# THE INFLUENCE OF DEPOSITS INSURANCE ON THE STABILITY OF THE BALTIC STATES BANKING SYSTEM

## Aušrinė Lakštutienė[1], Rytis Krušinskas[2], Dalia Rumšaitė[3]

*Kaunas University of Technology, K. Donelaičio g. 73, LT-44029 Kaunas, Lithuania*
*E-mails: [1]ausrine.lakstutiene@ktu.lt (corresponding author);*
*[2]rytis.krusinskas@ktu.lt; [3]dalia.rumsaite@ktu.lt*

**Abstract.** The processes in the financial markets in the last years revealed the new research directions in the risk for market actors valuation area. Globalization processes and their impact on a country's financial system stability affects banking system not only with the clear macroeconomic indicators, but also with the panic and uncertainty of resources providers – depositors. Deposit coverage insurance limit increase as risk management tool for Baltic States banking system stability in the period of 2005–2009 was implemented. These actions helped commercial banks, participating in deposit insurance system, to keep their credit ratings and financial stability. However, the main concern is about whether this tool is more theoretical or practical for maintaining stability of the banking system, and what influence to macroeconomic factors make deposits sum in country's banks.

**Keywords:** banking, deposit insurance, depositor panic, macroeconomic factors.

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## 1. Introduction

During the recent decades the economic and financial systems of the whole world became very dependent on one another. The processes in the financial markets affected both the national economies of countries and the behaviour of individual investors and savers by creating new types of risks for market actors. Due to these reasons the world financial markets and changes in them manifested through globalization processes and influencing the stability of the financial system of a country have become the object of scientific research during the last decade. The importance of financial crises and their influence on the economies of the countries, stability of the financial sector, highlighting the role of banks, is proved by scientific research not only in the world (Drehmann 2002; Hoque 2009; Laeven, Valencia 2008; Ingves, Lind 1996; Ucal *et al.* 2010; Dahlheim, Nedersjo 1993; Viotti 2000, Maysami, Lim 2004; Sabourin 2007; Kopcke 2000), but also in Lithuania (Strumickas, Valanciene 2006; Macerinskiene, Ivaskeviciute 2008; Martinaityte 2008; Leika 2008; Lakstutiene, 2008, Lakstutiene *et al.* 2006, 2009; Bogu-

slauskas, Mileris 2009; Zukauskas, Neverauskas 2008). Such research does not speak about the financial security net which is necessary to reduce the risk of financial crises. Santomero (1997); Aktan, Masood (2010), Bernat (2009); Ince, Aktan (2009); Ginevicius, Podvezko (2008); Arslan, Karan (2009); Aluko (2007) states in his works that a financial system would not exist without financial institutions, which play the critical role in the economy: they not only support the expenditure of the private sector, but manage to finance part of the government's expenditure, and at the same time serve as an accumulator of savings providing the country with financial resources. However, the financial institutions may create instability in the financial sector and the main reason for instability is the fact that the worth created by the financial institutions is financed by obligations, i.e. funds of depositors. Due to this reason, which is named by the majority of scientists (Bernat 2009; Demirgüç-Kunt, Kane 2002; Frolov 2004; Demirgüç-Kunt *et al.* 2005; Hoque 2007; Schich 2008), almost all governments of the world created a security net for the financial system, which would ensure stability and integrity of the financial system. The proper financial security net is necessary to reduce the risks during major financial crises. Without the proper financial security net any rumor about solvency or liquidity of a financial institution may have a possibility to justify itself and become an absolutely exaggerated financial crisis (Schich 2008). Demirgüç-Kunt *et al.* (2005) distinguish the following possible components of the security net: *(1) explicitly defined or undefined deposit insurance, (2) regulation and supervision of bank activities, (3) the function of the central bank as the last creditor* and *(4) creation of procedures for bank bankruptcy decision.* Upon analyzing the components of the security net, other authors (Santomero 1997; Titarenko 2002; Hoque 2007; Schich 2008) narrow them down slightly, distinguishing only three main components of this net: *(1) bank supervision system, (2) the function of the last creditor* and *(3) deposit insurance*. Schich (2008) suggests a slightly wider concept of the financial security net, indicating that by adding the function of *mechanism of management of failures* to the functions above it becomes possible to extend the scope of discussed problems. Scientists (Santomero 1997; Demirgüç-Kunt *et al.* 2005; Schich 2008), analyzing the financial security net, maintain that the elements of the financial security net cannot exist separately: the individual components of the financial security net are strongly interrelated. The foundation of any regulation structure is directed towards ensuring financial stability, thus enabling the appearance of the element of **insurance** of a certain type of **deposits**, which is one of the important indicators of the stability of the banking sector.

Upon assessing the influence of insurance of deposits on the stability of the banking system of the Baltic States, what is the main objective of this research, 4 targets could be set and they could help to answer the main question of the article, i.e. what influence insurance of deposit has on stability of the banking system in case of the Baltic States: 1) to evaluate whether in a critical situation the government could provide guarantees that are declared; 2) to establish whether the increased government guarantees during one crisis can encourage banks and depositors to accept larger risks that could cause a new crisis; 3) to analyze whether introduction of different levels of protection could give rise to unfair competitive advantages among establishments accepting deposits; 4) to determine whether the increased limits of insurance of deposits cause moral risks if the insurance limits are not restricted.

## 2. Literature review

When discussing the elements of the financial security net, the importance of the system of insurance of deposits does not raise any doubts. Santomero (1997), Demirgüç-Kunt and Kane (2002) stress that the system of insurance of deposits strengthens the trust of the society of a country in the banking system. Taking into account the importance of the banking sector, together with its characteristic instability, the insurance of deposits creates a clear role of the security of the financial system. The insurance protects or reduces the crisis-related losses of less competent depositors and may be seen as a part of a wide consumer protection program operating in many countries. And though the influence of the insurance of deposits on the banking system has been discussed in scientific literature for over fifty years, it has to be noted that the subject is still on the level of deep theoretical discussions. Such discussions are encouraged by different attitudes towards the influence of the insurance of deposits on the financial sector. The supporters of insurance of deposits criticize authors (Kuritzkes *et al*. 2000; Demirgüç-Kunt, Detragiache 2002; Hoque 2007; McCoy 2007) envisaging major risks to the banking system, when the stability of the system is supported by deposit insurance. The scientists supporting insurance of deposits (Santomero 1997; Diamond, Dybvig 2000; Tauraitė 2003; Demirgüç-Kunt *et al*. 2005) underline the fact that the main purpose of insurance of deposits is not to compensate the deposits to the depositors in case of bankruptcy of the bank but to support the stability of the whole financial system, to reduce the probability of a financial crisis. Different views on the system of insurance of deposits, performed empirical research, fragmented and repetitive scientific studies determine the fact that scientific sources present rather different evaluation of the influence of the system of insurance of deposits; besides many of the studies analyze the situation of the last century, the influence of the system of insurance of deposits on financial crises that took place during 1980–1997. The last decade has seen many changes in the global financial markets, which resulted in changes in the system of insurance of deposits, especially during the economic crisis that started in 2007. In the opinion of Laeven (2001); Garcia (2002); Demirgüç-Kunt, Kane (2002); Hoque (2007), suitable evaluation of the system of insurance of deposits and correct reorientation at the necessary moment may essentially change the situation of the banking system and at the same time save the economy of the whole country. The events of the recent years force a different view on the system of insurance of deposits, it becomes necessary analyze new and relevant events in the financial markets. Many countries had to quickly re-orientate the existing system of insurance of deposits in order to manage the financial crisis.

