

## DEPOSIT INSURANCE AND FINANCIAL STABILITY

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### ABSTRACT

The authors of research into deposit insurance are mainly concerned with the relationship between deposit insurance and financial stability. The theory is that deposit insurance promotes the stability of the financial system by strengthening confidence in the banking system and preventing bank runs. However, empirical researchers who tested the relationships between deposit insurance and the risk of the banking sector, in different markets and periods, obtained mixed results, with some believing they had found a positive, and others a negative correlation. All the authors recognise that, besides its positive role in preventing bank runs, deposit insurance is unfortunately also a source of moral hazard, as it may encourage depositors to deposit their money (up to the insurance ceiling) at whichever banks promise the highest interest, without any assessment of the risks. This can make it easier for banks that offer riskier loans to obtain funds by promising higher rates on deposits, the demand for which is higher due to the deposit insurance, and therefore the depositors may also be funding a riskier banking system. In this section, we will review the theoretical and empirical research studies dealing with this topic, the differing results of which shed light on the need to update the existing literature on deposit insurance on the basis of observations from the twenty-first century.

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### THEORETICAL RESEARCH

According to the basic theoretical model of deposit insurance, deposit insurance promotes the stability of the financial system by strengthening confidence in the banking system and preventing bank runs, thus creating added value for society (*Diamond–Dybvig, 1983*). Before the elaboration of this model, the literature did not prove the value-creating ability of deposit insurance, but was more concerned with its pricing (*Merton, 1977, 1978; Kareken–Wallace, 1978; Dothan–Williams, 1980; Buser–Chen–Kane, 1981*). *Diamond–Dybvig (1983)* were the first to write that deposit insurance reduces the likelihood of inefficient bank runs, and thus the probability of bank failures. This is because in

the event of an inefficient bank run, depositors rush to withdraw their savings not because of the banks' bad fundamentals, but simply because everyone else is doing the same, and they don't want to lose their money because of the panic. By doing this, however, they increase the chance that the bank in question really will go bankrupt, regardless of whether or not this would have occurred without the mass withdrawal of funds. And bank failures cause considerable losses, not only directly for the deposit-holders, but also indirectly for other participants in the economy.

Diamond and Dybvig's (1983) model sheds light on a hitherto underexplored function of the banks. Specifically, the banks fulfil the deposit-holders' demand for liquidity by transforming their own illiquid assets (loans) into liquid liabilities (deposits). This service can also be seen as a type of insurance that makes it possible for the depositors to withdraw their money when they need it the most. The problem stems from the asymmetric nature of the information flow between the participants. On one hand, there is no knowing when the depositors will want to withdraw their money, and on the other, the depositors do not know whether the banks are about to go bust, which makes them prone to panic withdrawals. Without the existence of deposit insurance, in the game theory model set up by Diamond–Dybvig (1983), two states of equilibrium are possible (Nash equilibrium). In the desirable state of equilibrium, every depositor withdraws their money as and when they need it, while in the undesirable state of equilibrium everyone wants to take out their cash in the first period of the game, which leads to a bank run. Diamond–Dybvig (1983) demonstrated that with the presence of deposit insurance, the desirable Nash equilibrium state is achieved. Eliminating the detrimental state of equilibrium; in other words, preventing bank runs, creates added value for society, because there is no need for financial institutions to turn their illiquid assets into cash quickly at knock-down prices.

Diamond–Dybvig's (1983) model underpins their simulation of bank runs and also their related research into the systemic risk inherent in the operation of the banking system. In their study, *Chari–Jagannathan* (1988) investigated the phenomenon whereby if people see long queues outside a bank branch, they will rush to withdraw their money, despite having no information about whether it is going bankrupt. Another approach (*Kiss–Rodríguez-Lara-Rosa-García*, 2012) has shown that the ability of depositors to observe each others decisions regarding the withdrawal of bank deposits also influences the probability of bank runs. When there is no information in this regard, a higher level of deposit insurance is needed, but when such information is available a lower level is sufficient. This led the authors to conclude that the extent of the observability of such decisions needs to be taken into account when devising the optimal de-

posit insurance system. *Freixas–Parigi–Rochet* (2000), in their study of deposit insurance and systemic risk, reached the conclusion that deposit insurance contributes to the prevention of bank runs, and through this, to the reduction of systemic risk.

In what follows, we will present the results of authors who have conducted empirical research into the impact of deposit insurance on the banking sector.

