DEPOSITOR SENSITIVITY TO RISK OF ISLAMIC AND CONVENTIONAL BANKS: EVIDENCE FROM INDONESIA

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ABSTRACT

Islamic banks operate without involving interest, and therefore are believed to be less risky during financial crises than conventional banks. This advantage may not be significant if the government either partially or fully guarantees bank deposits. In the presence of deposit insurance the public can be indifferent to risk of both Islamic and conventional banks. However, insufficient studies have examined the issue of deposit insurance impact on depositor behavior and market discipline. This research conducts empirical tests on whether the risk of Islamic and conventional banks influence depositors in Indonesia, during two periods using cross-sectional analysis. This research also investigates the behavior of Indonesian depositors towards risk of both bank types during the US crisis through panel data analysis. Data from all insured domestic banks in Indonesia, from January 2002 to December 2009 are examined.

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KEYWORDS: Bank Risk, Deposit Insurance, Market Discipline, Islamic Bank

INTRODUCTION

Deposit insurance may be useful in preventing bank runs (Diamond & Dybvig, 1983) and improving risk sharing (Niinimaki, 2004). However, Merton (1977) argues that deposit insurance may also encourage banks to be more risk takers. Some scholars like England (1991) further explain that the presence of high deposit insurance ceilings have made depositors almost insensitive to bank risk. Depositors are argued to be indifferent to bank's fundamentals and the associated potential risk to their deposits. They trust their government to ensure the safety of their deposits (Demirguc-Kunt, 1998a, 1998b, and 2000a). This depositors' insensitivity worsened the moral hazard consequences of deposit insurance, inducing banks to engage in high-risk activities, which in turn boosted their default rate (Grossman, 1992, Wheelok, 1992, Thies & Gerlowski, 1989, and Demirguc-Kunt & Detragiache, 2002).

Studies on banking crises have proposed solutions that might be effective in preventing reoccurrence. The capability of non government agents to control bank risk-taking, i.e. market discipline, has increasingly attracted both policy-makers and economists. Market discipline works through a mechanism, in which depositors, bond-holders, and shareholders punish risky banks by using their market power. Depositors withdraw their deposits from, or require high deposit interest from risky banks (Hosono, 2005). In some market economies, traditional government regulation and supervision have not functioned as effectively as expected. Banking activities have become increasingly complex as a result of tougher competition and advanced customer preferences. At the same time, the market's role in stimulating appropriate banks' risk taking behavior becomes more and more significant. This fact has partly accounted for the growing policy-makers emphasis on market discipline (See, e.g., Calomiris, 1999).

Nevertheless, it is unclear if such market discipline works well in emerging economies. Will depositors be sensitive to bank risk in developing countries deposits are insured by the government or a government-related institution? Another important question is whether depositors are sensitive to the risk of Islamic

Banks that do not involve fixed returns in their operation. In this research, we investigate whether depositors in Indonesia are indifferent to the risk of Islamic banks and conventional banks during the application of the blanket scheme and deposit insurance. We also investigate depositors sensitivity towards risk of both types of bank during the US crisis (2008.10 to 2009.12).

The remainder of the paper is organized as follows. In session 2, we reveal some relevant studies conducted in other economies, and briefly summarize the variables included in the first and second equation, and. In session 3, we explain the division of data and periods of observation, as well as the research methodology. In session 4, we explain the empirical results and findings. We describe the sensitivity of depositors to risk of Islamic banks and conventional banks in several periods of observation. At the end, we conclude with a brief discussion.

LITERATURE REVIEW

A question on whether a deposit insurance scheme could weaken market discipline in an economy has become a crucial issue. Many economies have adopted deposit insurance schemes and many more economies are planning to implement deposit insurance, to prevent bank runs from occurring (Laeven, 2002). There have been many studies proving that the market can control bank risk-taking behavior. The rationale behind the concern might be that deposit insurance to some extent guarantees a return to depositors in case of bank failure. Depositors would therefore be indifferent on whether banks take riskier activities.

Using different measurement approaches, variable derivations, country specifics, and so on, some studies show varied results. Peria, and Schmukler (1999 and 2001), employing data across countries and across deposit insurance schemes, find that deposit insurance does not lessen market discipline, and further suggests that market discipline exists even among small, insured depositors. This conclusion is backed up by Khorassani (2000), who finds that in the 1980s and early 1990s, US depositors remained sensitive to bank risk, despite high deposit insurance caps. Contrarily, using cross-country data, Demirgüç-Kunt and Huizinga (2004) suggest that explicit deposit insurance reduces deposit interest rates and at the same time lowers market discipline on bank risk taking. They find that deposit rates continue to reflect bank riskiness for countries with varying deposit insurance schemes. Peresetsky, Karminsky, and Golovan (2007) find that Russian depositors demand higher deposit interest rates from banks with risky financial policies, and that the risks taken by banks increase after the introduction of deposit insurance in 2005. In Japan, Murata & Hori (2006) prove that depositor sensitivity to bank risks has changed over time.

Advocates for the conclusion that deposit insurance is negatively correlated with market discipline seem to significantly dominate studies, but they provide varied explanations. When relating market discipline to the degree of deposit insurance, Ikuko and Masaru (2007) find that depositor discipline is most significant during periods of full pledge rather than during limited insurance exposure. Deposit withdrawal stimulates bank managers to conduct aggressive restructuring. They further suggest that the magnitude of depositor discipline is influenced by the degree of public confidence in the stability of the financial system and the extent of regulatory forbearance.

In Turkey, Muslumov (2005) investigates the impact of full deposit guarantee introduced in 1994 on market discipline, and finds that the deposit insurance scheme distorts the incentive structure of commercial banks, prevents the proper functioning of the market discipline mechanism and leads to excessive risk-taking. Ioannidou and Dreu (2006) show that deposit insurance causes a significant reduction in market discipline, that the effect of deposit insurance depends on the coverage rate, and that the introduction of deposit insurance affected mainly those who were already active in imposing discipline. Investigating the relationship between deposit insurance and market discipline in financial crisis perspective, Hosono (2005) shows that responsiveness magnitude of deposit interest rates to bank capital was higher before the crisis, probably reflecting the fact that the deposit guarantee was less generous before the crisis than during and after the crisis, He recommends disclosure adequacy and deposit protection limits for market discipline enhancement.

