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EFFECTIVE DEPOSIT INSURANCE SYSTEM FOR SMALL COUNTRY WITH CONCENTRATED BANKING SYSTEM – WITH SPECIAL EMPHASIS ON DEPOSIT INSURANCE FUND OF THE REPUBLIC OF NORTH MACEDONIA

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ABSTRACT

It is accepted throughout the world that well designed deposit insurance is an important element in a national safety net for maintaining and extending the stability of the financial system. A key function of deposit insurance is to provide a credible safety net for depositors, which is beyond doubt, including in times of crisis. Still, the design and structure of a deposit insurance scheme (DIS) depends from numerous institutional, procedural and instrumental questions. The designs of DIS of course is important because every insurance scheme produces certain level of moral hazard and affect private market discipline, banking stability, financial development, and the effectiveness of crisis resolution. There are few characteristics of Macedonian banking system that must be taking in to account in order to determine optimal DIS for Republic of Macedonia: concentration of the banking system, ownership of Macedonian banks, supervisory regime and the nationality of depositors. This paper will analyze the best practices for DIS regarding their funding, the coverage ratio and their architecture. Our DIS is ex ante funded but doesn't take in to account the riskiness of its members. In addition, the size of DIS, because of the concentration in the banking system, cannot cover fall of large or some of the medium banks, so the main question is how effective it will be as part of our safety net in such

a case. These questions will be addressed through the developments in DIS after the financial crisis from 2008.

KEY WORDS: deposit insurance, banking, safety net

INTRODUCTION

The history has shown that the financial crisis are inevitable part of the economy. The main concern why every country built mechanisms for preventing crisis is the high economic cost that every crisis is accompanied by. There is substantial variation in the fiscal costs of systemic banking crises episodes, both in high-income and low and middle-income economies (Laeven and Valencia, 2018). Still, the median cost for crises in high-income countries is 6.7 percent of GDP and 10 percent of GDP for low and middle-income countries. A lot of economist argue that that is not real measure of the amplitude of the financial crisis because there is effect of bubble before the crisis. Still, the impact of the financial crisis are tremendous and because of that, all countries have in place some safety net.

There are a lot of definitions for financial safety nets, but all institutions and measures who should prevent or decrease the effects of financial crisis are part of this net (Schooner&Taylor, 2010). According to this definition in this net should be included the lender of last resort, deposit insurance scheme (DIS), the supervision authority and the resolution mechanism (Schich, 2008).

Behind every financial safety net there are two main reasons: to prevent financial crisis and to decrease the effects from the crisis. Off course in order safety net to be effective, the cost of implementing and functioning of the net should be smaller than the one that can be caused by financial crisis. Second important characteristics of the net is that it should not trigger moral hazard. 'Moral hazard' refers to the adverse incentives engendered by these safety nets (Benston George, 1995). Because they do not fear losing their funds, depositors and possibly other creditors do not monitor banks as carefully as otherwise. In the absence of other constraints, bank owners and managers, therefore, have incentives to take greater risks than they would have taken, without the safety net.

One important element of this financial safety netis DIS.The global financial crisis illustrated the importance of maintaining depositor confidence and limiting contagion - and the key role that deposit protection plays in this regard. Indeed, one of the earliest and most widely adopted crisis responses in 2008 was the increase in deposit insurance coverage. In some jurisdictions, blanket guarantees were issued. A deposit insurance scheme (DIS) therefore always has two crucial aims to fulfill (Berner Beat and Walter Susanna, 2009):

• the first priority is to prevent a run on an illiquid but not yet insolvent financial institution since in this way the spread of a crisis in one individual institution to the other network partners via the interbank market can be prevented;

• and as a second priority it should make good the losses incurred by depositors caused by an illiquid or insolvent financial institution up toa certain amount, since it is assumed that the majority of smaller depositors of the bank were hardly themselves able to monitor the risk that they had taken by, for example, opening a deposit account.

The first of these aims is directed towards protecting the stability of the system,the second towards consumer protection.

