depending on the asset type and will typically include the following, though these may not be separately identifiable for all assets:

- Credit risk premium (compensation for expected and unexpected defaults)
- Illiquidity premium (compensation for the relative illiquidity of the asset)
- Complexity premium (compensation for the additional work that needs to be carried out by the investor to understand and access the investment)

By the way of an example, we demonstrate how SME loans could be priced and valued. The pricing takes into account risk free yield, a rating-implied spread to compensate for default risk and an additional spread that captures additional loan-specific characteristics: The last spread component can allow for, inter alia:

- Illiquidity relative to traded instruments of comparable rating/tenor/industry
- Market specific factors
- Governance/lender decision rights
- Specific loan features (e.g. balloon repayments, grace periods)

Each of the above factors can lead to an addition or potentially to a discount to the default risk spread.

For ongoing valuation post trade, simplifications may be required such as using a more generic addition for level of illiquidity spread (globally or defined by sector and/or by rating/term) and a “day 1” adjustment to reflect the deal specific terms. We would expect the reasonableness of any such simplification to be tested on a regular basis. This might include more detailed valuation assessments and tests against new or emerging practice on a less frequent (e.g. annual) basis.

Risk premia should take into considerations the specific features of the assets, including (inter alia) sector, term, currency, geography, differential rights in default, and covenants. Firms may also take into consideration the extent to which their level of expertise, relative to the market, influences the risk premium required for a given risk.

Firms will typically validate that there is consistency between the risk premia used for valuation and the risks identified within the risk assessment process (Section 2.1).

The estimation of these risk premia can be carried out using:

- a bottom-up approach, where each of the individual risk premia is benchmarked against market proxies and then aggregated, or
- a top-down approach, whether the total risk premium is observed or estimated and then decomposed across the individual components.

Firms typically validate their assumed risk premia.

There are limited public data points available to set and validate the risk premia on private assets, particular in respect of the illiquidity premium. Firms typically consider proxies or inputs from sector specialists to supplement observable data.

Firms typically consider whether alternative valuation methods are appropriate, including:

- Stochastic (Monte Carlo) valuations, or
- Proxy Valuations using prices of comparable assets, with defined adjustments.

Firms typically use market-derived inputs where possible.

#### IFRS valuation standards

Insurers in the UK typically seek to be consistent with the principles set out under IFRS valuation standards.

Firms typically document how materiality and proportionality have been applied.

Firms typically validate, document and maintain all expert judgements used within the valuation process. There is often significant expert judgement required when selecting the valuation model structure and/or in the choice of model inputs.

Firms typically use best estimate assumptions where possible in most circumstances. There may be circumstances where uncertainty in valuation means that a best estimate may not be appropriate.

Firms will, where appropriate, use stochastic modelling or option pricing techniques to value optionality or asymmetric asset features.

For example, equity release mortgages (“ERM”) have the restriction that the original principal plus the accrued interest cannot exceed the sale price of the property, i.e. a borrower’s obligation under the ERM can never exceed the value of the house.

This effectively means that the lenders are writing a put option on the house, where the strike price adjusts upwards in line with interest accrual on the ERM, the so called no negative equity guarantee (“NNEG”). The value of the NNEG at any one point in time needs to be captured on the lender’s balance sheet. Techniques such as Black-Scholes option pricing are generally appropriate to use for this purpose, whereby specific consideration needs to be given around the observability of all the requisite inputs, in particular house price volatility.

Where firms chose not to value these features on grounds of materiality or proportionality, then firms may put in place monitoring processes to ensure this assessment remains appropriate or document why no such approach is required.

Firms typically document and disclose their approach to assessing Valuation Uncertainty (VU) as set out in the PRA’s Supervisory Statement SS9/14 Valuation risk for insurers (Prudential Regulatory Authority, 2014).

Firms typically monitor the VU within their valuation process and may have a defined process for capturing any changes in valuation risk.

VU is an important element of valuation to understand and articulate – it is a growing area of focus for regulators and auditors, especially on private assets given the inherent uncertainty in mark to model valuation assessments.

Firms may place some reliance on an outsourced provider of asset valuations.

Where valuation of assets is outsourced, firms typically receive sufficient information (which may include valuation breakdowns, analyses of change, and comparisons to similar assets) so that the insurer can assess the suitability of the valuation process and meet its regulatory requirements.

Firms typically document the limitations of their valuation model and have a defined process for reviewing whether or not the valuation model remains appropriate.

Firms typically have a defined process to update the valuation process should the model methodology cease to be appropriate or conditions move outside its scope or plausible range (e.g. due to a paradigm change in the market).

Firms typically consider how they will value distressed assets and, in extremis, what process they would undertake to assign a value (recovery) for an asset in default.