DATA AND METHODOLOGY OF THE STUDY

This study tests the existence of market discipline using reduced-form equations that are developed from prior studies done by Sinkey (1975), Wheelock (1992), Grossman (1992), Wheelock and Kumbhakar (1994), Barr, Seiford, and Siems (1995), Park (1995), Cole and Gunther (1995), Honohan (1997), Khorassani (2000), Antonio Ahumada and Carlos Budnevich (2001), Canbas, Cabuk, and Kilic (2005), and King, Nuxoll, and Yeager (2006). Particularly, in the second stage, this study will regress the total deposit on some factors assessed by depositors before depositing their fund in banks. The regressors of Equation 1 seek to control for the contribution of internal and external contributors to bank risk.

$$\begin{aligned} Fin_{i,t+k} = \gamma_{i,t} &+ \overset{(-)}{\lambda_1 CapAst_{i,t}} + \overset{(+/-)}{\lambda_2 AggAst_{i,t}} + \overset{(+/-)}{\lambda_3 TrAst_{i,t}} + \overset{(+/-)}{\lambda_4 ManAst_{i,t}} + \overset{(+/-)}{\lambda_5 ConsAst_{i,t}} + \overset{(+/-)}{\lambda_6 SecAst_{i,t}} + \\ &\overset{(+/-)}{\lambda_7 PlcBI_{i,t}} + \overset{(+/-)}{\lambda_8 PlcOB_{i,t}} + \overset{(-)}{\lambda_9 InvRev_{i,t}} + \overset{(-)}{\lambda_{10} LogAst_{i,t}} + \overset{(-)}{\lambda_{11} Off_{i,t}} + \overset{(-)}{\lambda_{12} Bank_{i,t}} + \overset{(+/-)}{\lambda_{13} Charter_{i,t}} + \\ &\overset{(+/-)}{\lambda_{14} Perinc_{i,t}} + \overset{(+/-)}{\lambda_{15} Unem_{i,t}} + \overset{(-)}{\lambda_{16} Age_{i,t}} + \overset{(-)}{\lambda_{17} IncAst_{i,t}} + \overset{(-)}{\lambda_{18} LiqAst_{i,t}} + \overset{(+/-\_}{\lambda_{19} DepAst_{i,t}} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Where:

Fin	= A binary variable set equal to 0 for a bank being financed using one of the Bank Indonesia's financial aid scheme and 1 for otherwise
Cap/Asset	= Capital asset ratio of each bank
Agg/Ast	= The ratio of total agricultural PLS Investments of each bank to its total assets
Tra/Ast	= The ratio of total Trading PLS Investment of each bank to its total assets
Man/Ast	= The ratio of total Manufacturing PLS Investment of each bank to its total assets
Cons/Ast	= The ratio of total Construction PLS Investment of each bank to its total assets
Sec/Ast	= The ratio of total security investments of each bank to its total assets.
PlcBI/Ast	= The ratio of total placement in the Indonesian Central Bank of each bank to its total assets.
PlcOB/Ast	= The ratio of total placement in other banks of each bank to its total assets.
Inv/Rev	= The ratio of total PLS Investment revenue of each bank to its total revenue.
Logast	= The natural log of total assets of each bank divided by 100
Office	= A variable which is set equal to 1/1000 for banks with one office and equal to number of service offices divided by 1000 for banks with multiple offices.
Bank	= The ratio of the number of banks to total population in an area, multiplied by 1,000. (An area is defined as metropolitan city, if available, or a state otherwise).
Charter	= A binary variable set equal to 0 for national banks and 1 for state banks.
Perinc	= Percentage change of real personal income, in an area. (An area is defined as metropolitan city, if available, or a state otherwise).
Unem	= Change of unemployment rate, in an area. (An area is defined as metropolitan city, if available, or a state otherwise).
Age	= Age of the bank in months, divided by 1,000.
Inc/Ast	= The ratio of total net income of each bank to its total assets.
Liq/Ast	= The ratio of total liquid assets of each bank to its total assets
Dep/Ast	= The ratio of total deposits of each bank to its total assets.
Note:	Investment is a terminology used in Islamic Bank for interest-bearing loan in Conventional Bank.

It is assumed that the impact of the bank's internal and external factors included in Equation 1 on bank risk can be seen in *t+12*. This implies that depositors, who are considering depositing their money in a bank, could use the estimated coefficients obtained from Equation 1 to predict the probability of bank intervention by the central bank for periods *t+12, t+13,* or *t+14.* This probability is obtained by multiplying the regression coefficients of Equation 1 by the values from *t+12.* In the next stage, a cross-sectional data set on variable *Risk* is constructed in every month during the periods of 2003.1-2005.8 (Blanket System Application), 2006.9-2009.12 (Deposit Insurance Application), and 2008.10-2009.12 (USA crisis impact). We obtain the data from the Bank Indonesia and National Beaureau of Statistics.
Variable *Risk* in Equation 2 reflects the sensitivity of depositors to bank risk. Below is the detail of Equation 2.

$$Ldp_{i,n} = \phi_{i,n} + \phi_1 \overset{(-)}{Risk}_{i,n} + \phi_2 \overset{(+)}{Meanrisk}_{i,n} + \phi_3 \overset{(+)}{Lincprbk}_{i,n} + \phi_4 \overset{(+)}{Rdp}_{i,n} + \phi_5 \overset{(-)}{Meanrdp}_{i,n} + \phi_6 \overset{(+)}{Lnum}_{i,n} + \phi_7 \overset{(+)}{Lage}_{i,n} + \mathrm{E}_{i,n} \quad (2)$$

Ldp	Natural log of amount fund deposited in a bank *i* in period *n* (*n* equal to *t+12*)
Risk	Predicted risk of bank *i* in period *n*, derived from Equation 1.
Meanrisk	Average predicted risk across all banks in the area in the beginning of period *n*, where area is defined as metropolitan statistical area, if available, state otherwise.
Lincprbk	Natural log of the ratio of area personal income to the number of commercial banks in the area in period *n,* where area is defined as metropolitan statistical area, if available, state otherwise.
Rdp	Return rate on bank deposits in period *n,* defined as the ratio of total interest on CDs of IDR 100,000,000 or more to the quarterly average of CDs in denominations of IDR 100,000,000 or more.
Meanrdp	Average return (interest) rate paid by all banks in the area in period *n,* where area is defined as metropolitan statistical area, if available, state otherwise.
Lnum	Natural log of number of offices in period *n*. That is, the number of service office is set equal to 1 if bank *i* has no service office, 2 if bank *i* has one service office,... etc.
Lage	Natural log of age of the bank in period *n,* where age is defined as the actual age of the bank plus one.

This study employs financial data from all Indonesia domestic banks in the period of 2002.1 – 2009.12. The number of banks decreased in number, from 145 in January 2002 to 121 in December 2009. We only include banks whose data is consistently available during the observation period. There are 53 banks that meet this criterion, including 51 conventional banks and two Islamic banks. Since Islamic banks use profit-loss sharing (PLS) income/payment, instead of interest income/expense, some terminologies on their financial reports are different from those on conventional bank reports. However, the respective functions of the terminologies are similar, so that we can equivalently calculate all the variables in both banking systems. All the above data is obtained from the Bank of Indonesia and the National Beaureau of Statistics.

In the first stage of the statistical measurement, i.e. empirical measurement of the sensitivity of depositors to bank risk, bank risk needs to be defined, before the regression is run. Khorassani (2000) states that most studies assessing bank failure use official definitions and/or economic definitions of a failed bank. For the purpose of this study, the official definition of a failed bank in Indonesia may not be appropriate, since it is biased in reflecting the probability of depositors losing their money. Indonesian banking regulators have been proven inconsistent in determining whether a bank should be bailed out or closed. For instance, in November 2008, the authorities lowered minimum capital adequacy ratio (CAR) requirements from 8% to 0%, to help a small bank survive, while a year earlier a slightly bigger bank was closed under the minimum CAR requirement of 8%. In this study we define a bank as at risk if the bank receives one of three central bank's financial assistance schemes, i.e., Intraday Liquidity Fund (locally known as FPI), Short-term Fund (FPJP), and Emergency Fund (FPD).

