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# **Expected Effect of Deposit Insurance System over** the State of the Banking Environment of Georgia

# Sophio KHUNDADZE

### Abstract

The problem of weak market discipline, which is argued to be provoked by the implementation of deposit insurance system, is believed to be solved by imposing coverage limit over the insured funds. The paper focuses on the probable effects of deposit insurance system over the banking environment of Georgia through questioning and observing the behavior of Georgian population under deposit insurance system. The results of observation are tested using confirmatory data analysis to show the anticipated effect of the system and its component of coverage limit over the Georgian banking sector.

Keywords: deposit insurance; coverage limit; market discipline;

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# Introduction

The primary objective of implementation of deposit insurance system was the social protection of bank depositors. The expected result of this protection is an enhanced confidence of people toward banking institutions. Consequently, the behavior of depositors under deposit insurance system is expected to be balanced, with no panic and thus better predictable. However, it is argued that high public confidence reduces market discipline or lowers the incentive of depositors to watch the performances of banking institutions where they have invested their savings pushing banks to follow riskier strategies.

The research paper states the hypotheses for testing to show whether or not deposit insurance system really has a positive and stabilizing effects over the banking system of Georgia in the way of fostering confidence level of Georgian population, to find out people's reactions on the implementation of deposit insurance system and their behaviors under the system. The hypotheses tested in the paper are as follows:

1. Implementation of deposit insurance system increases the number of depositors in Georgia;

2. Deposit insurance system reduces panic runs to banking institutions for the early withdrawals in Georgia in times of crises;

3. Imposition of deposit insurance system in Georgia weakens market discipline if insurance coverage is unlimited;

4. Imposition of deposit insurance system in Georgia weakens market discipline if insured deposits are compensated partially after bank failures.

# Literature Review on the Contradictory Effects of Deposit Insurance System

Walker, Demaestri, & Martin (2004) argue that Deposit insurance system contributes to financial development and growth. According to them deposit insurance play a role, along with other elements of the financial safety net, in creating an environment of confidence and thus contribute to the overall stability of a financial system. On the contrary Stephen D. Williamson (1997) states that the system eliminates depositors

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desire to observe banks risk taking, thus, reduces the market discipline. Arthur J. Rolnick names market discipline as a regulator of bank risks (Rolnick, 2010), the same is argued by Angkinand & Wihlborg (2005) that strong market discipline better controls bank risk taking, thus, reduction of market discipline is feared to harm the stability of banking system. According to Ketcha (2007) & Beck (2003) by providing a guarantee that depositors are not subject to loss, deposit insurance has two contradictory effects. On the positive side it removes the incentive to participate in a bank run, while on the negative side it eliminates the need for depositors to police bank risk-taking.

However, special design of deposit insurance system, namely, imposition of coverage limit is believed to effectively solve the problem of weakened market discipline. The most straightforward principle is regarded by Demirgüç-Kunt, Kane, & Laeven (2006) to be setting enforceable coverage limits. Insurers' first priority must be to assure that official supervision complements private monitoring. To accomplish this, the scheme must be designed and managed in ways that convince large depositors that part of their funds are truly and inescapably at risk (Demirgüç-Kunt, Kane, & Laeven, 2006). Ioannidou & Dreu (2006) follow the idea that deposit insurance causes a significant reduction in market discipline. But at the same time they show that the effect of deposit insurance largely depends on the coverage rate. When the coverage rate is more than 60 percent, market discipline is significantly reduced and it is completely eliminated when the coverage rate reaches 100 percent (Ioannidou & Dreu, 2006). The same idea is supported by Schich (2008) and Velikova (2006). They also state that establishment of the coverage limit for insured instruments is critical. Coverage must be sufficient to prevent destabilizing banking runs, but not so extensive as to eliminate all effective market discipline on the bank's risk-taking (Schich, 2008; Velikova, 2006).

