Superior Analytics is in our DNA

MIAC

MIAC Analytics Ltd

Case Study: IFRS9 Modelling

Validation and Development

Dilosk DAC

PREAMBLE

The current document outlines a MIAC Analytics ("MIAC") client case study related to an IFRS9 Project.

This document should not be deemed as a blueprint for all MIAC's work, but purely an example of a project delivery that was fit for purpose for the project scope and the size and regulatory framework of the organisation in question.

MIAC pride themselves on adapting to unique client requirements and would tailor any engagement according to those needs, rather than seeking to fit needs into a rigid process.

Please contact us to discuss the specifics of any model development or validation needs.

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Dilosk

Dilosk is an Irish financial services company, headquartered in Dublin and regulated by the Central Bank of Ireland as a Retail Credit Firm. They entered the Irish mortgage market through the acquisition of ICS Mortgages brand and a portfolio of over €200 million in 2014 from Bank of Ireland.

Challenge

Dilosk made enquiries with MIAC regarding the implementation of a loss provisioning framework that would adhere to the requirements set out within International Financial Reporting Standard 9 – Financial Instruments (IFRS 9). This would enable Dilosk to compute expected credit losses for their Irish residential mortgage portfolios.

In order for Dilosk to meet their provision reporting requirements, the framework needed to be developed, tested and implemented within a very short timeframe.

Solution

MIAC commenced work on a solution and the IFRS 9 framework was implemented within MIAC's proprietary assets and liabilities software, Vision™, and installed within Dilosk's systems by the deadline.

The framework utilises a probabilistic cash flow approach to generate expected credit loss estimates for stage 1, 2 and 3 loans as per the IFRS 9 standards. Relevant parameters are defined and configurable within the software.

Scenario configuration

Any number of scenarios are configurable within the software which link to the default model to impart macroeconomic influence upon default rates, asset values (in this case residential property prices) and underlying loan level interest rates. The user is able to assign probabilities to each scenario so that weighted average loss numbers are ultimately derived.

Stage Allocation

Loan level stage allocation is based on logic which is fully configurable by the user and overrides are easily applied. Stage allocation can be tracked and monitored via automated reports.

Lifetime PD Model

In line with IFRS 9 requirements, MIAC developed a lifetime PD model, which is sensitive to both loan level characteristics as well as macroeconomic variables specified within the scenario configuration.

The PD model is comprised of the following components:

- **Loan Level PD model**: Due to inadequate historical data relating to acquired portfolios, MIAC developed a ROI specific residential mortgage PD model based

on loan level data from the European Data Warehouse (EDW). This model was based on loan level characteristics which were found to be statistically indicative of default.

- **Calibration to Dilosk data**: The ROI residential mortgage PD model was then calibrated to the internal default rates experienced by Dilosk on each of their portfolios.
- **State of the economy model**: In order to impart macroeconomic influence on the PDs, MIAC developed an ROI state of the economy model which is based on historical ROI default rates and ROI macroeconomic variables.

LGD Components

House price projections are specified within each of the scenarios in the scenario configuration. Other LGD components include:

- **Cure rates**: Cure rates can be input as a parameter to represent the accounts that enter default but ultimately cure before liquidation.
- **Timelines**: Default to possession and possession to liquidation timelines are input into the software in order to reflect the timing and interest roll up of loans in default and possession.
- **Liquidation costs**: Fixed and variables costs are parameters within the framework and are designed to capture legal costs and any other costs associated with the liquidation of non-performing loans.
- **Forced sale discount**: Properties that have undergone possession can often be in a state of disrepair or have some stigma associated and so the user is able to apply a discount to the property value in order to better approximate the true sale price.

Prepayment

Prepayment speeds can be specified at the loan level or any stratification required. These can be time, loan level characteristic or macroeconomic variable dependent, or simply constant.

Benefits

MIAC's IFRS 9 solution was deployed in Dilosk's system in time for the 2018 yearend financial close and since then Dilosk have been able to autonomously generate impairment calculations compliant with the standards. The model framework and calculations have been audited by Dilosk's external auditor resulting in a clean audit report.

Donal Corbett, Head of Finance and Treasury, on Dilosk's new IFRS9 solution:

> "*MIAC's flexibility and credibility impressed us from the start of the process. It is rare to find a software provider that has the knowledge and experience in modelling assets on top of embedding them within a user friendly application. Once we established that we could get this unique combination in one place, we engaged MIAC. The solution has delivered on all levels and we anticipate a long and productive working relationship with MIAC*".

MIAC continuously enhance their software suite, including Vision™ for IFRS 9 capabilities. MIAC takes a collaborative approach with clients and auditors to inform this process. MIAC's agility to adapt software solutions for bespoke client needs is highly advantageous and ongoing support comes as part of the service. As in the above case study, MIAC are also on hand to build quantitative models that sit within their software for clients to deploy.