

# Internal Capital Adequacy and Risk Assessment (ICARA)

*Example Ltd*

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16 November 2022

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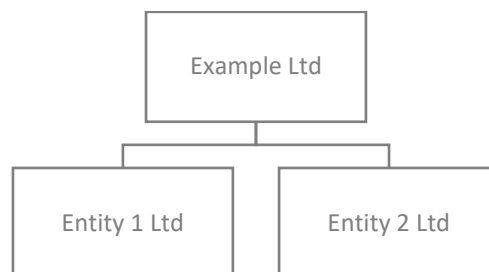
## Introduction and Overview of ICARA

From January 2022, under the new Investment Firms Prudential Regime (IFPR) firms' own assessment are carried under ICARA (Internal Capital Adequacy and Risk Assessment). The new regime is better suited for the investment management industry. It departs from banking-based regulation of CRD/CRR which required ICAAP (Internal Capital Adequacy and Assessment Process). In comparison to ICAAP, the ICARA has different starting- and end-points. Risk analysis, under ICARA starts by analysing the firm's business model and therefore it introduces activity-based capital requirements for firms. The end-points of analysis are also different. It focuses on outcomes rather than classes of risk (e.g., market, credit and operational risks under ICAAP). The ICARA mainly focuses on the outcome for the consumers/clients and markets (and ultimately for the firm). It introduces the concept of risk-to-customers (RtC), risk-to-market (RtM) and risk-to-firm (RtF).

The ICARA will be updated annually or upon material change and is therefore an ongoing process that the firm monitors. This ICARA report has been prepared on behalf of e.g., the consolidation group *Example Ltd*. The following entities are FCA regulated entities in the consolidated situation.

- Entity 1 Ltd
- Entity 2 Ltd

Below is the org chart for the Example Ltd.



The firm has concluded that the ICARA process is fit for purpose. The firm's ICARA process covers its risk management, and incorporates the results of business model assessment, forecasting & stress testing, recovery planning, and wind down planning. The firm's ICARA process has shown that the firm meets the overall financial adequacy requirement (**OFAR**) – it holds sufficient own funds and liquid assets even throughout the economic cycle under stress.

- The ICARA has been subject to senior management review and challenge.
- In the main text, the ICARA document explains that the firm meets the OFAR set by the FCA's Investment Firms Prudential Requirement (IFPR), effective from January 1<sup>st</sup> 2022.
- The firm holds sufficient capital and liquidity to cover the own funds and liquid assets requirement.
  - The firm holds funds in excess of the firm's **Own Funds Threshold Requirement**.

- The firm also has liquid assets in excess of the firm’s **Own Threshold Liquid Asset Requirement**.
- Both assessments have been carried out by taking into account all potential harms from the firm’s activities to consumers, markets and to the firm. Also, potential risks from change in the firm’s asset values and counterparty failures have been taken into account.
- Furthermore, the firm has established two early warning indicators (EWIs).
- % above the Own Funds Threshold Requirement
- % above the Own Funds Threshold Requirement
- These indicators help firm to manage and plan capital proactively.

## Senior Management Responsibilities

The accounting reference date for this ICARA is e.g., “DD/MM/YY”. The ICARA document been reviewed and approved by the board on “DD/MM/YY” and has been signed off on “DD/MM/YY” by the board.

The content of the ICARA document has been reviewed and approved by the Board. As part of its review, the Board has specifically reviewed and approved the key assumptions underlying the ICARA document.

The firm operates three lines of defence (3LOD) model. Individuals in the first line own and manage risk directly. The risk management function in the second line oversees the first line, sets policies, defines risk tolerances, and ensures they are met. The internal audit function provides independent assurance of the first two lines, including an independent verification of data and models.

The ICARA is a key process and an essential part of a firm’s internal systems and procedures which ensures that the firm prudently runs its business. As part of its review, the governing has also reviewed and approved the key assumptions (e.g., scenarios and stress tests) underlying the ICARA document. Accordingly, the firm’s senior staff members have taken an active role in contributing to the analysis required under the ICARA process in respect of the business areas for which they are responsible.

The following is a list of senior managers that were responsible for review and approval of the ICARA.

Mr Brown	CEO	Entity 1	Contributed to scenario analysis, EWI setting, Capital and liquidity threshold calculations
Mr Black	CRO	Entity 2	Overall responsibility of framework and governance, capital planning and ICARA process
....	.....		

## Risk of Harm to Clients and Markets

The assessment of harm from the firm’s activities has been carried out starting with the firm’s business and operating model.

Currently, the firm carries out the following activities for its retail clients.