Vast international experience says that optimal insurance coverage correlates with the GDP per capita with a coefficient from 1 to 2 (Tourbanov, 2005). Sometimes the coverage ratio is recommended to be higher for developing countries (Demirgüç-Kunt, Karacaovali, & Laeven, 2005). International Monetary Fund uses one or two times per capita GDP as the general rule in advising countries on appropriate limits for deposit

insurance coverage. It is intuitive that deposit insurance coverage limits should bear some relationship to measures of income or wealth, so as to provide a relatively constant amount of protection to savers (Blinder & Wescott, 2001). In systems with explicit deposit insurance, the frequency of bank crises rises as the ratio of deposit insurance coverage to per capita GDP increases (McCoy, 2007). McCoy supports this point by the example that when the United States raised its policy limits on deposit insurance from \$40,000 to \$100,000 per depositor per bank in 1980, coverage shot up to approximately nine times per capita GDP. Shortly thereafter, the 1980s U.S. savings and loan crisis ensued.

Global financial crisis of 2008 illustrated the importance of effective deposit insurance system in fostering public confidence. In response to these recent crises Basel Committee on Banking Supervision and International Association of Deposit Insurers (IADI) agreed on an international set of principles for effective deposit insurance systems in 2009. They collaborated and issued "Core Principles for Effective Deposit Insurance Systems". In compliance with these principles imposition of coverage limit is named as one of the major factor determining success of the implementation of the system.

# The Methods Used For the Research and Sample Selection

To show how Georgian population feel about safety of their investments in the banking institutions of Georgia, to find out their attitudes toward banks in times of crises and to forecast their behaviors under the deposit insurance system an empirical study was conducted. The paper employed the survey as a research tool. The survey was carried out through questionnaires. 500 people were questioned in July and August of 2009. The purpose of the survey was to get the primary data for the research.

Questionnaires were distributed randomly among individuals who were with stable income having the ability to save some portion of their earnings. People from Tbilisi (Kartli region), Kutaisi and Samtredia (Imereti region), Akhmeta (Kakheti region), were questioned. The data was collected from all over the territory of Georgia which determined the decision of distributing questionnaires among the population from different regions of the country.

The questionnaire in the final section obtained demographic information about the respondents including education, income level, occupation and age. The selection of the research population was not determined by education, income level, occupation or social background. The only restriction was the age group. Respondents were individuals aged 22 and above. The imposition of age restriction was intentional and logically resulted in concentration on the individuals who were already graduates, with high education, occupation and stable income having the ability to save some portion of their earnings. Thus, selection of the population according to the age criteria reduced the chance of having questioned the respondent with no ability to save and increased the probability that the population under the study have the ability to save and deposit the savings. The decision about age restriction was made because the behavior of this particular social group will largely determine the success of deposit insurance system. They make up a social group which carries the ability to save up money and their attitude and the level of confidence toward banking sector considerably affect the flow of deposits to the banking channels. Thus, if implementation of deposit insurance system enhances the level of the confidence of this particular group of population, then the system will promote deposit growth and can be regarded to be effective and successfully implemented.

The survey results were tested through two-sample test, namely, ztest statistics for differences in two proportions. Testing process implied testing the null and alternative hypothesis. The result of testing either rejected null hypothesis when the statement by the null was not regarded to be true at 95 % of confidence or failed to reject the null when the statement by null was not regarded to be false again at 95 % of confidence.