The design and structure, but also the implementation, of a deposit insurance scheme of this sort throws up numerous institutional, procedural and instrumental questions.The effectiveness of a deposit insurance system is influenced not only by its design features but also by the environment within which it operates (IADI, 2014). The operating environment includes macroeconomic conditions, the strength of the sovereign, the financial system structure, prudential regulation and supervision, the legal and judicial framework, and the accounting and disclosure system. The operating environment is largely outside the scope of authority of the deposit insurer. However, it influences the deposit insurer's ability to fulfil its mandate and determines, in part, its effectiveness in protecting depositors and contributing to a jurisdiction's financial stability. Main factors (IADI, 2014) that should be taken in to account are:

- Macroeconomic conditions,
- Financial system structure,
- Prudential regulation, supervision and resolution,
- The legal and judicial framework,
- The accounting and disclosure regime.

This paper will analyze the characteristics of DIS around the globe and will critical review of Macedonian DIS having in mind the main features of the banking system.

TYPES OF DIS

The most global division of DIS is on explicit and implicit systems. The explicit systems have legal framework in place that define the deposits that are covered, the way of financing, the organizational structure of the fund etc. The implicit systems simply rely on promise of the authorities that if bank failure happens, the state will compensate the deposits. Demirgüç-Kunt (2008) analysis shows that the number of countries with an explicit deposit insurance system rapidly increased over the last few decades, from twenty in 1980 to eighty-seven by the end of 2003. Therefore, already before the 2008 global financial crisis, deposit insurance had become a key tool of the financial safety net. After the crisis, this trend was reinforced: Demirgüç-Kunt et al. (2014) reported that, out of 189 countries covered in their 2013 updated deposit insurance dataset, 112 countries (or 59%) had explicit deposit insurance by yearend 2013 while there were 84 (or 44%) in 2003. It seems that there is consensus among the countries that explicit systems are more effective with less externalities and because of that, they are embedded in most countries financial safety nets.

The explicit DIS by funding methods can be ex-ante funded or ex-post funded. Ex ante funding requires the accumulation and maintenance of a fund to cover deposit insurance claims and related expenses prior to a failure actually occurring. It is funded by its members through contributions, insurance premiums and other means. In an ex post system funds are obtained only once an institution has failed; member institutions are assessed and contribute at this time; there are no advance contributions. Ex post systems often do not have explicit responsibilities regarding the sharing of costs for reimbursing depositors.

The expansion of explicit ex-ante DIF in a way is due on the promotion of these systems by the IMF. IMF argues that an ex ante funding system has distinct advantages. First, it may strengthen private sector confidence and enhance financial stability, provided that risk is correctly priced (IMF, 2013). Second, the ex-ante system is fairer given that all entities, including those that failed, contribute premiums (Fogafin, 2013).The advantages and disadvantages of both approaches are given in table 1 (Bernet and Walter, 2009).

Table 1.Advantages and disadvantages of ex ante and ex post premium for DIS

	Advantages	Disadvantages
Ex Post	• **Market discipline**: Induces banks to monitor each other's activities.	• **Potential payout-delays**: The funds are not collected beforehand. • **Procyclical effects**: Commitments in poor economic situations may lead to a domino effect of bank failures, a renegotiation of conditions and/or a collapse of the DIS.
Ex Ante	• **Public confidence**: Prompt reimbursement of depositors possible. • **Smoothened premium payments**: Reduced procyclical effects. • **Reduced moral hazard**: Ex-ante funding could incorporate risk-adjusted premiums. •**Equitable and fair**: All member institutions (including prospective failed institutions) contribute.	• **Adequate fund-size**: Difficult to establish a fund of sufficient size. • **Adequate premium calculation**: Difficulties in defining a 'fair' calculation method. • **Administrative complexity**: Organizational and strategic intricacy.

The type of premium approach can further divide the ex-ante DIS. Under a flat-rate premium approach, all member institutions are assessed at the same rate given the assessment base and it is relatively straightforward to implement. An alternative is the risk-adjusted or differentiated premium system, whereby the risk posed to the deposit insurer by a member institution is incorporated into the premium structure. The main disadvantage of flat rate DIS, although the calculation of premium is simple, is that it creates moral hazard because more prudently managed low-risk institutions subsidize higher-risk institutions (IADI, 2009). If a country implements flat rate system it must have strong supervisory authority with SREP system to require higher capital demands for more risky banks in order to address part of the moral hazard that arises. IMF and World Bank also recommend risk based premium models and the last EU regulation is written in that manner.

The results of the broad theoretical and practical discussion of this subject up to now can be summarized as follows (Berner Beat and Walter Susanna, 2009):

• Risk-based premium models meet the requirements mentioned above better than flat-rate models. They are also perceived as fairer by the insured institutions, since they include the individual risk exposure of those insured in the calculation of the premium level.

