2023 | ISSUE 6

THE ONSIDE

OakNorth's Credit Intelligence Magazine for Commercial Banking Leaders

BANK TO THE FUTURE

Effective scenario analysis to confidently lend through the economic cycle

COMMERCIAL REAL ESTATE

Turn your CRE portfolio from a credit loser into a credit winner

THE ULTIMATE GUIDE

Commercial Lending & Scenario Analysis

Meet Jing Zhang, PhD, Renowned Quantitative Modeling and Risk Expert

OakNorth
CREDIT INTELLIGENCE

RISK & REGULATORY INSIGHTS TO PROTECT YOUR DOWNSIDE & PLAY FOR THE UPSIDE

How can banks reduce the time and cost spent on annual reviews? Get your relationship managers originating rather than stagnating.

ON DEMAND
WATCH NOW

MARK LEVONIAN

Former Senior Deputy Comptroller for Economics at the OCC, and an advisor at ONci

JING ZHANG

Managing Principal at Apricus Climate Ventures, former Global Head of Quantitative Research at Moody's Analytics

HUGH SHANNON

Head of Sales & Customer Success at ONci

ROB FAGG

Vice President of Product at ONci

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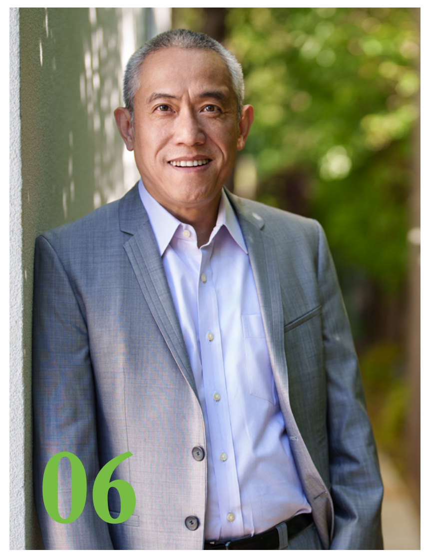


FROM THE CEO

INSIDE THE ONSIDE

RISHI KHOSLA

"We know from the numerous commercial banks we speak with each week, that they all want to be trusted funding partners to their customers regardless of what's currently happening in the economy."

"WE KNOW FROM THE NUMEROUS commercial banks we speak with each week, that they all want to be trusted funding partners to their customers regardless of what's currently happening in the economy."

Unfortunately, many don't feel they can continue confidently lending in the current environment, so focus on protecting their downside risk as opposed to pursuing the potential upside.

At ONci, we help commercial banks do both, getting comfortable lending to new-to-bank customers which may be being impacted by challenging economic conditions or unforeseen events, as well as managing existing risk in the commercial portfolio. How? The answer lies in scenario analysis, providing banks with the ability to run a range of scenarios to identify credit risk up to 12 months earlier, with a consistent view at the portfolio, sector, industry, and borrower level. We're working with some of the largest and most successful banks in the country and consistently get feedback that ON Scenario Analysis is providing them with Early Warning Indicators typically several months before their teams do.

We've seen this within our own bank in the UK (OakNorth Bank) through challenges such as Brexit, COVID-19, and the current cost-of-living crisis in the UK – OakNorth Bank was able to continue confidently lending through all of them and the results speak for themselves: consistent loan book growth (OakNorth Bank has lent over $12B since its launch in 2015), efficiency (OakNorth Bank's efficiency ratio is 26%), building customer loyalty (almost half of OakNorth Bank borrowers are repeat customers), and strong customer satisfaction (80% of OakNorth Bank's new loan origination comes via unpaid referrals).

Scenario analysis is the focus of this issue's cover feature with Jing Zhang, one of the industry's leading experts on credit risk modeling. Having worked with Jing for years, I have no doubt you'll find his insights useful, interesting, and inspiring as your institution seeks to support customers through this economic cycle and beyond.

