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Credit And Risk

Overview

Calculating lifetime loss for loan portfolio

IFRS9 were the new regulatory guideline for European banks that they have to comply with by the end of 2017.

Other banks in Middle East and Asia are also accessing their retail portfolio losses spread over the lifetime of the credit to stay ahead of curve.

PD

Lifetime Probability Of Default

(Econometric Model)

LGD

Loss Given Default

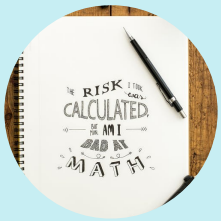
(Empirical Model)

EAD

Exposure At Default

(Empirical Model)

Lifetime Assessment



Lifetime of different credit products was estimated

Stage Allocation

Accounts were segmented based on their riskiness at any given time compared to the time of origin

Performance Testing

All the models were assessed based on certain parameters

Challenge

Losses were calculated based on the expected performance of the portfolio for next 12 months, which is a very short duration for a product considering its overall lifetime.

European banks have to follow IFRS 9 guidelines to calculate the Expected Credit Losses. Current models access the PD of accounts for only 12 months which is an under assessment of provisions that banks keep to cover for any credit losses.

Estimating lifetime of credit cards and current accounts is tough due to the nature of the product.

Model validation was crucial to submit final reports to the management to give confidence on the models. Presentation to executive level members requires covering all the details in a simple manner.

"Solution"

Historical data was used to access the lifetime and multiple options were provided to the management.

Stage allocation was done on the basis of change in PD of an account since its origin.

State Of Economy Model was designed and used to calibrate the model outcome which was primarily based on the change in House Prices and Unemployment rate of the state.

PROJECT DETAILS

Project type - Predictive Modelling

Industry - Banking

Technology - SAS

Delivery Time - 2 months

Consultants worked - 7

Increasing competition forcing organizations to give more credits to its existing and new customers. Covid-19 added more complications and uncertainty to the future. Due to which banks and other financial institutions are under immense pressure to design systems which give faster results with rocket science equivalent precisions in decision making. Accessing creditworthiness of customers is the top priorities of risk managers so that the firms don't end up bankrupt.

Low interest is eating the profit margins. In some countries, it is even negative, which means your savings are going down resulting in increasing credit book as the only solution available. Central banks are also easing borrowing conditions in their respective countries. However, recovery from bad loans is still the bank's own responsibility.

In this environment, designing an efficient credit scoring system is one of the best investment a credit institute can do. Manage risks by introducing new clients to the portfolio and find out new markets for expansion keeping fraudulent customers identification in mind. Risk scorecards are widely used in banks and financial institutions for multiple purposes like acquiring new customers, maintaining a risk profile of existing customers, calculating expected losses on a portfolio and finally collections and recovery management. In past, due to high costs of the scorecard building exercises, these econometric models were only affordable by big companies, however, with the introduction of new open source technologies designing, implementing and maintaining these models is low complexity and high priority project.

Below points should be considered before development of any scorecard:

How reliable is the data? Data is the first building block for any decision-making engine. It should be error-free and assumption-free. Always remember garbage in, garbage out.

Assumptions - Calculated risk is the key, speculation is the lock which you won't be able to unlock.

Existing solutions - Check what are the existing solutions available with the organisation. There is no need for redesigning the wheel if a workable solution is already available.

regulations - Credit is one of the most regulated industry in the world. one should always be updated with the regulations in the industry.

quick implementation - In this ever-changing world, there is no use of designing solutions which will take years to build. solutions must be built, tested and implemented as quickly as possible.

Easy Interpretation - Black box solutions are hated by everyone. one should be able to understand and explain the models easily in a simple and lucid manner.

Scorecards should be based on strong foundation of robust data and well tested econometric methodologies. Technology should be used to implemetn new ideas and to make a User Interfave whichi can be used by non technical peiple withoiut nowing much details around the complex architecture. the design of hte framefowk should be modular sp that changing parameters impacting the model can be easily updated. Dynamic data plays an important role in fine turning the performance o fthe models. for loans with longer maturity, like

mortgages, updating the application level is important. there is no point in using salary of a customer for a loan which originated 10 yests back.

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