**Effects of Setting Deposit Insurance on Depositors Trust in Iranian Banking System**

***Abstract***

 Deposits Insurance Fund regulation was approved by the council of ministers of republic Islamic of Iran about four years ago. However, it has not been fully implemented by the Iranian banking sector, yet. Hence, as there may be some concerns regarding to the new regulation, in this paper, we try to investigate whether this new regulation affects Iranian depositors’ trust in Iran banking system.

 In this study, we use a questionnaire, which contains questions about personal information and depositors’ opinion about banks and safety of deposits. Questions adapted from a Prean and Stix study (effect of raising deposit insurance coverage in times of financial crisis in Croatia).

We distributed questioners between two groups of Tehran’s depositors. First group was those who were not aware about the deposit insurance implementation. Second group was informed and explained about the implementation of deposit insurance regulation.

 Using Probit regression to estimate the model, our findings indicate introducing deposit insurance, decreases depositors’ trust in the safety of deposits in Iran. Hence, all aspects of implementing of deposit insurance fund must be considered by the Central Bank.

Key Words: Deposit insurance, Iranian banking system, Depositors’ trust, Probit Model

***Introduction***

 Banks play an important intermediary rule between depositors and borrowers. Hence, banks are mainly relying on deposits in order to lend the money to the investors. However, in some conditions, such as financial crisis, depositors may believe that their deposits with banks are not safe. Consequently, they may withdraw their deposits, which in turn this action imposes high pressures on banks. Because they rely on customer’s deposits that can be withdraw without any notice, banks in financial trouble are prone to [bank runs](http://en.wikipedia.org/wiki/Bank_run), where depositors seek to withdraw funds quickly ahead of possible bank insolvency. [Bankin](http://en.wikipedia.org/wiki/Banking_institution)g system failure is type of systematic risk and has the potential to trigger a broad spectrum of harmful events, including economic recessions. Hence, [policy makers](http://en.wikipedia.org/wiki/Policy_maker) maintain deposit insurance schemes to protect depositors and to give them comfort that their funds are not at risk.

 A Deposit Insurance System (DIS) has the specific aim to protect small depositors; within the domestic safety net. DIS can also enhance financial system stability when it is adequately funded and when other safe guards, such as a strong bank supervisory program, are also in place. Although there are various critical standards to ensure the effectiveness of deposit protection schemes, these are not sufficient assure stability of the system, because deposit insurance is only one component, though crucial, of the financial safety net that exist in most countries, particularly developed ones.( De Cesare, 2005). An effective deposit insurance system is an important pillar of the financial safety net and plays a key role in contributing to the stability of the financial system and the protection of depositors (Micajkova, 2013).

Constitution of Deposits Guarantee Fund was approved by the Iranian’s Council of Ministers decree on 12th of August 2012. Under this approval, some of the duties and powers of the Deposit Guarantee Fund are as follows:

1. Guarantee deposits per person including local and foreign currency deposits in any credit institution except in accordance with article 6 of the constitution,
2. Dues received from credit institutions,
3. Deposits paid after the declaration of the Emergency Committee.

 Based on the previous studies, in the presence of deposit insurance, increasing the level of deposit insured can increase depositor’s trust in the banking system. However, deposit insurance has no history in Iran and it seems that depositors traditionally believe that if Iranian banks fail (bankrupted), their deposits are safe and guaranteed by the Central Bank of Iran. Hence, the effects of introducing deposit insurance on depositors’ reaction is ambiguous, as they may consider introducing it as a signal, that central bank of Iran is less responsible for their deposits now.

After the adoption of the constitution and before its coming into force, we have decided to examine the impact of deposit insurance. Hence, in this paper, we try to investigate whether introducing deposit insurance in Iranian banking system calms private agents or cause more uncertainty in an environment that banks have started progressing toward privatization, which may increases concerns regarding to their bankruptcy.

***Literature Review***

***Part A: Literature Review on the Effects of Deposit Insurance on Banking Crises***

*Hutchison* and *McDill (1999)* use a dummy variable for explicit deposit insurance along with a number of variables capturing the state of economies to explain the occurrence of banking crises in countries. They find that the existence of an explicit deposit insurance scheme increases the probability of banking crises by approximately 50 percent within a sample of 65 crisis episodes during the period 1975-1997.

