

**DO INCOME SMOOTHING, CAPITAL MANAGEMENT,  
SIGNALING AND PRO-CYCLICALITY EXIST THROUGH  
LOAN LOSS PROVISIONS?  
EVIDENCE FROM MALAYSIAN COMMERCIAL BANKS**

**NOOR SHAHIEDA BINTI MOHD HISHAMUDDIN**

**MASTER OF SCIENCE IN BANKING  
UNIVERSITI UTARA MALAYSIA**

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EVIDENCE FROM MALAYSIAN COMMERCIAL BANKS**

**By**

**NOOR SHAHIEDA BINTI MOHD HISHAMUDDIN**

**Thesis Submitted to**

**Othman Yeop Abdullah Graduate School of Business,**

**Universiti Utara Malaysia,**

**in Partial Fulfillment of the Requirement for the Master of Sciences  
(Banking)**

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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**

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

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# **APPENDIX**

## Appendix

### Descriptive statistics

stats	llp	lla	ebtp	chebtp	chloan	wo	cap	np1	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	np1	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			
np1	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
np1	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			
Model	.000194453	8	.000024307	Number of obs =	136	
Residual	.000285688	127	2.2495e-06	F( 8, 127) =	10.81	
				Prob > F =	0.0000	
				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]	
llp	.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
np1	.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			
Model	.000194944	9	.00002166	Number of obs =	136	
Residual	.000285197	126	2.2635e-06	F( 9, 126) =	9.57	
				Prob > F =	0.0000	
				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]	
llp	.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
np1	.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  
 Group variable: **bank**

Number of obs = 136  
 Number of groups = 15

R-sq: within = 0.3078  
 between = 0.5697  
 overall = 0.3910

Obs per group: min = 5  
 avg = 9.1  
 max = 10

corr(u\_i, xb) = -0.0231

F(8, 113) = 6.28  
 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
np1	.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  
 Group variable: **bank**

Number of obs = 136  
 Number of groups = 15

R-sq: within = 0.3098  
 between = 0.5586  
 overall = 0.3898

Obs per group: min = 5  
 avg = 9.1  
 max = 10

corr(u\_i, xb) = -0.0416

F(9, 112) = 5.59  
 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
np1	.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