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THE IMPACT OF E-MONEY ON BANK PERFORMANCE IN MALAYSIA



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MASTER IN ISLAMIC FINANCE AND BANKING

UNIVERSITI UTARA MALAYSIA

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THE IMPACT OF E-MONEY ON BANK PERFORMANCE IN MALAYSIA

By

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UUM
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Master in Islamic Finance and Banking**



Pusat Pengajian Perniagaan Islam
ISLAMIC BUSINESS SCHOOL
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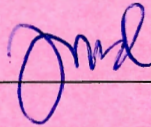
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ABSTRACT

Most of the banks compete to provide online payment services such as e-payment/e-money which enable customer use as a mode of payment. Moreover, customer more prefer using e-money payment rather than cash payment since started of COVID 19 pandemic. This situation makes payment system change from cash to cashless payment. And now e-money are important and being use as a part in financial and payment system. This study investigates the impact of e-money on bank performance of conventional and Islamic banks. The data consists of 12 conventional banks and 12 Islamic banks over the period from 2004 to 2021. Two measures of bank performance ROA and NIM/NPM will be regressed with bank specific variables which are total asset, loan loss provision, total liabilities for the bank specific and also macroeconomic variables, GDP, CPI and BLR. The aim of this study focuses on e-money impact on bank performance. The results of random and fixed effect models show that e-money is significantly affect on return on asset (ROA) and net interest margin (NIM)/net profit margin (NPM) for conventional and Islamic banks. The result implies that e-money have significant contribution to the bank performance. With the higher of e-money usage, it is expected to contribute to the better return performance of banks ROA and NIM/NPM. With the negative relationship between e-money and bank return, the result of the study found that increase on e-money payment will decrease the bank return.

Keyword: Bank Performance, e-money, e-payment, Net Interest Margin (NIM), Net Profit Margin (NPM), Return on Asset (ROA), Conventional Bank, Islamic Bank

ABSTRAK

Kebanyakan bank bersaing untuk menyediakan perkhidmatan pembayaran dalam talian seperti pembayaran elektronik/wang elektronik yang membolehkan pelanggan menggunakannya sebagai cara pembayaran. Lebih-lebih lagi, pelanggan lebih suka menggunakan pembayaran wang elektronik daripada pembayaran tunai sejak bermulanya wabak COVID 19. Keadaan ini menjadikan sistem pembayaran berubah daripada tunai kepada pembayaran tanpa tunai. Dan kini wang elektronik adalah penting dan digunakan sebagai sebahagian daripada sistem kewangan dan pembayaran. Kajian ini mengkaji kesan kad kredit konvensional dan Islam ke atas keuntungan bank. Kajian ini mengkaji kesan wang elektronik terhadap prestasi bank konvensional dan Islamik bank. Data terdiri daripada 12 bank konvensional dan 12 bank Islam sepanjang tempoh 2004 hingga 2021. Dua ukuran prestasi bank ROA dan NIM/NPM digunakan sebagai pembolehubah bersandar dengan pembolehubah tertentu oleh bank dengan menggunakan jumlah aset, peruntukan kerugian pinjaman, jumlah liabiliti untuk bank dan juga pembolehubah makroekonomi, KDNK, IHP dan KPA. Matlamat kajian ini tertumpu kepada kesan wang elektronik terhadap prestasi bank. Keputusan model rawak dan kesan tetap menunjukkan bahawa wang elektronik mempunyai kesan yang signifikan terhadap keuntungan dari aset (ROA) dan margin faedah bersih (NIM)/margin keuntungan bersih (NPM) bagi bank konvensional dan islamik bank. Hasil kajian menunjukkan bahawa wang elektronik mempunyai sumbangan yang besar kepada prestasi bank. Dengan penggunaan wang elektronik yang lebih tinggi, ia dijangka menyumbang kepada prestasi pulangan yang lebih baik untuk ROA dan NIM/NPM bank. Dengan hubungan negatif antara wang elektronik dan pulangan bank, hasil kajian mendapati peningkatan pembayaran wang elektronik akan mengurangkan pulangan bank.

Universiti Utara Malaysia

Kata Kunci: Prestasi Bank, e-wang, e-pembayaran, Margin Faedah Bersih (NIM), Margin Keuntungan Bersih (NPM), Keuntungan dari Aset (ROA), Konvensional Bank, Islamik Bank

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LIST OF ABBREVIATIONS

BLR	Base Lending Rate
BNM	Bank Negara Malaysia
CPI	Consumer Price Index
EMI	E-Money Islamic
EMMPA	E-Money over E-Payment
FEM	Fixed Effect Model
GDP	Gross Domestic Product
LLPTA	Loan Loss Provision / Total Asset
LTA	Log Total Asset
NIM	Net Interest Margin
NPM	Net Profit Margin
REM	Random Effect Model
ROE	Return on Equity
ROA	Return on Asset
TLTA	Total Liability / Total Asset
VIF	Variance Inflation Fact

CHAPTER 1

INTRODUCTION

1.1. Introduction

The background of the study, which serves as a preview of this research, is discussed in this chapter along with the issue description, research objectives, scope, and importance of the study. Also, this chapter defines the words utilised in this study, and the last section provides an overview of this chapter.

1.2. Background of Study

The technologies of industrial revolution 4.0 in Malaysia were boomed in recent years such as data systems integration, Internet of Things, and cybersecurity that can be benefit to financial services ecosystems, particularly the banking industry. Information and communication technology allow consumer access their banking services and product through a variety of electronic channel such as application on mobile phone and banking website without deal at counter banks. This makes banking industry transformed their traditional models into multichannel models

Nowadays, virtual cash, often known as cashless transaction, is a relatively new technology that has grown trendy. Preferred payment instrument in Malaysia have increasingly moved to digital options with the rise of electronic payment and cashless payments. Credit cards and debit cards is the first electronic payment that introduced to consumer and has expand into a higher level of payment services with implement technological devices on payment instrument such as mobile banking, internet banking and also e-money (Lu, 2022). The use of computer networks in place of labour results in cost savings and increased efficiency for the electronic banking services.