 *Gropp* and *Vesala (2004)* analyzed the relationship between deposit insurance, debt-holder monitoring, and risk taking. In a stylized banking model, they show that deposit insurance may reduce moral hazard, if deposit insurance credibly leaves out non-deposit creditors. Testing the model using EU bank level data yields evidence consistent with the model, suggesting that explicit deposit insurance may serve as a commitment device to limit the safety net and permit monitoring by uninsured subordinated debt holders. They further find that credible limits to the safety net reduce risk taking of smaller banks with low charter values and sizeable subordinated debt shares only. However, they also find that the introduction of explicit deposit insurance tends to increase the share of insured deposits in banks’ liabilities.

Within a sample of 29 developed and developing countries during the period 1994-2001, *Hoggarth, et al. (2005)* do not find a significant general relationship between an explicit deposit insurance dummy and the probability of crises. However, when distinguishing between limited and unlimited deposit insurance coverage, they find that systems with limited coverage are strongly associated with smaller probability of crises.

 *Kiss et (2012)* study the effects of deposit insurance on the emergence of bank runs by means of a controlled laboratory experiment. They consider three depositors in a line of a common bank. Depositors decide in sequence between withdrawing and keeping their money deposited. They have three different treatments in which depositors who keep the money have full insurance, are partially insured, or not insured at all in case of a bank run. They find that, different levels of deposit insurance and the possibility of observing other depositors’ actions reduce the likelihood of bank runs.

 *Enkhbold (2013)* use a panel database of 401 banks in 31 Asian countries over the period from2000 to 2010 to examine the effects of deposit insurance on banks’ risk-taking incentives. They find that risk-taking incentives vary with bank size and risks. In addition, differentiated premiums may not accurately reflect the level of risk that a bank poses. In the presence of a deposit insurance scheme, the pattern of the non-linear relationship between bank size and risk-taking significantly changes. Their results suggest that market discipline exercised by banks is stronger in the presence of mandatory deposit insurance scheme. Government-funded deposit insurance funds allow Asian banks to take a higher risk. A risk-based deposit insurance scheme functions more effectively in the countries with good regulatory framework and institutional quality.

***Part B: Literature Review on the Effect of Deposit Insurance on Depositor Behavior***

 *Prean* and *Stix (2011)* study about the effect of raising deposit insurance coverage in times of financial crisis in Croatia. Faced with rising deposit outflows in October2008, many transition countries were forced to extend the limits of deposit insurance coverage. Has this, calmed private agents or has it caused more uncertainty? They analyze these questions by employing household survey data for Croatia from exactly the time deposit insurance was extended. First, they provide evidence how the financial crisis has affected trust in banks and trust in the local currency. Then, they show that the increase in deposit insurance coverage had an immediate and positive impact on how people perceived the safety of deposits and the credibility of the local currency. Therefore, their results suggest that this policy measure helped to prevent a more serious and dangerous meltdown of deposits and a further shift towards foreign currency denominated assets. However, despite this effect the perceived safety of deposits remained lower than it was before the financial crisis. They also consider this finding to be of relevance for other countries of Central, Eastern and Southeastern Europe.

 *Jamjittrong* and *Jantarakolica (2012)* investigate the potential impacts of the Deposit Protection Agency Act on the big individual depositor’s behavior. Using SUR and GLLAMM with questionnaire survey to collect data from 217 Thai depositors, the results suggest that a lower protection of one million baht under the new law will have a negative influence on savings preference of the typical big depositors.

***Data and model***

 In order to investigate about the effects of setting deposit insurance in Iranian banking system, we use a questionnaire which contains questions about personal information and depositors’ opinion about banks and safety of deposits and distributed them between Tehran’s depositors. Questions and questionnaire adapted from Prean, Stix, (2011) study.

 We have collected our data from two groups of people. First group was depositors who did not know anything about setting deposit insurance in Iranian banking system so they answered to the questions unconsciously. The second group was who explained about the new law and definition of deposit insurance, and answered questions by the fact that deposit insurance will be set in banks in future. Our sample consists of about 300 respondents. The questioners distributed between June 29 and September 25 in 2016.

 Our questionnaires contains some important variables such as the safety of deposit that depositor perceived, preference of deposit to cash value-gold or assets, depositor’s investments in banks, their willing to deposit in banks. The central variable, which analyzed is the perceived safety of deposits at banks. The question how much trust, people have in the safety of deposits might also depend on how much people trust in general, either other people or institutions.