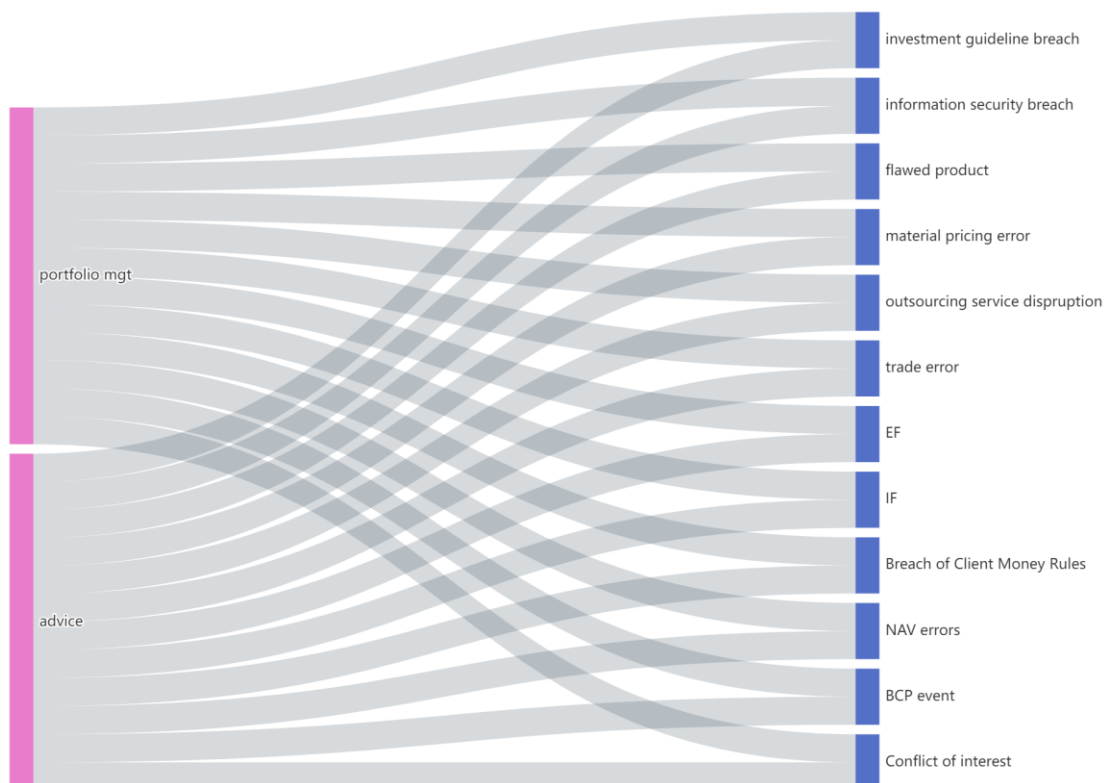
- Investment portfolio management
- Investment advice

The firm is exposed to existing and emerging risks and vulnerabilities from changes in operational and economic circumstances. Given the nature of their business and operating model, the firm’s subject matter experts and senior personnel have decided that the following risk scenarios have the potential to cause severe but plausible harms to the clients and markets.

- Investment Guideline Breach
- Information Security Breach / Cyber
- Designing a Flawed Product
- Material Pricing Error
- Outsourcing Service Disruption
- Trade Error
- External Fraud (Invoice Fraud)
- Internal Fraud
- Breach of Client Money Rules
- NAV Error
- BCP Event (operational resilience)
- Conflict of Interest

The following figure summarises the relationship between the firm’s activities and the scenarios.

Figure 1: Firm’s business model and potential risk scenarios around the activities



These scenarios are fundamentally important for the firm’s risk management. They are not only important from the point of harms caused but also in terms of their impact on the firm’s resilience and impact thresholds and tolerances. By 31 March 2022, the firm has to also comply with the FCA’s operational resilience requirement.

The following table provides an overview of the firm’s own forward-looking assessment for the various activities from its business model. The starting point for this analysis has been the firm’s severe but plausible risk scenarios. For each risk scenario an own funds requirement has been assessed using the concept of “K-factors”. The relevant K-factors are K-AUM from its asset management business, K-CMH from its activities relating client money, K-ASA from its administration activities, and K-COH from client orders handled. Every other significant activity and potential risks to clients and markets have been assessed under K-Other. Since the basic Pillar 1 assessment of the K-Factor requirement has been deemed to insufficient to account for harms that emanate from the firm’s severe but plausible scenarios the firm had to compute an add-on requirement. The table represents the final overall capital requirement for each K-factor.

