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Deposit insurance as an instrument of financial regulation

Financial intermediation has become a pervasive feature of all developed market economies worldwide. A sophisticated financial system makes a vital contribution to the economy by providing liquidity and thus facilitating market transactions, providing payment and clearance services, as well as transforming the quantitative and temporal structure of multilateral financial claims. In addition, banks and other financial institutions in a well-developed economic environment may act as information producers for other market agents primarily acting on the savings side of financial flows, as well as undertake duties of monitoring economic entities situated at the investment side [1]. The latter especially holds true for developed market economies with sophisticated financial infrastructure. In transition countries of Eastern Europe and the CIS as well, consistent steps to build a secure, well-balanced and active financial system constitute an integral part of long-term economic development trends. In Armenia, for example, where in the initial stages of economic reform emphasis rested mainly on the banking sector, the latter has reported significant advances in development.

Furthermore, the presence of government regulation in the financial system is an imperative both in developed and transition countries. The health of the financial sector is objectively a matter of public policy concern, and significant rationale exists both in theory and practice for government involvement in financial regulation. Literature on this topic identifies various objectives of financial regulation, which generally center around the following concepts:

- Safeguarding the financial system against systemic risk;
- Protecting consumers from opportunistic behavior and economic uncertainty;
- Enhancing the efficiency of financial intermediation;
- Achieving broader social objectives (e.g. increasing home ownership, combating organized crime, etc.) [2, p. 3].

Numerous examples can be brought of government-initiated measures to achieve one or more of these objectives in combination. Governments and delegated state agencies employ a wide range of regulatory instruments, which uniquely address these issues (see Table 1). Evidently, some regulatory measures effectively serve multiple purposes, but it should also be noted that in some cases an instrument defined for a specific purpose may negatively affect other objectives¹.

¹ This topic is beyond the subject of our research. Further detail on this can be found in: *Herring R. J., Santomero A. M.* What is Optimal Financial Regulation? The Wharton School, University of Pennsylvania, May 1999.

Table 1. Financial regulation measures and regulatory objectives

Regulatory Measure	Systemic Risk	Consumer Protection	Efficiency Enhancement	Social Objectives
Antitrust enforcement / competition policy		✓	✓	✓
Asset restrictions	✓			✓
Capital adequacy standards	✓	✓		
Conduct of business rules		✓	✓	✓
Conflict of interest rules		✓	✓	
Disclosure standards	✓	✓	✓	
Investment requirements				✓
Liquidity requirements	✓	✓		
Reporting requirements (large transactions)				✓
Reserve requirements	✓	✓		
Deposit insurance	✓	✓		

Adapted from *Herring R. J., Santomero A. M. What is Optimal Financial Regulation? The Wharton School, University of Pennsylvania, May 1999.*

Often viewed as a supplementary instrument of financial regulation, deposit insurance or explicit (official) deposit guarantees successfully serve the purposes of containing systemic risk inherent to the banking sector and protecting bank depositors from the risk of adverse losses. At present, more than 90 countries worldwide are known to have established formal schemes of deposit insurance² [3].

The direct rationale for deposit insurance is consumer protection. “Depositors, as users of banking products and services, are just as much consumers as are the purchasers of other products or services, and the same social and political pressures exist to ensure that they are protected from loss” [4, p. 8]. Moreover, it is more difficult for potential depositors to assess the quality of goods they “purchase” than it is for purchasers of consumer goods to verify quality before committing themselves. The quality of goods depositors purchase is conditioned by the financial stability and liquidity of the bank, whereas usually a very limited portion of the information necessary to make an effective up-to-date assessment of a bank is publicly available. Further, even where such information is available, the general public may have difficulty interpreting such information. This is viewed as a market imperfection, and as with any other market imperfection, should be addressed by public policy measures, such as banking supervision and deposit insurance.

