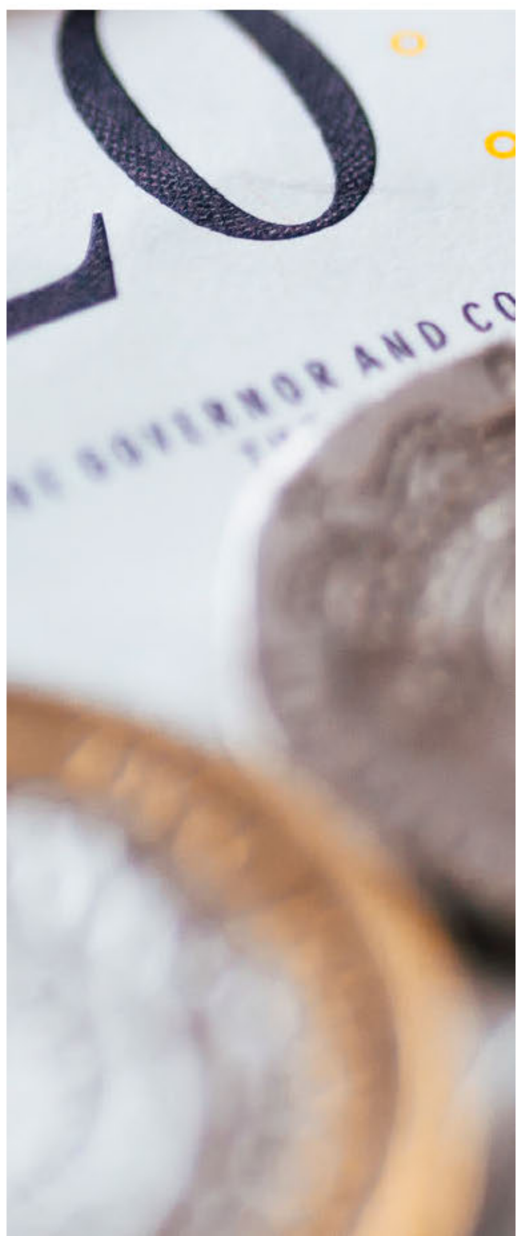
Investing in illiquid assets

The challenges and opportunities for insurers



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Summary

In the current low rate environment, insurers are increasingly seeking assets that can offer better risk-adjusted returns. This has led to insurers assessing opportunities away from the traditional investment of government and corporate bonds with a view to keeping similar risk/maturity profiles while increasing yield. Illiquid assets have provided an attractive solution. Moreover, Solvency II and, in particular, the Matching adjustment framework have introduced an incentive for insurance firms to invest in illiquid asset classes as a source of long-dated cash flows to match long-dated and inherently illiquid liabilities such as annuities.

As insurers are expanding the allocation to illiquid assets to invest in higher income generating securities, the PRA has heightened the focus on these exposures. According to the PRA, insurers' exposure to illiquid assets amounted to approximately 25% of the total assets backing annuities in 2017 with an aspiration to increase such exposure to 40% by 2020. This increase in appetite for illiquid assets in insurers' balance sheets has gone hand in hand with an increase in the PRA attention to illiquid assets.

In general, the PRA recognises the positive socioeconomic implications of some illiquid investments recently made by insurance firms (e.g. Equity Release Mortgage, Social Housing, Infrastructure etc.) and the regulatory intention behind the heightened scrutiny is certainly not to deter firms from investing into illiquid assets. However, at the same time, the PRA is keen to ensure that insurers who invest in illiquid assets do so with proper due diligence and investment in internal capability to manage such assets on an ongoing basis. Specifically, the regulator wants to make sure that insurers understand the retained risks of investing in such assets so that they are not overly optimistic in determining the matching adjustment benefit. Increasing exposure to illiquid assets also increases liquidity risk for insurers. This is bringing into focus insurers' liquidity risk management practices. This is another area where the PRA has increased its attention, setting out a specific framework and expectations for insurers to manage their liquidity risk.

