ICAAP 2021

OakNorth Bank

Lending for Entrepreneurs,
by Entrepreneurs

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1 Executive Summary

OakNorth's business model

OakNorth (the Bank) is a founder-led business that aims to support the UK's 'missing middle' – small and medium businesses that tend to have the largest impact on economies and communities but have been systemically overlooked and underserved by the main-stream banks. OakNorth was set up with the belief that these businesses can be underwritten in a bespoke manner using data and analytics to inform forward looking outlook for these businesses; so, loans are made on the basis of where a business is likely to go, in addition to where they have been or are today. OakNorth thus seeks to unlock the growth potential of this underserved sector with a lending proposition (typically ticket sizes between £0.5m- £50m) that is underpinned by faster transaction times, transparency and building/maintaining a detailed understanding of the borrower's business, with emphasis on forward looking views and scenario analysis of their cash flows.

OakNorth lends into a number of targeted subsectors, but broadly its core lending products fall into one of two categories:

- Cash-flow based trading loans to businesses, typically for growth, working capital, and acquisitions; and
- Property Finance, which includes finance of property development, refurbishment and medium-term property investment

Through these products, OakNorth supports businesses in a diverse and carefully selected range of market sub-segments. These include SME affordable housing developers, successful boutique hotel chains, growing care home groups and a number of successful specialist property investors.

OakNorth is primarily funded through a digital retail deposits model, benefiting from the operational simplicity of online deposit markets over a branch-based approach, offering competitive and FSCS-protected savings products to retail customers (with 97% of OakNorth deposits covered by the £85k FSCS guarantee).

OakNorth has a very specific market focus and a relatively simple business model. The bank offers a limited range of senior debt products to the SME market, and a range of non-complex deposit products to the UK retail market, with a small book of simple SME deposit products. The bank does not offer transactional accounts or raise wholesale funding. It competes on the basis of speed and quality of service and advanced credit analytics; not on the basis of credit terms and has developed operational resilience through a modern cloud-based IT infrastructure. The bank's risk management framework is continuously developed, and investment is made in control function resources ahead of the growth profile to seek to identify, monitor and manage the risk profile robustly.

Since inception in September 2015, OakNorth has lent over £6.4bn to the 'Missing Middle' SMEs, with Net Interest Margins in excess of 6%, Assets of £3.1bn as of Jun-2021, low delinquencies at 2.7% and an established deposits model that has been able to provide 100% of its funding requirements. ON is also well capitalised with total regulatory capital as of June 2021 of £587m (not including unverified profits of £51m) and a regulatory capital adequacy ratio of 20.8%, which represents a capital surplus of more than 6.2% relative to the Total Capital Requirement (including buffers) of 14.6%.

The Bank leverages data driven credit expertise and forward-looking stress testing techniques across underwriting and portfolio management During Covid-19, these capabilities and their resilience were put to test and served the Bank well in an unprecedented environment that continues to evolve at the time of this document's writing.

At the outset of the pandemic, OakNorth consciously slowed originations down to focus on developing an understanding of how the pandemic would impact its current borrowers and their markets. This combined responsive portfolio management engagement with granular sector specific stress scenarios (developed by the Bank's sister company OakNorth Enterprise (ONE)), panned across the three key phases tailored to the unique economic situation caused by COVID-19 – "shock", "re-boot" and "the new normal". The scenarios developed at a subsector level were applied on a loan-by-loan basis and the results were used to formulate OakNorth's risk rating of loan exposures.

Having assessed borrowers' capital and liquidity needs across a dynamic range of scenarios, (updated weekly at the height of the crisis) OakNorth was well placed to target the borrowers and industries where further engagement was needed. Daily touch points were established with relevant borrowers which resulted in detailed trackers for discussion with Exco to decide on strategy and follow-ups i.e., (i) extend appropriate strategy (interest or capital holidays / CBILS, etc.) (ii) continuous monitoring and/or (iii) exit.

Having executed this approach over the initial weeks of the pandemic, the Bank had a clear view of its current risk profile and the key risks from Covid across the markets it operates in. The Credit Risk Management Policy was updated with tighter risk appetite limits, and target origination characteristics, to reflect the new normal. Reflecting this, the Credit team then issued clear policy guidance to our Origination team on our appetite and the types of loans we want to underwrite to reflect the new normal.

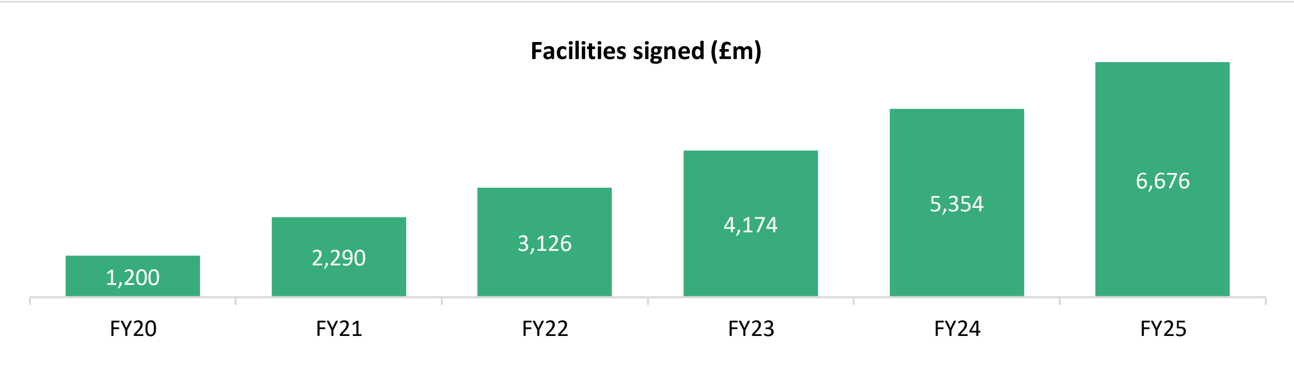
This has enabled OakNorth to continue to operate resiliently across the Covid-19 period, with the below metrics highlighting the stability of the Banks performance over the period:

	2019	2020	H1-2021
New volumes	£1.4bn	£1.2bn	£1.2bn
Portfolio NIM%	5.9%	6.3%	6.8%
Profit before tax	£65.9m	£77.6m	£67.9m
Return on Required Equity	19.1%	20.0%	31.0%
New delinquencies (£/#)	£41m/5	£52m/5	-
Service disruptions	-	-	-
Operational losses (£)	£1000	£1000	£340

OakNorth's strategy and business plan

The total outstanding balances as at 31-Dec-2020 in OakNorth's target sector was £421bn and OakNorth's market share was ~60bps. New balances drawn in 2020 in OakNorth's target sectors was £113bn and this is expected to grow at 6% per annum, giving OakNorth considerable runway to continue to build on its success to date. This is further supported by strong supply /demand dynamics in the property sector, further unmet demand from the 'missing middle' of SMEs, and strong customer relationships driving repeat business.

Leveraging its core credit capabilities and nimble operating model, OakNorth plans to grow its annual gross facility origination to £6.7bn by 2025, reflecting a CAGR of 30% from 2019-2025. This will be supported by a continued focus on deepening the banks geographic diversification across the UK, with experienced teams now established in a number of core regional markets. No changes to credit risk appetite or pricing targets are envisaged in our base case plan.



[1] *Sources for total addressable market: HM Land Registry, RBS independent Lending Review (Oct-2013), BoE ONS and Moody's base case (Oct-2021)*

This translates into the following evolution of the Bank's financial metrics over the forecast period:

	FY19A	FY20A	FY21	FY22	FY23	FY24	FY25
Net Loan book (£m)	2,043	2,461	3,033	4,216	5,925	7,725	10,003
Total assets (£m)	2,730	3,114	3,606	5,011	7,001	9,112	11,759
Deposits (£m)	1,987	2,314	2,675	3,955	5,616	7,331	9,720
NIM (£m)	104	140	181	239	323	448	594
PBT (£m)	66	78	134	179	246	352	481
Net income (£m)	50	59	100	133	179	246	333
NIM - %	5.9%	6.3%	6.7%	6.6%	6.4%	6.6%	6.7%
Return on Required Equity -%	19.1%	20.0%	29.3%	30.1%	28.6%	28.7%	29.7%

It is forecast that the Bank will have adequate capital throughout the planning horizon (CET1, T1 and Total Capital) and this is discussed in the Capital Adequacy section of the Strategy and Business Plan chapter (Section 2.4).

Our business strategy and financial plan is set within the secure guard-rails of a defined Risk Appetite Framework to ensure that we deliver good outcomes for our customers and stakeholders, while also delivering long-term, sustainable profitability to the shareholders.

OakNorth's Risk Management framework

OakNorth is exposed to a wide range of risks through its operations which are detailed in section 3. OakNorth have built a proportionate and robust Risk Management Framework (RMF) that is designed to ensure that the key risks facing OakNorth are identified, measured, monitored and managed, and that appropriate policies, procedures and controls are established such that each risk is mitigated to an acceptable degree. The RMF defines the following key risk management processes:

Risk identification - Principal Risks are assessed and monitored through quarterly review and maintenance of two registers: (i) Top Risks and (ii) Risk Register.

- The Bank's Top Risks register provide an independent top-down assessment of risks by the EXCO, led by the CRO. . The CRO leads on assessing these risks for debate and approval by EXCO, and overview by BRCC on a quarterly basis
- The Risk Register is a bottom-up risk register which documents the inventory of key critical risks to which the bank is exposed. The inherent and residual risks are classified by frequency and severity to produce a score. The Register is updated each quarter and submitted for approval at ERC.

Risk Assessment Framework - The Risk Assessment is carried out based on the following principal frameworks: (i) RCSA; (ii) Compliance Monitoring Framework; (iii) Conduct Risk Self-Assessment; (iv) Enterprise-Wide Risk Assessments for Financial Crime and Compliance; (v) ISO and CQUEST frameworks for Cyber Security; (vi) Credit Policy Framework; and (vii) Internal Audit Assessment Framework. All these frameworks assist in assessing the likelihood and severity of risks, and determine the treatment plans to either mitigate, transfer, avoid or accept the appropriate level of risk in line with ON's risk tolerance and appetite.

The key high level risk control processes, reported monthly to ERC and quarterly to BRCC are as follows:

- **Control & Compliance Review and Certification (CCRC)** is an annual assessment of the adequacy and effectiveness of controls across the Bank, and an assessment of the risk culture. ExCo members produce an individual self-assessment rating (1-5) for each functional area, combined to produce an overall score for the Bank.
- **Business Assurance Testing and second line of defence (SLOD) Assurance:** Testing of the adequacy and effectiveness of process controls is performed by both the first and second line. Once the controls are documented, a testing plan is defined on a risk-based basis.

Risk Monitoring and Measurement - Key risks are monitored through Key Performance Indicators (KPIs) and Key Risk Indicators (KRIs). Each KRI is measured against their appetite thresholds outlined in the Risk Appetite Statement

Risk reporting and MI with qualitative commentary and quantitative data is presented to the BRCC, ExCo, ERC, ALCo, ISMS Committee and OpCo, to provide oversight of the operation of the Bank's risk management framework, to assess new risk-return opportunities, and to provide a commentary on the enterprise-wide risk profile.

Fuller details on the RMF are available in section 3 of this document.

OakNorth's capital plan

1.1.1 Capital Requirements

In undertaking the 2021 Capital assessment planning, the Bank has reviewed the complete set of relevant risks (including as set out by the PRA in SS31/15) to ascertain which are relevant for OakNorth, whether a capital need is generated by them, and where they sit within the P1/2A/2B framework. The below table summarises this assessment against the relevant risks from SS31:

SS31 risk Type	ON has risk?	Capital need requirement?	Coverage in Capital Adequacy assessment
Credit	Yes	Yes	Covered across P1, P2A and P2B assessments (Chapters 5, 6 and 10)
Credit Concentration	Yes	Yes	Coverage in P2A concentration risk assessment (Chapter 7)
Operational / Conduct / Compliance	Yes	Yes	Covered in P2A operational risk assessment (Chapter 8)

SS31 risk Type	ON has risk?	Capital need requirement?	Coverage in Capital Adequacy assessment
Strategic	Yes	Yes (P2B)	Assessed in both P2B assessment of stress impacts, and reverse stress test assessment (Chapter 10 and 11)
Interest rate	Yes	Yes	Interest rate risk is assessed as part of our P2A assessment, with Basis risk through margin compression also picked up in ON combined in the P2B assessment (Chapter 9 and 10)
Group	Some	No	OakNorth's exposure to risk from the wider group is restricted to 3rd party supplier failures from group entities (i.e. ONGPL and ONE) are set out in the P2A ops risk assessment. Other forms of group risk are monitored and controlled through the Banks group risk assessment which is updated for Board by Regulatory affairs on a quarterly basis. OakNorth does not have any relevant group risks in relation to double leverage, ring fenced banking or group pension obligations
Market	Some	No	OakNorth does not have any M2M or FX positions that would be subject to market risk, and as such no market risk capital assessment is required Whilst there is some minimal exposure to FX movements through supplier contracts, these are not judged material enough to warrant assessing for capital requirements
Climate	Some	No	Whilst OakNorth has not identified any capital need as a result of climate risk in the 2021 ICAAP, it has undertaken for the first-time a granular scenario analysis of the possible impact of climate risks on its borrowers. Leveraging the scenarios and time horizons from the BoE BES exercise, and ONE's emerging industry leading Climate risk framework, OakNorth has reviewed the most material climate specific risks to its borrowers, and evaluate the possible impact this would have on LTV coverage across the bulk of its loan book. See Chapter 12.
Pension	No	No	OakNorth does not have any DB pension schemes
FC lending	No	No	OakNorth does not undertake foreign currency lending
Securitization	No	No	OakNorth has not currently issued any securitizations The possible risks arising from these will be assessed as part of the ongoing ICAAP process where and when needed

The following table sets out the capital requirement assessed against the relevant risks and the sections where more details behind these assessments can be found.

Risk Category / Particulars	Dec 2020 position	2021 ICAAP proposal (Jun-21)	Dec- 2024 forecast	Comments
RWA base used	1,734	2,822	9,137	RWA determined using standardised approach for Credit Risk and Basic Indicator approach for Operational risk. (Chapter 4)
P1 credit	7.72%	7.46%	7.59%	Credit risk: Basel standardized **approaches** used for 2021 assessment, with estimate of expected B3.1 changes used from 2023 onwards for credit risk. (Chapter 4)
P1 Operational	0.28%	0.54%	0.41%	
P1 market	-	-	-	
Total Pillar 1	8.00%	8.00%	8.00%	
P2A Credit	-	-0.29%	-0.29%	We have considerably enhanced our application of the regulatory slotting approach for 2021, with tighter links to policy, and PRA and 2nd line feedback conservatively incorporated. This highlights room for 29bps of P2A offset of 0.29% which we consider appropriate given the significant conservatism in the Concentration risk assessment detailed below (Chapter 6)
P2A Concentration: LE	2.23%	1.89%	2.70%	We have applied the PRAs standard HHI methodology across all three concentration risk areas. This sees a reduction in the assessed Capital requirement vs the position as at 2019 ICAAP primarily due to reduced LE concentration and we expect further reduction by 2024 of an addition 98bps We note the PRA approach returns a materially highly capital requirement (206 bps) vs. our own assessment. This, in our view is an area of conservatism in-built into our capital requirements calculation for reasons articulated in (Chapter 7).
P2A Concentration: Sectoral	0.77%	0.61%		
P2A Concentration: Geographic	1.14%	1.18%		
P2A Operational	0.34%	0.16%	0.16%	We have updated our scenario analysis for operational risk under P2A. this has lead to a total charge of £19.6m. The total of P1 and P2A capital required for operational risk is higher by 8 bps vs. our end 2020 position assessment. (Chapter 8)
P2A IRRBB	0.06%	0.21%	0.21%	Capital requirement for interest rate risk may be conservative due to impact of floors in the current rate environment (Chapter 9)
Total Pillar 2A	4.54%	3.76%	2.78%	
PRA P2A policy adj	-1.00%	-1.00%	-1.00%	Standard policy adjustment applied by PRA to all firms since 2020 as a result of the CCyB shifting to a steady state level of 2%
Total Pillar 2A	3.54%	2.76%	1.78%	

<table>
<tr><th>Risk Category / Particulars</th><th>Dec 2020 position</th><th>2021 ICAAP proposal (Jun-21)</th><th>Dec- 2024 forecast</th><th>Comments</th></tr>
<tr><td>Total Capital Requirements</td><td>11.54%</td><td>10.76%</td><td>9.78%</td><td></td></tr>
<tr><td>Counter cyclical buffer</td><td>-</td><td>-</td><td>1.00%</td><td rowspan="5">P2B stress testing add-on: The Stress testing assessment results in in PRA P2B add-on as nil- (over and above the existing 0.56% PRA buffer) as all P2B charges are driven by the CRDIV buffers for 2021 ICAAP with the peak reduction in surplus capital under stress of 2.73% within the 3.5% reference point. The same assumption is applied for 2023/4 ICAAP.
CCyB: OakNorth assumes a 1% rise in CCyB in 2024, broadly in line with what we understand market expectations to be. (the earliest this could currently happen is end 2022). The FPC has signalled the eventual steady state level of the CCyB will be 2%
PRA P2B policy adj: This was put in place by PRA to ensure no CET1 release was obtained by the introduction of the 1% P2A offset whilst the CCyB was still at 0%. We assume it will remain in effect until the CCyB reaches its steady state level of 2%, at which point we would expect it to be removed. (Chapter 10)</td></tr>
<tr><td>Capital conservation buffer</td><td>2.50%</td><td>2.50%</td><td>2.50%</td></tr>
<tr><td>PRA buffer (stress testing)</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>PRA P2B policy adjustment</td><td>0.56%</td><td>0.56%</td><td>0.56%</td></tr>
<tr><td>Total Pillar 2B*</td><td>3.06%</td><td>3.06%</td><td>4.06%</td></tr>
<tr><td>Total Pillar 1+ 2A + 2B</td><td>14.60%</td><td>13.82%</td><td>13.84%</td><td></td></tr>
<tr><td>Total Capital ratio**</td><td>22.9%</td><td>20.8%</td><td>16.8%</td><td></td></tr>
<tr><td>Total surplus over TCR + P2B</td><td>6.9%</td><td>7.0%</td><td>3.0%</td><td></td></tr>
</table>

**Throughout the document OakNorth has used P2B to refer to its total buffers (i.e. not simply the PRA buffer)*

*** December capital positions are inclusive of in year profit. Jun-21 excludes unverified profits.*

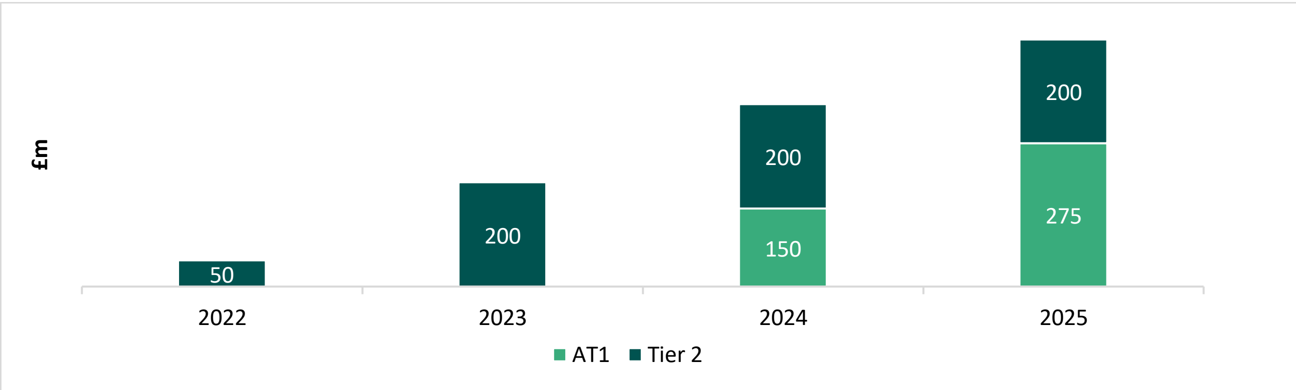
The evolution in component of TCR between end 2020 and the 2021 ICAAP assessment is then highlighted by the below table. In summary, capital reductions are driven by reduced Credit and concentration risk whereas capital requirements for operational risk and interest rate risk have increased relative to the Bank's requirements at the end of 2020.

2021 ICAAP (end 2020)	P1	P2A	P2B	Total
Credit	7.46% (7.72%)	-0.29% (-)	-	10.85% (11.86%)
Concentration	-	3.68% (4.14%)	-	
Operational	0.54% (0.28%)	0.16% (0.34%)	-	0.7% (0.62%)
IRRBB	-	0.21% (0.06%)	-	0.21% (0.06%)
P2A offset	-	-1% (-1%)	-	-1% (-1%)
Buffers	-	-	3.06% (3.06%)	3.06% (3.06%)
Total	8% (8%)	2.76% (3.54%)	3.06% (3.06%)	13.82% (14.60%)

1.1.2 Capital resources forecast

Over the course of the plan OakNorth's high margin model ensures strong organic CET1 generation over the course of the plan, with CET1 capital growing from £529m as at Dec-2020 to £1.5bn by Dec-2025.

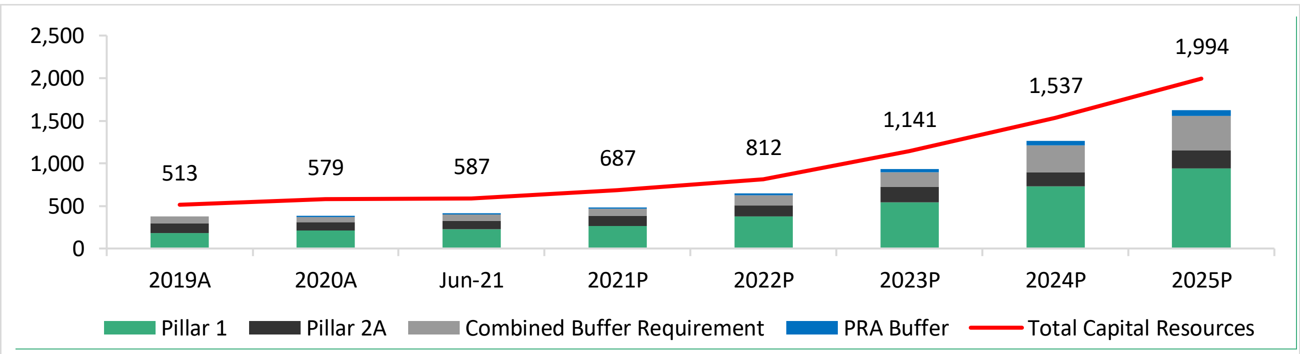
In order to ensure robust levels of capitalization vs requirements across the plan, the Bank intends to supplement this with programmatic issuances of T2 and AT1 over the planning period, including the refinancing of the Bank's existing £50m of T2 capital in 2023, which sees its aggregate levels of AT1 and T2 capital grow as depicted in the chart below:



OakNorth remains in regular contact with a range of investment banks and possible investors and all indications it is well placed to manage such issuances, and its planned program is structured to remain well within current indicative demand levels. OakNorth have successfully issued a £50m T2 round in 2018 and have been managing this issuance with no operational or investor concerns noted.

1.1.3 Capital adequacy forecast

The Bank's earnings trajectory ensures it is well placed to meet CET1 requirements through organic capital generation. This ensures OakNorth remains robustly capitalized versus requirements at all times over the planning horizon as depicted in the chart below:



As detailed in the table below, the Bank continues to meet requirements both at a total capital level, and also in terms of quality of capital required.

Capital Position	FY21	FY22	FY23	FY24	FY25
CET1	19.2 %	16.3 %	14.0 %	13.0 %	12.9 %
CET1 Requirement	9.6 %	9.1 %	9.1 %	9.6 %	9.6 %
Surplus CET1	**9.6 %**	**7.1 %**	**4.9 %**	**3.4 %**	**3.4 %**
Tier 1	19.2 %	16.3 %	14.0 %	14.6 %	15.3 %
Tier 1 Requirement	11.7 %	11.1 %	11.1 %	11.4 %	11.4 %
Surplus Tier 1	**7.5 %**	**5.1 %**	**2.8 %**	**3.2 %**	**3.9 %**
Total Capital	20.7 %	17.3 %	16.9 %	16.8 %	17.0 %
TCR + buffers	14.6 %	13.8 %	13.8 %	13.8 %	13.8 %
Surplus capital vs buffers	**6.1 %**	**3.5 %**	**3.1 %**	**3.0 %**	**3.1 %**

Throughout the plan we demonstrate a strong capital surplus in relation to CET1, Tier 1 and Total Capital Requirements. We supplement strong CET1 generation with issuance of AT1 and Tier 2, ensuring that all times, the Bank maintains a healthy 1% surplus over its minimum (CET1, T1 and total capital) requirements. At the end of the plan, OakNorth Bank will have a CET1 surplus of 3.4%, a Tier 1 surplus of 3.9% and a Total Capital surplus of 3.1%. Further Tier 2 could be issued if OakNorth Bank wished to increase the Total Capital Surplus to greater than 3.1%, or if divergence in requirements versus expectations necessitated.

OakNorth is aware that its current capital requirements, and parallel shifts in risk appetite, are dependent on the outcome of SREPs over the planning period. Whist current issuance and growth plans remain prudently structured around OakNorth's expected requirements, the Bank remains well placed to adapt these plans as and when needed.

1.1.4 Other considerations

Climate risk: For the 2021 ICAAP, OakNorth has assessed the possible risks to its balance sheet from a number of climate scenarios in line with the pathways published for the BoEs BES exercise. This analysis concludes that while climate risk will have an impact on a number of borrowers, the impact is well within the collateral and financial coverage already in place in nearly all instances. Going forward the Bank will continue to expand on this analysis, integrating it alongside our full stress testing framework and building out further stress scenarios including coverage of lower risk segments.

Basel 3.1: OakNorth currently anticipates that the implementation of Basel 3.1 in the UK will fall between the window of 2023-2025, including material changes to the standardized approach the Bank currently uses to calculate RWAs. In our base case plan, OakNorth has assumed implementation from Jan-2023. Lately, it has become clear that this may be delayed. Nonetheless, we have retained the original assumption in our business plan on the basis that the impact of the change is small. This analysis is summarised in chapter 4.

MREL: OakNorth does not meet the minimum thresholds of qualifying within the Bank of England's MREL regime (a balance sheet of greater than £15bn) within the current planning horizon of 2025. Based on current planned growth trajectory, OakNorth may potentially meet the threshold in 2026 or 2027. OakNorth intends to liaise extensively with the BoE and PRA in line with regulatory guidance once it is clear that reaching the indicative threshold is likely.; additionally the Bank will during 2022, have strategic discussions around the strategic 'right size' of OakNorth's balance sheet given the cliff edge impact of the BoE's MREL regime and the impact this would have on cost of funds, NIM and Return on Equity.

Reverse Stress Test: In order to gain comfort with the resilience of its business model to possible capital stresses, in addition to assessing its risk-based capital requirements OakNorth also conducts a reverse stress testing exercise to understand what stress would be required to 'Break the bank' (breach TCR) in an 6m window. This is detailed in chapter 11.

Use and governance of the ICAAP at OakNorth

The ICAAP is reviewed and approved at a minimum annually by both Exco and ultimately the Board. Interim updates may be called for where appropriate. Stress testing exercises are carried out at regular intervals, with capital stress tests undertaken at least biannually and liquidity stresses run on a monthly basis, as well as where required as part of the ongoing risk appetite reviews and as a result of any perceived change in the wider macroeconomic environment or idiosyncratic event which might pose a threat to OakNorth. The ICAAP forms and integral part of the Risk Management Framework and Risk Appetite Statement, and it is the basis of the day to day operations of OakNorth, for example,

- Helping to inform calibration of risk appetite measures and EWIs
- Helping to monitor and assess the management of concentration risk within the loan book

- Informing strategic considerations for the Bank's financial plan, including rightsizing capital planning, consideration of optimal balance sheet scale and ensuring resilience of the Bank business model to stress

OakNorth's 2021 ICAAP has been subject to a robust and intensive production and governance process. Including the below key board meetings:

- 2nd August review of ICAAP stress scenarios
- 20th September- strategy day review of base plan and capital forecast
- 8th November- Review of P2A items and climate analysis
- 15th November- Further review of P2A items and reverse stress test
- 22nd November- Review of P2B and further P2A items
- 26th November- Review of final document

Throughout the document, there has been extensive and robust collaboration between first and 2nd lines of defence, with 2nd line involved early on in challenging the design and approach phase of each of the material capital assessments. In addition, ExCo were extensively engaged throughout the process, both directly in the areas falling within their remits, and collectively through a number of ExCo scrums and review and approval meetings.

Internal Audit were then engaged to produce a review of the document during the late stages of its production, ensuring feedback could be reviewed and actioned in advance of the final document approval.

2 Business and capital plan

Summary: OakNorth currently has a strong regulatory capital position with a significant capital surplus. Given the margins of the Bank's loan products and the overall profitability, OakNorth forecasts a strong capital position throughout the planning horizon. The plan indicates that no issuance of CET1 will be required although modest amounts of AT1 and Tier 2 are assumed to be issued. The comfortable capital position is predicated on strong growth rates in the business and OakNorth has control over its growth as it can scale back or increase lending to react to market conditions.

Introduction

OakNorth's strategy and business plan is fundamentally built around continuing to grow its core proposition. The sizeable lending gap in its core business segments provide it with ample room to grow and the OakNorth customer proposition has enabled it to grow faster than the market. There are also a number of geographies and product segments which it has identified as additional levers to supplement this growth.

OakNorth has then further considered what is required to support the growth potential; with particular focus in 2021 on operations, technology, capital requirements and funding / liquidity plans.

Growing the core

A. Target Addressable Market: Growth Potential in OakNorth Bank's Key Segments

OakNorth structurally benefits from the high level of unfulfilled demand for loans from SMEs (as demonstrated by the sizeable lending gap between loan demand from SMEs and actual SME lending).

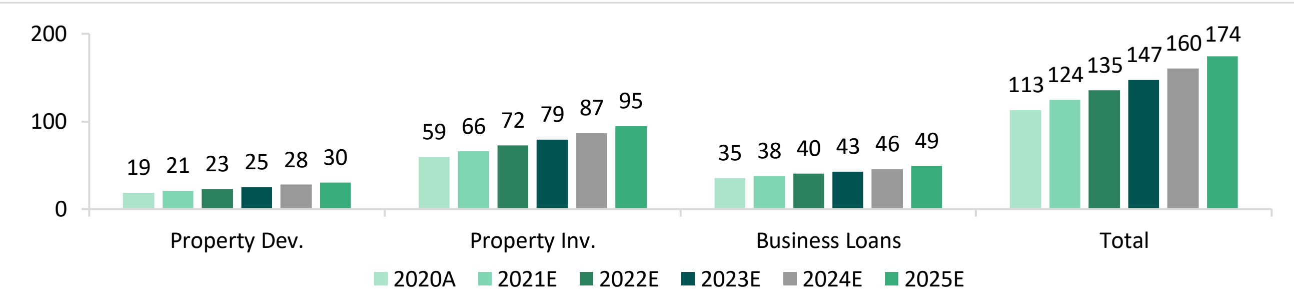
	2014	2015	2016	2017	2018	2019	2020
SME Loan Demand (£bn)	214	228	237	232	241	**254**	**294**
Actual SME lending (£bn)	171	164	166	165	166	**168**	**213**
Lending Gap (%)	25%	39%	43%	41%	45%	**51%**	**38%**

OakNorth concentrates its product offering around three core segments of the market:

- Property Development
- Property Investment
- Business Loans

This translates into a very large target addressable market (£113bn new volumes as of FY 2020) and this is forecast to grow by 9% CAGR from 2020 to 2025. The chart below focuses only on those sectors where OakNorth currently lends (i.e., excluding sectors such as agriculture, mining, oil & gas etc.)

Market – Flow Projections[1]



The total outstanding balances as at 31-Dec-2020 in OakNorth's target sector was £421bn and OakNorth's market share was ~60bps. New balances drawn in 2020 in OakNorth's target sectors was £113bn and this is expected to grow at 6% per annum, giving OakNorth considerable runway to continue to build on its success to date.

The Bank has based its projected lending flow volumes on both its expected growth of the market as well as its historical performance. OakNorth anticipate achieving total volumes of £2.2bn in 2021 (vs. £1.2bn last year, although 2020 was impacted by the pandemic).

OakNorth Bank Flow Volumes

	Property Dev.	Property Inv.	Business Loans	Total
2020	£0.5bn	£0.3bn	£0.4bn	£1.2bn
H1 2021	£0.5bn	£0.3bn	£0.3bn	£1.2bn
2021E	£0.9bn	£0.7bn	£0.6bn	£2.2bn

[1] *Sources for total addressable market: HM Land Registry, RBS independent Lending Review (Oct-2013), BoE ONS and Moody's base case (Oct-2021).*

B. Sector Outlook for OakNorth's Key Sectors

The outlook for these key sectors where the Bank currently operates is positive or stable as summarised below. The majority of its loan book is in sectors that it sees as being strong and resilient. While there are some sectors where OakNorth currently has a cautious view, any credit impact has been mitigated by proactive supportive measures for impacted borrowers.

OakNorth Bank Sector Outlook

Sector	% Facility (Aug-21)	Outlook Summary (OakNorth View 2022 to 2024)
Residential Real Estate	43.2%	Strong & Resilient
Retirement living	6.2%	Strong & Resilient
Co-living	1.6%	Strong & Resilient
Student Accommodation	4.8%	Cautious–Top tier locations to completely rebound
CRE – Industrial	9.7%	Strong & Resilient
CRE – Office		Cautious
CRE – Retail		Cautious – Discount and home goods retail to fair better
Hospitality – Hotels	14.8%	Cautious – Leisure led to rebound faster
Hospitality – Pubs & Bars	2.3%	Steady but cautious – Regional pubs to rebound faster
Hospitality – Restaurant	1%	Steady but cautious – Limited/Quick Service to rebound faster
Care Homes	3.4%	Resilient
Others	12.9%	--

Of particular note, the Bank would highlight (1) the strong pickup in UK residential real estate transactions after the low in 2020, (2) low vacancy rates and strong absorption & delivery in Commercial Real Estate – Industrial and (3) strong forecast demand for care home beds.

C. Driving New Lending Volume for OakNorth

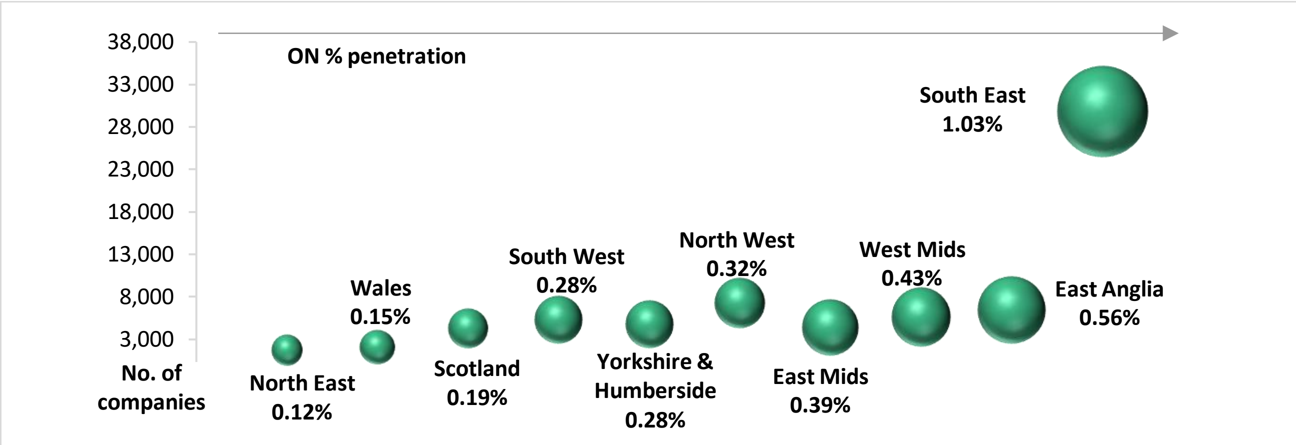
To drive its new lending volume, OakNorth looks at three core avenues for growth: its existing market / client base, expansion into new geographies and expansion into new sectors / distribution channels. These three avenues for growth will be supported by OakNorth's newly created marketing function: since inception, the Bank has spent very little on marketing (less than £0.4m since 2015). The Bank recently hired a Head of Marketing who is building a dedicated team to spearhead marketing efforts. This new team is expected to meaningfully contribute to growth by creating more leads through proactive engagement with the target customer base and support expansion into new geographies, sectors and distribution channels.

Existing Market and Clients

As highlighted above, these sectors have significant scope for further growth; moreover, OakNorth currently has a very small share of the market implying material upside for further growth. Forecast flow in these core segments and geographies will give the Bank a firm foundation to continue growing through addressing unmet needs in the 'missing middle' segment. By utilising best-in-class marketing communication practices and technology, OakNorth expects to significantly increase brand awareness within its core market and clients. By moving from transactional communications into more meaningful customer engagement focused on their overall experience, where customers have access to value-add information and content, OakNorth will be able to deliver better value to customers as well as generate greater volumes.

Geographic Expansion

Geographically, OakNorth plans on increasing regional penetration by expanding its capabilities (in terms of market knowledge, people and marketing) in low penetration regions. Current penetration by region ranges from 0.1% to 1% across UK regions giving the Bank a very meaningful opportunity to grow (subject to identifying, attracting, developing and retaining talented originators) as highlighted below. The focus on geographic talent acquisition will be reinforced with localised marketing campaigns across the country: email marketing, local publications, events and social media.



New Sectors / Distribution

Over and above geographic expansion, there are a number of sectors and distribution channels OakNorth are exploring to drive further growth as detailed below. Through a comprehensive data exercise, the Bank has identified multiple sectors and channels that are more likely to be interested in our product offering which we were not hitherto addressed through a consistent marketing approach.

New marketing awareness campaigns will be implemented to increase brand and product offering exposure to the Bank's core markets. These multi-channel, integrated and segmented campaigns will focus on providing valuable and insightful content that can help prospective customers grow their businesses. OakNorth will make use of a wide range of marketing technology and communication channels: direct mail, email marketing, social media, physical and digital events, printed and online publications.

New Sectors: The Bank has identified an array of new sectors where we could market and expand. This data exercise is in progress and volumes from these sectors are not included in our plan: education, data centres, logistics and childcare.

New Channels – Syndication: OakNorth has helped a number of clients successfully grow their business but some of them are now outgrowing its ability to lend vs their required ticket sizes. The Bank is also exploring syndication solutions as means to address client growth aspirations while maintaining prudent single party exposure limits. This will enable the Bank to fulfil demand from larger clients looking to take on larger borrowing amounts but with OakNorth distributing part of the loan to other lending partners in exchange for a fee. A small amount of fees from syndication opportunities is included in its plan - £5m in 2022 increasing to £12m by 2025.

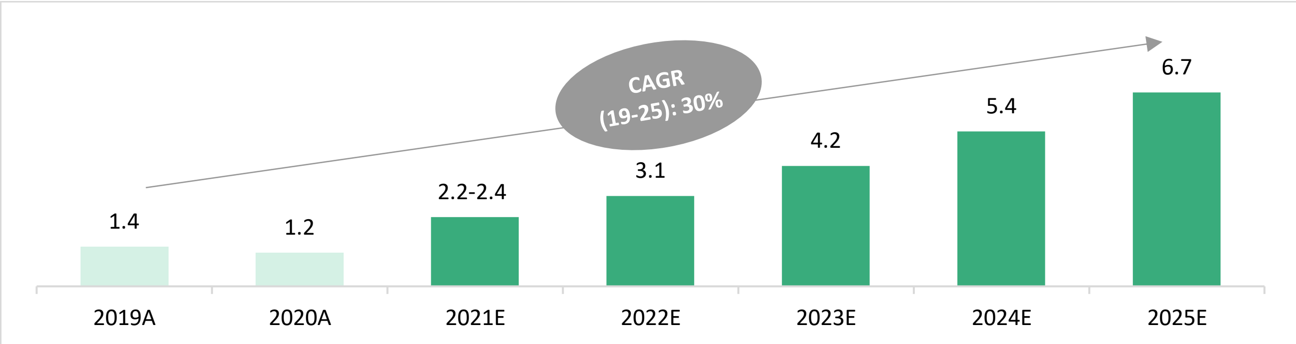
Differentiating OakNorth to win further market share in existing markets as well as new markets / geographies / sectors OakNorth's core focus since inception has been on providing customers with a superior borrowing experience and a key benefit of this has been its growth via the flywheel effect. By consistently exceeding customers' expectations, they have shared their experience with other borrowers and also reward OakNorth with repeat business. As highlighted above, the Bank's marketing spend thus far has been negligible. This approach has been central to its success so far and OakNorth believe more than 80% of its loans have been originated by referrals via existing customers or their professional advisers. Moreover, as of 31st July 2021, 38% of borrowers have more than one loan with OakNorth underscoring the value of repeat business. The Bank's ability to communicate and engage with existing customers via automated marketing processes, leveraging the new marketing function and technology, will enhance borrowers' experience and expand its referral base. OakNorth recognises that for it to continue to enjoy this growth and to tap into additional growth avenues it needs to maintain the differentiating factors that make it competitive. OakNorth believes the following underscore its customer proposition:

- Focusing on a faster 'time to yes' and 'time to no' drives momentum and operational efficiency but also provides customers what they want: speed and certainty (one way or the other). This also makes the Bank more efficient as a business only spending time on 'true' opportunities.
- A relentless focus on the customer's borrowing experience which has played a significant role in the Bank's high referral rates as highlighted above. By ensuring OakNorth exceeds customer expectations, customers reward it with repeat business and also refer it to their contacts generating further business for the Bank. Interestingly, this focus has even resulted in borrowers being declined for borrowing referring contacts to OakNorth (given the short 'time to no' accompanied with rationale and an overall more personal touch).

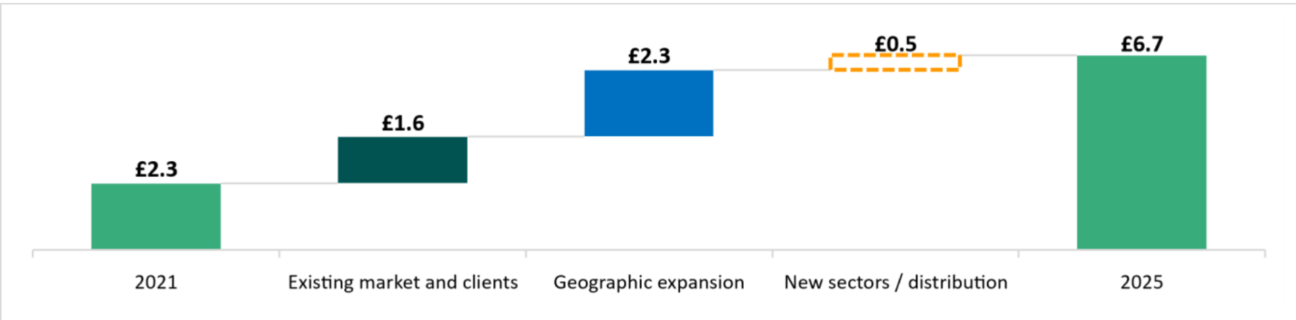
D. Volume forecasts

In aggregate, the Bank forecasts facility volumes to grow by a CAGR of 30% from 2019 to 2025 as highlighted below.

Aggregate Facility Volume Forecast – New Facilities Signed (including Re-financings)



As highlighted above, OakNorth sees this growth being evenly distributed between existing markets/clients and geographic expansion with some incremental growth potential coming from new sectors / distribution channels. The Bank has detailed below how it expects to 'bridge' the lending volumes from 2021 out to 2025.



OakNorth has assumed that its business mix remains broadly unchanged which results in new facilities signed by product as detailed as follows.

New Facility Volumes by Product

	2019A	2020A	2021E	2022E	2023E	2024E	2025E	CAGR 19-25
Property Development	529	436	782	1,200	1,695	2,136	2,651	31%
Property Holding Development	153	38	264	150	189	252	345	15%
Property Investment	157	188	439	486	673	920	1342	43%
Prop Holding Investment	104	116	261	350	471	605	863	42%
Business Trading	322	265	606	798	975	1,225	1254	25%
Specialty Finance	114	124	44	141	172	216	221	12%

In terms of pricing, the Bank has taken a normalised view on where it believes spreads will be in the coming years across the various product segments:

Pricing of New Facility Volumes by Product

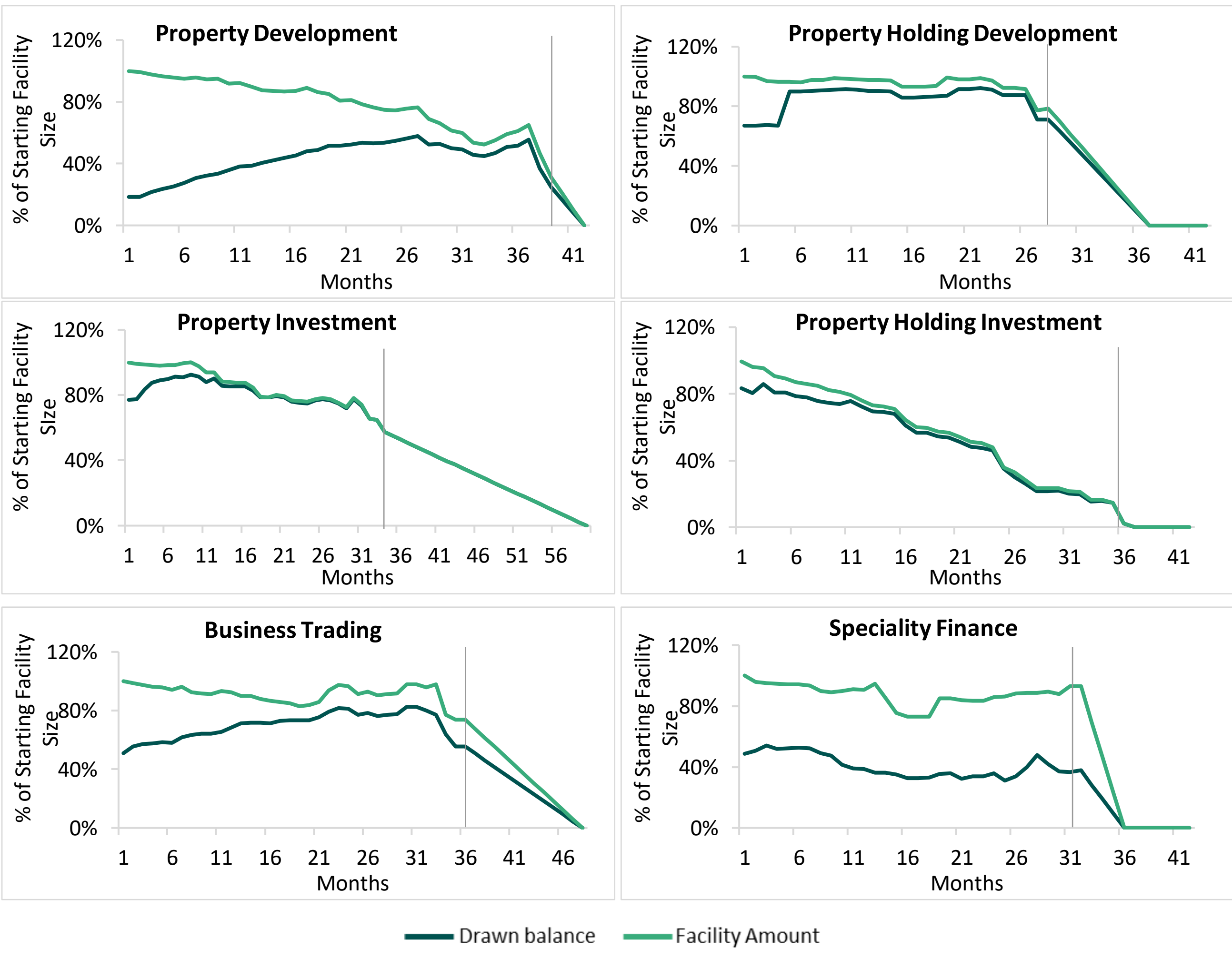
	Pre 2019A	2019A	2020A	YTD Jul-21A	Plan Target
Property Development	8.9%	8.2%	8.1%	7.8%	8.1%
Property Holding Development	8.2%	7.8%	7.6%	7.6%	7.6%
Property Investment	5.4%	5.0%	5.0%	5.5%	5.2%
Prop Holding Investment	8.0%	7.0%	8.4%	6.5%	7.5%
Business Trading	6.1%	5.9%	6.3%	6.1%	6.3%
Specialty Finance	5.9%	6.5%	6.5%	6.8%	6.5%

Projecting Loan Behaviour Over the Life of the Plan

One of the key drivers of OakNorth's revenue base is the quantum of the overall facility that a borrower draws as well as the duration of the facility itself (given the actual, experienced duration can differ from the contractual maturity when factoring in the timing of the underlying project, asset sales, extensions etc.).