The scientists who performed research on the system of insurance of deposits (Diamond, Dybvig 2000; Frolov 2004; Ioannidou, Dreu 2006; Hoque 2007, 2009; Demirgüç-Kunt, Kane 2002; Eisenbeis, Kaufman 2006; McCoy 2007) state that irrespective of the fact that the use of the system of insurance of deposits is common throughout the world and this system is constantly improved, different uses of the system may cause a totally opposite result than the anticipated one. Santomero (1997); Demirgüç-Kunt, Kane (2002) analysis of the necessity of the system of insurance of deposits also reveals the negative sides of deposit insurance highlighting the larger risks undertaken by banks,

less care for depositors on the one hand and on the other hand, maintaining that insurance of deposits reduces the stimulus of depositors to control banks. Santomero (1997); Demirgüç-Kunt, Kane (2002); Demirgüç-Kunt *et al*. (2005); Schich (2008) point out the following problems of the insurance system as the main negative consequences of insurance of deposits: risk of moral damage, reduced stability of the banking system and increased probability of a banking crisis as well as reduced market discipline. Different authors distinguish moral risk as one of the main risks the system of insurance of deposits**.** It is stated that moral risk is most likely when the insurance of deposits is covered infinitely. Upon analyzing the negative effects of insurance of deposits, scientists (Santomero 1997; Demirgüç-Kunt, Kane 2002; Schich 2008) also suggest possible alternatives for reduction of such effects (Fig. 1).

There are instruments in the market allowing to reduce the negative effect of insurance of deposits on the banking system. In order to reduce the risk of moral damage, it is necessary to let the market discipline operate if the stability of the bank system decreases, it may be necessary to increase the limits of liability of bank management and increase the transparency of bank activity, if the probability of a banking crisis increases, management of deposit insurance should be transferred to the government level, if the market discipline is reduced, then it is necessary to change the model of financing of the insurance of deposits.

Quite a few methods for solving problems of financial stability have been created according to historical data they allow evaluating direct correlation between the key macroeconomic factors and certain risk measures, such as indicators of financial stability. Striving for more detailed analysis of the models of research of the influence of insurance of deposits on the stability of the banking system, comparison of such models was carried out (see Table 1).
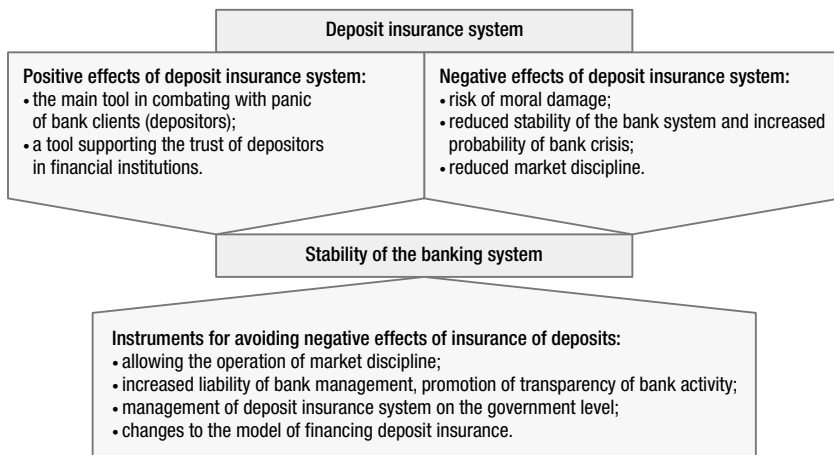
Deposit insurance system

Positive effects of deposit insurance system:
- the main tool in combating with panic of bank clients (depositors);
- a tool supporting the trust of depositors in financial institutions.

Negative effects of deposit insurance system:
- risk of moral damage;
- reduced stability of the bank system and increased probability of bank crisis;
- reduced market discipline.

Stability of the banking system

Instruments for avoiding negative effects of insurance of deposits:
- allowing the operation of market discipline;
- increased liability of bank management, promotion of transparency of bank activity;
- management of deposit insurance system on the government level;
- changes to the model of financing deposit insurance.

**Fig. 1.** The influence of the system of deposit insurance on the stability of the banking system (Maysami, Lim 2004; Demirguc-Kunt, Detragiache 2000; Drehmann 2002; Ioannidou de Dreu 2006; Santomero 1997; Demirguc-Kunt, Kane 2002; Schich 2008)

**Table 1.** Supporters of research on the influence of insurance of deposits
on the stability of the banking system

| Authors of the research method and research type | View on deposit insurance as a tool for supporting stability of the bank system | Analyzed system of deposit insurance and the scientific importance of the model | Characteristics of the analyzed system, variables and control variables or the indicators describing the deposit market |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| **Demirguc-Kunt, Detragiache (2002);** Static | A clearly defined deposit insurance system has a negative effect on bank stability. | A clearly defined deposit insurance system, state with different development levels. The first to use the inter-state data base supported by World Bank to analyze the correlation between insurance of deposits by banks and financial crises. | A clearly defined/undefined system; Limit of coverage; Sphere of application (foreign currency/ interbank deposits); Joint insurance; Financing; Sources of financing; Fees; Management; Membership. GDP; GDP per capita; Inflation; Real interest rate; Credit growth in the past; Foreign currency reserves; Trade growth rate; Devaluation. |
| **Tauraitė (2003);** Dynamic | A clearly defined deposit insurance system influences the stability of the banking system. | A clearly defined deposit insurance system. That is probably the only research found in official sources analyzing the deposit insurance system in the Baltic States. | Annual insurance fee rate; Maximum amount of insurance of deposits; Level of compensation; Obligation to participate; manner of administration of the deposit insurance system. Number of banks; Size of deposits; Share of demand deposits in relation to all deposits; Share of deposits from non-residents in relation to all deposits; Annual growth rate of deposits; Average annual interest for short-term deposits in the national currency and foreign currencies. |
| **Demirguc-Kunt, Karacaoval, Laeven (2005);** Static | In countries with different level of development insurance of deposits has a different influence on the stability of the banking system. | A clearly defined deposit insurance system, all regions, all levels of development. The authors view the influence of the system of insurance of deposits from the point of view of different levels of development of countries. Insurance of deposits is analyzed in the context of the international deposit insurance system, distinguishing the factors that have an objective influence on it as proved by empirical research. | Object of insurance; Currency of insured deposits; A system with the principle of joint insurance. Compensation; Fee rate according to risk; Obligation to participate; Financing of the system; Administration of the fund. GDP; GDP per capita. Deposits in local and foreign currencies; Size of deposits and interbank deposits; Total amount compensated to one depositor. |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| **Hoque (2007);** Static | A clearly defined deposit insurance system increases the probability of a banking crisis, when it interacts with less or little developed countries. | A clearly defined deposit insurance system, less developed states. The performed research analyzes the correlation between different forms of the deposit insurance system and instability in the sphere of the banking system, paying special attention to less developed countries. | A clearly defined/undefined system; Limit of coverage of deposits; The correlation of the limit of coverage of deposits with GDP per capita; Sphere of application (foreign currencies/ interbank deposits); Joint insurance; Financing; Sources of financing; Fees; Management; Membership. GDP growth rates; GDP per capita; Inflation; Real interest rate; Credit growth in the past; Foreign currency reserves; Trade growth rates; Devaluation. |
| **Schich (2008);** Dynamic | Suitable use of the deposit insurance system provides stability to the banking system. | A clearly defined and undefined deposit insurance system. The author analyzed characteristics of the deposit insurance system and the influence on the stability of the banking system in the face of a financial crisis. | Limit of coverage; Financing of the system; Joint insurance. |

Based on the comparison of different theoretical and empirical models, it can be stated that research models are directed towards support of different research solutions. While static research models (Demirgüç-Kunt, Detragiache 2002; Demirgüç-Kunt *et al*. 2005; Hoque 2007) are more oriented towards the factors influencing the deposit insurance system and their interrelations, the dynamic research supporters (Tauraitė 2003; Schich 2008) highlight the consequences of the decisions of management of the deposit insurance system. The static models are more similar than different according to their structure, i.e. such models underline the factors influencing the process, only the number of these factors variables of the system under analysis differ. The logical consistency of the static research methods provided on the influence of deposit insurance on the stability of the banking system is easier to present than that of the dynamic methods (see Figure 2).