We have assisted many clients in dealing with the challenges of investing in illiquid assets. This has ranged from advising on structuring and internal securitisations to MA applications and capital optimisation as well as enhancing liquidity and risk frameworks.

The purpose of this paper is to shed light on our market insights and the latest trends from recent PRA publications that impact on insurers' approach to managing illiquid assets. Insurers with matching adjustment portfolios are typically well advanced with revising their frameworks in light of the PRA publications, however, smaller life insurers and non-life insurers have further work to do. The recent publications include:

- *CP22/19: Solvency II: Prudent Person Principle, September 2019*
  Consultation Closed on 18 December 2019
- *SS3/17: Solvency II: Matching adjustment – illiquid unrated assets and Equity Release Mortgages, September 2019*
- *PS19/19: Solvency II: Equity Release Mortgages – part 2, September 2019*
- *CP23/19: Solvency II: Income producing real estate loans and internal credit assessment for illiquid, unrated assets, September 2019*
  Consultation Closed on 27 December 2019
- *PS:18/19 and SS5/19: Liquidity risk management for insurers, September 2019.*

Although these publications cover many aspects of insurers' investment management and strategy, this paper will focus on the implications for illiquid assets and how insurers will need to adapt to meet regulatory, risk management and operational challenges.

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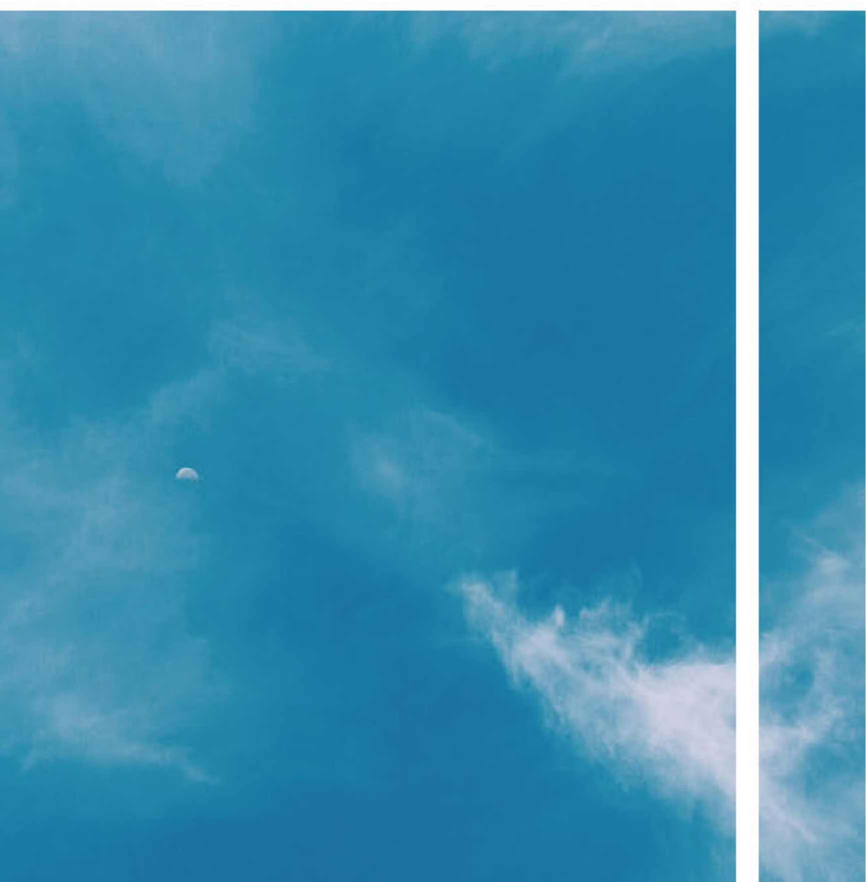


Types of illiquid assets

Illiquid assets are by definition difficult to trade due to the over the counter nature of these transactions, reducing the number of investors and transparent pricing. Trades are usually facilitated by bilateral agreements or through private arrangements. This restricts the amount of public market data available and limits the pool of investors interested in investing in such assets. A significant amount of due diligence is usually required before investing in such assets with price discovery and comparable transactions more difficult to assess. Often these assets are held on a 'buy and hold' investment strategy by the original investor and therefore, very limited secondary market pricing information exists, obviously not helping transparency.

