DO INCOME SMOOTHING, CAPITAL MANAGEMENT, SIGNALING AND PRO-CYCLICALITY EXIST THROUGH LOAN LOSS PROVISIONS?

EVIDENCE FROM MALAYSIAN COMMERCIAL BANKS

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By

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Abstrak (BAHASA MALAYSIA)

Peruntukan untuk kerugian pinjaman adalah perbelanjaan akruan utama dicaj kepada penyata pendapatan bank untuk menyerap kerugian pinjaman yang timbul daripada pinjaman tidak berbayar. Tujuan utama disertasi ini adalah untuk mengkaji sama ada bank-bank perdagangan Malaysia menggunakan peruntukan kerugian pinjaman sebagai alat dalam pelicinan pendapatan, pengurusan modal, dan isyarat. Disertasi ini juga cuba mengkaji sama ada wujud pro-kitaran melalui peruntukan kerugian pinjaman di Malaysia. Merangkumi tempoh 2002-2012, keputusan menunjukkan bahawa bank-bank perdagangan di Malaysia melakukan pelicinan pendapatan melalui peruntukan kerugian pinjaman tetapi tidak ada bukti untuk pengurusan modal. Disertasi ini juga mendapati tiada bukti bagi bank perdagangan Malaysia untuk memberi isyarat maklumat peribadi kepada orang luar. Walaupun terdapat pekali negatif antara peruntukan kerugian pinjaman dan KDNK, keputusan menunjukkan bahawa bank-bank perdagangan di Malaysia tidak terlibat dalam tingkah laku pro-kitaran melalui peruntukan kerugian pinjaman. Keputusan juga menunjukkan bahawa krisis kewangan global pada tahun 2008 tidak menjejaskan peruntukan kerugian pinjaman bank perdagangan Malaysia.

Abstract (ENGLISH)

Loan loss provisions are the main accrual expenses charged to bank income statement to absorb loan losses arising from loans default. The main purpose of this dissertation is to examine whether Malaysia commercial banks use loan loss provisions as a tool in income smoothing, capital management, and signaling. This dissertation also examines whether pro-cyclicality exists through loan loss provisions in Malaysia. Covering period from 2002 to 2012, the results indicate that Malaysian commercial banks do smooth income through loan loss provisions but no evidence for capital management. This dissertation also finds no evidence for Malaysia commercial banks to signal private information to outsiders. Although there is a negative coefficient between loan loss provisions and GDP, the results demonstrate that Malaysian commercial banks do not involve in pro-cyclical behavior through loan loss provisions. The results also show that the global financial crisis in 2008 does not affect loan loss provisions of Malaysian commercial banks.

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LIST OF ABBREVIATIONS

BNM	Bank Negara Malaysia
CAP	Capital
CHEBTP	One year ahead change in earnings before taxes and provisions
CHLOAN	Change in total loans outstanding of bank
DCRISIS	Dummy for Crisis
EBTP	Earnings before taxes and provisions
GDP	Growth Domestic Product
LLA	Loan loss allowance
LLP	Loan loss provisions
MARC	Malaysian Rating Corporation Berhad
NPL	Non-performing loans
OLS	Ordinary Least Square
WO	Write-off

CHAPTER 1: INTRODUCTION

1.1 Introduction

Loan and advances are the largest assets of banking institutions where lending is the main activity to generate income. Study by Foos, Norden, & Weber (2010) found that loan growth represent an important driver of the riskiness of banks which the main source of credit risk. There will be probability of default when the borrower unable to make payment to the lender.

Loan is classified as non-performing when the borrower's payment is in arrears. Poor monitoring in loan activities may lead to bank failure. Several banks including developed and developing countries throughout the world experienced severe losses on their credit portfolios. The losses lead to banks failures and to a global fear of a systematic crisis (Boudriga, Taktak, & Jellouli, 2009 and Kauko, 2012).