In a material improvement to last year's ICAAP exercise, this year OakNorth has overlaid behavioural curve analysis to its loan book to assess with greater accuracy how it believes facilities and, in particular, drawn balances will behave over time. The Bank has developed the curves based on a vintage analysis of month-over-month drawn balances / facility size and their evolution over time as a percentage of the initial facility amount signed. In the outer months, where there is limited data available, the Bank has applied a judgemental run-off profile. The vertical lines in the charts represent the cut-off beyond which judgement has been applied.

While data is still relatively limited, given OakNorth has only ~36 months of good history (due to the Bank being in existence for just over 5 years and the natural time it takes to get to a meaningful portfolio size), it believes this is still a more accurate way to plan the future evolution of the portfolio. As the Bank accumulates more data and the loan book becomes more seasoned, this analysis will become more and more accurate. OakNorth will continue developing these curves with more history each month and also by back-testing future performance against predictions based on these curves.



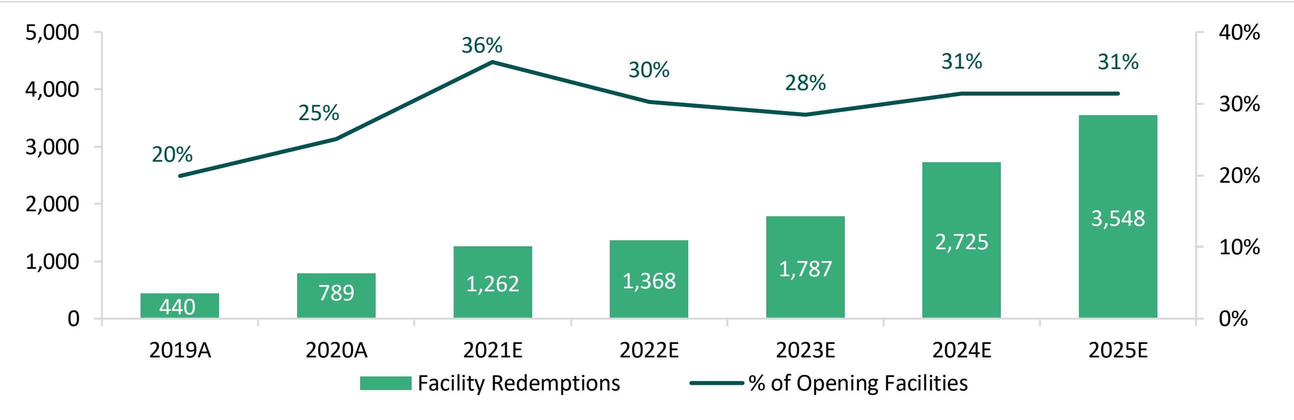
Repayment Rates

A key theme in 2021 was the increase in repayments driven by a number of factors:

- Low new volumes in 2020 (and therefore a greater proportion of the loan book has been outstanding for more than 1 year)
- The uncertainty and slowdown around COVID in 2020 leading to borrowers potentially delaying some repayments into 2021
- Acceleration in property sales and general competitor activity in 2021 due to very strong market conditions as well as short-term factors such as the stamp duty holiday

While there is the potential to see continued fluctuations, OakNorth expects repayment rates in 2022/2023 to be much slower given a higher proportion of end of year balances will have been outstanding for less than 1 year. By 2024 and 2025, the Bank expects the repayment curve to be more representative of a seasoned portfolio

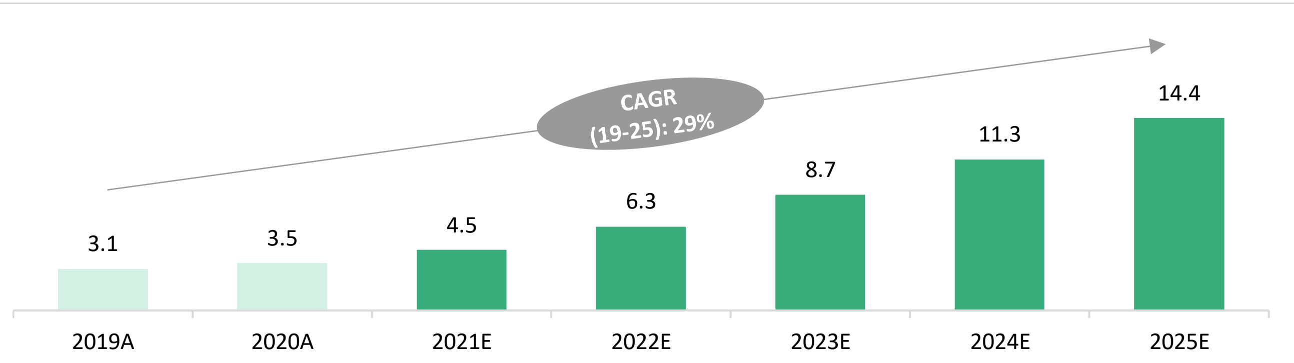
Projected Repayment Levels Over the Forecast Period



Build-up of Facility and Drawn Balance

The aggregate output of the aforementioned analysis results in a build-up of facility balances and drawn balances as follows:

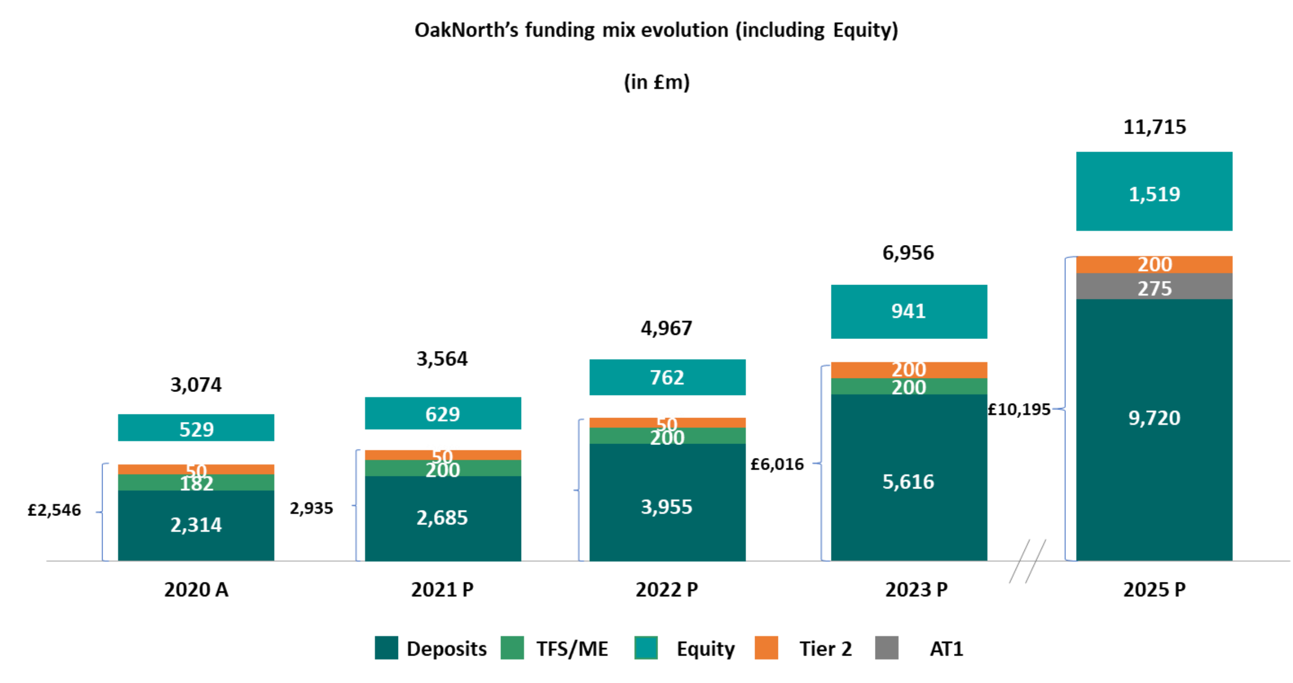
Facility Balances



Drawn Balances vs. Facilities £bn	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Drawn	2.1	2.5	3.1	4.3	6.0	7.8	10.1
Undrawn	1.1	1.0	1.4	2.0	2.7	3.5	4.3
Facilities	3.1	3.5	4.5	6.3	8.7	11.3	14.4
Total Utilisation Rate	**66%**	**71%**	**68%**	**68%**	**69%**	**69%**	**70%**

OakNorth's funding plan

OakNorth's funding plan is developed in line with its loan book growth expectations and takes into account appropriate liquidity buffers required to withstand plausible stress scenarios. The Bank's main source of liquidity is online retail deposits with a small portion of funding coming from the Bank of England's TFSME scheme alongside historical equity raises and a Tier 2 bond issuance. The Bank also expects to build an active AT1/T2 raising plan which will be calibrated in line with requirements determined as part of the ICAAP. The Bank's expected funding mix evolution over the ILAAP timeframe is represented in the chart below:



Deposit raising plans

The UK deposit market size is estimated at £1.6 trillion with potential slowdown in growth post the surge in household savings resulting from COVID-19 (2020 growth ~10%) versus the 3-4% historical growth per annum based on Jan 2008 - Dec 2020 CAGR BoE market data. Within this large market, OakNorth Bank's primary focus is on time deposits and ISAs (collectively 28% of the overall market) and within this area of focus, OakNorth Bank's deposit book of £2.2bn (as of 30th June 2021) represents a market share of ~0.5%[1] of all time deposits & ISAs. Over the next 5 years, the UK deposits market growth is expected to average ~3% p.a.

[1] *Source: Jan 2008 - Dec 2020 CAGR BoE market data*

During the planning horizon, OakNorth expects to grow its deposit portfolio from £ 2.4bn (including ~£127m Easy Access and Easy Access ISA)) as of June 30, 2021 to £ 9.7bn by Dec 2025. During this period, the Bank will operate a multi-pronged strategy (see details below and in Chapter 3) to grow the portfolio as detailed in the table below.

Deposit book - £m (EoP)	2020	2021	2022	2023	2024	2025	CAGR
Direct – existing products	**1,701**	**1,865**	**2,842**	**4,163**	**5,152**	**6,089**	**29%**
FTDs + NA	1,265	1,368	1,975	2,633	3,184	3,727	24%
FR ISAs	231	285	515	737	902	1,111	37%
EA	82	104	210	520	705	817	58%
EA ISA	56	44	70	188	259	312	41%
Others	66	64	72	85	102	121	13%
Partners – existing products	**613**	**820**	**1,113**	**1,252**	**1,434**	**1,809**	**24%**
FTDs + NA	94	180	413	593	922	1,305	69%

Deposit book - £m (EoP)	2020	2021	2022	2023	2024	2025	CAGR
LISA	428	551	552	446	242	216	-13%
EA	13	38	86	139	151	153	64%
EA ISA	49	44	57	68	113	129	21%
Others	30	7	6	6	5	5	-28%
New Products				**201**	**745**	**1,823**	
Total	**2,314**	**2,685**	**3,955**	**5,616**	**7,331**	**9,720**	**33%**
Total EA/EA ISA % of total deposit book	9%	9%	11%	16%	17%	15%	

OakNorth's funding growth is based on the following execution plan

2.1.1 Grow share in current areas of focus

Based on our funding needs, we will target a market share of 1.4% of all time deposits and ISAs (vs. current market share of 0.5%). The Bank will achieve this growth through adopting a three-pronged strategy elaborated below.

a) **Offering Competitive Pricing to attract new customers**: OakNorth Bank offers attractive returns to its customers for their savings and aims to be typically #4-7 rank on the rate tables and selectively on the Best Buy tables from time to time. In order to raise the planned deposits, the Bank estimates to feature on the 'Best Buy' tables by providing competitive interest rates to attract new customers in the relevant periods for time deposits and fixed rate ISA (excluding LISA) products and raise new deposits of £2.2bn in 2022 and £3.0bn in 2023.

b) **Retaining and growing existing customer relationships**: OakNorth aims to ensure that existing customers have the right value proposition when it comes to renewing their relationships with the Bank. OakNorth's focus has yielded strong customer delight as evidenced by our cumulative NPS (YTD October 2021) of 80. In turn, this has meant that in H1 2021, 52% (compared to 42% in 2020) of our time-deposit and fixed rate ISA products have re-invested into a new similar product at the renewal date; This re-investment rate has further increased to 62% in Q3 2021. Over the planning horizon, we target this ratio at 62%. To support this objective, the Bank is working on a number of initiatives based on customer feedback that include

   - Loyalty rates – implemented
   - Instant account funding, without impacting current AML framework, to be launched in Q4 2021
   - Increased auto approval – Q4 2021
   - Rate Change automation to permit timely rate changes - Q2 2022
   - Faster and more tailored Customer Comms - Q2 2022
   - Improved deposit customer platform which will ensure self-service and increased security - Q2 2022 onwards
   - Mobile app: improved customer experience including "new look" onboarding, and enhanced servicing features

c) **Deepening and diversifying partner relationships:** OakNorth has followed a model of Deposit diversification by working with a series of deposit partners. These deposit partners are financial services providers with adjacent and complementary objectives to that of OakNorth Bank. The Bank works with 5 key Deposit partners which are better segmented into the following 3 categories basis their business models-

   - Deposit Brokers – Flagstone, Raisin and Insignis
   - Neo-banks- Monzo
   - Fintech apps- Moneybox

In H1 2021, <15% of our new deposits (£6m per month) came from our partner channel. The low penetration in early 2021 was deliberate as slower balance sheet growth meant we did not need to leverage this channel much. Since September 2021, we have made a concerted effort to pilot different pricing strategies in this channel and have been able to raise ~30% new deposit inflows from these channels (£23m per month). Over the planning horizon, we plan to both add more partners and increase flows from such partners. The Bank estimates that, based on the opportunity available, the deposit book from existing and new partners (excluding new products) can increase from ~£820m at end-2021 to £1.3bn by end-2023 and £1.8bn by end-2025. The Bank, under the overall direction of the FCAs Dear CEO letter issued in

2021, is also working closely with all Deposit partners to further improve the overall partnership framework including on compliance and governance.

2.1.2 New products

In line with OakNorth's objective of improving and deepening customer relationships, the bank will also continuously evaluate introducing new savings solutions for its existing and new customers. This approach will enable OakNorth to provide a better range of savings for a wider range of demographics- i.e. from young to older savers. To achieve this 'widening of funnel' approach, the Bank will continuously innovate as well as solve for evolving customer requirements.

One possible opportunity for OakNorth Bank is to develop savings solutions where customers actively and periodically contribute to a savings pot. This subscription nature of such products will help the customer systematically build their portfolio over a longer timeframe than one-off rate driven products. Products like direct cash LISA and SAYE deposits (working with share save schemes) are excellent examples of such granular subscription savings schemes and the Bank is currently evaluating these 2 products with a view to complete the analysis in Q1 2022.

Planned volumes from new products in 2022 and 2023 are minimal (Nil in 2022, £200m in 2023); the bank has approximately 2 years to launch these products which it deems sufficient to complete evaluation, build as required, pilot and launch.

2.1.3 TFSME funding plan

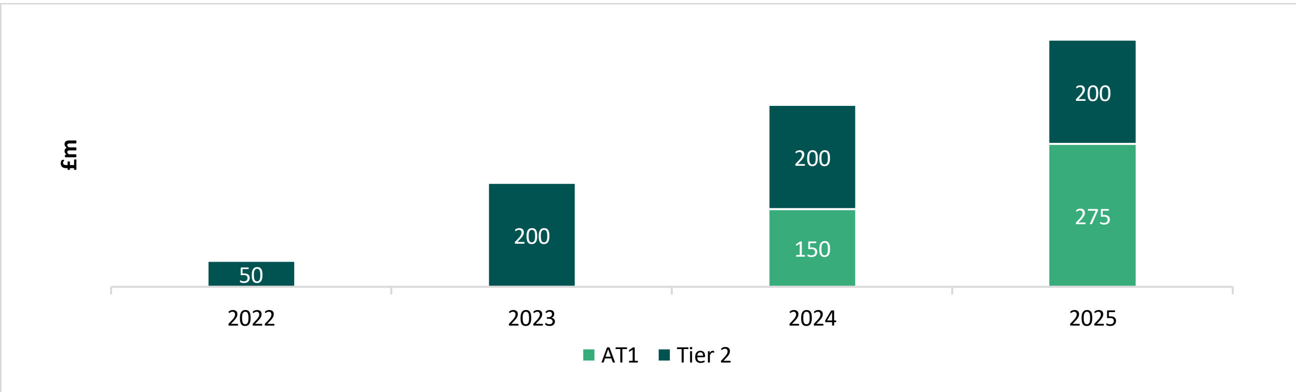
OakNorth has drawn £200m from the Term Funding Scheme with additional incentives for SMEs (TFSME) collateralised through a combination of eligible loans and gilts (~£110m loans / £140m gilts) with the aim of eventually replacing the gilts pledged with loan collateral. We estimate by Dec. 2023, we will have reduced the gilts substantially. The scheme expires in October 2025.

2.1.4 CET1

Over the course of the plan OakNorth's high NIM model ensures strong organic CET1 generation over the course of the plan, with CET1 capital growing from £529m (20.0%) as at Dec. 2020 to £1.5bn (12.9%) by Dec 2025.

2.1.5 AT1/T2 funding plan

In order to ensure required levels of capitalization vs requirements and ICAAP determined buffer levels across the planning horizon, the Bank intends to supplement its capital resources with programmatic issuances of T2 and AT1 over the planning period, including the refinancing of the Bank's existing £50m of T2 capital in 2023 (balances evolution demonstrated in the table below):



OakNorth has experience in issuing and managing a Tier 2 issuance without any issues arising and based on expected market conditions and strong financial profile have a high degree of confidence that the Bank should be able to attract the modest AT1/T2 required amounts comfortably.

2.1.6 Exploring alternative funding

OakNorth is currently in early-stage discussions with several investment banks in relation to the possibility of executing a retained securitisation transaction with the primary aim of improving contingent liquidity sources. This initial transaction will also provide learnings for the future as the Bank seeks to develop its funding model diversification strategy. The benefit of this funding source has not been considered in the 2021 ILAAP.

Conclusions:

OakNorth's funding plan is based on its loan book growth expectations and maintaining sufficient liquidity buffers to withstand foreseeable stress scenarios. As the Bank charts its growth up to 2025, it will continue to build on-line retail deposits as its primary source of liquidity. To grow the retail deposits from the current £2.3bn to £9.7bn in 2025, the Bank will deepen its existing customer base by increasing retention & wallet share, introduce new low-cost and sticky products and increase penetration with both existing & new deposit partnerships. A majority of OakNorth's deposits will continue to be highly predictable time deposits and fixed-rate ISAs (£6.1bn out of £9.7bn in 2025) and with individual depositor balances up to £85,000 per customer in 95%+ cases. The Bank also plans to increase its share of Easy Access products and other potential new products including LISA and SAYE. In addition to retail deposits, the Bank's funding plan will be supplemented by TFSME, AT1, Tier2, and CET1 resources.

Operations and Technology

Over the next four years OakNorth forecasts its origination volumes to increase significantly to result in a total facility size of in excess of £14bn. Accordingly, the Bank recognises it will need to scale the business operationally as well as develop a tech-first strategy.

Current lending originations are mostly driven by sales and are consequently heavily referral led. However, the current onboarding journey from a client's perspective is largely analogue and manual. The Bank has identified a number of areas where this can be streamlined to improve the customer experience whilst improving productivity and ability to scale:

- Digital onboarding and servicing journeys assisted by a personalised human touch and additional best-in-class platforms
- Digitize data & documentation collection thereby maximising client self-service
- Source client information from trusted 3rd parties, where possible
- Create and use collaboration platforms for lawyer, brokers, surveyors, etc.
- Automate the transactional and minimise manual effort while preserving the audit trail

To this end, OakNorth have identified a number of areas where OakNorth as a business needs to do things differently:

- Leverage best-in-class models, lending marketplaces and enabling platforms
- Build products with rich market insight
- Continue to evolve as a Fintech institution focusing on customer delight
- Redefine customer obsession at every leg in the journey – across customer onboarding, transacting and super servicing-led customer retention
- Design scalable / replicable processes differentiated through (i) fully digitised journeys (ii) process automations (iii) process transformations in all key areas

To address these areas, the Bank is:

- Investing in best-in-class people & technology: Hiring world-class professionals from the start-up ecosystems in both UK and India; besides partnering with best of Fintechs to "Consumerize SME Banking"
- Hyper focus on design & research: uniform style guides and tone of voice that is driven by the Bank's positioning & growth alongside user / market research insights to drive product design
- Well-defined Product Missions/ KPIs: which are closely aligned to the Bank's growth and retention metrics, providing simple yet clear north star for every leg of customer engagement
- Single-threaded product and engineering teams: close-knit cross-functional teams which are "empowered" to build retail-like digital journeys; decentralising micro decisions and singular focus
- Customer experience at the heart of every decision: which transcends beyond technology products, into business processes, people interactions, how the Bank trains teams, how OakNorth speaks in its meetings
- Scaling and building capability in its second and third line to ensure it is able to deliver its growth aspirations in a prudent and risk-aware manner

The expectation is that this will result in appreciable impact across a number of strands:

- Potential new participation models through embedding OakNorth's product proposition into anchor clients, marketplaces and vertical ecosystems leading to increased referrals and recognition
- Market recognition /award-winning customer journey backed up by industry-recognised achievements and enhanced Net Promoter Score ('NPS') across all key touchpoints
- Execute enhanced digital journeys to enable the plug-in to partnerships and digital marketing. Potential to support meaningful business development growth
- Improved, efficient customer onboarding, transact & servicing through streamlined and personalised client journey digitisation - favourability, retention and referrals to drive retention targets and referrals
- Improve scalability & avoid linear variable FTE growth vs. loan book growth

Key Technology Initiatives

Central to OakNorth's proposition as a bank and as means to achieve the operating leverage assumptions in the business plan, it has identified as number of technology initiatives. These will enhance the customer experience, operational efficiency and its overall resilience as an organisation. To this end OakNorth are focusing on the underlying product (be it a loan or a savings account), taking a holistic approach and dedicating single-threaded teams to each product to de-risk execution. In the next few sections, we detail a select number of technology initiatives across various areas.

Lending

- Customer Application Portal: the Bank is developing a portal through which lending customers can apply for lending
- Customer Due Diligence Portal: OakNorth are also developing a portal through which customers can provide all relevant on-boarding information. This will also be integrated with all relevant third-party tools.
- Automated loan particulars/documentation: Finally, the Bank is developing capabilities to automatically generate contracts using existing banking software such as nCino.

Deposits

- Principally, the OakNorth website is being revamped to improve the overall customer experience with a particular focus on transfers from current accounts.
- The OakNorth online banking proposition is also being refreshed to improve customers' ability to self-serve and further improve customer retention.

Risk and Resilience

- Core Assets: Improving the core banking systems such as Nucleus and Mambu to cover areas such as reserves/restructuring
- Develop the Forward Looking Rating (FLR) tool successfully used in underwriting and portfolio management to be used wing2wing within the business; incorporate PD modelling capability and make compliant with IFRS9.
- Implementing a data warehouse which in the future will enable the Bank to drive data analytics in a scalable manner
- Automation of Regulatory reporting
- Implementing an industry standard Governance, Risk Management and Control ('GRC') tool.

Considerations Around Scalability

These initiatives and an overall focus on operations and technology are critical to the overall business plan. Over the planning horizon a 17% compounded growth rate in operating expenses (from 2020 to 2025) compared to a compounded growth rate in the net drawn book of 32% over the equivalent period is forecasted.

Work is under way to update detailed scaling and cost plans to quantify the required increase in variable costs as well as potential technology savings that can bring down the Bank's cost base over time. It is recognised that without significant investment in technology, variable headcount could grow by a multiple of 1.9x by mid-2024 (equivalent to 170 FTEs);

however, with tech-led improvements, OakNorth estimates this scalability could improve significantly to 1.6x (equivalent to 118 FTEs).

Capital

OakNorth Bank Capital Plan

OakNorth Bank currently has a strong regulatory capital position of £638m as of June 2021 which translates into a total capital adequacy ratio of 22.6% (including unverified profits) and 20.8% (excluding unverified profits), representing a capital surplus of 8.0% over the current TCR (P1+P2A) and capital buffers (of 14.6%).

Capital Issuance

Throughout the planning horizon OakNorth forecasts a strong capital position with no issuance of CET1 required. It is assumed modest amounts of Tier 2 issuance (including that necessary to refinance the existing £50m Tier 2 which is callable in June 2023) and we will also look to issue AT1 from 2024 onwards.

OakNorth Bank Issuance Plan	2021E	2022E	2023E	2024E	2025E
Additional Tier 1	-	-	-	£150m	£125m
Tier 2 Issuance	-	-	£200m	-	-
of which Refinancing	-	-	*£50m*	-	-
of which Net New Issuance	-	-	*£150m*	-	-
Total Debt Capital Issued	-	-	£200m	£150m	£125m

OakNorth remains in regular contact with a range of investment banks and possible investors to ensure it is well positioned to initiate a program of issuances, and its planned program is structured to remain well within current indicative demand levels. Investor demand interest remains high with pricing indications from investment banks suggesting new Tier 2 could be issued materially cheaper than the current coupon of 7.75%. For conservatism, OakNorth has assumed it will be issuing Tier 2 at 6% and Additional Tier 1 at 9%; however, current pricing feedback from investment banks is that the Bank would be able to price materially inside these levels. OakNorth recognises that this will be subject to market developments and will keep a close eye on this. The Bank plans to finalise its detailed program for AT1 and T2 issuances by March-22 for review with the Board. OakNorth has further assumed a well-spaced, issuance program to avoid oversupplying the market in a given period while retaining a staggered maturity profile.

RWA Assumptions and Implementation of Basel 3.1

The forecast plan reflects OakNorth's current understanding and expectation in relation to the implementation of Basel 3.1. As an over-arching working assumption, given the Bank's current RWA density, which is in excess of 90%, and given the Bank does not use AIRB we are expecting Basel 3.1 to have a limited impact on the capital position. As highlighted in chapter 4 the Bank expects the risk weights of the various OakNorth products to change as detailed further below. There are a number of areas of uncertainty and areas that require clarification (in particular around the role played by LTV and undrawn capital charges, given the nature of OakNorth's loan book). The Bank would anticipate these would be addressed in the Bank of England consultation now expected next year. For the time being, the Bank has taken a conservative approach in determining where risk weights could change under the new regime:

- Property Development: from 140% to 138%
- Property Holding Development: from 114% to 90%
- Property Investment: from 100% / 35% to 85% / 40% (depending on LTV)
- Property Holding Investment: from 100% to 90%

OakNorth will also need to assess the Basel 3.1 impact on Operational Risk and the new methodology factoring in the Interest, Lease and Dividend Component (ILDC), the Services Component (SC) and the Financial Component (FC). The Bank anticipates clarity will come from the Bank of England consultation paper next year but adopting conservative assumptions OakNorth expects the revised Operational risk RWAs will be very much in line with that of the current regime.

Operational Risk RWAs £m	2023E	2024E	2025E
Existing Regime	350.1	464.6	631.5
Potential Basel 3.1 Approach	348.7	472.1	629.4
Delta	(1.4)	7.6	(2.1)

OakNorth notes the Bank of England's announcement on 1st November 2021 regarding the potential delay to the implementation. In its forecast plan, the Bank has assumed the implementation of Basel 3.1 takes place in January 2023. Should Basel 3.1 be implemented at a later date, this would have a marginally negative impact on OakNorth's capital position (a c.6bps reduction in 2023 CET1 and an 7bps reduction in total capital). For planning purposes, the Bank has retained the assumption that Basel 3.1 will be implemented in 2023 given the negligible impact any delay would, have on its capital position.

	Implementation: Jan-2023		Implementation: Post 2024		Delta	
Capital Position	2023E	2024E	2023E	2024E	2023E	2024E
CET1 Ratio	13.97%	12.99%	13.91%	12.92%	(0.06)%	(0.07)%
Tier 1 Ratio	13.97%	14.63%	13.91%	14.55%	(0.06)%	(0.08)%
Total Capital Ratio	16.94%	16.82%	16.87%	16.72%	(0.07)%	(0.10)%

Funding Plan

In the following Chapter 3 we detail our overall funding plan.

Other Key Assumptions

Credit Loss Assumptions

In terms of write-offs, the Bank assumes £10.5m of write-offs relating to current Stage 3 loans. This is split across the coming three years as follows: 2021: £2m, 2022: £7m and 2023: £1.5m. From 2023, OakNorth assumes additional write-offs equal to 10bps of average receivables which results in aggregate write-offs as follows: 2023: £5.0m, 2024: £6.8m and 2025: £8.8m.

In terms of provisions coverage, the Bank targets coverage as of December 2021 of 1.05% which is forecast to reduce to 0.70% by December 2022 and 0.60% thereafter.

Tax Rate Assumptions

Until April 2023, OakNorth has assumed corporation tax and the banking surcharge will follow the existing regime (i.e. a corporation tax rate of 19% and a banking surcharge of 8% on profit before tax in excess of £25m).

The bank assumes that the corporation tax will increase to 25% in April 2023 and the banking surcharge will drop to 3% on profit before tax in excess of £25m. The change, announced by the Chancellor, to increase the threshold to £100m from £25m has not been updated at this stage.

MREL considerations

The current threshold for a bail-in resolution strategy / MREL is a total balance sheet size of £15bn-£25bn. OakNorth does not currently expect to exceed this threshold in the planning period. In addition, the most recent Bank of England consultation paper sets out a transition period reflecting when MREL will phase in once this threshold is reached. This will involve banks being required to notify the Bank of England when they expect to exceed £15bn in total assets in the following three years. A bank's MREL transition would then start at (or after, but not before) that point in time. In OakNorth's case, this could be in 2026 or later subject to future planning assumptions. Assuming 2026 is the earliest date when the balance sheet threshold would be exceeded, MREL would then step up over a 6-year period after this time: 2028+: 33% x (P1+P2A); 2030+: 66% x (P1+P2A); 2032+ 100% x (P1+P2A). This would mean OakNorth would require bail-in-able resources to meet an MREL requirement from 2028 at the earliest. The Bank plans to engage with the Bank of England on any MREL plans 3 years before reaching the £15bn threshold and would agree steps to prepare for issuance well in advance of any requirement in 2028 or beyond. This is subject to discussions with the Bank of England and the final landing point for the MREL regulations.

Key Budget (base case) Financials

Profit & Loss (£m)	2020	H1 2021	2021	2022	2023	2024	2025	CAGR 20-25
Interest Income	166.4	92.5	193.2	251.6	362.7	522.2	723.1	34%
Fee Income	9.1	6.7	13.7	23.0	32.7	44.1	56.3	44%
Total Income	175.5	99.1	207.1	275.5	399.2	576.1	799.3	35%
Interest Expense	(35.2)	(13.2)	(25.9)	(36.8)	(75.9)	(127.8)	(205.1)	42%
Net interest Margin	140.2	85.9	181.2	238.8	323.3	448.3	594.2	33%
Total Provisions	(21.6)	3.2	(1.2)	(4.7)	(11.1)	(17.7)	(22.7)	1%
Risk Adjusted NIM	118.6	89.1	180.0	234.1	312.2	430.6	571.5	37%
Operating Expenses	(40.9)	(21.2)	(45.8)	(54.5)	(65.7)	(78.8)	(90.3)	17%
Profit Before Tax	77.6	67.9	134.2	179.5	246.5	351.9	481.2	44%
Tax	(19.1)	(17.0)	(33.9)	(46.5)	(67.4)	(94.6)	(128.4)	46%
Profit After Tax	58.5	50.9	100.3	133.1	179.1	257.2	352.8	43%
Of which attributable to AT1 Holders	-	-	-	-	-	(11.3)	(20.1)	NM
Profit After Tax attributable to Shareholders	58.5	50.9	100.3	133.1	179.1	246.0	332.8	42%

Key Profit & Loss Ratios	2020	H1 2021	2021	2022	2023	2024	2025
Interest Yield (% Avg. Drawn Book)	7.5%	7.3%	7.2%	7.0%	7.2%	7.7%	8.2%
Fee & Syndication Income (% Avg. Drawn Book)	0.4%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%
Gross Yield (% Avg. Drawn Book)	7.9%	7.8%	7.7%	7.6%	7.8%	8.3%	8.8%
Cost of Funds (% Avg. Drawn Book)	(1.6)%	(1.0)%	(1.0)%	(1.0)%	(1.5)%	(1.9)%	(2.3)%
Net Interest Income	6.3%	6.8%	6.7%	6.6%	6.4%	6.6%	6.7%
Write-offs & Change in B/S Provisions (% Avg. Drawn Book)	(1.0)%	0.2%	0.0%	(0.1)%	(0.2)%	(0.3)%	(0.3)%
Risk adjusted net interest margin (% Avg. Drawn Book)	5.3%	7.0%	6.7%	6.5%	6.2%	6.3%	6.5%
Operating expenses (% Avg. Drawn Book)	(1.8)%	(1.7)%	(1.7)%	(1.5)%	(1.3)%	(1.2)%	(1.0)%
Operating income (% Avg. Drawn Book)	3.5%	5.3%	5.0%	5.0%	4.9%	5.2%	5.4%
ROA (% Avg. Drawn Book)	2.6%	3.9%	3.7%	3.7%	3.6%	3.8%	4.0%
Return on Equity	11.7%	18.3%	17.2%	19.2%	21.1%	23.2%	24.7%
Return on Required Equity (Tier 1 Requirement)	20.0%	31.0%	29.2%	30.1%	28.6%	28.7%	29.7%

Balance Sheet (£m)	2020	H1 2021	2021	2022	2023	2024	2025	CAGR 20-25
Net Drawn Book	2,461	2,564	3,033	4,216	5,925	7,725	10,003	32%
Fixed Assets	2	1	2	2	2	2	2	2%
Cash	651	467	472	692	973	1,284	1,703	21%
Other Assets	-	53	101	101	101	101	51	NM
Total Assets	3,114	3,085	3,608	5,011	7,001	9,112	11,759	30%
Shareholders' Equity & Retained Earnings	529	580	629	762	941	1,187	1,519	24%
AT1	-	-	-	-	-	150	275	NM
Tier 2	50	50	50	50	200	200	200	32%
Deposits	2,314	2,377	2,685	3,955	5,616	7,331	9,720	33%
TFS Borrowings	222	41	200	200	200	200	-	(100)%
Other Liabilities		38	44	44	44	44	44	NM
Total Equity & Liabilities	3,114	3,085	3,608	5,011	7,001	9,112	11,759	30%

Key Balance Sheet Ratios	2020	H1 2021	2021	2022	2023	2024	2025
Provisions as % Gross Drawn Book	1.3%	1.1%	1.1%	0.7%	0.6%	0.6%	0.6%
Loan to Deposit Ratio	106%	108%	113%	107%	106%	106%	103%

OakNorth's Projected Capital Position

The Bank details below the expected evolution of its capital position over the life of the plan based on the key financials outlined above and the aforementioned assumptions. The vast majority of the Bank's capital comes from investors and accumulated retained earnings with selective accessing of the debt capital markets to supplement this.

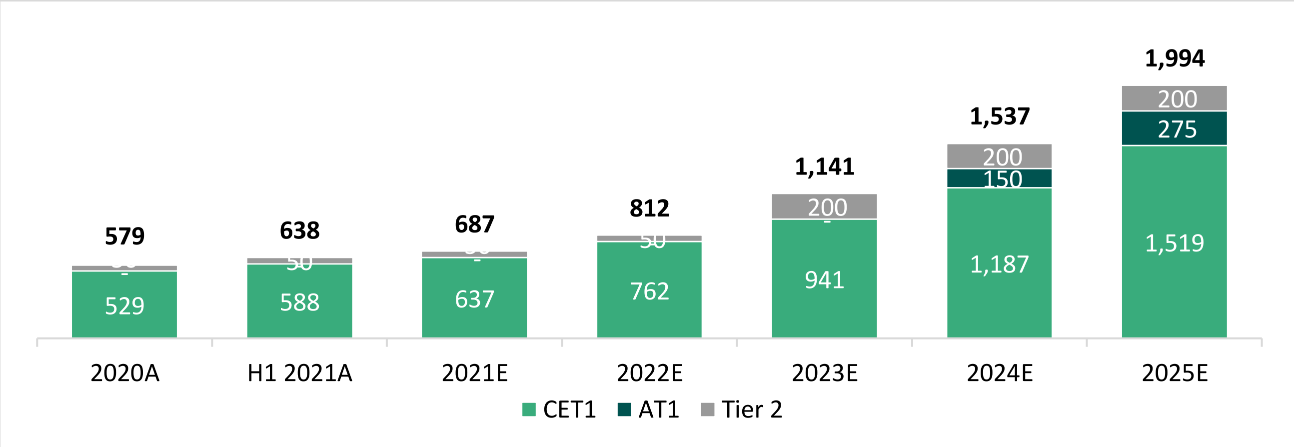
When disclosing its year end CET1 position the Bank has included the full year's profit on the basis that the year's profit will have been verified at the time capital ratios are disclosed. Practically speaking, the Bank assumes that H1 profits in a given year will have been verified and included in capital ratios from September onwards whereas December ratios include the full year's profits. Therefore, year-end capital ratios on a regulatory basis will equal those on a 'management basis' although there could be differences on a monthly basis.

Capital Position (£m)	2020	H1 2021	2021	2022	2023	2024	2025
Common Equity Tier 1 ('CET1')	529	588[1]	637	762	941	1,187	1,519
Additional Tier 1	-	-	-	-	-	150	275
Tier 1 Capital	529	588	637	762	941	1,337	1,794
Tier 2 Capital	50	50	50	50	200	200	200
Total Capital	579	638	687	812	1,141	1,537	1,994
Total Risk Weighted Assets	2,645	2,822	3,319	4,688	6,733	9,137	11,747
CET1 Ratio	20.0%	20.8%	19.2%	16.3%	14.0%	13.0%	12.9%
Tier 1 Ratio	20.0%	20.8%	19.2%	16.3%	14.0%	14.6%	15.3%
Total Capital Ratio	21.9%	22.6%	20.7%	17.3 %	16.9 %	16.8 %	17.0 %

[1] *Of which £51m is unverified profits; capital ratios on a 'regulatory basis': CET1/Tier 1: 19.0%, Total Capital: 20.8%*

Projected Capital Position (£m)

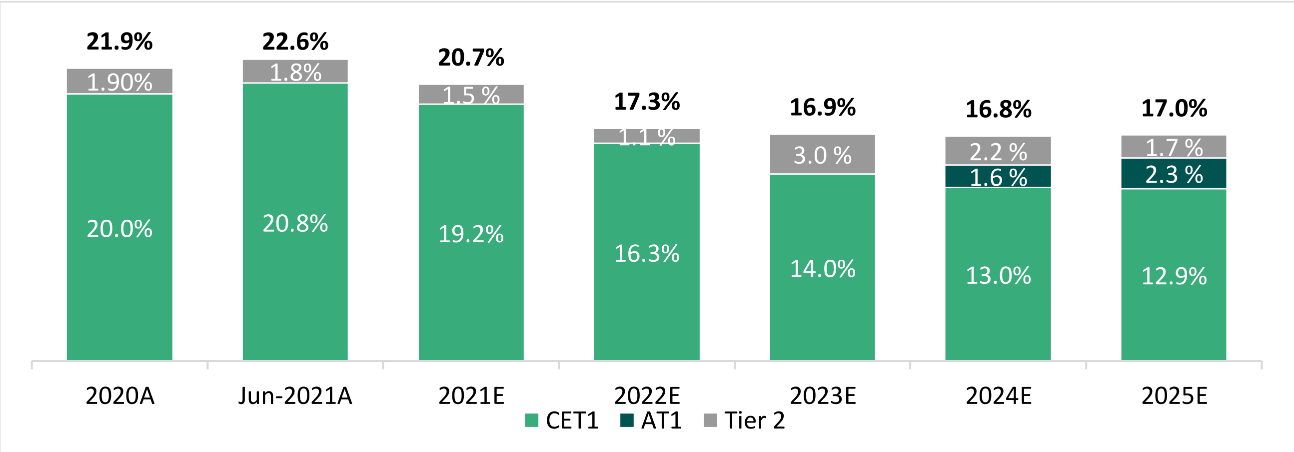
OakNorth demonstrates robust capital generation over the planning horizon with the vast majority of the capital position comprising share capital and retained earnings. The Bank supplements the strong CET1 position with debt capital issuance although this is limited to one transaction per year from 2023 to 2025 so as not to oversupply the market and retain well-spaced debt maturities.



H1 2021 figure includes £51m in unverified profit in CET1

Projected Total Capital Ratios (%)

The Bank's projected capital position translates into strong capital ratios over the planning horizon. As the balance sheet scales further, OakNorth plan to issue Additional Tier 1 (as well as greater volumes of Tier 2 capital).

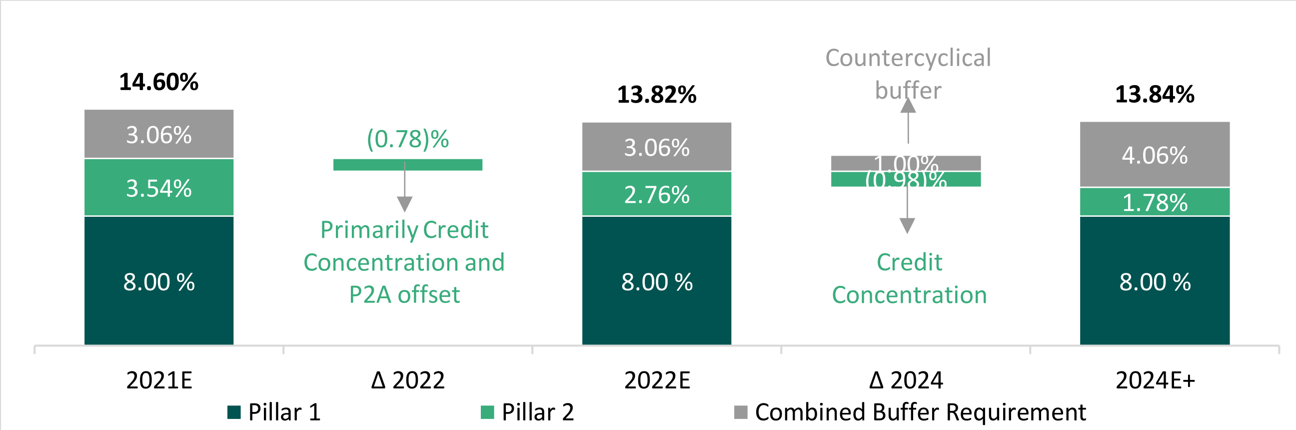


H1 2021 figure includes £51m in unverified profit in CET1, on a 'regulatory basis': CET1/Tier 1: 19.0%, Total Capital: 20.8%

OakNorth's assumptions on how Capital Requirements might evolve

The Bank outlines below the key drivers around how it expects capital requirements to evolve in the coming years. The key driver is a potential reduction in its Pillar 2 due to reduced credit concentration as the business scales further and the loan book becomes further diversified.

Key changes in Capital Requirements

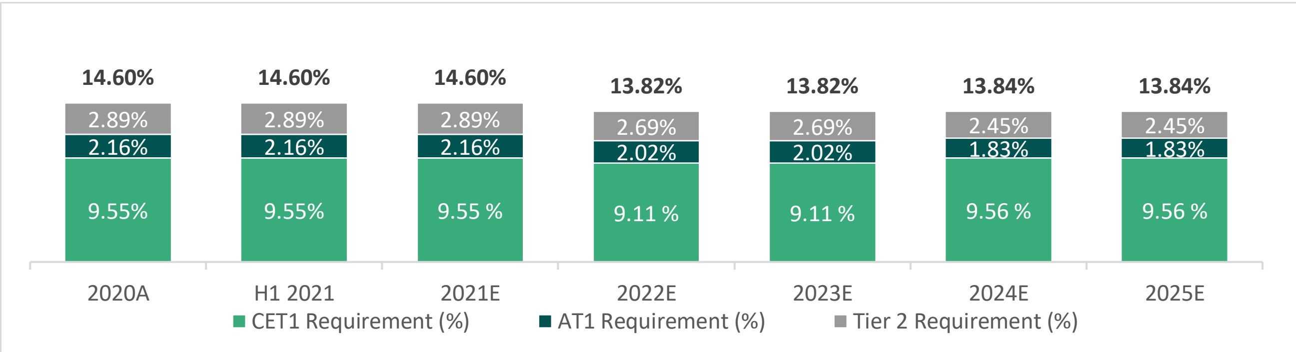


Over the course of the plan, the main anticipated drivers are:

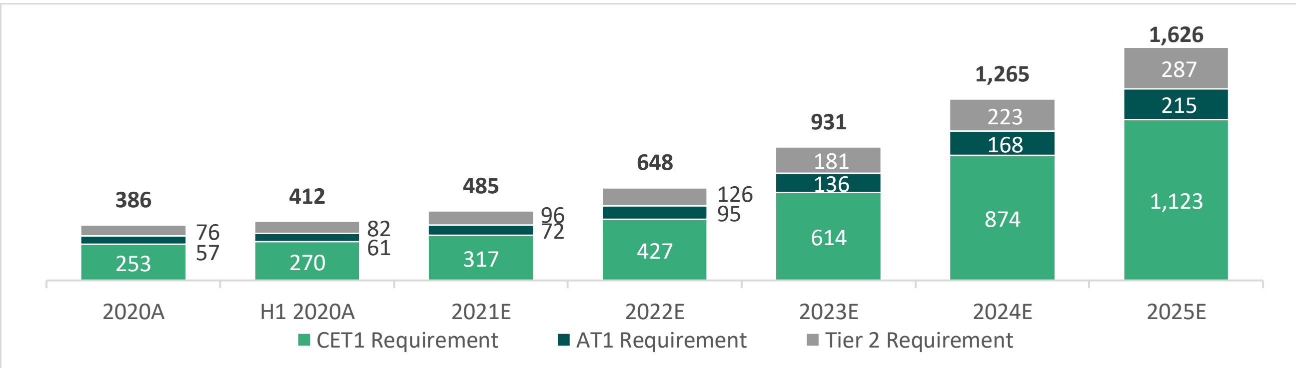
a) A reduction in required levels of P2A capital as a result of forecast reduction in P2A concentration risk, principally driven by reduced Large Exposure requirements under the HHI methodology due to improved granularity as the loan book grows.

b) Expected changes in overall Combined Buffer Requirements as a result of changes in the Counter-Cyclical Buffer ('CCyB') set by the FPC.

This results in the following capital requirements throughout the plan.



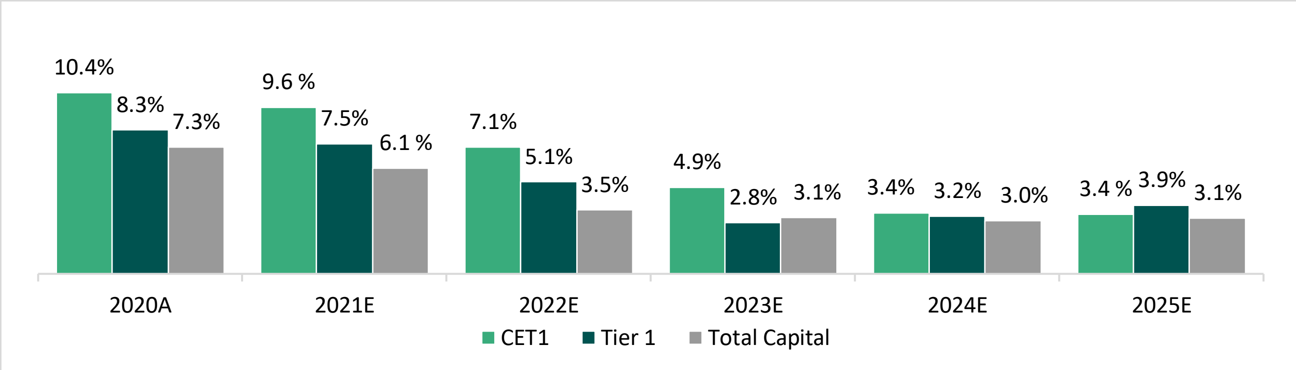
In absolute terms, this translates into the following requirements.



Finally, the Bank outlines below what this will translate into in terms of projected capital buffers.

Projected Capital Buffers (%)

Throughout the planning horizon, OakNorth demonstrates capital ratios multiple percentage points above the regulatory minima. Across all three key ratios, the Bank retains a buffer in excess of 3% with the exception of its Tier 1 requirement (where it demonstrates an excess of 2.8% in 2023) which precedes its planned AT1 issuance in 2024. We supplement strong CET1 generation with issuance of AT1 and Tier 2, ensuring that all times, the Bank maintains a healthy 1% surplus over its minimum (CET1, T1 and total capital) requirements. Per the chart below, at the end of the plan, OakNorth Bank will have a CET1 surplus of 3.4%, a Tier 1 surplus of 3.9% and a Total Capital surplus of 3.1%. Further Tier 2 could be issued if OakNorth Bank wished to increase the Total Capital Surplus to greater than 3.1%, or if divergence in requirements vs expectations necessitated.