In the first equation, we conduct a regression of some variables on the binary figure (0 or 1) that reflects the financial assistance. The variables include ratio of capital to total asset (*Capast*), ratios of loan (or PLS investment) in agriculture (*Aggast*), trading (*Tradast*), manufacture (*Manast*), and construction to total asset (*Consast*), ratio of security to total asset (*Secast*), placement in Bank Indonesia *(Plcbi)*, placement in other domestic banks *(Plcob),* the ratio of total loan/PLS Investment revenue of each bank to its total revenue (*Invrev*), natural log of total asset (*Logast*), age of bank (*Age*), number of bank office (*Off*), income per capita (*Perinc*), unemployment rate (*Unem*), the ratio of the number of banks to total population in an area (*Bank*), charter of a bank *(Char)*, ratio of deposit to total asset (*Depast*), ratio of net income to total asset (*Incast*), and ratio of liquid asset to total asset (*Liqast*). From the first equation regression, we obtain values of *Risk* (predicted risk) that are then included in the second equation regression. In the second stage, we regress the predicted risk, natural log of the ratio of national income per capita to the number of banks nationwide (*Lincprbk*), return rate on bank deposits (*Rdp*), natural log of the number of bank offices (*Lnum*), natural log of age of the bank (*Lage*), on the natural log of total bank deposit (*Ldp*), to assess the depositor sensitivity.

We conduct the above process using data from conventional banks only and data of both Islamic and conventional banks. By doing this, we expect to see the difference between depositor sensitivity to risk of Islamic banks to conventional banks. However, since there only two Islamic banks whose data are available consistently during the observed periods, the statistical analysis on sensitivity of depositors to the risk of Islamic Banks is different from the way we handle data on conventional banks. We conduct a rolling regression to the Islamic banks data in both observation periods, for the first equation. The variable *Risk*, which is the probability of the bank being financed by Bank Indonesia, is obtained by multiplying the regression coefficients by the latest available values of the right hand side variables—namely values from *t+12.* The series of *Risk* values along with other independent variables in Equation 2 are then regressed to the dependent variable, i.e., the natural log of total bank deposit (*Ldp*). The results of Equation 2 using data of Islamic Banks and using data of conventional banks are analyzed differently. The former results in one multiple regression equation, while the latter end up with series of multiple regression equations.

EMPIRICAL RESULTS AND FINDINGS

Table 1 shows the full description of the included 44 rolling regressions and the estimated coefficients of the probit model for the periods of 2002.1 through 2005.8. In general, the probit equations indicate good result across the rolling periods, which are well reflected by the average Pseudo R-square ranging from 0.353 - 0.594. Moreover, most of the resulting coefficient signs are in line with the theory. It can be seen that five independent variables have a significant contribution to the probability of banks being assisted by the central bank to survive in at least one-third of the observed rolling periods. The five independent variables include *capast, off, perinc, unem*, and *liqast*. Ratio of Capital to asset, number of bank service office, personal income, and ratio of liquid asset to total asset negatively influence the Islamic bank risk. This suggests that in that post crisis period, adequacy of capital, bank service convenience, and sufficiency of liquid asset are crucial in reducing bank risk. In addition, to the extent that economic recovery leads to higher personal real income and more opportunity for individuals to deposit their money in a bank, higher real personal income reduces the Islamic bank risk in this period.

Meanwhile, as expected, change in the unemployment rate positively influences the probability of bank failure. Positive changes in the unemployment rate may reflect a less conducive business environment, which puts more pressure on the operations of Islamic banks.

Table 1: Description of Probit Model Estimates Using 44 Rolling Periods for Islamic Banks, Periods of 2002.1 – 2004.8 (Blanket Scheme Application)

Independent Variable	**Number of Rolling Periods in Which the Variable Is Included**	**Number of Rolling Periods with Negative but Insignificant Coefficient (Prob >0.05)**		**Number of Rolling Periods with Negative and Significant Coefficient (Prob <0.05)****		**Number of Rolling Periods with Positive but Insignificant Coefficient (Prob >0.05)**		**Number of Rolling Periods with Positive and Significant Coefficient (Prob <0.05)****	
		No	Prop	No	Prop	No	Prop	No	Prop
C	44	6	0.13	5	0.11	25	0.56	9	0.20
CAPAST	44	5	0.10	38	0.85	1	0.02	1	0.02
AGGAST	44	8	0.19	2	0.05	22	0.49	12	0.27
TRAST	44	26	0.58	0	0.00	13	0.30	5	0.11
MANAST	44	23	0.53	12	0.27	8	0.19	0	0.01
CONSAST	44	10	0.23	0	0.00	21	0.48	13	0.29
SECAST	44	8	0.18	0	0.00	27	0.60	10	0.22
PLCBI	44	20	0.46	10	0.22	12	0.28	2	0.05
PLCOB	44	22	0.50	11	0.25	4	0.08	7	0.17
INVREV	44	19	0.44	10	0.23	12	0.27	3	0.06
LOGAST	44	24	0.54	12	0.27	8	0.19	0	0.00
OFF	44	10	0.23	15	0.34	19	0.43	0	0.00
BANK	44	28	0.63	10	0.22	6	0.14	1	0.02
CHAR	44	0	0.00	0	0.00	44	1.00	0	0.00
PERINC	44	28	0.65	16	0.35	0	0.00	0	0.00
UNEM	44	0	0.00	0	0.00	29	0.66	15	0.34
AGE	44	12	0.27	6	0.14	26	0.59	0	0.00
INCAST	44	20	0.46	8	0.19	11	0.26	4	0.09
LIQAST	44	8	0.19	17	0.38	18	0.41	1	0.03
DEPAST	44	32	0.73	6	0.14	6	0.14	0	0.00
Pseudo R-square (Average)			0.463		Pseudo R-square (Range)			0.353 - 0.594	

*Source: processed data ** significant at the 5 percent level This table shows the regression results of the Equation 1:*

$$Fin_{i,t+k} = \gamma_{i,t} + \lambda_1 \overset{(-)}{CapAst_{i,t}} + \lambda_2 \overset{(+/-)}{AggAst_{i,t}} + \lambda_3 \overset{(+/-)}{TrAst_{i,t}} + \lambda_4 \overset{(+/-)}{ManAst_{i,t}} + \lambda_5 \overset{(+/-)}{ConsAst_{i,t}} + \lambda_6 \overset{(+/-)}{SecAst_{i,t}} + \lambda_7 \overset{(+/-)}{PlcBI_{i,t}} + \lambda_8 \overset{(+/-)}{PlcOB_{i,t}} + \lambda_9 \overset{(-)}{InvRev_{i,t}} + \lambda_{10} \overset{(-)}{LogAst_{i,t}} + \lambda_{11} \overset{(-)}{Off_{i,t}} +$$
$$\lambda_{12} \overset{(-)}{Bank_{i,t}} + \lambda_{13} \overset{(+/-)}{Charter_{i,t}} + \lambda_{14} \overset{(+/-)}{Perinc_{i,t}} + \lambda_{15} \overset{(+/-)}{Unem_{i,t}} + \lambda_{16} \overset{(-)}{Age_{i,t}} + \lambda_{17} \overset{(-)}{IncAst_{i,t}} + \lambda_{18} \overset{(-)}{LiqAst_{i,t}} + \lambda_{19} \overset{(+/-\_}{DepAst_{i,t}} + \varepsilon_{i,t}$$

