Risk-based Approach to Resolution and Deposit Guarantee Funds: How is Riskiness Measured?

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Following the financial crisis, European lawmakers have introduced a multi-layer safety net for the financial sector. At its core stand two complementary threads – the resolution fund and the deposit guarantee fund, which are to be activated in case everything else fails. One of their prominent features is a risk-adjusted premia for individual contributions. Building on previous work (Orszaghova and Miskova, 2015a), this article provides rationale for ex-ante funding as well as insight into the methodology for the calculation of risk-weighted contributions. It argues that accurately calibrated risk-adjusted premia for individual credit institutions would reduce their moral hazard and thus restore the stability of the financial sector in the longer-term perspective.

Resolution and Deposit Protection as Last Resort

The financial crisis has demonstrated that integrated capital and financial markets need strong measures of systemic stability to stand breakdowns. A three-pillar response adopted by the European Union consists of a stronger supervisory mechanism (supported by a comprehensive set of rules under CRR/CRD IV[2]), newly introduced resolution regime (under BRRD[3]) and enhanced deposit protection (under DGSD[4,5]). The first pillar – supervision, regulates the day-to-day business of financial institutions and introduces a comprehensive set of rules and ratios to monitor and to avoid any excessive risk-taking behaviour of the financial market participants. Whereas the first pillar has a preventive role, the other two pillars – resolution and deposit protection, represent a safety net to keep confidence of investors and depositors, a critical component of the financial stability.

The newly-built European safety net composes of two essential components – the resolution fund[6] and the deposit protection fund. Their creation is mandatory in all EU Member States and they will be gradually built up from contributions of banks and other financial market participants. This means that they will rely on ex-ante funding in order to collect reliable amount of resources.[7] Moreover, the contributions will be raised on individual basis (as opposed to their calculation at the group level).

The EU legislation foresees that by 2024[8] the funds will reach the target level of 1% and 0.8% of covered deposits in the case of the resolution fund and the deposit guarantee fund, respectively. This funding is supposed to strengthen credibility and to ensure confidence of market participants in the financial system as well as in case of distress, to ensure that costs are borne by financial institutions rather than taxpayers.[9] Furthermore, the ex-ante funding eliminates any pro-cyclical effects of financial contributions as banks are charged over time instead of in the period where their balance sheets may be under pressure due to a crisis.[10] Furthermore, it could be seen as a fairer approach than ex-post funding, as not only surviving institutions, but also those that failed have been levied funds.

Another prominent feature of the resolution and the deposit protection funds is the risk-weighting of contributions. Under the new rules, credit institutions will pay a contribution based on the basic contribution and the risk profile. The basic contribution is calculated relative to the size of the institutions, and it is further adjusted in accordance with their risk profiles. As such, a bank with a higher relative risk of failure will be obliged to pay a higher premium for higher insurance risk. In other words, the benefits of increased risk-taking can be taxed away, promoting thus market discipline and addressing moral hazard.

Building on Pre-Crisis Approaches

Ex-ante contributions and their risk adjustment are not any novelty in the European framework. These elements, which currently constitute the basis of the European harmonised approach in both resolution and deposit insurance mechanisms, have been present in the DGSs of several EU Member States.[11] Most of the EU Member States applied the ex-ante model already before the crisis, with contributions from deposit-taking institutions collected on a regular basis. The ex-post model, where extraordinary contributions were made in the event of failure, was used in a few EU Member States only, namely Austria, Italy, Luxembourg, Netherlands, Slovenia and Great Britain (IMF, 2013).

Furthermore, eight countries in the EU applied risk-based information prior to the crisis to adjust contributions. These were DGSs in Germany, France, Italy, Portugal, Finland, Hungary and Sweden, which adjusted the contributions of all their members, as well as DGSs in Romania and Hun-

1 The article should not be reported as representing the views of Národná banka Slovenska (NBS) or any other institutions the authors have been associated with. The views expressed and mistakes made remain of the authors.