# **Data Analyses and Research Findings**

The survey results were the following:

# Section 1: Public Behavior before Deposit Insurance System in Georgia

Out of 500 respondents just 170 (about 34%) have kept their savings at the commercial bank accounts at present. Only 76 respondents do not have their savings deposited because they have no excess fund to invest and more than 50% (254 respondents) state that even if they had

excess fund they would not trust banks to save it there. Most of them, 235 out of 254 name lack of trust toward financial institutions as a reason for such a behavior. Considerable number of respondents 198 out of 235 say that their pragmatic attitude toward banks in Georgia is provoked from their opinion that if banking institution where they have kept their savings fail, they would not be compensated. Only 9 respondents out of 235 think that Georgian banks fail easily because of weak management and the remaining 28 name uncertain financial environment as a reason why they refuse to trust banks in Georgia. Almost 100% of respondents (488) replied that in an event of any political or economic instability they would immediately run to their banks for early withdrawals, just 12 out of 500 respondents prefer to wait a little to see further developments. It appeared that none of them trust their banks so that they could stay calm despite probable failure; not even a single person feels safe about their savings.

Analysis of data: Survey findings show extremely pessimistic attitude of population toward banks in Georgia. According to the survey results it is depositors' bad future expectations about their investments at the banking institutions that make them not to deposit their savings. Considerable part of the respondents thinking that commercial banks cannot compensate their loss if their banking institution goes bankrupt complicate pragmatic attitude of Georgian population and explain depositors' behavior in the country. Even though very small number of respondents think that Georgian banks fail easily it does not protect banks operating in Georgia from panic withdrawals.

# Section 2: Changes in the Behavior of Georgian Population after Deposit Insurance System

According to the survey results considerable number of respondents 473 (around 95%) are ready to insure their savings if deposit insurance system operated in Georgia. As they declare the volume of their deposits in case of insurance would increase up to nearly full amount (100%) of their savings, which means that about 95% of respondents (473 people) showed to be ready to deposit their excess funds under deposit insurance system. At the same time about 50% or 247 respondents out of 488, running to the bank for early withdrawals before deposit insurance system is implemented in Georgia, say that if their deposits were insured they would feel more confident about safety of their savings and would

restrain themselves from panic run in times of uncertainty.

*Analysis of data:* The number of respondents (95%) supporting the idea of deposit insurance development in Georgia enables to state that after imposition of deposit insurance the part of the savings previously kept at home by Georgian population will probably flow into the bank channels.

To support the survey results and to confirm that the analyses of data are true, statistical method of two-sample test (testing the hypotheses) called confirmatory data analyses were conducted.

First calculations were conducted to test the null hypothesis  $(H_0)$  of whether or not the number of depositors increases after imposition of deposit insurance system. The alternative hypothesis  $(H_1)$  was that the number of depositors after the deposit insurance system does not change or decreases.

According to the survey results 170 respondents out of 500 have deposited their savings at the Georgian commercial bank accounts, and 76 would make their investments if they had an excess fund, remaining 254 respondents refused to deposit their savings even if they had an excess fund to invest. In the second section of the questionnaire survey results show that the number of respondents standing ready to deposit their savings considerably increased. Huge number of population questioned, 473 respondents which is about 95 % of the total population under the study, agreed to deposit their excess funds if deposit insurance system operated in Georgia.

*Examination of hypothesis 1:* The sample size or the total number of the population under the study equals to 500 respondents.  $1^{st}$  sample population or the number of successes equals to 473 respondents willing to save their excess funds after implementation of deposit insurance system, and  $2^{nd}$  sample population is equal to 246, which is derived from 170 respondents already having deposits kept at the bank accounts plus 76 respondents who are ready to deposit their savings if they had an excess fund to invest.

The proportion of  $1^{st}$  sample population (p1) in the total sample size equals to 0.946, and the proportion of  $2^{nd}$  sample population (p2) is equal to 0.492.