**Descriptive Statistics**

|  |
| --- |
|  Count Mean SD Min Max |
| Perceived safety of deposits 300 0.58 0.4943 0 1Awareness 300 0.50 0.5008 0 1Age 300 39.51 10.5752 19 68Income 300 0.23 0.4257 0 1Financial Situation 300 3.29 1.1150 1 6Education 300 16.323 2.9576 12 24Household Head 300 0.74 0.4393 0 1Expect Depreciation 300 0.533 0.4997 0 1Inflation Expectation 300 0.613 0.4877 0 1Foreign Currency 300 0.296 0.4575 0 1 |

Sample restricted to respondents aged 20 or older.

 First, we examined the validity of the questionnaire with the help of *Cronbach’s Alpha*. Since a questionnaire with some questions (like *Likert* range of five options) is such a test, we can find the reliability of our questionnaire with the help of *Cronbach’s Alpha*:

$$α=\frac{k}{k-1}\left(1-\frac{\sum\_{i=1}^{k}s\_{i}^{2}}{s^{2}}\right) (1-1)$$

Which *k* is the number of questions, *si2* is the variance of each question and *s2* is the variance of the questions.

 If the alpha coefficient is greater than0.7, the test of reliability is acceptable; our alpha coefficient equals to 0.821, so our questionnaire is reliable.

 For finding our sample size, we used Cochran’s formula and the result was 300.We did our analysis with Probit Model in order to find the effect of setting deposit insurance.

 In dummy regression variable models, it is assumed implicitly that the dependent variable Y is quantitative whereas the explanatory variables are either quantitative or qualitative. There are certain type of regression models in which the dependent or response variable is dichotomous in nature, taking a one or zero value. There are several examples where the dependent variable is dichotomous. A unique feature of all examples is that the dependent variable is of the type, which elicits a yes or no response. There are special estimation / inference problem associated with such models. The most commonly used approaches to estimating such model are the Linear Probability model, the Logit model and the Probit model.

 Let us assume that in our thesis, the idea of the Ith person to trust in banks by Deposit Insurance or not, depends on unobservable utility index Ii, that is determined by the explanatory variables in such a way that the larger the value of index Ii, the greater the probability of the person trust in banks by the existence of Deposit Insurance.

The index Ii can be expressed as

$I\_{i}=β\_{1}+β\_{2}X\_{i} (1-2)$

Where Xi, for example is the income of the person.

 Some variables like their financial situation, education, age and other variables, which belong to personal information of the respondent, and some other variables like their imagination from central bank assurance, their inflation prediction, and their cash preferences that helped us to analyze them in order to get the logical conclusion for the effect of setting deposit insurance. All of the questions and variables can be seen in the Appendix.

 Our dependent variable named as bankruptcy. *Bankruptcy* question shows the perceived safety of deposits by two groups of people; first, who do not explained about the deposit insurance news and second who explained what deposit insurance is and when or why it will set in Iranian banking system. We asked this question by “If bankruptcy occurs, deposits will completely pay back by central bank (or any responsible institution)”.

 We analyze the dependent variable by Stata software, the statistical software. Stata statistical software is a complete, integrated statistical software package that provides everything needed for data analysis, data management, and graphics. Stata is a powerful statistical package with smart data-management facilities, a wide array of up-to-date statistical techniques, and an excellent system for producing publication-quality graphs. It is fast and easy to use.

 ***Results***

 Tables 1 focused on a more detailed view of the data collected. In particular, the table summarize probit estimation results for a variable: *Perceived safety of deposits*. For this dependent variable, we estimate four specifications.

 The first column is the co-efficiency between the dependent variable and independent variables, which shows the direct or indirect relationship. The second column shows the standard deviation error, the third column is the z value and the fourth one is the p-value that helps us to reject or not reject the null hypothesis. It should be mentioned again that our null hypothesis is that by introducing deposit insurance to depositors, their trust on Iranian Banking System will decrease.

 In Table 1 we regard the ninth question of the questionnaire as a dependent variable (perceived safety of deposits), and other questions as an independent variable.