We hope you enjoy this latest issue of the ONside and if you have any feedback about our magazine, please email **ONside@oaknorth.com**

RECAP REPORT

OakNorth Credit Intelligence roundtable

How to confidently lend in any economic environment

As part of our ongoing series of Banking Executive Roundtables, ONci recently hosted leading executives from some of the most successful US commercial banks to discuss how banks can confidently lend in any economic environment.

Some of the key insights and takeaways are included below.

OAKNORTH BANK: AN EXAMPLE OF HOW TO CONFIDENTLY LEND THROUGH CYCLE FROM ACROSS THE POND

OakNorth Bank's co-founder, Rishi Khosla, kicked off the session by sharing how it has been able to continue lending throughout economic challenges, including the 2016 UK / EU membership referendum, which saw a considerable number of commercial lenders retrench from the market, and the Covid-19 pandemic, that saw OakNorth run its forward-looking scenarios in January 2020, covering supply chain disruption and lockdown measures, and how these could impact each of its customers.

DESPITE ONGOING ECONOMIC CHALLENGES, BANKS' DOORS REMAIN OPEN

Participants showed that most commercial banks have told their various stakeholders, including board members and regulators, that they plan to continue lending despite the current economic headwinds.

PUTTING THE RELATIONSHIP BACK IN RELATIONSHIP MANAGEMENT

The majority of the participating banks acknowledged that they needed to refocus time and energy on relationship banking. Why? Because the customers you support in the tough times often become your most loyal.

THE INCREASING NEED FOR EXTERNAL ADVISORS

More customers are wanting their banks to be more proactive in terms of providing them with detailed, forward-looking data on their performance and the state of their credit. The group agreed that external advisors need to deliver value throughout the entire lending journey.

CORE CHALLENGES TO OVERCOME

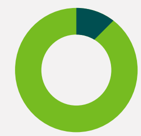
The top challenges impacting commercial lending in the current environment were '*lending in an efficient manner*', '*understanding how different risks impact customers at different times*', and '*ensuring that lending policy filters through the organization and to the frontline.*' Furthermore creating individual scenarios for every one of their borrowers would be vital.

AN 'ALWAYS ON' APPROACH TO MONITORING

Regarding visibility banks have into areas of opportunity inside and outside of their existing commercial loan book, participants answered either '*moderate visibility*' or '*poor visibility*', suggesting that improvements can be made in terms of the way lenders monitor their current loan books, as well as how they locate and analyze new industry sectors to grow their exposure in. An '*always on*' approach to monitoring will also give more time to originate new business.

The session concluded on the importance of gaining greater efficiencies across a bank's entire loan process, via the use of granular data, scenario analysis, and a forward-look view to build a better picture of headwinds on the horizon. Coupling these with analyzing historical trends and incorporating peer performance into initial deal screening and underwriting processes, would increase banks' confidence in lending through cycle – a fitting endpoint that the group was happy to agree on.

Has your bank told its stakeholders that it plans to continue lending despite current/expected economic headwinds?



88% YES
12% NO

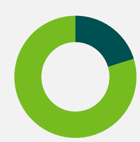
What are the biggest challenge's impacting your institution's commercial lending in the current environment?

Lending in an efficient manner

Ensuring that our lending policy filters through the organization and to the front line

Understanding how different risks impact customers at different times

What level of visibility do you have into areas of opportunity inside and outside of your existing commercial loan book?



MODERATE VISIBILITY
POOR VISIBILITY

Request an invite to a future executive roundtable

BANK TO THE FUTURE

Effective scenario analysis to turn the economic downturn from a challenge, into an opportunity

Commercial lending continues to be influenced by regulatory frameworks, advancements in technology, and industry-specific dynamics, so we wanted to sit down with one of the leading experts in this field, Dr Jing Zhang, to get his thoughts on what the future holds for the industry.