Table 1: Breakdown of own funds requirement from the firm’s risk scenarios before allowing any correlations

Scenario name	K-AUM	K-CMH	K-ASA	K-COH	K-Other	Simple Sum
Investment Guideline Breach	4,200,000					4,200,000
Information Security Breach / Cyber	4,090,000			3,000,000		7,090,000
Product Design	9,150,000					9,150,000
Material Pricing Error	3,000,000	3,000,000				6,000,000
Outsourcing Service Disruption				2,200,000		2,200,000
Trade Error				3,730,000		3,730,000
EF (Invoice Fraud)					2,000,000	2,000,000
IF					1,600,000	1,600,000
Breach of Client Money Rules		1,190,000				1,190,000
NAV error	1,500,000		1,000,000			2,500,000
BCP Event				870,000		870,000
Conflict of Interest	6,000,000		5,000,000			11,000,000
<b>Simple Sum</b>	<b>27,940,000</b>	<b>4,190,000</b>	<b>6,000,000</b>	<b>9,800,000</b>	<b>3,600,000</b>	<b>51,530,000</b>

The risk assessments were carried out by conducting scenario workshops with the business areas. In order to arrive at the above numbers, the scenario workshops have considered the key risks and controls (inherent and residual), taken into account existing

information (e.g., incidents, list of issues, audit reports) as well as relevant external information.

[We have observed that there are broadly four levels of sophistication amongst investment firms. 1) Very simple firms' make the above assessments of risk using subject matter expertise without stating what assumptions they are making, e.g., what confidence level, time-horizon, etc. they are using; 2) Simple firms make the assessments by stating their assumptions; 3) Slightly sophisticated firms also give some thoughts to dependency between the risk scenarios; and 4) the more sophisticated firms calculate the values using a statistical model]

Table 2: Aggregate own fund requirement from harms using correlations between risk scenarios

K-Factors	K-AUM	K-CMH	K-ASA	K-COH	K-Other	K-Total
Simple Sum	27,940,000	4,190,000	6,000,000	9,800,000	3,600,000	51,530,000
Sum using correlations	16,764,000	3,561,500	5,100,000	6,860,000	2,790,000	<b>35,075,500</b>

#### Note

1. The sums using correlations (i.e., aggregations of risk) in Table 2 have been carried out using the interactive risk aggregation tool <https://ra.riskplus.net/>
2. For simplicity we have assumed that all pairs of scenarios were correlated between each other, i.e. a correlation coefficient of 50%. This assumption is relatively robust. In reality some pairs of scenarios will have zero or low correlation (e.g., 10%) between each other.

Whereas Table 1 carries out stand alone assessment for each risk scenario and allocates the own funds requirement to each K-factor, the figures in Table 2 are aggregate figures by taking into account dependency between the risk scenarios. The assessments have been carried out by taking into account that not all scenarios are likely to occur at the same time.

MIFIDPRU 7.6.3R prohibits firms from 'offsetting' between internal calculations required by individual K-Factors. Therefore, each K-Factor calculated in Table 2 represents the minimum own funds amount the firm believes is necessary to address the driver of harm addressed by each K-Factor, in line with the firm's current risk appetite. The last column in Table 2 is the total risk from the individual K-factors. The figure of **35,075,500** represents the firm's amount of risk from its activities, i.e., harm to clients and markets. It allows diversification benefit inside the individual K-factors, but not between the individual K-factors. This concept is best explained using the information from the two tables above. The MIFIDPRU 7.6.3R offsetting prohibition in our example means that we are able to apply correlations inside the columns of table 1 but not between columns. Therefore, we are allowed to take account of the diversification benefit scenarios which have the same K-factors. Therefore, we have applied correlation to scenarios to calculate the numbers in Table 2. However, we are not allowed to take account of correlations between K-factors

for the same scenario. Therefore, the K-total figure in Table 2 is a simple sum of the sums using correlations, i.e., 35,075,500.

The ICARA so far has identified and discussed harms to clients and markets. The two sections below discuss additional risks affecting the firm’s available capital.

## Changes in the Value of Assets or Positions

When market prices of assets change, the value of assets and the value of the holding positions change. The amount of change can be best modelled as a function of the market value, holding period and the volatility of the asset. To assess the risk of change in the value of its positions the firm has used the well-known Value at Risk (VaR) methodology. For each asset, the VaR method predicts the potential loss under adverse circumstances. It is a mathematical formula – it is a function which positively relates the potential loss of an asset, to its value or size, volatility and its holding period (at a statistical) confidence level. For ICARA purposes, we compute the potential loss at the 99.5% confidence level. Put it differently, the VaR method predicts that there is only 1 in 200 chance that the potential loss could be larger than the formula predicts.

