The Perspective of Effectiveness of Risk-based Insurance Premium for Georgia

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Abstract

The effective implementation of deposit insurance system requires careful assessment of all the elements of the system. The article focuses on the importance of risk-based insurance premium in successful mitigation of the problem of moral hazard, which may be provoked by the system. Risk assessment method that can be used in Georgia to assign different banks to different risk categories and to calculate insurance premium accordingly is also discussed. Successful implementation of DIS is largely determined by the attitude of depositors to the system. The article demonstrates the survey results to show how Georgian depositors are to react on the requirements of the system.

Keywords: banking system, deposit insurance system, risk-based insurance premium, risk assessment method, Georgia.
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Introduction

The imposition of Deposit Insurance System (DIS), designed to provide protection and additional guarantees to bank depositors in an event of bank failures, provoked hard disputes about efficiency of the system. Experts argue whether DIS provides additional banking stability or promotes the problem of moral hazard. The criticizers of the system assert that DIS weakens market discipline. They believe that depositors are discentivized to watch bank performances as far as they are promised to be fully or partially reimbursed if banks fail. As a result there is a threat that commercial banks will less likely expect panic runs even in times of crises and consequently will choose to follow risky strategies.

To mitigate the problem of moral hazard and make the process of implementation of the system effective various recommendations are provided by different scholars and organizations based on international experience. It is believed that risk-based insurance premium is one of those principles that ensure successful implementation of DIS and make the system effective. It implies charging higher insurance premiums to those commercial banks which risk too much and the opposite.

The implementation of DIS is an indispensible part of the process of economic development. That is why although Georgia stays to be one of those countries without the system imposed, still to find out the reactions of Georgian population towards the imposition of DIS and their behaviors under the insurance system is important to examine. The changes in the behavior of present or potential depositors in Georgia after implementation of deposit insurance system will help to predict whether the banking industry and the economy of the country in overall can benefit under this system. Meanwhile, Georgia should take advantage over experiences of other countries with DIS and take into consideration all the important elements of the system to create and implement effective deposit insurance system. As noted above one of those important features of DIS and the subject of discussions when speaking about effectiveness of the system is risk-based insurance premium. Consequently, the insurance premium, its effectiveness and probable reaction of Georgian depositors toward this element of the system have to be one of those important issues that should be discussed before insurance system is implemented.

The Importance of Risk-based Insurance Premium

Risk-adjusted premiums are newer technique to alleviate moral hazard pioneered in the United States in 1995 (McCoy, 2007). Deposit insurance premiums have been independent of bank risk, mainly because of the difficulty assessing that risk but the bank failures of the 1980s and early 1990s led to reforms in the supervision and regulation of banks. Federal Deposit Insurance Corporation Improvement Act of 1991 introduced several nondiscretionary rules. In particular, setting of risk-based insurance premiums were required, whereby premiums differed according to three levels of bank capitalization (well capitalized, adequately capitalized and undercapitalized) and three supervisory rating groups (ratings of 1 or 2, a rating of 3 and ratings of 4 or 5)(Viarl V. Acharya 2010).

Many economists advocate the use of risk-based insurance premium to reduce the problem of moral hazard (Berger 1994). The same recommendation is supported by

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Edward Simpson Prescott (2002). According to him, it is widely believed that risk based premiums will discourage insured banks from taking excessive risk because a bank facing higher premiums will think twice before undertaking a risky activity (Prescott, 2002).At a minimum, such a system can create stronger incentives for institutions to avoid actions that may result in a weakened condition (O'Keefe, 1993).

In compliance with the principle 2 (Mitigating moral hazard) of the "Core Principles for Effective Deposit Insurance Systems" by Basel Committee and International Association for Deposit Insurers (IADI) moral hazard should be mitigated by ensuring that the deposit insurance system contains appropriate design features and other elements of the financial system safety net (Basel Committee on Banking Supervision; International Association of Deposit Insurers, 2009). Risk-based insurance premiums work precisely as one of the elements controlling and minimizing the risk of the moral hazard.

At present, risk-based premium system that assesses higher rates on institutions that pose greater risks to the insurance fund are widely used. By 2003 twenty countries adjusted their deposit insurance premiums for risk (McCoy, 2007).

Risk Assessment Method to Charge Insurance Premiums

Risk-based insurance premium proposals require an accurate method of assessing bank risk (Cornett, Mehran, & Tehranian, 1998). In United States each institution is assigned to one of nine risk categories using a two-step process based first on capital ratios or the capital group assignment and then on other relevant information covering the supervisory subgroup assignment (Association of Supervisors of Banks of the Americas, 2006).