Illiquid assets refer to a wide range of different investments. Assets linked to Infrastructure, Commercial real estate, and Equity Release Mortgages are of particular interest to annuity providers due to the long duration of these assets for matching pension liabilities. However, more unusual illiquid assets such as assets backed by ground rents or shipping have also offered attractive returns.

Outside of the Matching Adjustment (MA) domain, insurers are also investing in assets not traded on regulated markets such as alternative funds and private equity. These are often unlisted and therefore deemed to be illiquid in nature. A recent survey by AM Best shows that life insurers currently hold 15% of illiquid assets while non-life insurers hold 7%.[1]

[1] AM Best, Market Segment Report: European Insurers and Illiquid Assets – An Upwards Trajectory, 11 November 2019

Illiquid asset framework

Due to the complexity of investing in illiquid assets, the PRA in its CP 22/19 Solvency II: Prudent Person Principle, reminds insurers of the requirements for an adequate investment framework.[2] This must be underpinned by a strong governance framework with the approval to invest in illiquid assets coming from the Board. The Board should set an approved list of illiquid assets that are appropriate for the business model and where the risks are fully understood. This requires the Board to be able to assess the risk and have the required knowledge to understand the complexity of these products. Board education is likely to prove key in ensuring that companies are well-equipped to provide appropriate governance and have a good understanding of the risks and rewards of these types of assets. While insurance Boards may be cognizant of the risks embedded into longer standing asset classes in the illiquid space (e.g. Equity Release Mortgage), insurance firms should ensure that the Board's understanding keeps pace with financial innovation characterising the illiquid asset space in recent years with new illiquid asset classes (e.g. commercial ground rent) being introduced.

The decision to invest in illiquid assets must be incorporated within the investment strategy and risk appetite of the insurer. When analysing exposure and making investment decisions the following should be at the forefront of any decision making:[3]

- Portfolio diversification
- Asset liability management
- Limited exposure to non-regulated markets.

Portfolio analysis

To ensure a properly diversified and resilient portfolio of assets (with an acceptable level of risk), insurers are expected to set internal quantitative investment limits taking into account a wide range of considerations (e.g. the characteristics of the assets, the nature and duration of the liabilities that are backed)[4] and articulate how they have identified and intend to manage any potential contagion risks between assets.

Insurers are expected to stress test their asset portfolios and identify scenarios (including moderate and severe stresses) to demonstrate that they are not exposed to excessive accumulation of risk (e.g. by counterparty, asset classes, geographies, and sectors) that would cause these risks to crystallise. The solvency impact and the amount of capital that can be lost as a result of the risk occurring are expected to be quantified accordingly.

As the scale, complexity or extent of exposure to investments increases, insurers are expected to consider whether the level of experience, expertise, and skills of key persons (including investment managers and experts in non-traded asset valuations) and the robustness of risk management systems and controls remains proportionate to the level of investment risk.

[2] For Highlights see 'PRA sets expectations for insurers: what makes a prudent investment?', https://www.pwc.co.uk/financial-services/assets/pdf/pra-sets-out-expectations-for-insurers-what-makes-a-prudent-investment%20.pdf

[3] See 1.6 of CP22/19 Solvency II: Prudent Person Principle

[4] See 3.14 of Draft Supervisory Statement on Solvency II: Prudent Person Principle

Prudent Person Principle

The Prudent Person Principle (PPP) does not restrict investment into any type of asset, however, it does require that certain standards are met. In particular, the PPP requires insurers to 'only invest in assets and instruments the risks of which can properly identify, measure, monitor, manage, control and report'.[5]

These requirements can be particularly challenging for illiquid assets that have additional complexities and risks. Illiquid assets are often traded in non-regulated markets and insurers are required to maintain the investment to prudent levels[6], though what is deemed prudent is left to the insurer to decide. Insurers are expected to fully assess the risks posed by investment in non-traded assets and demonstrate that they have carried out fundamental analysis (including valuation, internal rating framework, capital requirement, and embedded optionality), taking particular care to consider both the systemic and idiosyncratic risks arising from the features of each investment. Limited data is sometimes available which can be a challenge for investment teams and CROs quantifying the risks.