**Table 1**

**Estimation result “*Perceived Safety of Deposits*”**

|  |
| --- |
| **Perceived Safety of Deposits** |
|  | **Coef** | **Robust Std.Err.** | **z** | **p < |z|** | **[95% Conf. Interval]** |
|  | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
|  |  |  |  |  |  |
| Awareness | -1.601598 | 0.1984254 | -8.07 | 0.00 | -1.990 -1.212 |
| Age | 0.00368 | 0.0079048 | 0.47 | 0.641 | -0.01180 0.0191 |
| Gender | -0.025582 | 0.1842214 | -0.14 | 0.890 | -0.386 0.335 |
| Financial Independence | 0.47346 | 0.2520186 | 1.88 | 0.06 | -0.2048 0.9674 |
| Occupation |  -0.165023 | 0.18229 | -0.91 | 0.365 | -0.5223 0.1922 |
| Income | -0.46387 | 0.20320 | -2.28 | 0.022 | -0.8621 -0.6560 |
| Financial Situation | 0.15284 | 0.0744 | 2.05 | 0.040 | 0.0069 0.2987 |
| Education | 0.01083 | 0.0289 | 0.37 | 0.708 | -0.04590 0.0675 |
| Household Head |  -0.13788 | 0.2128 | -0.65 | 0.517 | -0.5549 0.2792 |
| Expect Depreciation | -0.164633 | 0.1783 | -0.92 | 0.356 | -0.5142 0.1849 |
| Inflation Expectations | -0.228526 | 0.1754 | -1.30 | 0.193 | -0.5724 0.1153 |

(1) Coefficiency. Dependent variable ‘‘Perceived safety of deposits’’ (dummy variable coded as one if deposits are perceived safe). For a definition of the dependent variable see Table A1, for a definition of explanatory variables see Table A2.

(2) Robust Standard Error. For the regression before robust see Table A5.

(3) Z-value.

(4) P-value

(5) Confidence Interval

 In table 1, we can see that only three variables are significant statistically. “Awareness”, “Income” and “Financial Situation” are the variables which affect the dependent variable “Perceived safety of deposits” because the p-value related to these three variables is less than 0.05. The co-efficiency and its sign can be seen in first column.

 However, other independent variables are not significant, but their co-efficiency signs show us logical conclusions.

* Awareness has a negative co-efficiency with the Perceived safety of deposits; it means people who have explained about deposit insurance have lower trust in the safety of deposits.
* Age has a positive co-efficiency with the Perceived safety of deposits; it means older people of the sample have higher trust in the safety of deposits.
* Gender has a negative co-efficiency with the Perceived safety of deposits; it means men have lower trust in the safety of deposits.
* Financial independence has a positive co-efficiency with the perceived safety of deposits; it means those who are financially independent have higher trust in the safety of deposits.
* Occupation has a negative co-efficiency with the Perceived safety of deposits; it means people who have government jobs have lower trust in the safety of deposits.
* Income has a negative co-efficiency with the Perceived safety of deposits; it means people with higher income have lower trust in the safety of deposits.
* Financial Situation has a positive co-efficiency with the Perceived safety of deposits; it means people with a good financial situation have higher trust in the safety of deposits.
* Education has a positive co-efficiency with the Perceived safety of deposits; it means people with higher education have higher trust in the safety of deposits.
* Household Head has a negative co-efficiency with the Perceived safety of deposits; it means people who are the head of the family have lower trust in the safety of deposits.
* Expect Depreciation has a negative co-efficiency with the Perceived safety of deposits; it means people who believe that Rial will lose value against the dollar have lower trust in the perceived safety of deposits.
* Inflation Expectation has a negative co-efficiency with the Perceived safety of deposits; it means people who believe that In the next 12 months, prices in Iran will rise more rapidly than in the past years have lower trust in the safety of deposits.

***Conclusion and suggestion***

 Results indicate that *Awareness*, is statistically significant and negatively related to the perceived safety of deposits*.* It interestingly means that those who were not explained about deposit insurance consider savings deposits safer, indicating that respondents did not perceive the situation when they were not exactly explained about deposits insurance and the risk of having deposits in banks. This seems plausible because before the order of creation of deposits guarantee fund, Iranian banking system indeed had a more severe impact on the savings of the broad public than the existence of deposit insurance.

In terms of the question raised at the outset—whether setting deposit insurance increase the uncertainty among depositors or whether it calmed them—the results clearly show that the policy measure increases uncertainty.

 The results, lead us to predict that setting deposit insurance in Iranian Banking systems may cause a sudden drop in people’s trust in banks. Consequently, substantial deposit withdrawals may occur.

 This lead us to say that setting deposit insurance in Iranian banking system is not a very simple operation; the central bank should first think about the disadvantages of the action in order to manage the crisis that would happen after the setting. Changing people’s mind about the safety of deposits that they never thought the bankruptcy would occur is not an easy mission. By considering all aspects of setting deposit insurance for the first time in Iran, the central bank of Iran will successfully do its mission.

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