2 Directive 2013/36/EU and Regulation (EU) No 575/2013 (Capital Requirements Directive and Regulation)

3 Directive 2014/59/EU (Bank Recovery and Resolution Directive)

4 Directive 2014/49/EU (Deposit Guarantee Schemes Directive)

5 With respect to the deposit protection, it shall be noted that the idea has not yet materialized into a pan-European scheme. However, a large level of harmonisation has been already achieved, including the harmonisation of coverage, faster payout, single point of contact, enhanced information requirements and principles and the harmonisation of ex-ante risk-based funding.

6 Please note that this notion refers to both the national resolution funds as well as the Single Resolution Fund (SRF), which will become operational as of 2016.

7 The ex-post funding is foreseen for cases when the funds fall below the target level.

8 By end-2024 for resolution funds and by 3 July 2024 for DGSs (Article 102 of Directive 2014/59/EU and Article 10 of Directive 2014/49/EU, respectively).

9 In this respect, it shall be noted that shareholders and creditors will be called first to pay for a bank in difficulty and the funds shall be seen as additional resources if needed.

10 In this respect, it shall be noted given the ongoing adjustment of the banking sector following the global financial crisis, that the decision to collect ex-ante contributions will have impact, at least in the short term, on the financial position of credit institutions in Europe. In order to address constrained lending capacity of financial institutions in several countries, a certain amount of contributions could be made in the form of irrevocable payment commitments. For further discussion on this, please refer to Orszaghova and Miskova (2015b).

11 Please note that limited information on resolution funds are provided in this overview, as resolution funds were literally non-existent in the EU prior to the crisis.

gary, where the contributions of individual institutions could have been increased based on their risk profile (European Commission, 2008). Among the countries, which adopted a risk-based adjustment, Italy was the only country applying it together with an ex-post system.

The risk-based adjustments used in the past were heterogeneous. Some were rather simple; whereas the others were relatively complicated and technical, e.g. only one risk indicator was applied in Portugal as compared to eight different indicators in Germany. However, some common principles could be identified. *First*, in most cases, the contribution base was calculated using eligible or covered deposits. *Second*, although the indicators and their definitions were not identical, they could be classified in one of the three main groups – solvency, riskiness of the exposure and profitability. *Third*, the contribution base was adjusted once, using the information on the risk profile of individual institutions.[12] *Fourth*, the participating institutions were clustered into rating classes. The variation ranged between 75% and 140% of the standard amount (European Commission, 2008).

The national approaches to risk-weighting seem to have served as inspiration for the pan-European model in both the resolution fund and the deposit guarantee fund. However, it has been a real challenge to create such an EU-wide model to risk-adjusted contributions. It has to strike the right balance between opposing ideas, namely the need for harmonisation and comparability within the Single Market and the need to keep some flexibility given the diversity of institutions and business models. Furthermore, the risk factors need to be calibrated in a way that contributions reflect both the probability of a failure and the magnitude of a drawdown on the funds in such a case. As a result, the final models are rather technical, using a large number of risk indicators (ten indicators in the case of the resolution fund and nine core indicators in the case of the deposit guarantee fund, see Table 1 and Table 2). Moreover, they allow for national adjustments, respecting thus differences in funding models prevailing in individual countries[13] as well as for adjustments relevant for a smaller group of institutions, reflecting thus e.g. already existing insurance schemes (e.g. IPS).

How Similar Are the Two Funds?

The resolution fund and the deposit guarantee fund constitute two essential components of the European crisis management framework. However, the two schemes have different mandates as there is an important distinction between the function of guaranteeing (small) depositors and financing bank resolution.[14] The deposit insurance protects depositors from loss of deposit values up to a pre-specified level in the event of bank failure. It also strengthens overall financial sector stability by removing incentives for bank runs by retail depositors out of uncertainties about the condition of their bank, and thus it should limit financial contagion.