The null hypothesis thus refers to the differences between these two proportions of the variables to be more than zero and the alternative hypothesis refers to the same difference to be less than or equal to zero:

$$H_0: p_1 - p_2 > 0$$
  
 $H_1: p_1 - p_2 \le 0$ 

To test the hypothesis two-sample test namely, z-test for differences in two proportions was used (Table 1). The formula below shows the way of conducting z test calculations:

$$z = \frac{(\hat{p}_1 - \hat{p}_2) - d_0}{\sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}}$$
  
Where,  $\hat{p}_1 = \text{sample 1 proportion}$   
 $\hat{p}_2 = \text{sample 2 proportion}$   
 $n_1 = \text{sample 1 size}$   
 $n_2 = \text{sample 2 size}$   
 $d_0 = \text{hypothesized population mean difference}$ 

The level of significance or  $\dot{\alpha}$  (alpha) in the testing process was assumed to be equal to 0.05 ( $\dot{\alpha}$  = 0.05). It means that the results of testing are true by the 95 % of confidence.

**Table 1.** Z-Test for Differences in Two Proportions: Testing  $H_0$  the implementation of deposit insurance system increases the number of depositors in Georgia

Data	
Hypothesized Difference	0.5
Level of Significance	0.05
Group 1	
Number of Successes	473
Sample Size	500
Group 2	
Number of Successes	246
Sample Size	500
Intermediate Calculations	
Group 1 Proportion	0.946
Group 2 Proportion	0.492
Difference in Two Proportions	0.454
Average Proportion	0.719
Z Test Statistic	-1.618118156

Table 1 continues on next page.

continue of table 1.

Lower-Tail Test	
Lower Critical Value	-1.644853627
<i>p</i> -Value	0.052818568
Do not reject the null hypothesis	

Thus, hypothesis testing results failed to reject the null hypothesis when  $\dot{\alpha} = 0.05$ . It means that according to the testing results the null hypotheses that implementation of deposit insurance system increases the number of depositors in Georgia cannot be rejected at 95 % of confidence or at 95 % of confidence null is true.

The hypothesized difference indicates percentage change in the number of depositors after deposit insurance system at 0.05 level of significance. The hypothesized difference of 0.5 means that the hypothesis that the introduction of deposit insurance system to the Georgian banking sector will increase the number of depositors in Georgia by 50% is not rejected at 95% of confidence. If the hypothesized difference becomes 0.51, z testing results reject the null hypothesis in favor of alternative one. It means that hypothesis testing results do not support at 95% of confidence more than 50% growth of the number of depositors under the deposit insurance system.

*Examination of hypothesis 2:* Hypothesis testing was conducted once more to see effects of deposit insurance system over the behavior of depositors in sense of reduced panic runs to banking institutions for early withdrawals.

According to the responses of the population under the study absolute majority of respondents, about 98% or 488 people would immediately run to banks where they have deposited their savings to withdraw funds in case of any political or economic instability. Only 12 people prefer to wait just a little to see further developments on the market. Situation has dramatically changed under deposit insurance system. 247 respondents running to the bank before deposit insurance system is implemented in Georgia say that they would feel better secured if deposit insurance system is introduced to the Georgian banking system and would not run to the banking institutions for early withdrawal.

To conduct testing, 1<sup>st</sup> sample population is assumed to be 488

people or depositors under the study running to banks for early withdrawals before deposit insurance system in Georgia and  $2^{nd}$  sample population refers to 241 people, or respondents who do not trust deposit insurance system, even under deposit insurance system feel not protected from losing their savings if bank fails and preserve their position to run to bank for early withdrawal. The figure of 1st sample population or 241 respondents is derived from total sample size or 500 people minus 12 people who do not run to banks even before deposit insurance system minus 247 people who do not run to banking institutions under deposit insurance system.

The proportion of 1st sample population in the total sample size equals to 0.976 ( $p_1=0.976$ ) and the proportion of  $2^{nd}$  sample population – 0.482 ( $p_2=0.482$ ) when total sample size is 500 people again.

Z testing was conducted to test the hypothesis below:

 $H_0: p_1 - p_2 > 0$ 

 $H_1: p_1 - p_2 \le 0$ 

Null hypothesis state that deposit insurance system reduces panic runs to banking institutions for early withdrawal in Georgia in times of crises. In order not to reject the null the difference between two sample proportions must be positive or more than zero. It means that if null is not rejected the number of depositors running to the banks for early withdrawal decreases.