From Figure 2 it is possible to note that three phases are characteristic to static methods. The first and second phases are interrelated by feedback, and it means that the consequence influences factors influencing the deposit insurance system by feedback. When analyzing the static research methodss of the influence of deposit insurance on the stability of the banking system and their logical consistency, it can be stated that these methods (Demirgüç-Kunt, Detragiache 2002; Demirgüç-Kunt *et al*. 2005; Hoque 2007) stress the correlation of determining factors and consequences, but it should also be noted that it is more of a reflection of the process of decisions of the static research
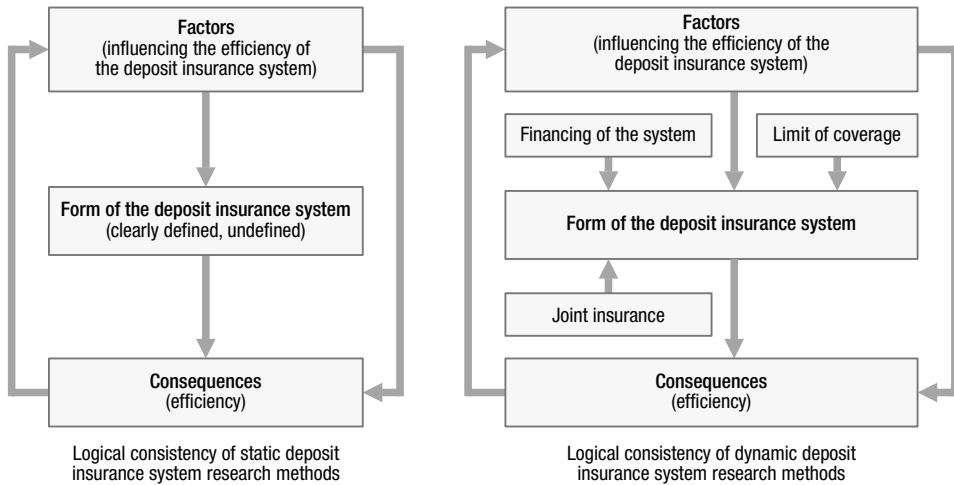
**Fig. 2.** Logical consistency of static and dynamic deposit insurance system research methods

on the influence of insurance of deposits on the stability of the banking system, which is attempted to correct in the dynamic methods. The drawback of the static methods is that these research methods analyze just the state of the system at a certain period and its influence on the stability of the banking system without changing its parameters under certain economic conditions.

The analyzed dynamic (Schich 2008) research method of the influence of deposit insurance on the stability of the banking system highlights the changes of the system itself in maintaining the stability of the banking system. The author outlines the possible consequences to the financial system of the country, after making certain key changes in the deposit insurance system. The following key internal changes to the deposit insurance system should be noted: changes to the limit of coverage of the insurance, changes to the financing of the system, introduction of joint insurance. The said internal changes in the dynamic influence research method are not only presented according to the importance but this model also presents the possible mistakes of such key changes that can have a totally different influence on maintaining the stability of the banking system. The changes to the deposit insurance system analyzed in the dynamic research method of the influence of deposit insurance on the stability of the banking system (Schich 2008) allow us to conclude that to achieve desirable influence on the stability of the banking system the deposit insurance system should be reorganized effectively with changes in the world economy. Though the authors of static research methods (Demirgüç-Kunt, Detragiache 2002; Demirgüç-Kunt *et al.* 2005; Hoque 2007) focus more on tangible objective internal factors in their models, they also highlight the importance of macro-economic factors, such as GDP growth rate, inflation, devaluation and others.

Summarizing literature review of the previous researches on the deposit insurance problems, could be stated that country specific problems and macroeconomic environment changes can form a different character of the research. This can be influenced by

rapid grow of the banking system and country's economy, with limited allowance for economy stagnation period readiness. This research can be extended by analyzing the Baltic states case, as the example of fast growth and sharp downfall, allowing to derive assumptions on deposit insurance system effectiveness.

## 3. Research method

*Based on analysis of scientific literature,* it can be stated that for further research it would be purposeful to combine the concepts of static (Demirgüç-Kunt, Detragiache 2002; Demirgüç-Kunt *et al.* 2005; Hoque 2007) and dynamic (Tauraitė 2003; Schich 2008) research models and to perform an assessment research on the influence of insurance of deposits on the stability of the banking system in the Baltic States.

The recent world economic crisis affected the stability of the banking system governments of countries have started to create a security net for banks and other financial establishments for strengthening this system. When creating this net, several elements of the security net were designed; one of them is insurance of deposits, its terms were reviewed in many states. The governments especially widened the existing guarantees and introduced new insurance limits, the majority of states increased the limits temporarily, several countries established them permanently. Thus the performed research on the influence of insurance of deposits on the stability of the banking system in the Baltic States commences with identification of changes in a clearly defined deposit insurance system.

In the performed research Schich (2008) underlined the possible consequences of extending the limits of insurance, which were not based on real facts. After 2008 and 2009, the consequences of increased insurance limits can already be evaluated based not only on theoretical provisions, but by analyzing real statistical data, evaluating the influence of extending of these limits on the stability of the banking system of the Baltic States. The set targets in article introduction concerning the influence of increased deposit insurance limits on the stability of the banking system will be analyzed using the adapted methods used by Demirgüç-Kunt, Detragiache (2002), Demirgüç-Kunt *et al*. (2005), Hoque (2007) in their researches.

The research design can be listed in to 4 steps, encompassing targets of the paper:
1. To estimate country's government financial guarantees;
   In order to achieve the first target, we analyze the dynamics of the size of deposits and the funds accumulated in the deposit insurance fund and the possibilities of the deposit insurance fund to compensate the deposits in the banks.
2. To monitor, whether government guarantees encourage banks and depositors to accept larger risk;
   The second target is achieved by analyzing the credit rating of the banks of the Baltic States and shares in the Baltic market. The long-term credit ratings of the banks are interpreted on the basis of the rating values announced by the Ministry of Finance of the Republic of Lithuania.
3. To evaluate possible deposit insurance system introduction influence to unfair competition amont deposits accepting institutions;

The third target of the article calls for a comparative analysis of deposit insurance systems employed by the Baltic country and branches of foreign banks, distinguishing the banks of the Baltic States not participating in the local country deposit insurance system.

4. To analyze the influence of increased deposit insurance limit to moral risk;

When performing the analysis of the influence of insurance of deposits on the stability of the banking system, the main indicator showing the influence of insurance of deposits on the stability of the banking system is identified. Stability of the banking system is endangered when depositors start withdrawing deposits from banks because depositors lose trust in banks, therefore the main indicator showing the stability of the banking system is the size of deposits in the banks. The stability of the banking system is influenced by the size of deposits in the banks and at the same time by macroeconomic factors, thus upon analyzing the influence of insurance of deposits on the stability of the banking system, it is important to establish and distinguish the most important macroeconomic factors affecting the system. The analysis of the influence of macroeconomic factors on the size of deposits in the banks covers the analysis of the control variables distinguished in the Demirgüç-Kunt, Detragiache (2002) and Hoque (2007) research: GDP growth rate; GDP per capita; Trade growth rates; Inflation; Real interest rate; Foreign currency reserves; Credit growth. Binary correlation analysis is used for analysis of the influence of macroeconomic factors on the size of deposits in the banks and its main phases are: 1) establishing the key correlations, 2) calculation of reliability indicators, 3) composition of the regression model, 4) determination of the strength of the correlation, 5) assessment of the reliability of the obtained parameters. The main sources of the research statistical data are statistical offices of the national banks in Baltic States, national offices of the statistics for macroeconomic indicators.