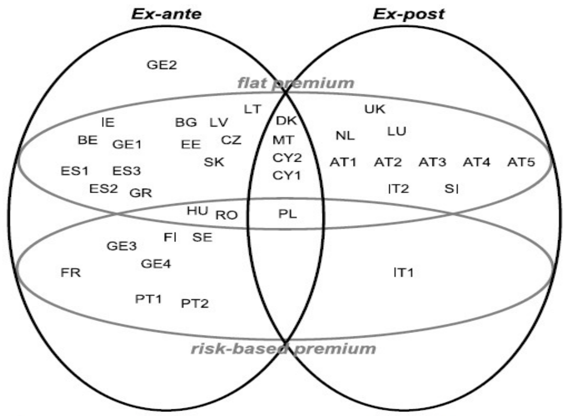
• Risk-based models actually require a fund with ex-ante financing. They can, however, also be used in systems with ex-post financing (for example Italy). However, the corresponding calculations are much more complex here and throw up numerous unanswered questions.

• There is widespread agreement that both the specific and the systemic risks should be incorporated into the calculation of premiums. Little agreement exists regarding the appropriate parameters and models.

• A scientifically based and objective calculation of risk seems almost impossible. The approaches and models discussed in the literature point to more or less serious practical shortcomings in their application of calculating deposit insurance risks.

• In most risk-based models the systemic risk is either not incorporated at all or in an unsatisfactory way.

• Risk-based premiums are a central factor in the reduction of moral hazard risk that can arise on the part of insured institutions when a deposit insurance scheme is implemented.



Source: Based on information of IMF, European Commission and own updates

Figure 1. Funding mechanism in EU 27

Figure 1 shows that most of the countries in EU have explicit ex ante DIS, but very few have risk-based premium.

FUND TARGET

Not less important than the type of DIS is the fund target.The target level should be adequate to at least cover the potential losses of the insurer under normal circumstances. A large number of factors need to be taken into account including (IADI, 2009): the composition of member banks (number, size, lines of business), the liabilities of members and the exposure of the insurer to them, the probability of failures and the characteristics of losses that the insurer can expect. If the target ratio is bigger, than it can cover higher losses but on the downside on long run can harm profitability of the banking system and the potential for development.According to Demirguc-Kunt, Karacaovali and Luc Laeven the most common approach is to consider the country's historical experience with bank failures and the fund that was needed for those episodes. Another more accurate approach because it has more forward looking perspective then the previous approach is the credit portfolio approach. In this approach for every bank is calculated probability for default and then potential losses.

The IADI survey shows that dominant factor that is taken in to account for setting the fund ratio is the financial system structure and characteristics and also not less important factor is the effectiveness of the other safety net mechanisms. For the first factor, the jurisdiction had in mind the number of member institutions, financial condition of member institutions, risk exposure of the DIA, types of deposits and depositors covered, degree of concentration, and loss experience of the DIA. In Graph 2 are shown the fund targets that are defined in some jurisdictions.

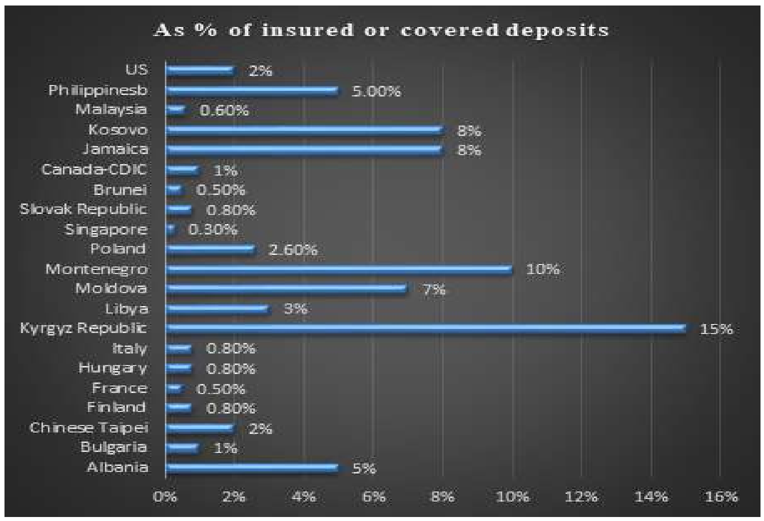


Figure 2: Fund target ratios of DIS in sample countries
Source:IADI

DEPOSIT INSURANCE FUND OF THE REPUBLIC OF NORTH MACEDONIA

In Macedonia there is DIS from 1997. It was introduced by law so it is explicit DIS with ex-ante funding. The rate is flat and is up to 0.7%[1] on annual level from the total deposits in each bank, foreign bank branch and savings house. There is fund target defined as at least 4% of the total deposits in the banks, foreign bank branches and savings houses in the Republic of North Macedonia. The limit for reimburse is 30.000 euros.

