

AN IN-DEPTH EXAMINATION OF THE PROBABILITY-OF- DEFAULT/LOSS GIVEN DEFAULT METHOD

Perspective of CECL

CECL FOUNDATION

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OVERVIEW OF THE PROBABILITY- OF-DEFAULT/ LOSS GIVEN DEFAULT METHOD

The Financial Accounting Standards Board (FASB) is flexible when it comes to choosing the applicable methodology for implementing the Current Expected Credit Losses (CECL) standard. It can be a challenge for financial institutions to choose the right method to determine their allowances for credit losses as some of these seem overly simple and some are too complex. The Probability-of-default/ Loss Given Default (PD/LGD) method is one of the simpler methods to understand, and is explained in detail below.

How does the PD/LGD method works?

In concept, the PD/LGD methodology is relatively simple. The challenge financial institutions will face when using this PD/LGD methodology is the calculation of the three inputs needed to estimate lifetime losses.

The three variables needed to calculate the PD/LGD methodology are discussed below:

1. Probability-of-default (PD): After defining a default, a financial institution must calculate the likelihood of a loan in the pool defaulting. They can do this in the beginning, based on the historical performance of the pool. The Probability-of-default can then be adjusted for forecasted and/or current changes in the economic environment.

2. Exposure (E): The exposure at default is the value of the balance of the loan that will be due when it defaults.

3. Loss Given Default rate (LGD): The LGD is depicted as a percentage of total exposure at the time of default and is the money a bank or similar financial institution loses whenever a borrower defaults on a loan. A financial institution uses cumulative losses and exposure after a review of all outstanding loans, to calculate its total LGD. The institution's loss given default rate can be adjusted for current and/or economic changes.

Financial institutions will need to perform some statistical analysis of historical information to estimate the above variables. The expected lifetime loss is then determined by multiplying these variables together: $LGD \times PD \times E$. These three variables will be adjusted for forecasted and current changes individually.

Example:

If the LGD = 20%, PD = 7% and E = \$1 million

The expected lifetime loss under the PD/LGD method is $20\% \times 7\% \times \$1 \text{ million} = \$14,000$.

PD

X

LGD

X

EAD

=

Expected
Losses

Advantages of the PD/LGD method: The fact that the Probability-of-default method relies on more quantitative information makes it accurate and gives it an intuitive edge over other methods. Qualitative factors, based on historical data, can be reflected in the model instead of being added to the quantitative part, as is the case with other methods.

Disadvantages of the PD/LGD method: To accurately determine the three inputs to the model, an institution will need more data, which will result in additional work. More data will be needed to understand how economic factors affect the variables. Only then can these variables be adjusted for current and forecasted changes. There will be a need for specialized software to perform statistical analysis for these calculations.

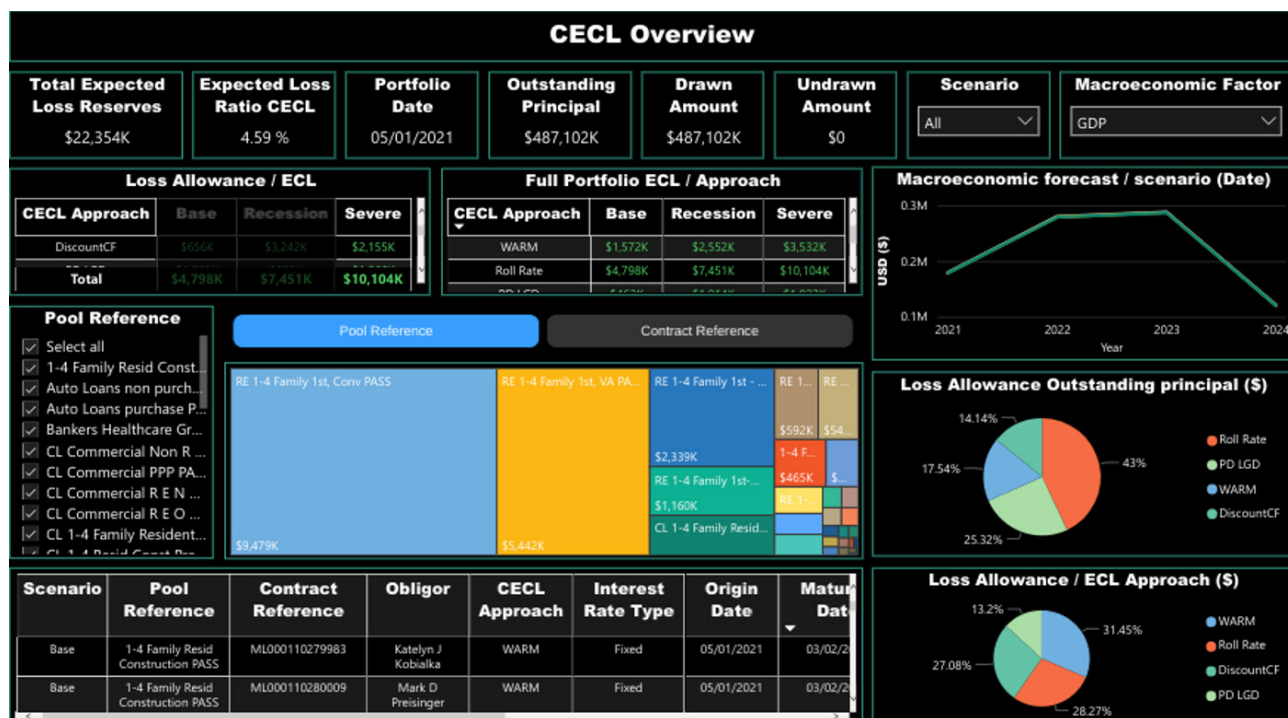
Conclusion As discussed, the PD/LGD method uses more quantitative information and relies less on subjective analysis. This allows the methodology to provide a CECL compliance allowance for credit losses.