In addition, illiquid assets are typically unrated. For the purposes of calculating solvency capital and matching adjustment, an appropriate Credit Quality Step must be assigned which is used to determine the Fundamental Spread (FS). The Chief Actuary and Chief Risk Officer are responsible for assuring that the assigned FS is appropriate[7]. This is discussed further in the Internal Credit Rating Framework Section.

Outsourcing

If an insurer opts to outsource its investment-related activities, this does not diminish its responsibilities in terms of compliance with the PPP. The PRA expects outsourced investment activities to be treated as outsourcing of critical or important operational activities under Solvency II. Insurers are expected to undertake appropriate due diligence to understand and manage the specific risks associated with the use of external investment managers. It is therefore paramount for insurers to have a comprehensive due diligence process when selecting a manager as well as to have knowledge of valuation methodologies and assumptions, which are expected to be monitored both at the inception of the investments and when further changes in the methodology and assumptions occur. Furthermore, in light of the critical operational role played by the outsourced activities, insurance firm should also maintain an oversight on the activities of the investment manager and adequately take account of the outsourced investments within the insurance risk management and control systems.

[5] See Rule 2.1(1) of the Investments Part of the PRA Rulebook
[6] See Rule 5.2(2) of the Investments Part of the PRA Rulebook
[7] See 1.6 of SS3/17 Solvency II: Matching adjustment – illiquid unrated assets and equity release mortgages

Valuation uncertainty of non-traded assets

Current market pricing is usually not readily available for many illiquid assets. In order to determine the valuation of such assets, alternative methods are required. Valuation approaches prescribed under solvency II[8] that are applicable for valuing illiquid assets are:

- **Comparable market approach (Marked-to-Market):** Assess pricing and other relevant information generated from market transactions on assets that are deemed comparable in terms of risk characteristics and duration.
- **Income approach (Marked-to-Model):** Ascertained from modelling future cash-flows and converting into valuation based on an appropriate discount margin. The cash flows should be based on expectations and derived from market data or data analysis where possible. Valuation techniques include Discounted Cashflow Models and Option Pricing Models.

Insurers need to provide justification for the valuation methodology used in the absence of quoted market prices. Insurers may wish to focus on this in the forthcoming months by developing robust asset valuation policies and frameworks. These valuation techniques rely on numerous assumptions such as prepayment rates and default rates. All assumptions adopted must be documented and reviewed regularly. An outcome of this approach is that there is uncertainty in the valuation of these assets and the PRA expects the insurer to be able to quantify a bound on this uncertainty. The quantification of any uncertainty should be performed at a granular level and internal investment limits set accordingly to demonstrate that the level of uncertainty remains within the risk appetite and investment strategy.[9]

[8] Article 10(7) of Commission Delegated Regulation (EU) 2015/35

[9] See 6.5 of Draft Supervisory Statement on Solvency II: Prudent Person Principle

Internal credit rating framework

Internal credit rating frameworks are typically well developed by insurers from improvements identified in previous PRA publications. Therefore, the recent Supervisor Statement[10] covering illiquid unrated assets is not expected to result in firms requiring to implement significant changes to its internal credit rating frameworks. However, where insurers are reliant on their own management processes and/or third parties in the servicing or management of illiquid assets that could impact the recovery or losses experienced upon default, firms are expected to undertake an assessment of these risks within their risk identification exercise.