Alternative hypothesis is that deposit insurance system does not reduce the panic or moreover it is even fostered. To reject the null in favor of alternative hypotheses the difference between two sample population must be less or equal to 0. If the null is rejected it means that panic runs were even incentivized or the number of depositors running to the bank did not change even after implementation of deposit insurance.

Hypothesis testing was conducted at the same confidence level, 95%, which again means that testing results are true at 95% of confidence (Table 2).

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**Table 2**. Z-Test for the Differences in Two Proportions: Testing  $H_0$  deposit insurance system reduces panic runs to banking institution for the early withdrawals in Georgia in times of crises

Data	
Hypothesized Difference	0.54
Level of Significance	0.05
Group 1	
Number of Successes	488
Sample Size	500
Group 2	
Number of Successes	241
Sample Size	500
Intermediate Calculations	
Group 1 Proportion	0.976
Group 2 Proportion	0.482
Difference in Two Proportions	0.494
Average Proportion	0.729
Z Test Statistic	-1.636362154
Lower-Tail Test	
Lower Critical Value	-1.644853627
<i>p</i> -Value	0.050881908
Do not reject the null hypothesis	

According to the testing results p-Value of about 0.051 does not allow null hypothesis to be rejected. As far as it is more than the level of significance  $\dot{\alpha}$  (p-Value > 0.05) the null hypothesis fails to be rejected. If null is not rejected, then at 95% of confidence the number of depositors running to the banking institutions for early withdrawal in Georgia decreases and at the same 95% of confidence reduction of panic among the Georgian depositors by deposit insurance system in times of crises and bank failures is not rejected.

Testing results are true when hypothesized difference equals to 0.54, which means that the number of depositors running to the bank after deposit insurance system is introduced to Georgian banking system decreases by 54%. According to the testing results when hypothesized difference becomes 0.55 the null is rejected. Thus, testing results at 95% of confidence do not support more than 54% reduction in the number of depositors running to banks in times of crises.

Reduction of panic runs to banking institutions by 54 % in times of crises with no doubt supports the stability of banking system. The results of testing can be regarded really important for Georgian banking environment as far as the banking system of Georgia showed to be especially troubled due to the panic among population in an event of future uncertainties.

*Examination of hypothesis 3:* The effect of coverage limits imposed by deposit insurance system was also tested. The purpose of testing was to see whether or not implementation of deposit insurance system weakens market discipline in Georgia if depositors know that they will be fully compensated.

The survey results show that all 500 or 100% of respondents observe performances of banking institutions where they have invested their savings. According to their responses either financial conditions of these commercial banks or their future perspectives and opportunities or overall economic situation in the country are controlled to feel confident about safety of their investments. The number of population under the study controlling and following all occurrences on the market decreased if deposit insurance system promises to fully cover and compensate their deposits in times of crises and bankruptcies. 18% of respondents considered their savings to be better secured after imposition of deposit insurance system and gave up the process of observation. The remaining 409 or 82% of respondents still kept the same position to follow the current and future situations on the market and continued to observe the financial conditions and future perspectives of banking institutions even if deposit insurance system is implemented in Georgia.

Thus, proportions of sample populations equal to 1 ( $p_1 = 1$ ) and 0.818 ( $P_2=0.818$ ) when the total sample size is again 500 people. 1<sup>st</sup> sample population is the number of depositors in Georgia who observe commercial bank performances and their future perspectives before deposit insurance system is implemented in the country and 2<sup>nd</sup> sample population is the number of depositors in Georgia continuing the process of observation on the financial conditions of banking institutions under deposit insurance system.

Considerable reduction of the number of depositors evaluating bank performances is regarded as weakening of market discipline, leading

to the problem of moral hazard. It means that banking institutions also feel secured if they know that their operations, strategies and performances are less watched by the depositors and undertakes excessive risks.