### **Considerations for Restructured Assets**

Firms typically consider whether their valuations are consistent with the Equation of Value – that is that the total present value of the securitisation notes (or other restructuring vehicle), adjusted for the present value of the frictional expenses, should be the present value of the underlying asset (noting that this may not hold exactly due to differential market demands among different investor groups).

Firms may seek to understand and challenge any large deviations from the Equation of Value.

### **Section 3      Credit Assessment**

Credit assessment for private credit assets is an essential part of the investment process, particularly given the lack of a secondary market which will limit the ability of the firm to trade the position should conditions deteriorate in future.

Public credit ratings from External Credit Assessment Institutions (ECAIs) are not generally available for private credit assets.

Firms may seek private ratings from ECAIs for their private credit assets. This can often be in respect of specific issues from lenders who have rated public debt or issuance from quasi-government lenders.

Where public or private ratings are not available, an internal credit assessment is typically required.

In addition, firms will typically carry out an internal credit assessment for any larger or more complex exposures, regardless of the existence of any ECAI rating(s).

Firms will typically document their internal credit rating framework.

The key elements of a firm's internal credit rating framework are typically:

- Rating methodology
- Calibration and back testing of ratings
- Governance and review

#### **Rating methodology**

Firms typically document their credit rating methodology.

Firms typically include a detailed description of the material risks of each private credit asset and how the insurer has satisfied itself that it has considered all potential sources of default and loss.

Firms typically assess the methodologies used by ECAIs for similar credit assets. This should include consideration of the principles of the rating and the factors and sub-factors used within the methodology.

Firms typically validate, document and maintain all expert judgements used within the credit assessment process,

Firms typically define the measure of credit risk used within their credit assessment. The basis used is particularly important for private credit assets where expected recovery levels can be materially higher than in public markets.

The following measures of credit risk may be used by firms:

- Probability of Default (PD)
- Expected Loss (EL)
- A measure consistent with an ECAI methodology

Firms typically document whether their internal credit rating framework aims to produce an internal rating which would be broadly consistent with that produced by an ECAI.

The ECAI methodology for corporate bonds typically involves a scorecard that considers the following:

- Financial Capital and Liquidity strength metrics from balance sheet ratios.
- Views on management and Governance.
- Sector specific considerations and relative market position of the borrower.

This is typically adjusted for expert judgments- for example, on esoteric risks, government support, or sector future.

For securitisations, the ECAI rating methodology typically involves:

- Waterfall stress scenarios, where the stresses are calibrated to specific risk levels for each of the rating boundaries.
- The stresses consider combinations of the risks that can cause default risk for the notes.

ECAIs do not consistently state explicitly whether a PD or EL basis has been used. This should be considered by firms when assessing whether their internal rating is consistent with an ECAI rating.

In some asset classes there may be a very limited or even non-existent universe of publicly ECAI rated transactions to be used as reference points and/or ECAI's methodology may not be appropriate without modification.

Firms may place some reliance on an asset manager's credit assessment process within its internal credit rating framework.

Where the firm has appointed an asset manager to invest on its behalf this will introduce additional considerations:

- The insurer will need to have the relevant skills and expertise to challenge the approach adopted by the asset manager.
- The asset manager should provide sufficient transparency and information about its credit rating process so that the insurer can assess the suitability of the rating process and meet its regulatory requirements.
- Where multiple asset managers are used by the insurer, the insurer will need to make appropriate allowance for any differences in the rating methodologies.

### **Calibration and back testing**

Firms typically consider the availability, appropriateness, and quality of the data over the credit cycle on which these risk assessments and calibrations are based, including how the firm has allowed for partially available or missing data in the internal credit assessment

Where available, ratings and internal rating methodologies are often validated against ECAI ratings of credit assets from the relevant sector or sub-sector. One approach firms consider is to apply their internal rating methodology to ECAI rated issues and compare the ratings.

Firms often document any limitations in the back-testing of their credit rating methodology - for example, in sectors where the firm has no, or limited, historic default information.

In the absence of available public ratings, a portfolio of similar credit quality publicly traded bonds may be appropriate alongside specific market experience, rating agency studies of private credit, and/or expert judgement for the purposes of calibration and back testing

### **Governance and review**

The rating process is typically carried out by individuals with relevant asset-specific credit risk expertise. Suitable protection should be put in place to avoid conflicts of interest.

Proportionate independent review of the internal credit assessment process is typically carried out.

Firms typically consider whether or not they have sufficient internal expertise to carry out this independent assessment. If not, firms may assess whether there is a need for permanent internal expertise or whether this can be sourced externally, as required.

Firms typically document how any shortcomings in the internal credit assessment process (including any identified by independent review) have been addressed.

