

## Abstract

All companies face problems in their operation, just like human body. Yet, most problems elicit warning signals during the early stage. If we could conduct simple diagnosis or measurement for the company, we could early detect the problem before they become unmanageable, and could map out corresponding plans to cope with it. In this paper, we applied two mathematical tools, Grey Relation Analysis (GRA) and Data Envelopment Analysis (DEA), to evaluate the performance of commercial banks newly reorganized from trust businesses in Taiwan. Both methods have limitations in application as well as respective advantages and disadvantages. Analysis and comparison of the GRA and DEA when applied to the evaluation of performance are discussed. The empirical result shows that the rankings of the three firms in the empirical study by using DEA and GRA are the same: first, the United World Chinese Bank, second, China Trust Commercial Bank, and third, Chinfon Bank.

**Keywords:** Performance evaluation, Data envelopment analysis, Grey relation analysis, TOPSIS