For complex illiquid assets such as income producing real estate loans, equity release and other types of illiquid assets, the PRA considers the risk identification process to be of fundamental importance and expects firms to take a comprehensive analysis of the underlying risks. It also expects firms to set out the key assumptions and judgements underlying the assessment, including the treatment of assumed risk mitigating actions that rely on the firm's own or outsourced processes in managing assets through their lifecycle, including the management of the collateral and the definition of a workout agreement in the event of a default. In addition, where a firm uses an internal model, the PRA expects the identification of risks under the internal model and internal credit assessment process to be consistent with each other.

The treatment of illiquid assets within an internal model has often been informed by materiality considerations, with less material exposures being treated similarly to corporate bonds. However, as the exposure to some types of illiquid assets (e.g. equity release, commercial real estate lending, etc.) has expanded, insurance firms are enhancing concurrently their internal models. In these cases, the risk identification and modelling between internal models and internal credit rating models are expected to converge.

As a reminder, the PRA is particularly sensitive about calibration of the SCR and therefore it is important for firms to demonstrate that all relevant and material risks are appropriately identified and that the assigned credit rating is credible. The internal ratings of unrated assets that match liabilities in an MA portfolio, are mapped to EIOPA's Credit Quality Steps (CQS) to assign the Fundamental Spread (FS) which is used in the calculation of technical provisions. This may also represent an input to the calibration of the SCR in an internal model. It is therefore critical that insurers have a robust internal credit assessment process so as not to understate risks resulting in an inappropriate CQS mapping. The PRA also expects firms to have a robust process for the ongoing review of the credit assessments (and CQS mapping), including how the firm has satisfied itself that these will remain appropriate over the lifetime of the assets and under a range of different market conditions and operating experience.

For the purposes of deriving an internal rating for illiquid assets, insurers may rely on ECAI's published credit rating methodologies. However, if insurers deem such methodology to be appropriate for a particular asset class, then it should be applied to the entire asset class and not be used selectively. This will help mitigate PRA's concern that insurers may be applying such methodology selectively to gain undue MA benefit on their MA portfolios. The PRA is increasingly focused on illiquid exposures in insurers' balance sheets and expects firms to justify why the MA is appropriate. The PRA also intends to develop thresholds for MA benefit based on evaluating industry exposure[11]. Any outliers will likely receive additional scrutiny from the PRA.

[10] SS3/17 Solvency II: Matching adjustment – illiquid unrated assets and equity release mortgages
[11] See 2.7 of SS3/17 Solvency II: Matching adjustment – illiquid unrated assets and equity release mortgages

Liquidity risk management framework

Traditionally, liquidity risk has been less of a focus for insurers given the emphasis on the protection of capital, the usually high levels of cash retained and the upfront receipt of premium income which is then used to pay back claims later. However, increased illiquid asset exposure and use of derivatives by some insurers, structural changes in some markets decreasing liquidity, and the impact of pension reforms on predictability of long-term liabilities, all mean that liquidity risk has increased.

In response, the PRA has set out its expectations for insurers in the Supervisory Statement SS5/19[12]. Although the substance of its expectations is largely unchanged from the Consultation Paper CP4/19[13] which came out earlier in March this year, there are several amendments and clarifications in SS5/19 which firms should note.