The value at risk for each asset  $i$  has been computed as follows.

$$\text{VaR}_{\text{asset}_i} = \text{Value of asset}_i * \text{daily vol of asset}_i * \sqrt{t} * 2.58$$

where  $t$  stands for number of holding days for the asset.

The VaR is simply a multiplication of the value of an asset with its daily volatility and square root of the holding period and a factor of 2.58. The daily volatility has been obtained using market data. The multiplication of the volatility with the factor of 2.58 ensures that the potential change in the value of the asset over the holding period  $t$  potentially as large as the 99.5% confidence level, i.e., at the tail of the potential loss distribution.

Table 3: VaR

Assets/Positions	Current Size	Holding period	Daily volatility	VaR
Asset in foreign currency	GBP 10 m	60 days	0.75%	1,500,000
Equity investment	GBP 5 m	250 days	1.00%	2,000,000
<b>Overall</b>				<b>3,500,0000</b>

For example, a GBP10 m asset in a foreign currency with a 0.75% daily volatility (which is typical for the GBPUSD exchange rate volatility) results over a 60-day holding period in a value at risk of GBP 1.5 m ( $10 \text{ m} * 0.075 * \sqrt{60} * 2.58 = 1.5 \text{ m}$ ). Similarly, a 5 m investment in equity with a 1% daily volatility over a one-year horizon (i.e., 250 trading days) results in a VaR of 2 m ( $5 \text{ m} * 0.01 * \sqrt{250} * 2.58 = 2 \text{ m}$ ). Although the equity investment’s current value is lower than the asset in foreign currency its VaR is larger due to higher daily volatility and longer holding period.

Note



1. The values in Table 3 have been computed using our purpose made online VaR tool at <https://mr.riskplus.net/>
2. The holding period refers to trading day
3. For simplicity, the table assumes that the asset in foreign currency and the equity investments are fully correlated. In reality, there is a less than 100% correlation between the two, which would result in a diversification benefit. For example, assuming a perfectly reasonable correlation of 50% the overall VaR number would be 3 m, i.e., a diversification benefit of 0.5m.

## Failure of Counterparties

Any potential failure of the firm's counterparties would impact the firm. There are currently two sources of counterparty risk - a cash position held at an international bank and the firm's largest counterparty. Both could potentially default overnight thereby exposing the firm to risk of loss with partial recovery of assets or due amounts.

Note that unlike for market risk, there is a so-called "expected loss" (EL) from exposures to a counterparty. In simple terms, the EL from any counterparty can be computed as a positive function of exposure, probability of default (PD) of a counterparty, and loss given default (LGD).

$$EL = \text{Exposure} * PD * LGD$$

That is, expected losses are higher the higher the exposure, probability of default and loss given default and vice versa. The table below computes the firm's expected losses.

Table 4: Expected losses from firm's counterparties

Name	Exposure	Loss Given Default (LGD)	Probability of Default (PD)	Expected Loss (EL)
Bank XYZ	16,200,000	45%	1.0%	72,900
Counterparty ABC	15,000,000	45%	1.5%	112,500
<b>Overall</b>				<b>185,400</b>

Note:

1. Loss given default is related to the recovery rate (RR).  $LGD = 1 - RR$ .
2. Using data from S&P we have assumed the LGD's to be 45% for all of our counterparties.

However, the expected losses are only potential losses "on average". As with market risk we have to compute potential losses "at the tail", i.e., at a higher confidence level than the average, i.e., unexpected losses (UL). In order to assess the unexpected loss from the firm's counterparties, the well-known Vasicek Credit Value at Risk (CVaR)

methodology has been utilised.<sup>1</sup> The CVaR methodology computes a potential loss for each exposure at a required confidence level.

For ICARA purposes, we are therefore interested in losses from counterparty failures at the 99.5% confidence level (the same confidence level as for the market risk). Therefore, the CVaR methodology predicts losses that can only be potentially larger with a 0.5% probability (1/200). It is a positive function of a loss given default (LGD), probability of default (PD) and correlation of the counterparty with the overall state of the economy. The computed risks from failure of the firm's counterparties at the 99.5% confidence level are summarised in the table below.