WITH A PHD IN STATISTICS FROM THE WHARTON School and more than two decades of direct experience working with financial institutions worldwide, Jing Zhang is renowned for his work in quantitative modeling and risk management. Previously, he was Managing Director and the Global Head of Moody's Analytics Quantitative Research Group (formerly known as the KMV Research Group). He spent more than 18 years with Moody's and his team was responsible for the quantitative modeling behind the EDF and LGD models for both public and private firms, commercial real estate, and portfolio and ALM analytics. Since leaving Moody's, Jing has been dedicating most of his time to efforts around addressing climate change. He also serves as the Board Chairman of Hack the Hood, a non-profit organization promoting the economic mobility of underrepresented minority youth. Jing is widely published with research papers in the *Journal of Fixed Income*, *Journal of Credit Risk*, and *Journal of Time Series Analysis*, and five books by Risk Publications, including the latest—*Climate Change: Managing the Financial Risk and Funding the Transition*.

We are also incredibly fortunate to have Jing as an ONci Advisory Board member, and he kindly agreed to the wide-ranging interview.

Q: Are there any limitations to the scenario analysis adopted by most commercial banks today?

A: There are several - commercial banks often rely on simplified assumptions when conducting scenario analysis. These assumptions may not fully capture the complexity and interdependencies of the various risk factors affecting the bank's operations. As a result, the analysis may not provide a comprehensive understanding of the potential risks and their impact on the bank's financial health.

Another challenge is that many banks' scenario analyses are based on historical data. So, they don't adequately incorporate forward-looking perspectives, and data gaps or inconsistencies can limit the reliability and accuracy of the analysis. This can impact a bank's ability to anticipate and prepare for emerging risks and changing market conditions. This has been one of the challenges presented in recent months - the Fed's 2022 stress test envisioned a 5.8 percentage point jump in unemployment under a "severely adverse" scenario. However, this year, we've seen an increase of 6.5 percentage points, thanks to rising employment over the past year. Today, a bank run can happen much faster with the impacts from digital banking and social media, as we saw with the recent case of Silicon Valley Bank and others.

Banks also often tend to focus on a limited set of scenarios, typically those outlined by regulatory requirements. While these scenarios are of course important, they may not cover all the relevant risk factors and potential stress events that could impact the bank, such as interest rate and liquidity risk. As a result, the analysis may fail to capture less probable but highly impactful events, such as systemic shocks, severe market downturns, or indeed, the COVID-19 pandemic.

Finally, many banks tend to treat scenario analysis as a separate exercise, disconnected from other risk management activities within the bank. A siloed approach doesn't inform decision-making processes effectively. This can be compounded by a general lack of transparency, as most commercial banks don't disclose the details of their scenario analysis methodologies and assumptions. This lack of transparency can make it challenging for different stakeholders, including the bank's investors and regulators, to assess the robustness and credibility of the analysis.

> " With more data, more granular data, and more relevant data, commercial lenders can expand the range of businesses they lend to, uncovering new opportunities with their existing clients.
>
> **JING ZHANG, ONci ADVISOR**

Q: How might commercial banks' data usage change in the future when it comes to lending?

A: Broadly speaking, banks will be using more data, more granular data, and more relevant data. For example, the current internal rating models for businesses, predominately only focus on areas such as financial statements for their main source of data. However, with new and improved computing powers, we can assess factors such as consumer and commercial sentiment much better, through the analysis of social media channels and review websites such as yelp and TripAdvisor. Another benefit of using more data sources – including non-traditional as well as traditional data – is that the bank can build a more precise assessment of credit strength. Naturally, this also allows the opportunity to deploy the latest advancement in AI (artificial intelligence).

With more data, more granular data, and more relevant data, commercial lenders can expand the range of businesses they lend to, uncovering new opportunities with their existing clients. With an increased level of understanding and armed with better data, their relationship managers and analysts will feel empowered to originate loans from unfamiliar industries – supporting loan book growth for the bank.

Q: You mention granularity – why is this important?