3 Risk Management Framework

Introduction

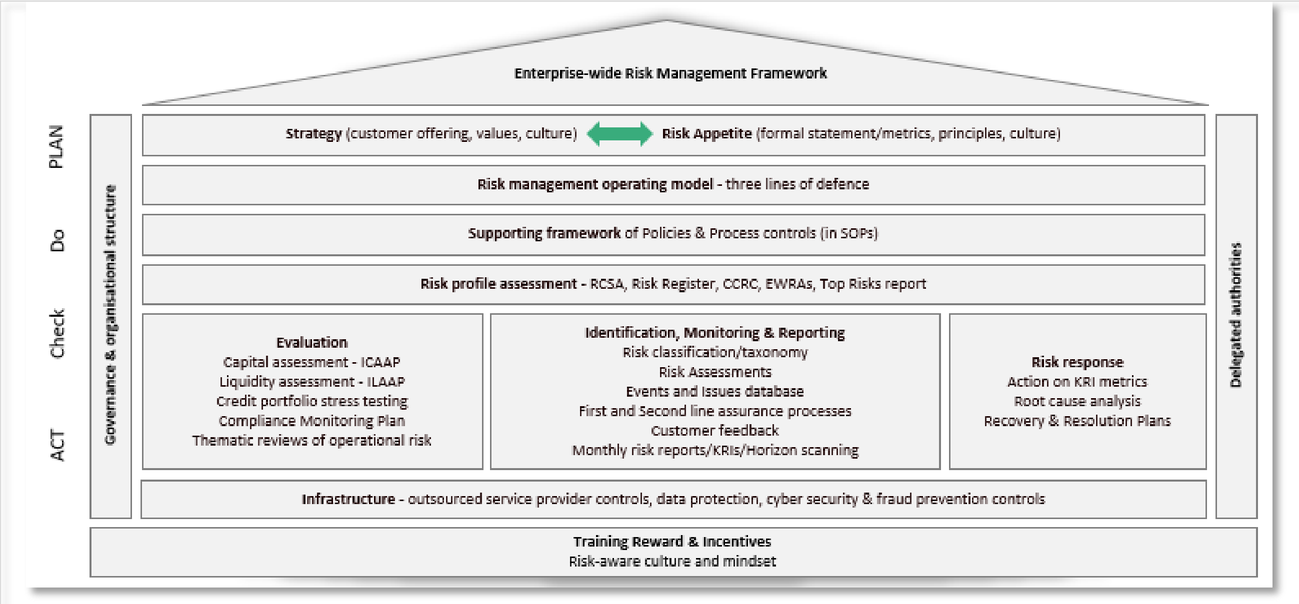
The goal of OakNorth's risk management process is to ensure that the outcome of risk-taking activity is consistent with the Bank's strategy and risk appetite, and that the Bank delivers good outcomes for customers from its products, whilst achieving an appropriate balance between risk and reward to drive long-term sustainable profitability.

The Bank's enterprise-wide Risk Management Framework (RMF), agreed by the Board, is a fit-for-purpose framework that provides the foundation for achieving these goals. It is set in compliance with relevant legislation including SYSC, GENPRU, BIPRU and CRDIV, BCOBS, MLD5 and codes of conduct such as COCON, the Combined Code on Corporate Governance, and the Lending Code.

This framework is subject to constant re-evaluation to ensure that it meets the challenges of the markets in which the Bank operates, including regulatory standards, industry best practices and emerging issues.

3.1.1 Elements of the RMF

- The framework is structured so that the elements support each other and is shown graphically below and each element is described in the bullet points below the chart.



1. **Strategy** – sets the Bank's goals over the planning horizon and the methods to achieve them. Includes the Bank's Values, and describes the target markets, product offering, and infrastructure
2. **Risk Appetite** – sets the quantum of risk the Bank is willing to accept to achieve its strategic business objectives, with tangible risk metrics set to identify when action is required to keep within the risk envelope
3. **Governance** – defines the system by which the Bank is directed and controlled
4. **Delegated authorities** – defines the authority delegated by the Board and/or EXCO and for which individuals are held accountable
5. **Risk Management operating model** – enables everyone to understand their role in managing risk, set out according to 'three lines of defence' principles
6. **Policies** – principles-based policies to address the material risks in a consistent and efficient manner, and in a way proportionate to the relatively simple structure of the ON business
7. **Controls** – proportionate actions taken by management to mitigate inherent risks to residual risks which are within the Bank's risk appetite, with procedures laid out in Standard Operating Process documents
8. **Risk profile assessment and evaluation** – the Bank uses several tools to assess its risk exposure, both at a point in time, and how it is expected to evolve in the future
9. **Identification, monitoring, and reporting** – the processes needed to provide timely, accurate information to enable management to take high quality decisions
10. **Risk response** – the levers which can be used to manage and mitigate risk, including adding capital or changing risk policy parameters

11. **Infrastructure** – the risk mitigants built into our IT infrastructure; the inherent level of resilience provided by our Cloud-based IT platform design, monitoring and defence tools, and the back-up arrangements in place for the key business services to ensure operational resilience (on the assumption that failures will occur)
12. **Training, reward** – providing appropriate training, and setting reward and arrangements which take account of risk performance and behaviours

Values, vision & culture

ON's Values, set by the Board, encapsulate its aim to be a strong 'challenger bank' creating value for its SME customers, and intending to do the right thing for its customers. The Bank is driven by a clear sense of purpose with a mission to serve the underserved SME market 'missing middle', and in doing so enable small, medium & growth/scale-up businesses to achieve their ambitions.

The Board takes the lead in establishing a strong risk management culture, guided by strong risk management and which supports and provides appropriate standards and incentives for professional and responsible behaviour. The Board and the EXCO are committed to living the firm's Values and setting the tone for the culture of the organisation. The seven values of the bank are: *10x, Right Ambition, One Team, Say It How It Is, Momentum, Zero-base, Customer Delight*. Those Values incorporate, amongst other elements, the vision that the team should be risk-aware and mindful of customer-focussed principles of good conduct, i.e.

Doing the right thing for our customers. Measuring our success by how satisfied our customers are, and ensuring that our profit flows from producing fair outcomes for our customers, treating them fairly, and helping them succeed in their own businesses (*Right Ambition; 10x; Customer Delight*)

Making decisions on a risk/reward basis, with the focus on the long term and the aim of generating steady, sustainable, risk-adjusted returns (*Right Ambition*)

Aligning incentives and reward with (a) the customer-centric behaviours which the Board expects to see, and (b) our agreed risk appetite (*Right Ambition and Customer Delight*)

Being transparent in all our dealings with our customers (*Say It How It Is*)

Team members are encouraged to use their skills and experience to constantly manage the risk/reward balance, and to speak up/challenge if they see any activity outside our risk appetite (*Say It How It Is*)

Team members are also required to consider change from the perspective of building from scratch rather than improving what we currently have (*Zero-base*)

This culture is also articulated in the Staff Handbook, Code of Conduct policy, and Conduct & Customer experience policy, and in reward and remuneration.

ON staff are recognised for awareness and the ability to assess and manage risk; this is an element of the recruitment process for all staff, not just those who form part of the risk functions. Risk outcomes (good customer outcomes and demonstrating the correct behaviours) form a key part of compensation decisions as part of a 'balanced scorecard' approach for staff in the income-generating business functions.

The EXCO and Board actively monitor the culture within the firm and adherence to risk appetite and policies and promote this through mechanisms such as the weekly 'All Parties' calls.

Training

We ensure that our staff are fully trained, to empower them to fulfil their roles in a compliant manner. Staff are recruited for proven industry skills and experience, and appropriate attitude and behaviours.

The Bank provides full coverage of Regulatory and Compliance training using a third party hosted system, Unicorn LMS, with completion rates reported to the ExCo and Board each month by People Operations.

Line management is responsible for ensuring that staff are familiar with Policies and have the skills and training to perform their role professionally.

Bespoke training is administered on an ongoing basis and is provided in specialist areas such as AML, Credit Risk, Cybercrime, Negotiation, and more.

Reward & Remuneration

ON's reward and remuneration framework is designed to incentivise the correct behaviours; the policy discourages the assumption of risks that exceed the risk appetite of the Bank.

The Policy enables the provision of incentives to staff that both promote the Bank's long-term strategic objectives and protect its underlying financial health and operational integrity. The Bank will always give priority to considerations of risk management, regulatory and compliance legislation and guidelines, key stakeholder expectations and Bank procedures.

All staff are remunerated based on a unified set of objectives which combine business goals and risk management in a V2MOM framework. In particular, the Bank's FLOD Debt Finance function is incentivised based on creating strong portfolio performance and long-term sustainability of performance, alongside behavioural criteria which promote good conduct and customer outcomes and living the company values, as opposed to simply loan volumes/income.

The following Guiding Principles underpin policy:

- Interests of our Employees are aligned with the long-term interests of the Bank, shareholders, investors, and other stakeholders, as well as the public interest. Employees will not be rewarded for risks that are unwarranted. Principles of "malus" and "clawback" will be implemented where relevant.
- Incentives are based on financial and non-financial criteria, including an employee's adherence to risk management guidelines and compliance with regulatory requirements.
- The first line origination team are incentivised based on creating strong portfolio credit performance through teamwork, long term sustainability of performance, and strong customer outcomes as opposed to on loan volumes only. Remuneration incentives are influenced by loan performance and behaviours displayed by individuals consistent with company values; the criteria do not incentivise excessive risk taking or mis-selling of products.
- Second and Third lines of defence are incentivised on the delivery of objectives linked to their functions and maintenance of a robust control environment, not based on generating volumes of business. The remuneration of their senior management will be directly overseen by the Remco
- Second Line (Risk, Compliance and Credit functions) provide appropriate input into the initial objective setting and subsequent assessment of the First line's individual and team performance.

Based on the FCA Guidance on proportionality, the Bank is a proportionality level 3 firm, and accordingly may disapply under the Dual-regulated firms remuneration principles proportionality rule the following rules: (1) retained shares or other instruments (SYSC 19D.3.56R); (2) deferral (SYSC 19D.3.59R); and (3) performance adjustment (SYSC 19D.3.61R – SYSC 19D.3.62R).

Strategy and Business Planning

The Board, supported by EXCO, reviews the firm's strategy in a Strategy Planning day every year. The agenda typically covers an analysis of the key areas of Strategic Risk, Principal risks, and Emerging risks (such as Growth plans, Climate Risk, upcoming regulatory changes, macro-economic environment, and market conditions), a review of the previous year's achievements, business risks, and opportunities and threats. Key risk areas are defined below.

- **Principal Risk:** The Board-approved enterprise-wide risk categories used to monitor and report the risk exposures posing the greatest impact to the Group.
- **Strategic Risk:** A principal risk arising from: (i) a failure to understand the potential impact of strategic responses on existing risk types; (ii) Incorrect assumptions about internal and external operating environments; (iii) Inappropriate strategic responses and business plans.
- **Emerging Risk:** A future internal or external event or trend, which could have a material positive or adverse impact on the Bank and its stakeholders (customers, employees, regulators, investors, etc.) but where the probability, timescale and/ or materiality may be difficult to accurately assess

Following discussions at the Strategy day, a Management Plan is prepared and approved by the Board which include a detailed Financial Plan and key Operating Plan priorities. The Management Plan records for monitoring purposes the assumptions underpinning the Plan relating to growth, pricing, productivity, RWAs and provisions, and capital requirements.

Objectives are cascaded down to all members of staff through an objective-setting process which translates the Plan into specific deliverables, which are then tracked periodically by both the EXCO and the Board.

Risk Appetite Statement (RAS) & Risk Tolerances

ON is committed to maintaining an effective Risk Management Framework that is responsive to both internal and external events and stresses. As part of this framework, we have set a statement of risk appetite consistent with our objective to be a prudent lender with a risk-aware culture delivering very low credit losses via advanced credit analytics, with a cost-efficient and resilient operating model and placing the delivery of fair outcomes for customers at the heart of our activities.

'Risk appetite' is defined as the amount and type of risk which the Bank is prepared to seek, accept, or tolerate in pursuit of its long-term business objectives. By setting defined risk appetites, the Board communicates the level of acceptable risk, and mandates that the risk is proactively managed within those parameters. The risk appetite framework stipulates the approach to setting risk appetite, reporting, and monitoring, and the frequency of review.

In determining our RAS, key considerations are:

- Alignment to principal risks
- Alignment to strategic objectives
- Appropriateness of calibration to drive timely action
- Ongoing monitoring of the risk profile

The RAS framework defines the type and quantum of risk which we are willing to accept in pursuit of our strategy. It is forward-looking, anticipating the risks we will face and defining the risk envelope within which our strategy is to be pursued. The quantitative Key Risk Indicators (KRIs) have 'Amber' and 'Red' levels set.

- **Green** indicates normal BAU trading conditions. From time to time this risk envelope may be exceeded, and the basis on which this is permitted by management will be shown in the EXCO & Board dashboard reports
- **Amber** indicates a level at which the status must be re-assessed by senior management. It indicates that the Bank is operating above its target risk level, and EXCO will always debate it at this point and agree *either* a period during which the Amber level will be risk-accepted, or an action plan to bring the Bank back to Green
- **Red** indicates a level which, whilst still within the Bank's Risk Capacity, is at the outer edge of Risk Appetite and action must be taken

The RAS is reviewed regularly; following the Strategy Day, the ICAAP and ILAAP processes, the monthly ERC debates, and more frequently when required by the evolution of the business or by external events. The review process is managed and overseen by Risk. The first line business and functions may propose updates to the RAS, which are reviewed and challenged by Risk (as second line) before EXCO, and Board makes a final decision. Risk takes the initiative in areas such as Compliance. To ensure a holistic overview, Risk will also review and challenge updates proposed by Credit Risk.

ON's Risk Appetite sets out the type and quantum of risk that the Bank is prepared to accept to achieve its strategic business objectives. It is cascaded top-down, deriving logically from the Bank's high level risk objectives to the low-level measures or limits used in day-by-day decision-making by the team, and is defined and measurable. It is based on a set of Strategic Risk Objectives and is revised each year as the business develops.

The Board has responsibility for approval, implementation, and monitoring. Approval is through a proposal submitted by each function to the CRO for review and approval before submission to ExCo, which recommends to Board for approval.

The high-level Enterprise Risk Appetite has been articulated as follows:

Risk Categories	Definition	Appetite
Treasury and Capital	▪ The risk that OakNorth has insufficient financial resources to enable it to meet its obligations as they fall due, or cannot raise or maintain sufficient funds to finance its future plans ▪ The risk that there will be insufficient capital to operate effectively whilst meeting minimum regulatory requirements	▪ We acknowledge the inherent risk in our rapid rate of growth, and our approach is to raise capital and liquidity to fully cover projected expansion and also be sufficient to cover a range of severe but plausible stress scenarios. Thus we have low appetite for Treasury and Capital risk, and maintain conservative margins above prudential/Regulatory requirements for both capital and liquidity, and proactively manage financial resources as part of our capital and liquidity planning ▪ The bank accepts an immaterial basis risk with funds held at the BoE, and limited IRRBB risk on floating rate loans which have interest rate floors
Credit	▪ The risk of financial loss arising from our borrowers or counterparties failing to fulfil their contractual or financial obligations to the bank in full and when they fall due.	▪ We have a low appetite for Credit risk, aiming for very low credit losses. Our approach is to compete on the basis of a deep understanding of customer needs and tailoring a solution to those needs, combined with reliability and rapid deal execution, not on credit quality. Therefore, we adopt conservative parameters in our credit risk appetite, for example in key items such as leverage, debt service cover and loan to value.
Conduct (including Regulatory matters and Compliance)	▪ The risk of legal/regulatory sanctions or material financial loss or reputational damage from a failure to comply with applicable laws, regulation, rules, standards, codes of conduct and regulatory expectations ▪ The risk of treating customers unfairly, or delivering poor outcomes that lead to customer detriment or undermine market integrity ▪ The risk of inadvertently facilitating financial crime	▪ We have no appetite for actions that result in breaches of regulation, or for inaction to address systemic process and control failures leading to material non-compliance. We aim to avoid any material or reportable compliance breaches, and would report promptly to Regulators should any arise. We acknowledge the inherent risk in a fast evolving and fast growing business, but mitigate that by an on-going cycle of review, with prompt remediation of any minor issues arising. ▪ We place emphasis on a risk-aware and customer-centric culture, and have no appetite for any risk arising from a material failure to deliver fair outcomes for customers. ▪ There is no appetite to operate in an environment where systems and controls do not enable the identification, assessment, monitoring, management and mitigation of financial crime risk. We have zero appetite for business about which there is any actual suspicion of money laundering, terrorist financing, or tax evasion, and zero tolerance for bribery and corruption in any part of the business.
Market	▪ The risk of loss arising from potential adverse changes in the value of the bank's assets and liabilities from fluctuation in market variables including, but not limited to: interest rates, foreign exchange, equity prices, credit spreads, implied earning volatilities and asset correlations.	▪ The Bank's business model currently does not incur a material level of market risk. We have immaterial currency risk arising from invoicing of certain outsourced services in foreign currency. The Bank's appetite is very limited

Risk Categories	Definition	Appetite
Reputational	▪ The risk to OakNorth's public image from a failure to meet stakeholders' expectations in relation to performance, conduct or business profile. Stakeholders include customers, investors, employees, suppliers, government, regulators and other group companies.	• We aim to build long-term value and have no appetite for anything but the highest reputation amongst customers, shareholders, regulators and employees . We aim to avoid any negative reputational event, and as such focus on delivering fair customer outcomes, upholding market integrity, and implementing robust systems and controls designed to meet all regulatory requirements. We actively monitor customer satisfaction and complaint trends, survey our employees and customers, and take swift action to remediate any identified risks
Strategic	▪ This risk that changes to the business model, or macro-economic, competitive, geopolitical, regulatory or other emerging factors (climate, ESG, etc.) may lead to an inappropriate or obsolete business strategy or strategic plan which is not suitable for the Bank's long-term success.	▪ Whilst our strategy is for fast growth, we aim to make our strategic moves in a well thought through and data-driven way. Our strategy will be customer-focused and compliant, and will be forward-looking in its risk analysis. We have no appetite for strategic moves which produce short term profit but are not aligned with long term objectives.
Operational	▪ The risk that events arising from inadequate or failed internal processes, people and systems, or from external events, cause reputational damage, financial loss, service disruption and/or detriment to customers, or put the safety and soundness of the Bank at risk.	• We acknowledge the inherent risk in a fast evolving and fast growing business, but aim for strong operational resilience and to minimise operational losses within a defined low financial limit. We aim to minimise incidents and losses arising from operational risk by maintaining a resilient infrastructure, including robust systems, good cyber defences and information security, employing and training the right colleagues, selecting and managing strong outsourced service providers, planning continuity back-up arrangements, minimising the impact of external events through contingency planning. Also by having a framework in place to ensure that operational risks are captured, monitored and mitigated via appropriate controls, on a continuous basis.

The Risk Appetite Statement ('RAS') is carried through into ON's suite of Policies, and from the Policies into the Procedures (Standard Operating Procedures or 'SOPs') used by the Bank's staff.

The first line of defence monitors against the Key Risk Indicators ('KRIs') on a continuous basis, with oversight by the Risk function as the second line of defence. Formal monitoring is undertaken monthly by the ERC, OPCO, ALCO and CRMC, with quarterly Board oversight at BCC and BRCC.

For each area, tangible KRIs with 'Amber' and 'Red' warning levels are set. In 2021, the Bank is additionally documenting a set of Important Business Services and developing a series of Impact Tolerances, as part of a programme to enhance Operational Resilience.

The Bank has also designated certain indicators as Recovery Plan Triggers. As a starting point, individual EWIs have been calibrated using ICAAP and ILAAP stress testing to produce the Red/Amber/Green status. For these Indicators, a Recovery Trigger threshold has been calibrated that goes beyond the 'Red' level in the normal Risk Appetite, but with sufficient space for effective management actions to be taken in good time in response to events. These have been informed in part by a range of stress testing exercises, including the ICAAP/ILAAP stress and reverse stress tests, and the specific scenario tests calibrated for the 2020 RP. Details of the current thresholds can be found in the recovery plan. The Bank will be refreshing the Recovery plan, inclusive of appropriate recovery thresholds following completion of the 2021 ICAAP.

Risk Governance

The governance framework defines the actions, processes, and committees by which authority is exercised and decisions are taken and implemented. Risk governance applies the principles of good governance to the identification, assessment, management, and communication of risks. It describes roles and responsibilities and the system by which the business is directed and controlled.

An overview of the governance framework and roles and responsibilities is laid out in the Firm Management Responsibilities Map (FMRM), which includes the governance committees, management structure, and senior management roles and responsibilities as described below.

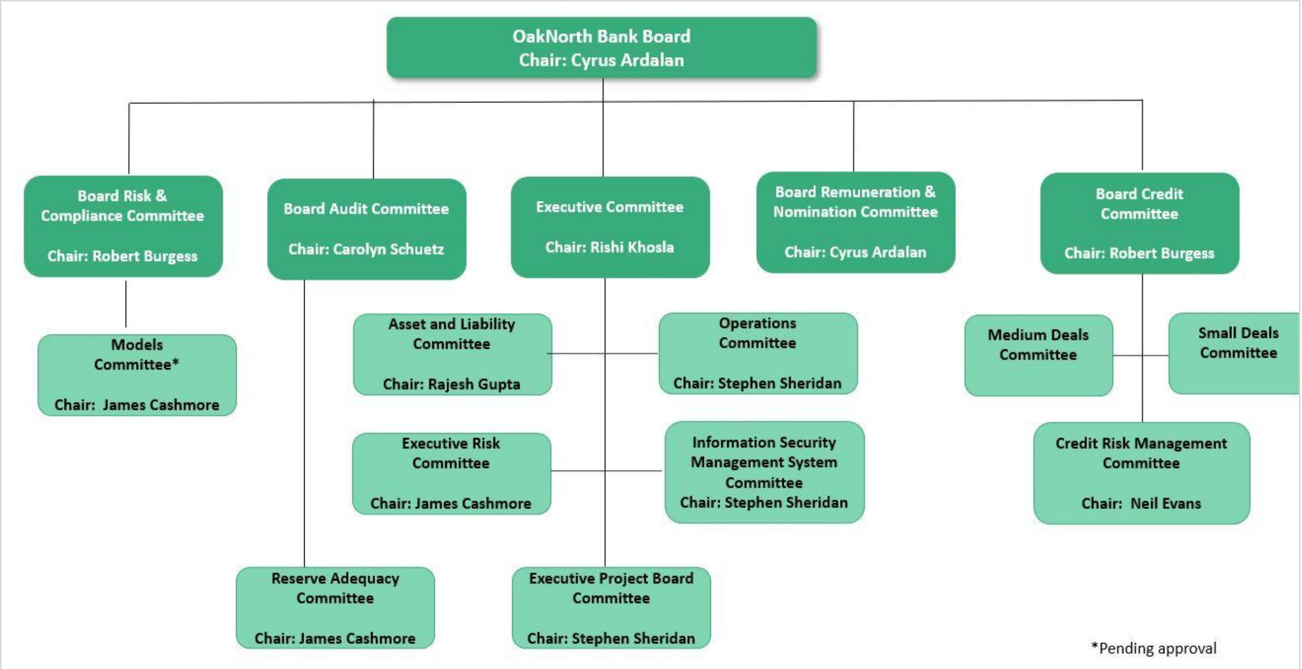
3.1.2 Committee structure, responsibilities & membership

The bank is led by a Board comprising a Non-Executive Chairman, independent Non-Executive Directors and Executive Directors. The most senior committee is the Board; its principal duty to create and deliver a sustainable business model by setting the strategy and overseeing delivery against it, establishing the culture, values and standards of the bank, setting risk appetite and ensuring that the bank manages risk effectively, monitoring financial performance and reporting, and ensuring that appropriate and effective succession planning arrangements and remuneration policies are in place.

The Board is supported by its Committees which oversee matters delegated to them, in relation to internal control, risk, financial reporting, governance, and remuneration matters.

The following senior management are directors and members of the Board: Chief Executive Officer, Senior Managing Director, and Chief Financial Officer.

The Board is supported by five experienced Independent Non-Executive Directors (NEDs): OakNorth's Independent Chairman; a Senior Independent Director (SID); and three Independent Non-Executive Directors (Notified NEDs).



The Committee structure, membership and responsibilities are laid down in the FMRM. Key details are as follows:

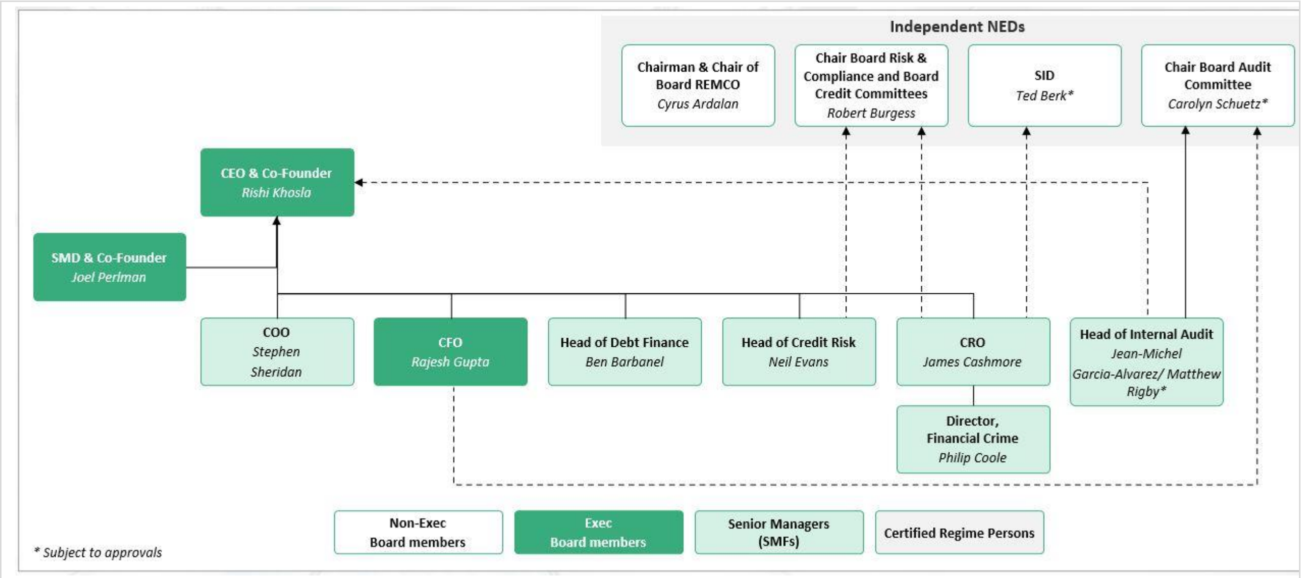
Committees	Purpose
Board	The Board sets the Bank's strategic direction and oversees its implementation. It ensures that management maintain an effective RMF with appropriate oversight processes and for embedding the principle of safety and soundness in the culture of the whole organisation.
Board Risk & Compliance Committee	BRCC takes delegated authority from the Board to oversee the entire risk agenda excluding Credit risk. It oversees the continued appropriateness of the strategy and risk appetite in the light of ON's purposes, values, and sound risk management principles. It assesses ON's principal and emerging risks, and how these may affect the viability of the business model, and monitors the adequacy and effectiveness of the RMF and the quality of risk MI. It safeguards the independence of the CRO and the 2nd line Risk function and oversees its performance and resourcing. It approves the annual Compliance Monitoring Plan. It ensures that all risks - from operational resilience to liquidity and capital but excluding Credit risk - are properly identified, evaluated, mitigated, reported, and managed. It challenges executive management and examines whether risk management expectations are translated into culture and duly embedded.
Board Audit Committee	BAC takes delegated authority from the Board for the review and approval of the Internal Audit (IA) Charter and Methodology, and Accounting Policy, and for ensuring that ON values and principles are being adhered to. It monitors the integrity of financial statements and public disclosures; appoints the external auditors and their remuneration; reviews the effectiveness of the Internal Audit function, and appoints/removes the Head of IA.
Board Credit Committee	BCC takes delegated authority from the Board to oversee all Credit Risk related matters for the Bank and approves larger credit exposures, impairments, and write-offs. BCC receives reports from the Credit Risk Management Committee concerning individual credit exposures, and the portfolio. BCC also oversees credit models performance monitoring. BCC reviews the Watchlist and receives reports concerning the progress on any material Workouts and Recoveries. BCC also oversees the management of financial risks from climate change
Board Remuneration & Nomination Committee	REMCO is responsible for ensuring that remuneration arrangements support the strategic aims of ONB, comply with best practice and enable the recruitment, motivation, and retention of senior executives. The Committee ensures compliance with regulation (Remuneration Code SYSC 19D) and sees its principles are put in place to expressly discourage all inappropriate behaviours. It has delegated authority from the Board for the review and approval of Remuneration Policy and is responsible for setting remuneration for all executive directors, NEDs, the Chairman, and key individuals, including employees captured under the scope of the Certification Regime, including pension rights and any fixed and variable compensation payments.
Executive Committee (EXCO)	The ExCo takes delegated authority from the Board and is responsible for developing the Bank's strategy, ensuring the delivery of the Management Plan and that the agreed strategy is executed across all dimensions. Additionally, the ExCo has responsibility for the RMF and for management

Committees	Purpose
	of all risks. The Board delegates authority to the ExCo for the review and approval of those policies listed in the EXCO TOR
Asset & Liability Committee (ALCO)	Operating under mandate from the EXCO, ALCO implements the Bank's Asset & Liability Management (ALM) policy, with a focus on active management of liquidity. The ALM activities include specific policies and procedures relating to Liquidity and Funding Risk, Capital Risk, Interest Rate Risk, Credit Risk of counterparties, and Market/ Investment Risk. It also monitors regulatory reporting.
Credit Risk Management Committee (CRMC)	Operating under mandate from the BCC, the purpose of the committee is to oversee, monitor and control credit risk on a day-to-day basis, and to approve facilities under a delegated authority. It ensures that the RMF is implemented as it relates to Credit Risk and AFTE, and that all credit control processes are fit for purpose and operative so that credit risk is mitigated via: Identification; Evaluation; Mitigation; Reporting; Management and Challenge.
Small Deals Committee (SDC)	Operating under mandate from the BCC, the committee has authority to sanction loans of up to £3m. in the real estate and loan-on-loan sectors
Medium Deals Committee (MDC)	Operating under mandate from the BCC, the committee has authority to sanction loans from £3m - £5m. in the real estate and loan-on-loan sectors
Operations Committee (OPCO)	Operating under mandate from the EXCO, OPCO's main objective is to ensure the operational resilience of the bank, reviewing the performance of all business operations and the performance of outsourced service providers, and taking action to address any issues identified. The Committee also oversees the design and review of the IT platform and operating procedures and oversees resourcing and change management. The Committee reviews, in depth, any operational issues to promote efficiency and manage operational risk across the Bank.
Executive Risk Committee (EXCO)	Operating under mandate from the BRCC, the purpose of the ERC is to oversee, monitor and control the Risk agenda. It ensures that the RMF is properly implemented and that all control processes are fit for purpose and operative so that all risks to the Bank - aside from Credit Risk, which is the mandate of CRMC and BCC, and ALM which is the mandate of ALCO and Board - is mitigated via identification, evaluation, mitigation, reporting, management, and challenge.
Information Security Management System Cttee (ISMS)	Operating under mandate from the EXCO, ISMS is a technical forum to drive the development and implementation of cyber-security strategy, including IT infrastructure design, and monitors the status of cyber defence operations. Decisions on strategy, budget and investment are made by ExCo on recommendation from ISMS. ISMS would manage a cyber crisis as part of our incident management process.
Models Committee*	Operating under mandate from the BRCC, the committee assesses and oversees the model risk inherent in the use of models and UDAs in the Bank and monitors their performance. It also approves the most important/material models. * ToR pending approval
Reserve Adequacy Committee (RAC)	Operating under mandate form the BAC, the purpose of the RAC is to oversee the adequacy of provision calculation against IFRS 9 requirement.

3.1.3 Management structure

The Overall Responsibilities, Prescribed Responsibilities and reporting structure is laid out in the FMRM. See chart overleaf.

SMF Roles



3.1.4 Senior Management roles and responsibilities

The ON management team seeks to blend a diverse range of high calibre individuals to optimise the mix of skills and experience to understand, and properly discharge, their responsibilities under the SMCR.

The Board reviews annually that all SMF and Certification role holders are 'fit and proper' to fulfil their roles. Responsibilities are allocated to roles as follows

3.1.5 Limits and Delegated Authorities

Delegated Authorities ('DAs') are laid out in the Delegated Authorities Policy and the appendix Bank Reference Document, which set out the levels of authority for individuals and committees to make decisions, as delegated by the Board.

Each DA represents a risk to the firm, and therefore ON ensures that commitments are only made by experienced and skilled individuals or committees, who fully understand their obligations and accountabilities. DAs are set for the following areas:

- **Treasury** – management of agency banking including payments to Bank of England and bank counterparties
- **Finance** – approval of third-party Supplier contracts and payments, equipment purchases, staff payments and expense approvals
- **Credit Risk** – Loan sanctioning authorities for new facilities, increases and renewals by (1) BCC, (2) CRMC, (3) the Small Deals Committee (SDC) and (4) the CEO and HoCR jointly; approval of changes to conditions of sanction; approval of CPs, loan agreement terms and security details; account classification (including Watch status), raising of Provisions and write-offs; responsibility for signing off the fulfilment of Conditions of Sanction. The credit limits are different for various approval bodies such as: (i) Up to £50m by CRMC; (ii) for SDC, new business up to £3m can be approved by HoDF and two Credit Directors (or HoCR), specifically for Real Estate or Loan-on-Loan transactions; (iii) 50m+ by BCC; £35m to £50m - BCC approval needed if at least one of the following apply: Any change in overall credit strategy or new Product/Asset Class; Risk Adjusted Return on Equity 12% or less; Primary Credit Policy Exceptions i.e. LTV, LTC, LTGDV, ICR, DSCR or Leverage; Trading Business transactions where LGD >50%; Residential Property Lending where Individual Capital Values on average >£5m and LTV >60%; or CRE lending ('True Real Estate' definition i.e. not trading businesses such as Hotels).
- **Operations** – processing of purchase orders, cash operations and payments, including procurement and management of contracts with third party Suppliers
- **Human Resources** – designing employment contracts and setting incentive/reward payments
- It is ON's policy that all authorities delegated to individuals, either separately or as Chair of Committees, must be based solely on the individual's level of experience, knowledge and qualifications, and must be supported by a clear business need.

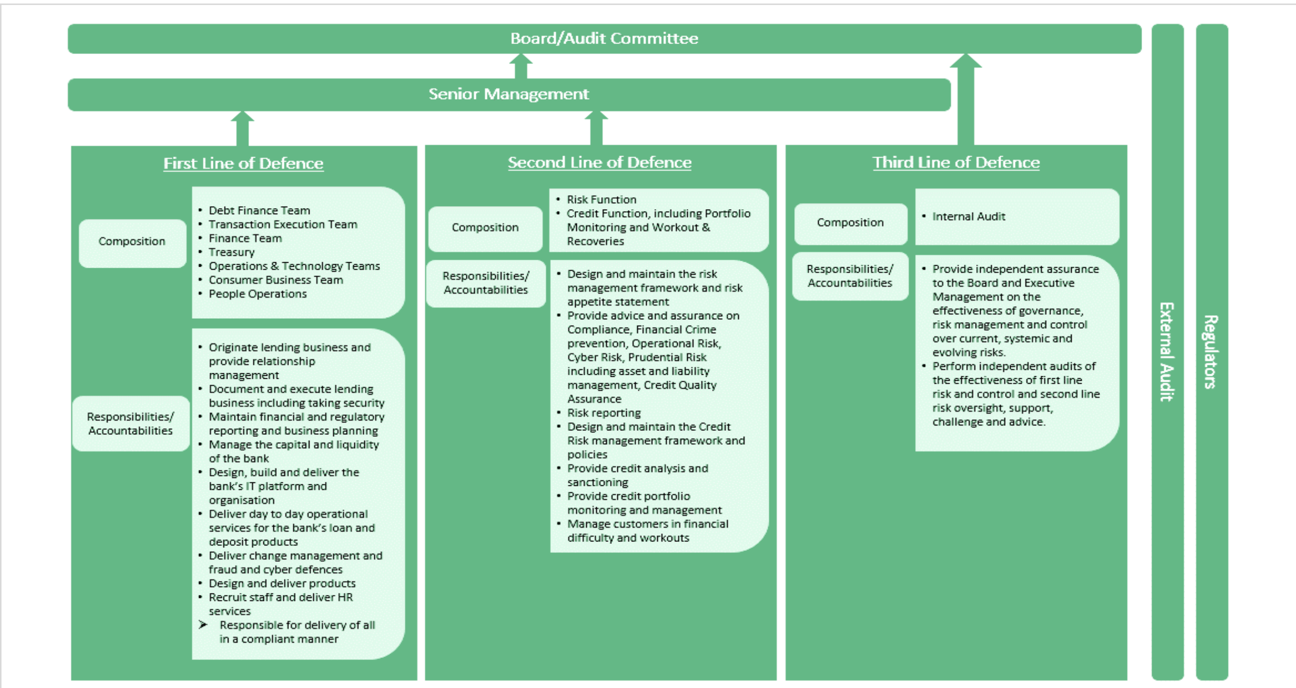
- All authorities must be in writing either as part of an individual's job description, a separate letter, a Power of Attorney, or on an internally published policy. Delegated Authorities cannot be further delegated in the absence of the holder and must revert to the original authority holder for subsequent delegation purposes.
- When delegating an authority, all line managers remain fully responsible for that function; as laid out in the FMRM (for SMF and Certification Function holders), and in the COCON rules for all.

Three Lines of Defence and Risk Management Principles

ON's operational risk management relies upon Three Lines of Defence principles.

- **Ownership and Accountability** – the first line of defence (FLOD) is the line management, including the client-facing 'front office' Debt Finance and Customer Services teams and all operational units that generate risk, including Operations, Technology, and Finance. Sound risk governance recognises that business line management owns and is responsible for identifying and managing all the risks inherent in the products, activities, processes, and systems which it creates and for which it is accountable, in line with the agreed risk appetite.
- **Independent Oversight and Challenge** – the second line of defence (SLOD), comprising the Risk and Credit Risk functions, is responsible for monitoring the operation of the controls and adherence to risk direction and limits, and to report any control breaches / failures or appetite breaches; ensuring that risk management practices and conditions are appropriate for the business environment; interpreting and reporting on risk exposures and outcomes; and interpreting and reporting on the Key Risk Indicators (KRIs) set in the Risk Appetite. The CRO maintains a fully independent perspective to support oversight of first line risk-taking activities, providing independent advice and challenge whilst participating in collective EXCO decision-making. The Risk function operates under a Risk Charter defining its scope and mandate.
- **Independent Assurance** – the third line of defence is responsible for understanding the key current and emerging risks affecting the Bank, leads the audit process, and owns the development and completion of the annual Internal Audit Plan. This review is undertaken by Internal Audit, and additional audits are performed by qualified external parties including the bank's external accountants. The Independent NEDs also provide challenge.

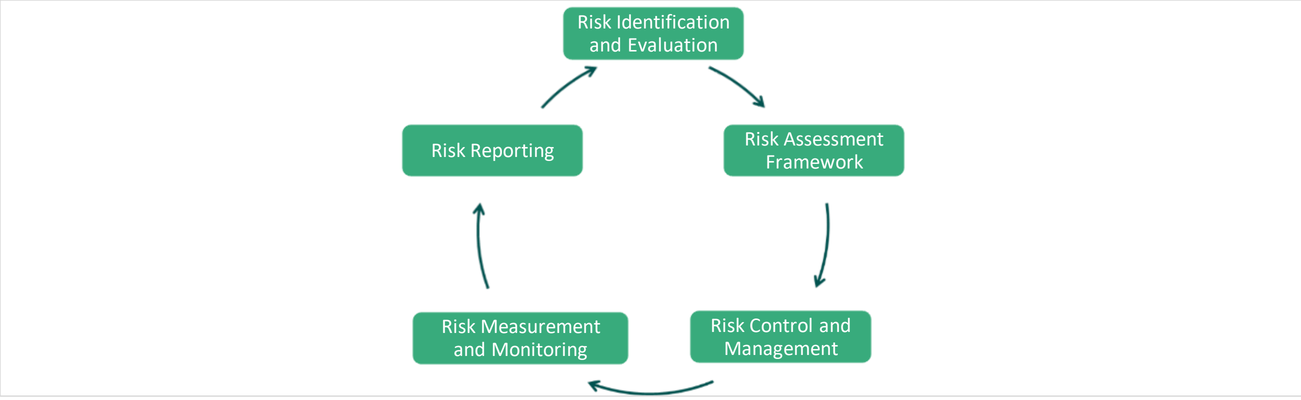
Both second and third lines have complete and unrestricted access across the firm. The structure of how the three lines of defence operate is articulated in the chart below.



Currently, there are a small number of areas not subject to 2LOD oversight: Tax, Regulatory Reporting. These are subject to 3LOD and external audit review

Risk Processes

Effective risk management and controls start at the top and are cascaded and embedded throughout the firm. The Risk management components/ approach is as articulated in the chart below

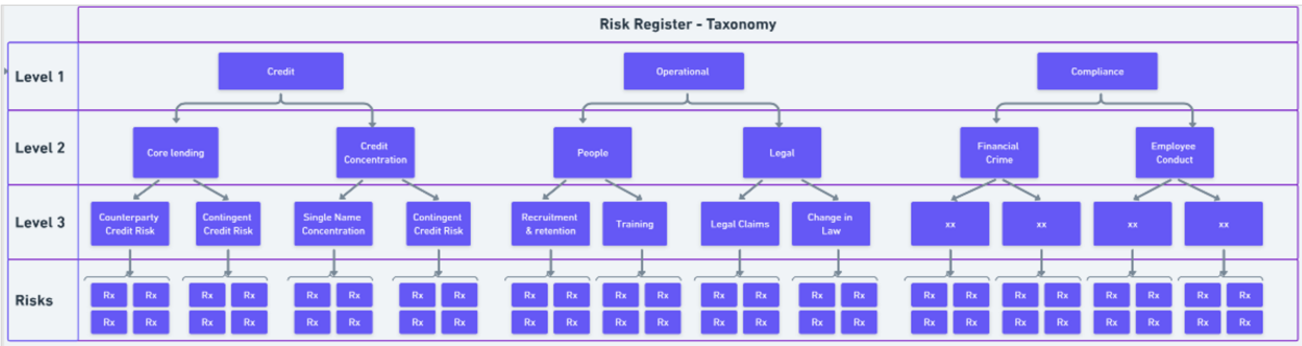


3.1.6 Risk Identification and Evaluation

The annual Board Strategy Review focusses on the Bank's strategic objectives and principal risks. These Principal Risks are assessed and monitor through quarterly review and maintenance of two registers: (i) Top Risks and (ii) Risk Register.

	Treasury and Capital	Credit	Conduct (Compliance)	Operational	Reputational	Strategic Risk	Market Risk
Strategic Objective	Manage capital, profitability and liquidity to provide for ON's projected needs, even under stress	Write business in a prudent manner, to minimise losses	Maintain compliance and keep the confidence of our Regulators Maintain integrity and keep the confidence of our Customers	Manage operational risk effectively Manage cyber risk effectively	Protect ON's reputation through effective systems and controls and high levels of customer service	Monitor macroeconomic risk & mitigate possible impact effectively Mitigate the risk of decisions based on output from flawed models	Managing the risk of loss arising from potential adverse changes in the value of the bank's assets and liabilities from fluctuation in market variables

- The Bank's Top Risks register provides an independent top-down assessment of risks by the EXCO, reviewed by the CRO. The inherent and residual risk scores are based on the opinion/professional judgement. The CRO leads on assessing these risks for debate and approval by ERC, and overview by BRCC on a quarterly basis. Key sources of identification of these risks includes ERC debates, horizon scanning, macro-economic analysis, events and issues, including from external sources, auditors and advisors.
- The Risk Register is a bottom-up risk register which documents the inventory of key critical risks to which the bank is exposed. The Register is linked with the Strategic Risk and objectives through different levels of risk taxonomies. The Register provides an overarching summary of key granular risks identified through professional judgement by management, SOP/policies, Regulatory guidelines, and standards. The inherent and residual risks are classified by frequency and severity to produce a score. Key inputs are a quarterly assessment by the heads of functions, the output of the on-going RCSA analysis, and analysis of operational risk Events and near-misses recorded in the Operational Risk Database. The Register is updated each quarter and submitted for approval at ERC. Each Risk is allocated an owner.



The Register is then linked to more granular risks which are managed through the RCSA.

3.1.7 Risk Assessment Framework

The Risk Assessment is carried out based on different types of frameworks. The principal frameworks are: (i) RCSA; (ii) Compliance Monitoring Framework; (iii) Conduct Risk Self-Assessment; (iv) Enterprise-Wide Risk Assessments for Financial Crime and Compliance; (v) ISO and CQUEST frameworks for Cyber Security; (vi) Credit Policy Framework; and (vii) Internal Audit Assessment Framework. All these frameworks assist in assessing the likelihood and severity of risks, and determine the treatment plans to either mitigate, transfer, avoid or accept the appropriate level of risk in line with ON's risk tolerance and appetite.

3.1.8 Risk Control and Management

Key high level risk control processes are as follows:

Control & Compliance Review and Certification (CCRC) is an annual assessment of the adequacy and effectiveness of controls across the Bank, and an assessment of the risk culture. ExCo members produce an individual self-assessment rating (1-5) for each functional area, together with future plan for enhancement. This is moderated by Risk, and these are combined to produce an overall score for the Bank. The CCRC brings together a holistic picture of the status of the risk management framework in each business area, and the risk culture, reviewed and challenged by the Risk function.

Business Assurance Testing and SLOD Assurance: Testing of the adequacy and effectiveness of process controls is performed by both the first and second line. Once the controls are documented, the priority of testing is defined on a risk-based basis. Controls may operate multiple times a day or daily, weekly, bi-weekly, monthly, semi-annually, annually or on transactional/ ad hoc basis, and the control reviews will be monthly, quarterly, or annual.

Controls are tested to determine the operating effectiveness of the control environment based on defined test plans. The Control Owner is required to review the test being performed (BAT) prior to asserting the effectiveness of the control. The Operational Risk team performs independent testing through periodic SLOD Assurance Testing by taking a 5-10% test sample (on a random basis) to assure the effectiveness of the control by analyzing whether the test results meet the tolerance limit or approved threshold.

The output of these first- and second-line programmes are reported monthly to ERC and quarterly to BRCC.

3.1.9 Risk Monitoring and Measurement

The key risks are monitored through Key Performance Indicators (KPIs) and Key Risk Indicators (KRIs). Each KRI is measured against their appetite thresholds outlined in the Risk Appetite Statement

Risk reporting and MI with qualitative commentary and quantitative data is presented to the BRCC, ExCo, ERC, ALCo, ISMS Committee and OpCo, to provide oversight of the operation of the Bank's risk management framework, to assess new risk-return opportunities, and to provide a commentary on the enterprise-wide risk profile.

The reporting follows the Basel Principles for Effective Risk Reporting. That is to say that amongst other design principles followed, there are clear governance arrangements, standard agreed reporting templates which aim for clarity and conciseness, complete (for all material risks) and timely reports at an appropriate frequency for the risks concerned, reporting tailored to each governance committee in a hierarchical manner based on the importance of the risk, with overall Board oversight. Data accuracy is driven by use of tailored systems nCino and Nucleus, and a Data Warehouse.

The Bank is currently in the process of implementing a GRC system for enhanced tracking and reporting.

Risk Assessment Summary

The Bank takes a continuous improvement approach to manage risks, and improves the suitability, adequacy and effectiveness of the risk management framework and the way the risk management process is integrated. As relevant gaps or improvement opportunities are identified, ON develops strategic action plan and assign them to those accountable for implementation. Once implemented, these improvements contribute to the enhancement of risk management. The Bank's culture aligns with principles of continuous improvement to maintain successful risk management programmes.

This year, the Bank is progressing the introduction of Climate Risk within the RMF following guidance issued under PRA SS3/19. Climate risk is described in section 3.8 of the RMF below and is also addressed as part of the ICAAP Stress Testing process (section 13).

A summary of the residual risk is provided below for each risk type, and a more detailed view of the risk management approach is described in section 9 and the full RMF available in appendix.

