Parametric Frailty Models for Elapsed Time between Recurrent Events

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Abstract

A large number of classification techniques for credit scoring can be found in literature. Among these techniques statistical models which mainly comprise logistic regression techniques, linear discriminant analysis, k-nearest neighbor and classification tree. In the study, 614 random loan applications for clients made of a bank branch were examined. In this paper, Logistic Regression Analysis” was conducted to determine the problem and related factors and to predict the credibility according to these factors. In the model, customer age, education status, marital status, gender, profession, income, debt income ratio, credit card debt, other debts and multiplication product are taken as independent variables. As a result of the study, the bank branch will benefit from the statistical model in which it is created, to evaluate according to the customer characteristics in its portfolio, and to give more credit to branch customers.

Keywords: Credit Scoring, logistic regression (LR), loan prediction.

1. Introduction

Many credit scoring techniques have been used to build credit scorecards. Among them, logistic regression model is the most commonly used in the banking. There are quite complicated rules and constraints that can be imposed by the bank when the loan issued. Bank branches, which play a direct role in the credit, must accurately determine the customer’s credit request to eliminate these difficulties and create an effective payment system according to the customer.

If people are not enough to obtain the financial means they need, they demand it in various forms. Credit scores are awarded on the basis of different techniques designed by individual lenders. However, irrespective of the varying nature of techniques used, credit scoring is invariably used to answer one key question - what is the probability of default within a fixed period, usually 12 months. Credit scoring can be divided into application scoring and behavior scoring, based on the information used when modeling. Application scoring uses only the information provided in application, while behavior scoring uses both the application information, and (past) behavior information.
A large number of classification techniques for credit scoring can be found in literature. Among these techniques statistical models which mainly comprise logistic regression techniques, linear discriminant analysis, k-nearest neighbor and classification tree.

In the study, 614 random loan applications for clients made of a bank branch were examined. In this paper, Logistic Regression Analysis” was conducted to determine the problem and related factors and to predict the credibility according to these factors. In the model, customer age, education status, marital status, gender, profession, income, debt income ratio, credit card debt, other debts and multiplication product are taken as independent variables. So, the credibility determined based on customer characteristics; A regression model was set up to answer the question of whether or not the loan should approved.

This paper is organized as follows. In Section (2) some literature reviews. In Section (3) Logistic regression model is introduced. The estimation of the parameter is introduced in Section (4). In section (5) some concluding remarks about the results are illustrated.