Table 4: CVaR

Name	Exposure	Loss Given Default	Probability of Default	Correlation with the economy	CVaR
Bank XYZ	16,200,000	45%	1.0%	24%	810,000
Counterparty ABC	15,000,000	45%	1.5%	24%	1,004,000
<b>Overall</b>					<b>1,814,000</b>

Note:

1. Loss given default is negatively related to recovery rate (LGD=1-recovery rate)
2. Both LGD and PD data have been sourced from Standard and Poor's.
3. In order to prudent, the correlation has been set to be 24%, which is the highest possible value it can attain under the Basel framework.
4. The CVaR values have been computed using the formula in the footnote 1 (see also <https://cpr.riskplus.net/>)

## Own Funds Threshold Requirement

In order to find the firm's own funds threshold requirement, we are comparing the firm's Permanent Minimum Requirement (PMR), the Fixed Overhead Requirement (FOR), the K-Factor Requirement (KFR) and take the highest of the three components. In particular, our calculations take account of additional requirements for each of the components. Whereas the PMR is a fixed number, i.e., does not necessarily scale with the risk profile of the firm, both the KFR and the FOR are more risk sensitive and capture more accurately the firm's risk profile.

- The firm's Permanent Minimum Requirement (PMR) is 0.75 m.
- Whereas the firm's MiFIDPRU4 requirement (akin to Pillar1) for FOR has been assessed to be 8 m, the firm has identified additional FOR requirement of 3 m.
- Similarly, the firm's MiFIDPRU4 requirement for KFR from its business activities (i.e., K-AuM and K-COH) has been identified to be 10 m.

<sup>1</sup> <https://www.bankofengland.co.uk/-/media/boe/files/ccbs/resources/modelling-credit-risk>.

The implementation of the formula can be found here: <https://cpr.riskplus.net/>

- However, this is lower than the firm's overall KFR requirement of **40,389,500** whose **components have been discussed further above.**
  - o Harms from the business model: 35,075,500
  - o Additional risks from market related changes: 3,500,000
  - o Additional risk from failure of counterparties: 1,814,000
- Therefore, our calculations show that the firm's overall KFR stands at 40,389,500, which is 30,389,500 larger higher the basic MiFIDPRU4 requirement of 10 m.

The following table provides an overview of the firm's regulatory calculations.

Table 5: Threshold requirement and EWI

	MiFIDPRU 4 Requirements	Additional Requirements
Own Funds	80,000,000	
PMR	750,000	
KFR	10,000,000	30,389,500
FOR	8,000,000	3,000,000
Threshold Requirement	40,389,500	
Early Warning Indicator	44,428,450	
Winddown Trigger	11,000,000	

Note: the winddown trigger is equal to the firm's FOR.

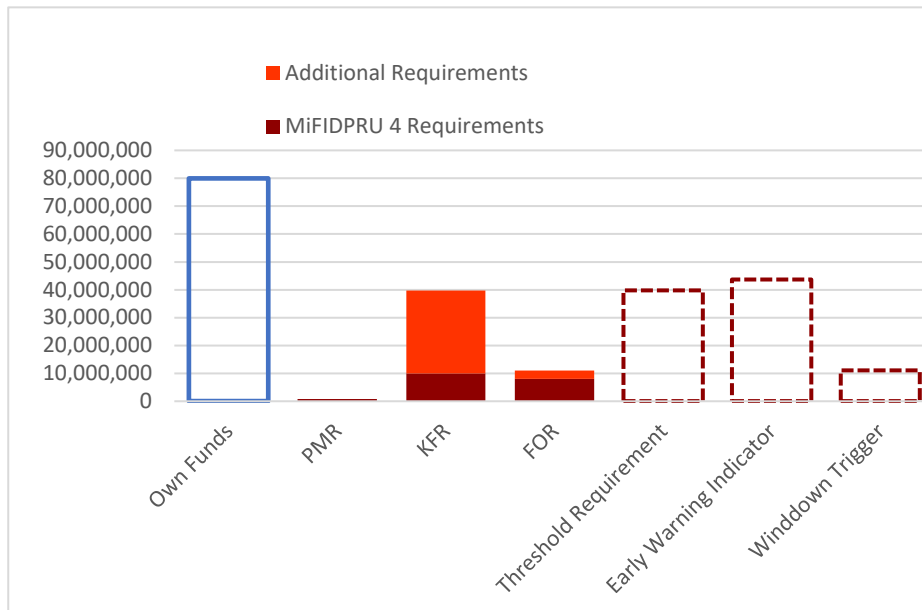
## [Early Warning Indicators \(EWIs\)](#)

The firm's own funds stand at 80,000,000. Given this level of own funds, the firm has sufficient funds to withstand losses from its operating and business model.

- The firm's early warning indicator (EWI) has been set at 110% of its own funds threshold requirement at 44.4 m. This is similar to a 'hard' limit.
- The firm has also a 'soft' limit at 50 m.

The set limits are deemed to be appropriate levels for the firm's business model. Each breach of limit will trigger associated recovery actions detailed in Appendix 1.