*There are 44 regressions (rolling periods), involving 32 months-data per regression from 2 Islamic banks. Columns 3 and 5 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 7 and 9 show number of periods in which the associated variables are not significantly and significantly negative, consecutively. Columns 4, 6, 8, and 10 show the proportions of the associated non significant negative, significant negative, non significant positive, and significant positive variables, respectively. ** indicates significance at the 5 percent level.*

Table 2 reveals the results of Equation 2 Regressions for Islamic Banks during the Blanket Scheme application. The regression should exclude variable *lage* as it is highly correlated with *lincprbk*. The respective SIC values of both regression equations without *lincprbk* and without *lage* are compared to select the model. Models with the higher absolute value of SIC is chosen. This model has passed the classical assumption tests, i.e. Normality, Autocorrelation, Heterocedasticity, and Multicolinearity. The model is significant at levels of 5% or better. The adjusted R-square value reveals that the six independent variables explain 55.9% of the dependent variable change. The table shows that only *meanrisk* and *lnum* coefficients are significant at the 5% level. Both have a positive influence on quantity of deposits in Islamic banks. This suggests that Islamic bank depositors are indifferent to Islamic bank risk when any level of deposit was guaranteed by the government. Risk of other banks in the Islamic bank geographic area and accessibility of Islamic bank services helped the increase deposits in Islamic banks.

Table 3 shows the results of rolling regressions and the estimated coefficients of the probit model for the periods of 2005.9 through 2009.12. The obtained probit equations indicate good result across the rolling periods, as indicated by the average Pseudo R-square ranging from 0.355 - 0.590. The majority of the coefficient signs are consistent with the theory. The independent variables of *capast, off, perinc, unem*,

Table 2: Equation 2 Model for Islamic Banks Periods of 2003.1 – 2005.8 (Blanket Scheme Application)

Variable	Coefficient	t-Statistic	
C	***5.1785	17.629	Dependent Variable: LDP
RDP	-10.162	-1.343	Number of observations: 44
MEANRDP	0.0002	1.099	
DRISK	-0.0032	-0.613	
EMEANRISK	***0.0422	5.418	
LINCPRBK	-0.0488	-0.841	
LNUM	***0.6372	3.065	
R-squared	0.6205		*** significant at 1% level
Adjusted R-squared	0.5589		** significant at 5% level
SIC	-16.250		* significant at 10% level

Source: processed data This table shows the regression results of the Equation 2:

$$Ldp_{i,n} = \varphi_{i,n} + \varphi_1 \overset{(-)}{Risk}_{i,n} + \varphi_2 \overset{(+)}{Meanrisk}_{i,n} + \varphi_3 \overset{(+)}{Lincprbk}_{i,n} +$$
$$\varphi_4 \overset{(+)}{Rdp}_{i,n} + \varphi_5 \overset{(-)}{Meanrdp}_{i,n} + \varphi_6 \overset{(+)}{Lnum}_{i,n} + \varphi_7 \overset{(+)}{Lage}_{i,n} + \mathrm{E}_{i,n}$$

*There are 44 regressions, involving 32 month-data per regression from 2 Islamic banks. Columns 1, 2 and 3 show the regressors, their coefficients and the associated t-statistics.The adjusted R-square figure indicates the determination degree of the independent variables toward the dependent variable. Meanwhile, SIC figures are used for model selection, in which a higher absolute value of SIC indicates the betterness of the chosen model. *, ** and ** indicate significance at the 10, 5 and 1 percent levels, respectively.*

and *liqast* have a significant contribution to the probability of banks being financed by the central bank to survive for at least one-third of the observed rolling periods under the deposit insurance establishment. This result imply that regardless of the deposit guarantee system, ratio of Capital to asset, number of bank service office, personal income, and ratio of liquid asset to total asset negatively influence Islamic bank risk, and change in unemployment rate positively influences probability of bank failure.

Table 4 shows the results of the Equation 2 regression for Islamic Banks during the deposit insurance application. The regression should exclude variable *lincprbk* as it is highly correlated with *lage*. Regression model excluding *lincprbk* is chosen for its higher absolute SIC value. This model has passed the classical assumption tests, i.e. Normality, Autocorrelation, Heterocedasticity, and Multicolinearity. The model is significant at significance level of 5% or better. The adjusted R-square value reveals that six independent variables explain 94.7% of the change in the dependent variable. Coefficients of *meanrisk, lage,* and *lage(-1)* are significant at 5% level. The variable *lage(-1)* is included to overcome heterocedasticity problem. This result suggests that depositors considered risk of other banks in the area and the age of the observed Islamic bank in their deposit decision, when deposits were insured at a certain level.

In Table 5 the estimated coefficients of the probit model for the periods of 2002.1 through 2004.8 are presented. The probit equations indicate good result across the rolling periods, which are well reflected by the average Pseudo R-square ranging from 0.349 - 0.593. More than 60% of the resulting coefficient signs are consistent with the theory. Most of the independent variables have a significant contribution to the probability of banks being financed by the central bank to survive in at least one-third of the observed rolling periods. The results show that only *char* and *liqast* are significant in more than one-third of the total observed months, implying that regulation on a conventional bank's operational coverage and sufficiency of liquid asset are more crucial in determining risk of a conventional bank during the application of full deposit guarantee (blanket scheme)

Table 6 shows the results of cross-sectional multiple regressions from Equation 2. From the 32 regressions, only *rdp, meanrisk* and *lnum* are significant in more than one-third of the observed periods. This implies that when deposits are fully insured, depositors considered the interest rate offered by a conventional bank and risk of other banks in the area, and bank accessibility in their deposit decision.