On the other hand, the role of the resolution framework is to restructure a failing bank, ensuring the continuity of its critical functions in order to preserve financial stability. It also addresses moral hazard, as it enhances discipline within the market by allowing a bank to fail. Given the different goals, the risk indicators as well as calculation

12 In Italy, the contributions were corrected twice, based on the size of the institution (to take into account the idea of "too big to fail" approach) as well as based on the risk profile.

13 The large variations of business models prevailing in individual countries could be best documented by comparing the structure of liabilities of European banks; see e.g. ECB Banking Structures Reports.

14 In many countries, e.g. in France, the two functions are combined in one agency, but the mandates and constraints differ.

Table 1 Resolution Fund: Risk Indicators and Risk Weights

PILLAR		INDICATOR		Pillar weight	Relative Indicator weight	2015	
						Pillar weight	Rel.Indic. weight
1	Risk exposure	R1	Own funds and eligible liabilities in excess of MREL	50%	25%	62,5%	-
		R2	Leverage ratio		25%		33,3%
		R3	Common Equity Tier 1 ratio (CET1 ratio)		25%		33,3%
		R4	Risk Weighted Assets / Total assets ratio		25%		33,3%
2	Stability and variety of sources of funding	R5	Net stable funding ratio (NSFR)	20%	50%	-	-
		R6	Liquidity Coverage Ratio (LCR)		50%		-
3	Importance for stability	R7	Share of interbank loans and deposits in the SR	10%	100%	12,5%	100%
4	Additional risk indicator	R8	Trading activities, off-balance exposures, derivatives...	20%	45%	25%	45%
		R9	IPS membership		45%		45%
		R10	Extraordinary public financial aid		10%		10%
			TOTAL	100%		100%	

Source: Authors based on Delegated Regulation (EU) 2015/63.
Note: IPS refers to Institutional Protection Scheme.

Table 2 Deposit Guarantee Fund: Risk Indicators and Risk Weights

	PILLAR		INDICATOR	Minimum Pillar	Minimum CRI	Maximum indicator
1	Capital	CRI	Leverage ratio	18%	9%	24%
		CRI	Capital coverage ratio		9%	24%
		CRI	Common Equity Tier 1 ratio (CET1 ratio)			24%
2	Liquidity and funding	CRI	Liquidity Ratio (LCR)	18%	9%	24%
		CRI	Net stable funding ratio (NSFR)		9%	24%
3	Asset quality	CRI	Non performing loans ratio	13%	13%	28%
		ARI	Level of forbearance			15%
4	Business model and management	CRI	Risk Weighted Assets / Total assets ratio	13%	6,5%	21,5%
		CRI	Return on Assets (RoA)		6,5%	21,5%
		ARI	Sector concentration in loan portfolio			15%
		ARI	Large Exposures ratio			15%
		ARI	Excessive balance sheet growth ratio			15%
		ARI	Return on equity (RoE)			15%
		ARI	Core earnings ratio			15%
		ARI	Cost to income ratio			15%
		ARI	Off balance sheet liabilities / Total assets			15%
		ARI	Qualitative assessment - SREP			N.A.
		ARI	IPS membership			15%
		ARI	Systemic role in the IPS			15%
		ARI	Low-risk sectors			15%
5	Potential losses for the DGS	CRI	Unencumbered assets/covered deposits	13%	13%	28%
		ARI	Own funds and eligible liabilities held by institution in excess of MREL			15%
		ARI	Covered deposits / Total deposits			15%
			TOTAL	75%		

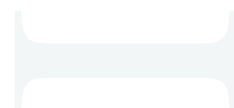
Source: Authors based on EBA guidelines.
Note: CRI refers to core risk indicator and ARI to additional risk indicator.

methods differ to some extend as well, reflecting the specificities of the two schemes.

At the same time, the resolution and the deposit insurance are compatible in their objectives and together, they form two important elements of the same crisis management framework. Therefore, it is apparent that there is a general interest that the two contribution schemes do not constitute conflicting incentives and that they do not give opposing signals, e.g. in terms of risk-taking of banks. Furthermore, the same financial institutions are affected by the two contribution schemes and it makes sense that any unnecessary reporting burden is thus avoided. In other words, the use of similar indicators was suggested whenever appropriate. As a result, several indicators are identical, in particular those based on ratios introduced by the harmonised supervisory approach (CRR/CRD IV).

