An Evaluation of the Statistical Properties of Financial Ratios

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1993

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Thesis Summary

Financial ratios are used for a wide variety of purposes, including performance-evaluation of firms, prediction of corporate events, model-building, etc.. The usage of financial ratios is based on certain assumptions regarding their behaviour and properties. Researchers, in the past, have emphasised the importance of the statistical properties of financial ratios and have also conducted some empirical studies to test the same. However, an empirical study in Indian conditions has been prominently lacking in the area of statistical properties of financial ratios.

The objective of this study has been to:

a) highlight the statistical properties of financial ratios, whose knowledge would be helpful for proper application of the ratios by researchers, as well as practitioners.

b) empirically examine the statistical properties of financial ratios and

c) apply financial ratios, with a knowledge of their statistical properties, in a practical area of interest to researchers and practitioners. The practical area for application was the building of a quantitative model for prediction of sickness.

The statistical properties of financial ratios which were included for study, were selected on the basis of their relevance to the proper applicability of the ratios. These properties were as follows:

a) distributional properties of financial ratios and, more specifically, whether they confirm to a normal distribution;

b) correlation between financial ratios;

c) correlation between the financial variables (e.g. sales, total assets, net profit, etc.) which comprise financial ratios; and

d) proportionality between the components (i.e., the numerator and the denominator) of the financial ratios

The study was conducted for a list of seventy financial ratios. The results of the study, were analyzed, did show certain trends regarding the statistical properties of financial ratios. It was found that the financial ratios did not conform to the assumed statistical properties in several

cases. This suggests that the properties of financial ratios deserves more attention while using, and drawing inference from, them.

In this study, it was sought to come out with certain general results, applicable to the financial ratios in the Indian conditions, which may serve as a broad guide to the users of financial ratios. At the same time certain specific results regarding a few financial ratios were pointed out, in different parts of the study, where it was felt that these may be of special interest to the users.

The application of financial ratios in developing of a sickness prediction model was done, taking into account the statistical properties of the ratios. The model was basically developed with a view to highlighting the relevance of the statistical properties of financial ratios, which should be kept in mind while developing it. The model is indicative and has its predictive ability and has the potential for further improvement.

Finally, it may be pointed out the present study has concentrated on certain specific aspects of the properties of financial ratios and it should help the researchers, analysts, practitioners, etc. in the usage of financial ratios. There is also scope for further studies in the same, as well as related, area which would further help the users of financial ratios.