A: Granular data provides a more detailed and accurate picture of a borrower's financial situation, allowing commercial banks to make more informed decisions about their creditworthiness. It can also help commercial banks design and offer more personalized financial products based on the specific needs of their

> "As AI becomes more prevalent... ONci is helping commercial banks automate routine tasks, data collection, and analysis...This means these banks can accelerate decisions making, reduce manual errors and enhance operational efficiency."
>
> **JING ZHANG, ONci ADVISOR**

customers, leading to a better customer experience, increased loyalty, and more profitable relationships.

Another important aspect of granularity is that it is the foundation to understanding concentration and correlation risk - perhaps the most dire manifestation of risks in banking. If we examine the history of bank failure over time, we can see that it is inevitably some form of concentrated and correlated risks which has been built over time and manifested in the end. We see this with examples such as Lehman's subprime lending in the Great Financial Crisis of 2008, Signature Bank's focus on crypto business, and Silicon Valley Bank in venture capital related business.

Identifying new lending opportunities is another benefit as it enables banks to determine high-return, low-risk industries to lend to under different macro scenarios in both new and existing markets – even in times of economic uncertainty. In some cases, it can potentially help commercial banks comply with regulatory requirements. For example, regulations such as the Dodd-Frank Act require lenders to collect and report certain types of data to regulatory bodies.

Q: In the future, what changes do you expect to occur in the field of commercial lending modeling and which of these are already being adopted by ONci?

A: With the exponential growth of data and improvements in computing power, commercial lending models in the future will incorporate more advanced data analytics and AI. This is already being done by ONci which uses alternative data sources, such as social media data, online transaction records, and industry-specific data, to gain deeper insights into businesses' creditworthiness.

Another data aspect deployed by ONci which I believe we'll see more of in the future is the use of real-time monitoring of borrowers' financial data - integrating with accounting systems, transaction records, or other relevant platforms - to capture real-time data updates that can provide commercial banks with early warning indicators of financial distress.

As AI becomes more prevalent in lending models, there will be increased emphasis on automation and efficiency to streamline the lending process. ONci is helping commercial banks automate routine tasks, data collection, and analysis, such as automated document verification, smart contract implementation, and robotic process automation. This means those banks can accelerate decision-making, reduce manual errors, and enhance operational efficiency.

Finally, rather than relying solely on static models, future commercial lending will likely adopt dynamic risk management models such as those deployed by ONci. These models can continuously monitor and reassess the risk profile of borrowers throughout the loan lifecycle, considering changing market conditions, operational performance, and other relevant factors. This proactive risk management approach helps commercial banks identify emerging risks and take appropriate actions to mitigate them.

Q: And finally, in the immediate term given the ongoing economic challenges facing banks and their customers, what should commercial banks be doing in the next 12 months when it comes to scenario analysis?

A: The last time there was a deterioration in the credit cycle was 14 years ago, during the '08 financial crisis, so it's been an exceptionally long bull market considering the average economic cycle in the US has lasted roughly 5.5 years since 1950. The Fed has been criticized for assuming interest rates would fall amid a severe recession, and not stress testing bank balance sheets enough against the rising interest rate environment. I really want to underscore this point – with a rising and much higher interest rate environment going forward, we may be entering, or have already entered a different regime.

With the collapse of a handful of US banks this year, the industry is facing increased scrutiny, and commercial banks are setting aside more capital to account for increased credit losses as economic challenges continue.

By building a granular picture of their loan books, using real-time data and analytics to gain an in-depth understanding of each business down to the individual loan-level, banks can ensure their scenario analysis is much more effective and future-proofed for incoming challenges.

ON Scenario Analysis for CRE

Actionable intelligence to power your property portfolio

Despite the current economic uncertainty, CRE continues to play a significant and increasing role in the global economy. Given the recent CRE turmoil coming out of COVID and beyond, ON Scenario Analysis for CRE has been specifically designed to support this vital sector. We sat down with several members of ONci's product team to find out more about it.

WHY IS CRE A CURRENT CONCERN FOR COMMERCIAL BANKS?