However, the main difference between the two schemes derives from the fact that the project of the banking union is not completed when it comes to the DGSs. As such, the two contribution schemes differ substantially in the level of leeway on the side of the national authorities to adapt the final risk-based model to local conditions. The respective directives (BRRD and DGSD) harmonise the basic principles, namely they introduce the idea of regular risk-based contributions. The detailed methodology is, however, further defined in lower-level legal acts.

In the case of the resolution fund, the rules are set in delegated and implementing acts, which are directly applicable in all EU Member States. The legislation allows adapting the methodology to national conditions in one risk pillar only, which accounts for 20% weight. Furthermore, as of 2016, the national resolution funds of the Member States within the euro area will cease their existence and they will be replaced by the Single Resolution Fund (SRF). As of this date, unified rules will be ap-



15 The bucket method refers to the use of a discrete scale and the sliding scale method to the use of a linear scale to determine the risk weights.

16 This provision is included in order to avoid any double-counting of liabilities among group entities established within the EU. Double-counting would happen if, for example, parent institution in one EU Member State would issue debt externally, which it would then lend to its subsidiary in a different EU Member State and if both entities would include this amount in their calculations.

17 SREP refers to Supervisory Review and Evaluation Process.

plied all over the euro area, with the methodology decided by the SRF. Countries will thus loose any possibility for national options provided in the current legislation.

On the other hand, the methodology for risk-based approach in national DGSs is specified in the guidelines by the European Banking Authority (EBA). The EBA guidelines represent a list of recommendations and best practices in Europe, which have for an objective to increase harmonisation of practices of national DGSs and to contribute to greater comparability of risk-based contributions of the DGSs across EU Member States. The national authorities are expected to incorporate the guidelines into their practice, but they have more liberty to adapt the final model to local conditions. They are obliged to notify the EBA whether they comply with the guidelines and if not, to state the reasons for non-compliance.

As such, the national DGS models allow for a higher level of national discretion (as compared to the resolution fund) and it is therefore very likely that there will be differences between the final models applied across the EU. For example, it is up to the national DGSs to decide about the method for calculating the aggregate risk score (the so-called 'bucket' or 'sliding scale' method[15]), about the introduction of minimum contributions, about the use of any additional risk indicators as well as about the final redistribution of risk weights.

Where Are the Risks?

The amount that individual institutions will have to pay each year is based on the basic contribution and the risk profile. The basic contribution depends on the relative size of an institution, as measured in terms of covered deposits in case of the deposit guarantee fund and in terms of liabilities minus own funds and minus covered deposits in the case of the resolution fund, further adjusted for intra-group liabilities.[16] The relative size could be regarded as the first indicator of a risk as the larger the institution is the more likely it is that the funds would be used in case of distress.

Each model uses a large number of risk indicators, pertaining to capital, liquidity and funding, business model and management, as well as asset quality, importance for financial stability and potential losses of an institution in case of distress (see Table 1 and Table 2 for details). Several risk indicators – in particular those related to capital, liquidity and funding, are identical in the two models. Furthermore, the two methodologies utilise indicators, processes and reports existing in supervisory assessment (e.g. SREP[17]), as a way to maximise synergies among the three pillars of the European safety net and to minimise reporting burden on the institutions by applying indicators based upon the EU and the COREP harmonised reporting requirements.

The risk indicators are organised in risk pillars: there are four risk pillars identified for the resolution fund and five pillars for the deposit guarantee fund. As regards the resolution fund, first three pillars are strictly prescribed by the legal acts, including the risk indicators and their respective weights. The last pillar could be, however, determined (to a certain level) by the resolution authority and it could thus account for some national specificity. The DGS model proposes some compulsory core risk indicators which should be used in order to promote comparable treatment of institutions EU-wide. In addition, the national authorities may introduce additional risk indicators if they consider that the core indicators do not sufficiently take into account the characteristics of the member institutions, for example in order to reflect the presence of an IPS or of institutions in low-risk sectors regulated under national law.