Based on this system there are nine different risk categories (Table 1). The assessment rate schedule for insured institutions is as follows:

Table 1. *Assessment Rate Schedule for Insured Institutions*

	Supervisory Subgroups		
Capital Groups	A	B	C
Well capitalized	0 bp	3 bp	17 bp
Adequately capitalized	3 bp	10 bp	24 bp
Undercapitalized	10 bp	24 bp	27 bp

Source: *Koch & MacDonald, 2003, p. 497*

Basis points, denoted by bp, represent some percentage of insured deposits payable by commercial banks as an insurance premium. 0 bp refers to 0 % of insured deposits, 3 bp – to 0.3 % of insured deposits, etc. As illustrated by the Table 1, the minimum insurance premium paid by commercial banks to the insurance fund in the United States is 0 % of insurance deposits or no insurance premium paid, these are banks belonging to the supervisory subgroup "A" (financially sound institutions with only a few minor weaknesses) and to the capital group "well capitalized". And the maximum amount paid by banking institutions as an insurance premium is 2.7 % of insured deposits, these are banks which belong to the supervisory subgroup "C" (institution that pose a substantial probability of loss to the insurance fund unless effective corrective action is taken) and to the capital group "undercapitalized".

Approximately 93 percent of all insured institutions in United States are currently listed in the lowest risk category (with 0 bases point) and pay no assessment (Koch & MacDonald, 2003). The fact that 93 % of insured institutions in the United States are listed to the lowest risk category and pay no assessment or insurance premium is an indicator that implementation of deposit insurance system did not provoke the problem of moral hazard, or did not encourage commercial banks in America to keep riskier positions and to undertake excessive risks in the hope of weaker market discipline and less severe supervision from the depositors side. They rather look for the lowest possible insurance premiums payable to the insurance corporation to reduce expenses. In this case risk-based insurance premiums seem to be effective.

The CAMEL (Capital adequacy, Asset quality, Management quality, Earnings, Liquidity position) rating system of Georgia used by National Bank of Georgia to evaluate Georgian bank performances can be absolutely used as risk assessment method to calculate different insurance premiums for different risk category banks of Georgia. According to "The Manual for Commercial Bank Supervision "this rating system of Georgia detects risky strategy followers and rates commercial banks in Georgia according to their risk categories from satisfactory to critical.

Georgian regulators can pursue the experience of pricing deposit insurance, as illustrated above that is assessing capital adequacy groups and supervisory subgroups to evaluate bank risk categories. Banks with capital adequacy coefficient (total capital over risk weighted assets) below 8% (about 6%) can be considered as undercapitalized, 8% - as adequately capitalized and above 8% (about 10%) – as well capitalized. As for supervisory subgroups, the Georgian banks are already rated into 5 composite rates. After assessing all components of rating system (capital, assets, management, earnings and liquidity) banks in Georgia are ranked in one of the five composite rates:

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Table 2. *CAMEL Composite Rating of Banks in Georgia*

Composite rate 1 (satisfactory)	Banks in this group are stable in all its aspects. Weaknesses are insignificant and can be handled through everyday management process. In an event of business fluctuations they keep their stability best.
Composite rate 2 (adequate)	Banks in this group are fundamentally stable and sound. Weaknesses are moderate and can be corrected. Such banks easily endure business fluctuations.
Composite rate 3(less adequate)	Banks in this group are with some weaknesses that bank management is unable to timely cope with. They are very sensitive toward external effects and are less consistent to business fluctuations.
Composite rate 4 (inadequate)	Banks in this group are less stable, with serious financial and managerial gaps. They are not resistant to environmental fluctuations.
Composite arte 5 (critical)	Extremely unstable banks. The probability of their failure is very high and thus banking system stability may be at serious risk if banks from this group will not get over the weaknesses they have.

Source: *National Bank of Georgia, Supervisory Department, 2007*

The rating method of Georgian banks can be used to create assessment rate schedule similar to the schedule used in USA. Table 3 illustrates 15 different risk categories that could be assigned to Georgian banks after they will be assessed according to the risk levels faced.

Table 3. *Assessment Rate Schedule for Insured Banks in Georgia*

	Composite Rates		
Capital Groups	1st (satisfactory)2nd (adequate)	3rd(less adequate)	4th (inadequate) 5th (critical)
Well capitalized	0 bp	3 bp	17 bp
Adequately capitalized	3 bp	10 bp	24 bp
Undercapitalized	10 bp	24 bp	27 bp

bp can be modified according to the economic situation of Georgia for the moment of implementation of DIS and thus fit to the Georgian context.

Expected Impact of Insurance Premium over the Number of Depositors in Georgia

The cost of deposit insurance premium is not to be carried solely by commercial banks. Depositors also pay the cost of insurance indirectly, which means that they receive lower interest payment for insured funds. The question arises about willingness of depositors to insure their deposits in exchange for lower interest paid. The participation in this system obviously is not compulsory for depositors, thus it should be found out whether Georgian depositors are ready to insure their savings if they are paid less. If they do not appear to be willing to insure their deposits for lower interest payment than imposition of DIS seems to be ineffective in Georgian reality.