Null hypothesis is that market discipline weakens under the deposit insurance system if coverage limit is equal to 100% and depositors are fully compensated after the bank failure. The hypothesis is true if the number of depositors observing commercial bank performances considerably decreases after imposition of deposit insurance system.

The alternative hypothesis states that market discipline or the number of depositors who are still willing to control banking institutions does not change their behavior under the insurance system even if their deposits are fully covered:

 $H_0: p_1 - p_2 > 0$  $H_1: p_1 - p_2 = 0$ 

If testing results prove the difference between two proportions of sample populations to be less than zero, it means that number of depositors watching the bank performances is less under deposit insurance system or market discipline is weaker under the system and hence null hypothesis will not be rejected.

Statistical z testing was again conducted (Table 3) at the significance level of 0.05 ( $\dot{\alpha} = 0.05$ ). As far as alpha is equal to 0.05, the results of hypothesis testing are true again at 95% confidence.

**Table 3.** Z-Test for the Differences in Two Proportions: Testing  $H_0$  the imposition of deposit insurance system in Georgia weakens market discipline if insurance coverage is unlimited

Data	
Hypothesized Difference	0.22
Level of Significance	0.05
Group 1	
Number of Successes	500
Sample Size	500
Group 2	
Number of Successes	409
Sample Size	500
Intermediate Calculations	
Group 1 Proportion	1
Group 2 Proportion	0.818
Difference in Two Proportions	0.182
Average Proportion	0.909
Z Test Statistic	-2.089060239
Lower-Tail Test	·
Lower Critical Value	-1.644853627
<i>p</i> -Value	0.01835115
Reject the null hypothesis	

According to the testing results p-Value  $< \dot{\alpha}$  or less than 0.05 level of significance, which means that at 95% of confidence null hypothesis is rejected in favor of alternative hypothesis. Correspondingly, imposition of deposit insurance system does not weaken market discipline at 95% of confidence or does not considerably reduces the number of depositors who are willing to observe the activities and financial conditions of banking institutions where they have invested their savings.

When null is rejected hypothesized difference equals to 0.22, which means that even 22% decrease of the number of depositors observing the bank performances are not allowed. Although at 95% of confidence testing results fail to reject that the number of depositors may decrease by less than 22%. If hypothesized difference becomes 0.21 and less testing results do not reject the null. It means that maximum 21% of depositors may consider that their deposits are secured and may give up the observation. Thus, at 95% of confidence testing results fail to reject that the number of depositors still willing to observe banking activities and performances may decrease

by 21 % or less.

*Examination of hypothesis 4:* Hypothesis testing was conducted again to see whether the number of depositors trying to watch bank performances decreases by the same amount or less and whether market discipline becomes weaker under deposit insurance system in Georgia if the coverage limit of deposit insurance is less than 100%, or depositors are not fully compensated but rather just part of their savings are paid in an event of bank failure.

The survey results show that the number of depositors who are observing commercial bank performances, their current financial conditions and future perspectives or the economic situation in the country decreases less under deposit insurance system with partial coverage relative to the full coverage. If depositors are paid not full but only the part of their investments in times of crises and failures, then bigger number, 455 or 91% of respondents showed to preserve their position and to still watch banking institutions. Thus, only 45 respondent 9% gave up the process of observation under the partial compensation of deposits.

 $1^{st}$  sample population again refers to the number of depositor observing commercial bank financial conditions when deposit insurance system does not yet work in Georgia and  $2^{nd}$  sample population refers to the number of depositors trying to watch the bank performances under deposit insurance system.

The proportion of  $1^{st}$  sample population in the total sample size is again 1 ( $p_1 = 1$ ), because the same 500 or 100% of respondents observing commercial bank performances are assumed to be beginning sample under the test. The proportion of  $2^{nd}$  sample population equals to 0.91 ( $p_2 = 0.91$ ).