Another, though indirect, rationale for deposit insurance is that it reduces systemic risk, making banking crises less likely and less adverse as a result of, for example, panic withdrawals of deposits from sound banks and breakdown of the payments system. It is argued that, if depositors know that their money is safe by virtue of deposit insurance, they will have little reason to withdraw it from banks, even in times of economic uncertainty, which is when the banking system is most threatened with the possibility of crises. One should also note here that, given the logic of this argument, deposit insurance schemes can definitely be more effective in reducing systemic risks if the concerned public is well informed about them. Thus, public awareness becomes another important prerequisite for and a key task of public policy.

Both consumer protection and systemic risk considerations significantly explain the historical trend of numerous countries adopting deposit insurance as a means to promote public confidence in the banking system. This has been the case in numerous developing economies worldwide, including Armenia, as well as many developed countries such as

² Theory and practice of financial regulation distinguish between deposit insurance and official deposit guarantee schemes. The two concepts will be used interchangeably throughout this article and shall imply the same economic content from the regulatory standpoint.

Canada and the United States. The US was the first country to adopt deposit insurance at a national level in 1934, very soon after the Great Depression and the resulting loss of confidence towards the banking sector. Similarly, in Canada, where compulsory deposit insurance was introduced in 1967, the adoption of deposit insurance was also in reaction to a loss in confidence in the sound practice of deposit-taking institutions [5, p. 3].

And even though, as international practice shows, deposit insurance does successfully serve its purposes of protecting consumers and mitigating systemic risk, it has its downside as well. As with any other type of insurance, deposit insurance schemes can create “moral hazard” by freeing economic agents from the consequences of their actions. Again, this holds true both for official deposit insurance schemes and so-called implicit deposit protection mechanisms, where government provides *post hoc* guarantees to deposit holders. Insurance may promote irresponsible action on the part of insured depositors and banking institutions, since even in case of unwise disposal of deposited funds insurance provides reimbursement guarantees. Thus, depositors may be less motivated to make an optimal choice when allocating their savings, whereas bank management may be more motivated to engage in riskier activities using depositors’ funds.

Deposit insurance means, practically, that depositors no longer feel obliged to assess the credit risk associated with depositing money with a particular bank. Given this, depositors may choose banks without reference to their financial condition, solely attracted by higher interest rates. Consequently, the normal impact of market forces in promoting prudent economic behavior is reduced, and unsound banks may attract additional deposits [4, p. 9]. This type of “moral hazard” occurs when the presence of insurance reduces the incentives for depositors to monitor the safety of their savings. Depositors stop monitoring the behavior of banks, and no longer bother to move deposits from worse to better managed institutions.

A second type of “moral hazard” involves excess risk-taking among insured banks. Such mismanagement especially proliferates when the compensation provided to depositors is rather generous. The understanding that depositors will not suffer in the event of bank failure can incline bank management to adopt riskier business strategies than they otherwise would. The relationship at issue here is that between managers and regulator, who indirectly underwrite gambles gone bad by “zombie banks” [6, p. 4].

Limitations on deposit insurance address these issues, trying to alleviate possible moral hazard effects. Adverse effects of such imprudent behavior have forced deposit insurance schemes to provide only partial compensation for any depositor, thus leaving depositors to carry part of the risk. For example, the co-insurance scheme adopted in the United Kingdom provides for the compensation of only 90% of deposit amounts exceeding 2000 pounds sterling [7]. Another measure to limit the extent of risk-taking by insured banks is the exclusion of certain types of deposits (e.g. deposits of bank management or shareholders and connected parties) from the benefits of insurance. It should be noted here that, as empirical studies show [e.g. 5, p. 7], moral hazard problems associated with deposit insurance tend to exacerbate in countries with weak institutional environments, which especially concerns transition economies of the former Soviet Union.