To find this out the survey was conducted and 500 people were questioned. The survey results show that 473 or about 95 % of respondents declare to be ready to deposit their excess funds into the bank accounts if deposits were insured, and none of them would change their decision even if they received lower interest payment for the insured deposits. Exactly the same number 473 of respondents replied to be ready to insure their deposits even at the lower interest rate were offered by the bank.

To analyze the survey results two-sample test (testing the hypotheses), called confirmatory data analyses, was conducted. Hypothesis was examined to test whether the population under the study is going to restrain themselves from keeping their savings at the bank accounts if they receive lower interest payment for deposited amount. Thus, null hypothesis states that lower interest payments paid to depositors for insured deposits decrease the number of depositors in Georgia, and the alternative hypothesis states that lower interest payments paid by banking institutions for offering the service of deposit insurance does not affect the number of depositors in Georgia:

H0: $p1 - p2 > 0$

H1: $p1 - p2 = 0$

The proportions of both sample population (p1 and p2) equal to 0.946 as the sample size is 500 people. p1 refers to the proportion of 1 sample population in the total sample size and p2 refers to the proportion of 2 sample population in the same total sample size. 1 sample population is the number of respondents who are willing to deposit their savings at the bank account under the deposit insurance system before they learn that they will be paid less for the insurance. 2 sample population is the number of respondents who are again ready to deposit their excess funds even if they receive lower interest payment for insured savings.

Hypothesis testing was conducted at 0.05 significance level ($\acute{\alpha} = 0.05$) meaning that testing results are true by 95 % of confidence.

If testing results reject the difference between these two proportions to be less than zero, then null hypothesis will be rejected in favor of the alternative hypothesis. It means that the number of population in Georgia willing to deposit their savings into the bank accounts under deposit insurance system does not decrease even after they learn that less interest payments are paid for the insured deposits.

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Table 3.7. *Z Test for Differences in Two Proportions: Testing H0lower interest payments paid to depositors for insured deposits decrease the number of depositors in Georgia*

Data	
Hypothesized Difference	0.024
Level of Significance	0.05
Group 1	
Number of Successes	473
Sample Size	500
Group 2	
Number of Successes	473
Sample Size	500
Intermediate Calculations	
Group 1 Proportion	0.946
Group 2 Proportion	0.946
Difference in Two Proportions	0
Average Proportion	0.946
Z Test Statistic	-1.678954002
Lower-Tail Test	
Lower Critical Value	-1.644853627
p-Value	0.046580504
Reject the null hypothesis	

Null hypothesis is rejected in favor of an alternative one if p-Value is less than alpha or the level of significance (p-Value < ά). Testing results show p-Value to be approximately 0.04658 when alpha is assumed to be 0.05 or p-Value is less than 0.05. It means that there is less than 5 % chance of type II error or chance that null hypothesis is accepted when actually it is not true. Null is rejected only when there is less than 5 % chance of mistake of accepting the null hypothesis when it is not true.

According to the testing results null hypothesis is rejected. It means that at 95 % of confidence lower interest payments in Georgia do not reduce the number of depositors who are ready to keep their savings at the bank accounts.

Testing results are true when the hypothesized difference equals to 0.024. It means that testing results at 95 % of confidence allow 2.4 % decrease of the number of depositors in Georgia because of the lower interest payments payable on their deposit savings.

Conclusion

Demonstration of the importance of risk-based insurance premium helps to conclude that insurance premiums payable by member banks is better to be risk based when implementing DIS in Georgia. So that commercial banks imposing high risks to insurance fund will be charged higher insurance premium compared to the banks assigned to lower risk categories. As a result it is expected to protect commercial banks from excessive risks and thus to mitigate the problem of moral hazard.

Imposition of risk-based insurance premium as already noted requires very accurate assessment of risks to assign each bank to different risk categories. Risk assessment method used by NBGemploys examination of all components essential to evaluate bank performances and the risks faced by banking institutions. Therefore, the method can be readily used to calculate insurance premiums for different commercial banks. After calculating capital adequacy coefficient of Georgian banks and ranking them to one of the five composite rates, banking institution in Georgia can be assigned to one of the nine risk categories illustrated by table 3.

The readiness of Georgian population to carry the cost of insurance is demonstrated by the testing results. The hypothesis about a considerable decrease of the number of depositors willing to insure their savings if they receive lower interest payment for insured funds was rejected. Testing results allowed only 2.4 % reduction. Decrease of the number of depositors by only 2.4 % cannot be really considered as a significant fall down in the number of depositors, while imposition of DIS expects to considerably increase the number of people willing to deposit their savings at banking institutions. Testing results thus help to sum up positive effect of DIS over the behavior of Georgian depositors. Positive attitude of depositors toward the system is one of the most important determinants of successful implementation of DIS. Therefore, efficiency of the system in Georgia can be predicted.

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