3.1.10 Top risks

Risks	Description	Key controls	Assessment
Credit risk	ON's credit experience to date has been very good, but of course it remains a relatively early stage business. Key areas of focus: single name concentration risk (HHI) is relatively high, sector concentration risk (real estate exposure), and the issue of scaling the Credit function to manage rapid growth	Advanced credit process using analytical support from ONGPL and ONE, with experienced underwriters in the UK. Granular credit risk appetite framework. Close active portfolio monitoring and workout.	Inherent risk: Medium Residual risk: Medium
Cyber-security	Risk of malicious, targeted cyber-attack leading to data loss and/or extended system disruption through exploiting weaknesses in security controls over the IT infrastructure, banking systems and other key system and business applications.	Cyber-security strategy in place. Key defences include: (i) AWS premium service taken, which has best in class security accreditation; (ii) Quarterly Pen Tests (with rotation of service providers) (iii) 'Next generation' firewall from Palo Alto (iv) Deception tools from Illusive; (v) Endpoint traffic monitoring and anomaly detection from Proofpoint and Splunk; (vi) Security Operations Centre (SOC) service from EY providing detection and response service 24/7; (viii) Regular patching; (ix) Laptop protection using 2FA & encryption.	Inherent risk: Medium Residual risk: Medium
Operational resilience	Risk that the bank's operational processes and controls are not adequately designed or operating effectively to provide adequate operational resilience. Operational risk will tend naturally to increase as the volume and scale of the bank's operations expands, mitigated by process re-design and automation.	Standard Operating Process documents are in place for all key processes with defined controls and responsibilities. Controls are monitored through the on-going Risk and Controls Self-Assessment Process (RCSA). First line Business Assurance Testing (BAT) and Second Line (SLOD) Assurance Testing is run monthly. An annual business-wide review of control adequacy and effectiveness, the CCRC, is undertaken by the EXCO. Automation is continually driven forward to reduce operational risk and improve data quality.	Inherent risk: Medium Residual risk: Low
Outsourced service provider risk	Risk that the bank is heavily reliant on a group of third-party service providers. OakNorth has a relatively high level of outsourcing in place, by design. The critical outsourced service providers are **AWS** and **ONGPL** Failure of ONE or ONGPL, or a serious interruption in service, would have an impact on ONB. In the short term, the reliance upon ONGPL is the most significant. ·ONB's Credit process, from Credit underwriting to legal work, CDD on-boarding work and Portfolio Monitoring, relies heavily on support from ONGPL and to a lesser extent upon ONE. The process involves both human and system inputs, with ONE's platform used to provide part of the credit analysis whilst the main part of the analytics	OPCO monitors both the performance and the status of the key suppliers and we provide for back-ups to systems and services. ON's contracts provide inspection, audit and monitoring rights. AWS is a world-class supplier with ISO27001 and other accreditations, in which we have considerable confidence. Our cloud-based IT infrastructure gives good resilience. The multiple AWS data centres in Ireland which host ON's data provide multiple redundancy. Services from group companies are provided on a 3rd party, arm's length basis OPCO reviews key suppliers through a structured and ongoing risk assessment process, and this includes group companies. OPCO also reviews performance data regularly on key suppliers against SLAs - AWS, nCino, Mambu, Experian and Equifax. ONGPL and ONE are included.	Inherent risk: Medium Residual risk: Low

Risks	Description	Key controls	Assessment
	and file preparation is completed manually by credit skilled staff at ONGPL ·ONB's Finance and Regulatory reporting teams all rely upon ONGPL resources.	Short-term disruption at group companies can be managed through home working and/or moving work to the UK, and this was successfully managed in this way during the Covid crisis.	
Financial crime	Risk that the bank's controls are not adequately designed or operating effectively to address the high risk/threat of ML, TF, ABC, AFTE, Fraud and other financial crime risks, leading to regulatory censure.	Each risk is subject to an annual Enterprise-Wide Risk Assessment. AML and TF controls include: use of Experian, WorldCheck, ComplyAdvantage search systems Robust Standard and Enhanced CDD processes using 3LOD principles, with 2LOD review of all new Business Loans. AFTE controls are in place within the credit process. Fraud risk is mitigated by awareness training, the use of CIFAS and other search tools and, for the lending book, by detailed scrutiny of each individual deal by experienced Debt Finance Directors who undertake detailed on-site due diligence.	Inherent risk: Medium Residual risk: Low
Liquidity risk	Risk that the bank runs out of liquidity to meet its needs. Deposit raising and loan disbursement not matched sufficiently accurately to maintain an adequate margin of safety in liquidity. Risk that ILAAP forecasts and daily controls prove inadequate. This is a constant challenge for a rapidly-expanding bank like ON which has a limited range of funding sources and is very much limited to the on-line retail deposit market and Partners.	Both short-term liquidity and longer-term liquidity risks are managed closely under monthly report to ALCO, with a daily review in addition. We run sensitivities on our forecasts with conservative assumptions of 50% reduction in repayments and maximum possible loan outflows. Idiosyncratic risk is mitigated by having limited >£85k FSCS cover level balances, plus a significant amount of Fixed Term and Notice accounts. There is no exposure to wholesale markets. The risk of a Partner insolvency and having to return monies to them is acknowledged in our planning. A LCP is in place ready to be used in any crisis.	Inherent risk: High Residual risk: Low
Capital adequacy risk	Risk that the Bank does not raise sufficient capital in each funding round to meet its growth needs as forecast in the Business Plan and ICAAP. Risk that ICAAP forecasts and monthly controls prove inadequate.	EWI limits are in place which monitor the number of days for which the bank holds sufficient capital to meet its projected expansion. These EWIs give a margin of safety over and above regulatory ratios to allow for the bank's rapid rate of expansion, or any stress. The risk is monitored by ALCO with a formal review monthly. Stress-testing is undertaken quarterly.	Inherent risk: Medium Residual risk: Low
People risk	The bank's strategy is to keep headcount down to a size where the ethos and values of the firm as a fast-moving innovator can be protected. This inevitably means that we have dependencies on the skills of single individuals, or recruit staff quickly enough to match the rapid expansion	Resourcing in all parts of the business is monitored actively to avoid issues developing. A quantitative resource management system is in place within Operations. Controls are in place via reporting to OPCO of staff turnover levels. The company provides a competitive remuneration package and coaching and support for a number of staff. Many key staff have invested in the company.	Inherent risk: Medium Residual risk: Low

Risks	Description	Key controls	Assessment
Regulatory and compliance	Risk of regulatory censure and reputational damage through non-compliance. Risks include the Bank falling behind with changing regulation and regulatory expectations or missing a key element in its processes.	Compliance training is repeated regularly to ensure that awareness remains high. Line management control is close, and policy and processes are revised regularly to meet changing needs and changes in regulation identified in horizon scanning. A Compliance Monitoring Plan (CMP) is run continuously covering all areas of the business in an on-going cycle.	Inherent risk: Medium Residual risk: Low
Reputational and conduct risk	A risk of loss (financial and reputational) through not meeting customer expectations and delivering good customer outcomes at all times. This risk could arise from poor controls or poor working practices - a lack of putting the customer first through their journey with the bank.	A customer-centric culture is constantly driven from the top, and the middle. Strong company Values are re-enforced which align with the COCON framework. Active measurement processes are in place via a quarterly Conduct Dashboard, and an annual Conduct Risk Self-Assessment by EXCO using the FCA's '5 Conduct Questions'. We pro-actively monitor all media and manage our PR closely. Remuneration and reward is on a 'balanced scorecard' basis including conduct risk performance and evidencing correct behaviours. Strong product approval processes are in place, and the simple product set also mitigates risk; no complex structured products or derivatives are sold	Inherent risk: Medium Residual risk: Low

3.1.11 Emerging risks

Risks	Description	Key controls	Assessment
Economic environment	The economic backdrop was affected by the Covid crisis, and we are assuming a slow recovery in revenue for hard-hit sectors, with GDP not fully recovering until 2023. The scale of uncertainty around the recovery is reflected in the level of variation in the BoE's forecasts.	We have adjusted our credit stance and are actively monitoring customer performance, and many of our customers in vulnerable sectors have made use of the CBILs scheme. We are monitoring our customers and their cashflow very closely. The portfolio stress tests re-run regularly with updated stress scenarios by sector. Our stress testing constantly adapts and, for example, for both new and existing transactions we currently take into account the risks of supply chain pressures and costs, and the risk of rising interest rates. Our credit stance also evolves in response to our monitoring of the market. For example, we are taking a cautious stance on the retail and office sectors, and on urban apartments.	Low residual risk from developing economic conditions, actively monitored for potential new emerging risks
Increased competition	New competition in the SME space continues to increase. Loan margins are under competitive pressure. We are seeing some increases in recruitment of front-line teams in some of our competitors, and top talent risk remain one of the biggest challenges. We have seen an increase in the competitive rates for deposits, with strong competition from Marcus and other challengers, and competition in the SME lending market space from challenger banks	We have a considerable market lead with our business model. We see our £ multi-million multi-year investment in developing advanced credit analytics as difficult for a competitor to replicate. We will not compete by weakening our credit policy standards Our business model continues to compete successfully and at lower cost of funds as the market moves down Our USPs of understanding customers deeply and fast, reliable execution still holds	Medium residual risk being constantly under monitoring.

Risks	Description	Key controls	Assessment
	is seen from: Funding Circle, Thin Cats, Allica, GB Bank, Starling		
Climate change and ESG agenda	Climate change could have potentially major impacts for certain ON customers in terms of Transition risk and Physical risk, and the regulatory expectations on banks are increasing.	A programme to achieve the targets set in SS3/19 is under way. We have offset all our direct emissions and that of our critical suppliers and have achieved net carbon zero status. We do not lend to the oil and gas sectors, and we assess that our lending to new housing and new growth trading businesses are more likely to meet the applicable energy efficiency standards and assessed our risk exposure as low.	Low residual risk associated with evolving regulatory expectations tracked through ESG programme
Interest rate risk	With recent high inflation data suggesting a rise to as much as 5% by the end of the year – transitory or not – the market is expecting the BoE to raise rates. This presents a risk to the profitability of higher geared businesses and development projects.	Our standard Credit stress tests factor in a rate rise and this is taken into account in our credit risk assessments Rising rates would tend to enhance the Bank's NIM.	Low residual risk associated with scenarios of negative base rates as are untested. Rates are continuously monitored
Supply issues in the construction sector	The construction sector is seeing problems in the supply of materials, which poses a risk to our property development book. The risk could lead to delays and give rise to risk of escalating interest costs and missing longstop dates for pre-sales	We have run a stress test across the entire property development portfolio to assess the effects of a 6 month delay and cost increases, and have found that all our projects withstand this stress.	Low residual risk

Enterprise-wide Risks

3.1.12 Group Risks

ExCo assesses and monitors risks posed to the Bank by the wider OakNorth Group, including capital, liquidity, cyber, conflict of interest, reputational and other risks, and the implications of common contractual arrangements with service providers. A risk assessment is presented to Board semi-annually and is deemed inherently low.

3.1.13 Credit & Counterparty Risk

Risk Assessment

Credit risk is the risk of default and financial loss arising from a borrower or counterparty failing to meet their contractual financial obligations. Lending is the single income stream for the business and the focus of most risk management resource. The key credit risks inherent within the business model and the mitigants are summarised as follows:

Risk Type	Commentary	Mitigants
PD (Probability of Default)	The probability of a borrower or counterparty defaulting	▪ A PD is derived for each borrower via a model developed by the bank ▪ The PD assigned to each borrower is reviewed at least annually, and more frequently for higher risk cases ▪ A review of regulatory compliance is undertaken annually
LGD (Loss Given Default)	Losses arising in the event a borrower or counterparty defaults	▪ An LGD is derived for each facility via a model developed by the bank ▪ The LGD assigned to each facility is reviewed at least annually and more frequently for higher risk cases and/or where there is a material change in the value of underlying security ▪ A review of regulatory compliance is undertaken annually

Risk Type	Commentary	Mitigants
Sector concentration	Lack of diversification of loan book resulting in outsized risk to one sector	▪ Each borrower is categorised as belonging to a business sector ▪ The bank publishes and regularly updates its appetite for each sector and the characteristics of borrowers therein ▪ Caps are applied to each sector to limit the bank exposure in the event of systemic risk/weakness emerging
Single name concentration	Outsized risk of largest borrowers within the loan book	▪ The default of the biggest name(s) within the loan book would have a significant impact on the bank's capital position ▪ To mitigate this and to drive portfolio diversification, the bank limits the % exposure to the largest borrowers within the loan book. This is split and controlled against collateralised/non-collateralised, Top 10, HHI and %age of Regulated Capital control metrics
Watchlist	The prevalence of borrowers evidencing financial stress within the loan book	▪ Bank's objective is to identify problems as early as possible and to manage such cases in a compliant, transparent manner which ensures customers are assisted in resolving their financial difficulties and are quickly able return to financial health ▪ Early Warning Signals (EWS) are identified and proactively managed to help ensure they do not result in a Significant Increase in Credit Risk (SICR) ▪ The bank maintains and regularly monitors a register of such borrowers, and through earlier stages of Early Warning Signals & Intensive Monitoring, and review of these names is more frequently undertaken
Defaults	Borrowers which have failed to meet their obligations as they fall due and are now >90 days past due	▪ Daily MI produced by the bank reveals customers approaching and triggering 90 days past due (PD90) ▪ All such cases are passed to the Workout & Recoveries team to intensively manage the relationship ▪ Systems and processes are in place to ensure that Finance are aware of such names and can account for them appropriately
Exceptions to policy	Incidences where the bank has agreed to exceed stated appetite	▪ Occasionally to support strong lending propositions, ON will agree loans where a key metric is more than approved risk appetite levels ▪ Approval is restricted to senior management under report to the Board, and the % of policy exceptions is regularly monitored and reported

Credit Quality Assurance (CQA)

A second line function reporting to the CRO and independent of the Credit function is CQA. It provides independent, objective assessment of the effectiveness of the Credit Risk Management Framework, making recommendations for enhancement where appropriate.

Workout & Recoveries

ON has a Workout & Recoveries team responsible for the day-to-day management, restructuring and recovery of the Bank's highest risk exposures, including all Watch List cases. The decision to transfer a loan or connection to W&R and the impact on the day-to-day management of the facility is communicated promptly to the Borrower. Following transfer, W&R reviews the history, status and prospects for the account and instructs a security review seeking external review of the bank's security position. A meeting is arranged with the Borrower and an action plan/strategy/proposal is negotiated before being presented to CRMC/BCC for approval. W&R implement the agreed strategy and assess and recommend any specific provisions or impairments to CRMC. Recovery strategies are only implemented once all possible routes for consensual recovery have been exhausted.

3.1.14 Treasury and Capital Risk

Treasury and Capital Risk is defined as the risk that the bank has insufficient capital and liquidity resources to enable it to meet its obligations as they fall due, cannot raise or maintain sufficient funds to finance its future plan or meet minimum Capital and Liquidity regulatory requirements. It covers three key areas: Interest rate risk in the Banking book, Liquidity and funding risk, and Capital risk

Interest Rate Risk

ON carries interest rate risk in the banking book (IRRBB); the risk of loss arising from changes in the interest rates associated with banking book exposures. The risk may arise due to the following:

- Gap Risk: risk arising from repricing mismatch of assets and liabilities. The majority of ON's assets reprice based on the base rates while most deposit liabilities are fixed rate
- Basis Risk: unhedged exposure to one interest rate benchmark with exposure to another interest rate benchmark that reprices under different conditions (e.g., BoE and LIBOR)
- Option or Prepayment Risk: borrowers redeeming fixed rate products when interest rates change, or prepaying loans for other reasons

ON's interest rate risk management policy is detailed in the Market Risk Management policy, which defines, measures, sets hedging policy statements, and details the governance process around management and reporting.

The Treasurer is responsible for the day-to-day management of interest rate risk, reporting to ALCO. Monthly ALCO updates include several risk appetite and monitoring metrics including: NPV sensitivity to 200bp shift in the yield curve, application of the prescribed EBA shock scenarios, an Earning at Risk (EaR) assessment and the basis risk exposure report.

Liquidity and Funding Risk

Risk Assessment

The key risks to ON's liquidity and funding position are assessed in the annual Internal Liquidity Adequacy Assessment Process (ILAAP) process, and are summarised as follows:

Risk Type	Commentary	Mitigants
Deposit run-off acceleration	Risk of higher-than-expected retail deposit outflows under stressed conditions over a short time horizon	▪ The Bank has a large proportion of term deposits with a wide range of maturities, and Non-Maturing Deposits (NMDs) such as the LISA product that are largely sticky and granular. ▪ 97% of the book covered under FSCS guarantee scheme ▪ Up to 74% of OakNorth's undrawn loan book is uncommitted ▪ The Bank holds a conservative HQLA buffer calibrated on severe stress scenario and refreshed monthly.
Partner exit resulting in requirement to bulk transfer of deposit book to another provider	Risk of deposit mass outflow could be triggered by Termination notice, and Partner insolvency	▪ Contractual terms requiring adequate termination notice periods, and stipulating deposits remain with OakNorth over extended periods ▪ Active monitoring of partner performance with MI received from Partners, and full periodical counterparty credit analysis conducted by OakNorth Credit team
Insufficient Operational resources to sustain large increase in deposit volumes	Sudden material increase in new deposit requirements, could exceed the capacity to process applications without undermining customer service	▪ Long-term scaling and advanced capacity planning including 90-day deposit raising plan and access to contractor resources for peak periods ▪ Automation underway to alleviate resourcing constraints over the longer-term ▪ Increasing leverage of partner relationships
System outages preventing the bank from access funds	The Bank experiencing system outages could have an adverse impact on both customer service and ability to raise new deposits	▪ Systematic redundancy built in throughout infrastructure, including customer acquisition screening, agency banking partners and access to multiple payment schemes (Faster Payments / BACS / CHAPS) ▪ Mambu BCP recovery tested under 24 hrs

Risk Type	Commentary	Mitigants
Funding concentration risk: Reliance on retail deposits as sole source of funds	OakNorth's main sources of funding is from online retail deposits. While retail deposits are considered a stable source of funds, securing wholesale deposits or other forms of structured products can provide alternatives should an idiosyncratic risk to OakNorth crystalise.	▪ OakNorth represents a small (0.5%) market share in a large market and has significant scope to grow. ▪ High NIM vs competitors enables OakNorth to price up when required to compete in deposit markets ▪ Established deposit partnerships which have significant unexploited potential. ▪ Customer retention initiatives to improve reinvestment rates
Funding concentration risk - Reliance on too few Marketing Channels – e.g., MoneySavingExpert (MSE)	OakNorth sources a large proportion of direct deposits through MSE. Should MSE become unavailable, OakNorth could potentially have to secure large alternative source of funds	▪ Multi-channel customer acquisition strategy ▪ Tactical rate increases supported by strong NIM position ▪ Switching on paid aggregator channels (plan to test to ensure readiness)
Funding concentration risk: Reliance on too few deposit products	Products could fall out of favour with customers, or competition / pricing could become unsustainable for the Bank	▪ High Product diversification: 48% FTDs, 11% NA, 12% FR/EA ISA, 24% LISA ▪ Ability to raise short-term sight deposits to support temporary replacement of more established products ▪ Longer-term plan to launch new direct and in-direct products e.g., LISA and SAYE
Structural liquidity risk	Risks that the Bank does not have stable source of funding in the medium and long term to enable it to meet its financial obligations, or is unable to replace funds due excessive maturity mismatch between assets and liabilities	▪ High proportion of longer-term funds ▪ Behavioural based cashflow forecasts provide a conservative but realistic measure of the Bank's ALM profile ▪ ALM profile (contractual and behavioural) presented monthly to ALCo, and used to optimize new deposits raising with a wide range of tenures

Capital Adequacy

Risk Assessment

The key risks to ON's capital position are assessed in the annual Internal Capital Adequacy Assessment Process (ICAAP) process, and are summarised as follows:

Risk Type	Commentary	Coverage in Capital Adequacy assessment
Credit risk	Losses from counterparty default	▪ Pillar 1 – mandatory requirements including counterparty credit risk ▪ Pillar 2A – add on for nature of firm's loan book ▪ Pillar 2B –impact of several severe but plausible stress scenarios assessed and compared to CRDIV buffers requirements
Concentration risk	Lack of diversification of loan book	▪ Pillar 2A – add on for concentration risk in the lending book ▪ Pillar 2B – severe stress coverage under idiosyncratic scenario
Operational risk Conduct Risk Compliance risk	Controls not effective, outsourcing failure. Conduct risk, reputational damage impacting client/ supplier relationships, AML breach	▪ Pillar 1 – mandatory requirements ▪ Pillar 2A – add on based on bottom-up Risk Registers and operational risk scenarios ▪ Pillar 2B – severe stress operational risk scenario

Business risk	Volumes / margins/ credit quality in business plan not achieved	▪ Pillar 2B – severe stress scenarios calculated for each of the idiosyncratic risks- credit and margin compression and macroeconomic stresses
Interest rate risk	Impact of interest rate movement on profitability	▪ Pillar 2A – add-on assessment for IRRBB based on FSA017 and Risk Appetite limit as set by Board

Stress Testing

It is a process by which the Bank's business plans are subjected to 'severe but plausible' adverse impact scenarios to assess the potential impact on the business including projected capital and liquidity positions on a regular basis. The results of stress testing, along with proposed actions, are reported to ALCO, EXCO and to the Board, including the Bank's performance against Board approved risk appetites for performance under stress. Key stress tests are captured in the ILAAP and ICAAP, including those which help to inform the Banks assessment of its need for a stressed loss buffer (P2B), alongside the Bank's Recovery Plan and regular stress testing exercises. The result of these stresses then provide key inputs into the calibration and validation of the Banks capital risk appetites. Additional details on Credit risk, Liquidity and Funding risk, Interest rate risk and Operational risk are provided in the subsequent sections of this document.

3.1.15 Market Risk

There is minimal Market Risk in our current business model, deriving only from investment of surplus liquidity in short term gilts, which are held to maturity.

3.1.16 Strategic Risk

The Bank defines the strategic risk as the risk that changes to the business model, or macro-economic, competitive, geopolitical, regulatory, or other emerging factors (climate, ESG, etc.) may lead to an inappropriate or obsolete business strategy or strategic plan which is not suitable for the Bank's long-term success.

3.1.17 Macro-Economic and Competitive Risk

The portfolio segmentation and selection of economic loss drivers for IFRS9 follow closely the approach used in stress testing. The robust forecasting models for each portfolio segment (defined by product or asset class and where relevant, industry sector and region) are based on a selected, small number of economic factors, (typically three to four). The process to select economic loss drivers involves empirical analysis and expert judgement.

The most material economic loss drivers include gross domestic product (GDP), the unemployment rate, the inflation rate, the house price index, the Bank of England base rate and CDS movements.

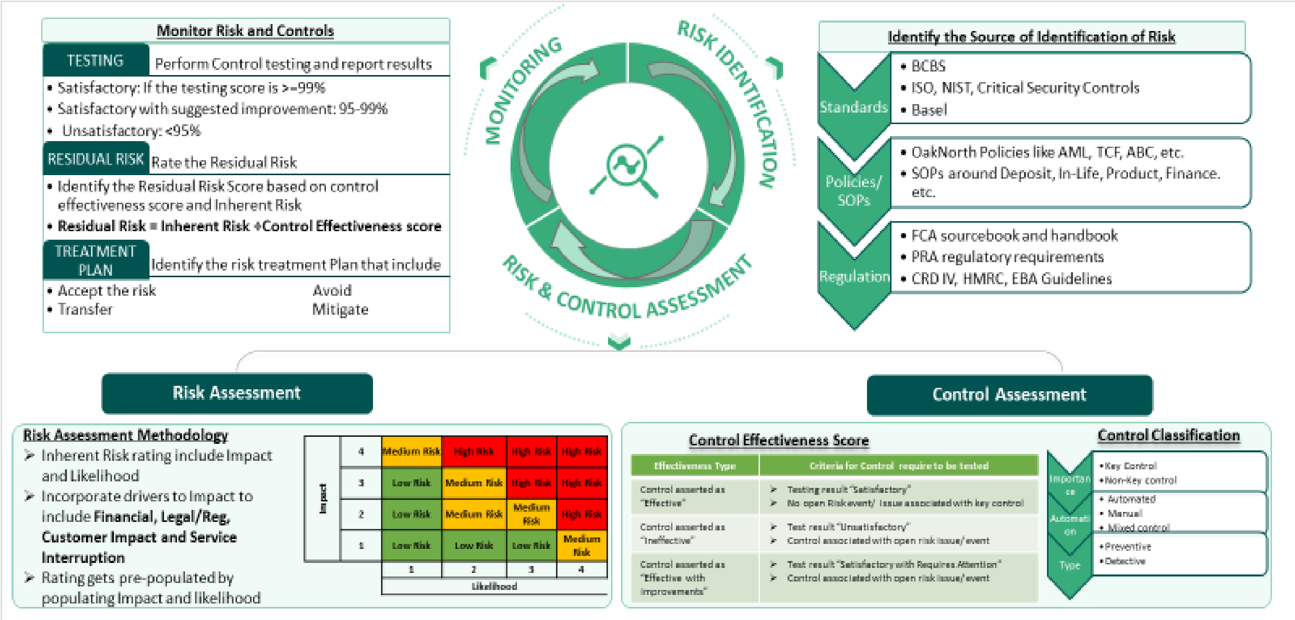
3.1.18 Operational Risk

Operational risk is defined as the risk of direct or indirect impacts resulting from human factors, inadequate or failed internal processes and systems, or external events. ON seeks to ensure the identification and assessment of the operational risks inherent in all material products, activities, processes, and systems, to ensure they are well understood and mitigated.

Risk Assessment

The operational risk assessment is managed through the RCSA process.

RCSA: the Risk and Controls Self-Assessment tracker is a risk management tool where risks and controls are examined and assessed process by process to provide reasonable assurance to management that the controls are adequate. An RCSA template is used, and outputs and action plans recorded, which includes risks description - classified via the Risk Taxonomy, Risk Owners, Inherent Risk Frequency, Inherent Risk Severity, Risk Score / Risk Rating and Risk Treatment Plan, Key Controls (briefly described, including roles and responsibilities), Control Testing Procedures, Control Effectiveness Rating and Risk Treatment Plans, Second Line of Defence (SLOD) review completed, and (FLOD) response and action.



The process follows '3LOD' principles, as follows:

- Front line business including Finance populates a master RCSA spreadsheet for each of the key processes, on an end-to-end basis e.g., deposit account origination, and reviews the analysis quarterly, or on the occurrence of an Operational Risk event
- Risk as SLOD reviews and challenges the risk and control analysis
- Front line business (and Finance) undertakes the agreed set of Business Assurance Tests on a risk-based approach on all key processes quarterly, and keep full records as an audit trail
- Risk as SLOD reviews the test results and recommends changes as required
- Reports are submitted to the CRO and OpCo and ExCo monthly on control changes and test results
- Internal Audit undertakes periodic independent reviews on both first- and second-line work

Key Risk	Commentary	Mitigants
Cybersecurity	▪ Whereby hackers manage to infiltrate our systems and download their data, or internal staff abuse network access privileges.	▪ The Bank has its IT infrastructure on the cloud with a high-quality service provider, AWS, and employs a range of defence measures including firewalls, a VPN, Data Encryption, and various leading monitoring and cyber defence software tools. 24/7 monitoring is in place via a Security Operations Centre (SOC) and external independent Penetration Testing is undertaken. Since last year, ON has added a CISO to provide ongoing challenge and review in this area, with the Bank now working towards ISO27001 certification.
Operational Resilience/ BCP and Crisis Management Risk	▪ Inadequate business continuity planning/event management ▪ The risk of failure to establish and maintain a Service Continuity plan/policy resulting in the inability to respond to major business disruptions in the event of an incident	▪ The Bank has robust governance on Operational Resilience, BCP and Crisis Management ▪ Operational Resilience programme being overseen by the ExCo and the Board ▪ Periodic BCP testing being conduct across locations, services, systems and applications ▪ Periodic updates on monitoring of BCP and Operational Resilience being reported to the OpCo ▪ Annual Business Impact Assessment being carried out for assessment of important business processes, systems and applications
Financial Crime / Fraud	▪ Financial Crime - including Money Laundering, Internal or External Fraud and theft of assets.	▪ Risk is mitigated by not dealing with cash, and have AML / TF, ABC and anti-fraud controls in place operated by dedicated and appropriately trained staff in first and second line.
Change Management	▪ Failure of operational processes or controls through poor design and/or implementation, or inadequate embedding of controls, causing human error.	▪ This risk is mitigated through structured project management processes including planning and estimating, requirements development, design, code and unit testing, testing for deployment, peer review, and configuration management. ▪ Structured processes such as New Product Approvals bring together a holistic risk assessment covering all risks: conduct, compliance, operational, credit etc.
Systems Risk	▪ Risk that IT systems fail to provide the functionality required	▪ The failure of IT systems to perform to specification is mitigated through structured change management processes and a robust Testing programme. As one of the first banks to put its IT infrastructure onto the Cloud, ON has a modern and robust IT platform with the ability to expand capacity rapidly as the Bank grow
Third Party Service Provider Risk	▪ Risk of a key supplier failing to deliver in terms of critical services and/or systems which have a material impact on the operation of the Bank.	▪ Structured risk assessment and monitoring processes are in place, on a risk-based basis. ▪ Service providers are assessed into Tiers and the level of due diligence set accordingly ▪ An EBA compliant Register is maintained ▪ Back-up services are put in place for all significant service providers ▪ Annual reviews are undertaken of performance
People Risk	▪ Failure to recruit, manage, train, retain or remunerate people appropriately	▪ 'Key man' dependencies are inevitable in a small firm but are mitigated via appropriate reward and incentive arrangements and Board-approved succession planning
Operations	▪ Constant in all manual processes	▪ This is mitigated through minimizing manual processes with automation.
Data Loss	▪ Risk around comprising the personal identified	▪ Data Protection and Record Management Policy ▪ DPIA

Key Risk	Commentary	Mitigants
	information or confidential/ restriction data which is either at rest or in transit	▪ DLP controls ▪ Privacy Notice
Scaling	▪ Risk of inadequate strategic planning conducted while preparing for scaling up the business, leading to operational impact (employees working under stress and long hours); customer impact (customers feel alienated); financial impact; legal impact; etc.	▪ Five-year planning is under way ▪ The Scaling plans for Operations and IT, Credit, Risk, IA, PM, and other functions are agreed for 2021.

3.1.19 Cyber Security

Identifying, controlling, and measuring the risk of cyber-attacks remains a key priority for ON. At all levels of the organization, measures are taken to ensure that the likelihood and potential impact of a cyber-attack to maintain the confidentiality, integrity, and availability of our information and systems. A proactive, adaptive, and rigorous cyber risk management programme is a critical constituent of the RMF.

Risk Assessment

ON leverages a structured cyber risk management framework based on principles outlined in NIST Special Publication 800-37 Rev 2, serving to link risk management processes with organisation-level governance with operational actions. At a high level, risk assessments are conducted by identifying threat sources and vulnerabilities, determining the likelihood of risk occurrence, and estimating the magnitude of impact.

The Bank has adopted ISO/IEC 27001:2013 standards for ensuring protection from a variety of threats and minimizing business damage.

ISO 27001:2013 framework

In line with ISO standards, the risk assessment considers business impact and consequences that may arise owing to a loss of confidentiality, integrity and availability of information. It includes the preparation of an Information Asset Register to determine the asset value of all the information assets used by different functional areas, determined based on its impact to the Confidentiality, Integrity and Availability of the information. Threats and vulnerabilities are identified and documented for each Information Asset type, and impact/likelihood evaluated to compute the risk value. These risk values combined with the asset value compute the overall inherent risk score. Risk treatment plans are determined for each threat and vulnerability, and control mitigants are documented and tested and residual risk computed.

Cyber Resilience Assessments

Regular cyber security maturity assessments are made against the CQUEST self-assessment co-developed by the PRA and FCA, and the US NIST framework. The first and second line of defence re-assess the status and maturity of the cyber defences of the bank using these frameworks on a half-yearly basis.

Financial Crime / Fraud

Financial crime risk is the threat posed to ON's financial, organisational, or reputational standing resulting from facilitation of financial crime and/or violation of laws and regulatory standards aimed at preventing financial crime through the regulated sector. Financial Crime is placed in several themes:

- Anti-Money Laundering (AML) and Counter Terrorist Financing (CTF)
- Sanctions
- Anti-Bribery and Corruption (ABC)
- Fraud
- Anti-Facilitation of Tax Evasion (AFTE)s

ON's risk-based controls framework begins with annual Enterprise-Wide Risk Assessments (EWRA) of key financial crime themes, ensuring residual risks stay within an EXCO-approved risk appetite framework. Day to day, policies and processes are in place to manage each of these areas, with key controls covering due diligence, training, advisory, monitoring and reporting.

3.1.20 Risk Assessment

EWRAs for AML, Fraud, AFTE and ABC assesses the inherent risks that ON is exposed to across the Bank e.g., by looking at product lines or specific functions who perform roles that are captured by certain financial crime themes. Inherent risk, based on variable factors is judged to be low, medium, or high.

Controls in place to mitigate inherent risks are then mapped across to ensure that no gaps are present or, where they are gaps or controls are not working effectively, that action plans are in place to improve. From the control effectiveness assessment, a residual risk score is provided to ensure that, overall, financial crime risks remain with appetite. Inherent risks also assist in driving training plans, monitoring reviews and certain other controls.

Lower-level risk assessments exist to, for example, risk rate customers at onboarding or to manage the risk of Politically Exposed Persons.

Both EWRAs and lower-level risk assessments ensure a robust risk-based approach to anti-financial crime is present and

3.1.21 Change Management

Change Management risk is defined as the failure of operational processes or controls through poor design and/or implementation, or inadequate embedding of controls, causing human error. The Bank processes aim to ensure that projects meet all regulatory, legal, risk and audit requirements, and are completed as per agreed scope, within budgeted costs and timeframe, as per the stipulated approval and project oversight matrix.

Risk Assessment

The Request phase entails the requester providing sufficient information about what is being requested including goals and benefits, along with an initial Risk Assessment, to allow the Product and Technology Lead to work with the relevant Developers and builders of the change to produce a high-level estimate. Project categorisation, setup and initial scoping is also completed.

The Risk Assessment is the responsibility of the Product or Technology Lead for the project and involves the completion of an assessment of the risks across the spectrum: operational, compliance and regulatory, financial, credit, data protection, and reputational, along with planned remediating actions to mitigate their impact (as outlined below). This is submitted at the initial concept approval stage and reviewed by all stakeholders, including second and third line, at the Executive Project Board (EPB).

New Product Approval

ON aims to build a franchise reputed for providing high quality customer solutions with well-defined and transparent customer outcomes, tailored to meet the needs of clearly defined target markets for each product offering. The Product Policy defines the framework under which the Bank oversees product development and considers all associated risks in the execution of new products. All new deposit products are approved and reviewed through the New Product Approval (NPA) process by ExCo. All new SME lending products are approved and reviewed within the CRM Policy process by BCC.

NPA proposals use a standard Template to enable proposals to be risk-assessed in a structured format, including defining the business case, Compliance and Conduct risk, Operational risk, Finance and Liquidity risk, Legal risk, Data Protection risk, Credit risk, Reputational risk.

In particular, the assessment of conduct and regulatory compliance risk uses the 'customer outcomes' approach. The assessment includes product design, channels, marketing proposals and pricing. Offerings must have a clearly articulated target market, with defined customer needs that the proposal would fill. Customer research supporting the proposal may be required.

The assessment of Operational risk identifies changes to the existing operational risk profile of the Bank (for better or worse), including system, process, and capacity planning issues. The Business Case must present the economics of the product and the success criteria, and a cost-benefit analysis, including sensitivity around income and sales volumes.

Every product has a Post Launch Review presented to EXCO at 6 months, to assess how a new Product is operating post go-live compared to the initial plan. This includes an assessment of all customer feedback and any complaints, and the level of take-up. Reviews are performed annually for EXCO scrutiny.

3.1.22 Third Party and Outsourcing Risk

The risk of a key supplier failing to deliver in terms of critical services and/or systems which have a material impact on the operation of the Bank is a significant issue for ON, which makes extensive use of Outsourcing.

Risk Assessment

All service providers suppliers are risk assessed through a standard process and templates, under OPCO oversight, reviewed and vetted for their standing, and contracts include monitoring rights and SLAs. A Risk Assessment template defines the level of risk using factors including level of cyber security, financial, compliance, reputational impact of service failure, how easily the supplier can be replaced, and ABC assessment including any involvement of public officials, the level of sub-contracting, DP, and cyber-security standards.

Whilst the supplier due diligence risk assessment is conducted at a supplier level (where the different tiering of the supplier arrangements is categorized based on the scope of service, the criticality of the functions to ON, substitutability, etc.), the risk assessment is conducted at a functional level as well

ON takes reasonable steps to ensure that each of our suppliers under material outsourcing arrangements deals in an open and cooperative way with the appropriate Regulator in the discharge of its functions in relation to the firm.

At the time of taking the decision around the services being outsourced by ON, an assessment of materiality/criticality or importance of the outsourced function is considered based on the following parameters:

- In case of a <u>critical/important function</u>: if a defect or failure in performance of a function:
- would materially impair ON's continuing compliance with the conditions of authorization and regulatory obligations
- Impacting the financial performance of ON
- Impacting the soundness or continuity of ON's banking services and activities
- In case of a <u>material function</u>: if weakness in the function outsourced would cast serious doubts upon ON's continuing satisfaction of the Threshold Conditions or compliance with PRIN.
- The PRA considers that a 'material outsourcing' arrangement encompasses a 'critical or important outsourcing' arrangement. 'Material outsourcing' arrangement assessments are substantively aligned to the criteria for identifying 'critical or important outsourcing arrangements. The Criteria that render an outsourcing arrangement material includes cases where a defect or failure in its performance could materially impairs:
  - the financial stability of the UK.
  - Bank's compliance with the fundamental rules.
  - the requirements under 'relevant legislation' and 'the PRA requirement'.

3.1.23 Key Outsourcing risks:

While the outsourcing of certain activities can create several benefits, there are several risks which need to be managed effectively. Some of these key risks are:

Risk Type	Major concerns	ON Controls
Third-party Strategic Risk	▪ The third party may conduct activities on its own behalf which are inconsistent with the overall strategic goals of the regulated entity. ▪ Failure to implement appropriate oversight of the outsource provider. ▪ Inadequate expertise to oversee the service provider.	▪ The contractual agreement with each Supplier provides for specific services aligned with the strategic goals of the Bank. Each supplier goes through a rigorous due diligence process before it is onboarded. ▪ The agreed service level metrics are monitored for the critical service providers monthly at OpCo and periodic reviews with revised risk assessments reviewed annually by OpCo
Reputation Risk	▪ Poor service from third party. ▪ Customer interaction is not consistent with overall standards of the regulated entity.	▪ ON checks service provider reputation during due diligence process to onboard suppliers fit to provide quality products or services.

Risk Type	Major concerns	ON Controls
	▪ Third party practices not in line with stated practices of a regulated entity.	▪ The relationship is managed through contractual agreements providing consistency with ON's standards including compliance considerations
Compliance Risk	▪ Outsource service provider has inadequate compliance systems and controls. ▪ Risk of entering into a transaction on the basis of representations or investigations which fail to disclose material facts or circumstances (i.e. defective documentation presented which are non-compliant to regulation)	▪ ON's service agreements provide attestation from supplier to comply with the generally acceptable standards of technological security for the purpose of protecting ON's data, and security assessments are carried out against regulatory standards. ▪ Contractual agreements provide clauses in line with PRA/ FCA and EBA guidelines on Outsourcing. ▪ As part of the DD process, ON reviews the documents shared by suppliers to ensure their systems and controls are compliant with relevant standards.
Operations Risk	▪ Technology failure. ▪ Inadequate financial capacity to fulfil obligations and/or provide remedies. ▪ Fraud or error ▪ Risk that firms find it difficult/costly to undertake inspections	▪ The day-to-day operational availability of the outsourced services is monitored through metrics at OpCo monthly. ON engages with the supplier on any disruption, early warnings, or breaches. ▪ Contractual agreements provide clauses around termination and Indemnity in case of service level breaches, fraud, bribery, and corruption etc. ▪ Periodic Assessment is carried out on systems and controls of the Outsourced service provider ▪ Experian checks and a credit assessment is conducted at on-boarding periodic review
Exit Strategy Risk	▪ The risk that appropriates exit strategies are not in place. This could arise from over-reliance on one firm, the loss of relevant skills in the institution itself preventing it bringing the activity back in-house, and contracts which make a speedy exit prohibitively expensive	▪ Contractual clauses on Transition, Exit and Termination rights, include a requirement for a documented exit plan for material outsourcing arrangements where such an exit is considered possible, explicitly catering for unexpected termination (a stressed or unplanned exit), and considering possible service interruptions
Counterparty Risk	▪ Inappropriate financial due diligence or credit assessments. ▪ Quality of receivables may diminish.	▪ Experian checks and credit assessments are conducted at the time of on-boarding and during periodic review
Country Risk	▪ Political, social, and legal climate may create added risk. ▪ Business continuity planning is more complex.	▪ ON's Due Diligence and risk assessment framework include country risk to assess if suppliers operate out of any high-risk countries ▪ Data Residency and Data location centres of suppliers are assessed to ensure appropriate data back-ups can be taken and stored securely. ▪ Business Contingency Planning statements are requested from suppliers

Risk Type	Major concerns	ON Controls
Contractual Risk	▪ Ability to enforce contract. ▪ For offshoring, choice of law is important	▪ Master Service Agreements include all mandatory clauses relevant to the jurisdiction applicable to parties
Access Risk	▪ Outsourcing arrangement hinders ability of regulated entity to provide timely data and other information to regulators	▪ Standard contractual agreement with suppliers and the Bank ensures unhindered and timely access to any data/information for regulators.
Concentration and Systemic Risk	▪ Overall industry has significant exposure to outsource service providers. This concentration risk has several facets, including lack of control of individual firms over provider: and systemic risk to industry.	▪ Materiality assessments are carried out for all supplier and rigorous diligence, monitoring and oversight being done on material service provider. ▪ Outsourced processes are tested regularly.

3.1.24 Operations Risk

The risk of human error applies to all manual processes. The teams continually assess and identify critical processes where the risk can be mitigated through automation.

Operational Resilience, Business Continuity & Crisis Management Plan

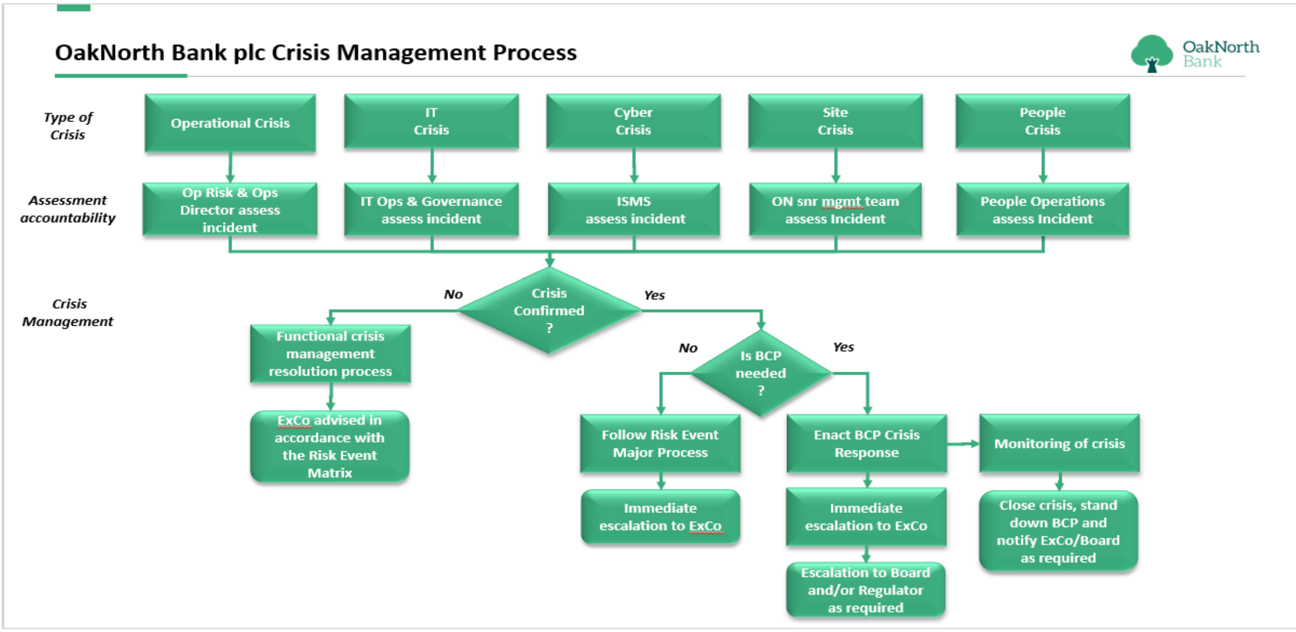
Operational Resilience is the ability of ON and its systems and controls to prevent, adapt and respond to, recover and learn from, operational disruption. It is a key priority for ON as the regulators regard this as being *"as important as financial resilience"*, and that we are expected to give it the same level of attention and resource. OakNorth:

1. Identifies Important Business Services: a service provided by a firm or FMI to an external end user or participant where a disruption to the provision of the service could cause intolerable harm to consumers or market participants; harm market integrity; threaten policyholder protection; safety and soundness; or financial stability
2. Sets an Impact Tolerance for disruption for each Important Business Service
3. Ensures that we can deliver Important Business Services and are able to remain within Impact Tolerances during 'severe but plausible' scenarios

ON has a Business Continuity & Crisis Management Plan (BCP) in place that establishes systems of prevention and recovery to deal with potential threats to the Bank. The Bank conducts a Business Impact Analysis (BIA) annually to identify and quantify the operational and financial impact from foreseen crisis events. The BIA establishes the criticality of partners, applications, infrastructure, people assets, business processes, operational activities, and their respective interdependencies. This is the prerequisite for the creation and maintenance of the Plan.

To ensure business operations continuity, the BIA defines the recovery objectives i.e., Recovery Time Objectives and Recovery Point Objectives. These metrics help decide the recovery priorities in case of crisis or business disruption.

The BCP will be activated in response to an identified Crisis. This could be but is not limited to damage to a site, failure of critical IT systems, cyber-security attack, mass unavailability of employees or loss of other key suppliers. The crisis could be identified in several ways; ON people direct experience, site security/facilities management, alarm/monitoring teams, supplier notification or media reports. The flow chart below describes the assessment, types, and handling of crises:



3.1.25 Data Loss

ON has based its Data Protection and Record Management policy on the GDPR in its role as both processor and controller of personal data. Key objectives of this policy are to:

- Comply with the principles - processing data lawfully, fairly and in a transparent manner, collection for legitimate purposes, adequate, relevant, and limited, accurate, kept in a form which permits identification of the data subject for no longer than necessary, and processed in a manner that ensures appropriate security
- Provide arrangements to customers for right of access, rectification, portability of data etc.
- The Policy lays out roles and responsibilities and processes. It is overseen by a Data Protection Officer.

3.1.26 Scaling Risk

ExCo produces an annual scaling plan alongside the annual Strategy review and Management Plan review to ensure that resources in all three lines of defence are adequate for the projected business growth.

Conduct Risk (including Regulatory matters and Compliance)

The risk of legal /regulatory sanctions or material financial loss from a failure to comply with applicable laws, regulation, rules, standards, and codes of conduct. It is the risk of failing to understand and comply with relevant laws and regulatory requirements and regulatory expectations. It also includes the risk of treating customers unfairly and delivering poor outcomes that lead to customer detriment or undermine market integrity.

3.1.27 Conduct and Culture

Conduct risk focuses on how the bank and its employees behave with the view to reducing the risk of, for example, not acting with the right amount of market integrity, poor customer outcomes, financial loss to the bank or reputational damage due to the decisions made by the business or through the behaviour of employees.

Risk Assessment

A Conduct Self-Assessment covering the FCA's '5 Conduct Questions' is led and moderated by the Risk function annually. The EXCO assess their respective business areas and analyse compliance with the framework and to having appropriate systems and controls in place to ensure ongoing compliance and maintain the appropriate customer-focussed culture within the firm and in line with COCON rules.

3.1.28 Compliance Risk

Compliance risk is the threat posed to ON's financial, organisational, or reputational standing resulting from the risk of legal /regulatory sanctions or material financial loss from a failure to comply with applicable laws, regulation, rules, standards, and codes of conduct. The risk also relates to the failure of the bank to understand and comply with relevant laws and regulatory requirements and expectations, and the risk of treating customers unfairly or delivering poor outcomes that lead to customer detriment or undermine market integrity or the risk of inadvertently facilitating financial crime. The Bank's risk-based controls framework begins with an annual Enterprise-Wide Risk Assessment of Compliance as a whole, and key compliance risk areas.

A formal Risk Appetite is set by the Board and articulated and measured through the Regulatory and Compliance Risk Appetite metrics, which include metrics around completion of training, compliance breaches, monitoring of complaints.

Policies and processes are in place to manage each of these areas, with staff required to complete annual mandatory training and policy reading.

Risk Assessment

Operations undertake business assurance testing on a variety of their operational processes. This is complemented by second line SLOD testing and Compliance monitoring reviews in line with the Compliance Monitoring Plan (CMP).

The CMP is devised via the identification of the compliance risks originated from legal and regulatory guidelines, rules and standards which takes account of business activities such as new projects, complaint trends, risk events, regulatory focus etc and incorporates the key focus areas identified through the Annual Compliance Plan. An assessment is made annually to determine the Plan and its priorities. The re-assessment includes review of PRA and FCA rules for applicability to ON, and any changes in the Bank's business model and environment are considered to create an annual Risk Assessment Matrix within the CMP.

The CMP lays out a review of all areas of the Bank's activities against the relevant regulations over a two-year cycle and on a risk-based basis. A monitoring review is initiated for each area, with the processes, systems and controls followed by the bank validated against regulatory requirements. A gap assessment is performed to assess the compliance of processes based on

1. Process Design effectiveness: performed by mapping the regulatory control checkpoints (i.e., rules, standards, or regulatory guidelines) with ON's governance documents
2. Operational Effectiveness: performed through the testing of existing procedures to ensure that the procedures, systems, and controls are operating as per the policies and regulatory expectation

Any compliance gap (based on design and effectiveness assessment) identified during the assessment is recorded in a Compliance Monitoring Report (CMR), along with recommendations for improvement and remediation actions. Each finding and the overall report are assessed in line with four RAG ratings. The ratings for findings are: 'Material improvement required', Gaps/failings identified requiring immediate remedial action to ensure compliance or prevent customer harm; or where notification to Regulators may be required; 'Substantial improvement recommended': Gaps/failings identified in systems and controls where substantial management action or urgent remedial action is recommended; 'Moderate improvement recommended': Systems and controls operating effectively, however further enhancements recommended; 'No improvement required or minor improvement recommended'.