## 4. Results and findings

European Union Directive 94/19/EC states that the member states may decide themselves whether the depositors have to accept a certain percentage of loss in case of bankruptcy of a bank. According to the directive, member states may limit the level of compensation of deposits to a specified percentage of deposits, which should be equal to or exceed 90% of aggregate deposits until the amount to be paid under the insurance reaches the minimum amount of compensation of deposits (i.e. 20.000 EUR). In other words the directive provides for a 10 per cent joint insurance possibility, i.e. European Union member states, which decide to apply the 10% joint insurance had to specify the minimum deposit compensation limit at 22.000 EUR.

In practice until changes in the EU deposit insurance market of 7 October 2008 the principle of joint insurance was supported by 12 EU member states – mostly the new EU member states (Lithuania, Estonia, Malta, Cyprus, Hungary, the Czech Republic, Slovakia, Poland and others). Mostly, the countries applied 10 per cent joint insurance. In some cases the deposits not exceeding the limits of compensation of deposits were insured at 90%, however in other cases – in order to protect small depositors – the

deposits were partially insured at 100% and partially at 90%. In the 7 October 2008 meeting the European Union Ministers of Finance unanimously decided to restore the confidence of people in the financial sector and its proper functioning and for that purpose to take all the necessary measures to protect the savings of depositors. The decision of EU Council of Ministers of Finance of 7 October 2008 approved the increase of the limit of compensation of deposits to at least 50.000 EUR for at least one year. After this decision many EU member states decided to increase the limit of coverage of deposits even to 100.000 EUR. On 11 March 2009, the European Parliament and Council passed a new Directive 2009/14/EC amending Directive 94/19/EC on deposit-guarantee schemes as regards the coverage level and the payout delay. This Directive establishes that by 31 December 2010 the amount of insurance should be not less than 100.000 EUR and the term for claims for insurance to be 20 businees days, which can be extended for 10 business days. Based on this Directive the majority of EU member states should increase the increased limits of coverage of deposits that are below the established limit once more to the required amount. Thus countries that had established lower deposit coverage limits will have to change the existing limits once more. Lithuania, Latvia and Estonia, as well as other EU member states, increased the amount of coverage of deposits and amended other terms of insurance of deposits.

The Seimas of the Republic of Lithuania increased the maximum coverage amount payable to deposits to 100.000 EUR from 1 November 2008 to 31 October 2009. According to the new procedure of insurance of deposits, in case of an insured event depositors will be compensated 100 per cent of the deposit – amount in litas equal to up to 100.000 EUR. From 21 July 2009 the Seimas of the Republic of Lithuania passed amendments under which the limit of coverage of deposits is set for an indefinite period of time.

On 16 October 2008 the Seimas of the Republic of Latvia increased the limit of insured deposits from the amount in lats equal to 20.000 EUR to 50.000 EUR, compensating 100 per cent of the deposit in one credit establishment. In Estonia in November 2008 the Law on Guarantee Fund was also amended and the limit of compensation increased to the amount in kroon equal to 50.000 EUR, compensating 100 per cent of the deposit in one credit establishment and cancelling the 10 per cent joint insurance.

Though the amount of deposits in banks in Lithuania is nearly two times less than in Latvia and 13 per cent bigger than in Estonia, the deposit insurance fund of Lithuania would be able to compensate more deposits in banks than the deposit insurance funds in Latvia or Estonia. The first target of the research confirms that the deposit insurance funds of all three Baltic States would not be able to pay the compensations to depositors in case the banking sector of the country would experience a crisis caused by depositor panic and not one but several banks would go bankrupt. It can be concluded that insurance of deposits is more of a theoretical tool of maintaining the stability of the banking system than a practical one.

One of the main factors demonstrating reliability of banks is bank long-term credit rating announced by rating agencies. Based on the ratings assigned by Fitch Ratings, Moody's, S&P rating agencies the perspectives and risks of a bank can be judged.

**Table 2.** The deposits in the banks of the Baltic States and the amounts in deposit insurance funds from 2005 to 2009

| Year | Deposits in banks, million LTL | Deposit insurance fund, million LTL | Covered deposits, per cent | Not covered deposits, per cent |
|------|------|------|------|------|
| Lithuania (covers up to 345 thousand LTL – 100 thousand EUR) | | | | |
| 2005 | 26.347 | 550 | 2.09 | 97.91 |
| 2006 | 32.109 | 688 | 2.14 | 97.86 |
| 2007 | 38.829 | 868 | 2.24 | 97.76 |
| 2008 | 37.117 | 1.072 | 2.89 | 97.11 |
| 2009 | 39.818 | 1.274 | 3.20 | 96.80 |
| Latvia (covers up to 172.5 thousand LTL – 50 thousand EUR) | | | | |
| 2005 | 44.067 | 712 | 1.62 | 98.38 |
| 2006 | 62.990 | 1.014 | 1.61 | 98.39 |
| 2007 | 74.606 | 1.230 | 1.65 | 98.35 |
| 2008 | 74.245 | 1.251 | 1.68 | 98.32 |
| 2009 | 72.958 | 1.339 | 1.84 | 98.16 |
| Estonia (covers up to 172.5 thousand LTL – 50 thousand EUR) | | | | |
| 2005 | 20.957 | 227 | 1.08 | 98.92 |
| 2006 | 27.079 | 289 | 1.07 | 98.93 |
| 2007 | 31.461 | 401 | 1.27 | 98.73 |
| 2008 | 32.856 | 477 | 1.45 | 98.55 |
| 2009 | 34.696 | 587 | 1.69 | 98.31 |

The ratings of the largest (according to property) Baltic States banks and their perspectives according to Fitch Ratings rating agency are presented in Table 3.

From the table above we can see that highest Fitch Ratings rating agency ratings are given to the largest Scandinavian capital banks. The long-term credit ratings of these banks are from A to A– (SEB A+) and though the rating perspective is negative, these ratings show that the banks are reliable creditors and deposit holders. However, according to the data of poll of depositors carried out by the Bank of Lithuania, depositors often choose the bank which pays higher interest rate and it is rare for a depositor to analyze the ability of the bank to payout the deposit.

According to the analysis of deposit market shares of the Baltic States' banks (Fig. 3), we can see that both in Lithuania as well as in Latvia and Estonia the largest deposit market shares are held by the banks that have high long-term credit ratings – AB SEB bank and AB Swedbank. However, in Lithuania AB DnB NORD bank, with high credit ratings, holds a smaller deposit market share (9 per cent) than bank Snoras (12 per cent), the long-term credit rating of which is much worse but the interest rate for deposits is much higher (see Table 3).

**Table 3.** The ratings and perspectives of the largest Baltic States banks in 2009 according to Fitch Ratings rating agency

| | Interest rate for 1 year term deposits, national currency, per cent.* | Share of deposit market, per cent. | Fitch Ratings rating agency rating | |
|---|---|---|---|---|
| | | | Long-term credit rating | Perspective |
| AB SEB bank | | | | |
| Lithuania | 1.7 | 27 | A | Negative |
| Latvia | 1.2 | 13.5 | A+ | Negative |
| Estonia | 1.5 | 23.8 | A | Negative |
| AB DnB Nord bank | | | | |
| Lithuania | 1 | 9 | A | Negative |
| Latvia | 1 | 8.5 | A | Negative |
| Estonia | 1 | | A | Negative |
| AB Swedbank | | | | |
| Lithuania | 1 | 29 | A– | Negative |
| Estonia | 1.2 | 42.6 | A– | Negative |
| Other banks | | | | |
| AB Parex bank (Latvia) | 4.8 | <1 | RD | – |
| AB Baltic International Bank (Latvia) *** | 4.7 | <1 | B3 | Negative |
| AB Hipoteku un zemes banką (Latvia)** | 4.9 | <1 | Baa3 | Negative |
| BIGBANK (Estonia)*** | 4.6 | <1 | Caa1 | Stable |
| AB Bank Snoras (Lithuania) | 4.7 | 12 | B+ | Negative |
| AB Ūkio bank (Lithuania)** | 4.5 | 8 | B+ | Negative |