Figure 2: MiFIDPRU4 and Additional Fund Requirements



As the above figures indicate, the firm's winddown trigger is the FOR requirement of 11m. Using the above information and assuming that potential losses from the firm's risk scenarios are similar to investment management industry losses and follow lognormal distribution, the firm has also computed the following probabilities for the current own funds threshold of 40,389,500:

- the probability of (b)reaching the EWl of 44,428,450 is equal to 18.9% (i.e., for the current own funds threshold, there is a 18.9% probability of exceeding this EWl level); and
- the probability of (b)reaching the own funds of 80,000,00 stands at 10.6% (i.e., for the current own funds threshold, there is a 10.6% probability of exceeding the level of available funds). These probabilities represent the firm's risk appetite (see <https://ewi.riskplus.net/> for the computation of the probabilities).

## Recovery Planning

Appendix 1 contains the recovery planning. The firm's recovery planning is consistent with IFPRU 11.7 and contains the following elements.

- (1) summary of the key elements of the recovery plan;
- (2) information on the governance of the firm, including:
  - (a) how the recovery plan is integrated into the corporate governance of the firm; and
  - (b) the firm's overall risk management framework;
- (3) description of the legal and financial structures of the firm, including:
  - (a) the core business lines; and

- (b) critical functions;
- (4) recovery options, including:
  - (a) capital and liquidity actions required to maintain or restore the viability and financial position of the firm; and
  - (b) arrangements and measures to conserve or restore the firm's own funds;
- (5) an assessment of the expected timeframe for implementing recovery options;
- (6) a summary of the overall recovery capacity of the firm, including:
  - (a) the risks associated with recovery options;
  - (b) an analysis of any material impediments to the effective and timely execution of the recovery plan; and
  - (c) whether and how material impediments could be overcome.

## Wind-down Planning

Wind-down plans of the firm were developed with reference to the Wind-Down Planning Guide from the 'rule book', but taking into account the specifics of the firm (see Appendix 2).

## Stress Testing

The firm has carried out stress testing as follows. The firm identified two severe plausible adverse scenarios that were relevant for the firm and the market in which it operates. The first relevant scenario was market downturn and resulting impact on the firm's revenues. The second scenario considered was the default of the firm's biggest counterparty and resulting revenue loss. The former scenario was more severe for the firm and the assessment resulted a 50% loss of net income (i.e., revenue minus costs) in year 1 in comparison to the BAU and partial recovery over the next four years.

Table 4 presents the assessment of the impact of the market downturn scenario compared to the firm's business as-usual (BAU) projections for the

- (a) the two business lines it operates; and
- (b) the overall position of the firm as a whole.

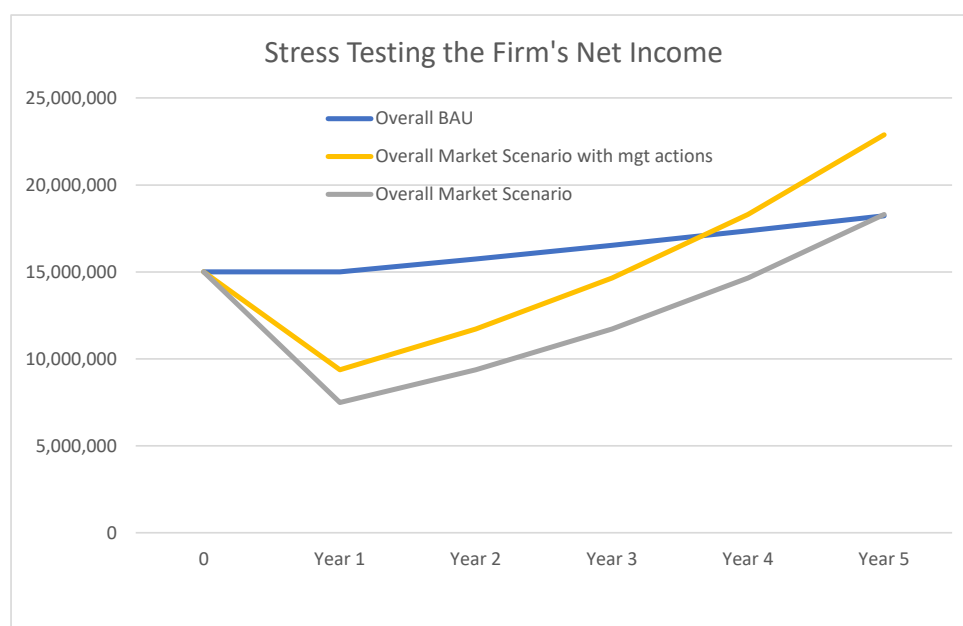
The assessment in Table 4 also shows the result of the assessment both before and after taking into account any realistic management actions.