The methodologies, governance and frequency of review for each asset class are often fully documented, along with triggers for ad hoc reviews – noting that over time the ratings on certain private credit assets may tend to increase rather than decrease as seen with most public debt issuance

The definition of defaults is typically documented, as is the process for identifying and managing defaults.

Firms may consider whether there should be any triggers within that default process for assessing the continued eligibility of private credit assets held within the Matching Adjustment portfolio.

### **Considerations for Matching Adjustment portfolios**

For assets held within a Matching Adjustment portfolio, firms need to assign private credit assets to a Credit Quality Step (CQS) and Fundamental Spread (FS) category.

The approach for assigning the internal rating, CQS and FS will typically result in a consistent measure of credit risk throughout the internal credit rating framework.

The approach for assigning the CQS and FS typically makes a proportionate allowance for the material risks retained by the firm.

EIOPA does not give consideration to the basis used by the ECAI (EL or PD) when mapping ECAI rated bonds to CQS. This is a simplification of the EIOPA CQS mapping approach as demonstrated by the following example:

- Under a PD internal rating basis, two credit assets (one private, one public) might be assigned the same internal rating. If the private credit asset has a higher expected recovery rate, then firms may consider assigning it to a CQS category corresponding to a lower FS.
- Under an EL internal rating basis, a private credit asset might be assigned a higher rating (than a public bond with similar PD) reflecting the higher expected recovery rate and lower expected loss. Put another way, the private credit asset might then be assigned to the same CQS as a public bond with a lower PD. In this case, the same FS category might then be applied to both of these assets.

Within PS14/17, the PRA indicates that firms should apply the same mapping process from a given CQS to a given FS for all credit assets. The PRA also “considers that the recovery rate will be a relevant factor to allow for within an internal credit assessment, to the extent that this assessment and the resulting CQS would be broadly equivalent to those that would be produced by an ECAI.” (Prudential Regulatory Authority, 2017)

Firms typically document the rationale for the recovery rates assumed when they assign a rating, CQS and FS to private credit assets. These assumptions should reflect the firm’s ability to manage the impairment process in the event of default.

Where firms include assessment of any additional risks, such as lack of data, when assigning a CQS and FS, these risks would typically be documented. The rationale for these risks not being included in the internal credit rating would typically also be documented.

Validation of the results of the internal rating, CQS and FS mapping process will typically be carried out.

## Section 4      Capital Principles

Capital models are typically consistent with the firm's fair valuation framework and therefore the capital should be consistent with a fair value under stressed conditions.

The ability of a firm to determine a fair value is likely to be diminished under stress. There are likely to be even fewer market based parameter samples than in the base valuation. Some example data sets are set out below and, in general, practitioners may find it useful to have a number of different fair value estimates to help define a single value to use within the capital model

Where optionality is considered in the base valuation, firms typically consider whether it should be stressed within the capital model.

Firms may feel that the optionality is immaterial in base and stressed valuations but practitioners should consider whether an option could become much more valuable under stress or if there are events that will create operational risk (or indeed real challenges for managing the assets). This could include options which are priced at "prevailing market rates" and so should not create a strain but might impact the systems. Options of this type could include switches to inflation linked or floating coupons or coupons with embedded options.

Firms typically consider whether the capital model should allow for the impact of changes in any of the valuation parameters (or other elements of the valuation framework) that contribute to the firm's assessment of valuation uncertainty.

Firms typically ensure that their capital model provides an appropriate ranking of risk for private credit assets linked to their risk assessment framework.

Firms typically make appropriate use of available data within their capital models.

Data sources available to firms may include:

- Publicly traded comparable bonds - for example, infrastructure, commercial real estate debt, social housing, education, and other assets have traded equivalents that can be utilised for spread purposes.
- Default and transition data – data is available on infrastructure project finance and commercial mortgage backed securities; data is available on CRE defaults through the CMBS data set.
- Private data sets

Firms typically consider supplementing, or validating, a data-driven approach with scenario testing and/or "low default portfolio techniques".



Within the banking sector, regulators have typically used a range of “low default portfolio techniques” to provide a lower bound for the level of capital to be held within low default portfolios. Often used to model sovereign risk, it can be extended to low default sectors such as social housing or education. The techniques typically form a hypothesis that we’ve been “fortunate” that there have been no defaults to date. For N assets (e.g. number of social housing bonds in the market), there have been T opportunities for the asset to fail (T being time steps being measured). One can then test this to a certain confidence interval. Many functions are used but a pragmatic approach was defined in “Low Default Portfolios: A Proposal for Conservative Estimation of Default Probabilities” (Benjamin, Cathcart and Ryan, Financial Services Authority, 2006)

Firms typically consider the consistency of their capital model with the Standard Formula or other regulatory frameworks.