Given the widespread turmoil the economy has faced recently, commercial lenders are facing fears of a repricing event in CRE, particularly in the office sector. This has resulted in special emphasis from regulators and examiners, asking banks to model the impact this may have on their portfolio under CRE stress.

As a result, senior management teams at all banks need the right data to make quick decisions about how to navigate the CRE marketplace through a correction, and to be able to justify those decisions to their examiners.

WHAT DOES ON SCENARIO ANALYSIS FOR CRE ENTAIL?

By deploying ONci's forward-looking forecasting models, ON Scenario Analysis for CRE provides lenders with the ability to run city-specific macroeconomic scenarios on their CRE loan portfolios. Furthermore, it enables risk professionals to get access to immediate and actionable intelligence on each of their specific CRE portfolios, down to the individual property level.

ONci's CRE scenarios provide coverage for six property types, including Multifamily, Office, Retail, Industrial, Warehouse, and Hotels, while catering to both investment and construction loans. Its forecast models can also cover over 1000 cities across the US, in addition to identifying the main drivers of risk across CRE portfolios and developing targeted risk mitigation strategies.

HOW CAN COMMERCIAL LENDERS BENEFIT FROM USING IT?

Commercial lenders will benefit from using ON Scenario Analysis for (CRE) in many ways, as the product enables banks to:

- Run stress factors connected to current and possible future market conditions instead of break-the-bank scenarios;
- Get an independent assessment of how different economic conditions may impact their portfolio and model their own economic scenarios to see how drivers like property values and operating income are affected;
- Use leading indicators to stress the portfolio that will help decision-makers act quickly to prevent losses and find opportunities.

Looking ahead to the rest of 2023 and beyond, the US CRE market will no doubt continue to play a vital role in the economy's recovery. As a result, it is essential that banks are in a strong position to support their real estate customers with their upcoming and current development projects. Now is a good time to pay special attention to borrowers and start thinking longer term to secure strong and stable growth as we head into 2024.

Take a product tour to see how to support your real estate customers today

SCENARIOS GUIDE PREVIEW

THE ULTIMATE GUIDE

Commercial Lending & Scenario Analysis

How to manage your downside and play for the upside in any economic environment

Scenario analysis in commercial lending has undergone significant changes in recent decades due to advancements in technology, changes in the economy, tightening credit policies, and evolving regulatory requirements. ONci's latest guide breaks down these changes, while also detailing the limitations of existing scenario analysis tools and what core ingredients are required for a best-in-class scenario analysis framework. Using ONci's forward-looking industry forecasts provide lenders with a view of performance and risk migration across their portfolios, as well as down to individual borrower levels.

Rising interest rates, an uncertain market, and stressed consumer spending

Lending expands and contracts with the economy—and those financial institutions that recognize economic shifts faster, and plan for them, have more time to adjust their strategies. However, uncertainty permeates the economic outlook today and the near future. For banks, the effect of inflation, a potential recession, climate change, geopolitical instability, tighter spending, etc. often translates into supporting fewer borrowers. Furthermore, any change in the interest rate increases the cost of loans and if banks do not approach repricing of loans more prudently, it could also increase the risk of borrower defaults, or the loss of customers as they refinance with other banks. Over-reliance on historical data often does not account for future economic challenges, leading to sluggish response times, poor visibility of risk, and a limited view of potential opportunities.

It's time to move past outdated measures and incorporate future-focused key variables to reduce uncertainty and create a sustainable scenario analysis modeling process. You don't drive a car looking in the rear-view mirror, you glance at it occasionally but focus most on what's going to come in front of you i.e., forward-look.

ON Scenario Analysis enables banks to analyze their entire C&I portfolio in multiple economic scenarios and identify risk up to 12 months earlier

ON Scenario Analysis is a strategic tool that allows banks to quickly run multiple macroeconomic scenarios on their loan portfolio and identify risk up to 12 months earlier with forward-looking ON Industry Forecasts. Risk professionals get access to immediate and actionable intelligence on the C&I portfolio down to the individual borrower level.