## EMPIRICAL RESEARCH

The purpose of the empirical research was to answer the question of whether the institution of deposit insurance, due to the mechanism described by Diamond–Dybvig (1983), really does improve the stability of the banking system, or whether this positive effect is counteracted by the attendant moral hazard. Diamond–Dybvig (1983) also mention moral hazard as a potential negative side-effect of deposit insurance. According to the definition used by the International Association of Deposit Insurers, “moral hazard arises when parties have incentives to accept more risk because the costs that arise from such risk are borne, in whole or in part, by others”, (IADI, 2014:10).

The following is a brief introduction to the evolution of deposit insurance system is intended to help understand the analytical framework of the empirical studies. The first institutionalised deposit insurance system was created in the United State in 1933, in response to the bank failures caused by the Great Depression (1929–33). In the institutionalised (explicit) deposit insurance system, laws regulated the operation of deposit insurance, including such aspects as which deposits at which institutions were covered, and up to what ceiling. Prior to this, only the other type of deposit insurance system, the indirect (implicit) deposit insurance system, had existed. The difference between the two models is that while the primary contractual obligation in the former is to protect deposits, this is not the case with the latter. Explicit deposit insurance systems became widespread in the last quarter of the twentieth century. While in 1974, it only functioned in twelve countries in institutionalised form (*Cecchetti, 2008*), according to IADI data, on 31 January 2014 it featured in the statutes of 113 countries, and a further 40 jurisdictions were examining the possibility of its introduction (IADI, 2017).

The twentieth century evolution of deposit insurance was first reviewed by *White* (1995), on the basis of almost a century of existing experience of deposit insurance in the United States. The author did not advise introducing the system in developing and emerging countries, and only considered it to be viable as a short-term solution in developed countries, subject to strict banking and

market supervision. He based his position in the fact that bank failures had also occurred in the country despite the existence of the system, and he regarded this as a consequence of the moral hazard associated with deposit insurance. In our opinion, the correlation expressed by White is by no means a given, especially given that the number of bank failures fell dramatically in the United States in the forty years following the introduction of deposit insurance at federal level, and only increased during the period after the oil crisis (1973). The author, on the other hand, believed this panic-free period to be temporary, and attributed this to the fact that after the Great Depression (1933), the banks wrote off their losses and continued to operate with cleaned portfolios, and the moral hazard generated by deposit insurance only exerted its damaging effect later, over the long term.

By the end of the twentieth century (1999), explicit deposit insurance systems were operating in 71 countries; the international observations in this regard were first systematized by Demirgüç-Kunt-Kane (2002). The authors of that study take the position that it is difficult to build up a well-functioning deposit insurance system in countries with a weak system of financial institutions, because the “side-effect” of deposit insurance, namely moral hazard, cancels out the advantages, and therefore the system can only be successful in the short term at best. The relationships between deposit insurance and the banking system between 1980 and 1997 were further investigated by Demirgüç-Kunt-*Detragiache* (2002) in 61 countries. The authors reached the firm conclusion that explicit deposit insurance increases the probability of a bank crisis. They found the undesirable effects to be stronger where the group of insured persons and the extent of the insurance cover is larger, and where the system is operated by the state.

The lessons to be learned with regard to the impact of twenty-first-century deposit insurance on the banking system have been summarised by Anginer-Demirgüç-Kunt-Zhu (2014). The biggest strength of their research is that the authors conducted analyses of the period of both the most recent global crisis (2007–2009) and the peaceful period that preceded it (2004–2006). In the course of their investigations they found that in peaceful periods the negative impact of the moral hazard associated with deposit insurance tends to dominate, while in turbulent times deposit insurance has a stabilising effect. They also concluded that appropriate banking supervision mechanisms can mitigate the moral hazard, and incentive systems contribute to maintaining financial stability.

Summing up the results of the international empirical research, it can be concluded that deposit insurance carries varying degrees of risk, depending on the development of the financial and economic environment, the type and penetration of the deposit insurance system, and the prevailing cycle of the economy concerned.

## CONCLUSIONS

Deposit insurance indisputably has a positive effect on society, both through the prevention of bank runs and through the compensation of those who need it. Nevertheless, we agree with Anginer–Demirgüç–Kunt–Zhu (2014:313) that, ultimately, the extent of moral hazard is what determines whether the deposit insurance, overall, decreases or increases the stability of the financial system. Weighing up all the above factors, our position is that the institution of deposit insurance is desirable from a social perspective, but that efforts must be made to reduce the attendant moral hazard. To achieve this, it is essential to have an effective regulatory and supervisory environment, and the factors helping to shape this environment include analysis of indemnification payouts to date, the sharing of international experience, and dialogue between academic and professional experts, of which the content of this publication is also a part.

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