Table 4: Stress testing results of the market downturn scenario on the firm's net income

	0	Year 1	Year 2	Year 3	Year 4	Year 5
Business Line 1 BAU	10,000,000	10,000,000	10,500,000	11,025,000	11,576,250	12,155,063
Business Line 2 BAU	5,000,000	5,000,000	5,250,000	5,512,500	5,788,125	6,077,531
Overall BAU	15,000,000	15,000,000	15,750,000	16,537,500	17,364,375	18,232,594
BL_1 Market Scenario	10,000,000	5,000,000	6,250,000	7,812,500	9,765,625	12,207,031
BL_2 Market Scenario	5,000,000	2,500,000	3,125,000	3,906,250	4,882,813	6,103,516
Overall Market Scenario	15,000,000	7,500,000	9,375,000	11,718,750	14,648,438	18,310,547
BL_1 Market Scenario with manag't actions	10,000,000	6,250,000	7,812,500	9,765,625	12,207,031	15,258,789
BL_2 Market Scenario with mgt actions	5,000,000	3,125,000	3,906,250	4,882,813	6,103,516	7,629,395
Overall Market Scenario with mgt actions	15,000,000	9,375,000	11,718,750	14,648,438	18,310,547	22,888,184

Even in this plausible adverse scenario the firm's available own funds (and liquidity) were in excess of the firm's own fund threshold requirement (and own liquid asset threshold requirement). This statement is true even taking into account any realistic management actions.

Figure 2: The result of stress testing on the firm's net income



The firm's senior management regularly reviews the above scenarios to ensure that their nature and severity remain appropriate and relevant to the firm.

While considering relevant scenarios and impact on a firm's available liquid assets, the firm has also assessed a number of factors that could potentially impact the available liquid assets. This assessment shows that only the access to payment or settlement systems is the relevant factor.

Table 6: Factors impacting the available liquid assets

Factor	Relevant?	Potential impact: High Medium Low
(1) <b>correlations between funding markets;</b>	No	-
(2) the effectiveness of <b>diversification across</b> the firm's chosen sources of funding;	No	-
(3) any potential <b>additional margin calls or collateral requirements;</b>	Partially	Low
(4) <b>contingent claims</b> , including potential draws on committed lines extended to third parties or other entities within the firm's group;	No	-
(5) liquid assets absorbed by <b>off-balance sheet</b> vehicles and <b>activities</b> (including conduit financing);	No	-
(6) the <b>transferability</b> of liquid assets;	Partially	Low
(7) <b>access to</b> central bank market operations and liquidity facilities;		
(8) estimates of future <b>balance sheet growth;</b>	Partially	Medium
(9) the continued availability of market liquidity in a number of currently highly liquid markets;	No	-
(10) the <b>ability to access</b> secured and unsecured funding;	No	-
(11) currency <b>convertibility;</b> and	Partially	Low
(12) <b>access to</b> payment or settlement <b>systems</b> on which the firm relies	Yes	Medium

## Reverse Stress Testing

Reverse stress testing has been carried out by identifying a range of adverse circumstances which would cause the firm's business model to become unviable.

The reverse stress testing shows that there are two circumstances when the firm's business model becomes unviable.

(1) More than 75% of the firm's counterparties are unwilling to continue transacting with the firm.

(2) The firm's deposits are lost due to the failure of the bank.

## Own Liquidity Threshold Assessment

The firm's basic liquidity requirement is set by the regulator to be 1/3 of its FOR. Since FOR is 1/4 of the firm's annual expenses, the basic liquidity requirement equates to 1 month of expenditure. The own liquidity threshold requirement, however, needs to take account of unexpected payments and obligations. This is explained below.

Basic liquidity Requirement: 3,666,667

Liquidity Threshold Requirement: 11,467,764 (for the explanation of this figure see further below)

When assessing potential harms that may result from insufficient liquidity in connection with its business, the firm has found that:

- (1) the firm's assets can be converted into cash within less than one week;
- (2) there are no legal or operational restrictions which could affect the firm's ability to convert the assets to cash;
- (3) there are no currency conversion restrictions;
- (4) no restrictions on the transferability of funds between the firm and other members of its group, even in stressed market conditions.
- (4) there are no intra-day obligations that could affect the firm's ability to meet its payment and settlement obligations in a timely manner;
- (5) there are currently no requirements on the firm (whether or not they are legally binding) arising from any off-balance sheet arrangements.

