

Empirical Graphic Validation of Explanatory Variables in Retail Credit-Scoring Models

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Abstract

Basel II regulatory framework on capital adequacy necessitates the justification for internal ratings-based (IRB) models, including the choice of explanatory variables. Therefore, it is important to assess the relative importance of the explanatory variables in the model beyond statistical hypothesis tests at the moment of development.

This paper presents an empirical graphic technique that, regardless of the method used to estimate the model, allows to understand not only how much information the variable is bringing into the model but the way that the information is incorporated. This idea arose from the need of matching intuitive management ideas and model information. The main concern is to identify whether any explanatory variable plays a determinant role in the acceptance or rejection of an application. Given a model, the former depends on the distribution and correlation of the characteristics of the population to be scored. This technique can be thought of as a tool to understand the profiles of approvals given by a model; from this, it can also be used for comparing subpopulation models. Besides, it has proven to be useful as a dynamic way of detecting misbehaviour of the scoring model for the most recent through-the-door population hence, providing a complementary tool to the classical characteristic analysis. The paper explains the graphic technique and the index related to the graphs. Examples and interpretations of findings are provided.