Table 3: Probit Model Estimates Using 52 Rolling Periods for Islamic Banks, 2005.9 – 2008.12 (Deposit Insurance Application)

Independent Variable	**Number of Rolling Periods In Which The Variable Is Included**	**Number of Rolling Periods with Negative But Insignificant Coefficient (Prob >0.05)**		**Number of Rolling Periods with Negative And Significant Coefficient (Prob <0.05)****		**Number of Rolling Periods with Positive But Insignificant Coefficient (Prob >0.05)**		**Number of Rolling Periods with Positive And Significant Coefficient (Prob<0.05)****	
		No	Prop	No	Prop	No	Prop	No	Prop
C	52	7	0.13	6	0.11	29	0.56	10	0.20
CAPAST	52	2	0.04	49	0.94	1	0.02	0	0.00
AGGAST	52	10	0.19	3	0.05	25	0.49	14	0.27
TRAST	52	30	0.58	0	0.00	16	0.30	6	0.11
MANAST	52	28	0.53	14	0.27	10	0.19	1	0.01
CONSAST	52	12	0.23	0	0.00	25	0.48	15	0.29
SECAST	52	9	0.18	0	0.00	31	0.60	11	0.22
PLCBI	52	26	0.50	11	0.22	12	0.23	3	0.05
PLCOB	52	26	0.50	13	0.25	4	0.08	9	0.17
INVREV	52	23	0.44	12	0.23	14	0.27	3	0.06
LOGAST	52	25	0.48	17	0.33	10	0.19	0	0.00
OFF	52	13	0.25	17	0.33	22	0.43	0	0.00
BANK	52	33	0.63	11	0.22	7	0.14	1	0.02
CHAR	52	0	0.00	0	0.00	52	1.00	0	0.00
PERINC	52	34	0.65	18	0.35	0	0.00	0	0.00
UNEM	52	0	0.00	0	0.00	34	0.66	18	0.34
AGE	52	14	0.27	7	0.14	31	0.59	0	0.00
INCAST	52	24	0.46	10	0.19	14	0.26	5	0.09
LIQAST	52	11	0.21	18	0.35	21	0.41	2	0.03
DEPAST	52	38	0.73	7	0.14	7	0.14	0	0.00
Pseudo R-square (Average)			0.465		Pseudo R-square (Range)				

Source: processed data. This table shows the regression results of the Equation 1:

$$Fin_{i,t+k} = \gamma_{i,t} + \lambda_1 \overset{(-)}{CapAst}_{i,t} + \lambda_2 \overset{(+/-)}{AggAst}_{i,t} + \lambda_3 \overset{(+/-)}{TrAst}_{i,t} + \lambda_4 \overset{(+/-)}{ManAst}_{i,t} + \lambda_5 \overset{(+/-)}{ConsAst}_{i,t} + \lambda_6 \overset{(+/-)}{SecAst}_{i,t} +$$
$$\lambda_7 \overset{(+/-)}{PlcBI}_{i,t} + \lambda_8 \overset{(+/-)}{PlcOB}_{i,t} + \lambda_9 \overset{(-)}{InvRev}_{i,t} + \lambda_{10} \overset{(-)}{LogAst}_{i,t} + \lambda_{11} \overset{(-)}{Off}_{i,t} + \lambda_{12} \overset{(-)}{Bank}_{i,t} + \lambda_{13} \overset{(+/-)}{Charter}_{i,t}$$
$$+ \lambda_{14} \overset{(+/-)}{Perinc}_{i,t} + \lambda_{15} \overset{(+/-)}{Unem}_{i,t} + \lambda_{16} \overset{(-)}{Age}_{i,t} + \lambda_{17} \overset{(-)}{IncAst}_{i,t} + \lambda_{18} \overset{(-)}{LiqAst}_{i,t} + \lambda_{19} \overset{(+/-\_}{DepAst}_{i,t} + \varepsilon_{i,t}$$

*There are 52 regressions (rolling periods), involving 40 months of data per regression from 2 Islamic banks. Columns 3 and 5 show the number of periods in which associated variables are negative, not significantly and significant, respectively. Columns 7 and 9 show the number of periods in which associated variables are not significant and significantly positive, respectively. Columns 4, 6, 8, and 10 show the proportions of associated non significant negative, significant negative, non significant positive, and significant positive variables, respectively. ** indicates significance at the 5 percent level.*

In this full deposit guarantee regime, depositors were indifferent to the calculated risk of a bank, as reflected by the variable *risk*. Rather, they were responsive to the signal of bank risk. The interest rate offered by conventional banks in this period was perceived as a signal of real bank risk. Banks offering higher interest rates were perceived as more in need of quick funds to alleviate liquidity problems, thereby bearing higher risk. Despite the deposits being fully pledged, depositors tried to avoid putting their money in potentially troubled banks. The reason was that the process of withdrawal from a failed bank was time consuming, which was not favorable, to the extent that depositors considered the time value of money.

Table 7 reveals the estimated coefficients of the probit model for the periods of 2002.1 through 2004.8, which indicate good result across the rolling periods. This is supported by the average Pseudo R-square ranging from 0.346 - 0.595. Most of the independent variables have significant contribution to the probability of banks being financed by the central bank to survive, at least in one-third of the observed rolling periods, and are consistent with the theory. The table shows that *capast, plcbi, bank*, *char, age, incast*, and *liqast* are variables that are significant in more than one-third of the total observed months.

Table 4: Equation 2 Model for Islamic Banks, Periods of 2006.9-2009.12 (Deposit Insurance Application)

Variable	Coefficient	t-Statistic	
C	-0.146467	-0.534221	Dependent Variable: LDP
RDP	0.06477	0.268301	Number of observations:51
MEANRDP	4.20E-06	0.135954	
RISK	-0.001466	-0.950932	
MEANRISK	***0.011618	3.576.384	
LNUM	0.06315	1.848.102	
LAGE	***1597365	2.030.157	
LAGE(-1)	***1711191	2.282.084	
R-squared	0.954197		*** significant at 1% level
Adjusted R-squared	0.946741		** significant at 5% level
SIC	-353.995		* significant at 10% level

This table shows the regression results of the Equation 2:

$$Ldp_{i,n} = \varphi_{i,n} + \varphi_1 \overset{(-)}{Risk}_{i,n} + \varphi_2 \overset{(+)}{Meanrisk}_{i,n} + \varphi_3 \overset{(+)}{Lincprbk}_{i,n} + \varphi_4 \overset{(+)}{Rdp}_{i,n} + \varphi_5 \overset{(-)}{Meanrdp}_{i,n} + \varphi_6 \overset{(+)}{Lnum}_{i,n} + \varphi_7 \overset{(+)}{Lage}_{i,n} + \mathrm{E}_{i,n}$$

*There are 51 regressions, involving 40 month-data per regression from 2 Islamic banks. Columns 1, 2 and 3 show the regressors, their coefficients and the associated t-statistics. The SIC figure is used for model selection, in which higher absolute value of SIC indicates the betterness of the chosen model. *, ** and ** indicate significance at the 10, 5 and 1 percent levels, respectively.*

Table 5: Description of Probit Model Estimates for Conventional Banks Periods of 2002.1 – 2004.8 (Blanket Scheme Application)