The depository institutions are permitted to make a reserve for the future losses based on their recent loan loss experience from their flows of incomes. It is called as an allowance for loan losses. Bank should maintain sufficient loan loss allowances to cover expected losses and maintain equity capital to absorb unexpected losses (Benston & Wall, 2005). The deductions of allowance for loan losses will appear on the bank's income and expenses statement as non-cash expense item called provision for loan losses.

Provision for loan losses is another expense item that bank and selected financial institutions may deduct from its current income. The loan loss provision is the main accrual expenses for banks (Curcio & Hasan, 2013 and Rose & Hudgins, 2013).

The contents of the thesis is for internal user only

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APPENDIX

Appendix

Descriptive statistics

stats	llp	lla	ebtp	chebtp	chloan	wo	cap	npl	gdp	dcrisis
mean	.002626	.0147385	.0131186	.0010999	.0356762	.0037788	.0566611	3.713026	5.154545	.0787879
sd	.0020433	.0076035	.0040101	.0033682	.0382134	.0038215	.018741	3.859967	2.234075	.2702275
min	0	.0007413	-.0024912	-.0201561	-.1359806	0	.0235348	.14	-1.51	0
max	.0131999	.0476902	.0268944	.0132427	.2326637	.0238467	.1378607	21.25	7.43	1

Correlation matrix

	llp	lla	ebtp	chebtp	chloan	wo	cap	npl	gdp	dcrisis
llp	1.0000									
lla	0.5118	1.0000								
ebtp	0.2163	-0.0616	1.0000							
chebtp	-0.0035	-0.0947	0.5096	1.0000						
chloan	-0.0707	-0.0380	0.0188	0.0880	1.0000					
wo	0.4032	0.5261	-0.1658	-0.0625	-0.0925	1.0000				
cap	0.0269	0.1183	-0.1033	-0.0013	-0.0014	-0.0204	1.0000			
npl	0.3645	0.6011	-0.3581	-0.2866	-0.2130	0.4849	0.0380	1.0000		
gdp	-0.0680	0.0667	-0.0024	0.1647	0.1232	0.0149	-0.0235	0.1294	1.0000	
dcrisis	-0.0375	-0.0582	0.0886	0.0839	0.0694	0.0644	-0.0297	-0.1518	-0.0266	1.0000

Multicollinearity test

Variable	VIF	1/VIF
npl	2.18	0.458529
lla	1.94	0.514174
ebtp	1.57	0.637266
wo	1.52	0.656740
chebtp	1.47	0.680175
gdp	1.10	0.907370
chloan	1.10	0.907418
cap	1.05	0.952543
Mean VIF	1.49	

OLS without dcrisis

Source	SS	df	MS	Number of obs =	136
				F(8, 127) =	10.81
Model	.000194453	8	.000024307	Prob > F =	0.0000
Residual	.000285688	127	2.2495e-06	R-squared =	0.4050
				Adj R-squared =	0.3675
Total	.000480141	135	3.5566e-06	Root MSE =	.0015

llp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lla	.0826102	.0272405	3.03	0.003	.0287061	.1365143
ebtp	.1813156	.0395209	4.59	0.000	.1031109	.2595202
chebtp	-.0465994	.0463116	-1.01	0.316	-.1382417	.0450429
chloan	.0010904	.0038471	0.28	0.777	-.0065224	.0087032
wo	.1047246	.0429544	2.44	0.016	.0197256	.1897237
cap	.0027722	.0073632	0.38	0.707	-.0117983	.0173426
npl	.0001205	.0000542	2.22	0.028	.0000133	.0002277
gdp	-.0000828	.0000558	-1.48	0.140	-.0001932	.0000276
_cons	-.0015961	.0007967	-2.00	0.047	-.0031726	-.0000196