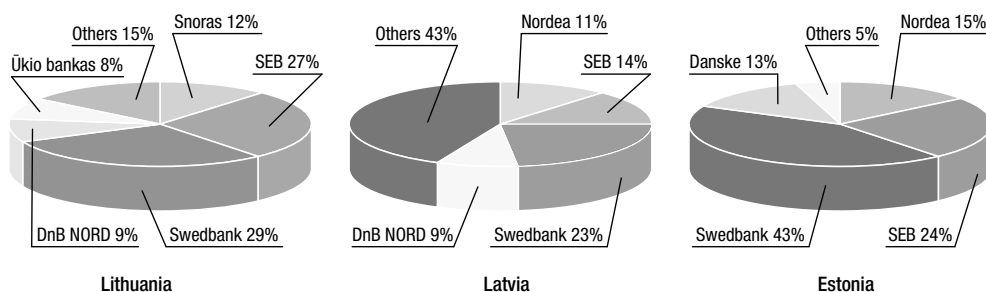**Notes:** * – 10.04.2010, ** – rating agency S&P ratings, *** – rating agency Moody's ratings



**Fig. 3.** Division of deposit market shares among the Baltic States banks in 2009*
* – "Others" – banks or branches that hold a deposit market share of less than 5 per cent

In Latvia, a rather large share of deposit market (11 per cent) is held by Nordea bank, the interest rates of which match the interest paid by SEB and Swedbank, while Danske bank and other banks and their branches hold a very small share of the deposit market (from 1.2 to 0.02 per cent). A very similar situation is in Estonia, where besides SEB, Swedbank, Nordea bank and Danske bank, 13 per cent of the market is shared by AB Eesti Krediidipank (0.96 per cent), MARFIN PANK ESTI AB (0.18), Tallinna Aripanga AB (0.07), Baltic Investment Group Bank AB (BIG) (0.25), LHV Bank (0.73), etc.

The result of the set target shows that a rather large share of the market is held by the banks that offer higher interest rates and the long-term credit ratings and perspectives of which show the undertaken larger risk.

Not all banks operating in a country participate in the deposit insurance system, as the branches of foreign banks are not under obligation to participate in it, however, they have to insure the deposits at terms that are not worse than those of the banks participating in the deposit insurance system. But the danger of dishonest competition remains, as the local deposit insurance limits may be higher than the insurance limits applied by branches of foreign banks.

The banks and branches of foreign banks operating in Lithuania, Latvia and Estonia at the end of 2009 are presented in Table 4.

The terms of insurance of deposits applied by the branches of foreign banks and the terms of the deposit insurance systems applied in Lithuania differ. The analysis of the terms of deposit insurance systems of Lithuanian, Latvian, Estonian banks and the branches of the largest foreign banks operating in the Baltic States that publicly announce data about limits of deposit insurance evaluating the characteristics of the deposit insurance system (Table 1) is presented in Table 5.

There should not remain the main difference between the compensated deposit amount from 31 December 2010 – it will amount to 100.000 EUR. All other branches of foreign banks operating in the Baltic States do not provide information about applied deposit insurance, and that can mislead depositors to expect the deposits to be insured by the insurance of the Deposit and obligation to investors of the Republic of Lithuania. Thus unfair competition actions can be seen in this respect, when a branch of a foreign bank can attract deposits easier under the cover of the insurance of deposits valid in the country. Such is the result of the third target research.

In Lithuania, Latvia and Estonia the new limit of coverage of deposits has an established limit (in Lithuania 100.000 EUR, in Latvia and Estonia 50.000 EUR) and although the limit of compensation is rather high, it is not indefinite. Thus it reduces the risk of moral damage underlined in the research of Schich (2008). The influence of increased limits of coverage of deposits on the stability of the banking system is best reflected by the changes of the size of deposits in banks (before the increase of the limit and after it). The dynamics of the size of deposits in the banks of the Baltic States for 2007–2009 in quarters are presented in Figure 4.

The size of deposits in Latvia is biggest as compared to deposits in Lithuania and Estonia. However, with recession of the rate of growth of the world economy, the

**Table 4.** Banks and branches of foreign banks operating in the Baltic States

| Country | Banks, participating in Lithuania's, Latvia's and Estonia's deposit insurance system | Foreign banks branches, not participating in deposit insurance system |
|---|---|---|
| Lithuania | 1. AB „Swedbank", 2. AB Ūkio bankas, 3. AB bankas Snoras, 4. AB DnB NORD bankas, 5. AB Parex bankas, 6. AB SEB bankas, 7. UAB Medicinos bankas, 8. AB bankas „Finasta", 9. AB „Šiaulių bankas". | 1. Danske Bank A/S Lithuania's branch, 2. Nordea Bank Finland Plc Lithuania's branch, 3. Allied Irich Banks, p.l.c. Lithuania's branch, 4. AS „UniCredit Bank"Lithuania's branch, 5. BIGBANK AS branch, 6. MP Investment Bank hf. Branch in the Baltic states, 7. Skandinaviska Enskilda Banken AB, Vilnius branch, 8. Svenska Handelsbanken AB Lithuania's branch. |
| Latvia | 1. AB „Aizkraukles banka", 2. AB „Akciju komercbanka „Baltikums", 3. AB „Baltic International Bank", 4. AB „GE Money Bank", 5. AB DnB NORD Banka, 6. „Swedbank" AS", 7. AB „Latvijas Biznesa banką", 8. AS „NORVIK BANKA", 9. AB „latvijas Hipoteku un zemes banką", 10. AB „ Latvijas Krajbanka", 11. AB LTB Bank, 12. AB „SEB banką", 13. AB „SMP banką", 14. AB „Parex banka", 15. AB AS „Privatbank", 16. AB „Regionala investicijų banką", 17. AB „Rietumu Banka", 18. AB „TRASTA KOMERCBANKA", 19. AB „VEF Banka", 20. AB „UniCredit Bank", 21. AB „Latvijas pasta banka". | 1. Nordea Bank Finland Plc Latvia branch, 2. SKANDINAVISKA ENSKILDA BANKEN AB Rigas branch, 3. Svenska Handelsbanken Latvia branch, 4. Allied Irich Banks, p.l.c. Latvia branch, 5. Danske Bank A/S Latvia branch, 6. BIGBANK p.l.c. Latvia branch, 7. Pohjola bank p.l.c Latvia branch, 8. AB bank SNORAS Latvia branch. |
| Estonia | 1. AB Eesti Krediidipank, 2. AB SEB Pank, 3. AS SBM Pank, 4. AB Hansapank (Swedbank), 5. MARFIN PANK ESTI AB, 6. Tallinna Aripanga AB, 7. Baltic Investment Group Bank AB (BIG), 8. LHV Bank. | 1. Nordea Bank Finland PLC Estonia Branch, 2. AB Sampo Pank (Danske Bank), 3. AB Parex banka Estonia Branch, 4. AS UniCredit Bank Estonia Branch, 5. Svenska Handelsbanken AB Estonia branch, 6. Siemens Financial Services AB Estonia branch, 7. Scania Finans AB Estonia branch, 8. DnB NORD Banka Estonia branch, 9. Allied Irich Banks, p.l.c. Estonia Branch (AM Credit), 10. AB Bankas SNORAS Estonia branch. |

size of deposits started to decrease as an indicator of declining situation. The limit of compensation of deposits was increased before significant recession of economies in the Baltic States therefore with the economy of the country reaching the "bottom" the size of deposits in the credit establishments of the country started growing. In Estonia, contrary to the situation in Lithuania and Latvia, both the economic situation and the changes to the size of deposits differ. The decrease in the size of deposits was influenced by the amount of withdrawn deposits as a result of changes in the macroeconomic situation of the countries.