At the end of June 2019 the retail deposits of Macedonian banking system are around 269.532 million denars (4,4 billion euros). Deposits that are below the reimbursement limit have share of 53% and the DIS funds cover 6,3% of the retail deposit (Deposit Insurance Fund, 2019). The adequacy of Macedonian DIS will be analyzed having in mind the characteristics of the banking system and the supervisory authority.Regarding the banking system,

[1]In the moment is 0.25%.

it is small and concentrated banking system, which is comprised, of 14 banks and 1 state owned special purpose bank. The banks that are owned by non-residents have share of above 70% in the total assets. The biggest 3 banks have around 60% share in total assets of the banking system (NBRM, 2019). In small and concentrated banking systems there are two main problems that reduce the effectiveness of DIS. First, the funds of DIS won't be enough to reimburse the deposits of large bank. If we assume that the % of deposits under 30.000 euros are the same as on banking system, the DIS funds aren't enough to cover the deposit eligible for reimbursement only at the 3 biggest bank (Graph 3). That is a good indicator that Macedonian DIS is one of Deposit insurance fundsin Europe with biggest rates of coverage of retail deposits.

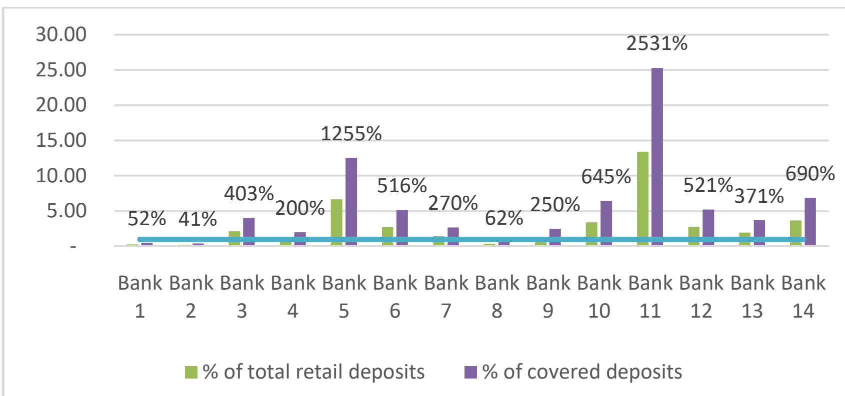


Figure 3: % of coverage of the total deposits and covered deposits with DIF funds

Source: financial reports for each individual bank

The other important factor is the mutual connectedness of the banks in the system. Because of some historical reasons, the depositors are very sensitive on the reputation of the banks. Therefore, if small or medium bank fail it can have impact on other more weak banks. From that prism, the funds of Macedonia DIS can cover the deposits for the 6 smallest banks, which indicates for good buffer in this kind of scenario. So practically, DIS is not the fragment of the financial safety net that can address the concentration risk in the banking system and the solution for this problem is to decrease the probability for default of the systematically important banks through effective supervision.

Historically, 11 risk events in total have occurred since the Fund was established back in January 1997 (DIF, 2019). The total reimbursement amount for all of them is 1.522.805 million denars or only 9% of the total DIS funds in the moment. From historical point, the funds of DIS should be enough for its function. Still, we should have in mind that back than from 2000-2007 when most of the events happened, the banking system was rather smaller.

