

governance schemes developed for stock companies are effective at cooperative financial institutions. Concretely, we investigate the role of outside directors. In many countries, listed companies including banks are required to appoint some outside directors, while Japanese banks are not required but only encouraged to do so.

This paper examines whether the existence of outside directors in credit associations (Shinkin banks) – a kind of co-ops that carry substantial weight in the Japanese financial market – have an impact on management performance, and compares the results of regional banks and credit cooperatives (also a kind of co-ops). All regional banks have a stock-based capital structure. Our analysis consists of two stages. At the first stage, we estimate a stochastic frontier cost function and examine the differences in cost structures and efficiency measures between credit associations, credit cooperatives and regional banks. The Japanese FSA introduced the action program which requires these three types of financial institutions to shift from transaction banking to region-based relationship lending from FY 2003. In the second stage of the analysis, we seek to clarify the relationship between governance structure and efficiency by estimating a regression model.

Results in this paper confirmed that governance-related variables have a significant effect on cost efficiency for credit associations. In contrast to this, such governance variables have no significant effect on cost efficiency for both regional banks and credit cooperatives. These results suggest the distinctive features of governance structure for each type of bank, and highlight differences in governance structures between three types of financial institutions. In particular, results showing that the existence of outside directors contributes to improvement in efficiency for credit associations are interesting outcomes. Because, the findings support the recent Japanese government guidelines for improving governance with regard to co-ops, also imply that mandatory appointment of outside directors at cooperative banks recently considered by the government advisory committee is desirable.

*Rossana Bubbico, Marco Giorgino, Barbara Monda, Politecnico di Milano, Management, Economic and Industrial Engineering Department, Italy*

## **THE IMPACT OF CORPORATE GOVERNANCE ON THE MARKET VALUE OF FINANCIAL INSTITUTIONS: EMPIRICAL EVIDENCES FROM ITALY**

This paper analyses how the quality of the Corporate Governance system impacts on the market value of Italian financial institution listed on Italian Stock Exchange. As implementing a good Corporate Governance is costly, this study is useful to verify if the investment is worth its cost. This work wants to fill a gap in literature: in fact there are few studies that have

focused on financial institutions despite the central role that they hold in the real economy, especially in Italy where the enterprises are highly dependent on the banking system for their financing needs.

First step of the work is the measurement of corporate governance quality. The Corporate Governance Index is used in order to achieve this objective. It is a scoring model that analyses 4 different macro-areas of governance that are Board, Compensation, Shareholders' and Stakeholders' Rights and Disclosure. After governance evaluation a Cross-sectional Data Regression is used to study the relationship between corporate governance and market value of financial institutions in the year 2010. The analysis proves that there is a positive and statistically significant correlation between corporate governance and performance for this kind of companies: this justifies the importance of corporate governance and the convenience to invest in this in order to maximise market value of company.

***Shahram Taj, Hassan Shirvani, Bahman Mirshab, Akif Ahmet Ziya,***  
*Cameron School of Business, University of St. Thomas, USA*

## **BANK EFFICIENCY IN TURKEY DURING THE RECENT GLOBAL CRISIS**

In an increasingly competitive business environment, many business firms must operate efficiently to survive. This explains why in recent years many researchers have devoted considerable time and effort to delineate the conditions necessary for technical efficiency of productive units. Formally, technical efficiency is defined as the production of a desired level of output with the minimum amounts of inputs. Thus, a productive unit is technically efficient if it cannot increase any output or reduce any input without reducing other outputs or increasing other inputs. In economic jargon, a technically efficient firm is simply operating on its efficient frontier. Clearly, this is an absolute concept of efficiency, independent of how efficient other competitors are. For this reason, and in the absence of extensive laboratory-like experiments, it is difficult, if not impossible, to ascertain whether a typical firm is operating efficiently in an absolute sense. On matters of technical efficiency, thus, all we can determine is whether a productive unit is efficient relative to others, that is, whether a firm is efficient in a relative sense. More specifically, instead of considering technical efficiency as an absolute concept internal to a firm, it can be treated as a relative notion for a collection of firms. Thus, a typical business entity can be considered as technically efficient relative to its competitors, provided that it can produce more outputs with fewer inputs relative to the latter.

The data envelopment analysis (DEA) which is an optimization-based tool has enabled the researchers to also assess technical efficiency in a