OLS with dcrisis

Source	SS	df	MS	Number of obs =	136
				F(9, 126) =	9.57
Model	.000194944	9	.00002166	Prob > F =	0.0000
Residual	.000285197	126	2.2635e-06	R-squared =	0.4060
				Adj R-squared =	0.3636
Total	.000480141	135	3.5566e-06	Root MSE =	.0015

llp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lla	.0823037	.0273328	3.01	0.003	.0282128	.1363945
ebtp	.1818979	.039663	4.59	0.000	.103406	.2603897
chebtp	-.0463189	.0464589	-1.00	0.321	-.1382598	.045622
chloan	.0011668	.0038625	0.30	0.763	-.0064771	.0088106
wo	.1078434	.0436046	2.47	0.015	.0215512	.1941356
cap	.0027348	.0073864	0.37	0.712	-.0118828	.0173523
npl	.0001171	.0000549	2.13	0.035	8.54e-06	.0002256
gdp	-.000083	.000056	-1.48	0.140	-.0001938	.0000277
dcrisis	-.0002099	.0004505	-0.47	0.642	-.0011015	.0006818
_cons	-.0015788	.0008	-1.97	0.051	-.0031621	4.38e-06

Fixed Effect test without dcrisis

```
Fixed-effects (within) regression               Number of obs      =       136
Group variable: bank                            Number of groups   =        15

R-sq:  within  = 0.3078                         Obs per group: min =         5
       between = 0.5697                                        avg =       9.1
       overall = 0.3910                                        max =        10

                                                F(8,113)           =      6.28
corr(u_i, Xb)  = -0.0231                        Prob > F           =    0.0000
```

llp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lla	.0831967	.0366899	2.27	0.025	.0105074	.155886
ebtp	.209745	.0556349	3.77	0.000	.0995223	.3199677
chebtp	-.043459	.0479845	-0.91	0.367	-.138525	.0516069
chloan	-.0006093	.0044225	-0.14	0.891	-.0093711	.0081526
wo	.0542268	.0484619	1.12	0.266	-.041785	.1502385
cap	-.0007185	.0137418	-0.05	0.958	-.0279436	.0265066
npl	.0001421	.0000632	2.25	0.027	.0000168	.0002673
gdp	-.0000879	.0000551	-1.60	0.113	-.0001971	.0000213
_cons	-.0015851	.0010637	-1.49	0.139	-.0036926	.0005223
sigma_u	.00064853					
sigma_e	.00145795					
rho	.16518432	(fraction of variance due to u_i)				

F test that all u_i=0: F(14, 113) = 1.53 Prob > F = 0.1120

Fixed Effect test with dcrisis

```
Fixed-effects (within) regression               Number of obs      =       136
Group variable: bank                            Number of groups   =        15

R-sq:  within  = 0.3098                         Obs per group: min =         5
       between = 0.5586                                        avg =       9.1
       overall = 0.3898                                        max =        10

                                                F(9,112)           =      5.59
corr(u_i, Xb)  = -0.0416                        Prob > F           =    0.0000
```

llp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lla	.0840613	.0368296	2.28	0.024	.0110882	.1570344
ebtp	.2141949	.0563333	3.80	0.000	.1025776	.3258121
chebtp	-.0446174	.0481692	-0.93	0.356	-.1400585	.0508237
chloan	-.0003978	.0044509	-0.09	0.929	-.0092166	.0084211
wo	.0571637	.0488731	1.17	0.245	-.039672	.1539995
cap	-.0021875	.014017	-0.16	0.876	-.0299605	.0255854
npl	.000136	.0000643	2.12	0.036	8.72e-06	.0002634
gdp	-.0000876	.0000553	-1.58	0.116	-.0001971	.0000219
dcrisis	-.0002616	.0004545	-0.58	0.566	-.001162	.0006389
_cons	-.0015465	.001069	-1.45	0.151	-.0036646	.0005716
sigma_u	.0006591					
sigma_e	.00146229					
rho	.16885523	(fraction of variance due to u_i)				

F test that all u_i=0: F(14, 112) = 1.53 Prob > F = 0.1127

--more--