The overall rating of a Compliance Monitoring Report is graded based on following: Red Rating ("Urgent action needed"); Amber Rating ("Limited Assurance"); Yellow Rating ("Adequate Assurance") and Green Rating ("Satisfactory").

The CMRs are issued in draft for consultation and actions and deadlines agreed with stakeholders. The remediation actions are tracked through to completion, and monthly reports are made to OpCo and EXCO and quarterly to ERC and BRCC.

Conflicts of Interest

Controls include quarterly reminders sent to all staff to remind them of their obligation to report conflicts of interest and OBI to Compliance. In respect of Business Loans, all employees that are part of CRMC are required to disclose any personal interests, related party transactions, or potential conflicts in any facility the Bank is considering lending to at or before the Credit Committee meeting. To mitigate the risk, the employee will not be permitted to take part in the decision-making process. The HoCR, HoRA and the CRO must also be advised of any related party transactions. If a conflict between two customers or potential customers arises, the HoDF and the Director, Compliance put in place and monitor "Chinese Walls" to ensure that each facility is assessed separately, and all data and records are segregated, secure and only accessed on a need-to-know basis. ON declines to act where a Conflict of Interest cannot be managed sufficiently.

3.1.29 Reputational Risk

Reputational risk can arise from the conduct of employees, customer activities and the sectors and countries in which they operate, provision of products and transactions, our operations and infrastructure, as well as external factors. ON defines Reputational Risk as the risk to its public image from a failure to meet stakeholders' expectations in relation to performance, conduct or business profile. Stakeholders include customers, investors, employees, suppliers, government, regulators, and other group companies.

ON aims to build long-term value and have no appetite for anything but the highest reputation amongst customers, shareholders, regulators, and employees. The bank aims to avoid any negative reputational event, and as such focus on delivering fair customer outcomes, upholding market integrity, and implementing robust systems and controls designed to meet all regulatory requirements. ON actively monitors customer satisfaction and complaint trends, survey our employees and customers, and take swift action to remediate any identified risks.

The reputational risk appetite, exposure and approach aims that the Bank:

1. Ensures that the reputational impact of changes to products, pricing, systems, and processes is formally considered at the relevant Committee; and
2. Ensures that the Public Relations and Corporate Affairs function assesses material risk events for reputational impact and initiate mitigating actions as appropriate

3.1.30 Climate Risk

Climate Risk is the risk that Climate change may affect the Bank's business and operating model through financial or reputational risks generated by the transition to a low carbon economy, or directly through assets exposed to the physical effects of Climate change or failing to seize market opportunities. Climate change can affect the Banking industry in a broad way, either directly or indirectly and ONB is currently developing its risk management framework in line with industry best practice, embedding the management of Climate Risk within all potentially impacted areas. This primarily includes Credit Risk, Operational Risk and Reputational risk.

Physical risks from climate change arise from several factors and relate to specific weather events (such as heatwaves, floods, wildfires, and storms) and longer-term shifts in the climate (such as changes in precipitation, extreme weather variability, sea level rise, and rising mean temperatures).

Transition risks can arise from the process of adjustment towards a low-carbon economy. A range of factors influence this adjustment, including climate-related developments in policy and regulation, the emergence of disruptive technology or business models, shifting sentiment and societal preferences, or evolving evidence, frameworks, and legal interpretations.

ON's own impact on climate change

Direct emissions: We are amongst the first banks globally to offset our estimated direct emissions (Scope 1 – Direct GHG) and that of our critical suppliers (Scope 2 – Electricity indirect GHG), to be net carbon zero. The largest element of Scope 1 relates to air travel; the largest element of Scope 2 relates to the electricity used by the suppliers of our IT infrastructure. These suppliers have plans themselves to reduce their carbon emissions, but until they have implemented these plans, we will continue to use offsets.

Indirect emissions: Scope 3 (Other indirect emissions, including emissions from our clients): as a lender, we proactively screen for businesses that conduct their businesses in a sustainable way. For our real-estate book, climate change may impact our collateral values and hence income, so we continue to monitor our exposures closely.

Risk Assessment

The Bank is primarily exposed to Climate Risk through the effect of climate change on its Borrowers and suppliers. ONB is actively engaged with industry groups and is expected to disclose its net-zero target to the industry via its Tech-Zero membership at the end of 2021

Risk Type	Commentary	Mitigants
Physical Risk	▪ ONB is primarily exposed to physical risk through credit exposure to Borrowers' property collateral for the CRE loan portfolio, and physical asset, operations, and supply chain for the business trading portfolio	▪ ONB is currently running the BOE climate stress scenarios as part of its risk identification process ▪ Measurement of Physical Risk is centred on flood risk and energy efficiency rating and its impact on collateral valuations and insurance. ▪ Credit MI will be developed to include Climate Risk elements along with corresponding Risk Appetite Statement
Transition Risk	▪ The Bank can be exposed to transition risk on its borrowers' scope 1 and scope 2 emissions	▪ The Bank is leveraging the work of ON Enterprise models to measure transition risk within the portfolio. As the Bank's own analytical capability is further developed, ON will produce more granular MI.

Risk Type	Commentary	Mitigants
	▪ Industries relying on energy intensive materials may be connected to higher greenhouse gas emissions.	▪ Stress testing is currently being conducted with an initial focus on industries deemed directly affected by the transition to a low carbon economy, such as manufacturing in which we have a small exposure, and for the property book, the EPC rating of property collateral.
Reputational Risk	▪ ON's customers, partners Regulators and suppliers and the broader public opinion expect Banks to take an active role in the transition to a low carbon economy. ▪ ON will be committing to a timeframe to achieve net-zero at the end of 2021	▪ ON has already achieved net-zero for scope 1 and scope 2 emissions and is actively pursuing net-zero for scope 3 emissions. As part of its engagement with Tech-Zero, ONB is carefully assessing the steps that can be taken to achieve scope 3 net-zero. ▪ ONB has implemented a Climate Risk Steering Committee to supervise the implementation of climate risk management within the Bank.

ON Climate Change Programme

The Bank is committed to ensuring its business is run in a sustainable, long term, manner and this work has a high profile at Board level, with climate change a Board agenda item at least twice a year and disclosures now a regular feature of our annual reports, with plans to expand these going forwards in line with industry best practice.

The Bank has ensured the SMF responsibility sits with a senior figure within the management team (CRO) to ensure sufficient weight is given to climate workstreams and is putting in place a plan to fully embed climate risk across the Bank's decision making and risk management processes.

ON has also established an ESG Steering Committee to provide oversight of the implementation of Climate Risk within the Bank, and intended to address key requirements set in PRA SS3/19

Through the Climate Risk Programme, ONB is in the process of implementing all necessary aspects to manage the risk across the organization and covering:

1. Governance: oversight by the Board of the Bank's Climate strategy, and integration of Climate Risk considerations through the Bank's relevant committees
2. Scenario Analysis & Risk Identification: Identification of necessary metrics and impacts across the portfolio by implemented the CBES climate scenarios, linking with ONE to benefit from the latest industry leading analytics
3. Risk Management & Mitigation: Establishing a Risk Appetite Statement, both as a standalone Principal Risk, and embedding within other functional risk areas, such as Credit Risk
4. Reporting & MI: Definition of key metrics for reporting in committees and day-to-day management of the Bank's climate risk exposures
5. Disclosures: In line with regulatory expectations and the Task Force for Climate Disclosures (TCFD), establish external reporting and disclosures through the Bank's annual report, Pilar 3 disclosures, and wider industry engagement.

4 Pillar 1

Summary: As a bank on the standardised approach, OakNorth utilises the standardised risk weight regime for Credit risk. The Bank risk weights its assets in line with its internal policies, with the average risk weight 103% as at June 2021, and remaining broadly flat over the plan. This gives risk weights of £2,631m as at end June 2021, incorporating the credit risk mitigation benefit of the CBILS and CLBILS loan schemes.

The Bank has adopted the Standardised Approach to determine its Pillar 1 credit risk capital and counterparty credit risk capital requirements, applying standard rules to each exposure class. The weighted average risk weight of the Bank's lending exposures (after application of CCF) under the standardised approach is 103%

From 2023 the anticipated implementation of Basel 3.1 in the UK is expected to have a material impact on the methodologies for calculating both Credit and Operational risk RWAs under the standardized approach. For planning purposes OakNorth has made conservative assumptions set out below about how the Bael 3.1 package of reforms may be implemented in the UK. These planning assumptions will continue to be refreshed as details come out on the BoE's expected implantation approach with an anticipated consultation paper in Q4 2021.

Credit Risk Capital

The Bank has Credit RWAs under the following asset classes. For projection purposes similar product mix has been used. The following are the broad RWA classes applied by the Bank in accordance with the Bank's RWA policy:

I. Lending exposure RWAs:

1. **100% RWA Corporates exposures (20% of end June loan RWAs):** This includes Business Loans to SME clients, secured via debenture / charge over debtors & inventory / personal guarantee or loans secured on business cash flows only.

   Post Basel 3.1 implementation: No change in the associated risk weight for these borrowers is expected, with the impact of the new SME discount factor already implemented as part of the quick fix package

2. **75% RWA Retail SME exposures (<1% end June 2021 RWAs):** is applied strictly in accordance with CRR (1m Euros and Retail SME definition). We have only a few exposures in this category. For projection purposes we have not assumed any assets eligible in this category.

3. **150% RWA High Risk exposures (38% of end June 2021 RWAs):** includes property (residential and commercial) development. The Regulatory definition is as follows; "speculative immovable property financing means loans for the purposes of the acquisition of or development or construction on land in relation to immovable property, or of and in relation to such property, with the intention of reselling for profit."

   Post Basel 3.1 implementation: No change in the associated risk weight for these borrowers is expected currently, OakNorth will examine the applicability of the 100% for certain residential developments when the BoE publishes its CP in Q4 2021.

   35% RWA Exposures secured by mortgages on residential property meeting Art 125 conditions (4% of end June RWAs): Includes residential property investment lending where income streams are sufficient to meet our Lending Policy and only up to a maximum of 80% of independent mortgage property value (our lending averages approx. 53% LTV, with policy maximum 75% LTV). This may also include properties under refurbishment.

   Post Basel 3.1 implementation: risk weights for residential mortgages become more sensitive to LTV. For planning purposes OakNorth assumes an effective risk weight of 40% for residential mortgages currently risk weighted at 35% from January 2023 onwards, with all exposures classified under the 'Income Producing Residential Real Estate' category.

4. **100% RWA Other exposures secured by mortgages on immovable property (Article 124, Article 126) (35% end June loan RWAs)-** Includes mortgages secured on residential property not meeting Article 125 criteria, mortgages secured on commercial properties and other properties under refurbishment where the intention is to rent.

   Post Basel 3.1 implementation: risk weights for commercial mortgages become more sensitive to LTV, and it is unclear how residential mortgages not currently meeting Art. 125 criteria will be treated. For planning purposes OakNorth assumes an effective risk weight of 90% for mortgages currently risk weighted at 100% from January 2023 onwards. This planning assumption will be refreshed post the BoE's Basel 3.1 consultation in Q4 2021.

5. **150% RWA Exposures in default (4% end June loan RWAs):** includes all 90 days past-due exposures and other exposures classified as Stage 3 under IFRS9.

II. Other factors relevant for determining RWAs:

1. **Application of Credit Conversion Factors (Article 166):** The Bank provides both committed and uncommitted facilities. Conversion factors on the undrawn balances are determined based on whether the balances are uncommitted/ unconditionally cancellable – which have 0% conversion factor and committed -which have 20%/50% conversion factor depending on the definitions of risk in Annex I of CRDIV - Classification of off-balance sheet items.

   In general, most of the Bank's property finance facilities are uncommitted. We allow for drawdowns under property development facilities only where our quantity surveyor has verified the costs and progress of the development. For other business lending, there are always conditions precedent stipulated for drawdown.

   Post Basel 3.1 implementation: the relevant credit conversion factors for committed and uncommitted facilities change, with CCFs of 10% for uncommitted and 40% for committed undrawn facilities applied from January 2023 onwards.

2. **Application of SME support factor:** The Bank continues to apply the original CRR SME support factor of 0.7619%, to loans with a turnover of below £37.5m and debt below £37.5m, and in addition the new 85% factor brought in as part of the CRR2 Quick Fix package in 2020.

3. Application of Credit Risk Mitigation:

   CBILS and CLBILS loan guarantee: Under both schemes the Secretary of State guarantees 80% of the outstanding balance. As the guarantor under the scheme is the UK Government, the Bank applies credit risk mitigation and risk-weights the guaranteed exposure at 0% in accordance with Article 114(4) of the CRR, in keeping with OakNorth' and the PRA's view that this is applicable. As at end of June 2021, the RWA benefit has was £250m.

   Treasury exposure and other assets RWAs:

   - Cash placed at Bank of England and UK GILTs held by the Bank are at 0% RWA
   - Operational cash placed with global financial institutions (tenor <3 months) are risk weighted according to the short-term rating of the Bank and the credit quality step determined – typically 100% with the bulk of operational Cash held at RBS or Clearbank
   - All other assets such as fixed assets etc are allocated 100% risk weight

The table on the following pages summarise the breakdown RWAs for the loan book over the planning period:

Loan RWA by product	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Property Development Facility	840	1,121	1,063	1,478	2,399	3,432	4,533
Property Holding Development Facility	265	276	296	340	370	463	608
Property Investment Facility-100% RWA	173	182	336	406	535	754	1,061
Property Investment Facility-35% RWA	98	102	193	250	368	478	665
Property Holding Investment Facility	174	148	210	399	580	780	1,071
Business Trading Facility	542	552	734	1,205	1,738	2,379	2,816
Speciality Finance	64	124	70	111	177	253	287
CBILS/CLBILS			115	118	99	18	5
Total	**2,156**	**2,505**	**3,017**	**4,305**	**6,265**	**8,557**	**11,046**

5 P1 Operational risk

Summary: Under the standardised framework OakNorth uses the Basic Indicator Approach (BIA) to calculate p1 Operational risk RWAs, computed as 15% of average gross income for 3 years & scaled to RWAs at 1250%. As a result, the Bank's increase in revenue over 2020 saw Operational risk RWAs rising to £190m for 2021.

Over the course of the plan P1 Operational Risk capital has been calculated based on the projected growth in revenue:

Particulars (£m)	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Gross income	104	140	181	239	323	448	594
Average of 3 years			101	142	187	248	337
Capital charge at 15% of gross income*			15	21	28	37	51
Equivalent RWA (/8%)			190	266	350	465	632

From the implementation of Basel3.1 onwards, this will change to a more granular calculation, with the initial impact assessment indicating this will have an immaterial impact on the ultimate RWA position, with the variance within 2% of operational risk RWAs over the period.

Operational Risk RWAs £m	2023E	2024E	2025E
Existing Regime	350.1	464.6	631.5
Potential Basel 3.1 Approach	348.7	472.1	629.4
Delta	(1.4)	7.6	(2.1)

6 P2A Credit

Summary: OakNorth has assessed its P2A position for credit risk using both the regulators published IRB benchmark methodology, and OakNorth's own internal approach. Expected, given the acknowledged conservatism of P1, both these methodologies highlight an excess capital under P1 of varying degrees:

- **PRA approach:** A conservative application of the PRA's Published benchmark methodology highlights that we are overcapitalised under P1 by £8.2m, equivalent to 0.29% of RWA.
- **ON Internal approach:** OakNorth has also assessed the impact of any over or under capitalisation under P1 using its own internal methodologies for its material credit exposures: a modified slotting methodology for CRE loans and a proxy IRB methodology for the trading book. This suggests overcapitalisation of 10.7m or 0.38% of end June RWAs.

OakNorth has applied the 29bps downward adjustment (lower of the 2 abovementioned approaches) based on the PRA approach when assessing its overall P2A capital requirements. OakNorth applies this adjustment taking into account further additional comfort gained from the high level of capital surplus assessed in relation to Concentration risk - PRA methodology used for capital requirement assessment is 206bps higher than own assessment (see chapter 7).

PRA IRB benchmark methodology

The PRA's published methodology requires assessing the P1 capital held for OakNorth's credit exposures against the upper quartile of capital held by banks on the IRB modelled approach to risk weightings.

To inform this comparison, the regulator publishes regularly in their P2 assessment guidance tables of the relevant IRB benchmark risk weightings by asset class.

Whilst the PRA highlights that such comparisons may not always be representative for CRE assets, OakNorth believes that given its focus on prudently structured deals, informed by forward looking analysis and protected by strong covenants, that comparison to the upper quartile of IRB benchmarks for and utilising a robust and prudent slotting methodology is a valid comparison, albeit a conservative one.

In undertaking the analysis:

- All assessment has been done for the Bank's exposures as of 30 June 2021
- As the Bank is utilising IFRS9 transitional relief, and the 100% relief has been extended following recent EBA and PRA statements, the comparison has been carried out utilising the benchmark tables which include expected loss
- On a conservative basis, we have applied equivalent highest benchmark IRB RW for each of the categories (set out below), and
- When undertaking a slotting assessment for CRE assets, robust assessments have been undertaken to categorise the Bank's lending in a highly prudent manner- with prudent calibration and assessment (set out below) informing a conservative distribution of slotting outcomes.

Relevant IRB benchmark categories for the Bank

The following are the relevant categories for the Bank:

1. **Corporate exposures:** In the Bank's business trading portfolio, we have a mix of SMEs and mid-corporate clients. As stated in PRA's approach, we have applied the highest IRB equivalent RW of 78.7% for Retail SMEs and 91.2% for mid-Corporates. On a conservative basis, OakNorth has only classified those exposures to which it currently applies the SME discount factor to as SME's, with all others classified as mid-corps.
2. **Commercial real estate:** We conservatively assume all bar two of our existing real-estate exposures fall into this category, including those risk weighted at 35% (with the other two captured in the corporate exposure category). We have adopted the approach detailed in EBA's RTS on assigning risk weights to specialised lending exposures - Annex II – assessment criteria for real estate exposures[2] to assess the equivalent RW which range from 50%-250%.
3. **Sovereign:** We have exposures to balances held at Bank of England. We have applied 8.2% IRB RW to our exposures in this category.

[2] https://eba.europa.eu/documents/10180/1489608/EBA-2016-RTS-02+%28Final+RTS+on+specialised+lending+exposures%29.pdf

4. **Institutions:** The Bank holds cash at intermediary banks for funding loans and deposits. The balances held at any reporting date depend on the pipeline transactions. The exposure ranges from CQS 1-3 rated banks, primarily CQS3. Therefore, the relevant upper bound IRB RW in this category is typically 52.7%.

OakNorth's application of the EBA RTS

For the 2021 ICAAP OakNorth has significantly enhanced its approach for applying the EBA RTS. This has taken on board previous feedback from both the PRA and 2nd line to ensure prudent assessment of the loan book against the criteria set out in the RTS.

The updated application of the EBA RTS is split into two separate models, one for development lending and a separate version for investment lending, reflecting the distinct risk drivers inherent in the different asset classes. Within each model, applicable factors from the TS are assigned a weight:

Factor	Development model weights	Investment model weights
Financial Strength	48%	56%
Political and Legal Environment	5%	5%
Asset/Transaction Characteristics	29%	24%
Security Package	5%	5%
Strength of sponsor/developer (including any public private partnership)	13%	10%

- Within each Factor: individual exposures are assessed against the detailed criteria, linked to policy where relevant and calibrated and applied on the basis of conservative SME judgment. And then categorized based on weighted average in line with the RTS requirements. More detail is set out on this approach in the appendix
- Defaults have been excluded from the assessment, to ensure no capital benefit is obtained from their inclusion
- Full details and methodology on OakNorth's approach for applying the EBA RTS is set out in the appendix.

Following the refresh of OakNorth's approach, and completion of the 2021 ICAAP slotting exercise, 2nd line Credit Quality assurance carried out a review of OakNorth's slotting to ensure it had been carried out in a robust and conservative fashion. They found that that ONB has made a number of significant improvements in the methodology it has adopted, both in its conservatism and consistency with policy.

Output of the IRB benchmark comparison

Having assigned its lending to the relevant categories either against the PRA's published IRB benchmarks, or the EBA RTS categories OakNorth is then able to compare the relevant benchmarks to the RWAs currently held against the same loans under the standardised approach. For Property loans where the SME discount factor is currently applied, the same discount factor is then applied to the post slotted risk weight to ensure comparison on a like for like basis.

The full comparison is shown in the table on the following page. Overall, the assessment suggests that OakNorth's current risk weights overstate its credit risk to the extent of £103m in RWAs. This is the equivalent of c.£8.2m in excess capital under P1. As such, OakNorth would be entitled under the PRA's refined approach to offset **-0.29% of P2A capital** requirements from other P2A categories against this total, to recognise the excess capital already held under P1 for credit risk.

Risk weight comparison based on the PRA/EBA benchmark categories

	RW	Exposure after CCF	RW	IRB range	Upper bound	Exposure	IRB RWA	With SME
Central government and central banks	0%	435	-	6.1%-8.2%	8.20%	435	36	36
Institutional exposures	20%	35	7	9.4%-12.7%	12.70%	35	4	4
(short term)	50%	-	-	20.5%-27.2%	27.20%	-	-	-
	100%	3	3	29.0%-52.7%	52.70%	3	1	1
Other items	100%	16	16	-	100%	16	16	16
Corporate exposures*	100%	339	339	67.4%-91.2%	91.20%	339	309	309
SME exposures	83%	219	181	58.2%-78.7%	78.70%	219	172	172
CRE				**Slotting categories**				
Residential mortgages meeting Art 125	35%	308	108	**<2.5-years**				
Other mortgage exposures**	95%	945	896	1	50%	15	7	7
High risk exposures	150%	657	986	**2**	70%	832	582	573
				3	115%	487	560	539
				4	*250%*	159	397	392
				>2. 5-years				
				1	70%	10	7	7
				2	90%	319	287	278
				3	115%	86	99	95
				4	250%	1	3	2
Defaulted loans***	150%	64	96	**5**	150%**	64	96	96
Total		**3,020**	**2,631**			**3,020**	**2,579**	**2,528**
						RWA delta	-52	-103
						Capital delta	-4.1	-8.2
						as % RWAs	-0.15%	**-0.29%**

**The corporate exposure line here includes 2 exposures classified elsewhere as mortgage exposures, these loans are treated as trading business loans on the basis that it is a cashflow lend for general WC purposes. (Security is by way of charge over client's own head office and repayment is via business trading cash flows).*

*** Other mortgage exposures have an effective risk weight of 95% (rather than 100%) due to the application of the SME discount factor to relevant exposures*

****Category 5 loans (loans in default) are typically assigned a 0% RW under slotting as instead IRB firms make a deduction from capital for them, for prudence ON floors these at 150% for this analysis*

In addition to applying the PRA's methodologies for assessing credit risk, OakNorth has also run its own internal methodologies to assess the level of capital required under P2A for the material driver of its credit RWAs, trading and property loans.

Slotting own assessment – applying a calibration approach

To assess the credit risk of its Property loans (those treated as CRE for the purposes of the regulatory benchmark approach), OakNorth has leveraged an enhanced internal slotting methodology.

In recognition of regulator's scepticism of the appropriateness of modelled RWA assessments for CRE assets, the approach adopted takes the European Banking Authority Regulatory Technical Standards (RTS) defined slotting approach and looks to enrich the output further by leveraging the data and modelling output from both modelled and observed default data through linear calibration.

- The starting point of the assessment is the initial slotted outputs from OakNorth's application of the RTS standards
- Scores from initial slotted outputs are then standardised and scores are mapped to a Slotting PD via calibration. Calibration parameters, intercept and slope are chosen to map to ON internal default rate and achieve a good distribution between slotting model PD and enhanced model PD [Baseline PD as of June end] [Slotting PD=Norms.Dist (Intercept+slope*Standardised score)]
- The Intercept and slope are derived from a solver driven approach as a starting point by aligning OakNorth's peak 1-year default rate to the slotting PD such that the expected OakNorth PD of c1.89% is achieved. Because solver only matches the PD and ignores other parameters like modelling distribution, notching etc., results from the solver are adjusted by an expert approach (overriding the calibration parameters manually). Other calibration parameters applied include matching the distribution profile, matching the average PD and minimizing the extreme rating differences
- In line with standard industry calibration practise, the target PD of 1.89% (rationale detailed below) is based on OakNorth's observed internal default rates (see below table). Given the limited operating history, OakNorth has chosen to calibrate to a weighted 3-year average rate, with the starting point of 2019, the year in which the first default was observed. The first 3 years of ON zero defaults have conservatively not been included reflecting lack of default data and immaturity/scaling of portfolio.

	2017	2018	2019	2020	2021
PD (facilities)	0%	0%	1.98%	3.43%	0.52%
Avg. CRE Facility (£m)	326	1,088	2,050	2,449	2,877
Annual Default (£m)	0	0	41	84	15
3-year weighted average	1.89%				

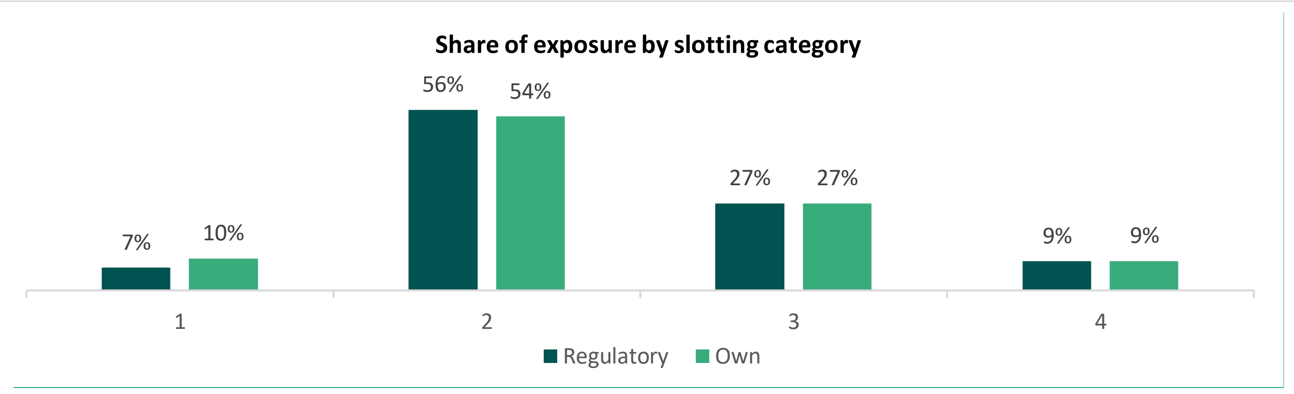
- The outputs are then mapped back to the slotting distribution utilising benchmarking between PD grades and slotting bandings i.e. 22 modelled PD grades based on external rating scale are mapped to 4 slotting categories

Detailed Rationale for using target PD of 1.89%

- 1.89% is OakNorth's 3-year average weighted default rate for the property portfolio. The starting point is taken from the year of the first default in 2019 and is based on total annual defaults against average property facility limits. Basis Total facility amount is consistent with other reporting and data input numbers used. This is deemed a more conservative measure, with common approach normally based on exposure at default
- Using the bank's internal default rate for calibration is a common practice across industry.
- The rationale for applying a long run average is to derive a proxy for a Through The Cycle (TTC) PD, allowing for a more consistent calibration to the slotting output.
- Acknowledging that ON has limited default data, we have applied a weighting to each year based on average facility limits. A 3-year average was considered a more representative data set, reflecting portfolio scaling but also, conservatively excluding those years in which no defaults were recorded.
- We considered using the Moody's model for setting the default rate. However, the Model produces Point in Time PD vs. through the cycle PDs (TTC)., For consistency with the slotting approach, PDs used should ideally be TTC and we therefore discounted the use of the Moody's model for this exercise.

- Management acknowledge this is an area of improvement that we need to address for future ICAAP exercises.
- OakNorth 2nd line supports the approach adopted with the following assessment
  - The TTC method should normally be used for setting RWAs. Though we have set ourselves a target to have a TTC model in place ready for next year, this is a current gap.
  - The alternative approach proposed of using long run average default data from ON's history to date is a reasonable one. This does mean that we are not actually calibrating the Slotting output to our PD model output as would normally be done; we are using an alternative.
  - Also, we must acknowledge the limitation of the short run of data.
  - The Risk team supports the approach as being reasonable, albeit with work to do next year to develop the TTC approach.

The result of this calibration exercise depicted in the chart below is a slightly modified slotting distribution, with slightly higher exposure balances falling into both of the 'tails' of the distribution.



Having allocated the loan book to revised slotting bandings and segregated by residual maturity (those with above or below 2.5 years before maturity), the relevant risk weightings for these bandings can then be compared to the risk weighted assets currently held for the loans under the standardised approach. As with the Regulatory slotting approach, defaulted loans have been excluded to ensure no capital benefit is gained from their inclusion. The below table sets out this risk weight comparison, and the implied capital implications of the difference in RWAs vs the standardised approach:

	Current standardised approach				OakNorth Calibrated slotting output			
Category	**RW**	**Exposure**	**RWA**			**RW**	**Exposure**	**Own approach**
Residential mortgages at 35%	35%	308	108	Slotting <2.5 years	1	50%	174	86
Other mortgages*	95%	945	896		2	70%	716	493
Property development	150%	657	986		3	115%	456	506
					4	250%	147	357
				Slotting >2.5 years	1	70%	15	10
					2	90%	314	274
					3	115%	60	65
					4	250%	28	67
	Total	1,909	1,989				1,909	1,858
							RWA delta	- 131
							Capital @ 8%	- 10.5
							Implied offset	-0.37%

**As for the regulatory slotting approach, other mortgages exclude two loans risk weighted as mortgages secured by property @100%, which are treated as trading loans for the purposes of this assessment. The effective risk weight on this line of 95% reflects the impact of a subset of loans being eligible for the SME discount factor.*

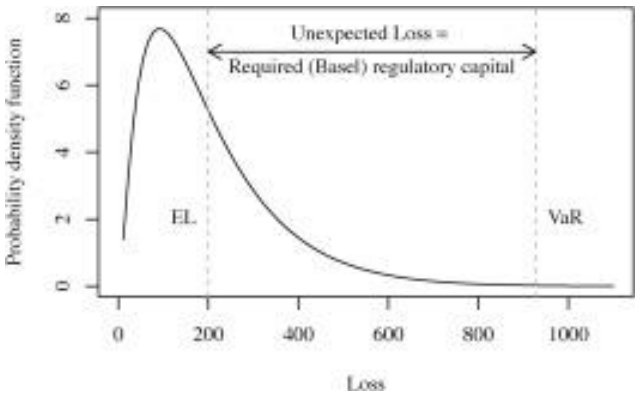
In summary, the output from OakNorth's own slotting assessment suggests that for OakNorth's CRE loans portfolio, total risk weighted assets are overstated by c£131m under the standardised approach, equivalent to £10.5m in capital or a TCR reduction of 0.37%.

In addition to its application and review within the Credit function, 2nd line Prudential Risk and Credit quality assurance also reviewed the design and application off OakNorth's internal slotting calibration methodology to ensure it has been applied in an accurate and conservative fashion.

a) Trading loans:

For Trading loans OakNorth has looked to utilize a proxy IRB modelling approach in order to estimate the RWAs that should be associated with its trading book loans.

This assessment leverages OakNorth's enhanced PD/LGD modelling, alongside the relevant IRB formula applied on a conservative basis, to assess the RWA output that modelling each loan under this approach would drive. The RWA formula laid down in regulation is built off modelling the level of unexpected loss which could be expected to materialise over a 1-year time horizon with 99.9% confidence levels:



To assess the level of unexpected loss at a loan level and the RWA this implies, OakNorth utilises the standard IRB formula laid down in regulation. This leverages borrower specific information including conservative through the cycle PD and LGD estimates, alongside standard parameters to calculate the required RWA.

In keeping with the regulatory desire to recognise the need to support lending to SMEs, the output from this approach where applicable is then subject to a firm size adjustment set in regulation for SME borrowers whose reported sales at the consolidated group level is less than 50m euros (this has the effect of reducing the correlation coefficient for exposures in reverse proportion to the value of sales, thereby reducing the RWA output of the IRB formula for relevant exposures).

The outcome based on the above detailed approach is compared to the actual effective RWA and the output from the PRA benchmark assessment in the following table. Our conclusion is there is no material difference in capital requirements under the two approaches.

	Standardized actuals	ON internal IRB
Total relevant exposure	£558m	
Effective risk weight for trading loans	93.24%	92.67%
Total RWAs	£521m	£517m
Reduction in RWAs		£3.1m
Reduction in Capital requirement		£0.25m
P2A credit adjustment		-0.01%

In addition to its application and review within the Credit function, 2nd line Prudential Risk also reviewed the application of the IRB formula to ensure it has been applied in an accurate and conservative fashion.

Combined assessment

We summarise below the comparison of outputs per the internal assessment methodologies and the currently applied standardised RWA factors to identify the extent to which the current approach may be leading to over or undercapitalisation.

	Standardised	ON own approach
Total RWAs	2,510	2,375
RWA delta		-134
Equivalent capital		-10.74
Implied TCR adjustment		-0.38%

The results of the assessment suggest OakNorth is currently overcapitalised by £10.7m under the standardised approach assessment of its loan book, equivalent to a reduction in TCR of 0.38%.

However, from a conservative viewpoint, OakNorth intends to use the PRA's IRB benchmark methodology when assessing the extent of any overcapitalisation under P1 which can be set against other P2A requirements.

7 P2A Concentration Risk

Concentration Risk

Summary: OakNorth assesses its concentration risk requirements under three categories: i) Single Name, ii) Sector and iii) Geographic using the (PRAs prescribed) HHI methodology.

As at June 2021, this methodology returns a capital requirement of **£104m or 3.68% of RWAs (see below)**

In management's view, the PRA's HHI methodology potentially overstates the concentration risk profile of OakNorth's portfolio, and as such has also carried out its own assessments:

- Proposed amendments to the Geographic and Sectoral HHI methodologies: to reflect diversification benefits not currently quantified within the framework
- A separate assessment for large exposure concentration risk, to take into account the strength of mitigants that may be in place

Together, these assessments suggest an add on of 1.62% which we deem would be more reflective of OakNorth's credit concentration risk under P2A. However, in keeping with supervisory expectations the PRA's published methodology has been utilised in assessing our capital requirements for the purposes of the 2021 ICAAP.

For future years, further reduction in HHI has been forecast, with the plan based off reduction in LE Concentration risk to 2.52% from 2024 onwards.

7.1.1 HHI methodology

For ICAAP 2021, HHI Calculations have been run on the loan book as of end June 2021 to determine the metric and associate capital charge for the year in keeping with the approach outlined in the PRA's methodology for setting pillar 2 capital.

Further, we have incorporated the PRA's feedback on the 2019 ICAAP to exclude all residential mortgages risk weighted at 35% from the calculation. The results are summarised in the table below

Data as of 30th June 2021							
	RWA of the loan book in scope (£m)	HHI	Associated capital charge band	Charge assessed % on loan book	Capital charge estimated (£m)	Total bank RWA (£m)	% of total Bank RWA
Single name	2,402	1.26%	2% - 3%	2.22%	53	2,822	1.89%
Sector		32.7%	0.5% -1%	0.72%	17		0.61%
Geographic	2,498	100%	1.25%-1.4%	1.33%	33		1.18%
				Total	104	2,822	3.68%

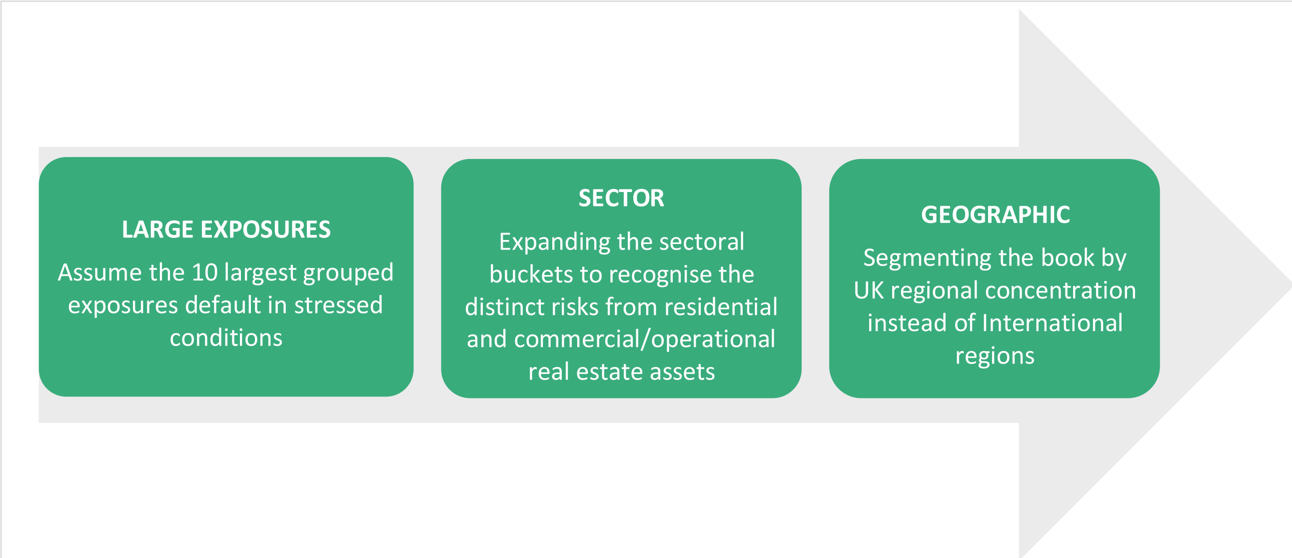
In working out the capital charge based on the associated bandings, OakNorth has taken the following approach:

- **Single name and Sectoral concentration risks:** Linear interpolation has been utilised, to ensure the capital charge proposed accurately reflects OakNorth's relative position within the bucket, rather than simply the mid-point. This approach is more risk sensitive than simply defaulting to the mid points of the range, and in line with the basis the PRA accepted for assessing our HHI charge in 2019.
- **Geographic concentration risk:** Given the conservatism inherent in not recognising any form of regional diversification, which would be expected to provide some diversification benefits, and the fact that as a specialist commercial lender the bulk of its RWA's are considered 'in scope' by the PRA methodology (which captures all wholesale credit exposures) OakNorth's internal judgement would be to utilise the low point of the range. However, we have conservatively floored the output at the estimated change utilised by the PRA in 2019, the midpoint of 1.33%

Over the planning horizon, management are looking at solutions including capital markets structures such as syndication to address client needs whilst addressing single name exposure concentration limits proactively. As the Bank's Balance Sheet grows and ticket size mix remains constant, we forecast a further reduction in concentration risks under the PRAs HHI approach to a total add on of 2.70% of RWAs in 2024. We also target an additional 18bps of benefit to reflect benefit from the planned syndication of some of our larger deals over the planning horizon, reducing single name exposure HHI further and total P2A requirements to 2.52%.

7.1.2 OakNorth's own methodology

Whist OakNorth consistently applies the HHI methodology in keeping with the PRA's expectations, we believe this approach does not appropriately capture the true underlying concentration risk faced by OakNorth in its credit exposures. In addition to the PRA's methodology, OakNorth also assesses its concentration risk capital need using its own internal approach.



Large exposures concentration methodology

For large exposures, ON believes the PRA's approach, while assessing the whole of the loan book's concentration risk levels, does not appropriately focus on the risk arising from the largest exposures, or account for the strength or otherwise of any mitigants that may be in place.

As such, for OakNorth's single name exposure, the Bank looks at the impact the largest 10 grouped exposures all simultaneously defaulting under stressed conditions could have. These includes the following assumptions:

- For conservatism, the full facility size rather than current drawn balance is considered for all exposures within the assessment.
- A reduction in collateral value of c27%, equivalent to the largest peak to trough fall seen in HPI over the BoE ACS stress scenario. This is materially greater than the largest 12m reduction in HPI seen to date.
- A further realization cost of 20%, to conservatively cover the likely associated costs possessing the collateral and realizing its stressed value for the bank post possession.

Taken together, this creates a maximum total collateral shortfall of £14.8m, which we would then hold under P2A for LE concentration.

(£m)	RWAs	Charge	% RWAs
Top 10 exposures	613	14.8	2.41%
Total	2,822	14.8	0.53%

Even under the stress conditions assumed, the strength of ONs initial collateral position means that losses of £14.8m are realized, vs the £613m of RWAs the largest 10 exposures encompass. This charge over the Bank's total RWA base suggests a **P2A add on under ON's own assessment of 0.53% of RWAs**.

Sectoral concentration risk

The PRA's published approach to concentration risk currently aggregates all property related transactions into one category 'real estate' despite the fact that commercial and residential property can behave in very different ways through stresses, and indeed subsectors within these pose distinct risks and characteristics that mean they are unlikely to all respond to cyclical factors in the same way or at the same time.

For conservatism however, within its own approach OakNorth only adds two additional categories, breaking 'Real Estate' and 'Construction' out into 'Residential real estate' and 'Commercial real estate' sub categories, to reflect the distinct concentration risks each pose.

We believe this is appropriate because both residential and commercial real estate have their own distinct risk characteristics, and as such could be expected to behave differently under stress. This is demonstrated through historical data sets, including the evolution of residential and commercial real estate prices over the GFC[3].

Sector	RWA	HHI
Construction	1,020	43%
Real estate residential	295	13%
Real estate commercial	394	17%
Services and other	481	20%
Financial Services	147	6%
Manufacturing	12	1%
Wholesale and retail trade	5	0%
Total	2,353	100%
	HHI	28%
	Charge	0.56%
	P2A	0.49%

Geographic concentration methodology

The Bank accepts that Geographic concentration is definitely a factor in determining credit risk profile. However, OakNorth believes the PRA's prescribed approach to geographic concentration risk, which is based on international diversification, is excessively penal to UK focused lenders, and especially so to commercial lenders who have a very high proportion of their balance sheet eligible for the charge (unlike retail mortgage lenders, that are equally exposed to UK only, but have a lower proportion of eligible loans).

Such an approach risks:

- **Undermining the important role of diversification of lending across regions within the UK** thereby potentially incentivising excessive concentrations in one or two UK regions (e.g. London).
- **Creating potentially misaligned incentives** by encouraging firms to expand lending operations into non-UK markets, in which they may have no experience

OakNorth recognises the value a regionally diversified portfolio can play, and the last year has expanded Debt finance teams in Manchester, the Midlands, the South West and East Anglia. The value such diversification can play is also recognised in academic literature, including *Real estate portfolio diversification by property type and region, Centre of Property Research, Univ. of Aberdeen, UK, 2005*

To avoid these issues identified in the PRA's HHI approach, as a UK focused lender ON has as detailed in the table below, computed geographic concentration risk by UK region, utilising the PRAs HHI approach to then calculate an appropriate capital charge:

Region	RWA distribution
London	63.7%
South East	9.2%
North West	6.4%
East	5.8%
South West	5.1%
West Midlands	2.9%
East Midlands	2.8%

[3] https://bankunderground.co.uk/2015/12/11/house-prices-and-job-losses/

Region	RWA distribution
Scotland	1.9%
Yorkshire & Humber	1.2%
Other	0.5%
Wales	0.3%
North East	0.2%
Total	100.0%
HHI	42.6%
Capital charge	0.68%
P2A add on	0.60%

Overall, OakNorth's internal assessment return an add on of £45.7m or 1.62% of RWAs compared to 3.68% RWAs under the PRAs HHI methodology, highlighting the high degree of conservatism in the PRA's approach. However, in line with the PRA's requirements, for the 2021 ICAAP we have proposed setting our P2A concentration risk add on in line with the HHI assessed figure of 3.68% of RWAS.

8 P2A Operational risk

Summary: Using the PRA's prescribed P2A methodology, OakNorth has adopted a scenario-based assessment to quantify its Operational risk capital needs under P2A.

Notwithstanding that OakNorth runs a low operational risk profile, given a simple business model, underpinned by an effective controls framework, this assessment has been undertaken to assess the potential operational loss levels that could crystallize under a range of scenarios.

Based on a severe range of scenarios, this generates a maximum combined loss of £19.7m, which netting of the £15.2m already held under P1 leads to a **P2A requirement of £4.5m or 0.16% of RWAs.**

Under the standardised framework OakNorth uses the Basic Indicator Approach (BIA) to calculate P1 Operational risk RWAs, computed as 15% of average gross income for 3 years & scaled to RWAs at 1250%. As a result, the Bank's increase in revenue over 2020 saw Operational risk RWAs rising to £190m for the 2021 ICAAP. The total requirement is then calculated using a scenario-based assessment to quantify P2A. The scenarios are designed to be 'severe but plausible'.

In the absence of any material operational losses to date, judgement has been used to create the scenarios. The quantification is based upon expert judgement and data points from recent events seen in the UK financial sector, as detailed in each scenario. This has been subject to several iterations of review by EXCO members.

2021 Scenarios

For its operational risk analysis, OakNorth has outlined a number of 'severe but plausible' operational risk scenarios in line with six of the seven Basel Operational Risk Categories:

1. Internal Fraud - misappropriation of assets, tax evasion, intentional mismarking of positions, bribery
2. External Fraud - theft of information, hacking damage, third-party theft and forgery
3. Employment Practices and Workplace Safety - discrimination, workers compensation, employee health and safety
4. Clients, Products and Business Practice - market manipulation, antitrust, improper trade, product defects, fiduciary breaches, account churning
5. Business Disruption and Systems Failures - utility disruptions, software failures, hardware failures
6. Execution, Delivery, and Process Management - data entry errors, accounting errors, failed mandatory reporting, negligent loss of client assets

× Damage to Physical Assets - natural disasters, terrorism, vandalism

The 'Damage to Physical Assets' category has not been included because this risk is considered negligible for OakNorth, due both to the size of the Bank and the fact that business continuity is supported by the following factors:

- Each location (London and Manchester) can be used to cover for each other
- *All* staff have the ability to work from home, as tested and proved during the Covid crisis
- Our IT infrastructure is hosted on the cloud

In 2021, the Risk team facilitated a full ExCo level review of scenarios to completely zero-base the scenario analysis process. Changes to the environment and business were taken into account, alongside updated data. All scenarios have been debated in several rounds of challenge meetings and agreed by ExCo. As part of the process, some of the 2020 ICAAP scenarios were retained after a full review, where they remained relevant to the Bank's current risk profile, and new scenarios were built to reflect changes to the bank and its operating environment:

- 3 scenarios were retained essentially unchanged: New Product & TCF Failure, Key Supplier Failure and Change Management.
- 3 were modified: Internal / External Fraud, Workforce Attrition.
- 3 new scenarios were developed: Pandemic, Ransomware and AML Sanctions.
- A combined scenario of Internal Fraud (scenario 1), External Fraud (scenario 2b) and Execution, Delivery and Process Management (scenario 6a) was also agreed which meets the standard in terms of combined probability.

The individual scenarios are summarised below. Standard assumptions relating to Deposits, Loans and Fines have been used across scenarios and are detailed in Appendix 2. Each scenario has been attributed an estimated probability of occurrence based on subject matter expert views and EXCO member reviews. We consider that the probabilities are set on a very severe basis - this is not what we expect but set to reflect the tail risk of severe loss scenarios occurring.

Basel Operational Risk Categories	Scenario	2021 - Scenarios	Moderate		High	
			Impact	Probability	Impact	Probability
Internal Fraud Impact	1	Identity Theft & Customer account manipulation - Maturing savings accounts are re-directed leading to loss	£5.5m	20%	£11.2m	10%
External Fraud	2a	Ransomware attack	£1.5m	20%	£3.3m	5%
	2b	Bad actor diverts funds and/or malicious use of customer data breach - Breach in identity controls, hack or phishing attack leading to direct loss or indirect fraud loss	£3.0m	33%	£7.3m	10%
Employment Practices and Workplace Safety	3a	Personnel Attrition - Loss of key personal – 2 execs / 2 juniors - Adverse post-COVID return to work behaviour	£0.7m	20%	£1.0m	10%
	3b	Pandemic - Continued COVID variants - New Virus	£0.3m	50%	£0.9m	10%
Clients, Products and Business Practice	4	New product which is badly designed leads to TCF / mis-selling issue - Customer loss compensation and regulatory fines	£1.7m	10%	£3.8m	4%
Business Disruption and System Failure (Outsourced Service Provider failure)	5	Tier 1 outsourced service provider failure - ONGPL or AWS	£3.6m	10%	£4.4m	3%
Execution, Delivery, and Process Management	6a	Change Management failure - Flawed change to systems or process leading to service disruption and customer detriment	£1.2m	10%	£3.5m	10%
	6b	Failure of AML controls - Process failure needing remediation and incurring regulatory fines	£1.3m	10%	£2.3m	5%

Each scenario was assessed to determine the potential loss components.

The process to review and design scenarios was enhanced for this ICAAP to evaluate the losses arising from each scenario across a range of potential types of impact on a consistent basis. The below table summarizes cost considerations across scenarios and highlights key differences.