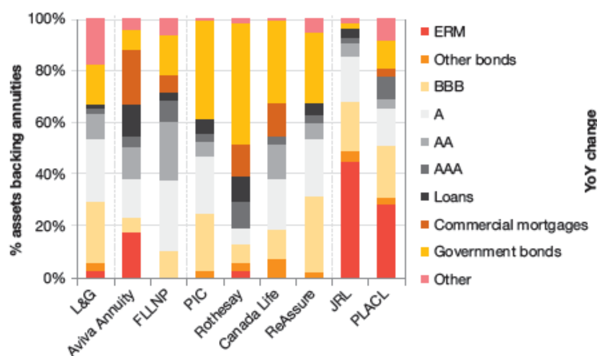
- **Liquidity risk appetite and risk limits:** Insurers are expected to define minimum liquidity buffers for various time horizons, rather than just defining an acceptable level of risk for each material source of liquidity risk. The SS clarifies that an insurer may integrate its liquidity risk appetite statement within the existing risk appetite framework. However, it expects that the liquidity risk appetite statement will be explicitly identified within the overall framework and that similar governance of this liquidity appetite and the overall risk appetite will apply.
- **Stress testing:** In addition to conducting liquidity stress tests over various time horizons, the PRA expects insurers to regularly stress test access to their committed facilities from third parties. In particular, the PRA expects insurers to understand the trade-off between the opportunity cost of a third party holding liquid assets vs the reduced profitability from holding liquid assets directly.
- **Liquidity buffers:** Liquidity buffers help insurers maintain an adequate stock of liquid assets to meet liabilities as they fall due under both benign and stressed conditions. While insurers are expected to hold sufficient liquidity buffers, the PRA is concerned about the realisability of liquidity and wants insurers to assess and understand the constraints of its liquidity facilities and money market funds and collective investments in times of stress. In particular, insurers should understand a fund's ability to apply liquidity fees on redemptions or 'swing pricing', which may increase the haircut imposed on their sale, or impose gates or withdrawal limits or other characteristics that may limit their realisability, particular in stress.
- **Risk monitoring and reporting:** Given the increasing focus on liquidity from the PRA, it now expects insurers to produce liquidity risk monitoring metrics, along with stress test results and information on liquidity buffers for management at an appropriate frequency. It also expects that the Board and the PRA would be informed when the insurer approaches or breaches its liquidity risk appetite. In addition, the PRA expects an insurer to establish and evidence a clear escalation process for issues to be raised to the Board.

[12] See Supervisory Statement SS5/19 – Liquidity risk management for insurers
[13] See Consultation Paper CP4/19 – Liquidity risk management for insurers

Detailed examination of particular illiquid assets

Two popular types of illiquid assets for insurers are Equity Release Mortgages (ERM) and Income Producing Real Estate (IPRE) loans. Figure 1 illustrates the portion of ERM and Commercial mortgages invested in as part of an MA portfolio for the large bulk annuity insurers. As a result, these assets classes have received significant focus from the PRA and significant regulatory requirements and guidance have specifically been published for these two products.

Figure 1: Industry asset allocation*



Equity Release Mortgages

The PRA has published a number of statements solely on ERM and the risks attached to this asset class have been well covered by other papers.[14] The most recent key developments on ERM are the PS31/18[15] and the finalisation of the SS3/17.[16] Since its initial publication in 2017, this supervisory statement has evolved with the regulatory views on this asset class and, more in particular, on the approach to value the Non-Negative Equity Guarantee (NNEG). This represents an embedded option flooring at zero the value of the equity in the property underlying the ERM. In other terms, when a borrower passes away, the NNEG prevents insurance firms from recouping the loan by reclaiming the possession of goods in the borrower's estate other than the property underlying the ERM. Such an option exposes the insurance firms to the risk that, in the future, the appraised property value may be insufficient to recover the outstanding value of the ERM.

The NNEG valuation is one of the components of the Effective Value Test (EVT), which the PRA has adopted to monitor the amount of MA benefit insurance firms can obtain by investing in ERMs. This is a diagnostic tool to monitor compliance with Solvency II requirements relating to the calculation of the MA benefit. In the past few years, the valuation of NNEG has been performed by using different approaches in the market. The PRA has set out the methodology (i.e. Black-Scholes model) it will use for EVT and the minimum calibration for the key parameters featuring in the Black-Scholes model: property volatility and deferment rate.

Property Volatility: The PRA will publish the value for property volatility (set to 13% at the time of writing) and review it once a year. In our experience, property volatility assumption used by insurers for valuation purposes ranges between 12% and 15%.

Deferment Rate: The PRA will publish the value for the deferment rate (set to 0.5% at the time of writing) and will review it at least twice a year. In terms of deferment rate, firms can opt for a phased approach and use a 0% rate until 2022.