However, the assessment has found that there may be a liquidity risk to the firm from potential **unexpected payments**. These may result from the severe but plausible risk scenarios and relate to the possibility of unexpected payment obligations, such as:

- (a) direct or indirect costs arising from litigation;
- (b) redress payments;
- (c) fines or penalties; or
- (d) unexpected payments that the firm may make to maintain its franchise, reputation or brand or to ensure the continued viability of its business, even though the firm may be under no legal obligation to make the payments.

These have been already assessed from the capital requirement side (see Table 1). Using the definition of unexpected payment above, the same severe but plausible scenarios also have a liquidity requirement to them. Therefore, the firm's own liquidity threshold requirement is directly computed from the own funds threshold requirement from harms (contained in Table 2). The risk of harm in Table 1 and Table 2 has been computed over one-year forward looking horizon. The computation of the liquidity requirement is carried out by simply scaling the requirement from one year to one month.

$$\text{Liquidity threshold requirement} = \text{funds threshold requirement} / \sqrt{12}$$

This definition of own threshold requirement would be consistent with the above definition of the time horizon for the basic liquidity requirement.



The above computation of own liquidity threshold amount is well in excess of what would be the basic liquidity requirement in combination with factors that could impact the firm's diversification in funding sources.

(1) There are no correlations between different market conditions that would affect the firm's ability to access funding from different sources.

(2) The level of funding diversification is appropriate and its ability to raise short-term liquidity is sufficient for its current ongoing requirements from its operating model.

The firm has also considered whether there are any potential harms arising from liquidity risk in relation to the following aspects of the firm's significant business activities:

(1) product pricing;

(2) performance measurement and incentives; and

(3) the approval process for new products.

**In relation to product pricing**, the firm's business model shows that

- There are two products in both of the business lines and that their elasticity to price has been relatively stable over the last few years although the industry experiences a tightening margin across products.
- Each product is managed by a dedicated manager with clear responsibilities of liquidity management including liquidity cost and benefit attribution for each product.
- Along with cost of risk pricing, also liquidity cost assessment is included in the firm's new product approval process and management incentivisation.

**In terms of intra-day liquidity positions**, the firm has considered whether there are any potential harms that may result from its operations. As part of the ICARA process, the firm identified:

(1) all the significant time-critical payment obligations that are in place to prioritise the payments;

(2) all the significant payment obligations that the firm has as a result of acting as a custodian;

(3) any potential net funding shortfalls that the firm may have at different points during the day;

(4) potential significant disruptions to its intra-day liquidity flows and any arrangements in place to deal with these; and

(5) any arrangements necessary to ensure the proper management of collateral.

**In terms of any issues with collateral management**, the firm has considered the following factors.

- (1) the ability to clearly distinguish between encumbered and unencumbered assets;
- (2) any operational restrictions that may apply in relation to the assets;
- (3) the extent to which the firm's assets are likely to be acceptable to the firm's major counterparties and liquidity providers;
- (4) the impact of any existing arrangements on the firm's ability to provide collateral; and
- (5) the potential impact of severe but plausible risk scenarios on the firm's ability to provide collateral where necessary.

## Embedding

The assessment of risk and risk-based decision making is part ICARA as well as part decision making in a number of areas. An independent risk assessment is carried out to inform senior management on the potential risks to consumers, markets and ultimately to the firm from new products or projects, when purchasing an insurance, when planning for strategic M&A, ahead of outsourcing agreements, and setting remuneration for material risk takers.

## Next review

The firm plans to review the adequacy of its ICARA process at least once every 12 months; or following any material change in the firm's business model or operating model.

## Appendix 1: Recovery Planning

This appendix summarises the firm's recovery planning actions in case the firm's own funds threshold requirement breached the 'soft' and 'hard' limits in Table 3 in the main text.

- (1) summary of the key elements of the recovery plan;
- (2) information on the governance of the firm, including:
  - (a) how the recovery plan is integrated into the corporate governance of the firm; and
  - (b) the firm's overall risk management framework;
- (3) description of the legal and financial structures of the firm, including:
  - (a) the core business lines; and
  - (b) critical functions;
- (4) recovery options, including:
  - (a) capital and liquidity actions required to maintain or restore the viability and financial position of the firm; and
  - (b) arrangements and measures to conserve or restore the firm's own funds;
- (5) an assessment of the expected timeframe for implementing recovery options;
- (6) a summary of the overall recovery capacity of the firm, including:
  - (a) the risks associated with recovery options;
  - (b) an analysis of any material impediments to the effective and timely execution of the recovery plan; and
  - (c) whether and how material impediments could be overcome.

## [Appendix 2: Wind-down Planning](#)

The wind-down planning of the firm is based on Wind-Down Planning Guide from the FCA hand book. This appendix contains the details for the firm's wind-down planning.