Loss Types			Compensation or			Reputational		Sanctions			Services	
Basel Operational Risk Categories	Scenario		Product Flaws	Fraud	Good -will	Impact on Deposits	PR Agencies	PRA / FCA Fines	ICO Fines	S.166 costs	Contractors	Forensic Services
Internal Fraud	1	Identity Theft & Customer Account Manipulation		✓		✓		✓				
External Fraud	2a	Ransomware				✓	✓					✓
	2b	Bad Actor Diverts Funds		✓		✓		✓				
		Distributed Denial of Service		✓		✓	✓					✓
		Supply Chain Cyber Attack		✓		✓	✓	✓	✓			✓
Employment Practices and Workplace Safety	3	Resource Retention									✓	
		Pandemic Scenario		✓	✓							
Clients, Products and Business Practice	4	New Product Failure (TCF)	✓			✓		✓		✓		
Business Disruption and System Failure (Outsourced Service Provider failure)	5	Outsourced Service Provider Failure		✓	✓	✓		✓			✓	✓
Execution, Delivery, and Process Management	6	Change Management Failure	✓		✓	✓		✓				

The combined scenario is summarised below.

Combined Scenario	Scenario	2020 - Scenario Highlights	Moderate		High	
			Impact	Probability	Impact	Probability
Internal Fraud Impact	1	Identity Theft & Customer account manipulation	£5.5m	20%	£11.2m	10%
External Fraud	2b	Bad actor diverts funds and/or malicious use of customer data breach - Breach in identity controls, hack or phishing attack leading to direct loss or indirect fraud loss	£3.0m	33%	£7.3m	10%
		Less duplicated reputational Risk impact covered in (1)	-£1.0m		-£2.3m	

Combined Scenario	Scenario	2020 - Scenario Highlights	Moderate		High	
			Impact	Probability	Impact	Probability
Execution, Delivery, and Process Management	6a	Change Management failure - Flawed change to systems or process leading to service disruption and customer detriment	£1.2m	10%	£3.5m	10%
Combined Probability				0.67%		0.10%
Likelihood				150		1000
Combined £ impact				£8.7m		£19.7m

Most severe individual Scenario	Internal Fraud – Identity Theft & Customer Account Manipulation (Scenario 1)	Loss of £11.2m
Combined Scenario	Combination as per P2 methodology (Scenarios 1, 2b & 6a)	Loss of £19.7m

For ICAAP 2021 OakNorth will use the highest charge of £19.7m for purposes of determining the P2A add-on for operational risk. Pillar 1 capital held is £15.2m

The Pillar 2A add-on is therefore £4.5m, representing 0.16% of RWAs as of June 2021. Total capital held for operational risk is 0.70% RWAs or 0.64% of total assets, an increase vs. the 2020 position (0.62%).

In estimating a P2A capital provision, we have taken into account the size and complexity of the firm. The firm offers no current accounts. Loan accounts are complex, but low volume. Deposit accounts are high volume, but low complexity and with lower operational risk – the Bank does not provide any transactional accounts. Part of the operational risk is borne by our Partners who administrate the customer relationship.

The bank's platform is believed to be operationally resilient, based upon a modern cloud-based IT platform with layers of in-built resilience and strong cyber defence tools. Over 6 years of operation, the Bank has only incurred £26,000 of operational losses.

2021 Scenarios in combined assessment

Scenario 1 – Internal Fraud

Scenario Considered	▪ The scenario poses the possibility of a malicious insider actively seeking employment with ON. Alternatively, an existing member of staff's circumstances could change to increase this risk. There are two areas of theft that have been explored: **1) Data theft** ▪ Data about the Bank, its processes, or its customers could be stolen by a member of staff for their own use or that of a criminal group. Customer data could be misused to attempt identity theft at other institutions or to attempt to access OakNorth customer funds (albeit this would be via external fraud). ▪ This could lead to funds within maturing deposits being diverted, loan subsequent drawdowns being diverted (initial drawdown is always via legal firms), significant negative press and an adverse depositor reaction for a period of time. **2) Internal account manipulation** ▪ Deposit accounts have their nominated account amended by internal staff and funds diverted to accounts owned by internal staff ▪ The possibility of the fraud occurring on lending customers where loan amounts might be diverted to accounts operated by internal staff members was also considered but the scenario is deemed to be more realistic in a case of collusion within an external fraud scenario.

	▪ Severity: In a moderate case, we assume that the fraud occurs over a period of 20 days before being detected, affecting on average 7 accounts per day. In a more severe scenarios, the fraud continues over a longer period before being detected (40days).
Trigger	▪ Collusion between multiple members of staff or a malicious insider
Controls / Mitigants	**1. Data theft** ▪ Email Protection DLP: Provides trigger-based controls for the monitoring of unusual communication or emails shared outside the work environment. ▪ Nominated account changes and bank account changes in lending have robust manual checking processes around them even if third parties have access to the customer data. **2. Internal account manipulation** ▪ 'Closed loop' process for deposit account maturities and robust manual checks around changes, '4 eyes' checks on any data changes, plus, for individual and batch payments, segregation of duties between payment 'inputter' and 'authoriser' built into the Agency Banking systems which ON uses. Detective controls are also in place reporting movements daily to the senior management. ▪ Lending Operations also have multiple layers of control for bank account changes, including verification with borrower / solicitor and maker/checker controls and use of the Shieldpay system.
Impact	**1. Data theft** ▪ Consequential customer loss which ON reimburses, ▪ Severe reputational effects which have to be managed, including having to pay a premium for Retail deposits for a period of time whilst also potentially significantly damaging our lending business's reputation ▪ Possible Regulatory fines due to breach of systems and controls and GDPR regulation **2. Internal account manipulation** ▪ Financial losses to reimburse deposits customers ▪ Significant reputational damage to OakNorth ▪ Regulatory fines or penalties being paid for non-compliance with regulatory expectations.
Estimated Frequency	▪ Moderate Scenario: 1 in 5 years. Severe Scenario: 1 in 10 years
Owner	▪ SMF 24 – COO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Deposits paid away - £3.9m Compensation - £20k Reputation - £1m Regulatory Fine - £300k ICO Fine - £250k	£5.5m	1 in 5 years	20%
High	Deposits paid away - £7.8m Compensation - £40k Reputation - £2.25m Regulatory Fine - £600k ICO fine - £500k	£11.2m	1 in 10 years	10%

Scenario 2b - External Fraud – Bad Actor Diverts Funds and/or malicious use of customer data breach

Scenario Considered	External Fraud can originate from multiple credible channels, including a fraudulent counterparty succeeding in breaching identity controls, or, as a result of Cyber attacks, in the form of direct hacking, in particular through successful infiltration of ON's supply chain, or perhaps during a Distributed Denial of Service attack acting as a distraction while perpetrating unauthorised access to customer funds (details of those trigger scenarios follow)

	▪ Deposits – nominated accounts details are changed by a fraudster and funds diverted to a criminal account ▪ Lending – loan monies are paid into the account of a customer who is a fraudster (1st party external fraud) OR loan money due to be paid to a customer is hijacked by a fraudster
Trigger	▪ External bad actor diverts monies from OakNorth after breaching controls
Controls / Mitigants	▪ Robust onboarding process, including face to face interaction, site visits and customer screening controls to mitigate risk of fraudster as customer. ▪ Nominated account change controls in deposits are well embedded via multi-layered manual processes ▪ Bank account changes in Lending are similarly controlled by a multi-layered manual process with segregation of duties. Use of UK SRA-regulated lawyers/solicitors in transactions also helps mitigate risk
Impact	▪ Both scenarios could heavily impact OakNorth reputationally given a.) we pride ourselves on our deposit customer's security and b.) our Lending business is so critical to our growth. ▪ Financially, deposits would only likely hit 1 or 2 possibly accounts given the rarity of nominated account changes, however, they could be high value and therefore reimbursement to the customer could be damaging in the short term. ▪ Lending likely to be much higher value in terms of financial losses.
Estimated Frequency	Moderate Scenario: 1 in 3 years. Severe Scenario: 1 in 20 years
Owner	SMF 24 – COO

Scenario 2b – Trigger Scenario External Fraud – Cyber Attack: Denial of Service

Scenario Considered	▪ We pose the hypothetical scenario that the growth of OakNorth Bank has earned attention from an anti-finance hacktivist group planning action to "stop Wall Street corruption." Within 24 hours of the initial threat, thousands of attacker-controlled bots begin reflecting traffic toward OakNorth Bank's website, customer portal, and VPN causing outages and massive business disruption. Attempts to relocate web servers within the cloud only restore services for a few minutes before being targeted by the attack. ▪ By design, this attack is highly visible and heavy media coverage is to be expected OakNorth may have to make a public statement on the response to the cyberattack and the safety of customer data. We pose the scenario of customer support lines becoming overwhelmed and "unscripted statements" or long delays impacting ON's brand. ▪ Severe Scenario: In this case, we posit that the Denial-of-Service attack is used as a distraction for the theft of OakNorth's financial records and intellectual property. Due to the sheer volume of data being recorded, traditional means of investigation are likely to require several months of review at high cost.
Trigger	Intermittent VPN Connectivity Failures; Website Outage due to Attack
Controls / Mitigants	▪ DDoS Solution from AWS ▪ Web Application Firewall ▪ Auto-scaling architecture within AWS (cloud-managed resources) ▪ Emergency call centre service from Deloitte is on retainer
Impact	▪ This sort of outage would halt customer interaction with OakNorth Banking platforms and interrupts the connectivity of remote employees using OakNorth infrastructure. By design, this attack will be successful in disrupting any publicly reachable services, disproportionately affecting cloud-based platforms. ▪ Public Relations and Reputational cost impacting the cost of raising new deposits ▪ Forensic Analysis, Emergency Incident Containment (Third-Party) – 500 hours @ £375 per hour for Moderate scenario and 1000 hours for severe ▪ Loss of Business Operation & Equipment ▪ Emergency Risk Mitigation & Consulting

Scenario 2b - Trigger Scenario - External Fraud – Cyber Attack: Supply Chain/ Insider Attack

Scenario Considered	▪ A mission-critical software platform leveraged by OakNorth Bank has been modified to execute malicious instructions either by a malicious OakNorth employee, contractor, or technology provider. As a result, a malicious party has gained sufficient access to send customer account and transaction details over an encrypted channel outside of the OakNorth environment. Reports have begun coming in that suggest OakNorth Bank data is being advertised for sale on the Dark Web. ▪ Moderate Scenario: OakNorth Bank teams are able to find the listing on a cybercriminal dark web forum, but the seller does not provided samples ahead of purchase. The advertisement is focused on the sale of both customer data and financial/account details. Teams have begun searching OakNorth Bank code to identify any suspicious routines that could represent a backdoor. ▪ Severe Scenario: After contacting the seller on the dark web forum and obtaining a sample of the data, we can confirm its legitimacy. The attacker has also confirmed availability of OakNorth server credentials capable of providing remote access. As a precaution, teams have begun rotating administrative passwords to cut off access.
Trigger	Exfiltration of data
Controls / Mitigants	▪ Security Operations Centre service 24/7 monitoring systems health ▪ Intrusion detection systems via Palo Alto Networks and Fortinet Fortigate ▪ Splunk system monitoring ▪ Cybersecurity insurance ▪ Supplier due diligence process ▪ Financial Services Information Sharing and Analysis Center (ISAC)
Impact	Likely cost of a forensic response, regulatory fees, cost of incident recovery. Likely reputational damage due to cyber attack 1. Public Relations and Reputational Costs impacting the cost of raising new deposits 2. Forensic Analysis, Emergency Incident Containment (Third-Party) – 500 hours @ 375 pounds per hour for Moderate scenario and 1000 hours for severe 3. Regulatory Fines, Legal Penalties, Settlements 4. Possible purchase of stolen data via dark web (to confirm legitimacy) 5. Emergency Risk Mitigation & Consulting

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Diverted funds - £2m Reputational effects - £1m	£3m	1 in 3 years	33%
High	Diverted funds - £5m Reputational effects - £2.3m	£7.3m	1 in 10 years	10%

Scenario 6a – Execution, Delivery, and Process Management

Scenario Considered	▪ As a fast-growing firm, effective Change Management is very important to ON. The scenario assumes a flawed Change Management project where risk assessments and testing are not adequately performed. We assume that this results in delays to payment processing, inaccurate communication to customers, reputational damage, and regulatory breaches. ▪ The systems issue would not be as severe as the disruption detailed in Scenario 2 because Scenario 2 involves all systems.
Trigger	▪ Flawed Change Management, inadequate risk assessment and testing

Controls / Mitigants	▪ A fully comprehensive Risk Assessment (including Risk team oversight) is completed at the start of every project and is built into the initial project request form. ▪ A comprehensive Test Strategy is completed for all projects and signed off by all relevant stakeholders.
Impact	▪ Further systems changes are required to rectify the issue, customer impact due to inaccurate communications being received, and a breach of Regulation. Reputational impact driven by higher market rate to win new depositors to replace those who move their funds away having seen adverse media about the bank

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Compensation Cost – £230k Delayed Payment out process – £2.5k Reputation Damage – £675k Regulatory Fines – £300k	£1.2m	1 in 10 years	10%
High	Compensation Cost – £1.6m Delayed Payment out process – £4k Reputation Damage – £1.3m Regulatory Fines – £600k	£3.5m	1 in 10 years	10%

Rationale for deposit cost assumptions

In calibrating the 20bps increase required in deposit costs under certain scenarios, OakNorth has followed the following rationale:

- Typically the Bank operates in ranks 4-7 on BB tables, with selectively and opportunistically moving to top 3 ranks on a need base approach. On an average at current market levels, ranks 4-7 are priced at 8-10 bps lower than the top rates in the market
- In the event of any reputational impact due to a Fraud, the Bank is likely to need to price up its deposits to generate required flows. Typically limited behaviour change has been observed from Retail customers on such 'news' and customers tend to be attracted to best returns in the market. This trend was observed during the stress Metro Bank saw a few years back where they were able to price up and raise deposits.

Consideration of Conduct risk of loan rate floors

In keeping with the PRAs feedback to our 2019 ICAAP, for the 2020 document we considered under P2A the possible conduct risk that could arise as a result of challenges to the loan floors inherent in our lending products.

- OakNorth provides credit terms to customers, often before Credit Committee and always post Credit Committee (where a deal is approved). These terms will include the interest rate which will be the Margin + 3 Month LIBOR, subject to a floor of [typically the reference rate at inception%.
- All our customers receive legal advice from their chosen law firm and we would not enter into a loan agreement if a borrower did not get professional legal advice.
- These terms will typically be negotiated by the customer or accepted by the customer, including the LIBOR floor.
- We will then proceed to document the agreed terms within the facility agreement, which will also set out the LIBOR floor. Almost all customers we work with will engage external solicitors who will review the loan agreement and advise their client on the legal and commercial terms.
- We generally offer debt facilities to sophisticated companies and individuals who negotiate arm's length commercial terms, which includes the negotiation on Margin and LIBOR.

This view is supported by the criteria utilised by the then FSA when previously undertaking action in this space. Their published criteria, (available here: https://www.fca.org.uk/publication/archive/fsa-irs-flowchart.pdf) in relation to which borrowers would be in scope for the review and retrospective action would carve out OakNorth's borrowers. Whilst many would be excluded as a result of the various financial based criteria, it is the view of OakNorth's Debt finance and Legal team that all borrowers would be out of scope as a result of answering yes to the below question:

As a result, given the sophisticated nature of our borrower base, and the transparent and clear nature of the floors in our loan products (in comparison to the relatively complex nature of the interest rate swap products sold to more 'retail type' SME borrowers that have given rise to conduct issues for other Bank's historically) we are confident that our contractual interest rate floors do not give rise to conduct risk. As a result of this, consideration of this as one of the 2020 Operational Risk scenarios was discounted, due to the benign output that would result.

9 P2A IRRBB

Summary: OakNorth targets to maintain its interest rate risk within its appetite of not being exposed to a loss larger than £6m which is set at ~25% above the loss of £4.6m under its EVE assessment of the NPV impact of a 200bps parallel rate shock at June-30, 2021. Given the details set forth in the following paragraphs, management believe that this is an appropriate reflection of its maximum exposure to interest rate risk. Consequently, a capital add-on of £6m or 0.21% of RWAs is judged appropriate.

In line with the EBA's guidelines on interest rate risk, the Bank's position under a set of 6 prescribed non-linear shocks is also presented, with the Bank comfortably within supervisory monitoring thresholds across each of the scenarios.

Structurally, OakNorth has set up its product pricing in a manner designed to minimise an adverse economic impact from interest rate movements.

- Substantially, all of OakNorth's loans are variable rate loans which post LIBOR transition are linked to the BOE base rate. These re-set in the most part (99%) within 30days of a rate change.
- OakNorth's funding is largely from deposits. Over time these tend to move in line with the BoE rates and our forecast plans are built on that basis. However, the fixed rate products within the portfolio will only re-price on maturity. Therefore, when rates go up, average deposits costs rise slower than loan yields and the vice versa is true when rate go down.
- To mitigate the inherent risk of timing implications in a prolonged period of rate reductions, substantially all loans are originated with rate floors in place as part of the contract to protect the Bank from adverse downward movements in reference rates. Thus, in a falling rates environment, once rate reference rate floors are reached loans would typically behave as fixed rate loans until maturity or until reference rates rise back above floors. The floors are set out transparently within the rate section of the Loan agreements and are judged appropriate for our client base of sophisticated borrowers who typically engage their own lawyers to advise them on the terms of the facility documentation. The reference rate floors are generally set on the rates prevailing at the time of the contract

ICAAP assessment

OakNorth primary assessment of its interest rate risk exposure is its monthly modified FSA017 GAP assessment. This assessment is built off the regulatory FSA017 assessment to capture the duration and relevant optionality interest rate risks inherent in OakNorth's balance sheet This is then amended to then reflect:

- Greater granularity, by utilizing a larger number of repricing buckets (150 buckets over a 10-year period)
- The impact of the interest rate floors OakNorth has in place, which in effect can lead to loans repricing in line with fixed rate products at maturity when the floor is in effect for the duration of the period. For 2021 ICAAP, this assessment has been enhanced to capture the impact of floors for the rates up as well as rates down shock.
- To adjust for the impact of the interest rate floors, portfolio run-off forecasts used are based on behavioural curves which are in turn based on product level vintage analyses of the loan book experience to date.
- The impact of higher early repayments when interest rate floors have come into effect in the rates down shock. This is the only conditional adjustment made to what is otherwise an unconditional assessment. For conservatism, it is assumed that 100% of loans with a maturity >5years refinance off the floor rate, and 20% of all other loans refinance off the floor rate, and that this refinancing all takes place within the first 30 days. For prudence, no allowance is made for the impact of early repayment charges in this assessment. This adjustment has the effect of reducing the benefit of the rates down scenario by £14m.
- Inclusion of a zero-lower bound in line with the EBA's guidance, leveraging the zero lower bound prescribed for using within the wider EBA six shocks assessment framework.

In addition to this assessment, the bank also conducts a monthly assessment against its risk appetite for the impact of 25bps shock on 12m NII which is reported to ALCo and ExCo on a monthly basis.

A summary of these assessments as at end-June 2021 is shown below:

	June 2021 (£m)
EVE impact of a +/- 200bps parallel shock	-4.6/+47.5
12m EaR to +/- 25bps shock	+0.4/+0.7

Whilst OakNorth is exposed to a small loss in NPV under the rates up shock, as a result of the upwards 'gap to floors' with rate floors in effect, this is within the Bank's risk appetite to limit any loss to a maximum of £6m. Moreover, going forwards the Bank expects this position to improve in the near term, since as historical rate floors run off the book, the gap between loan floors and the prevailing reference rate reduces.

In line with regulatory expectations, OakNorth then proposes to hold P2A capital for IRRBB equivalent to its risk appetite of £6m or 0.21% of £2822m RWAs as at June 2021.

9.1.1 EBA supervisory monitoring metrics

In accordance with the EBA's guidelines on interest rate risk, OakNorth assesses on a quarterly basis the bank's position against the 6 prescribed non-linear interest rate shocks.

This assessment is carried out without taking into account the impact of our loan floors but including the impact of a tapered zero lower bound, in line with our Market and Liquidity risk policy.

The table below summarises the outputs of the calculations as at end June 2021, with OakNorth well within the set supervisory monitoring thresholds (of 15% of T1 capital):

EBA shock	Impact (£m)	%T1 capital
Parallel +2.5	13.5	2.5%
Parallel -2.5	-6.3	-1.2%
Shock Flattener	8.6	1.6%
Shock Steepener	-5.7	-1.1%
Short Up	12.1	2.3%
Short Down	-6.3	-1.2%

9.1.2 Future enhancements

In line with the implementation of CRDIV, during 2022 the Bank will be implementing the necessary process and systems changes to assess its IRRBB exposure under the regulatory defined Standardised approach, ahead of consideration of whether to opt-in to utilisation of this assessment methodology. These will leverage the continued evolution of our behavioural analysis of both assets and liabilities to ensure we are appropriately integrating these into our risk assessment.

10 P2B Assessment

Summary: Under its Pillar 2B (P2B) assessment, OakNorth reviews and sets out the capital it believes it needs to hold in the form of capital buffers for utilisation in the event of stress events. This buffer should ensure OakNorth can meet Total Capital Requirements (TCR) even under stress. For OakNorth, such buffers take the form of three instruments: a) The capital Conservation Buffer (CCB); a fixed buffer set at 2.5% for all banks, b) the Counter Cyclical buffer, a variable buffer currently set at 0% for all banks, and c) the PRA buffer, a firm specific buffer set by the PRA, currently at 0.56% for OakNorth in line with wider PRA policy on P2 brought in at the end of 2020.

In this ICAAP assessment, OakNorth assesses the adequacy of these buffer levels, and judge whether any additional capital is judged necessary within P2B. This assessment will be informed fully by stress test analysis, in line with the PRA's policy on P2B for banks that have been operating for more than 5 years. This approach requires Banks to assess over a period of stress - the impact on their surplus CET1 capital over TCR. The assessment accounts for TCR evolving in line with scaling factors set out in the BoE's P2 policy and assesses the impact versus a 3.5% threshold (the 2.5% CCB and 1% for the 'steady state' level of the CCyB).

For the 2021 ICAAP, OakNorth has run two severe stress test scenarios which are detailed in section 10.3

- The BoE's 2021 ACS scenario which is shorter, sharper and deeper stress in 2021 and 2022 followed by rapid recovery from 2023 onwards.
- A shallower but more sustained stress which lasts over the whole planning horizon combined with an idiosyncratic cyber event. Management reviewed multiple scenarios and considered a combined "downside" scenario (with a macro pathway attributed a 4% probability of further worsening by Moody's and therefore reflective of a plausible but severe stress) as being fit for purpose to test the resilience of our capital plan.

Our stress tests reveal that post management actions, OakNorth will be able to ensure capital adequacy throughout the planning horizon as:

- Its high margin model has resulted in £190m retained earnings to end June 2021 and positions it well placed to absorb losses
- The nimbleness inherent in the Bank's originations model means it can credibly and prudently control RWA growth in the event of a stress (as evidenced during the onset of COVID-19 pandemic and described in chapter 11).

Under the most adverse stress scenario, the BoE ACS, OakNorth's reduction in surplus capital is less than the 3.5% 'steady state' combined buffer and CCyB rate (at the lowest point, the reduction is 2.73%); reflecting the adequacy of the CCB of 2.5% and the CCyB offset of 1%. Given this, no additional PRA buffer over the current 0.56% is judged necessary.

OakNorth approach to stress testing

Stress testing as a concept is embedded intrinsically into how OakNorth operates its business on a day to day basis. It is applied on a loan-by-loan basis from origination and throughout the life of the loan via our Forward Look Rating (FLR) tool.

Summary of application of FLR in OakNorth:

- At origination, OakNorth estimates the level of impact on borrower's financials and key operating metrices under various FLR stress scenarios.
- FLR helps us quantify risk and prioritise actions as part of on-going portfolio management. The impact of granular sub-sector scenarios is evaluated on a loan-by-loan basis (e.g. impact on city-centre pubs & bars business or residential apartments could be materially different from an out of city pubs & bars business or residential apartments respectively). This tool also helps OakNorth analyse immediate short term stress impact, forecast performance during recovery phase and overall position in new normal.
- The process helps OakNorth portfolio management in identifying potential risk cases quickly as it combines forward looking cashflows and liquidity available with the business to highlight borrowers in stress and without relying purely on backward looking covenant compliance tools; thus enabling OakNorth to engage early with its clients at the first signs of stress and institute close monitoring while helping borrowers to understand our scenario analysis and take appropriate actions.

FLR in detail

The ON forward looking approach splits the economy into 273 subsectors. ON takes consensus macro-economic forecasts and builds baseline curves for the subsectors based on statistical regression of macro-economic forecasts and historical sector performance. These curves are amended for forward looking factors / structural changes in the industry which are not reflected in the forecasts of macro-economic variables but may have impacted historical correlations. ON further establishes elasticity for cost and working capital projections for obligors by analysing the correlation between these line items and revenue changes over time (regression analysis). Regional level granular subsector curves are then prepared leveraging micro subsector and region level data incl. sector specific KPIs, high frequency indicators and alternate data sets.

For example, in relation to the restaurant sector OakNorth develops curves based on the location and profile of restaurants - full service, quicker service and/or offering delivery/takeaway - within London and outside London. (Also, led by unprecedented COVID-led shock, the industry has responded considerably by altering the cost economics which may have altered the historical correlations, which are appropriately reflected in OakNorth's forward looking approach). This in turn helps produce base case forecasts at a granular sub-sector and regional level.

OakNorth also produces a granular severe stress case which considers prolonged adverse economic impact and slower recovery that accounts for forward looking risks often not yet captured in the consensus macro view (for example additional lockdowns due to resurgence of COVID cases from new variants, further disruptions to supply chain, inflationary pressures, etc). Note that our base case scenarios incorporated supply chain disruptions in April 2021, and inflationary pressures in June 2021

In the illustrative example below, the residential real estate is split both by geography, (Central London vs Greater London vs rest of UK) and property type (flats, detached and semi-detached), and have forecasts for base case, and two stress case scenarios:

Key Metrics	Peak to Trough Decline			
Property type	**Detached**	**Semi-Detached**	**Flats**	**ALL**
Greater London				
Base Case (Base Case)	-0.7%	-1.1%	-1.8%	-1.3%
Stress Case 1 (ON stress)	-9.7%	-12.3%	-17.3%	-13.7%
Stress Case 2 (BOE Scenario)	-30.2%	-32.1%	-35.9%	-34.3%
Overall UK - UK				
Base Case (Base Case)	-0.6%	-2.2%	-3.7%	-2.2%
Stress Case 1 (ON stress)	-9.3%	-13.8%	-17.4%	-14.0%
Stress Case 2 (BOE Scenario)	-27.7%	-32.4%	-35.0%	-32.9%

In line with macro-economic forecasts, forecast curves are determined for further additional variables such as Rental yield growth, revenue, cost inflation etc. as relevant for each sub-sector.

These detailed sub sector forecasts are then applied to each individual OakNorth borrower and used to assess the potential impact on borrower's cash flow and likelihood of default/loss. This enables the bank to form a view at a granular level of how each individual borrowers' financials would evolve over the course of the stress, including key credit risk performance metrics (e.g. Interest Cover Ratio, Loan to Value, profits, cashflow). Portfolio action plans are determined on the basis of the stress views and OakNorth initiates early discussion with the borrowers vs after covenant breaches materialise. Stress assumptions are kept live and run at least monthly (more frequently during stress events such as COVID).

As at June 2021, the FLR tool was already beginning to pick up and reflect supply chain issues, potential uptick in inflation and other impacts; particularly on Real Estate developments and Trading business import costs/staff shortages etc, with inflation challenges also picked up from August. This helped us keep appropriate (higher) contingency for development projects and close monitoring on timelines specially delivery schedule of downstream items e.g. fitouts and claddings (and hence controlling potential time and cost overruns).

OakNorth has assessed stress ECL based on FLR as well as based on Moody's PD/LGD model. For the purpose of this ICAAP stress ECL, rather than leveraging FLR alone, OakNorth has also leveraged the FLR ability to forecast stressed borrower level financials as inputs into the PD/LGD models we use for IFRS9 provisioning. We have set out in the table below the ECL pre and post the application of FLR individual borrower view. This approach is explained in detail in the sections 2b to 2d below.

The output of this approach results in a higher ECL figure for both baseline and stressed scenarios, when compared to using either FLR or PD LGD on a standalone basis. This is due to several factors most notably the additional stressing of macro indicators as a result of stressing at the individual borrower level via FLR, with further stresses applied when run through the PD LGD model. For conservatism and to reflect the current economic environment and pandemic related uncertainty, we have accepted this as a limitation and applied this combined approach for the purpose of stressing capital requirements. Furthermore, it is right to consider the more conservative scenario to ensure management actions can be stressed adequately and therefore in summary OakNorth has used the combined FLR and Moody's approach for 2021 ICAAP stress testing (last 3 columns in the table below).

Yr. 1 current portfolio	FLR		Moodys only		FLR+Moodys	
Scenarios	**96th**	**BoE**	**96th**	**BoE**	**96th**	**BoE**
Drawn amount	2,533	2,533	2,533	2,533	2,533	2,533
Provision	14	42	37	51	62	87
Total Loss rate %	0.54%	1.61%	1.46%	2.01%	2.44%	3.38%

OakNorth carefully targets originations at a lower average LTV and leverage than its comparable peers, with just 5% of its drawn book at LTVs in excess of 70%. This compares favourably to peers who have materially higher exposures at >70% LTV; these higher LTV loans typically then drive an outsized share of credit losses under stress (e.g. 32% of Metro's commercial loans are >70% LTV, 32% of Close Brothers Commercial and property book are >80%LTV, and 20% of HSBC's wholesale portfolio has an LTV >75%). This lower LTV point, coupled with our bespoke asset selection and low defaults, gives us confidence in the FLR forecast outcomes, even after incorporating additional costs for completion of properties, and sales costs. However, for capital stress testing in 2021, we have taken a combined approach which incorporates both the PD/LGD model probabilistic approach and the FLR fundamental approach on borrower financials; this results in a combined stress assumption which may duplicate some elements of stress and is therefore conservative. Our plan for 2022 is to incorporate the probabilistic view within FLR to deliver a single credit model, taking a more sophisticated sub sector approach to lending.

Limitations and Plans to remediate

Whilst the above limitation is accepted for 2021 and OakNorth have settled for the most cautious approach, our intent is to address this limitation through the development of the FLR tool into an OakNorth single credit model.

This will provide a single credit model used from origination through to IFRS 9 compliant provision calculation and periodic stress testing, ensuring consistency across all aspects of credit risk management and ECL determination. FLR provides a combination of granular sector outlook with macro and forward-looking view specific to the OakNorth portfolio. Further development of the FLR tool throughout 2022 will be supported by efficacy testing through benchmarking to existing models and use of external data sets, noting OakNorth's limited default data to date.

Stress testing framework

For the 2021 ICAAP, OakNorth has undertaken a detailed approach to evaluate a range of potential stress scenarios that could occur based on the key risks in the business, alongside the BOE macroeconomic stress scenario, to ensure that it robustly stresses the risks inherent in its business. The process OakNorth has followed for its 2021 ICAAP stress testing is as follows:

a) Scenario selection

b) Leveraging the FLR framework: Development of scenario specific granular forward looking assumption sets applied to develop Borrower level forecasts

c) Apply granular assumption sets to borrower financials

d) Modelling what this means for credit performance through stress

e) Consideration of wider non-credit stress factors

f) Running the stresses

g) Identification of management actions

h) Review and P2B assessment of results

The final outputs from this process reflect the assessment where a range of inputs to the financial projections have been flexed to create a severe but plausible stress scenario, which is designed to provide visibility on the viability of the firm over the five-year plan and the adequacy of capital resources.

Scenario selection

For ICAAP 2021, OakNorth has designed and approved three scenarios to stress the risks inherent in its balance sheet. As part of the process, the Bank reviewed macro scenarios provided by a number of forecasters to understand the range of economic assessments and judge which were best suited to the Bank's purposes for both base and stress test forecasting. Certain scenarios based on Moody's forecasts were identified as the appropriate options for both management's base and stress cases, with the latter providing a valuable contrast of a shallower but longer stress when compared to the BoE's ACS scenario. As highlighted above, we have also considered these scenarios using the FLR tool to measure and benchmark the stress outputs. The aforementioned three scenarios chosen for the 2021 ICAAP exercise are detailed below:

The scenarios applied within baseline are based on economic indicators as at May-21 and applied to portfolio data as at Jun-21.

Since adoption in summer 2021 of the above scenarios, short term economic conditions have changed with decline in unemployment rate, house prices remaining strong offset by higher Inflation expectations and expectations of increasing base rates in the near future. At June 21, our FLR framework was already anticipating conditions much closer to the most recent October/November 21 economic realities in relation to supply chain and labour issues, along with HPI and early inflation trends. We acknowledge that the economic picture portrayed by the Moody's scenario used is not consistent with events. However, notwithstanding these developments, on balance Management believe that the scenarios adopted for ICAAP remain suitable stress cases to assess potential impact on the Bank's capital requirements in severe downturns given the continuing macro uncertainties and degrees of stress attributed, in particular within the ACS scenarios, to property price declines which by far is the biggest driver of credit loss expectations for the OakNorth portfolio. In addition, there is a level of conservatism already considered within the trading portfolio through the FLR framework at a granular level stressing revenue and cost curves. OakNorth will continue to update FLR based stress testing forecasts on a monthly basis and more often where conditions materially change in line with current practice. In Q1 2022, OakNorth intends to complete a full refresh of its capital stress test scenarios, which will amongst others consider whether additional cost escalation stresses need to be considered in relation to property development loans.

1. OakNorth Combined Stress scenario

The budget scenario in management's and Board's view, reflect a balanced view with equal probability of the economy over and underperforming vs. the scenario. Key assumptions underpinning this scenario include:

- The existing vaccines are effective against the new Delta variant and a fourth lockdown is prevented.
- The unemployment rate spikes in the last quarter of 2021 as a result of the end of the Coronavirus Job Retention Scheme, which was extended to the end of September, and the recovery remains fragile in the second half of the year.
- Inflation remains contained for several quarters still, weighed down by the decline in demand. It reaches the 2% target by the start of 2022.
- The government continues to support the economy through massive fiscal stimulus during the first half of 2021, while the Bank of England keeps monetary policy extremely loose for several quarters.
- The EU and the U.K. sign a new financial services agreement, and the U.K. continues operating in European markets.

2. OakNorth Combined Stress scenario

This scenario is calibrated such that there is a 96% probability that the economy will perform better, broadly speaking, and a 4% probability that it will perform worse.

Key assumptions:

- A new, vaccine-resistant strain of the virus emerges, leading to a large rise in cases and hospitalizations. A third wave of the pandemic starts at the beginning of fall.

- As the number of new cases rises from the third wave, governments respond by reimposing lockdowns, which are less strict than previous lockdowns but are long-lasting partly due to imperfect compliance from an already-weary population.
- Fear of contagion keeps households and businesses from buying goods and services, especially air travel, retail and hotel stays.
- The large-scale, long-term shutdowns cause massive bankruptcies and layoffs, leading to additional demand shocks during 2021.
- Political gridlock in the EU leads to a rise in anti-EU populism and a spike in government bond spreads, with contagion spreading to other parts of financial markets. » The EU and the U.K. do not agree to a trade deal on services.
- Political and economic tensions between the U.S. and China weaken the U.S. economy.
- At the same time as this wider market downturn, OakNorth is hit by an idiosyncratic cyber incident which occurs in line with the external fraud scenario utilised for the P2A operational risk assessment (see chapter 8 for more details)
- This leads to a cost of £5m to the bank in M1 of the stress, alongside an incremental 20bps of new deposit costs over the first 5m of the stress as the Bank manages the impact of the reputational fallout

3. 2021 BoE ACS scenario

This is a benchmark scenario provided by the PRA to help inform banks stress test exercises. It reflects a severe and prolonged downturn, with especially severe impacts on both residential and commercial property values, but also sees a sharper recovery with GDP/Unemployment more benign in outer years of the stress.

The below table sets out for a selection of key macro indicators forecast in the two stress scenarios and how they compare to the base case view:

GDP	2020	2021	2022	2023	2024	2025
ON budget	-9.85%	5.72%	6.35%	3.55%	1.80%	0.94%
ON combined stress	-9.85%	3.95%	0.61%	5.41%	2.57%	1.56%
BoE ACS	-9.85%	-1.48%	5.91%	4.55%	3.65%	3.84%
Unemployment	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
ON budget	4.50%	6.04%	6.67%	5.97%	5.49%	5.26%
ON combined stress	4.50%	6.32%	9.27%	9.02%	8.28%	7.78%
BoE ACS	4.50%	10.8%	11.1%	7.9%	5.4%	4.9%
CPI	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
ON budget	0.89%	1.28%	2.61%	2.99%	2.44%	2.17%
ON combined stress	0.89%	1.20%	0.49%	-0.75%	0.71%	1.42%
BoE ACS	0.89%	1.01%	0.36%	1.18%	1.70%	2.02%
Base rate	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
ON budget	0.23%	0.10%	0.18%	0.49%	0.92%	1.41%
ON combined stress	0.23%	0.00%	-0.10%	-0.03%	0.10%	0.10%
BoE ACS	0.22%	-0.03%	-0.09%	-0.05%	0.03%	0.12%
HPI	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
ON budget	100.0	103.0	102.9	109.2	115.3	120.3
ON combined stress	100.0	100.8	90.7	90.4	95.1	100.6
BoE ACS	100.0	74.1	73.1	89.4	96.4	102.2

The most severe scenario from an OakNorth bank impact perspective (from the 2021 ICAAP scenario suite) is the BoE ACS scenario. As such, the remainder of the P2B section focuses predominantly on the impact analysis from this stress and management actions to mitigate. Details on the outputs from the ON combined stress scenario are in appendix 14.

b) Leveraging the FLR framework - Development of scenario specific granular forward looking assumption sets applied to develop Borrower level forecasts

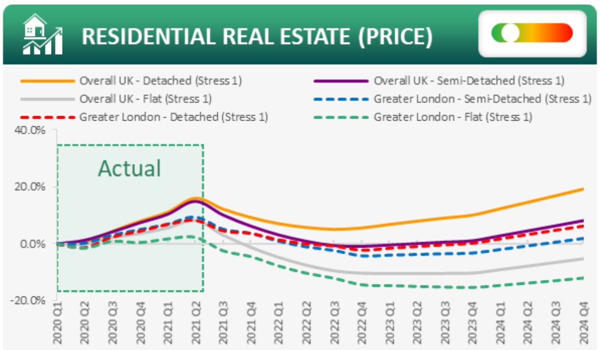
Leveraging OakNorth's granular approach to credit analysis on a multi-factor and segmental basis, bottom-up stress factors are then identified for key business sectors at a granular sub sector level in line with OakNorth's FLR framework.

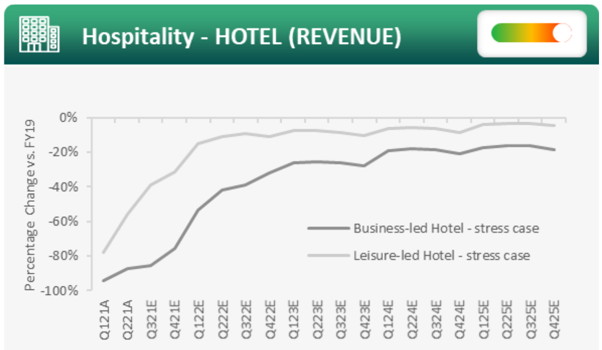
Further, in line with macro variables such as GDP, HPI etc. per the above-mentioned scenarios, we develop forecast curves for further additional variables such as Rental yield growth, revenue, cost inflation etc. as relevant for each subsectors. For example, the table below shows the relevant revenue and cost assumptions for care homes for the first 18 months of the scenarios.

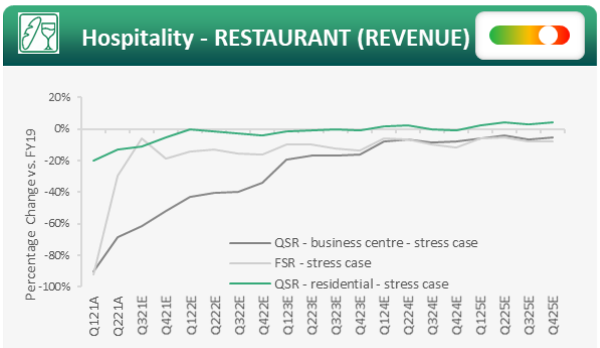
UK Care Homes	Q321E	Q421E	Q122E	Q222E	Q322E	Q422E
Revenue growth						
BOE ACS	-9%	-8%	-6%	-5%	-5%	-4%
ON Combined Stress	-11%	-11%	-10%	-7%	-8%	-7%
Cost increase curve						
BOE ACS	2%	3%	3%	3%	4%	4%
ON Combined Stress	2%	3%	2%	2%	4%	4%

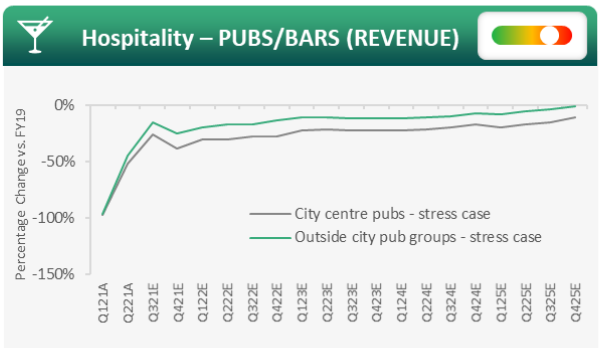
Similarly, granular subsector and region level forecasts are generated as per FLR approach that covers the OakNorth portfolio for the stress scenarios (for illustration, non-exhaustive)**:**

ON Combined Stress case:

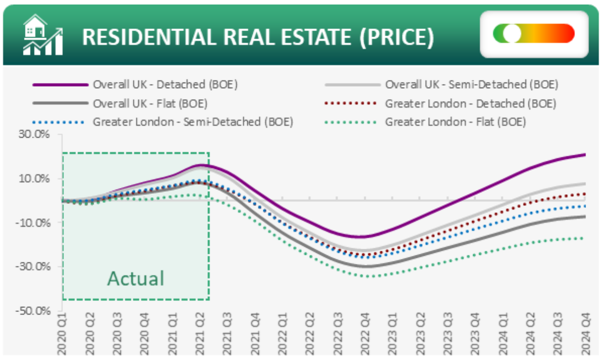


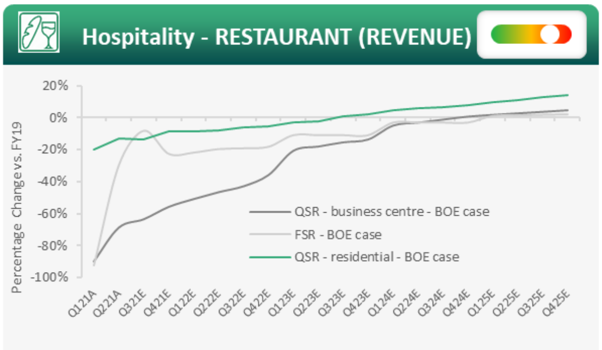


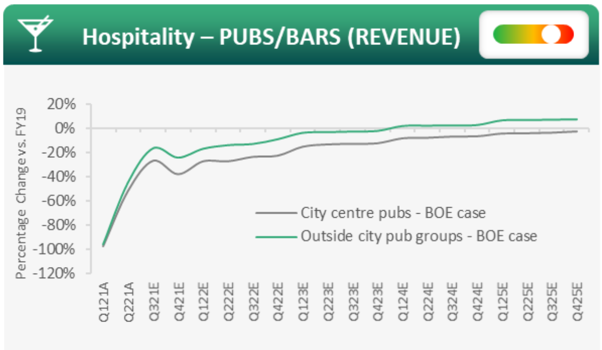




BOE ACS case:







c) Apply granular assumption sets to borrower financials

Having established detailed scenario specific assumption sets for each material sub-sector OakNorth lends into, the next stage in the FLR stress framework is to apply these to the financial forecasts of each of OakNorth's borrowers as set out in the earlier section. This enables OakNorth to determine at a granular level how each individual borrowers' financials would evolve over the course of the stress, including key credit risk performance metrics (e.g. ICR, LTV, P/L, cashflow). The outputs from this process then form a core input to the next stage of OakNorth's ICAAP stress testing approach. The Bank inputs the expected stressed financials of borrowers directly into the Moody's PD/LDG model, rather than relying upon the high-level statistical approach used by Moody's to determine how PDs and LGDs could evolve over the stress. As such, OakNorth is able to better reflect the impact of the expected evolution in key financial metrics at a granular level into the PD/LGD evolution of a particular borrower.

The PD / LGD models are standardised models using Moodys CRE and RiskCalc. They contain forward looking macro-economic variables and provide a baseline scenario. The sub sector FLR view is applied to the financials of each individual borrower. These stressed financials are then input into the PD LGD model; the output of which is used to calculate expected loss under the ICAAP scenarios.

The Moody's PD LGD model is calibrated to market-wide portfolio experience and in addition we have incorporated a number of "floors" (aligned to F-IRB) all of which contribute to a more conservative projection of ECL under stress which management have used for the purpose of Capital stress tests. The approach is described in detail in section 2 of this chapter.

d) Modelling what this means for credit performance through stress

Using stressed PDs generated by the model at a loan-by-loan level, staging criteria are then applied to allocate loans to each of the three stages, which then defines the relevant PD to be utilised in assessing provisions for that period (i.e. 1 year PD for stage 1, lifetime PD for stage 2 and PD of 1 for stage 3 loans).

For LGDs, a similar process is followed, with the stressed financials run through the Moody's model approach to determine stressed LGDs. The LGDs within the model are aligned with F-IRB, with a floor of 15%. To stress the LGD within the model, the LTV needs to increase >110%. Given OakNorth starting average LTV of 53% the stressed LGD does not change materially within the model. This is a known limitation. Hence to factor in stress on LGDs for stress testing exercise, a conservative overlay adjustment is applied on top of modelled LGD. The overlays applied are:

- An additional +10% LGD stress to Trading book [stage 1+2]; +11.5% for stage 3
- An additional +15% LGD stress to property book [stage 1+2]; +11.5% for stage 3

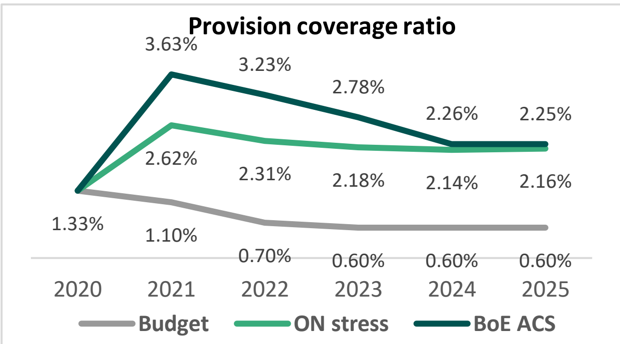
The 10% stress overlay on trading book LGD is based on the assessment (using Moody's data) of the LGD increase during the Global financial crisis. Additionally, there is an added conservatism of 5% for property book. The 11.5% overlay applied for stage 3 loans is derived based on OakNorth experience of weighted LGD for stage 3 loans.

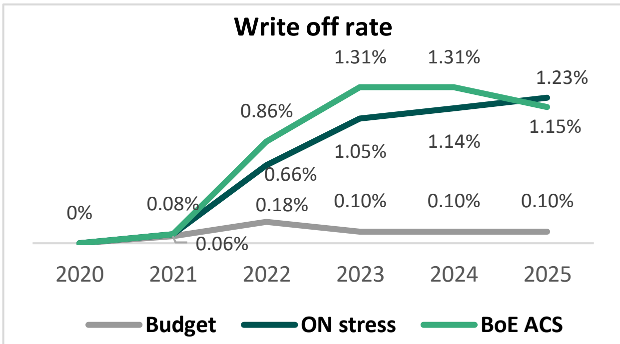
Having assessed the stressed PD, LGD and staging status for each borrower by each year of the stress, OakNorth is then able to forecast the level of provisions that would be required in each year of the stress. For example, the overall level of provisions forecast for June 30, 2022 in the BoE ACS stress test scenario is set out below:

Stage	Count	Amount	Drawn Amount	PD	LGD	Provisions (£m)	Provisions %
Stage 1	525	3,349	2,102	2.59%	31.91%	16	0.74%
Stage 2	32	334	293	40.26%	38.61%	34	11.74%
Stage 3	16	169	138	100.00%	25.93%	36	25.91%
Total	**573**	**3,852**	**2,533**	**10.13%**	**32.23%**	**87**	**3.38%**

With the required provisions assessed for each year of the stress, OakNorth then forecasts the level of write offs these would be expected to drive. For stress testing purposes, we assume 20% of write-offs in the first 12 months after entering the Stage 3 bucket, 70% in the second year and the final 10% in year three.

This results in the following impacts on Expected Credit Losses (ECL) depicted in the charts below:





OakNorth has conservatively applied these same expected credit loss (ECL) assumptions across the entire portfolio over the stress period (including new lending as well) as a further measure of prudence.

e) Other non-credit stress factors applied

In addition to the credit stresses applied, OakNorth also applies a number of further stress assumptions:

No further capital raises are assumed

- OakNorth's current plan includes £475m of AT1 and T2 capital issuances out to the end of 2025 (including the £50m reissuance of the Bank's existing T2 debt).
- Under stress conditions these issuances are assumed to be not possible, with the loss of capital infusions that could otherwise support at least £2.9bn of RWAs over the plan (based on current regulatory requirements)
- As a result of not being able to reissue, the existing T2 debt is assumed to amortise from June 2023 onwards in line with the T2 debt issuance terms.