**Table 5.** Comparison of terms of deposit insurance of Baltic States banks
and foreign country bank branches

| Characteristics of deposit insurance system | Terms of deposit insurance in Lithuania | Terms of deposit insurance in Latvia | Terms of deposit insurance in Estonia | Terms of deposit insurance of the branches of foreign banks | |
|---|---|---|---|---|---|
| | | | | Danske bank | Nordea bank |
| *Form of the system* | Clearly defined | Clearly defined | Clearly defined | Clearly defined | Clearly defined |
| *Limit of compensation* | 100.000 EUR | 50.000 EUR | 50.000 EUR | 50.000 EUR | 50.000 EUR |
| *Administrator of deposit insurance* | State Enterprise of the Republic of Lithuania *Deposit and investment insurance* | Finance and capital market commission of Latvia | Estonian guarantee fund | Guarantee fund of depositors and investors of the Kingdom of Denmark | Deposit insurance fund of the Republic of Finland |
| *Covers deposits in foreign currencies* | Yes | Yes | Yes | Yes | Yes |
| *Joint insurance* | None | None | None | None | None |
| *Sources of financing* | Bank and government | Bank and government | Bank and government | Bank and government | Bank and government |
| *Management* | Official | Official | Official | Private | Joint |
| *Membership* | Mandatory | Mandatory | Mandatory | Mandatory | Mandatory |
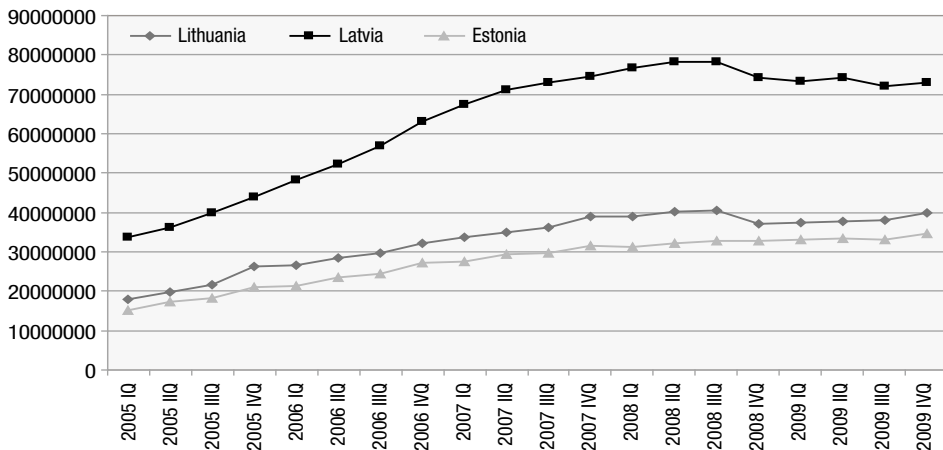


**Fig. 4.** Size of deposits in million LTL in the Baltic States from 2005 to 2009

Correlation of macroeconomic factors and sizes of deposits in credit establishments in 2002–2009 by quarters was evaluated using a correlation matrix and assessing the reliability of the strength of the correlation. The values of the correlation coefficient for the sizes of deposits in the Baltic States and the macroeconomic factors as well as the values of the Stjudent criterion are presented in Table 6.

Upon establishing the main links between the size of deposits in banks and the analyzed factors, it is possible to establish the statistical correlation between the size of deposits and the analyzed variables, applying the multiple linear regression model. Upon composing the multiple linear regression equation the independent variables, the value of the Student's test of which exceeded the limit of 5 per cent, would be rejected, i.e. inflation, trade growth rates, real interest rate and credit growth. Upon eliminating these independent variables, it is possible to compose the multiple linear regression models for independent variables with the biggest influence on the size of deposits and to evaluate their reliability with respect to the Baltic States. The results of such mathematic modelling show that in the case of all three Baltic States there is only one common analyzed macroeconomic factor GDP per capita. The application of the smallest quadrant method for composition of regression equations produced the reliability indicators for the parameters and they are presented in Table 7.

**Table 6.** The values of the correlation coefficient for the sizes of deposits in the Baltic States and the macroeconomic factors and the values of the Student's test

|  | Correlation coefficient | | | Stjudent criterion | | |
|---|---|---|---|---|---|---|
| Parameters | Lithuania | Latvia | Estonia | Lithuania | Latvia | Estonia |
| GDP growth rates | –0.35 | –0.51 | –0.33 | 0.04 | 0.01 | 0.39 |
| GDP per capita | 0.96 | 0.98 | 0.96 | 0.00 | 0.00 | 0.00 |
| Inflation | 0.53 | 0.11 | 0.25 | 0.00 | 0.54 | 0.52 |
| Foreign currency reserves | 0.97 | 0.98 | – | 0.00 | 0.00 | – |
| Trade growth rates | 0.01 | 0.18 | 0.18 | 0.93 | 0.30 | 0.64 |
| Real interest rate | 0.53 | 0.58 | 0.60 | 0.00 | 0.02 | 0.09 |
| Credit growth | –0.11 | – | – | 0.51 | – | – |

**Table 7.** Reliability indicators for the parameters obtained by multiple regression models for the size of deposits in the Baltic States and macroeconomic factors

| Reliability indicators for the obtained parameters | | | |
|---|---|---|---|
| Indicators | Lithuania | Latvia | Estonia |
| Determination coefficient (R) | 0.965466 | 0.978782 | 0.967932 |
| Corrected determination coefficient ($R^2$) | 0.962228 | 0.977635 | 0.967819 |

In conclusion, we may state that the decrease of the size of deposits in Baltic banks was caused by unstable economic situation in the countries. The size of deposits was most affected by slower economic growth of the countries and declining situation of the residents of the countries as well as disturbances in the banking sector. Although the limit of coverage of deposits was increased to 100.000 EUR in Lithuania, and to 50.000 EUR in Latvia and Estonia, it did not stop the decrease of the size of deposits in banks, on the contrary, the sizes of deposits decreased further in the Baltic banks after the increase of the compensation limit. While the tendency of change of the size of deposits in the banks of the Baltic States is adequate to the economic situation of the countries, the risk of moral damage due to increased limit of coverage of deposits still remains (result of the fourth target of the research). When the economic situation of the country improves and the size of deposits in banks will no longer decrease, banks may accept growing activity risks due to especially high limit of coverage of deposits and the depositors may lose their guard.

## 5. Conclusions

The scientists carrying out research on the influence of deposit insurance on the stability of the banking sector mostly analyze a clearly defined deposit insurance system therefore discussions arise among scientists about the effect of a clearly defined deposit insurance system on the stability of banks. The majority of scientists think that a clearly defined system is optimal policy which maintains the stability of banks during depositor panic. However, insurance system financial potential in the case of possible system failure is rarely analyzed.

The specifics of the countries analyzed – The Baltic States, diverges rapid banking system and at the same time countries economic growth and sharp downfall over global economic recession. It defines limited readiness of countries government and banking system for economy stagnation period, what forms additional issues supplementing earlier theoretical studies.

The research target 1 analysis of the ability of the Baltic States to compensate deposits in banks showed that the deposit insurance funds of all three Baltic States would not be able to pay compensations to depositors in the case of bankruptcy of a larger bank. The amount of deposits with large banks significantly exceeds the means in the deposit insurance funds. In case of bankruptcy of the smallest banks of the country, deposit insurance funds would be able to pay compensations to depositors, but after such payments there would be no money left in the deposit insurance funds.

The analysis of possibilities of accepting bigger risks by banks and depositors (target 2 of the research) showed that increase of the limit of coverage of deposits for an indefinite period to 100.000 EUR in Lithuania, to 50.000 EUR in Latvia and Estonia reduces the guard of depositors and enables banks to accept higher risks. Though larger banks with the highest reliability ratings attract most of the deposits, a growing share of deposits goes to banks with lower ratings, which offer higher interest rates for deposits. This shows reduced guard of the depositors in choosing the bank.