The assumption on the property growth rate for NNEG calculation will be based on the risk-free rate as published on the EIOPA website on a monthly basis. Previously, the common approach used by insurers was to use a margin over RPI or fixed rates for the base case assumption.[17]

By switching to the PRA minimum calibration, insurance firms may observe a decrease in the matching adjustment benefit obtained from their ERM exposure.

Finally, while the PRA methodology and minimum calibration only apply to the Solvency II balance sheet and for the purpose of the EVT, it is worth noting that the Financial Reporting Council (FRC) has undertaken a review of the valuation of the NNEG in ERM. This has not yet produced any formal views. However, this is an area that firms may wish to closely monitor in the future as it may affect the accounting valuations of ERM as an asset class.

[14] See 'PRA proposes further amendments to SS3/17 on Equity Release Mortgages', https://www.pwc.co.uk/financial-services/assets/pdf/pra-proposes-further-amendments-on-equity-release-mortgages.pdf

[15] PS31/18 – Solvency II: Equity release mortgages, December 2018

[16] SS3/17 Solvency II: matching adjustment – illiquid unrated assets and equity release mortgages, July 2018

[17] PwC Solvency II Life Insurers' Capital Model Survey, November 2019, https://www.pwc.co.uk/audit-assurance/assets/pdf/pwc-solvency-ii-life-insurers-capital-model-survey-2019.pdf

* Source: PwC/Natwest Market Analysis

Income Producing Real Estate

An Income Producing Real Estate (IPRE) loan is where the repayment and recovery of the loan are primarily dependent on the cash flows generated by the underlying real estate. In CP23/19,[18] the PRA has focussed on IPRE lending and sets out its expectations on how firms should assess risks and develop internal models in respect of IPRE loans through its risk identification and risk calibration exercises.

Risk Identification

The PRA is concerned about firms understanding of its retained risks, particularly in relation to the build-up of illiquid assets in their investment portfolio. Therefore, the PRA proposes that firms should complete a comprehensive risk identification exercise which should demonstrate to the PRA that they have a deep understanding of the risks in their IPRE loan exposures.

In particular, the risk identification exercise should consider how the firm's own policies and practices may have an impact on the performance and hence the risks of the assets and the detailed consideration that should be taken into account in each case. The PRA has highlighted the following areas of firm's practices or policies for risk identification:

- **Loan underwriting processes:** A firm's own underwriting policy and practices could help with risk identification of IPRE loans, which could in turn help inform the scope of the risks that should be covered by the model. As a minimum, the PRA proposes that firms should take account of the features of the IPRE loans that they deem acceptable.
- **Investment management agreements:** Investment management agreements or mandates for IPRE loans could help could identify accumulation of risks at an overall level. Additional risks could arise over time due to allowance of discretion in the management of specific assets on behalf of the insurance firm. Firms should therefore consider these factors in the risk identification exercise.
- **Due diligence processes:** A firm's own due diligence process could help to identify bespoke features and risks on IPRE loans and so the PRA proposes that firms recognise this within their risk identification exercise.
- **Legal agreements:** The bespoke nature of individual IPRE loans means that each loan could have specific covenants and structures that provide protection to the lender. Firms should consider the specific circumstances in which these risks might crystallise and any potential mitigating legal provisions which may impact the recovery and hence the loss given default. Firms should also consider the potential difficulties that may arise in enforcing the legal agreements.
- **Third party agreements and potential conflicts of interest:** Firms are likely to rely on a number of third-parties for the management of IPRE loans, which may range from the sponsor to the servicer and administrator of these loans, including property management agents and valuation agents. Firms should consider the risks that may arise from these third parties, including risks that may arise due to any conflicts of interest between these third-parties and the firm and exacerbation of risks due to the services not being well-defined and service standards agreed.
- **IPRE loan management and workout processes/capabilities:** When a loan is impaired, a firm is reliant on the capabilities of the workout team to minimise losses. The risk identification exercise should include consideration of how the firm's workout processes may affect potential recoveries/losses and the timeliness with which the firm is able to realise any recoveries.[19]