CECL Express can help...

CECL Express is a turnkey solution that fully satisfies all elements of the new CECL accounting standard. The system provides all non-loan data, including:

- Yield curves and Fed data
- Linked reports on losses from the FFIEC and NCUA
- PD and LGD curves
- Macroeconomic data
- Vintage
- Roll Rate
- Discounted Cashflow
- WARM
- PD/LGD

Banks and credit unions need to only provide the underlying loan details for the system to provide fully auditable ECL results for multiple calculation methods, including:



CECL Express provides more than valid ECL results. The system computes results for all methods and all loan pools, allowing the bank to optimize its CECL configuration and avoid the worst impacts of the new standard.

Visit ceclexpress.com for more information about the most efficient route to optimal CECL compliance.



ABOUT CECL EXPRESS

- CECL Express is a turnkey, cloud-based solution, designed to provide banks and credit unions with optimized results and reporting that fully meet the 'Current Expected Credit Loss' accounting standards.
- CECL represents a major change in what is expected from financial institutions in their reporting of, and provisioning against potential credit losses.
- Smaller financial institutions are expected to implement forward-looking credit models to estimate losses they may experience.
- Selecting inappropriate 'Expected Credit Loss' (ECL) models will create a need to hold far more capital than is required, directly causing a loss of Profit and Loss (P&L). Data used within these models must also be reported for audit purposes.
- January 2023 will see the first official reporting period for the beginning of CECL. Banks and credit unions must have a framework in place, which is fully tested and reports results based on that data. In practice, this means selecting, implementing, and testing the system in the first half of 2022.
- For Finastra core systems, the integration has already been built. For customers with these systems, their CECL results are ready to be calculated and reported.



ABOUT GREENPOINT FINANCIAL

- GreenPoint Financial is a division of GreenPoint Global, which provides software-enabled services, content, process and technology services, to financial institutions and related industry segments.
- GreenPoint is partnering with Finastra across multiple technology and services platforms.
- Founded in 2006, GreenPoint has grown to over 500 employees with a global footprint. Our production and management teams are in the US, India, and Israel with access to subject matter experts.
- GreenPoint has a stable client base that ranges from small and medium-sized organizations to Fortune 1000 companies worldwide. We serve our clients through our deep resource pool of subject matter experts and process specialists across several domains.
- As an ISO certified company by TÜV Nord, GreenPoint rigorously complies with ISO 9001:2015, ISO 27001:2013, and ISO 27701:2019 standards.



Marcus Cree

MANAGING DIRECTOR AND
CO-HEAD OF FINANCIAL TECHNOLOGY AND SERVICES

Marcus has spent 25 years in financial risk management, working on both the buy and sell side of the industry. He has also worked on risk management projects in over 50 countries, gaining a unique perspective on the nuances and differences across regulatory regimes around the world.

As Managing Director, Marcus co-heads GreenPoint Financial Technology and Services and has been central in the initial design of GreenPoint products in the loan book risk area, including CECL and sustainability risk. This follows his extensive experience in the Finastra Risk Practice and as US Head of Risk Solutions for FIS. Marcus has also been a prolific conference speaker and writer on risk management, principally market, credit and liquidity risk. More recently, he has written and published papers on sustainability and green finance.

Marcus graduated from Leicester University in the UK, after studying Pure Mathematics, Psychology and Astronomy. Since graduation, Marcus has continually gained risk specific qualifications including the FRM (GARP's Financial Risk Manager) and the SCR (GARP's Sustainability and Climate Risk). Marcus's latest academic initiative is creating and teaching a course on Green Finance and Risk Management at NYU Tandon School of Engineering.



Sanjay Sharma, PhD

FOUNDER AND CHAIRMAN

Sanjay provides strategic and tactical guidance to GreenPoint senior management and serves as client ombudsman. His career in the financial services industry spans three decades during which he has held investment banking and C-level risk management positions at Royal Bank of Canada (RBC) Goldman Sachs, Merrill Lynch, Citigroup, Moody's, and Natixis. Sanjay is the author of "Risk Transparency" (Risk Books, 2013), Data Privacy and GDPR Handbook (Wiley, 2019), and co-author of "The Fundamental Review of Trading Book (or FRTB) - Impact and Implementation" (Risk Books, 2018).

Sanjay was the Founding Director of the RBC/Hass Fellowship Program at the University of California at Berkeley and has served as an advisor and a member of the Board of Directors of UPS Capital (a Division of UPS). He has also served on the Global Board of Directors for Professional Risk International Association (PRMIA).

Sanjay holds a PhD in Finance and International Business from New York University and an MBA from the Wharton School of Business and has undergraduate degrees in Physics and Marine Engineering. As well as being a regular speaker at conferences, Sanjay actively teaches postgraduate level courses in business and quantitative finance at EDHEC (NICE, France), Fordham, and Columbia Universities.