To survive the economic turbulence, banks need to be able to:

Identify risk in their loan portfolio earlier with scenarios that consider modern economic uncertainties.

Understand potential vulnerabilities in their loan portfolio at the granular, industry and borrower level.

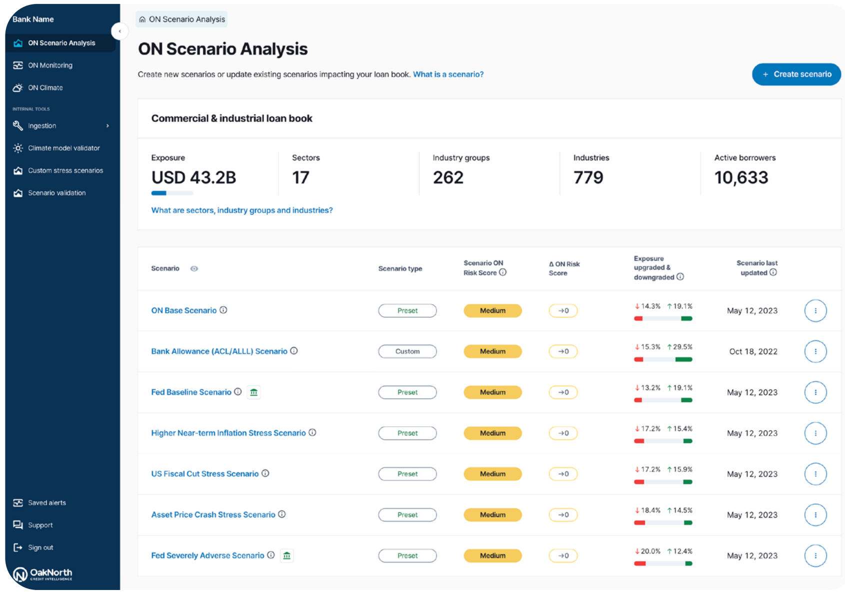
A granular view informs:

The sources of risk and underlying drivers behind it.

Strategies to either de-risk portfolio or unlock growth.

OakNorth CREDIT INTELLIGENCE

ON Scenario Analysis does not replace banks' existing stress testing and scenario analysis processes but offers them added flexibility to run multiple versions of the future state of the economy. Banks can also easily input their existing scenarios into ON Scenario Analysis and receive granular outputs – down to the borrower level – and incorporate forward looking elements. ON Scenario Analysis enables banks to reduce surprises. Banks can eliminate cases going straight from satisfactory to criticized and too late to action.



- **Run scenarios on an entire loan portfolio** without worrying about limited and costly resources, backward-looking data, technology, and modeling capabilities.
- **Plan for market changes and identify risk** up to 12 months earlier to help formulate targeted risk mitigation strategies to reduce defaults and charge-offs and better manage capital requirements.
- **Identify which areas** and borrowers in the loan portfolio require the most urgent attention, based on the anticipated macroeconomic shifts, and prioritize them for review.
- **Uncover opportunities** for growth, even in turbulent economic cycles, making the lending process less restrictive, thereby supporting the middle and lower middle market in times of stress.

> "Banks are witnessing a tightening of credit policies, requiring them to conduct complex scenario analysis to stress test for multiple factors. However, the inefficient and highly manual nature of most existing scenario analysis workflows leaves the credit risk department spending a lot of time on requests. Scenario analysis should enable banks to better understand risk in their commercial lending and make the lending process less restrictive and more opportunistic. During these current volatile times, banks need the ability to run multiple scenarios on their portfolio with a forward-looking view to lend and support borrowers throughout the cycle. We're thrilled to launch this guide that sets out why banks need to look past outdated measures and use future-focused key variables to reduce uncertainty and adopt a sustainable scenario analysis framework."

HUGH SHANNON, HEAD OF SALES & CUSTOMER SUCCESS AT ONCI

Get your free copy of the ultimate guide today