Not all banks operating in the country participate in the deposit insurance system, as the branches of foreign banks are not under obligation to participate in the national deposit insurance system but have to insure the deposits at conditions not worse than the ones applied in the country of operation. However if a EU country has a higher deposit coverage amount, a branch of a bank from another EU state is not obligated to additionally insure the deposits, if the deposit insurance amount satisfies the requirements set by EU. The research also shows that the majority of branches of foreign banks do not announce any information about the applied deposit coverage limit and it may mislead the depositor in choosing the bank (concluding research target 3). Though larger banks with the highest reliability ratings attract most of the deposits, a growing share of deposits goes to banks with lower ratings, which offer higher interest rates for deposits. This shows reduced guard of the depositors in choosing the bank.

The analysis of possible moral risks, corresponding to research target 4, showed that while the tendency of change of the size of deposits in the banks of the Baltic States is adequate to the economic situation of the countries, the risk of moral damage due to increased limit of coverage of deposits still remains. When the economic situation in the country stabilizes and the size of deposits in banks no longer decrease, banks may accept growing activity risks due to particularly high limit of coverage of deposits and the depositors may lose their guard. During a economic downfall residents should not experience moral threats, therefore the main task of deposit insurance is to restore the confidence of residents in the bank sector, guarantees can only serve as additional instruments of stabilization of the situation.

# References

Aktan, B.; Masood, O. 2010. The State of Competition of the Turkish Banking Industry: an Application of the Panzar-Rosse Model, *Journal of Business Economics and Management* (1)11: 131–145. doi:10.3846/jbem.2010.07

Aluko, B. T. 2007. Accuracy of auction sale valuations in distressed bank lending decisions in Nigeria, *Journal of Business Economics and Management* 8(3): 225–233.

Arslan, O.; Karan, M. B. 2009. Credit Risks and Internationalization of Smes, *Journal of Business Economics and Management* 10(4): 361–368. doi:10.3846/1611-1699.2009.10.361-368

Bernat, T. 2009. Consolidation and Performance Effectiveness in the Polish Insurance Market – Chosen Examples of Mergers, *Transformations in Business and Economics* 8(3): 33–45.

Boguslauskas, V.; Mileris, R. 2009. Estimation of Credit Risk by Artificial Neural Networks Models, *Inzinerine Ekonomika – Engineering Economics* (4): 7–14.

Dahlheim, B.; Nedersjo, G. The banking sector in 1992–1993, *Sveriges Riksbank Quarterly Review* 2. Available from Internet: <http://www.riksbank.com/templates/Page.aspx?id=24310>.

Demirgüç-Kunt, A.; Detragiache, E. 2000. *Does Deposit Insurance Increase Banking System Stability? An Empirical Investigation. Econometric Society World Congress 2000 Contributed Papers*. Available from Internet: <http://www.imf.org/external/pubs/ft/wp/2000/wp0003.pdf>.

Demirgüç-Kunt, A.; Kane, E. J. 2002. *Deposit Insurance: Handle with Care. The World Bank* [online]. Available from Internet: <http://wwwbcentral.cl/eng/studies/working-papers/pdf/dtbc227.pdf>.

Demirgüç-Kunt, A.; Karacaovali, B.; Leaven, L. 2005. *Deposit insurance around the world: a comprehensive database. The World Bank*. Available from Internet: <http://siteresources.worldbank.org/INTRES/Resources/DepositInsuranceDatabasePaper_DKL.pdf>.

Diamond, D. W.; Dybvig, P. H. 2000. *Bank Runs, Deposit Insurance, and Liquidity* [online]. Available from Internet: <http://www.m.blog.hu/el/eltecon/file/diamond_dybvig83%20(1).pdf>.

Drehmann, M. 2002. Will an Optimal Deposit Insurance Always Decrease the Probability of Systematic Banking Crisis, *European Central Bank (ECB) Working Paper*. Available from Internet: <http://www.web.bgse.uni-bonn.de/pub/RePEc/bon/bonedp/bgse28_2002.pdf>.

Eesti Pank [online], [accessed 2010-03-25]. Available from Internet: <http://www.bankofestonia.info/frontpage/en/>.

Eisenbeis, R. A.; Kaufman, G. G. 2006. Cross-Border Banking: Challenges for Deposit Insurance and Financial Stability in the European Union, *Working Paper 2006-15* October.

Finansinio stabilumo apžvalga 2009. LB, Vilnius. [online], [accessed March 30 2010]. Available from Internet: <http://www.lb.lt/lt/leidiniai/fin_stabilumas/fsa_2009.pdf>.

Finland Deposit guarantee Fund [online], [accessed March 30 2010]. Available from Internet: <http://www.talletussuojarahasto.fi/?page=1>.

Frolov, M. 2004. *Deposit Insurance and Its Design: A Literature Review*. Available from Internet: <http://www.gcoe-econbus.keio.ac.jp/pdf/dp/DP2004-004.pdf>.

Garcia, G. 2002. *Deposit Insurance: The Bank Insurance Fund. Congressional Research Service.* The Library of Congress.

Ginevicius, R.; Podvezko, V. 2008. Multicriteria Evaluation of Lithuanian Banks from the Perspective of Their Reliability for Clients, *Journal of Business Economics and Management* 9(4): 257–267. doi:10.3846/1611-1699.2008.9.257-267

Hoque, K. 2007. *Deposit insurance scheme and banking crises: a special focus on less developed countries*. Available from Internet: <https://oa.doria.fi/bistream/handle/10024/43709/essayson.pdf?sequence=1>.

Hoque, K. 2009. *Essays on banking crises* [online]. Available from Internet: <http://www.libris.kb.se/hitlist?q=zper:%22%5EKhan%20Md%20Anichul%20Hoque%5E%22&p=1&m=10&d=libris&f=browse>.

Ince, H.; Aktan, B. 2009. A Comparison of Data Mining Techniques for Credit Scoring in Banking: A Managerial Perspective, *Journal of Business Economics and Management* 10(3): 233–240. doi:10.3846/1611-1699.2009.10.233-240

Ingves, S.; Lind, G. 1996. *The management of the bank crisis – in retrospect*. Available from Internet: <http://www.riksbank.com/templates/Page.aspx?id=24286>.

International Association of Deposit Insurers. 2008. Core Principles for Effective Deposit Insurance Systems. Available from Internet: <http://www.iadi.org/NewsRelease/JWGDI%20CBRG%20core%20principles_18_June.pdf>.

International Association of Deposit Insurers. 2009. Core Principles for Effective Deposit Insurance Systems. Available from Internet: <http://www.iadi.org/NewsRelease/JWGDI%20CBRG%20core%20principles_18_June.pdf>.

Ioannidou, V. P.; Dreu, J. 2006. *The impact of explicit deposit insurance on market discipline*. Tilburg University, Center for Economic Research. Available from Internet: <http://www.arno.uvt.nl/schow.cgi?fid=53872>.

Kopcke, R. W. 2000. *Deposit Insurance, Capital Requirements, and Financial Stability*. Research Department, T-8, Federal Reserve Bank of Boston. Available from Internet: <http://www.bos.frb.org/economic/wp/wp2000/wp00_3.htm>.

Kuritzkes, A.; Schuermann, T.; Weiner, S. 2000. *Deposit Insurance and Risk Management of the U.S. Banking System: How Much? How Safe? Who Pays?* Available from Internet: <http://www.fic.wharton.upenn.edu/fic/papers/02/0202.pdf>.

Laeven, L. 2001. *International Evidence on the Value of Deposit Insurance*. The World Bank.

Available from Internet: <http://www.wds.worldbank.org/servlet/WDSCContentServer/WDSP/IB/2002/08/23/000094946_02081004010496/Rendered/PDF/multi0page.pdf>.

Laeven, L.; Valencia, F. 2008. *Systemic Banking Crises: A New Database*. International Monetary Fund. Available from Internet: <http://www.imf.org/external/pubs/ft/wp/2008/wp08224.pdf>.

Lakstutiene, A. 2008. Correlation of the indicators of the financial system and gross domestic product in European Union countries, *Inzinerine Ekonomika – Engineering Economics* (3): 7–18.