The indicators as well as risk pillars are assigned a weight and they are further combined in a weighted matrix in order to assess the risk profile of each financial institution. The weight of each risk indicator in the resolution fund is fixed and together they account for 100%. The guidelines on the deposit guarantee fund provide for more flexibility as they assign minimum weights only, which together equal to 75% of the total aggregate weight. The re-

Table 3 Resolution Fund: Fixed contributions of Small Institutions

Group	Legal basis	Total Assets	Total Liabilities **		Fixed contribution
		(less than, in EUR)	(above, in EUR)	(less or equal to, in EUR)	(in EUR)
1	Art.10 DA*	1 000 000 000	0	50 000 000	1 000
2	Art.10 DA	1 000 000 000	50 000 000	100 000 000	2 000
3	Art.10 DA	1 000 000 000	100 000 000	150 000 000	7 000
4	Art.10 DA	1 000 000 000	150 000 000	200 000 000	15 000
5	Art.10 DA	1 000 000 000	200 000 000	250 000 000	26 000
6	Art.10 DA	1 000 000 000	250 000 000	300 000 000	50 000
7***	Art. 20 DA	3 000 000 000***	300 000 000	-	50 000***

Source: Authors based on Delegated Regulation (EU) 2015/63.
*** Total Liabilities minus own funds and covered deposits.*
**** Subject to discretion of the resolution authority and only in the initial period. Total assets equal or less than EUR 3 000 000 000. Fixed contribution of EUR 50 000 only for the first EUR 300 000 000 of total liabilities (less own funds and covered deposits).*

maining 25% could be allocated by the DGS, either by increasing the weights of some core indicators, or by introducing additional risk indicators.

Without prejudice to the risk weighting, a special lump-sum regime will apply for small banks in the resolution fund, reflecting the fact that – in most cases – such institutions have a lower risk profile and are less likely to use resolution funds (see Table 3 for different categories). The amount of the lump-sum depends on total assets and liabilities of the respective institution and vary in the range of 1 000 EUR to 50 000 EUR. Furthermore, until the end of the transitional period (thus, by 2024), EU Member States may allow certain smaller institutions to pay a combined contribution, where for a certain part, they would pay a lump-sum of EUR 50 000 and for the remainder, they would pay in accordance with the risk-based approach.

Short-Term Challenges

It is foreseen that the collection of ex-ante contributions will start already in 2015, although some of the legislative acts were adopted that year only (the latest being the EBA guidelines on methods for calculating contributions to DGSs, which were published in May 2015). The national DGSs have the right (a national option) to delay the introduction of risk-based contributions by one calendar year, but this possibility is not available for the resolution fund. One could argue that the selection of a rather short deadline was driven by the need to increase credibility of the overall European safety net.

However, the idea poses some additional challenges, in particular in terms of availability of data on several risk indicators. The risk indicators are derived from audited financial statements and based on the wording of the legal acts, data with a delay of two years are to be used to determine the risk adjusting multiplier (thus, data for 2013 are to be applied in 2015). Several newly introduced risk indicators are used in the models, but most of them were not collected before mid-2014 and some of them are still not fully implemented. Given the data constrains, it is rather challenging to apply the model in its full power in the period of 2015 – 2016. As a consequence, the weights of the risk indicators as well as risk pillars must be significantly redistributed (see Table 1 for details). Moreover, the entire second pillar, which covers the aspects of liquidity and funding, will completely disappear in the model in 2015.