An important issue concerning the effectiveness of deposit insurance schemes is their organizational structure. There is an ongoing debate on whether deposit insurance requires direct involvement of public regulators or it should be handled by private insurance companies. In theory, deposit insurance could be provided by private insurance companies, and the law would only require all banks to purchase such insurance. An advantage of private insurance is that insurers would assess the risk of individual banks and could charge risk-based premiums directly reflecting those assessments. Tying insurance obligations to the extent of risk taken could *ceteris paribus* also provide financial incentives to banks to operate more prudently and thus alleviate moral hazard effects. However, completely private deposit insurance is unlikely to become a reality, at least in the near future, for a number of reasons.

First, in many countries the insurance industry is less developed than the banking sector and does not have sufficient capital to insure all banks' deposits. This is especially true for many transition economies and particularly for Armenia, where total assets of all insurance companies comprised less than 2% of total assets of the banking sector in 2005 [8, p. 143]. Moreover, because bank failures tend not to be isolated events, private insurers would most likely be unwilling to provide insurance and to be exposed to the risk of having to cover widespread bank runs in an event of systemic crisis. Lastly, transferring deposit insurance to the private sector may undermine the confidence of banks and depositors alike.

With the above in mind, it is not surprising that the spectrum of organizational structures for deposit insurance schemes utilized in international practice today mostly covers the first two (in some cases three) of the following models:

- Governments provide unconditional deposit guarantees (though limitations apply), mainly through legally enforced mechanisms and formal procedures of compensation. The entire cost of providing compensation falls on the government, with no pre-arranged funding available.
- Governments establish a publicly owned and publicly administered deposit insurance agency, which is financed (at least in part) by contributions from commercial banks.
- A public deposit insurance scheme is established and administered jointly by banking supervisory authorities and commercial banks, financed fully by the latter.
- The deposit insurance scheme may also be organized by commercial banks alone, on an entirely private contractual basis, without any government involvement.

Countries around the world generally follow one of these models (more often the first two), with certain locale-specific alterations of the organizational or financing mechanisms. In practice, the third and fourth options require a strong commercial banking system with sufficient capital to self-absorb losses as a system. That is why such privately funded schemes are mostly utilized in Western European countries, while developing and transition countries tend to prefer greater organizational or financial involvement of the government or regulatory agencies.

As stated above, not always do deposit insurance schemes assume the existence of special funds, especially in the case of implicit deposit protection provided by government. In these cases, the entire cost of providing compensation lies on the shoulders of government, specifically current state budget. However, this is obviously not the optimal choice, especially for developing and transition countries, where existing budget expenditure commitments and the insufficiency of unallocated budget resources may make it difficult for the government to react accordingly.

Another key feature of effective deposit insurance schemes is the limitations on the maximum amount of deposits subject to reimbursement. As discussed above, deposit insurance schemes generally provide less than 100% coverage in order to counter moral hazard, as well as to be able to secure sufficient resources to cover all insured deposits. This raises an issue of determining the optimal limit of insured deposits, which remains a matter of ongoing discussion among academics and practitioners. The answer to this question requires a complex analysis of not only quantitative indicators such as per capita GDP or average deposit amounts, but also various qualitative characteristics such as the overall structure of the banking system and associated risks, the effectiveness of other regulatory measures employed, the structure of incomes and savings, etc. If we look at the ratio of the maximum insured deposit amount to per capita GDP, Armenia with a ratio of 3.3 was third when compared to EU countries behind Italy and Poland. Even if we consider that this is largely attributable to Armenia's low per capita GDP compared to EU countries, such an indicator still allows for

sufficient protection of depositors in the country. Furthermore, the maximum limit surpasses the size of an average deposit in Armenia 5.7 times. Calculations show that, as of 2004, the number of depositors whose deposits were fully covered under the established limit was over 95% of total depositors, whereas the total amount of such deposits comprised over 60% of all deposits in the Armenian banking system [7]. These figures come to indicate that the maximum limit of insured deposits set at 2 million AMD³ in Armenia is optimal or close to such, in that it provides protection to a sufficient portion of depositors, yet does not exacerbate moral hazard behavior. Further, calculations show that, should this limit be increased, it may result in financial instability of the deposit insurance system.