Lakstutiene, A.; Breiteryte, A.; Rumsaite, D. 2009. Stress Testing of Credit Risk Lithuania Banks under Simulated Economical Crisis Environment Conditions, *Inzinerine Ekonomika – Engineering Economics* (5): 15–25.

Lakstutiene, A.; Vasiliauskaite, A.; Leitoniene, S. 2006. Dependence of the Financial Structure and Efficiency of the Bank Sector on Economic Growth, *Inzinerine Ekonomika – Engineering Economics* (3): 18–27.

Latvia Deposit Guarantee Law [online], [accessed 2010-03-25]. Available from Internet: <http://www.fktk.lv/texts_files/0_Deposit%20Gurantee%20Law%20190609.doc>.

Latvia Financial and Capital Market Commission [online], [accessed March 25]. Available from Internet: <http://www.fktf.lv>.

Latvijas Banka [online], [accessed 2010-03-25]. Available from Internet: <http://www.bank.lv/lat/main/all/>.

Leika, M. 2008. Finansų sistemos stabilumas – centrinio banko tikslas. [Finance system stability – central bank target], *Pinigų studijos* (1): 68–83. Available from Internet: <http://www.lb.lt/lt/leidiniai>.

Lietuvos bankas [Lithuania bank statistics] [online], [accessed March 25 2010]. Available from Internet: <http://www.lb.lt/home/default.asp>.

Lietuvos bankų asociacija [Lithuania banks association] [online], [accessed March 25 2010]. Available from Internet: <http://www.lba.lt/go.php/lit/Pagrindiniai_banku_veiklos_rodikliai/121>.

Macerinskiene, I.; Ivaskeviciute, L. 2008. The Evaluation Model of a Commercial Bank Loan Portfolio, *Journal of Business Economics and Management* 9(4): 269–277. doi:10.3846/1611-1699.2008.9.269-277

Martinaityte, E. 2008. Globalisation and financial markets size limits: credit risk management aspects, *Intelektinė ekonomika* 2(4): 52–58.

Maysami, R. C.; Lim, W. S. M. 2004. The Impact of Deposit Insurance on Banking Stability: A Study of Developed Countries and Economies with Well-liberalized Financial Systems. *2004 Annual Meetings of the Financial Management Association*, October 7–10, 2004, New Orleans, LA, USA. Available from Internet: <http://www.ramicooper.com/Publications%20List.pdf>

McCoy, P. A. 2007. *The moral hazard Implications of deposit insurance: theory and evidence* [online]. Available from Internet: <http://www.imf.org/External/NP/seminars/eng/2006/mfl/pam.pdf>.

Sabourin, J. P. 2007. *Deposit Insurance and its Role in Financial Stability*. Regional Seminar on Financial Crisis Management [online]. Available from Internet: <http://www.un.org/regionalcommissions/crisis/global.pdf>.

Santomero, A. M. 1997. *Deposit Insurance: Do We Need It and Why?* Center for Financial Institutions Working Papers 97-35, Wharton School Center for Financial Institutions, University of Pennsylvania [online]. Available from Internet: <http://www.fic.wharton.upenn.edu/fic/papres/97/9735.pdf>.

Schich, S. 2008. Financial Turbulence: Some Lessons Regarding Deposit Insurance, *Financial Market Trends*. OECD. Available from Internet: <http://www.oecd.org/dataoecd/32/54/41420525.pdf>.

Schich, S. 2008. Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects. OECD Journal: *Financial Market Trends*, OECD Publishing, vol. 2008(2), pages 12. Available from Internet: <http://www.oecd.org/dataoecd/36/48/41894959.pdf>.

Statistics Lithuania, Regional statistic. [online] [accessed 2010-05-20]. Available from Internet: < https://db1.stat.gov.lt/statbank/default.asp?w=1280>.

Strumickas, M.; Valanciene, L. 2006. Bank Valuation Research: Experience of the Baltic States, *Inzinerine Ekonomika – Engineering Economics* (4): 22–28.

Tagatisfond [Insurance fund of Estonia] [online], [accessed 2010-03-25]. Available from Internet: <http://www.tf.ee/eng/scheme/contributions/#4050>.

Tauraitė, V. 2003. Indėliai Baltijos valstybių bankuose ir jų draudimo sistemos [Deposits in Baltic state banks and their insurance system], *Pinigų studijos* 3. Available from Internet: < http://www.lb.lt/lt/leidiniaipinigu_studijos2003_2/tairaite.pdf>.

The Guarantee Fund for Depositors and Investors. 2009. How are my deposits and securities covered in the event of compulsory winding-up? Available from Internet: <http://www.indsky-dergarantifonden.dk/GIIWebSite1.nsf/8186c4f1567ec79cc12564b9004af114/a66b3050f911c341 41256a8b004fee0f/$FILE/Brochure_ENG.pdf>.

Titarenko, J. 2002. *Lietuvos bankų priežiūros modelis*: daktaro disertacija. Vilnius: VU.

Ucal, M.; Özcan, K. M.; Bilgin, M. H.; Mungo, J. 2010. Relationship Between Financial Crisis and Foreign Direct Investment in Developing Countries Using Semiparametric Regression Approach, *Journal of Business Economics and Management* (11)1: 20–33. doi:10.3846/jbem.2010.02

Viotti, S. 2000. Dealing with banking crises – proposal for a new regulatory framework. *Sveriges Riksbank Quarterly Review,* 3. Available from Internet: <http://www.riksbank.com/templates/Page.aspx?id=14545>.

World Bank. 2003. Bank Concentration and Crises: Dataset. World Bank, Washington, USA. Available from Internet: <https://econpapers.repec.org/paper/wbkwbrwps/3041.htm>.

Zukauskas, E.; Neverauskas, B. 2008. Conceptional Model of Commercial Bank Management, *Inzinerine Ekonomika – Engineering Economics* (5): 41–47.

# INDĖLIŲ DRAUDIMO ĮTAKA BALTIJOS ŠALIŲ BANKŲ SISTEMOS STABILUMUI

## A. Lakštutienė, R. Krušinskas, D. Rumšaitė

Santrauka

Procesai, vykstantys finansų rinkose, pastaraisiais metais atskleidė naujas tyrimų kryptis, siejamas su rinkos dalyvių rizikos vertinimu. Globalizacijos procesai ir jų įtaka šalies finansų sistemos stabilumui daro įtaką bankų sektoriui ne tik per aiškiai susiejamus makroekonominius rodiklius, tačiau ir per finansinių išteklių teikėjų – indėlininkų – patiriamą riziką ar vertinamą neapibrėžtumą. Indėlių draudimo limitų padidinimas, kaip rizikos valdymo įrankis, Baltijos šalyse buvo įdiegtas 2005–2009 metų periodu siekiant užtikrinti bankų sistemos stabilumą. Šie veiksmai padėjo komerciniams bankams, dalyvaujantiems indėlių draudimo sistemoje, palaikyti savo kredito reitingus ir užsitikrinti finansinį stabilumą. Vis tik pagrindiniu susidomėjimo šaltiniu išliko siekis išsiaiškinti, ar pasiūlytos priemonės yra labiau teorinės nei praktinės stengiantis išlaikyti bankinės sistemos stabilumą, taip pat įvertinti, kaip makroekonominiai šalių rodikliai veikė indėlių kitimą analizuojamų šalių bankuose.

**Reikšminiai žodžiai:** bankai, indėlių draudimas, indėlininkų panika, makroekonominiai rodikliai.

**Aušrine LAKŠTUTIENĖ.** Assoc. Prof. Dr of social sciences (economics), Kaunas University of Technology, Faculty of Economics and Management, Department of Finance.

**Rytis KRUŠINSKAS.** Assoc. Prof. Dr of social sciences (business management and administration), Kaunas University of Technology, Faculty of Economics and Management, Department of Finance.

**Dalia RUMŠAITĖ.** Dr of social sciences (business management and administration), Kaunas University of Technology, Faculty of Economics and Management, Department of Finance.