Z testing was conducted to test the hypothesis below (Table 4):

 $H_0: p_1 - p_2 > 0$  $H_1: p_1 - p_2 = 0$ 

Null hypothesis states that the difference in two proportions is positive or more than zero. It means that if null is not rejected the number of depositors controlling banking institution and market conditions decreases or the market discipline again weakens under deposit insurance system

even if deposits savings are not fully compensated after bank failure and the part of their deposits are at risk.

Alternative hypothesis is that the number of depositors observing financial conditions and performances of banking institutions does not change under exactly the same conditions or under partial compensation.

Hypothesis were tested at 0.05 level of significance ( $\dot{\alpha} = 0.05$ ). Thus, testing results are true again at 95% of confidence.

**Table 4.** Z-Test for the Differences in Two Proportions: Testing  $H_0$  the imposition of deposit insurance system in Georgia weakens market discipline if insured deposits are compensated partially after bank failures

Data	
Hypothesized Difference	0.12
Level of Significance	0.05
Group 1	
Number of Successes	500
Sample Size	500
Group 2	
Number of Successes	455
Sample Size	500
Intermediate Calculations	
Group 1 Proportion	1
Group 2 Proportion	0.91
Difference in Two Proportions	0.09
Average Proportion	0.955
Z Test Statistic	-2.28814381
Lower-Tail Test	
Lower Critical Value	-1.644853627
<i>p</i> -Value	0.011064574
Reject the null hypothesis	

Testing results reject again the null hypothesis in favor of alternative hypothesis at 95% of confidence. According to the testing results p-Value is less than 0.05 of significance level. It means that the hypothesis of weakening market discipline is once more rejected.

Hypothesized difference of 0.12 demonstrates that 12% reduction in the number of depositors watching the banks is not allowed. In return testing results allow at 95% of confidence that maximum 11% of depositors may feel that their deposits are not at risk and they may change their position and stop the observation. This is evidenced by the testing results when hypothesized difference is 0.11 or less. In this case testing results fail to reject the null hypothesis at 95% of confidence.

The purpose of last two testing was to find out whether the implementation of deposit insurance system in Georgia significantly weakens market discipline. As a result of testing null hypotheses were rejected at 95% of confidence in both cases in favor of alternative hypothesis. It means that the number of depositors watching bank performances does not considerably decreases, but at the same the results of testing do not totally reject reduction of the number of depositors observing the financial condition of commercial banks.

Testing results show that market discipline is weaker when full coverage is imposed by the deposit insurance system relative to the second case when deposit insurance system promises only partial coverage or partial compensation. The number of depositors observing the commercial bank financial conditions under the full compensation according to the testing results is allowed to decrease by 21% and under the partial coverage by 11%. Both results are true at the 95% of confidence.

Generally, decrease of the number of depositors in Georgia willing to observe the financial conditions of banking institutions and to watch risk levels of commercial banks is really insignificant in both cases. Thus, according to the results of testing implementation of deposit insurance system does not considerably change the situation on the market in respect of market discipline. Although, the partial coverage or partial compensation is more desirable to be a component of deposit insurance system as partial compensation to depositors shows to have less effect over the market discipline rather than the effect of full coverage.

# Conclusion

Based on the testing results the paper concludes the following about anticipated effects of deposit insurance system particularly over the Georgian banking sector:

1. The Georgian banking system is in need of implementation of deposit insurance system for further development and growth. The present

stability of the Georgian banking system ensured by NBG supervision creates the growing tendency of banking sector in the country. Accordingly, official statistical data show significant development of the Georgian banking industry. However, the Georgian banking system stability and progressiveness did not appear to be enough to protect the system from panic runs to banking institutions in times of future uncertainty. Due to which banks in Georgia in August 2008 appeared in difficulties and to be very mach harmed. Deposit insurance system providing the guarantee to compensate depositor's loss enhances the public confidence and reduces the panic among population in times of crisis. The testing results of the research paper state the same stabilizing effects of deposit insurance system over the Georgian banking sector; the hypothesis that after implementation of deposit insurance system panic runs to banking institutions will be reduced by 54% was not rejected at 95% confidence. This positive effect of Deposit insurance system will most probably promote the banking stability in Georgia even under the risk of uncertainty supporting future development of banking industry.