The Deposit Guarantee Fund of Armenia, established by and operating under the supervision of the Central Bank of Armenia, has determined a uniform rate of contributions from commercial banks as a means of financing the fund. Banks' contributions are calculated according to the amount of deposits they attract, but do not reflect the extent of risk a particular bank poses for the system and the deposit guarantee fund. However, international practice and theory of financial regulation suggest that deposit insurance schemes would be more effective if insured banks were obliged to measure their contribution according to risk. This would provide additional stimulus for banks to maintain acceptable risk levels and create a more market-based relationships between the parties, where economic incentive mitigates the shortcomings of uniform insurance coverage. The US Federal Deposit Insurance Corporation, for example, has adopted by regulation a system that places insured banks into risk categories based on two criteria: capital levels and supervisory ratings. Three capital groups—well capitalized, adequately capitalized, and undercapitalized, which are numbered 1, 2 and 3, respectively—are based on leverage ratios and risk-based capital ratios for regulatory capital purposes. Three supervisory subgroups, termed A, B, and C, are based upon the FDIC's consideration of evaluations provided by the institution's primary federal regulator and other information the FDIC deems relevant. Subgroup A consists of financially sound institutions with only a few minor weaknesses; subgroup B consists of institutions that demonstrate weaknesses that, if not corrected, could result in significant deterioration of the institution and increased risk of loss to the insurance fund; and subgroup C consists of institutions that pose a substantial probability of loss to the insurance fund unless effective corrective action is taken. In practice, the subgroup evaluations are generally based on an institution's composite CAMELS rating. Generally, institutions with a CAMELS rating of 1 or 2 are put in supervisory subgroup A, those with a CAMELS rating of 3 are put in subgroup B, and those with a CAMELS rating of 4 or 5 are put in subgroup C. Thus, in the current assessment system, the highest-rated (least risky) institutions are assigned to category 1A and the lowest-rated (riskiest) institutions to category 3C. The three capital groups and three supervisory subgroups form a nine-cell matrix for risk-based assessments, as shown in Table 2. According to its rating between 1A and 3C, each insured bank is assigned a risk-based insurance premium between 5 and 43 basis points. According to the new rules in effect since 1 January 2007, the nine risk groups are consolidated into four broader risk groups based on the same criteria. Differentiated approaches are also exercised in assessing the risk of new or young banks, as well as banks operating under special conditions (such as sectors of economy serviced, location, branch network, etc.) [9, p. 3-7].

³ The actual amount per depositor may be less due to the fact that deposits in foreign currency are reimbursed in smaller maximum amounts.

Table 2. US FDIC's risk-based assessment matrix

Capital Group	Supervisory Subgroup		
	A	B	C
1. Well Capitalized	1A	1B	1C
2. Adequately Capitalized	2A	2B	2C
3. Undercapitalized	3A	3B	3C

CONCLUSIONS. As a supplementary measure of financial regulation, deposit insurance – both in the form of official deposit insurance (guarantee) schemes and implicit deposit protection from government – successfully serves the purposes of consumer protection and mitigation of systemic risks. However, as with any other types of insurance, deposit insurance causes moral hazard concerns, which materialize in the form of insufficient monitoring by depositors and excessive risk-taking mismanagement by banks. The classic, simple and uniform deposit insurance has undergone significant complication over time, both in organizational structure and financing mechanisms, to counter the shortcomings of it as a regulatory instrument. Such improvements, justified by academic analysis and best international practice, include limitations on the amount and types of deposits insured, as well as the application of risk-based insurance premiums for insured banks.

As in many other aspects of economic performance, financial regulation in general and deposit insurance in particular as well are experiencing a gradual shift from compulsory government regulation to more private incentive-based self-regulation. This trend is especially evident in the western developed countries, whereas developing and transition economies are still lagging behind and continue to rely heavily on government involvement. However, with the gradual development of a more sophisticated financial infrastructure and the institutional base, this shift should become only a matter of time and effort.

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