

**OUR SERVICES** 

# CREDIT RATING MODEL VALIDATION TOOLKIT

EconLab Consulting, d. o. o.

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# **CREDIT RATING MODEL VALIDATION TOOLKIT**

Financial sector is in the midst of radical shift in business models, perpetuated by low interest rate environment and digitalization. At the same time the echoes of 2008 financial crisis are felt in the regulatory environment. By combining high-level quantitative skills and in-depth knowledge of regulatory environment, EconLab can solve many of the challenges that organizations are facing today.

# **OUR EXPERTISE**

EconLab has extensive experience in helping clients in ICAAP process and carry out internal stress tests. With background gained from being involved in the design of the stress testing methodologies within the ECB and bank of Slovenia, we are ready to tackle any assignment in this area. Our team has also supported international banks in EBA stress testing in relation to stress test modelling, template completion, review of these templates from regulatory positions, preparation of explanatory notes to the ECB, assistance in DO phases, and managerial support in stress test process

Model risk and ensuring model quality becomes increasingly important, in the era that building models has become easier and easier with out-ofthe-box toolkits. Having strong quantitative and academic background, EconLab is well positioned to provide quality assurance even for more complex models. Our focus areas are IFRS 9 & stress testing forward looking models. Similarly, we have ample experience in validation of rating models. where we also have developed a proprietary toolkit that organizations can use themselves to improve internal validation capacity. Our staff has also experience in ECB TRIM process and is able to support the validation procedure of IRB level models.

We have supported banks, asset managers, and commodities trading operations, in keeping their risk exposure at bay. We have experience in building models for credit rating, stress testing, market risk, and operational risk. We can assist organizations during the entire model development process, starting from data preparation and data quality assurance & control, to model development and validation, including post-development activities such as support in policy development and support in regulatory inspections. We also place great importance on building our clients' internal capacity and thus for us, an integral part of modelling is the process of knowledge transfer to our clients.

In banking technology and data are the most critical areas of competitive advantage. We can help organizations assess their IT strategy and the viability of current core IT components and help plan out a way forward. Data also plays a key role in regulatory compliance and it is the foundation of any quantitative methodology. Having a strong understanding on how the data is utilized in modelling, we can help design data capture and warehousing strategy and help clean and organize older data to meet current needs.

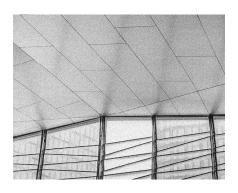
The ever-faster evolution of of banking market regulations means that a growing number of standards have to be met. These new requirements may also have major impact on business models. With background in regulatory positions, EconLab staff is well positioned to help institutions navigate the maze of new requirements in a profitable manner. EconLab's core speciality is operationalizing the methodological and quantitative requirements put forth by the regulators, in their typical non-prescriptive style that leaves a lot of room for interpretation.

Under the low interest rate regime, more critical than ever to ensure an optimal asset allocation. Our strong background in macroeconomic and financial modelling, can help you dynamically adjust the portfolio structure to strike the right balance of seizing opportunities with limited downside. We have extensive experience in Interest rate, exchange rate and commodity price modelling, as well as solid background in market risk modelling. Being in tune with the business needs we also place special care to make the modelling results and limitations clear, leaving the decisionmakers in an optimal position to further apply their own experience and judgement.

Low interest rate environment and new technologies are reshaping the banking landscape This necessitates more focus on new business models and operational efficiency. This also has brought new regulatory scrutiny as part of the SREP. Therefore, on banks should proactively review of existing strategy from the point of view of viability and sustainability of the business model, market competitiveness and benchmark their performance to peers. Econlab can help in forging a new strategic direction, and help makes operations















## MODEL VALIDATION TOOLKIT

#### REGULATORY AND SUPERVISORY COMPLIANCE

The complete set of test covers significant regulatory expectations regarding validation of rating models. The toolkit is aligned with EBA guidelines on PD estimation. The included quantitative tests are optimal for suitable preparation for TRIM and the validation itself meets the TRIM expectations.

#### WIDE TEST COVERAGE

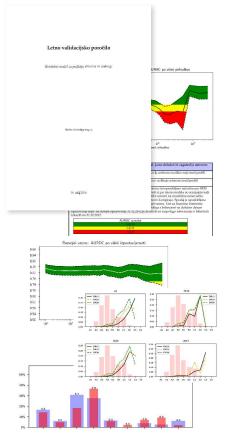
Automated testing is based on predefined set of data which needs to be imported into the tool. The tool comprises a wide, but not exhaustive set of quantitative tests as it enables incorporation of additional tests with relative ease, as deemed important by the bank or the supervisor. Tool currently tests in areas such as population representativeness, discriminatory power, accuracy, homogeneity, calibration (LRA), stability and MoC.

#### **TECHNICAL FLEXIBILITY**

The reference toolkit is based on SQL and Python, but the toolkit can be converted to most widely used programming languages and environments. Full customization to the client needs is also possible. The toolkit can be supplied with fully open source code (resale restrictions) allowing clients to later adapt the code to changing circumstances. The toolkit delivery can be accompanied with extensive knowledge transfer services, including workshops, explanation of the methodologies, and initial assistance in toolkit usage, and setting up input data require-

## AUTOMATED REPORTING

The tool generates a comprehensive validation report that includes all the quantitative information needed and related graphics. Human validator needs to add specific interpretation of the results after the fact. The report is by default produced in Word or Pdf format but can be adjusted to client's needs.



### EXPERIENCE

EconLab was a developer of IRB models for pillar Irish bank. We have critical experience when it comes to regulatory expectations of an IRB compliant model and assisting the JST during TRIM inspections. We have had full insight into the TRIM testing procedures and recommendations stemming from the inspections. Furthermore, EconLab has experience in quality assurance of bank's impairment models conducted by big auditing firms. Consequently, EconLab has important knowledge of the auditor's expectations with regards to comprehensive validation frameworks and methodologies.

#### **EXPERTISE & FLEXIBILITY**

Our team has successfully carried out multiple credit risk model validation assignments with a number of clients, both locally, and internationally. In addition, our team has developed and redeveloped a number of credit risk models for different portfolios and client types ranging from small local banks to pillar banks. Due to our deep understanding of modelling industry standards, EconLab is able to work with different methodologies. Additionally, EconLab is capable of adjusting the complexity and duration of the engagement based on clients' proportionality and materiality levels.



# ALEŠ POGAČAR

Aleš Pogačar is a specialist in quantitative financial risk management, especially credit risk management for banks. With strong programming skills, he excels at credit rating, PD, LGD and EAD modelling. He was frequently hired by Big 4 firms for assessing the appropriateness of such models with respect to Basel, IAS 39 and IFRS 9 standards.

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