Independent Variable	**Number of Periods in Which the Variable Is Included**	**Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)**		**Number of Periods With Negative and Significant Coefficient (Prob <0.05)****		**Number of Periods With Positive but Insignificant Coefficient (Prob >0.05)**		**Number of Periods with Positive and Significant Coefficient (Prob <0.05)****	
		No	Prop	No	Prop	No	Prop	No	Prop
C	32	10	0.31	1	0.03	20	0.63	2	0.06
CAPAST	32	17	0.53	10	0.31	5	0.16	1	0.03
AGGAST	32	18	0.56	3	0.09	10	0.31	1	0.03
TRAST	32	18	0.56	1	0.03	8	0.25	6	0.19
MANAST	32	14	0.44	1	0.03	10	0.31	6	0.19
CONSAST	32	6	0.19	0	0.00	22	0.69	4	0.13
SECAST	32	15	0.47	3	0.09	13	0.41	1	0.03
PLCBI	32	14	0.44	8	0.25	10	0.31	0	0.00
PLCOB	32	9	0.28	1	0.03	18	0.56	5	0.16
INVREV	32	8	0.25	0	0.00	19	0.59	4	0.13
LOGAST	32	5	0.16	9	0.28	17	0.53	1	0.03
OFF	32	16	0.50	2	0.06	14	0.44	0	0.00
BANK	32	1	0.03	5	0.16	26	0.81	0	0.00
CHAR	32	14	0.44	12	0.38	6	0.19	0	0.00
PERINC	32	19	0.59	6	0.19	6	0.19	1	0.03
UNEM	32	19	0.59	3	0.09	10	0.31	0	0.00
AGE	32	3	0.09	9	0.28	20	0.63	1	0.03
INCAST	32	6	0.19	9	0.28	17	0.53	0	0.00
LIQAST	32	11	0.34	12	0.38	8	0.25	0	0.00
DEPAST	32	16	0.50	5	0.16	10	0.31	0	0.00
Pseudo R-square (Average)			0.461		Pseudo R-square (Range)			0.349 - 0.593	

Source: processed data.This table shows the regression results of the Equation 1:

$$Fin_{i,t+k} = \gamma_{i,t} + \lambda_1 \overset{(-)}{CapAst}_{i,t} + \lambda_2 \overset{(+/-)}{AggAst}_{i,t} + \lambda_3 \overset{(+/-)}{TrAst}_{i,t} + \lambda_4 \overset{(+/-)}{ManAst}_{i,t} + \lambda_5 \overset{(+/-)}{ConsAst}_{i,t} + \lambda_6 \overset{(+/-)}{SecAst}_{i,t} + \lambda_7 \overset{(+/-)}{PlcBI}_{i,t} + \lambda_8 \overset{(+/-)}{PlcOB}_{i,t} + \lambda_9 \overset{(-)}{Inv\mathrm{Re}v}_{i,t} + \lambda_{10} \overset{(-)}{LogAst}_{i,t} + \lambda_{11} \overset{(-)}{Off}_{i,t} + \lambda_{12} \overset{(-)}{Bank}_{i,t} + \lambda_{13} \overset{(+/-)}{Charter}_{i,t} + \lambda_{14} \overset{(+/-)}{Perinc}_{i,t} + \lambda_{15} \overset{(+/-)}{Unem}_{i,t} + \lambda_{16} \overset{(-)}{Age}_{i,t} + \lambda_{17} \overset{(-)}{IncAst}_{i,t} + \lambda_{18} \overset{(-)}{LiqAst}_{i,t} + \lambda_{19} \overset{(+/-\_}{DepAst}_{i,t} + \varepsilon_{i,t}$$

*There are 32 cross-sectional regressions done on 51 conventional banks. The columns 3 and 5 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. The columns 7 and 9 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. The columns 4, 6, 8, and 10 show the proportions of the associated non significant negative, significant negative, non significant positive, and significant positive variables, respectively.The ** indicates significance at the 5 percent level.*

Table 6: Equation 2 Model for Conventional Banks, 2003.1 – 2005.8 (Blanket System Application)

Independent Variable	**Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)**	**Number of Periods with Negative and Significant Coefficient (Prob <0.05)****	**Number of Periods with Positive but Insignificant Coefficient (Prob >0.05)**	**Number of Periods with Positive and Significant Coefficient (Prob <0.05)****	**Average Value of The Estimated Coefficients Across Periods**
C	0	0	2	30	4.22
RDP	0	29	2	1	-2.36
MEANRDP	4	2	25	1	0.28
RISK	17	3	12	0	0.00
MEANRISK	13	12	4	3	0.00
LINCPRBK	17	2	12	1	-0.83
LNUM	2	0	15	15	2.04
LAGE	8	1	22	1	0.95

Source: processed data. This table shows the regression results of the Equation 2:

$$Ldp_{i,n} = \varphi_{i,n} + \varphi_1 \overset{(-)}{Risk}_{i,n} + \varphi_2 \overset{(+)}{Meanrisk}_{i,n} + \varphi_3 \overset{(+)}{Lincprbk}_{i,n} +$$
$$\varphi_4 \overset{(+)}{Rdp}_{i,n} + \varphi_5 \overset{(-)}{Meanrdp}_{i,n} + \varphi_6 \overset{(+)}{Lnum}_{i,n} + \varphi_7 \overset{(+)}{Lage}_{i,n} + \mathrm{E}_{i,n}$$

*There are 32 cross-sectional regressions done on 51 conventional banks.The ** indicates significance at the 5 percent level. Columns 2 and 3 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 4 and 5 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. Column 6 shows the average vvalue of the estimated coefficients across periods. ** indicates significance at the 5 percent level.*

This suggests that capital adequacy, placement in the central bank, bank competition in an area, bank's operational coverage, management experience, profitability, and sufficiency of liquid asset were more important in determining risk of a conventional bank during the application of deposit insurance. It is interesting that the ratio of number of bank to total population in particular area gave negative impact on bank risk. This might reflect that bank competition in an area forced the banks to conduct more efficient operation, thereby resulting in more profitable and less risky banking.

Table 8 shows the results of cross-sectional multiple regressions from Equation 2 for conventional banks during the Deposit Insurance Application. The result of 52 regressions reveals that variables *rdp, meanrdp, lincprbk* and *lnum* are significant in more than one-third of the observed periods. Surprisingly, both *rd* and *meanrdp* show negative influence on deposits. The interest rate of conventional banks might indicate the real level of risk during the application of deposit insurance. The negative influence of average interest rate in an area of deposits might signal that the observed bank bore the same risk level as other banks in the area. Thus, in this period, depositors tended to observe the risk of each bank through its interest rate offering and avoid putting their money in banks offering high interest rate. On the positive side, an increase in personal real income might lead to more deposits. To analyze the impact of the USA Crisis that was blown up in September 2008, we combined the data of Islamic & Conventional Banks for the period of 2007.10-2008.9. The Equation 1 is employed to estimate variable *Risk* for t+12 (2008.10-2009.12) that is used in the Equation 2. The results can be seen on Table 9 and Table 10.