2. The Georgian banking sector can benefit from the implementation of deposit insurance system. The survey of the research paper showed Georgian population to be ready for the implementation of the system and to be demanding deposit insurance. Vast majority (about 95%) of respondents, 473 people replied to be ready to insure their savings if deposit insurance system operated in Georgia. Moreover, testing results showed that the number of depositors under deposit insurance system will increase in Georgia. The hypothesis that the implementation of deposit insurance will increase the number of depositors by 50% was not rejected at 95% of confidence. Such a significant growth in the number of deposits will certainly have positive effects over the banking system of Georgia in respect of expanded banking activities and growth.

Coverage limit is recommended to be imposed under deposit insurance system. According to the testing results of the paper if depositors in Georgia are not promised to compensate their losses fully they showed stronger interest and desire to observe commercial bank performances. The hypothesis that the implementation of deposit insurance system in Georgia will decrease the number of depositors observing financial conditions of commercial banks was not rejected at 95% of confidence in neither of the cases with the coverage limit and without, but in case of full coverage 22% reduction was observed when in the case of partial compensation only 12%. Thus, coverage limit proves to support the maintenance of market discipline.

# References

Angkinand, A., & Wihlborg, C. (2005). Bank Insolvency Procedures and Market Discipline in European Banking. *Working Paper*.

Basel Committee on Banking Supervision; International Association of Deposit Insurers. (2009). *Core Principles for Effective Deposit Insurance Systems*. Basel, Switzerland: Bank for International Settlements; International Association of Deposit Insurers.

Beck, T. (2003). The Incentive Compatible Design of Deposit Insurance and Bank Failure Resolution - Concepts and Country Studies. *World Bank Policy Research Working Paper*.

Blinder, A. S., & Wescott, R. F. (2001). *Reform of Deposit Insurance a Report to FDIC*. Washington: Federal Deposit Insurance Corporation.

Demirgüç-Kunt, A., Karacaovali, B., & Laeven, L. (2005). Deposit Insurance around the World: A Comprehensive Database. *World Bank Policy Research Working Paper*.

Demirgüç-Kunt, A., Kane, E. J., & Laeven, L. (2006). *Deposit Insurance Design and Implementation: Policy Lessons from Research and Practice*. Cambridge, Massachusetts, London: The MIT Press, World Bank, Boston College.

Ioannidou, V., & Dreu, J. D. (2006). The Impact of Explicit Deposit Insurance on Market Discipline. *Discussion Paper*.

Ketcha, N. J. (2007). Deposit Insurance System Design and Considerations. *Policy Papers*.

McCoy, P. A. (2007). The Moral Hazard Implications of Deposit Insurance: Theory and Evidence. *Seminar on Current Developments in Monetary and Financial Law.* Washington: International Monetary Fund.

Rolnick, A. J. (2010). *Market Discipline as a Regulator of Bank Risk*. The Federal Reserve Bank of Minneapolice.

Schich, S. (2008). Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects. *Financial Market Trends*.

Tourbanov, A. (2005). There will be no Shortage of Funds to Reimburse Failed Banks' Depositors – Deposit Insurance Agency is confident of the above statement. ("Itogi", Interviewer)"Itogi" Magazine.

Velikova, M. (2006). Three Assays on Deposit Insurance. Mississippi.

Williamson, S. D. (1997). Discount Window Lending and Deposit Insurance. *Review of Economic Dynamics*.

Walker, D. K., Demaestri, E., & Martin, F. (2004, October 1). Deposit Insurance And Poverty Reduction. *Economic Review*.