

**UNIVERSITI TEKNOLOGI MARA**

**ANALYZING THE PRODUCTION  
ACTIVITY OF BANKING  
INSTITUTIONS IN LIBYA:  
PRODUCTIVITY AND EFFICIENCY  
DETERMINANTS**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
**Doctor of Philosophy**

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## **CONFIRMATION BY PANEL OF EXAMINERS**

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I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA' It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.


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## ABSTRACT

Measurements of banking efficiency and productivity have received increasing efforts in applied economics in recent years due to the rapid acceleration of changing nature of financial industry. The financial sector, especially the banking system, plays a central role in the process of economic development and growth in a specific country. The efficiency of the banking system is one of the most important issues in the financial market because the efficiency of banks could affect the stability of the banking industry and thus the effectiveness of the whole monetary system in a country. Bank's efficiency is measured as the difference between the bank's position and its best production frontier. Generally, there are two main techniques that would be used to evaluate banking efficiency: parametric and non-parametric techniques. This study analyzed the technical efficiency and productivity of the banking sector in Libya during the period from 2004 until 2010. A nonparametric data envelopment analysis (DEA) method is employed to estimate the mutually exhaustive components namely pure technical efficiency (PTE) and scale efficiency (SE) of the 17 banks in Libya. Also, the Total Factor Productivity (TFP) of the Libyan banks is calculated using the Malmquist Productivity Index (MPI). The decomposition of the MPI such as technical change, efficiency change, pure technical efficiency change and scale efficiency change were included in the measurement. Finally, the second stage is used. The Ordinary Least Square (OLS) model to determine the factors that could influence the efficiency score. The findings of the first stage indicated an average efficiency scores in the banking sector in Libya during the periods of study. The results showed that the most efficient banks were the specialized banks, followed by commercial banks and lastly the private banks. In term of productivity, the results showed that Libyan banks productivity declined during the period of study. As for the determining factors that influencing the efficiency scores of the Libyan banks, the results showed that only profitability, size operation, government link, mergers and ownership structure that have significant relationship with the Libyan banks' efficiency scores.

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