Effective RWAs are assumed to increase in stress

- The significant deterioration in asset values alongside growth in non-performing loans increases the RWAs for certain exposures over the stress
- For example, the effective risk weight on property investment loans currently risk weighted at 35% increases to 40% over the course of the BOE ACS stress as a result of LTV deterioration

Reduced operational efficiencies

- Under stress, OakNorth anticipates it would need to manage certain additional cost pressures, especially in relation to workout and recoveries. Whilst this may be more than offset by reduced lending activities, for conservatism OakNorth assumes operating cost leverage would worsen in stress scenarios.

- The implication of the above is that in a stress period, the Bank is assumed to no longer be able to realise planned operating leverage. The operating leverage therefore worsens from 66% to 80% pre management action, and 100% in the post management action case where more limited growth is realised.

In addition, the following stress factors were considered but not adjusted for:

NIM compression

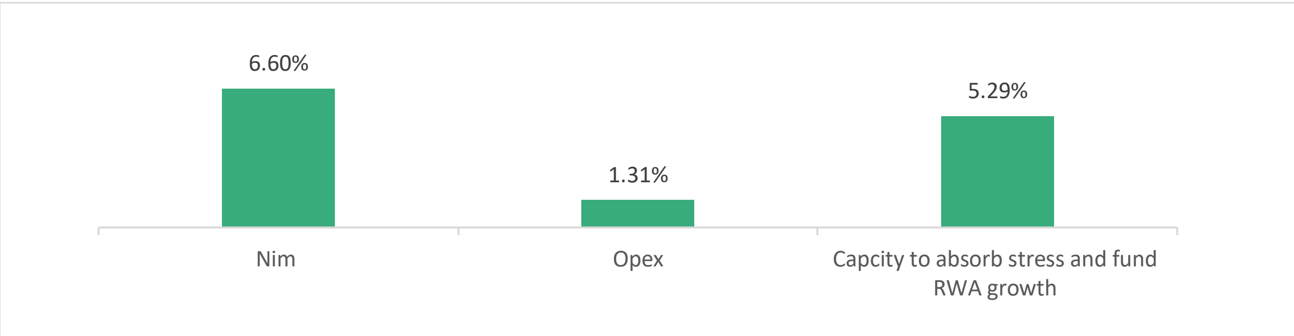
- Having assessed the possible impact of the stress scenario on the market OakNorth believes in all likely hood commercial margins on both sides of the balance sheet would remain constant through stress events, or potentially even improve as risk premium increases.
- As a result of this, the Bank has opted not to include any additional pressures on front book margin over the course of the stress period. The back-book is substantially all variable rate and most lending contracts would re-set within 30 days of a change to the BoE base rate.

Increased facility utilisation under stress

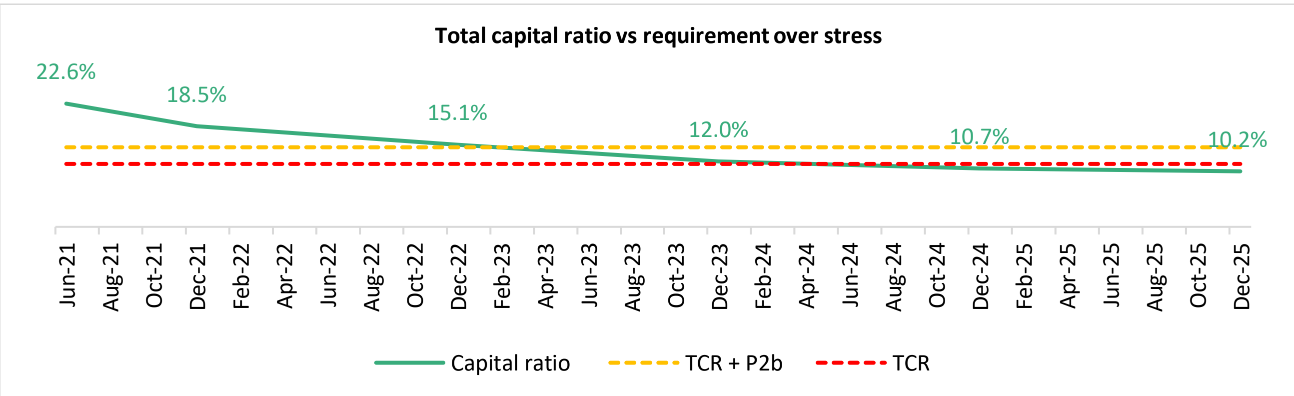
- As of 30th June, OakNorth had £1.3bn of undrawn facilities. Of these £1.0bn were uncommitted. Furthermore, the £340m in committed facilities are typically subject to conditions precedent being met prior to drawdowns, and therefore management do not consider a risk of material unplanned drawing under stress. This is consistent with OakNorth's experience of facility utilisation through the Covid-19 pandemic.

f) ON combined ACS scenario: running the stresses

OakNorth enters the period of stress with strong profitability (6.8% NIM, 1.7% OpEx ratio and 3.9% ROA) as of June 2021, giving it capacity to absorb the impact of possible credit losses and crucially not dependant on further growth to deliver profitability. Our capacity to absorb losses based on our average forecast budget out to 2025 is depicted in the chart below.



However, as would be expected, were OakNorth theoretically to continue unabated with its high growth business plan in the face of stressed conditions including a significant increase in credit losses and an inability to raise T2 as planned, the Bank sees a significant deterioration in capital ratio over the course of the stress:

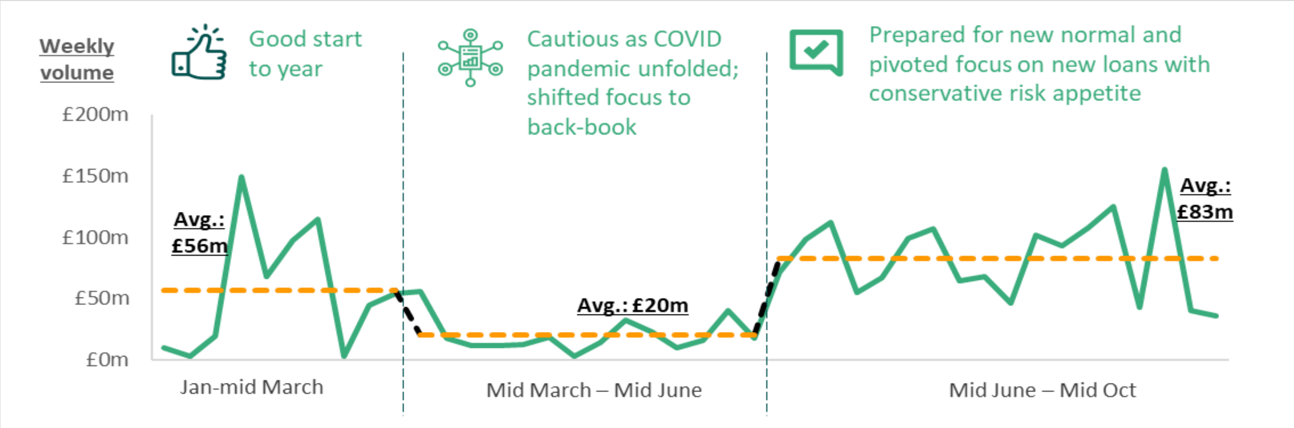


g) Management actions

In the event of the BoE ACS scenario playing out, during the first months of the stress, the Bank would observe marked deteriorations in its asset performance as a lead indicator of capital stress which would prompt management to act promptly.

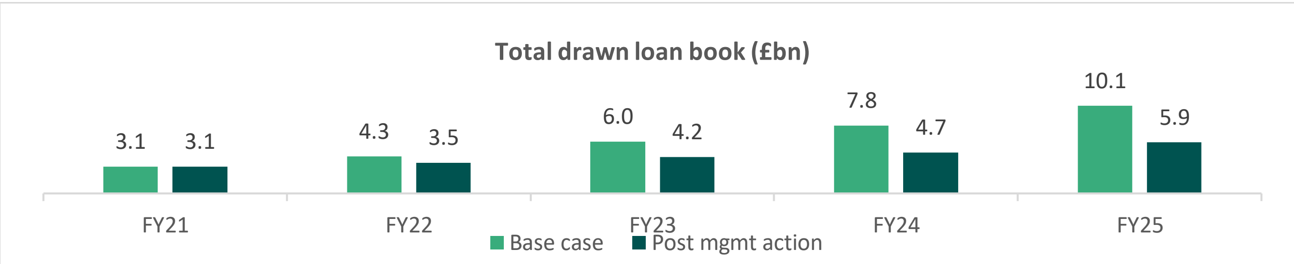
Though management would be expected to act even earlier and potentially even deeper, for conservatism we have assumed that from January 2022 onwards, OakNorth will:

- Reduce monthly facility signings to 50% of plan. This is less severe than the actions management took during the on-set of Covid as depicted in the chart below. During the early months of Covid-19, OakNorth moved early and decisively to reduce volumes and management action in conjunction with market conditions resulted in a volume run-rate reduction of c.65%

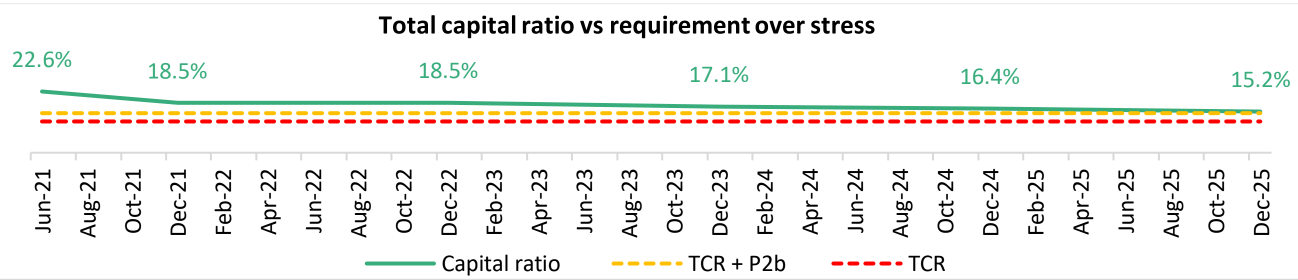


- Manages its cost/staff scaling planning in line with this reduced growth trajectory (but with a greater scaling factor than base to reflect additional costs arising from the stress and reduced efficiencies)

The resultant ~45% reduction of drawn book by the end of the forecast period is depicted in the chart below. It is worth noting that notwithstanding significant scaling down of originations, OakNorth is still projected to be able to grow the book by 80%+ over the forecast period; thus maintaining market presence and franchise value.



This prompt action will enable OakNorth to manage its capital requirements over the stress period, and maintaining franchise value by ensuring its capital ratio remains above capital buffers at all times. This is depicted in the chart below.



OakNorth will ensure there is suitable Governance and challenge during a stress scenario as outlined below:

- EXCO, in coordination with ALCO and the Board as required would react to the deterioration seen in the Bank's performance through EWIs, alongside the wider signs of market stress and emerging loss levels, to set a new monthly lending 'capacity' (set at 50% of plan in this instance)
- ALCO and EXCO would then work closely with CRMC to monitor the flow of deals through to completion to manage risk within levels.
- As appropriate, this would be achieved through a combination of

- Slowing down the processing and origination of deals whist monitoring and analysis was undertaken
- The tightening of certain criteria such as LTV limits
- Reduction in sector concentration limits in areas where the risk was judged greatest
- The application of more conservative forward look credit analysis and stressed cases, informed by our dynamic FLR.
- The management actions would be fed through limits and origination guidance as much as possible to limit negative franchise impact.
- In the initial months, as per our experience through the outset of COVID 19, we would expect the first lever (slowing down processing and origination of deals) to be the main tool in reducing monthly closings, with subsequent changes then informed and calibrated by our further analysis of the likely impact of the stress event.

Throughout, EXCO and ALCO would be meeting on a regular basis to ensure the flow of deals through CRMC, considering the latest data on subsequent drawings from existing borrowers, and enabling timely and dynamic calibration as needed to manage RWA growth within agreed parameters. During COVID-19, EXCO was meeting on a daily basis in order to analyse the portfolio, assess the risks and take action.

h) Review final output: P2B assessment

In order to calculate its total capital buffer requirements, OakNorth has to assess the change in surplus capital over the hurdle rate, its TCR, over the stress. To calculate its TCR OakNorth utilizes the scaling factors set out in the PRA's P2 policy, which in effect see the P2A component of total capital requirements reduce over the course of the stress.

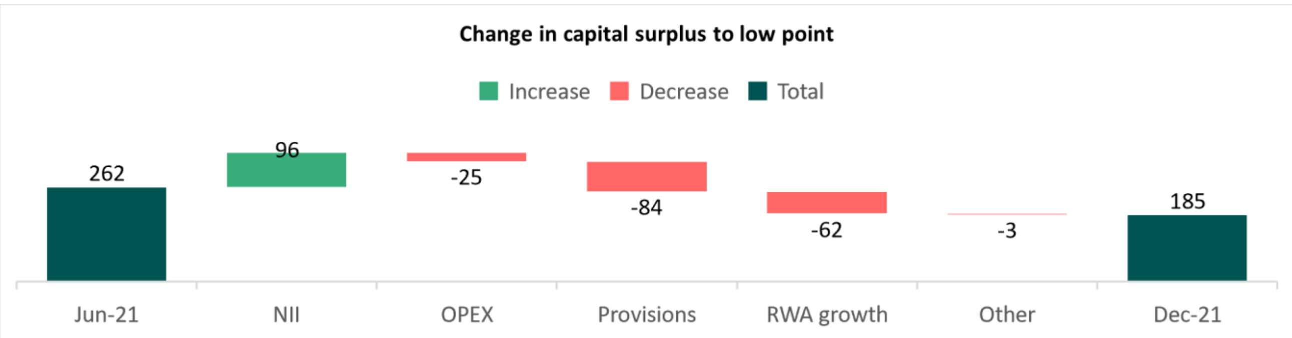
As at end June 2021, OakNorth has a significant surplus CET1 capital of £262m, inclusive of unaudited profits apportioned up to end of June 21. Unverified profits up to end June 2021 are included for prudence in assessing the required buffer level. Failure to include them would artificially supress the reduction in capital seen over the stress, by offsetting some of the credit losses seen over the stress window with profitability which was realised prior to the stress period (i.e. H1 2021). This increases the surplus CET1 capital at the start of the stress by £51m or 1.8% of RWAs.

The below table then sets out how this evolves over the course of the stress:

	Jun-21	FY21	FY22	FY23	FY24	FY25
a) TCR (P1+P2A)	11.6%	11.5%	11.4%	11.4%	11.4%	11.5%
b) RWAs	2,822	3,361	3,906	4,780	5,687	6,904
c) Capital req (a x b)	326	385	446	546	649	793
d) CET1 capital forecast	588	570	672	773	899	1,024
e) Surplus (d-c)	262	185	226	227	250	232
f) Change in surplus - (£)	-	-77	-36	-35	-12	-30
% of June 21 RWAs	-	-2.7%	-1.3%	-1.2%	-0.4%	-1.1%

The surplus is calculated by first calculating how requirements evolve over the stress (c = a x b in the table) and assessing how the level of capital surplus over this amount changes for each year of the stress (e = d – c in the table). The peak change in surplus (row f) as a % of end June RWAs (row g) is the minimum overall buffer need implied buy the stress test.

The peak reduction in surplus is £77m, in the 6 months to Dec. 2021 where a significant build of the ECL provisions are realised. The below walk highlights the key drivers of the change in capital surplus over this 6m period:



The peak reduction, £77m is then the P2B stress test requirement, which equates to 2.73% of June 2021 RWAs.

As the stress test assessed requirement is less than the steady state regulatory buffer level of 3.5% (consisting of the 2.5% CCB and 1% allowance for the 'steady state' CCyB level), no incremental PRA buffer is judged necessary over the current 0.56% in place as a result of the PRA's current P2 policy implementation.

Detailed financials are then set out in the appendix 14

Stress testing model governance

OakNorth is currently undertaking the implementation of a new model risk framework, given the increasing use of models in its normal course of business. A Model Risk Policy is at the time of writing pending approval from Exco and the Board and the Bank is implementing a new Model Risk Committee to provide oversight of the Bank's models under principles articulated in SS3/18. One of the first steps of this implementation is to compile an exhaustive Bank wide model inventory, identifying model complexity and materiality in order to establish a tiering of models. The principal models relevant for the ICAAP discussion from a model governance perspective are the Credit models. OakNorth is also defining its approach to model validation and the frequency of monitoring and required revalidation of models. In the interim, for the purpose of ICAAP, the second line of defence has performed reviews of the models and tools in use to quantify credit losses under stress and the capital requirements used for the purpose of Pillar 2A and Pillar 2B, and has concluded that those are both conceptually sound and performing for use for the purposes of the ICAAP.

Capital Limits

Following the results of the stress testing the Bank has revised its capital risk appetite limits, with minor changes

1) Risk appetite limits set 25bps above minimum regulatory requirements with 1% early warning indicator for CET1, T1 and Total capital, inclusive of TCR and P2B buffer
2) Clarify the "survival days" limit which measures the number of days until capital surplus would reduce to the level TCR + P2B. The limit is intended to facilitate capital raise in advance of potentially breaching buffers.

Risk Appetite Metric	Type	Frequency	Business as Usual	Early Warning Indicator	Internal Limit
Min CET1	RAL	Monthly	>=11%	<11% - 9.80%	<9.80%
Min T1	RAL	Monthly	>=13%	<13% - 12%	<12%
Min Total Capital	RAL	Monthly	>=16%	<16% - 14.85%	<14.85%
Survival days to depletion of Surplus over TCR + P2B	RAL	Quarterly	>200 days	200-100 days	<100 days
Change in capital surplus as % RWAs under BOE ACS	RAL	Quarterly	<(2.75%)	(2.75%) to (3.5%)	> P2B (3.5%)
Leverage Ratio	RAL	Monthly	≥12%	12%-10%	<10%
IRRBB - maximum negative EVE impact for 2% parallel shift in interest rate curve	RAL	Monthly	<(£5m)	>(£5m)-(£6m)	>(£6m)
12m NII at risk at risk to +/- 25bps shock	RAL	Monthly	≤(£1)m	(£1) - (£1.5)m	<(£1.5)m

11 Reverse stress test exercise

Summary: OakNorth has carried out a reverse stress test to understand the level of losses which would need to crystalise over H2 2021 for the bank to breach its TCR. A significant increase in provisions over that experienced in the BoE ACS stress test is needed, with the Bank needing to book c£370m in expected credit losses over the period. Given the severity of the losses needed, Management is confident in the resilience of the Bank, but will ensure relevant learnings from the exercise are carried into the refresh of the Bank's Recovery plan.

As part of its regular stress testing processes, OakNorth runs a reverse stress test to ascertain the severity of risks which would need to crystallise in order for the Bank to no longer be considered viable.

The 2021 ICAAP scenario is designed to assess the circumstances that would need to materialise for OakNorth to breach its capital buffers its TCR by the end of 2021. Such an event, whilst it would not completely wipe out OakNorth's capital base, is judged sufficiently severe by management to reflect the failure (defined as a Total Capital Requirement breach) of OakNorth's business model. This scenario has been selected as it is felt a short sharp shock would be most dangerous to OakNorth as it limits both:

- The Bank's ability of offset losses with organic capital generation from its high margin business model
- The time available to consider and implement more drastic management actions

The reverse stress test is particularly important in understanding the loss absorption capacity of OakNorth and setting triggers in relation to recovery and resolution planning. The Early Warning Indicators (EWIs) defined in our risk appetite limit in relation to regulatory capital requirements and other key credit metrics (e.g. Non performing loans and capital run rate), are set so as to trigger management action ahead of the Bank breaching its internal risk appetite limits or its external regulatory capital or liquidity requirements, and their calibration is informed by the Bank's regular stress testing and reverse stress testing exercises.

Key assumptions

- No capital raises
- RWA deterioration in line with LTV deterioration from BoE ACS scenario (i.e. RWA of 35% residential mortgages deteriorates in proportion to the share of lending falling above 80% LTV, moving to an effective RWA of 40%)
- Significantly increased credit losses over the course of the stress (affecting back book and new lending identically), using the loss profile from the BoE ACS exercise and scaling to breaking point, with provisions reaching c£370m.
- No allowance for IFRS9 add back
- From month two of the stress OakNorth reduces monthly facility signings to £50m for August, and then £30m thereafter vs. c£175m in base case.
- No DTA recognised for losses in 2021 for conservatism

Results

- In order to breach Total Capital Requirement (TCR) by the end of 2021, c.£370m in expected credit losses (ECL) need to be booked over the 6month period. This is approximately £290m more in provisions than realised under the ACs stress test in the same window.
- This sees OakNorth breach TCR (P1+2A) by the end of 2021, with a total capital ratio of 11.38%% vs reqs of 11.54%
- Under such a scenario ON would need to consider more drastic actions from its recovery plan (i.e. partial loan book sale if achievable or a capital raise under stress) if it is to be able to absorb the impact of such drastic losses
- On order to realise this level of provisions

Realisation of this level of losses would require a severe deterioration in asset performance, with total credit losses averaging in excess of 17% of the average 2021 loan book. Based on OakNorth analysis this level of losses would require property values to reduce by c42%, construction cost inflation of 40%, and approximately 30% of the book to go into default.

Given the severe credit stresses which would be needed to push the Bank to breaking TCR, alongside the conservatism of wider stress assumptions (e.g. new lending deteriorating at same level as back book lending), the Bank is comfortable that its current business plan and risk management processes are suitably robust as in order to break the bank under the scenario it would take loss levels outside of those viewed by management.

The results of these stress test exercises will help inform the Banks refresh of its recovery plan over Q4 2021 to ensure EWI and Trigger levels are calibrated appropriately, by making sure the Bank's recovery options are triggered early enough into a stress that might otherwise have existential implications for the Bank. Financials from the stress highlighted below:

Profit & Loss (£m)	**FY19**	**FY20**	**YTD Jun-21**	**FY21**
Interest income	130.8	166.4	92.5	188.6
Fee income	8.5	9.1	6.7	13.3
Total income	139.3	175.5	99.1	201.9
Interest expense	(35.0)	(35.2)	(13.2)	(25.1)
Net interest margin	104.3	140.2	85.9	176.8
Expected Credit Losses	(4.9)	(21.6)	3.2	(372.5)
Risk adjusted NIM	99.5	118.6	89.1	(195.8)
OpEx	(33.6)	(40.9)	(21.2)	(45.8)
Profit before taxes	65.9	77.6	67.9	(241.5)
Income tax	(15.9)	(19.1)	(17.0)	(0.0)
Net income	50.0	58.5	50.9	(241.5)
Key ratios	**FY19**	**FY20**	**YTD Jun-21**	**FY21**
Gross yield	7.9%	7.9%	7.8%	7.7%
Cost of funds	-2.0%	-1.6%	-1.0%	-1.0%
Net interest margin	5.9%	6.3%	6.8%	6.8%
ECL	5.9%	-1.0%	0.2%	-14.2%
Risk adjusted net interest margin	-0.3%	5.3%	7.0%	-7.5%
Operating expenses (	5.6%	-1.8%	-1.7%	-1.7%
PBT	-2.0%	3.5%	5.3%	-9.2%
ROA	3.6%	2.6%	3.9%	-9.2%
Balance sheet (£m)	**FY19**	**FY20**	**YTD Jun-21**	**FY21**
Net drawn book	2,043	2,461	2,564	2,280
Cash and other assets	684	651	520	984
Total Assets	2,730	3,114	3,085	3,266
CET1	470	529	588	287
Tier 2	50	50	50	50
Deposits	1,987	2,314	2,377	2,685
FLS/TFS Borrowings and other liabilities	223	222	79	244
Total Equity & Liabilities	2,730	3,114	3,085	3,266
Capital Position	**FY19**	**FY20**	**YTD Jun-21**	**FY21**
CET1	20.7%	20.0%	20.8%	9.7%
Tier 1	20.7%	20.0%	20.8%	9.7%
Total Capital	22.9%	21.9%	22.6%	11.4%
Total Capital Requirement	12.6%	11.6%	11.6%	11.6%

12 Climate Risk Assessment

Executive Summary

12.1.1 Bank of England (BoE) guidelines on desired outcomes of the 2021 CBES[4]

Key points

- Desired outcome of CBES4 are to size financial exposures to climate-related risks and understand challenges to business models.
- BoE intends CBES to be a learning exercise, and not to be used for capital requirements currently

OakNorth status and plan

- **Current year (2021):** OakNorth has complied with BoE guidelines in a proportionate fashion – suitable for the risk and scale of its business.
- **Plan for 2022:** OakNorth shall further enhance its approach with holistic impact assessment of transition and physical risks from climate change across each borrower in the portfolio, ensuring OakNorth stays ahead of the regulatory requirements.

12.1.2 Approach to scenarios

CBES[1] considers following three scenarios as plausible representations of what might happen based on different future paths of government climate policy:

- Early action / transition from 2021 (1.8°C risk in temperature by 2050)
- Late action / transition from 2031 (1.8°C risk in temperature by 2050)
- No additional action / transition (3.3°C risk in temperature by 2050)
- OakNorth status and plan

Current year (2021):

- **Transition risk:** OakNorth Bank has assessed its exposures leveraging granular, sector specific forecasts from OakNorth Credit Intelligence that estimate how a low-carbon policy and technological transition towards mitigating climate change could impact the book across the three scenarios (mentioned above). There are no expected losses under any scenario. OakNorth has started to evaluate impact from transition risk as part of its origination analysis for new loans as well.
- **Physical risk:** OakNorth Bank has evaluated the impact of physical risk due to the five key perils: Flood, Cyclones, Heatwaves, Wildfire, and Draught highlighted by BoE. There are no expected losses under our current scenarios. OakNorth ensures that borrowers are sufficiently covered with insurances against the physical risks wherever relevant as part of its origination analysis. We also acknowledge that insurance provision is not a given on high risk assets, and any existing policies to not cover in the longer term.

Plan for 2022:

- **Transition risk:** Plan is to continue to assess impact from transition risk scenarios derived with OakNorth climate-risk framework across all borrowers, including the ones with minimal / residual impact.
- **Physical risk:** OakNorth has not yet quantified the impact from physical risks as damage to property value, business disruption this year (2021) because of the lack of data for UK market. Plan is to evaluate granular Value at Risk (VaR) assessment for physical risk consistent with the climate risk framework of OakNorth (we have preliminary datasets for the US market currently). This would imply assessment of business disruption, property damage for each borrower emanating due to (i) Acute risk – extreme weather events, and (ii) Chronic risk – gradual incremental climate change.

[4] *Climate Biennial Exploratory Scenario*

12.1.3 Climate risk impact across scenarios: No expected losses

- Directly impacted[5]: OakNorth has only 2 borrowers in the directly impacted sectors
- Indirectly impacted[5]: OakNorth's borrowers have low climate risk, strong credit quality and sufficient headroom to comfortably bear the worst case impact
- Residual impacted[5]: There's minimal impact to businesses

Climate risk scenario	Climate risk impact
Early action from 2021 (1.8˚C risk in temperature by 2050)	No expected losses; No loan with LTV[6]>100% / or ICR[7] < 1x
Late action from 2031 (1.8˚C risk in temperature by 2050)	No expected losses; No loan with LTV[6]>100% / or ICR[7] < 1x
No additional action (3.3˚C risk in temperature by 2050)	No expected losses; No loan with LTV[6]>100% / or ICR[7] < 1x

Table 1: Summary of climate change impact on the overall OakNorth portfolio under each scenario

Key elements of the 2021 Biennial Exploratory Scenario: Financial risks from climate change

12.1.4 BoE guidelines on desired outcomes of the 2021 Climate Biennial Exploratory Scenario (CBES)

As per the Bank of England, the desired outcomes of the 2021 Climate Biennial Exploratory Scenario (CBES) are to:

Size the financial exposures of participants and the financial system more broadly to climate-related risks.

Understand the challenges to participants' business models from these risks; and gauge their likely responses and the implications for the provision of financial services.

Assist participants in enhancing their management of climate-related financial risks. This includes engaging counterparties to understand their vulnerability to climate change.

The exercise considers two routes to net zero greenhouse gas emissions and a scenario for growing emission:

- **Early Action:** the transition to a net-zero economy starts in 2021 so carbon taxes and other policies intensify relatively gradually over the scenario horizon. Global carbon dioxide emissions are reduced to net-zero by around 2050. Global warming is limited to 1.8°C by the end of the scenario (2050) relative to pre-industrial levels.
- **Late Action:** The implementation of policy to drive the transition is delayed until 2031 and is then more sudden and disorderly. Global warming is limited to 1.8°C by the end of the scenario (2050) relative to pre-industrial levels.
- **The No Additional Action:** Scenario primarily explores physical risks from climate change. Here, there are no new climate policies introduced beyond those already implemented. The absence of transition policies leads to a growing concentration of greenhouse gas emissions in the atmosphere and, as a result, global temperature levels continue to increase, reaching 3.3°C relative to pre-industrial levels by the end of the scenario (2050)

OakNorth has complied with the BoE guidelines sufficiently – not only sized the financial exposures but also quantified the busines impact and expected losses emanating from the climate risk under the three scenarios.

12.1.5 Summary of impacts in the CBES scenarios from BoE

The 2021 CBES explore the transition and physical risk due to climate change

	Early Action	Late Action	No Additional Action
Transition risks	□ **Medium**	□ **High**	□ **Limited**
Transition begins in	2021	2031	n.a.
Nature of transition	Early and orderly	Late and disorderly	Only policies that were in place before 2021

[5] *Refer section 3.2 for more details on classification of subsectors basis transition risk*

[6] *Loan-to-Value ratio*

[7] *Interest Coverage Ratio*

	Early Action	Late Action	No Additional Action
Peak UK shadow carbon price (carbon tax and other policies) (2010 US$/tonne carbon dioxide equivalent)	900	1,100	30
Physical risks	**Limited**	**Limited**	**High**
Mean global warming relative to pre-industrial times by the end of scenario (°C)	1.8	1.8	3.3

Table 2: Summary of key climate risk considerations by Bank of England as per their Biennial Exploratory Scenario (2021)

OakNorth Framework to assess climate risk

12.1.6 OakNorth framework covers two distinct categories of climate-related risks

OakNorth Climate Change Risk Framework works by capturing two distinct risks – **Transition Risk** and **Physical Risk.**

Transition Risk identifies how a low-carbon policy and technological transition towards mitigating climate change could impact the credit risk in a bank's loan portfolio, as well as its lending strategy. It accounts for changes in climate policy, shifts towards clean technology, the capital required for such shifts, and changing consumer sentiment during the transition to a lower-carbon economy.

Physical Risk evaluates (i) extreme event risks (weather and climate events), occurring in specific locations, such as floods, drought, hurricane, winter freeze, and likes as well as (ii) chronic changes in climatic patterns (gradual incremental climate changes over several decades) such as rising temperatures, change in precipitation, increasing sea levels, desertification etc. While these risks have always existed, they have increased in both frequency and intensity in the recent years.

Transition	Physical
Accounts for impact of:	**Accounts for impact of:**
Low carbon policies Changes in price elasticity Evolving consumer sentiment	Severe, event-driven perils, including wildfire, floods, droughts, etc. Long-term changes such as rising temperatures, sea levels, etc.
WHY IT MATTERS	**WHY IT MATTERS**
Cannot be insured against Ever-evolving impact High impact on concentrated set of subsectors	Impacts labor, capital, agriculture, productivity Unpredictable Rippling effects across supply chains Insurance will not be available / too expensive when risk is materialising

Table 3: Key categories covered by OakNorth framework on climate-related risks

Transition risk framework

OakNorth's methodology currently takes into consideration four temperature-based scenarios. These are:

- **1.5°C scenario/1.8°C scenario as per BoE** (Complete adherence to the policies in line with the UN Paris Accord, i.e. net zero emission by 2050)
- **2.4°C scenario** (Moderate Mitigation of carbon emissions)
- **2.8°C scenario** (Low Mitigation of carbon emissions)
- **3.3°C scenario** (No action – business as usual)

Each of the top 3 temperature pathways (1.5°C/1.8°C, 2.4°C, 3.3°C) could be applied on the portfolio in an orderly as well as disorderly transition. For the orderly transition, the policy actions start in 2021 itself, however in the disorderly transition there is an option to delay the actions either by 5 or 10 years (i.e. starting 2025 or starting 2030).

These scenarios are being built at a very granular sub-sector level so as to capture sufficient granularity to differentiate, at the business model-level, the impact of the disruption(s) caused by climate change. Subsequently, these sub-sector level scenarios would be applied to borrowers across the loan book thus enabling Banks to perform a bottom-up portfolio impact assessment of transition risks.

12.1.7 Approach to assessment of transition risk across the OakNorth universe of subsectors

In order to evaluate the impact of transition risk, the OakNorth framework divides the universe of subsectors (OakNorth's existing repository of 273 unique sub-sector scenarios) based on the degree of impact into three distinct categories i.e. **Direct Impact**, **Indirect Impact** and **Residual Impact** basis the carbon intensity of individual subsectors.

Direct Impact: OakNorth considers subsectors with high Scope 1[9] emissions (calculated as a percentage of sector revenue) in this category.

Indirect Impact: OakNorth considers subsectors with material Scope 2[10] emissions (calculated as a percentage of sector revenue) in this category. In addition, sectors with material indirect impact (incremental raw material cost pass through) are also classified under this category.

Residual Impact: Sectors which are not classified under direct and indirect impact are included here. These will be assessed for any residual impacts from carbon taxation through supply chain analysis.

Direct impact	Indirect impact	Residual impact
▪ Subsectors with high Scope 1[8] emissions (calculated as a % of sector revenue) ▪ Around 15% of the sub-sectors will be classified in this category ▪ They are under regulatory radar ▪ Point of incidence for penalties / taxation	▪ Subsectors with scope-2[10] emissions, and/or impacted by incremental raw material cost pass through from primary emitters ▪ Around 40% of the sub-sectors will be classified in this category	▪ Subsectors not classified under direct and indirect impact ▪ They have minimal Scope 1[9] and Scope 2[9] emissions ▪ We assess any material impact through supply chain analysis ▪ Remaining 45% of the sub-sectors will be classified in this category
Examples (general): ▪ Power Plants ▪ Oil and Gas ▪ Metals and Mining ▪ Basic industry (Iron & steel, Aluminum smelting, Cement etc.) ▪ Transportation	Examples (general): ▪ Construction ▪ Automotive parts and accessories stores ▪ Manufacturing (excluding basic industry) ▪ Data Centers	Examples (general): ▪ Retail Trade ▪ Wholesale Trade ▪ Services ▪ Information ▪ Software development
OakNorth Loan book: ~0.15% of total ▪ Metal manufacturing	OakNorth Loan book: ~93% of total ▪ Property Development ▪ Property Investment, Holding ▪ Business trading (collateralized) – Hotel, Care home	OakNorth Loan book: ~7% of total ▪ Hotel (non-collateralized) ▪ Pubs & bars ▪ Restaurants ▪ Childcare services ▪ Accounting services

Table 4: Sub-sector classification as per OakNorth framework on climate-related risks

[8] *Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). These are most significantly impacted from policy, regulation change.*

[9] *Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Scope-2 emissions are driven by source of energy, hence would largely be impacted from change to energy price and/or source.*

12.1.8 Key parameters for building transition risk scenarios

The transition risk scenarios process the output in form of OakNorth's view on 3 distinct parameters i.e. operating cost, capex, and revenue (as detailed below) at subsector levels from short-term (2025) until the policy target year (2050) across the different transition scenarios (i.e., Early transition, Late transition and No transition)

Transition risk scenarios capture the impact on the following three parameters for each subsector.

Operating cost	Capex to lower emissions	Revenue
The impact from emissions cost is classified as: Policy driven costs and Supply chain driven costs ▪ **Policy driven costs** are carbon taxes or the penalties through cap-and-trade programs on businesses levied due to change in regulations ▪ **Supply Chain driven costs** comprise of pass through of direct emission costs resulting in increased prices for manufactured goods. The increased cost when further passed on through to downstream goods, leads to further cost increases	▪ These are the **incremental capital investments** to be undertaken by businesses to transition to a low-carbon economy	▪ Revenue may be impacted due to **lower demand** emanating from consumers shifting preferences to affordable alternate products. This **increase in product prices are driven by the pass-through** of certain proportion of the emission costs to the consumers ▪ Revenue may also vary owing to shut down of product lines, diversification, or closure of locations

Table 5: Parameters assessed with OakNorth framework on climate-related risks

12.1.9 Impact assessment methodology using transition risk scenarios

Using OakNorth's transition risk framework, the scenarios are overlaid on borrower's current performance / base case forecasts. This provides the forecast performance of the borrower as well as impact metrics over short term (2025) to target policy year (2050).

For OakNorth Bank, this provides the estimated key credit metrics such as Interest Coverage Ratio (ICR), LTV (for collateralized portfolio), Leverage for the time horizon. The credit metrics are further assessed to see if borrower is within OakNorth credit risk appetite, outside risk appetite, or in losses. Section 12.4 (below) elaborates the impact assessment methodology for OakNorth portfolio as per OakNorth's climate risk framework for transition risk.

Impact assessment of climate risk on OakNorth portfolio

12.1.10 Transition Risk

12.1.10.1 Directly impacted - Business Trading

Borrowers that have scope-1 emissions in addition to scope-2 emissions (refer table 4)

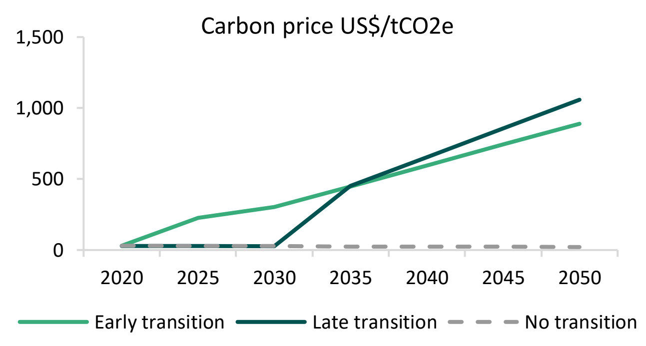
OakNorth exposure

Metal Manufacturing

- Exposure (facility): £6m | 0.15% of Book; 2 borrowers

Metal manufacturing
▪ There're two borrowers in metal manufacturing in OakNorth's portfolio that are in directly impacted sub-sectors. ▪ Expect increase in input cost, and capex to reduce carbon emissions for directly impacted borrowers. ▪ Expected increase in carbon price to only lead to 2%-3% increase in total cost for the set of borrowers in metal manufacturing for OakNorth. ▪ The borrowers are expected to be within the credit risk appetite (ICR>2x) until the policy target year (2050) in all three scenarios (early transition, late transition, and no transition).

UK Carbon price - BoE forecast	Total cost scenario (% change from 2020)



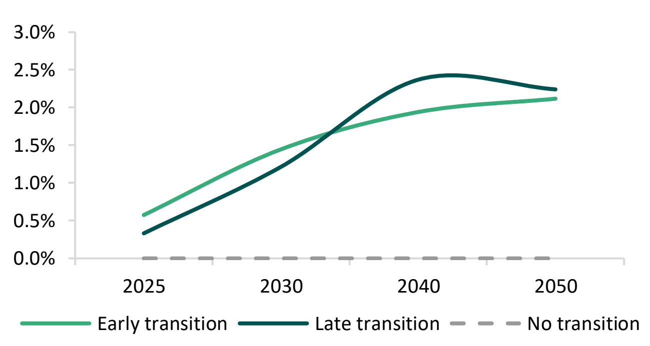


Table 6: Key scenario considerations to evaluate impact of transition risk in Metal manufacturing

Transition risk assessment on directly impacted portfolio: Borrowers can survive across the three scenarios with minimal impact compared to base case borrower view / no transition risk

- Negligible impact on both the borrowers as minimum ICR observed to reach 2.1x (from 2.6x current). This considers all of the increase in operating costs to lead to decline in operating profits / or funded by incremental lending from OakNorth in case of any losses.
- This analysis assumes we do not make any changes to our origination approach. We are currently in the process of incorporating the climate risk assessment for all new originations.

Vista Bidco - Manufacturer of doors and windows of metal										
Values in £	Current	Base case borrower view / No transition (3.3°C rise in temp.)			Early transition (1.8°C rise in temp.)			Late transition (1.8°C rise in temp.)		
	FY20	FY25	FY30	FY50	FY25	FY30	FY50	FY25	FY30	FY50
ICR	2.5x	2.6x	2.6x	2.6x	2.5x	2.3x	2.1x	2.4x	2.2x	2.1x

Table 7: Output summary of impact on Vista Bidco metrics over near term to long term under the three climate change scenarios

Remsons Holdings - Manufacture of metal structures and parts of structures (auto components)										
Values in £	Current	Base case borrower view / No transition (3.3°C rise in temp.)			Early transition (1.8°C rise in temp.)			Late transition (1.8°C rise in temp.)		
	FY20	FY25	FY30	FY50	FY25	FY30	FY50	FY25	FY30	FY50
ICR	11.2x	11.2x	11.2x	11.2x	10.9x	10.5x	10.1x	11.0x	10.6x	10.1x

Table 8: Output summary of impact on Remsons Holdings metrics over near term to long term under the three scenarios

12.1.10.2 Indirectly impacted - Property book – Property Development, Property Investment, and Property Holding loans

Property Development, Property Investment, and Property Holding borrowers have minimal scope-1 emissions (non-material). They will be impacted from the cost burden of building greener buildings and improving Energy Performance Certificate (EPC) bands for existing buildings

OakNorth exposure

- Exposure (facility): £2.6bn | 67% of Book

Type	Exposure (facility)	Exposure (% of total facility)
Property Development	£1,365m	35%
Property Investment	£638m	17%
Property Holding Investment	£303m	8%
Property Holding Development	£258m	7%
Total	£2,564m	67%

12.4.1.2a Property development: £1,365m Facility

- There would be an increase in construction cost to build greener buildings, most of which to be passed through. We have also run a scenario considering no pass through of costs for development loans.
- OakNorth has considered all additional costs to be funded by increased lending from OakNorth, impacting LTV.
- OakNorth's Property Development book will churn and be repaid in 2-4 years so any impact from transition climate risk over 2030 to 2050 is not going to be relevant, as discussed above, we have already commenced work to incorporate climate assessments for all new originations.
- Therefore, what we have done is estimated the impact over 2030 to 2050 if we continue to have same portfolio we have today until 2050.
- Also, OakNorth has started to apply this to the origination analysis for new loans as well
- E.g. Doing a Climate stress for each new origination which builds in additional costs to build "Green" housing and hence OakNorth will be considering the level of additional contingency it needs to build in to loan appraisals.

Increase in Cost to complete

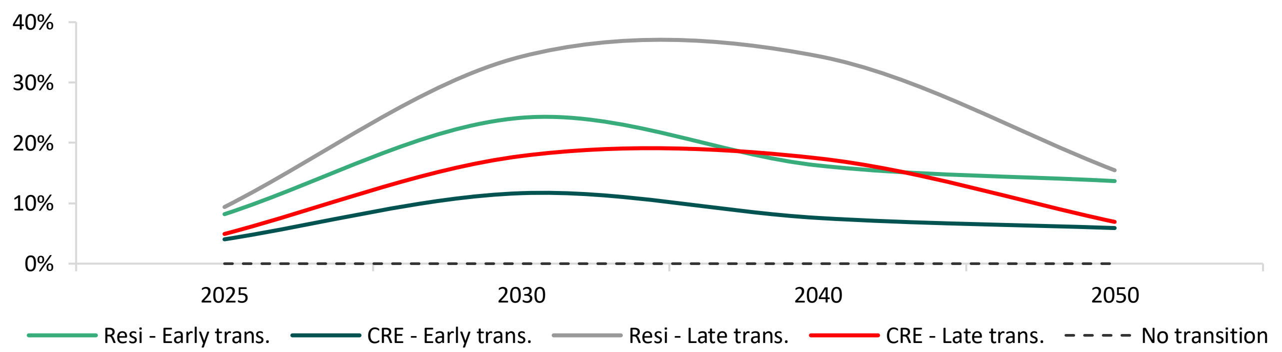


Table 9: Key considerations to evaluate impact of transition risk in Property development borrowers

12.4.1.2b Property investment, Property holding: £1,199m Facility

- There would be an increase in the cost burden to improve Energy Performance Certificate (EPC) band in line with possible changes in standards for residential and commercial buildings <u>considering no pass through in rentals or in value</u> for both early and late action scenarios to be conservative.
- EPC band G and F residential buildings are worst impacted and will have to incur much higher costs to convert to band C (up to £35,000 per house which is ~10% of average house price), whereas cost is much lower for commercial buildings as (i) the cost of same equipment gets distributed over a larger area, (ii) higher usage of greener fuel (higher electrical consumption rather than fossil fuel) in commercial buildings.
- Overall cost across OakNorth's Property investment, Property holding borrowers to improve EPC band to minimum required band level would be ~2.6% of the value of assets. Although majority of OakNorth portfolio is residential (which is expected to incur higher cost), ~37% of OakNorth property investment and holding portfolio is already at or better than EPC band C, which won't require the same level of investment.
- We have considered all additional costs to lead to increase in lending from OakNorth, impacting LTV.

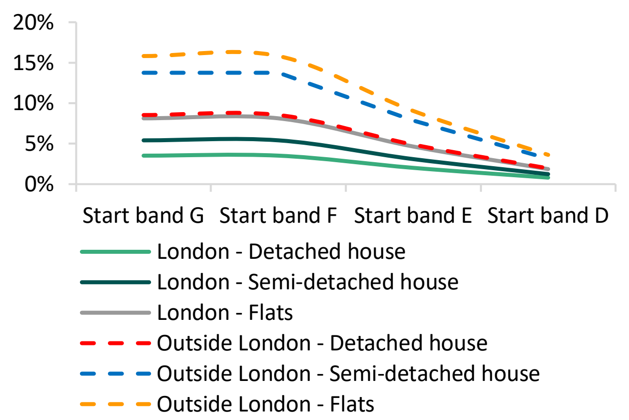
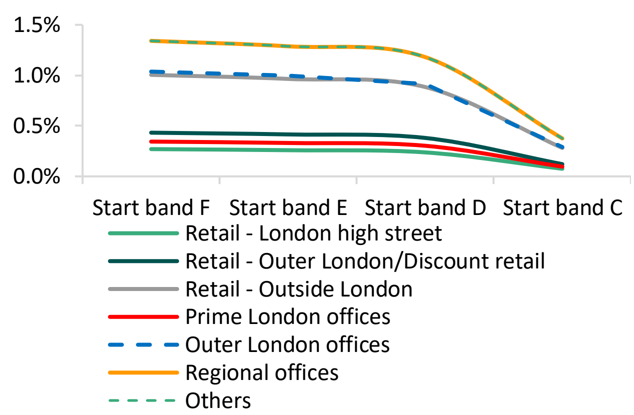
12.4.1.2b Property investment, Property holding: £1,199m Facility	
Residential - Cost (as % value) to improve EPC from any band to band 'C' – Early and Late action scenario (1.8°C rise)	**Commercial - Cost (as % value) to improve EPC from any band to band 'B'– Early and Late action scenario (1.8°C rise)**
	

Table 10: Key considerations to evaluate impact of transition risk in Property investment, Property holding borrowers

Impact of transition risk on indirectly impacted - property book: Early transition case (1.8°C rise)

Impact summary: No loan with LTV > 100%; No expected losses; Maximum LTV rises to 92% (we are amending our origination approach to ensure we don't end up with this level of exposure post our scenarios)

Impact summary (no pass through of rise in construction cost): No loan with LTV > 100%; No expected losses

Type	£m Facility	Base LTV (wtd. avg.)	Stressed LTV (wtd. avg.)			
			2025	2030	2040	2050
Property Development	£1,365m	54%	57%	58%	57%	57%
Property Development *(No pass through)*			*57%*	*60%*	*59%*	*58%*
Property Investment	£638m	55%	57%	57%	57%	57%
Property Holding Investment	£303m	47%	51%	51%	51%	51%
Property Holding Development	£258m	49%	51%	51%	51%	51%
Total	**£2,564m**	**53%**	**56%**	**56%**	**56%**	**56%**

Note: Although current loans have tenure of 2-4 years, it is assumed current loans to continue till 2050 for the analysis

Table 11: Output summary of impact on metrics for Property development, Property investment, and Property holding borrowers over near term to long term under Early transition scenario

Impact of transition risk on indirectly impacted - property book: Late transition case (1.8°C rise)

Impact summary: No loan with LTV > 100%; No expected losses; Maximum LTV rises to 92% (we are amending our origination approach to ensure we don't end up with this level of exposure post our scenarios)

<u>Impact summary (no pass through of rise in construction cost)</u>: No loan with LTV > 100%; No expected losses

Type	£m Facility	Base LTV (wtd. avg.)	Stressed LTV (wtd. avg.)			
			2025	2030	2040	2050
Property Development	£1,365m	54%	57%	58%	58%	57%
Property Development *(No pass through)*			*58%*	*62%*	*62%*	*59%*
Property Investment	£638m	55%	57%	57%	57%	57%
Property Holding Investment	£303m	47%	51%	51%	51%	51%
Property Holding Development	£258m	49%	51%	51%	51%	51%
Total	**£2,564m**	**53%**	**56%**	**56%**	**56%**	**56%**

Note: Although current loans have tenure of 2-4 years, it is assumed current loans to continue till 2050 for the analysis

Table 12: Output summary of impact on metrics for Property development, Property investment, and Property holding borrowers over near term to long term under Late transition scenario

12.1.10.3 Indirectly impacted - Business Trading (collateralized) and other property backed – Hotel, Care home, Property backed specialty finance

Hotel, Care home, Property backed specialty finance have minimal scope-1 and scope-2 emissions, as well as have negligible supply chain impact. They shall be impacted from policy driven cost burden to improve EPC band for existing buildings.