The standard formula provides a calibration for infrastructure loans and equity. This can provide a benchmark or a validation of relative capital requirements of corporate bonds or equity versus private assets which firms typically compare with their capital framework and resulting capital requirements. The Basel framework provides a relative risk weight for a range of asset classes that can be useful for relative rankings and indicative capital charges for certain assets.

Further, EIOPA is considering the treatment of unrated debt within the standard formula (EIOPA, 2017).

Firms typically validate, document and maintain all expert judgements used within the capital model,

Firms typically adopt a proportionate approach to assessing their capital model against relevant statistical quality standards or calibration standards.

Firms typically consider whether it is necessary to produce credit ratings for private credit assets under stress.

Similar to the challenges in calculating a base valuation, there are also challenges in rating the asset under stress. For assets within the Matching Adjustment portfolio, it will be required to determine a fundamental spread and therefore likely to require an updated rating. In all cases, firms typically take a consistent approach to the base valuation when determining the rating under stress.

Firms typically capture operational risk arising from the management of the private assets within the operational risk framework or within the scenario testing covered below.

Firms typically consider whether a specific capital model is required for each private credit asset class. This reflects the fact that different assets with an equivalent base credit rating could exhibit different behaviour under stress.

The same credit rating does not imply the same:

- Robustness of the rating. For example, an asset whose rating is significantly dependent on state aid would find its rating reduced in line with the government's rating, but the rating would not necessarily be as susceptible to corporate credit events as a corporate bond. This example is highly relevant to certain types of private credit assets such as housing association loans and PPP/PFI infrastructure.
- Range of default scenario. For example a loan might have strong covenants meaning the probability of default is higher. But this would trigger early remedial action, leading to lower losses (if any). This is highly relevant for all bilateral secured loans.

For both the robustness of ratings and range of default scenarios, firms typically consider both qualitative and quantitative assessments.

- Quantitative assessments should consider the impact of stressing ratings for the standard formula or internal model shocks which impact the rating as well as defined scenarios which are quantifiable. For default scenarios, the specific impact on the valuation in the default scenarios should be modelled.
- Qualitative assessments should consider items for which capital might not be explicitly allocated but could be captured within the risk management framework or elsewhere (e.g. within the operational risk module). Within the default scenarios, firms typically consider how they would actually work a loan out (and the impact on the capital assumed) of this.

Firms typically consider the following potential structures for their private credit capital models:

- A model that treats a private credit asset in exactly the same way as a corporate bond with the same credit rating (or CQS).
- A model that treats a private credit asset in a defined way relative to how a specified corporate bond is treated, reflecting the firm's view on the relationship between these assets.
- An entirely bespoke calibration is developed for the private asset, either using a top down credit methodology or a bottom up risk factor based methodology.

For some assets, there may be significant data on the underlying variables which makes a robust bottom up calibration possible. Candidate assets for this methodology might include equity release mortgages.

For other assets, a top down methodology considering the likely breakdown of the illiquid asset spread might be possible based on historical data supporting the behaviour of the asset and the likely credit risk of the asset. Candidate assets for this methodology might include social housing loans or infrastructure loans.

Firms typically use the same capital model for private credit assets held inside and outside of their Matching Adjustment portfolios.

## Considerations for Matching Adjustment Portfolios

Firms typically have a defined methodology for calculating the value of the Matching Adjustment under stress generated by their private credit assets.

Firms typically have a clearly defined process for assigning a Fundamental Spread to private credit assets under stress, which considers both default and downgrade exposures.

Firms may wish to consider how their capital model allows for changes in the following:

- Actual defaults i.e. the risk of direct loss through the default of an asset held
- Actual downgrades i.e. the risk of direct loss through the downgrade of an asset held
- Prospective default probability i.e. the risk that default expectations are going to increase in future
- Prospective downgrade probability i.e. as per defaults, but for downgrades
- Spread widening i.e. capturing any residual mismatch risks (whereby a fall in asset value is not completely absorbed by a fall in liability value despite no movement in Fundamental Spread – for example, due to approximations within the Matching Adjustment formulae)

Firms typically validate the expected losses implied by their Fundamental Spread under stress.

Firms may wish to consider the following:

- For secured assets, a mapping to ratings agency methodologies for probability of default can be amended conservatively by a stressed loss given default to create a rating for expected loss.
- Carrying out a series of 99.5th percentile shocks to the material underlying risk factors to assess an upper bound for loss on the asset. This can be particularly powerful where the risk factors are already captured within the internal model (e.g. interest rates, property).

For restructured assets, firms typically consider how the Matching Adjustment under stress should be calculated, given that the ratings for these notes are typically derived from estimates of stressed defaults.

## **Conclusions**

Private credit investments will continue to play a key role in allowing insurance companies to meet the competitive demands of the markets in which they operate. The challenges around these investments are not trivial but we believe that insurers who follow the approaches set out in this paper are more likely to successfully operate in this market.

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