Table 9 shows the results of 14 probit cross sectional regressions done using data from 51 conventional banks and 2 Islamic banks. The table reveals the estimated coefficients of the probit model for the periods of 2002.1 through 2004.8, which indicate good results across the rolling periods. The Pseudo R-square ranging from 0.352 - 0.603 supports this conclusion. Most independent variables have significant contribution to the probability of intervention by the central bank to survive, in at least one-third of the observed rolling periods, and are consistent with the theory. The table also reveals that *capast, plcbi, off,*

Table 7: Probit Model Estimates for Conventional Banks 2005.9 – 2008.12 (Deposit Insurance Application)

Independent Variable	Number of Periods in Which the Variable Is Included	Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)		Number of Periods with Negative and Significant Coefficient (Prob <0.05)**		Number of Periods with Positive but Insignificant Coefficient (Prob >0.05)		Number of Periods with Positive and Significant Coefficient (Prob <0.05)**	
		No	Prop	No	Prop	No	Prop	No	Prop
C	52	14	0.27	3	0.06	32	0.62	3	0.06
CAPAST	52	17	0.33	26	0.50	5	0.10	4	0.08
AGGAST	52	28	0.54	6	0.12	16	0.31	2	0.04
TRAST	52	28	0.54	1	0.02	13	0.25	9	0.17
MANAST	52	24	0.46	2	0.04	16	0.31	11	0.21
CONSAST	52	9	0.17	0	0.00	36	0.69	7	0.13
SECAST	52	11	0.21	14	0.27	21	0.40	6	0.12
PLCBI	52	14	0.27	22	0.42	15	0.29	1	0.02
PLCOB	52	14	0.27	1	0.02	29	0.56	7	0.13
INVREV	52	14	0.27	0	0.00	32	0.62	7	0.13
LOGAST	52	8	0.15	15	0.29	28	0.54	1	0.02
OFF	52	26	0.50	3	0.06	23	0.44	0	0.00
BANK	52	14	0.27	27	0.52	11	0.21	0	0.00
CHAR	52	12	0.23	28	0.54	11	0.21	1	0.02
PERINC	52	30	0.58	11	0.21	9	0.17	2	0.04
UNEM	52	32	0.62	5	0.10	15	0.29	0	0.00
AGE	52	3	0.06	32	0.62	16	0.31	1	0.02
INCAST	52	9	0.17	26	0.50	16	0.31	1	0.02
LIQAST	52	18	0.35	20	0.38	14	0.27	1	0.02
DEPAST	52	27	0.52	9	0.17	16	0.31	1	0.02
Pseudo R-square (Average)			0.466	Pseudo R-square (Range)				0.346-0.595	

Source: processed data. This table shows the regression results of the Equation 1:

$$Fin_{i,t+k} = \gamma_{i,t} + \lambda_1 \overset{(-)}{CapAst}_{i,t} + \lambda_2 \overset{(+/-)}{AggAst}_{i,t} + \lambda_3 \overset{(+/-)}{TrAst}_{i,t} + \lambda_4 \overset{(+/-)}{ManAst}_{i,t} + \lambda_5 \overset{(+/-)}{ConsAst}_{i,t} + \lambda_6 \overset{(+/-)}{SecAst}_{i,t} + \lambda_7 \overset{(+/-)}{PlcBI}_{i,t} + \lambda_8 \overset{(+/-)}{PlcOB}_{i,t} + \lambda_9 \overset{(-)}{Inv\mathrm{Re}v}_{i,t} + \lambda_{10} \overset{(-)}{LogAst}_{i,t} + \lambda_{11} \overset{(-)}{Off}_{i,t} + \lambda_{12} \overset{(-)}{Bank}_{i,t} + \lambda_{13} \overset{(+/-)}{Charter}_{i,t} + \lambda_{14} \overset{(+/-)}{Perinc}_{i,t} + \lambda_{15} \overset{(+/-)}{Unem}_{i,t} + \lambda_{16} \overset{(-)}{Age}_{i,t} + \lambda_{17} \overset{(-)}{IncAst}_{i,t} + \lambda_{18} \overset{(-)}{LiqAst}_{i,t} + \lambda_{19} \overset{(+/-\_}{DepAst}_{i,t} + \varepsilon_{i,t}$$

*There are 52 cross-sectional regressions on 51 conventional banks.Columns 3 and 5 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 7 and 9 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. Columns 4, 6, 8, and 10 show the proportions of the associated non significant negative, significant negative, non significant positive, and significant positive variables, respectively. **indicates significance at the 5 % level*

bank, *char, age, incast*, and *liqast* are variables that are negatively significant in more than one-third of the total observed months. This suggests that capital adequacy, placement in the central bank, number of service office, bank competition, bank's operational coverage, management experience, profitability, and sufficiency of liquid asset moved in the opposite direction with bank risk during the USA crisis period. This is in line with the theory, except for the variable *bank*. To the extent that bank competition encourages banks to conduct more efficient operations, the more are banks in an area the lower the probability of bank failure.

Indonesian financial authorities tried to minimize the impact of the USA financial crisis on the domestic financial and banking system by raising the ceiling of deposits guaranteed, i.e. from IDR 100 millions to IDR 2,000 millions. It appears this policy has been effective in preventing bank runs. Table 10 shows that from the 14 cross-sectional multiple regressions, *rdp* is significant in more than one-third of the observed periods, and the associated coefficient tends to be negative. This is consistent with the findings of the impact of return rate on quantity of deposits using conventional banks data during both the application of blanket scheme and deposit insurance.

Table 8: Equation 2 Model for Conventional Banks 2005.9-2009.12 (Deposit Insurance Application)

Independent Variable	Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)	Number of Periods with Negative and Significant Coefficient (Prob <0.05)**	Number of Periods with Positive but Insignificant Coefficient (Prob >0.05)	Number of Periods with Positive and Significant Coefficient (Prob <0.05)**	Average Value of the Estimated Coefficients Across Periods
C	1	14	11	26	2.43
RDP	6	39	5	2	-4.11
MEANRDP	7	31	13	1	-0.21
RISK	24	5	20	3	0.00
MEANRISK	16	12	14	10	0.00
LINCPRBK	13	3	17	19	0.01
LNUM	5	24	21	2	-1.01
LAGE	13	12	16	11	0.85

Source: processed data. This table shows the regression results of the Equation 2:

$$Ldp_{i,n} = \varphi_{i,n} + \varphi_1 \overset{(-)}{Risk}_{i,n} + \varphi_2 \overset{(+)}{Meanrisk}_{i,n} + \varphi_3 \overset{(+)}{Lincprbk}_{i,n} + \varphi_4 \overset{(+)}{Rdp}_{i,n} + \varphi_5 \overset{(-)}{Meanrdp}_{i,n} + \varphi_6 \overset{(+)}{Lnum}_{i,n} + \varphi_7 \overset{(+)}{Lage}_{i,n} + \mathrm{E}_{i,n}$$

*There are 52 cross-sectional regressions done on 51 conventional banks. ** indicates significance at the 5 percent level. Columns 2 and 3 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 4 and 5 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. Column 6 shows the average vvalue of the estimated coefficients across periods.*

The rate of return on deposits may indicate the probability of a bank failure, while depositors may want to avoid the time-consuming fund withdrawal from a failed bank. On the positive side, the ratio of personal income to the number of banks, number of bank, and age of bank moved in the same direction as the quantity of deposits. This implies that during the USA financial crisis, depositors considered personal income, the bank's service accessibility, and experience in their deposit decision.

CONCLUSION

This study is aimed at revealing the impact of bank risk on the quantity of deposits using data from Islamic and conventional banks in Indonesia during the period of blanket scheme application (January 2002 – August 2005), and the period of explicit deposit insurance implementation (September 2005 – December 2009), as well as the period of the USA financial crisis.

This study employs 2-stage regressions. The first equation is to develop models for risk estimation. The models are used to calculate *risk* using the real data of t+12, which is included in the second equation. The regressions on Islamic bank data use rolling periods as there is a limitation on cross-sectional data availability. The regressions on Conventional and the combination of Islamic-Conventional bank data use cross-sectional regressions.