OakNorth exposure

- Exposure (facility): £1.0bn | 27% of Book

Type	Exposure (facility)	Exposure (% of total facility)
Hospitality – Hotels (collateralized)	£498m	13%
Specialty Finance (collateralized)	£458m	12%
Care Homes	£75m	2%
Total	£1,032m	27%

12.4.1.3 Other property-backed (incl. Hotel, Care home, Specialty finance)

- The sectors have minimal scope-1 and scope-2 emissions and have negligible supply chain impact.
- We have assumed there would be increase in cost burden to improve EPC band for existing buildings <u>considering no pass through</u> for both early and late action scenarios to be conservative.
- For sub-sectors where cost estimates to improve EPC band were unavailable, have considered the maximum cost in that category to be conservative.
- Overall cost across OakNorth's Hotel, Care home, Specialty finance borrowers to improve EPC band to minimum required band level would be ~2.2% of value for the borrowers.
- We have considered all additional costs to lead to increase in lending from OakNorth, impacting DSCR / ICR / LTV.

Cost (as % GDV) to improve EPC from any band to band 'C' (Residential), or band 'B' (Commercial) - Early and Late action scenario (1.8°C rise)

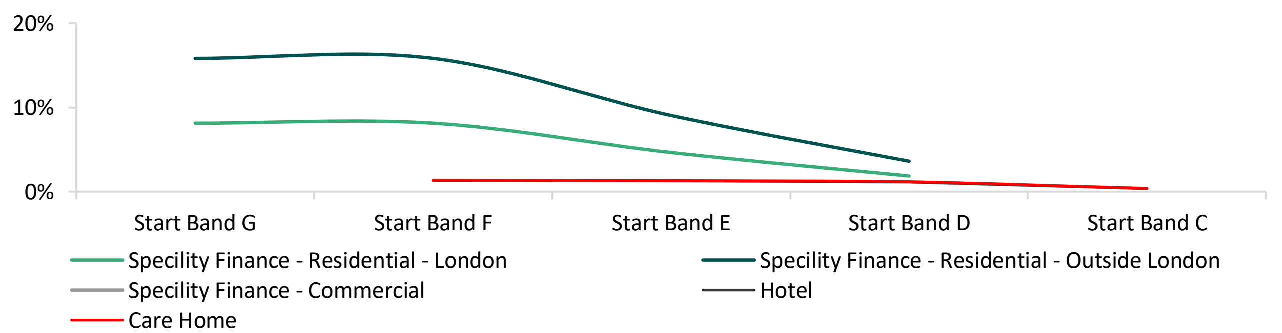


Table 13: Key considerations to evaluate impact of transition risk in collateralized business trading and other property backed (Hotel, Care home, property backed speciality finance)

Impact of transition risk on indirectly impacted – Business trading (collateralized): Early transition case (1.8°C rise)

Impact summary: No loan with LTV > 100%; No expected losses; Maximum LTV rises to 87% (we are amending our origination approach to ensure we don't end up with this level of exposure post our scenarios)

Type	£m Facility	Base LTV (wtd. avg.)	Stressed LTV (wtd. avg.)			
			2025	2030	2040	2050
Hospitality – Hotels (collateralized)	£498m	50%	52%	51%	51%	51%
Specialty Finance (collateralized)	£458m	19%	21%	21%	21%	21%
Care home (collateralized)	£75m	57%	58%	58%	58%	58%
Total	**£1,032m**	**37%**	**39%**	**38%**	**38%**	**38%**

Note: Although current loans have tenure of 2-4 years, it is assumed current loans to continue till 2050 for the analysis

Table 14: Output summary of impact on metrics for collateralized business trading and other property backed borrowers over near term to long term under Early transition scenario

Impact of transition risk on indirectly impacted – Business trading (collateralized): Late transition case (1.8°C rise)

Impact summary: No loan with LTV > 100%; No expected losses; Maximum LTV rises to 86% (we are amending our origination approach to ensure we don't end up with this level of exposure post our scenarios)

Type	£m Facility	Base LTV (wtd. avg.)	Stressed LTV (wtd. avg.)			
			2025	2030	2040	2050
Hospitality – Hotels (collateralized)	£498m	50%	51%	50%	50%	51%
Specialty Finance (collateralized)	£458m	19%	21%	21%	21%	21%
Care home (collateralized)	£75m	57%	58%	58%	58%	58%
Total	**£1,032m**	**37%**	**39%**	**38%**	**38%**	**38%**

Note: Although current loans have tenure of 2-4 years, it is assumed current loans to continue till 2050 for the analysis

Table 15: Output summary of impact on metrics for collateralized business trading and other property backed borrowers over near term to long term under Late transition scenario

12.1.11 Residual impact - Business Trading

Cash flow lend borrowers that have minimal scope-1 and scope-2 emissions, as well as have negligible supply chain impact (refer table 4).

OakNorth exposure

- Exposure (facility): £250m | 7% of Book

Sector	Facility (£m)	Facility (% of total)
Hotel (non-collateralized)	30	1%
Pubs & Bars	94	2%
Restaurants	40	1%
Childcare	11	0%
Others - Services	72	2%
Others - Manufacturing	3.5	0%
Total	**250.5**	7%

Residual trading book (cash flow lend / non-collateralized)
▪ The sectors have minimal scope-1 and scope-2 emissions and have negligible supply chain impact. ▪ Source of electricity is the major scope-2 emission. And it is less than 5% of total cost. Hence, any increase in cost for switching to renewable electricity source would be minimal (while renewable electricity to be cheaper than fossils by 2025 per consensus forecasts)

Table 16: Key considerations to evaluate impact of transition risk in other business trading borrowers in sectors with Residual impact

OakNorth plans to quantify the impact on residual sectors as well. Even though climate impact on such sectors could be negligible, we plan to go more granular on this aspect from next year (2022).

12.1.12 Physical Risk

Physical risk is defined as potential loss caused by climate-related events. These can be acute or chronic.

- **Acute risks:** from the increasing frequency and severity of extreme weather events such as heatwaves, droughts, tropical cyclones and floods.
- **Chronic risks:** (from increased average temperatures, sea level rise and higher precipitation). For example, sea level rises by 0.4m in the UK by the end of the scenario. The primary physical risk perils highlighted by Bank of England are Floods, Cyclones and Heatwaves.

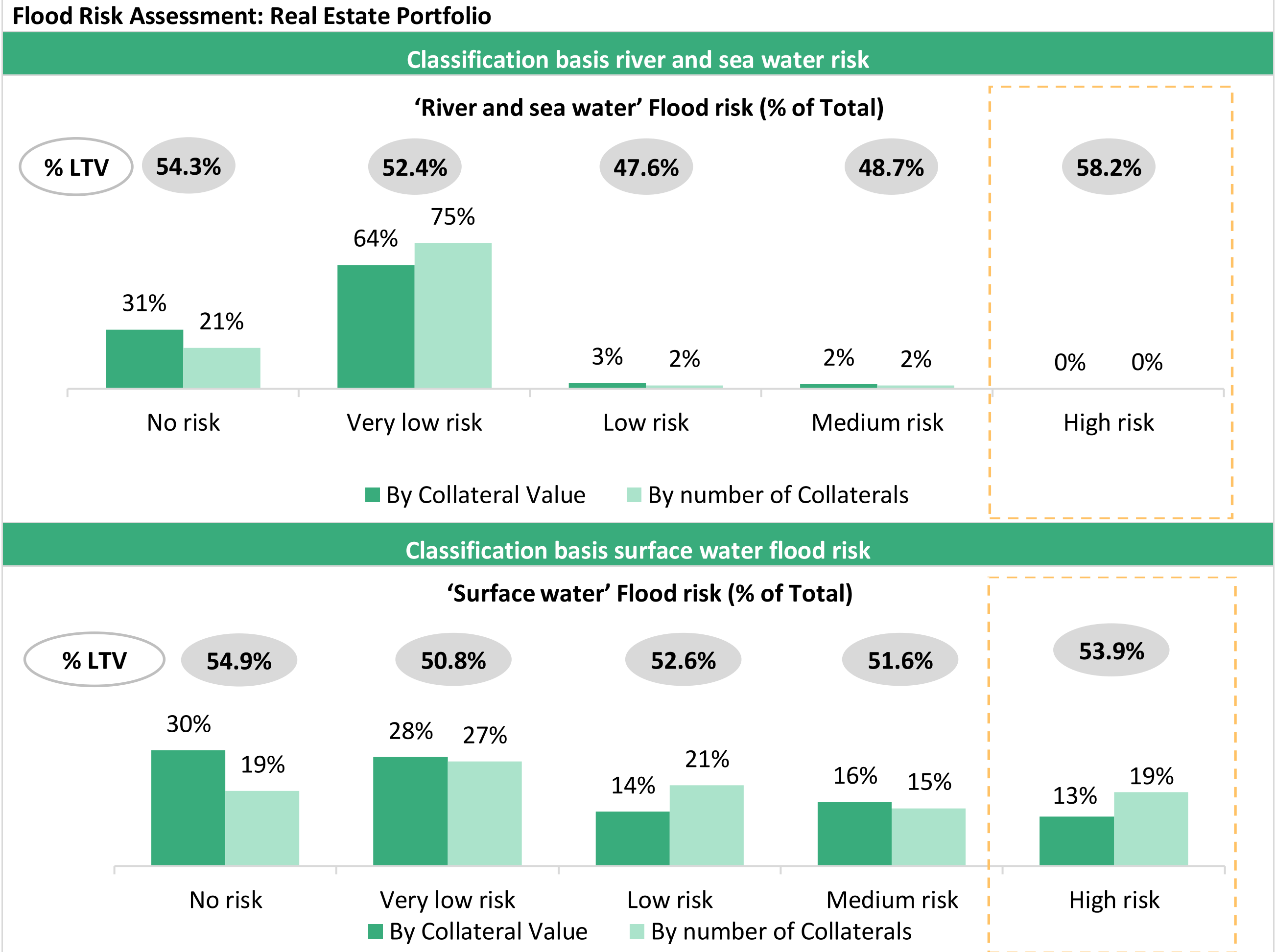
OakNorth has evaluated the impact of the key physical risks for its portfolio and expect no losses.

12.1.12.1 Flood risks:

Average winter precipitation in the UK rises by nearly 25% compared to the late 20th century, while annual precipitation to increase by 11% compared to that in 1986-2005. Contributing to those average increases, extreme rainfall events also become more frequent.

Portfolio collateralized with property: £3,596m
▪ There are two key types of flood risk evaluated – (i) River & sea water flood, and (ii) Surface water flood risks. ▪ <0.1% of collateral value have High 'River and sea water' flood risk, and only 13% of collateral value have High 'Surface water' flood risk (refer table 17). ▪ Average LTV for the portfolio with High 'surface water' flood risk is 53.9%, and none of the loans with more than 80% LTV. ▪ There're **no expected losses** from this risk as all borrowers have sufficient headroom to absorb 20+% impact to asset value in the worst case scenario. ▪ OakNorth's current borrowers have a shorter loan tenure within which the probability of floods are minimal. ▪ OakNorth has not yet quantified the impact from physical risks as damage to property value, additional costs for insurance, business disruption this year (2021) because of the lack of data available for UK market with OakNorth. ▪ OakNorth also acknowledges that insurance provision is not a given forever on high risk assets, and existing policies may not provide required cover in the longer term. ▪ From 2022, OakNorth plans to granularly evaluate VaR for each asset, business impact from additional operating cost (incl. rise in insurance cost) and business disruption, through increasing our data sources and developing our models.

Breakdown of Property portfolio by flood risk rating



Note: ON Bank has significant exposure in England region only.

Source: https://flood-warning-information.service.gov.uk/long-term-flood-risk

Table 17: Key considerations to evaluate impact of flood risk on OakNorth portfolio (collateralized) across the key flood risk categories

We are at the early stages of working with a specialist engineering firm to assist us evaluate the flood protection system being used/proposed by borrowers, and where appropriate providing access to the engineering firm to our borrowers. We are implementing this for new originations.

12.1.12.2 Cyclones:

Tropical cyclones occur around the equator at 5°-30°, and not expected to be major risk for UK. Expect no losses from the risk

12.1.12.3 Heatwaves:

Heatwaves were often assessed as lower risk than other weather-related hazards such as floods. Bank of England projects land area exposed to crop failure to drop by 0.23% by 2050, as increase in heatwaves to be insignificant compared to rise in precipitation. Expect no losses from the risk

12.1.12.4 Wildfire:

Risks to be minimal in UK as wildfires occur once in a 50-100 years currently. Bank of England projects area exposed to wildfire in UK to increase by only 0.06% by 2050 in no transition scenario. Expect no losses from the risk.

12.1.12.5 Drought:

Drought is not expected to be significant risk for UK. It can be a risk for certain sectors like agriculture, water supply networks. OakNorth doesn't have exposure in any of these sectors. Expect no losses from the risk.

13 Governance and use of ICAAP at OakNorth

The ICAAP report is owned by the Board and serves to inform OakNorth's Board of Directors how OakNorth assesses its risks, how OakNorth intends to mitigate those risks and how much current and future capital is deemed necessary to support OakNorth's operations in light of those risks.

The ICAAP report is also then the means by which OakNorth evidences its internal capital adequacy assessment processes to the Prudential Regulation Authority.

The ICAAP is reviewed at a minimum annually by the Board in line with the budget and risk appetite appraisals. Interim updates may be called for where appropriate. Stress testing exercises are carried out at a minimum quarterly as part of the ongoing risk appetite reviews and as a result of any perceived change in the wider macroeconomic environment or idiosyncratic event which might pose a threat to OakNorth.

It is the responsibility of the CEO, CRO and CFO to ensure that the ICAAP is up to date and relevant to OakNorth's operations. The ICAAP forms and integral part of the Risk Management Framework and Risk Appetite Statement, and it is the basis of the day-to-day operations of OakNorth, for example, in terms of approval policy and process for loans, asset & liability management; reporting on loan and operational losses and near misses.

Outputs from the ICAAP processes help to inform the calibration of key triggers and EWIs for both the risk appetite framework and the recovery plan.

Production, challenge and adoption of the ICAAP

Responsibility for production and drafting of the ICAAP on an on-going basis lies with CFO (capital adequacy and stress scenarios) and CRO (risk management framework and appetite). As part of this process, analysis and input is owned by the relevant functions within the business (e.g. Slotting assessments owned by Credit Risk) to ensure it is based on appropriate level of expertise and experience. For all assessments, second line of defence are engaged early in the process, enabling robust challenge and input into the design stage as well as providing review and assurance around the final outputs. For the 2021 ICAAP Internal Audit then provided further assurance with a review of the near final document draft, enabling all feedback to be considered and action as appropriate before finalisation. The outputs of these reviews are then documented in sperate stand-alone reports from 2nd and 3rd line.

The ICAAP is reviewed and challenged by senior management via the Executive Committee, in addition to review, challenge and approval by OakNorth's Board, at least annually. To ensure this process is a robust and meaningful one, over 2021 a number of Board meetings and standalone deep dive sessions provided significant scope for the board to engage in the detail the document and provide input and challenge throughout the production process in addition to final review and approval of the document.

The Board challenge process includes coverage of areas such as:

- Ensuring stress and scenario tests are appropriate and subject to thorough and robust investigation, including around key parameters and outputs
- Challenging the outputs of the P2A risk assessments, including areas such as the operational risk scenarios and application of the P2A credit offset
- Comprehensive risk mapping in ICAAP in line with the development of OakNorth's business
- Overseeing on-going enhancements to the ICAAP to reflect the live experience of OakNorth's banking activities (e.g. data on loan defaults and losses, operational losses) and feedback from the PRA on previous documents

Key developments for 2021

As part of the 2021 ICAAP OakNorth has looked to make a number of material enhancements to the analysis of its own risks and associated capital requirements as part of its continued culture of zero-basing.

These include:

- Revamped implementation of EBA slotting: OakNorth's approach to implementing the EBA RTS on slotting has been completely refreshed for 2021 to refine the calibration of the model, break out the treatment of investment and development loans, and improve the robustness of the output. This has built on feedback from both the PRA and 2nd line on previous slotting assessments.
- Zero based own assessments for P2A credit risk: For the 2021 ICAAP OakNorth has completely zero based its internal approaches for assessing its capital need for credit risk under P2A. this has involved brining in an internal alternate slotting approach, and a proxy IRB modelling approach for trading loans, to enhance the assessments and ensure they are more tightly aligned to the purpose of deriving capital requirements.

- Enhanced P2B stress testing methodology: OakNorth has continued to develop further its stress testing methodology, building on the enhancements made for the 2020 ICAAP. These improvements enable the Bank to continue to better leverage its granular forward looking analytical capabilities to enhance its understanding of how specific sub segments of borrowers would perform under stress as set out in section 10.
- Climate scenario analysis: As flagged in the 2020 ICAAP and required by SS3/19, the 2021 ICAAP see's OakNorth share the output of its inaugural climate scenario testing exercise. This analysis utilises the industry leading framework being developed by ONE for US Bank clients to help understand what the impact of the three Climate scenarios set out in the BoEs BES exercise could be on the Bank if it maintained its current borrower profile.
- Enhancements to the Bank's business planning process to leverage deeper and more detailed market analysis, alongside key improvements in internal behavioural data analysis of key elements of the Bank's balance sheet (e.g. evolution of drawn back book profile and deposit stability).
- Enhancements to the Bank's IRRBB risk analysis to ensure the impact of rate floors is adequately captured n all rate scenarios, and enhanced behavioural data is leveraged where relevant to inform the assessment

Future enhancements for 2022 and next steps

OakNorth is committed to the continued enhancement of its risk management and capital assessment practices as it continues to grow and mature as a Bank. In line with this there are a number of further enhancements the Bank is anticipating making for the 2022 ICAAP document:

- Own P2A credit assessment: Over 2022 the Bank intends to continue the evolution and enhancement of its own internal methodologies, especially its internal slotting approach, to ensure they fully capture and reflect a granular understanding of the full suite of relevant risk drivers for each borrower. This includes consideration of possible additional slotting factors, and further refining of calibration based on any further default history.
- Enhance our stress testing and reverse stress testing framework to capture a wider range of possible stress scenarios, including but not limited to the possible risks from ransomware attacks.
- Climate stress testing: Over the remainder of 2021 and 2022 OakNorth intends to build on its inaugural climate scenario analysis in 2021 to further enhance its assessment, including integration alongside wider macros stresses, incorporation of a wider suite of sub sector scenario assumptions and sensitivity analysis around key tail risks (e.g. high risk collateral becoming impossible to insure).
- Implementation of the standardized approach for IRRBB: Over 2022 OakNorth intends to assess its IRRBB risk under the standardized approach being brought in from the end of 2021 alongside its existing methodology, with the intention to then consider fully transitioning to the standardized assessment approach.
- As set out in chapter 10, OakNorth will develop further its own internal FLR credit assessment tool
- Across all of the analysis undertaken, OakNorth will be leveraging the continued improvement in its behavioural analysis of assets and liabilities to ensure risk drovers acre captured in the most appropriate manner.

14 Appendix

Appendix 1: BOE ACS stress results

	ON Budget						BoE ACS stress pre management					BoE stress post management				
Balance sheet (£m)	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
Gross loan book	2,603	3,078	4,263	5,985	7,803	10,104	3,078	4,263	5,985	7,803	10,104	3,078	3,542	4,203	4,725	5,870
Provisions for credit losses	(29)	(32)	(30)	(36)	(47)	(61)	(112)	(136)	(165)	(176)	(227)	(112)	(114)	(117)	(107)	(132)
Net drawn book	2,564	3,033	4,216	5,925	7,725	10,003	2,954	4,109	5,796	7,596	9,837	2,954	3,413	4,069	4,599	5,714
Cash	467	472	692	973	1,284	1,703	446	658	967	1,313	1,758	446	531	632	722	945
Total Assets	**3,085**	**3,608**	**5,011**	**7,001**	**9,112**	**11,759**	**3,503**	**4,870**	**6,866**	**9,011**	**11,647**	**3,503**	**4,047**	**4,805**	**5,424**	**6,712**
Total Shareholders' Equity and Retained Earnings	580	629	762	941	1,187	1,519	570	662	773	949	1,165	570	672	773	899	1,024
AT1	-	-	-	-	150	275	-	-	-	-	-	-	-	-	-	-
Tier 2	50	50	50	200	200	200	50	50	45	35	25	50	50	45	35	25
Deposits	2,377	2,685	3,955	5,616	7,331	9,720	2,638	3,914	5,803	7,783	10,413	2,638	3,081	3,743	4,246	5,619
FLS/TFS Borrowings	41	200	200	200	200	-	200	200	200	200	-	200	200	200	200	-
Total Equity & Liabilities	**3,085**	**3,608**	**5,011**	**7,001**	**9,112**	**11,759**	**3,503**	**4,870**	**6,866**	**9,011**	**11,647**	**3,503**	**4,047**	**4,805**	**5,424**	**6,712**
Profit and loss statement (£m)	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
Net interest margin	86	181	239	323	448	594	182	241	328	443	575	182	222	254	293	347
Credit losses	3	(1)	(5)	(11)	(18)	(23)	(81)	(56)	(95)	(100)	(152)	(81)	(31)	(53)	(47)	(85)
Risk adjusted NIM	89	180	234	312	430	571	101	185	233	343	423	101	191	201	246	261
OpEx	(21)	(46)	(55)	(66)	(79)	(90)	(46)	(60)	(80)	(100)	(123)	(46)	(53)	(63)	(71)	(88)
Profit before taxes	**68**	**134**	**179**	**246**	**352**	**481**	**55**	**125**	**153**	**243**	**300**	**55**	**138**	**138**	**175**	**174**
Profit after taxes	51	100	133	179	257	353	42	92	111	175	216	42	102	100	126	125
Profit after taxes and AT1 costs	51	100	133	179	246	333	42	92	111	175	216	42	102	100	126	125

Capital Position*	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
CET1	20.8%	18.9%	16.3%	14.0%	13.0%	12.9%	17.0%	14.0%	11.4%	10.3%	10.0%	17.0%	17.2%	16.2%	15.8%	14.8%
Tier 1	20.8%	18.9%	16.3%	14.0%	14.6%	15.3%	17.0%	14.0%	11.4%	10.3%	10.0%	17.0%	17.2%	16.2%	15.8%	14.8%
Total Capital	22.6%	20.5%	17.3%	16.9%	16.8%	17.0%	18.5%	15.1%	12.0%	10.7%	10.2%	18.5%	18.5%	17.1%	16.4%	15.2%
Total Capital Requirement	14.6%	14.6%	13.8%	13.8%	13.8%	13.8%	14.5%	14.6%	14.6%	14.6%	14.6%[10]	14.5%	14.5%	14.5%	14.5%	14.5%
Key ratios - %	**YTD Jun-21**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**
NIM	6.8%	6.7%	6.6%	6.4%	6.6%	6.7%	6.7%	6.7%	6.5%	6.5%	6.5%	6.7%	6.7%	6.6%	6.7%	6.6%
ECL	0.2%	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-3.0%	-1.6%	-1.9%	-1.5%	-1.7%	-3.0%	-0.9%	-1.4%	-1.1%	-1.6%
Operating expenses	-1.7%	-1.7%	-1.5%	-1.3%	-1.2%	-1.0%	-1.7%	-1.7%	-1.6%	-1.5%	-1.4%	-1.7%	-1.6%	-1.6%	-1.6%	-1.7%
ROA	3.9%	3.7%	3.7%	3.6%	3.8%	4.0%	1.5%	2.6%	2.2%	2.6%	2.4%	1.5%	3.1%	2.6%	2.9%	2.4%
RoRE	31.0%	29.2%	30.1%	28.6%	28.7%	29.7%	12.1%	19.9%	16.8%	18.9%	17.8%	12.1%	24.3%	20.1%	20.9%	17.3%
Provision coverage	1.1%	1.1%	0.7%	0.6%	0.6%	0.6%	3.6%	3.2%	2.8%	2.3%	2.2%	3.6%	3.2%	2.8%	2.3%	2.2%

**Capital position for 2021 excludes Covid-19 provision impact*

[10] *Under stresses requirements scale with P2 policy scaling factors rather than following forecast changes in plan*

Appendix 2: ON Combined stress scenario results

	On Budget						ON stress pre management					ON stress post management				
Balance sheet (£m)	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
Gross loan book	2,603	3,078	4,263	5,985	7,803	10,104	3,078	4,263	5,985	7,803	10,104	3,078	3,499	4,323	4,947	6,020
Provisions for credit losses	(29)	(32)	(30)	(36)	(47)	(61)	(81)	(98)	(130)	(166)	(217)	(81)	(98)	(130)	(166)	(217)
Net drawn book	2,564	3,033	4,216	5,925	7,725	10,003	2,985	4,148	5,831	7,606	9,846	2,985	3,405	4,211	4,822	5,865
Cash	467	472	692	973	1,284	1,703	447	659	966	1,308	1,753	447	524	650	759	972
Total Assets	**3,085**	**3,608**	**5,011**	**7,001**	**9,112**	**11,759**	**3,535**	**4,910**	**6,900**	**9,017**	**11,653**	**3,535**	**4,032**	**4,965**	**5,684**	**6,890**
Total Shareholders' Equity and Retained Earnings	580	629	762	941	1,187	1,519	593	697	815	982	1,193	593	703	806	930	1,068
AT1	-	-	-	-	150	275	-	-	-	-	-	-	-	-	-	-
Tier 2	50	50	50	200	200	200	50	50	45	35	25	50	50	45	35	25
Deposits	2,377	2,685	3,955	5,616	7,331	9,720	2,648	3,919	5,796	7,756	10,390	2,648	3,035	3,870	4,475	5,753
FLS/TFS Borrowings	41	200	200	200	200	0	200	200	200	200	0	200	200	200	200	0
Total Equity & Liabilities	**3,085**	**3,608**	**5,011**	**7,001**	**9,112**	**11,759**	**3,535**	**4,910**	**6,900**	**9,017**	**11,653**	**3,535**	**4,032**	**4,965**	**5,684**	**6,890**
Profit and loss statement (£m)	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
Net interest margin	86	181	239	323	448	594	182	241	328	443	575	182	221	256	304	360
Credit losses	3	(1)	(5)	(11)	(18)	(23)	(50)	(41)	(85)	(114)	(160)	(50)	(22)	(54)	(63)	(91)
Risk adjusted NIM	89	180	234	312	430	571	132	200	243	329	415	132	199	202	240	269
OpEx	(21)	(46)	(55)	(66)	(79)	(90)	(46)	(60)	(79)	(99)	(122)	(46)	(51)	(60)	(67)	(79)
Profit before taxes	**68**	**134**	**179**	**246**	**352**	**481**	**86**	**140**	**163**	**230**	**293**	**86**	**148**	**141**	**173**	**190**
Profit after taxes	51	100	133	179	257	353	65	104	119	166	212	65	110	103	125	137
Profit after taxes and AT1 costs	51	100	133	179	246	333	65	104	119	166	212	65	110	103	125	137

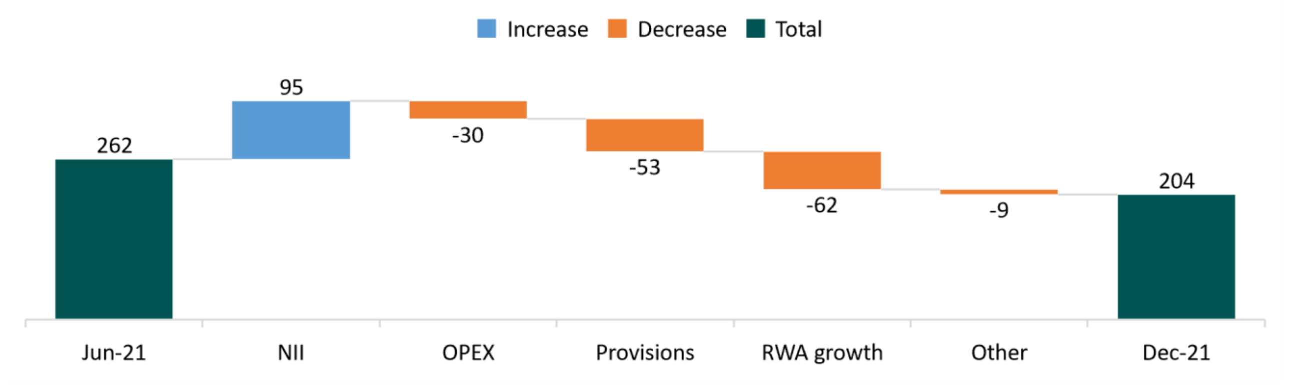
	On Budget						ON stress pre management					ON stress post management				
Capital Position*	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
CET1	20.8%	18.9%	16.3%	14.0%	13.0%	12.9%	17.6%	14.8%	12.0%	10.7%	10.2%	17.6%	18.2%	16.4%	15.7%	15.1%
Tier 1	20.8%	18.9%	16.3%	14.0%	14.6%	15.3%	17.6%	14.8%	12.0%	10.7%	10.2%	17.6%	18.2%	16.4%	15.7%	15.1%
Total Capital	22.6%	20.5%	17.3%	16.9%	16.8%	17.0%	19.1%	15.8%	12.6%	11.0%	10.4%	19.1%	19.5%	17.3%	16.3%	15.4%
Total Capital Requirement	14.6%	14.6%	13.8%	13.8%	13.8%	13.8%	14.5%	14.6%	14.6%	14.6%	14.6%	14.5%	14.5%	14.5%	14.5%	14.5%
Key ratios - %	YTD Jun-21	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25	FY21	FY22	FY23	FY24	FY25
NIM	6.8%	6.7%	6.6%	6.4%	6.6%	6.7%	6.7%	6.7%	6.5%	6.5%	6.5%	6.7%	6.7%	6.6%	6.6%	6.6%
ECL	0.2%	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-1.8%	-1.1%	-1.7%	-1.7%	-1.8%	-1.8%	-0.7%	-1.4%	-1.4%	-1.7%
Operating expenses	-1.7%	-1.7%	-1.5%	-1.3%	-1.2%	-1.0%	-1.7%	-1.7%	-1.6%	-1.5%	-1.4%	-1.7%	-1.6%	-1.6%	-1.5%	-1.5%
ROA	3.9%	3.7%	3.7%	3.6%	3.8%	4.0%	2.4%	2.9%	2.4%	2.4%	2.4%	2.2%	3.2%	2.5%	2.6%	2.4%
RoRE	31.0%	29.2%	30.1%	28.6%	28.7%	29.7%	18.8%	22.3%	17.9%	17.8%	17.4%	17.6%	25.3%	19.4%	19.1%	17.4%
Provision coverage	1.1%	1.1%	0.7%	0.6%	0.6%	0.6%	2.6%	2.3%	2.2%	2.1%	2.1%	2.6%	2.3%	2.2%	2.1%	2.2%

**Capital position for 2021 excludes Covid-19 provision impact*

Buffer assessment for the ON combined stress:

	Jun-21	FY21	FY22	FY23	FY24	FY25
a) TCR (P1+P2A)	11.56%	11.46%	11.42%	11.44%	11.44%	11.49%
b) RWAs	2,822	3,361	3,858	4,914	5,937	7,079
c) Capital req (a x b)	326	385	441	562	679	813
d) CET1 capital forecast	588	589	695	792	912	1042
e) Surplus (d-c)	262	204	254	230	233	229
f) Change in surplus - (£)		(58)	(8)	(31)	(29)	(32)
% of June 21 RWAs		-2.06%	-0.28%	-1.11%	-1.03%	-1.15%

Change in capital surplus to low point



Appendix 3: Climate impact assessment details across OakNorth portfolio

Category	Sector	Facility	Transition risk		Physical risk
			Early transition	Late transition	No transition
Directly impacted - Business Trading (Transition risk)	Metal Manufacturing	£6m	No expected loss and borrowers to be within risk appetite till 2050	No expected loss and borrowers to be within risk appetite till 2050	Impact not meaningful. No losses
Indirectly impacted - Property book	Property Development	£1,365m	No expected loss; LTV to increase from 54% to 57%	No expected loss; LTV to increase from 54% to 57%	Sufficient headroom; No expected losses in worst case scenario.
	Property Investment	£638m	No expected loss; LTV to increase from 55% to 57%	No expected loss; LTV to increase from 55% to 57%	
	Property Holding Investment	£303m	No expected loss; LTV to increase from 39% to 51%	No expected loss; LTV to increase from 39% to 51%	
	Property Holding Development	£258m	No expected loss; LTV to increase from 49% to 51%	No expected loss; LTV to increase from 49% to 51%	
Indirectly impacted - Business Trading (collateralized) and other property backed	Hospitality – Hotels (collateralized)	£498m	No expected loss; LTV to increase from 50% to 52%	No expected loss; LTV to increase from 50% to 51%	
	Specialty Finance (collateralized	£458m	No expected loss; LTV to increase from 19% to 21%	No expected loss; LTV to increase from 19% to 21%	
	Care home	£75m	No expected loss; LTV to increase from 57% to 58% (2050);	No expected loss; LTV to increase from 57% to 58% (2050);	
Residual impact - Business Trading (cash flow lend)	Hospitality - Hotel (non-collateralized)	£30m	Impact to be minimal. No losses	Impact to be minimal. No losses	Impact to be minimal. No losses
	Hospitality - Pubs & Bars	£94m			
	Hospitality - Restaurants	£40m			
	Childcare	£11m			
	Others - Services	£72m			
	Others - Manufacturing	£4m			

Table 18: Output summary of climate risk impact across sectors within OakNorth portfolio under the three scenarios

Appendix 4: Other Operational risk scenarios

Scenario 2a – External Fraud (Cyber-attack: Ransomware Attack)

Scenario Considered	▪ The scenario poses the possibility of an aggressive outbreak of ransomware, originating from a phishing email or from a hack of the Bank's systems, which spreads to 80% of employee workstations in the UK and infects centralised file shares. Teams are unable to resolve decryption of data after several hours of troubleshooting. ▪ Both scenarios exclude payment of ransomware but assume delayed recovery, with reputational impact and a regulatory fine. The Bank would refuse to pay a ransom and would institute its recovery from the separate off-line encrypted back-up which is maintained. ▪ The scenario excludes for the sake of conservatism any recovery from the cyber insurance which the Bank holds. ▪ Moderate Scenario: The devastating outbreak has not yet halted mission-critical business operations, albeit with unprecedented delays in processing. There is no press coverage of the security incident at this time, but the risk continues to grow with an increasing customer support dissatisfaction rate. ▪ Severe Scenario: This strain of ransomware leverages a "zero-day" exploit, resulting in the infection of mission-critical servers. The bank is unable to perform any business functions until these systems are restored. OakNorth suffers adverse media comment and the delays cause customer detriment.
Trigger	Phishing Attack
Controls / Mitigants	▪ Anti-malware controls via: ▪ Proofpoint Email defence ▪ CrowdStrike Endpoint defence ▪ Deception tools ▪ Security Operations Centre service 24/7 monitoring systems health ▪ Phishing simulations and training ▪ Immutable ("single-write") offline backups with fire break
Impact	▪ Impact to production workflow and core business operations; costs to regulatory authorities, third-party forensic investigators, technology recovery ▪ Ransoms potentially include a very wide range depending on the scale of the breach and nature of the affected data. ON would follow NCSC guidance and not pay a ransom but use its offline back-ups to restore services. Also, entities would likely be on sanctions lists and therefore no payment is considered in this scenario. The scenario considers the cost of disruption and recovery ▪ The impact of such an event is strongly mitigated by ON's ability to recover data from backups within 3 day and move its entire core banking platform to another AWS data centre in another country. This was tested in 2021.
Cost Impact	▪ Reputational impact driven by higher market rate to win new depositors to replace those who move their funds away having seen adverse media about the bank Forensic Analysis, Emergency Incident Containment (Third-Party) – 500 hours @ 375 pounds per hour for Moderate scenario and 1000 hours for severe ▪ Regulatory Fines, Legal Penalties, Settlements ▪ Loss of Business Operation & Equipment during the outage (1 day) ▪ Emergency Risk Mitigation & Consulting
Estimated Frequency	Moderate Scenario: 1 in 5 years. Severe Scenario: 1 in 20 years
Owner	SMF 24 – COO; CISO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Reputational effects - £1m Third-party forensic service fee - £190k PR Agency - £33k Regulatory Fine - £300k	£1.5m	1 in 5 years	20%
High	Reputational effects - £2.3m Third-party forensic service fee - £375k PR Agency - £33k Regulatory Fine £600k	£3.3m	1 in 20 years	5%

Scenario 3 – Employment Practices and Workplace Safety – Workforce Attrition

Scenario Considered	▪ There is significant competition in the marketplace to recruit and retain high quality staff in the active ‘challenger’ bank space. For a small firm like ON, staff recruitment and attrition are key risks. There are some inevitable ‘key man’ dependencies. In practice, whilst the Bank has historically experienced the unexpected loss of some key EXCO and specialist staff, the impact on the business and costs were not been as pronounced as previously assumed in prior stress scenarios and the risk is expected to become less material as the Bank expands its business and operations. ▪ In the more recent term, measures taken to work around the COVID pandemic have changed expectations of the general workforce. With recent government decisions to reduce restrictions and companies preparing for return to the office, there are concerns across industries that staff could reconsider their employment either generally or in favour of organisations using remote working. ▪ OakNorth is planning to maintain flexible work arrangements however this scenario considers the possibility that the sentiment might impact some of the Bank’s staff.
Trigger	Broad change in workforce sentiment
Controls / Mitigants	▪ To mitigate these risks, the bank maintains a competitive remuneration package, (including long term incentive plans for key executives) and a flexible working environment. ▪ A key risk mitigant is 6-month notice periods for senior staff.
Impact	A % of the London based staff deciding to leave the bank impacting operations
Owner	SMF3 - Senior Managing Director

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Contractors – £660k	£660k	1 in 5 years	20%
High	Contractors – £1m	£1.0m	1 in 10 years	10%

Scenario 3b – Pandemic

Scenario Considered	▪ Moderate Scenario ▪ COVID19 virus continues to propagate helped by lower level of vaccination in the broad population than anticipated and evolves into a new variant with considerable ability to evade the immune response prompted by current vaccines. With escalating infection rates, a new prolonged lockdown is implemented in multiple countries and incapacitates 10-25% of the employee base in the UK and/or India. This results in degradation of customer service, elevated fraud or data protection risk. ▪ Severe Scenario ▪ A new unknown zoonotic virus is detected in country x with symptoms similar in severity to the MERS-CoV virus. Mechanism implemented throughout the COVID-19 pandemic are implemented within 2 months and are partially successful in slowing the infection throughout the globe. 25%+ staff infected for extended time period impacting BAU, causing prolonged degradation of customer services, and elevated fraud risk. ▪ The principal effect would be to temporarily slow the growth of the business, and we assume a reduction in loan growth and hence a slowdown in income growth, plus some additional costs of this scenario. We are confident that this is a very severe scenario, since the Bank and its principal service provider the sister company ONGPL have just come through COVID with no slowdown or interruption in service noticeable to any of our customers. Since then, we have applied lessons learned from COVID to further strengthen our operational resilience through expanding cross-training between teams and adding headcount.
Trigger	Emergence of new COVID19 Variant or new unrelated viral pandemic
Controls / Mitigants	▪ Cloud strategy enables full remote working in place at the Bank and its material outsourced service provider ONGPL ▪ Retention of process knowledge and expertise on shore for resilience ▪ Resilience partners established. We have put standby contracts in place for calling in case of need e.g. with Deloitte (for a call centre service), Lawyers on Demand (for loan documentation services) etc. ▪ Pandemic scenario playbook taking from COVID-19 learns for off the shelf best practice implementation. Business wide KPI's in place to monitor impact on 'business as usual' practices for crisis triggers. ▪ Key suppliers dual sourced for resilience.
Impact	Bank fails in the provision of its Important Business Services or its ancillary service delivery components to end customers, causing customer detriment which must be compensated, and causes the bank a regulatory issue and or fine. Lack of trained staff miss key controls, causing financial loss to the Bank e.g. fraud. Increase in complaints and negative media coverage as OakNorth is unable to meet its obligations, or missing submission of regulatory reporting due to resource issues.
Owner	SMF 24 – COO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Diverted funds - £85k Compensation - £205k	£300k	1 in 2 years	50%
High	Diverted funds - £425k Reputational effects £520k	£900k	1 in 10 years	10%

Scenario 4 – Clients, Products and Business Practice

Scenario Considered	▪ Failure of a product line, leading to a finding that the product had not delivered a good customer outcome (e.g. the product design does not meet the need of the identified customer group, fails to treat the customer fairly, doesn't provide, clear fair and non-misleading information, etc.), either by design or execution, and caused customer detriment. We assume failure of the New Product Approval (NPA) process controls via flawed analysis of the product features and any customer-related risk leading to the sale of a product which is found to be defective in a way which causes customer detriment, and which must be remediated.
Trigger	A product which has been taken up widely is found to contain a flaw which causes customer detriment.
Controls / Mitigants	▪ All new products are subject to an ExCo-governed structured NPA Process, which considers risk in a systematic way across the whole spectrum of risk, including: operational risk, data protection, compliance, fraud, and conduct (TCF) risk. ▪ Each product also is subject to an ExCo governed post-launch review, and an annual review of the whole product suite is undertaken to assess product performance and product risk, in which customer surveys and sales volume data are reviewed, and complaint data analysed ▪ The likelihood of this scenario is considered low, because ON does not offer the kind of complex structured or packaged product which would represent a high risk to its Retail customers.
Impact	▪ We assume that the product had run for a period and hence the bank faces widespread customer impact, leading to the need to pay compensation to an entire customer group, and giving rise to a reputational impact. We include labour costs to manage the remediation process and potential regulatory fines for the conduct issue. ▪ Reputational impact driven by higher market rate to win new depositors to replace those who move their funds away having seen adverse media about the bank
Owner	SMF 24 – COO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Flawed product launch - £170k Reputational effects - £1m S.166 costs £250k Regulatory Fine £300k	£1.7m	1 in 10 years	10%
High	Flawed product launch - £650k Reputational effects £2.3m S.166 costs £250k Regulatory Fine £600k	£3.8m	1 in 25-years	4%

Scenario 5- Business Disruption and System Failure (Outsourced Service Provider failure)

Scenario Considered	▪ OakNorth makes extensive use of Outsourced Service providers, and the risk of an interruption to their service is a key operational risk for the business. The ongoing availability and confidentiality of these critical services are of utmost priority to OakNorth Bank. The two critical service providers are: ▪ ONGPL, OakNorth Global Private Limited, a sister company based in New Delhi which provides a range of back office services – including Information Technology and Cyber Security ▪ AWS, which provides cloud hosting for OakNorth's entire IT platform with our primary sites based in Ireland, and recovery sites in Germany. ▪ A scenario affecting AWS is considered to be the most serious and is used as the High severity scenario. The scenario of disruption at the ONGPL office is used as the Moderate

	Scenario. It is also feasible for a layered attack to impact both services as part of a larger campaign but would represent similar catastrophic impact to our 'High severity' analysis. ONGPL ▪ The scenario assumes that an incident at the office in India disrupts its operations, causing disruption to the range of operational support services provided: CDD, booking loans, payments, accounting and regulatory reporting, and credit analysis. Due to the critical range of services being provided by ONGPL, a cyber-attack scenario represents heightened privilege for a would-be attacker and controls have been designed to limit the impact across information systems. ▪ The controls and mitigants are built into the bank's Business Continuity plans. It is considered unlikely that the disruption could last for more than 24 hours before Business Continuity would have been invoked and ONGPL staff would have resumed work from their homes using laptops on the bank's secure VPN. The remote connectivity solution designed for OakNorth Bank contains security features and configurations comparable to the robust control set available on-premises. ▪ The COVID-19 crisis during 2020/2021 required home working for a prolonged period and this was successfully implemented without delay. In the 2020 ICAAP we posited connectivity issues in India as a scenario, but this was tested for real and is considered now very unlikely. ▪ The impact of the disruption scenario if the controls and mitigants should fail is limited because many of ONGPL's activities such as credit analysis, accounting and legal can be postponed by one day, and the urgent items with an immediate customer impact - such as loan drawdowns - could all be undertaken from the UK in London or Manchester. Therefore, the maximum time for unavailability is estimated at 1 day. AWS ▪ The likelihood of the other core Outsourced Service Provider, Amazon Web Services (AWS), suffering an interruption in service is considered to be very low, but the impact would be more severe. AWS provides cloud-based hosting of the Bank's IT systems. ▪ The controls and mitigants are: ▪ The inherent multiple redundancy of a cloud network. AWS is a world-class company with strong quality and resilience certifications such as ISO27001, and provides the bank with a service from a group of EU based data centres which have inherent multiple redundancy - if one should be interrupted, the service is switched automatically to another centre. ▪ ON's capability to switch to an entirely different AWS region. Automation scripts have been developed for core systems to enable redeployment within one day and were tested successfully in H1 2021. OakNorth's secondary AWS region exists within Europe and maintains compliance with all regulatory guidance. ▪ The scenario chosen assumes that the normal server in Ireland fails completely, the automatic switch to a second centre in Ireland also fails, and the backup must be re-deployed in the third standby centre, Frankfurt. .
Trigger	A large-scale event at AWS impacting production servers in the OakNorth cloud environment
Controls / Mitigants	▪ The Business Continuity processes for ONGPL and AWS have been tested. The cloud infrastructure has built-in resilience. If service disruption should occur in one AWS data centre, the service is switched immediately to other data centres in Ireland. ▪ Ultimately, if all the data centres within Ireland's region fail, ON has the ability to move across AWS regions and has tested re-building its entire customer-facing IT systems in AWS's Frankfurt data centre within 5 hours. Rebuilding this infrastructure can be done entirely remotely without involvement of third-party support, if necessary.
Impact	▪ The disruption results in the inability to advance new loans, claim loan repayments, to repay maturing deposits as they fall due, or to raise new deposits. This would lead to customer detriment and the need to pay compensation. ▪ Reputational impact driven by higher market rate to win new depositors to replace those who move their funds away having seen adverse media about the bank ▪ Whilst the IT work can be completed in 1 day, in practice it is likely that there would be a further 2 days of disruption to catch up on work missed the previous day and therefore, to be conservative, the total disruption effect is set at 3 days.
Owner	SMF 24 – COO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Delayed completion of loans - £1k Fraud Compensation - £2.4m Reputational effects - £675k Regulatory Fine - £300k Third-party forensic Service Fee - £50k	£3.6m	1 in 10 years	10%
High	Delayed completion of loans - £4k Mambu consultancy fee - £25k Fraud Compensation - £2.5m Reputational effects - £1.4m Regulatory Fine - £600k Third-party forensic Service Fee - £50k	£4.4m	1 in 30 years	3%

Scenario 6b – Regulatory Action (Financial Crime)

Scenario Considered	▪ We hypothesise that as a result of either regulatory review, or in response to a crystallized financial crime-related event (e.g. OakNorth involved in a case of money laundering), the FCA fines OakNorth for poor systems and controls for primarily AML issues, although Bribery and Corruption and/or Sanctions were considered ▪ Moderate: poor systems and controls ▪ Severe: poor systems and controls and evidence of money laundry taking place withing ON
Trigger	Regulatory review
Controls / Mitigants	▪ Well embedded financial crime prevention framework with robust screening tools and experienced staff, which covers all key control themes: policy, processes, risk assessment, due diligence, training, monitoring, reporting. ▪ OakNorth's deposit business model is seen as very low risk for financial crime failings and/or regulatory scrutiny, however, lending business much more in focus and as a result, risk-based controls in lending are much tighter and more robust.
Impact	Regulatory fine would have immediate financial impact and/or other regulatory action could impact our ability to operate the same products and services (e.g., no new loans until issues are resolved). The latter is less likely, but any regulatory action could have significant reputational impacts and limit our ability to bring on new business, our clearing banks may cease business with us and our ability to grow could be significantly harmed. It may reduce future growth, but in terms of costs of the scenario we have assumed a substantial regulatory fine and remediation costs, and reputational damage leading to the need to pay higher interest rates for a period of time to attract deposits.
Estimated Frequency	Moderate Scenario: 1 in 10 years. Severe Scenario: 1 in 20 years
Owner	SMF 24 – COO; Head of DF; CRO

Severity	Loss components	Potential impact	Estimated frequency	Estimated annual likelihood, %
Moderate	Consultancy Services and Temporary Staff for Remediation – £250k Fine - £1m	£1.3m	1 in 10 years	10%
High	Consultancy Services and Temporary Staff for Remediation – £250k Fine - £2m	£2.3m	1 in 20 years	5%