Another short-term challenge is the transition from national resolution funds to the Single Resolution Fund (SRF). In 2015, all EU Member States will constitute national resolution funds under the BRRD, create their own methodology (with respect to fourth pillar) and introduce all processes related to the collection of funds. The following year, however, these funds will cease their existence in the euro area countries as they will be replaced by the SRF. As a result, the work already done the previous year by national agencies will be replicated in 2016 at the European level. Moreover, the risk-based contributions collected in 2015 will be transferred to the SRF. As such, it is crucial to allow for a great level of harmonisation and coordination among the EU Member States in 2015 in order to achieve a high level of fairness. Furthermore, the transition from a national to EA-wide system could also lead to important variations in the annual contributions of certain institutions (for details, see also Orszaghova and Miskova, 2015a).

Are these Funds Sufficient?

The new approach foresees that the two funds will be gradually built up from ex-ante contributions from banks, reaching the target level by 2024. This means that the funds would not have significant size for several years and even after 2024, they would not fully reflect the possible emergency financing capacity needed.

The issue of possible discrepancy between the available funds and the funds that might be needed is addressed in several ways: *First*, the role of the crises management has been strengthened, allowing e.g. for the bail-in mechanism. It is expected that these additional powers of supervisors will contribute to limit any risk-taking behaviour of credit institutions. *Second*, the financial institutions are charged for insurance premia based on their risk profiles, which implicitly reduces moral hazard. *Third*, both the resolution fund and the deposit guarantee fund include the possibility of additional ex-post levies as well as an option for voluntary credit between national funds. Furthermore, the creation of SRF provides for an access to larger funds than what would be available through national sources and at the same time, it avoids also the delicate issue of assigning eventual costs according to the nationality of the troubled institution.

Government-backed funding has traditionally been the last resort, providing emergency liquidity and allowing temporal smoothing. Arguably this role is somewhat less in the forefront given the adjustments since the crisis, including the ex-ante risk-based financing. However, the revised funding arrangements still imply a role for governments, allowing for the temporal smoothing in the case of a shortfall of funds while money is being recovered from surviving banks.

Conclusions

The so-called three pillars form an integrated and consistent approach to supervision, resolution and deposit protection of the financial industry. At the core of this new safety net in Europe stand the resolution fund and the deposit guarantee fund. Compatible in their set-up, they share a common objective of reducing threats of contagion and market distortions. Both apply harmonised financing rules, namely ex-ante financing and risk-based schemes, which should help to limit moral hazard and to ensure a fair distribution of the burden among credit institutions, contributing thus to an ultimate goal of making any government-backed funding redundant.

References:

Orszaghova, L. and Miskova, M. (2015a): Financial Contributions and Bank Fees in the Banking Union, Biatec, Vol. 23(1), pp. 13-18.

Orszaghova, L. and Miskova, M. (2015b): Irrevocable Payment Commitments: A New Form of Servicing Banks´ Obligations Towards the EU Sovereigns?, Biatec, Vol. 23(6), pp. 21-25.

European Commission (2008): Risk-based Contributions in EU – Deposit Guarantee Schemes: Current Practices.

IMF (2013): European Union: Financial Sector Assessment Program – Technical Note on Deposit Insurance, IMF Country Report No. 13/66.

Guidelines on methods for calculating contributions to Deposit Guarantee Schemes (EBA/GI/2015/10, 28 May 2015).

Commission Delegated Regulation (EU) 2015/63 of 21 October 2014 supplementing Directive 2014/59/EU of the European Parliament and the Council with regard to ex-ante contributions to resolution financing arrangements (OJ L 11, 17.1.2015).

Council Implementing Regulation (EU) 2015/81 of the European Parliament and of the Council with regard to ex-ante contributions to the Single Resolution Fund (OJ L 15, 22.1.2015).

Regulation (EU) No 806/2014 of the European Parliament and of the Council establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund (OJ L 225, 30.7.2014).

Agreement on the transfer and mutualisation of contributions to the Single Resolution Fund

Directive 2014/59/EU of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms (OJ L 173, 12.6.2014).

Directive 2014/49/EU of the European Parliament and of the Council of 16 April 2014 on deposit guarantee schemes (OJ L 173, 12.6.2014).

Directive 2013/36/EU on Access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (CRD IV)

Regulation (EU) No 575/2013 prudential requirements for credit institutions and investment firms (CRR)