The other important aspect for building of DIS is the quality of supervisory function, the other important element of the safety net. In Macedonia regulator and supervisor of the banking system is the National bank. The National bank has established licensing process, continuous off site monitoring and risk sensitive on site examinations. The regulation is largely in compliance with BCP (Basel core principles for supervision) and all Basel standards. Especially important is that the National bank has SREP process in which according to the risk profile, capital adequacy ratio for each individual bank is determined. In addition, there is additional capital add on for systematically important banks that partly solves the issue of concentration. That in a way bring fairness between the banks, more risky banks have higher capital demands, and vice versa so, it reduces the moral hazard that is produced by the flat rate. If we analyze the CAR at the end of 2019 for Macedonian banks it can be concluded that it good capitalized banking system. Another conclusion is that there is no much difference in CAR and more than half of the banks have CAR ratio of 15-17% although even one simple indicator like NPL shows huge differences between the banks. (Graph 4)

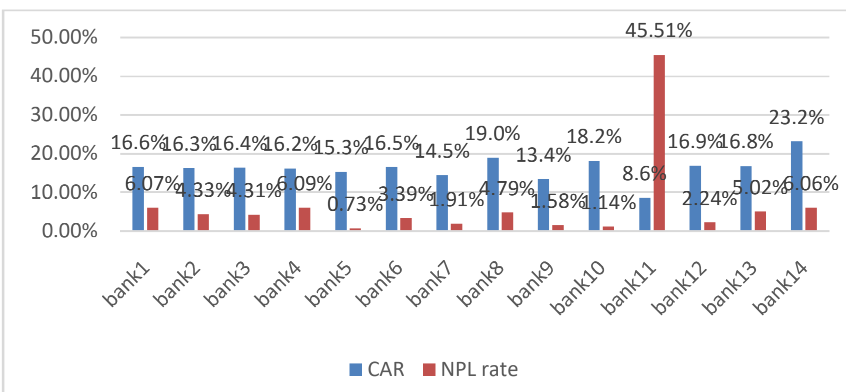


Figure 4: CAR and NPL by bank in Macedonian banking system
Source: Financial reports from each individual bank

There is room further to reduce the moral hazard and externalities of risk taking of riskier bank with introducing risk based premium. According to the EBA Guidelines, the calculation of an institution's contribution is based on five risk categories: (1) capital, (2) liquidity and funding, (3) asset quality, (4) business model and management, and (5) potential losses for the DIS.

CONCLUSION

DIS is important element of every country safety financial net. It prevents the panic at small and less sophisticated depositors when failure of banks happens but also has elements of consumer protection. There are a lot variations how DIS can be organized and depends of many factors like the financial sector, regulation, supervision, macroeconomic factors etc. Still, especially in the last 20 years the number of countries with an explicit deposit insurance system rapidly increased. Also, most of the countries established ex ante funding system with flat rate premiums. The advantages of ex ante DIS are many like greater public confidence, reduced mora hazard and contribution with premiums even from the failed bank.

In Republic of North Macedonia there is DIS from 1997. It is explicit ex ante system. With 6,3% coverage of retail deposits with DIS funds it is one of Deposit insurance funds in Europe with biggest rates of coverage of retail deposits. Analyzed through the prism of characteristic of the banking system, whichis small and concentrated banking system, the funds of DIS won't be enough to reimburse the deposits of large bank if it fails. So practically, DIS is not the fragment of the financial safety net that can address the concentration risk in the banking system and the solution for this problem is to decrease the probability for default of the systematically important banks through effective supervision.Also, the issue with concentration in the banking system and the risk that pose to the system can be resolved partly also through effective resolution regime. So, in manner of systemic stability it is also important to strengthen that part of the financial stability net.

The other important factor is the mutual connectedness of the banks in the system. Because of some historical reasons, the depositors are very sensitive on the reputation of the banks. So, if small or medium bank fail it can have impact on other more weak banks. From that prism, the funds of Macedonia DIS can cover the deposits for the 6 smallest banks which is indication for good buffer in this kind of scenario. The economist argue that one way to establish the fund target is to see the historical losses. From that perspective, the total reimbursement amount for all 11 risk events in the past is 1.522.805 million denars or only 9% of the total DIS funds in the moment. From historical point, the funds of DIS should be enough for its function.

Although in Macedonia there is strong supervisory authority which through SREP requirements for CAR reduces the moral hazard arising from riskier bank, still there is no much difference in CAR and more than half of the banks have CAR ratio of 15-17%. There is room further to reduce the moral hazard and externalities of risk taking of riskier bank with introducing risk based premium. According to the EBA Guidelines, the calculation of an institution's contribution is based on five risk categories: (1) capital, (2) liquidity and funding, (3) asset quality, (4) business model and management, and (5) potential losses for the DIS.

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