Reliability of Time-Series Financial Analysis: Prediction of Bankruptcy

Cindy Yoshiko Shirata

Professor of Accounting,
Nihon University
Phone: 81-3-3219-3492 Fax:81-424-41-5714
1-3-2 Misaki-cho, Chiyoda-ku,, Tokyo 101-8360 JAPAN
E-mail: shirata@eco.nihon-u.ac.jp

Abstract:

In this paper, the relation between each financial ratio and changes in the economic environment has been elucidated through time-series observations of financial ratios in bankrupt companies. As a result, it has been demonstrated that some financial ratios are affected by changes in the economic environment and also that there are financial ratios in which figures fluctuate considerably depending on the time period, although it is yet to be adequately confirmed if they are directly affected by any change in the economic environment. This paper also uncovered the existence of financial ratios that are not affected by changes in the economic environment and also that distinctively present tendencies specific to companies near bankruptcy. Some criticize that an attempt to extract ratios that are statistically significant for bankruptcy detection in a univariate setting is not any different from Beaver[1967]'s research work. As, however, researchers have concentrated much on constructing a model and have used financial ratios that may show reverse distribution patterns, patterns which contradict relevant theories, depending on some changes in the economic environment, as was the case in the Altman model [1968], analysis with regards to characteristics contained by each ratio has been unduly neglected up to now. This paper revealed being statistically significant is different from being significant in the light of accounting.

Key words: Time-Series Financial Analysis, Economic Environment, Prediction of Bankruptcy