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**EFFICIENCY OF THE BANKING SYSTEM IN VIETNAM
UNDER FINANCIAL LIBERALIZATION**

A thesis presented in partial fulfilment of the requirements for

the degree of

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in

Banking Studies

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Dang Thanh Ngo

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Abstract

The thesis reviews the (triangular) relationship between financial liberalization, economic growth, and banking development. It points out the causality effect where financial liberalization could improve the efficiency of the banking sector, but on the other hand, it also could lead to instability in the banking system. The recent Global Financial Crisis raised questions as to how and at what level financial liberalization could be done so that for banking development, improvements are achieved but instabilities are avoided. The thesis answers these questions employing a new sample (the Vietnamese banking system), covering a long period (1990-2010), and consistently applying different approaches and models. Three different approaches are used, namely ratio analysis, stochastic frontier analysis (SFA), and data envelopment analysis (DEA).

Our findings suggest that the performance of the Vietnamese banking system generally improved during 1990-2002, worsened during 2003-2008, and recovered in 2009-2010. However, there was no statistical association between this performance and the regional or global financial crises in 1997 and 2007/08. Although future studies are needed (since our sample was small and thus, the results may not be accurate), there was evidence that the state-owned commercial banks were less efficient than the joint-stock commercial banks and hence, equitization of the state-owned commercial banks should be speeded up in order to transform their ownership, reducing their size, and improving their performance.

There are consistencies between these approaches in terms of defining the efficiency scores, trends, and best and worst performers. Our findings also suggested that the time-trend-DEA, as well as the Fisher Index-DEA models, could be an alternative to the panel-DEA and Malmquist Index-DEA models since they could provide additional information on the performance measures, especially in case of data limitation. However, we could not find consistent results between the ratio analysis model and the ratio-based DEA ones (Panel- and Malmquist Index-DEA) in terms of scores, trends, and determinants.

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Publication during candidature

Some of the preliminary publications are not part of the thesis per se, but they were undertaken in the progress of me doing my thesis, which in turn enlighten aspects of this work.

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2. Ngo, D. T. (2011). A reassessment of the Provincial Competitiveness Index of Hanoi in 2009 using Data Envelopment Analysis (in Vietnamese). *Journal of Economic Studies*, 6(397), 28-37.

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4. Ngo, D. T., & Nguyen, L. T. P. (2012). Total Factor Productivity of Thai Banks in 2007-2010: An Application of DEA and Malmquist Index. *Journal of Applied Finance and Banking*, 2(5), 27-42.

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List of Abbreviations

ADB	Asian Development Bank
ATM	Auto Teller Machine
BCC	Banker, Charnes and Cooper (1984)
BFOB	Branch of Foreign-Owned Bank
BIS	Bank for International Settlements
BMI	Business Monitor Inc.
BRC	Bank Restructuring Committee
CAMELS	Capital adequacy, Asset quality, Management quality, Earnings ability, Liquidity, and Sensitivity to market risks
CCR	Charnes, Cooper and Rhodes (1978)
CE	Cost Efficiency
CES	Cost Elasticity
CIR	Cost-to-Income Ratio
COLS	Corrected Ordinal Least Squares
CRS	Constant Returns To Scale
DEA	Data Envelopment Analysis
DFA	Distribution Free Analysis
DMU	Decision Making Unit
DRTS	Decreasing Returns To Scale
EF	Efficiency score

EOS	Economies Of Scale
FDH	Free Disposal Hull
FDIC	Federal Deposit Insurance Corporation
FF	Fourier Flexible function
FI	Fisher Index
FR	FitchRatings
GDP	Gross Domestic Product
GNP	Gross National Product
GSO	General Statistics Office of Vietnam
HASTC	Hanoi Securities Trading Centre
HOSE	Hochiminh Stock Exchange
HSTC	Hochiminh City Securities Trading Centre
IMF	International Monetary Fund
IRTS	Increasing Returns To Scale
JLMS	Jondrow, Lovell, Materov and Schmidt (1982)
JSCB	Joint-Stock Commercial Bank
JVB	Joint-Venture Bank
LML	Local Maximum Likelihood
MI	Malmquist Index
MIS	Moody's Investor Service
MOLS	Modified Ordinary Least Squares

MPSS	Most Productive Scale Size
NIM	Net Interest Margin
NPL	Non-Performing Loan
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Squares
OTC	Over-The-Counter
PCA	Principal Component Analysis
PI	Performance Index
RA	Ratio Analysis
ROA	Returns On Average Assets
ROE	Returns On Average Equity
S&L	Savings and Loan
SBM	Slacks-Based Measure
SBV	State Bank of Vietnam
SFA	Stochastic Frontier Analysis
SOCB	State-Owned Commercial Bank
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TE	Technical Efficiency
TFA	Thick Frontier Analysis
TFP	Total Factor Productivity
U.S.	United States

UPCOM	Unlisted Public Company Market
VAMC	Vietnamese Asset Management Company
VCP	Vietnam Communist Party
VRS	Variable Returns To Scale
WB	World Bank
WTO	World Trade Organization