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**EFFICIENCY AND PRODUCTIVITY IN THE TAKAFUL AND
INSURANCE INDUSTRIES IN PAKISTAN: A COMPARITIVE ANALYSIS**



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UUM
Universiti Utara Malaysia

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INSURANCE INDUSTRIES IN PAKISTAN: A COMPARITIVE ANALYSIS**

by

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**A Dissertation Submitted to Othman Yeop Abdullah Graduate School of
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ABSTRACT

The comparisons of the efficiency insurance and takaful firms which are operating simultaneously in the financial system need further investigation. The takafur industry is new player in the market which is struggling on its profitability specifically for developing country like Pakistan. This study investigates the existence of technical efficiency (TE), pure technical efficiency (PTE) and scale efficiency (SE) by applying Data Envelopment analysis (DEA) for the insurance and *takaful* sector from 2008 to 2016. This study measures the productivity change with Malmquist productivity index (MPI) for both insurance and *takaful* sector. In addition, this study also aims to identify the firm level attributes (asset size (SIZE), market share (MS), profitability (ROE) and leverage (LEV)) by Tobit Regression which determine the efficiency of insurance and *takaful* industry for Pakistan. The data for the fourteen insurance and four *takaful* firms is collected from the annual reports of the firms, State Bank of Pakistan reports and Insurance Association of Pakistan reports. The results highlight that *takaful* firms have more technical and pure technical efficiency as compared to the insurance firms whereas insurance firms attain more scale efficiency score for the study period. The *takaful* industry records the higher productivity than insurance firms measured by MPI. The results show the negative significant relation between SIZE and TE, SE of insurance and PTE of *takaful* and positive with TE and SE of *takaful*. MS is positive and significant with TE, PTE and SE of insurance and PTE of *takaful*. ROE is negative and significant with PTE of insurance and TE and SE of *takaful*. LEV is significant except to SE of insurance. The mixed results imply that policy makers and practitioners should develop different prudential regulations to improve scale efficiency especially for *takaful* industry by enhancing their branch network, new products development for adaptation of latest techniques and technology.

Keywords: efficiency, insurance, *takaful*, productivity, tobit

ABSTRAK

Perbandingan kecekapan antara firma-firma insuran dan takaful yang beroperasi selari di dalam sistem kewangan memerlukan kajian lanjutan. Industri takaful merupakan pemain baru dalam pasaran dimana sedang berusaha terhadap keuntungan mereka. Kajian ini mengkaji kewujudan kecekapan teknikal (TE), kecekapan teknikal asli (PTE), dan skala kecekapan (SE) dengan mengaplikasikan Analisis Pembangunan Data (DEA) terhadap sektor insuran dan takaful dari tahun 2008 hingga 2016. Penyelidikan ini mengukur perubahan produktiviti dengan menggunakan index produktiviti Malmquist (MPI) bagi kedua-dua sektor insuran dan takaful. Di samping itu, objektif kajian ini juga mengenalpasti ciri-ciri firma [saiz aset, (SIZE), pasaran saham (MS), keuntungan (ROE), peminjaman (LEV)] dengan menggunakan regresi Tobit (TB) untuk menentukan keberkesanan industri insuran dan takaful di Pakistan. Data untuk empat belas buah firma insuran dan empat buah firma takaful dikumpul daripada laporan tahunan firma, laporan bank Pakistan dan laporan persatuan insuran Pakistan. Keputusan kajian ini menyatakan bahawa firma-firma takaful mempunyai lebih kecekapan teknikal dan kecekapan teknikal asli berbanding firma-firma insuran manakala firma –firma insuran memperoleh lebih skor skala kecekapan di dalam tempoh kajian. Takaful industri merekodkan produktiviti yang tinggi berbanding firma – firma insuran melalui ukuran MPI. Dapatan ini menunjukkan hubungan negatif serta signifikan antara SIZE dan TE, insuran SE serta takaful PTE, dan hubungan positive pula antara takaful TE dan SE. Hubungan antara MS dan TE, PTE, insuran SE serta takaful PTE adalah positif dan signifikan. ROE pula berhubung secara negatif dan signifikan dengan insuran PTE, TE dan takaful SE. LEV pula tidak signifikan kecuali terhadap insuran SE. Kepelbagaian hasil dapatan kajian ini menunjukkan bahawa pembuat polisi dan pengamal industri wajar membangunkan pengawalseliaan berhemat untuk memperbaiki kecekapan skala terutamanya dalam industri takaful dengan mengukuhkan jaringan cawangan - cawangan dan pembangunan produk baru dengan mengadaptasikan teknik dan teknologi terkini.

Kata kunci: Keberkesanan, insuran, takaful, produktiviti, tobit

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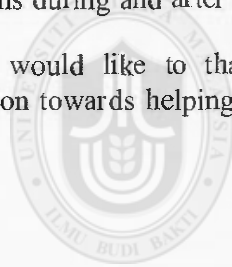
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LIST OF ABBREVIATION

SBP	State Bank of Pakistan
SECP	Securities Corporation of Pakistan
AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
IAP	Insurance Association of Pakistan
IFD	Islamic Finance Department
CAGR	Compound Annual Growth Rate
ROA	return on asset
ROE	ratio and return on equity
DEA	Data Envelopment Analysis
SFA	Stochastic frontier Approach
TE	Technical Efficiency
PTE	Pure Technical Efficiency
SE	Scale Efficiency
MPI	Mahnquist productivity index
TFP	Total Factor Productivity
CRS	Constant Return to Scale
VRS	Variable Return to Scale
IRS	Increasing Return to Scale
DRS	Decreasing Return to Scale

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study is on the insurance and *takaful* industries of the Pakistan whereby insurance and *takaful* firms are financial intermediaries which have undergone several structural changes. The insurance industry of Pakistan for instance, has gone through four different stages of development after the independence of Pakistan. The first stage started in 1948 with the establishment of department of insurance under the Ministry of Commerce and some amendments in 1958 within the Insurance Act of 1938. The second stage was the Nationalization Act, 1970 when all the insurance firms were taken under the control of the Government and merged into one State Life Insurance Corporation. The third stage, when the government started the privatization process in 1992 (Securities and Exchange Commission of Pakistan, 2000; State Bank of Pakistan, 2005) and the fourth stage involved post consolidation of the insurance industry which started in 2006 (Malik, Malik, & Faridi, 2011). The structural changes in the insurance industry are intended to improve the efficiency of the financial system in Pakistan. The efficiency measurement is the tool to establish the impact of reforms and direction of the stability of the insurance industry (Lee & Lin, 2016).

A strong and developed financial system in global business environment is viewed as indispensable for the economic development of any country. In particular, an evolved and well-functioning insurance industry is imperious for national wealth, economic growth in order to circulate funds efficiently through economic objects (Charumathi, 2012; Prasad, 2010). The role of the insurance industry is always vital particularly in

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