[18] CP23/19 Solvency II: Income producing real estate loans and internal credit assessments for illiquid, unrated assets, September 2019

[19] See 2.7 – 2.12 of Solvency II: Income producing real estate loans and internal credit assessments for illiquid, unrated assets

Risk calibration of internal models

The PRA notes that IPRE loans can be a particularly challenging asset class to develop internal models due to a lack of observable market prices and external credit ratings. In CP23/19, the PRA has set out clear views on how insurers should model the 1-year stress and the stressed FS on IPRE loans. For the 1 year stress on IPRE loans, firms are expected to explicitly revalue their IPRE loans in stress and demonstrate consistency in how the assets are valued in base and stress. However, firms also need to take into account any new risks or interactions of risk that are not present in base conditions.

The key principle in assessing the stressed FS is that it should capture the risks retained by the firm, ensuring that the MA benefit assumed within the SCR is only representative of risks not assumed by the firm.

The MA requires firms to remediate any breaches against MA matching requirements within a two-month window. However, it is unlikely that firms will be able to enforce the security package of the defaulted IPRE loans within that time-frame. Therefore, the PRA proposes that in calculating the stressed FS, firms should consider the rate of recovery against the collateral, taking into account its own readiness to take action upon default and its workout capabilities, and security upon default that is realistically achievable within the two-month window.

IPRE loans that are held within a MA portfolio will need to be assigned a CQS, based on the internal credit rating assigned to them, for the purpose of calculating the technical provisions. The PRA proposes that the stressed FS should include the same elements as those considered in firms' internal credit ratings. It also considers that a firm's modelling approach of the stressed FS on IPRE loans will directly or indirectly make use of its internal credit assessment which may contain expert judgement, as inputs into the internal model. Therefore, the PRA proposes that firms should consider the consistency between how their internal rating methodology would apply under stressed conditions and what is assumed regarding internal ratings within their internal model.

From an internal model perspective, the calibration of these models remains challenging and the specification in terms of risk drivers (e.g. in the case of commercial real estate lending, the value of the underlying collateral, the operating income of different borrowers, etc.) and the level of granularity of the modelling should be parsimonious not to result in extensive runtimes. Such practical considerations may prove to be relevant as firms enhance their internal models covering these asset classes, especially as firms are expected to be able to revalue the IPRE loans under stress and demonstrate consistency in the valuation of the assets under both base and stress scenarios.

A well-developed internal model should go hand-in-hand with the development of management actions to reflect realistic risk mitigation strategies an insurance company would put in place in scenarios where, for example, limits on LTV and/or a measure of the debt service coverage (e.g. debt-service-coverage ratio, DSCR) are breached.

The concepts identified by the PRA in these detailed examinations of ERM and IPRE assets may apply to other relevant illiquid assets. This intensive focus from the PRA will likely increase on other illiquid assets as they increase in size on the insurers' balance sheets.

How can PwC help?

We have extensive experience supporting clients deal with the various challenges of investing in and managing illiquid assets. This includes support with sourcing, structuring, valuation and providing due-diligence on illiquid assets as well as developing and enhancing internal credit rating methodologies and risk and liquidity management frameworks. In particular, we can help you with:

Valuation and valuation uncertainty

Reviewing and enhancing valuation methodologies and determining fair value pricing of illiquid assets as well as the uncertainty associated with it.

Internal credit rating methodology

Designing, reviewing and enhancing internal credit rating methodologies.

Structuring advice

Advising on structuring illiquid investments to benefit from Matching Adjustment and efficient capital requirements.

Capital optimisation

Advising on capital modelling of illiquid assets.

Due diligence

Performing due diligence on new areas of illiquid investments.

Risk management

Performing qualitative and quantitative assessment of investing in different types of illiquid assets.

Matching adjustment application

Assisting clients with applying for the matching adjustment benefit.

Risk frameworks

Reviewing and improving risk frameworks including investment, ALM and liquidity risk frameworks.

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