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Appendices



Regression (FE) ROA for conventional banks

Fixed-effects (within) regression
 Group variable: code

Number of obs = 206
 Number of groups = 12

R-squared:
 Within = 0.9100
 Between = 0.0140
 Overall = 0.7085

Obs per group:
 min = 15
 avg = 17.2
 max = 18

corr(u_i, Xb) = -0.3683

F(7,11) = 40.61
 Prob > F = 0.0000

(Std. err. adjusted for 12 clusters in code)

roa	Coefficient	Robust std. err.	t	P> t	[95% conf. interval]	
lta	-.5156062	.1259467	-4.09	0.002	-.7928131	-.2383993
llpta	-71.79586	10.63902	-6.75	0.000	-95.21219	-48.37952
tlta	1.308937	.168724	7.76	0.000	.9375783	1.680296
blr	.0488429	.0695673	0.70	0.497	-.1042736	.2019595
cpi	.0150456	.0147547	1.02	0.330	-.0174293	.0475205
gdp	.0090909	.0082492	1.10	0.294	-.0090655	.0272472
emmpa	-.5452481	.1274326	-4.28	0.001	-.8257255	-.2647708
_cons	9.460001	2.431924	3.89	0.003	4.107372	14.81263
sigma_u	.5152618					
sigma_e	.29935551					
rho	.74764407	(fraction of variance due to u_i)				

Regression (RE) NIM for conventional banks

Random-effects GLS regression
 Group variable: code

Number of obs = 205
 Number of groups = 12

R-squared:
 Within = 0.1252
 Between = 0.1395
 Overall = 0.1160

Obs per group:
 min = 15
 avg = 17.1
 max = 18

corr(u_i, X) = 0 (assumed)

Wald chi2(7) = 31.84
 Prob > chi2 = 0.0000

(Std. err. adjusted for 12 clusters in code)

nim	Coefficient	Robust std. err.	z	P> z	[95% conf. interval]	
lta	-.2795493	.0727655	-3.84	0.000	-.4221669	-.1369316
llpta	-.0288183	9.458206	-0.00	0.998	-18.56656	18.50892
tlta	-.0813444	.0267346	-3.04	0.002	-.1337433	-.0289456
blr	-.2453166	.1833687	-1.34	0.181	-.6047126	.1140794
cpi	-.0321468	.0364346	-0.88	0.378	-.1035574	.0392638
gdp	.0340084	.032473	1.05	0.295	-.0296375	.0976542
emmpa	-.511478	.2421809	-2.11	0.035	-.9861438	-.0368121
_cons	8.77156	1.397282	6.28	0.000	6.032938	11.51018
sigma_u	.35270708					
sigma_e	.43563346					
rho	.39596015	(fraction of variance due to u_i)				

Regression (RE) ROA for Islamic banks

Random-effects GLS regression Number of obs = 210
Group variable: code Number of groups = 12

R-squared: Obs per group:
 Within = 0.6352 min = 16
 Between = 0.2637 avg = 17.5
 Overall = 0.5607 max = 18

corr(u_i, X) = 0 (assumed) Wald chi2(7) = 79.60
 Prob > chi2 = 0.0000

(Std. err. adjusted for 12 clusters in code)

roa	Coefficient	Robust std. err.	z	P> z	[95% conf. interval]	
lta	-.3553794	.106346	-3.34	0.001	-.5638139	-.146945
llpta	-.90.14569	22.12291	-4.07	0.000	-.133.5058	-.46.7856
tlta	1.073753	.4080671	2.63	0.009	.2739563	1.87355
blr	-.2162852	.1271275	-1.70	0.089	-.4654504	.0328801
cpi	-.0627089	.0288695	-2.17	0.030	-.119292	-.0061257
gdp	.046295	.0145228	3.19	0.001	.0178308	.0747591
emmpa	-.7774845	.2208718	-3.52	0.000	-1.210385	-.3445838
_cons	7.73164	1.925202	4.02	0.000	3.958314	11.50497
sigma_u	.41693567					
sigma_e	.5317917					
rho	.38068544	(fraction of variance due to u_i)				

Regression (RE) NIM for Islamic banks

Random-effects GLS regression Number of obs = 201
Group variable: code Number of groups = 12

R-squared: Obs per group:
 Within = 0.4959 min = 16
 Between = 0.1289 avg = 16.8
 Overall = 0.3577 max = 17

corr(u_i, X) = 0 (assumed) Wald chi2(7) = 196.49
 Prob > chi2 = 0.0000

(Std. err. adjusted for 12 clusters in code)

nim	Coefficient	Robust std. err.	z	P> z	[95% conf. interval]	
lta	-.2747501	.1329742	-2.07	0.039	-.5353748	-.0141254
llpta	-.73.88176	18.4643	-4.00	0.000	-.110.0711	-.37.6924
tlta	1.540755	.6860045	2.25	0.025	.196211	2.885299
blr	-.5030674	.1706679	-2.95	0.003	-.8375703	-.1685645
cpi	-.1331331	.0625315	-2.13	0.033	-.2556926	-.0105736
gdp	.0934909	.0325405	2.87	0.004	.0297127	.1572692
emmpa	-2.609972	1.191444	-2.19	0.028	-4.945159	-.2747847
_cons	9.206496	2.174576	4.23	0.000	4.944405	13.46859
sigma_u	.20488516					
sigma_e	.70963999					
rho	.0769437	(fraction of variance due to u_i)				