Investigation on depositor sensitivity to risk of Islamic banks revealed that in both periods of observation, the depositor was not sensitive to the calculated risk of an Islamic bank, but they were influenced by the average risk of other banks in making deposit decisions. They also considered accessibility and experience of the Islamic banks in the decision. Similar exploration done using conventional bank data in both periods showed that depositor might believe that rate of return on deposits in the taget bank and in other banks reflected the real bank risk. Moreover, the depositor considered the accessibility and credibility of a bank in their deposit decision.

Finally, during the USA financial crisis, the rate of return on deposits tended to have negative influence on the quantity of deposit. Depositors seemed to be indifferent to the calculated risk of a bank, but were aware of bank risk signaled by the level of interest rate offered by the bank.

Table 9: Description of Probit Model Estimates for Islamic & Conventional Banks 2007.10-2008.12

Independent Variable	**Number of Periods in Which the Variable Is Included**	**Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)**		**Number of Periods with Negative and Significant Coefficient (Prob <0.05)****		**Number of Periods with Positive but Insignificant Coefficient (Prob >0.05)**		**Number of Periods with Positive and Significant Coefficient (Prob <0.05)****	
		No	Prop	No	Prop	No	Prop	No	Prop
C	14	2	0.14	1	0.07	8	0.57	3	0.21
CAPAST	14	3	0.21	7	0.50	4	0.29	0	0.00
AGGAST	14	6	0.43	2	0.14	5	0.36	1	0.07
TRAST	14	7	0.50	1	0.07	4	0.29	2	0.14
MANAST	14	8	0.57	2	0.14	4	0.29	0	0.00
CONSAST	14	5	0.36	2	0.14	7	0.50	0	0.00
SECAST	14	2	0.14	1	0.07	3	0.21	8	0.57
PLCBI	14	4	0.29	7	0.50	3	0.21	0	0.00
PLCOB	14	5	0.36	2	0.14	5	0.36	2	0.14
INVREV	14	4	0.29	2	0.14	6	0.43	2	0.14
LOGAST	14	6	0.43	2	0.14	6	0.43	0	0.00
OFF	14	3	0.21	6	0.43	4	0.29	1	0.07
BANK	14	3	0.21	1	0.07	5	0.36	5	0.36
CHAR	14	5	0.36	7	0.50	1	0.07	1	0.07
PERINC	14	4	0.29	3	0.21	4	0.29	3	0.21
UNEM	14	4	0.29	1	0.07	3	0.21	6	0.43
AGE	14	6	0.43	5	0.36	3	0.21	0	0.00
INCAST	14	3	0.21	6	0.43	5	0.36	0	0.00
LIQAST	14	4	0.29	5	0.36	4	0.29	1	0.07
DEPAST	14	6	0.43	3	0.21	2	0.14	3	0.21
Pseudo R-square (Average)			0.464		Pseudo R-square (Range)			0.352 - 0.603	

*Source: processed data. This table shows the regression results of the Equation 1: ** indicates significance at the 5 percent level*

$$Fin_{i,t+k} = \gamma_{i,t} + \lambda_1 \overset{(-)}{CapAst_{i,t}} + \lambda_2 \overset{(+/-)}{AggAst_{i,t}} + \lambda_3 \overset{(+/-)}{TrAst_{i,t}} + \lambda_4 \overset{(+/-)}{ManAst_{i,t}} + \lambda_5 \overset{(+/-)}{ConsAst_{i,t}} +$$
$$\lambda_6 \overset{(+/-)}{SecAst_{i,t}} + \lambda_7 \overset{(+/-)}{PlcBI_{i,t}} + \lambda_8 \overset{(+/-)}{PlcOB_{i,t}} + \lambda_9 \overset{(-)}{Inv\mathrm{Re}v_{i,t}} + \lambda_{10} \overset{(-)}{LogAst_{i,t}} + \lambda_{11} \overset{(-)}{Off_{i,t}} + \lambda_{12} \overset{(-)}{Bank_{i,t}}$$
$$+ \lambda_{13} \overset{(+/-)}{Charter_{i,t}} + \lambda_{14} \overset{(+/-)}{Perinc_{i,t}} + \lambda_{15} \overset{(+/-)}{Unem_{i,t}} + \lambda_{16} \overset{(-)}{Age_{i,t}} + \lambda_{17} \overset{(-)}{IncAst_{i,t}} + \lambda_{18} \overset{(-)}{LiqAst_{i,t}} + \lambda_{19} \overset{(+/-\_}{DepAst_{i,t}} + \varepsilon_{i,t}$$

There are 14 cross-sectional regressions done on 53 Islamic and conventional banks. Columns 3 and 5 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 7 and 9 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. Columns 4, 6, 8, and 10 show the proportions of the associated non significant negative, significant negative, non significant positive, and significant positive variables, respectively.

Table 10: Equation 2 Model for Islamic & Conventional Banks, Periods of 2008.10-2009.12 (USA Financial Crisis)

Independent Variable	**Number of Periods with Negative but Insignificant Coefficient (Prob >0.05)**	**Number of Periods with Negative and Significant Coefficient (Prob <0.05)****	**Number of Periods with Positive but Insignificant Coefficient (Prob >0.05)**	**Number of Periods with Positive And Significant Coefficient (Prob <0.05)****	**Average Value of the Estimated Coefficients Across Periods**
C	2	4	3	5	4.14
RDP	2	5	5	2	0.00
MEANRDP	4	2	5	3	0.06
RISK	4	3	6	1	-0.01
MEANRISK	5	2	5	2	0.00
LINCPRBK	5	0	5	4	3.82
LNUM	4	0	4	6	3.59
LAGE	4	1	4	5	3.61

Source: processed data. This table shows the regression results of the Equation 2:

$$Ldp_{i,n} = \phi_{i,n} + \phi_1 \overset{(-)}{Risk_{i,n}} + \phi_2 \overset{(+)}{Meanrisk_{i,n}} + \phi_3 \overset{(+)}{Lincprbk_{i,n}} + \phi_4 \overset{(+)}{Rdp_{i,n}} + \phi_5 \overset{(-)}{Meanrdp_{i,n}} + \phi_6 \overset{(+)}{Lnum_{i,n}} + \phi_7 \overset{(+)}{Lage_{i,n}} + \mathrm{E}_{i,n}$$

*There are 14 cross-sectional regressions done on 53 Islamic and conventional banks.The ** indicates significance at the 5 percent level. Columns 2 and 3 show number of periods in which the associated variables are negative, not significantly and significantly, respectively. Columns 4 and 5 show number of periods in which the associated variables are not significantly and significantly positive, consecutively. Column 6 shows the average vvalue of the estimated coefficients across periods. ** indicates significance at the 5 percent level*

We cannot make direct comparisons of depositor sensisitvity to the bank risk between the two banking systems, since there are very few Islamic banks in Indonesia. As there has been an increase in the number of Islamic banks in Indonesia since 2008, future research on this topic can employ cross-sectional regressions, which will overcome the limitation inherent in this paper.

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