The Financial Background of the European Deposit Guarantee Schemes and the Resolution Mechanism

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The new directives of the European Parliament and the European Council issued in 2014 define unified expectations regarding deposit guarantee schemes and regarding banking resolution mechanism to be applied in territory of each EU member states. Moreover, the so called Single Resolution Fund must be implemented by euro member states in order to finance the resolution processes. The article introduces the main rules of the unified systems as well as deals with their financial background. The European Commission declared in its statement the target level of the Single Resolution Fund which is EUR 55 billion. However, we provide evidence that this target level is underestimated.

Journal of Economic Literature (JEL): E53, E58, G20, G21, G28, G38

1. Introduction

Herman Van Rompuy [2012] recommended numerous measures in order to stabilize the European economic and monetary union in his report made for the European Commission (hereinafter Commission), the Euro group and the European Central Bank. One of them was the intention of establishing an integrated financial system which is nowadays called simply as Banking Union. Pillars of the Banking Union are defined in more regulations and directives in the European Union. The European Parliament approved the proposals of the Commission concerning European Single Supervisory Mechanism in 2013. From November 2014, it brought significant changings in the banking supervisory activity. Participation is compulsory for each euro zone member state but others from the European Union could also join to the system.

After regulating the banking supervision, two new pillars were created within the Banking Union in 2014. The first one is related to the bank deposit guarantee scheme (hereinafter DGS) and the second one deals with banking resolution: the European Parliament and the European Council issued their common directive on the banking deposit scheme [2014a] in April and one month later they issued their directive on recovery and resolution of credit institutions and investment firms [2014b]. The directives give framework for issues concerning bank deposit guarantee as well as banking resolution and define the rules based on which the financial background of the systems could be created.

The Parliament and the Council also issued a regulation [2014c] that defines uniform rules and uniform procedure for the resolution of credit institutions and certain investment firms in the euro zone. We have to note, generally a regulation of the European Parliament and the European Council automatically takes effect in each member state but in this case the regulation itself narrows its territorial effect. It must be used in the euro zone. According to this regulation the so called Single Resolution Fund is to be created. This fund will embody the financial background of the banking resolution.

Numerous articles deal with the disadvantage and advantage of the integrated financial system. Ensuring the financial stability of the Union is the main goal of the Banking Union. Nevertheless, stability cannot be achieved by separated national efforts. Schoenmaker [2011] proves that maintaining the financial stability, strengthening the financial integration and enforcing national financial policies are incompatible. Any two of the three could be combined but they make the third impossible. It is the so called financial trilemma which is observable in the practice: the risk of cross-border banking and investment service cannot be managed by national policies either the financial stability or the financial integration hurts.

Vítor Constâncio [2013] the vice president of the European Central Bank described in his presentation in February 2013: “The recent financial crisis demonstrated how quickly and powerfully problems in the financial sector of one country can spread to another. This is especially the case in a monetary union. As a result, problems in the banking sector might originate at the national level, but are more
and more likely to affect other countries of the euro area as well, and may quickly threaten the stability of the entire euro area banking system.”

In case of euro zone, the dominance of the large banks is well observable. The summarized balance sheet total of 10 largest banks is 51.33% of the aggregated balance sheet total of each credit institution in the euro zone (approximately 5600 credit institutions). The asymmetry is illustrated by the following chart:

**Chart 1**

Asymmetry in distribution of the balance sheet total in euro zone 2011-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>10 largest bank balance sheet total</th>
<th>Balance sheet total of the remaining part of the bank sector in euro zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Consolidated financial statements of the banks and European Central Bank

According to the practice applied before implementing the new resolution rules, significant bank in financial difficulties was bailed out by taxpayers’ money of the sovereign it belonged to. However, on the one hand this solution was not applicable in case of significant European banks, since their balance sheet total was (is) too large to be able to bail out them. On the other hand the taxpayers bailed out the banks which raised moral issues. Hence, by implementing the new resolution rules the owners and the creditors are the main cost payers of the banking resolution.

In Claessen at al. [2010] opinion, the national authorities make decision by taking the local interest into account during crisis and they do not deal with the cross-border activity of the institution in trouble. This attitude refers also to one of the ingredients of the financial trilemma. According to Engineer, M at al. [2012], the different interest of the national authorities is the reason for fragmented system of deposit guarantee schemes. Howarth and Quaglia [2014] built their theory on the financial trilemma. They highlight a fourth aspect. The fact of being member of the euro zone can also cause difficulties. By introducing the common currency, the joining countries have lost their interventional tools that had been used in adverse cases. In Micossi, Bruzzone and Carmassi [2013] opinion when building up the Banking Union the resolution procedure was unreasonably emphasized and the intention of unifying the deposit guarantee schemes was neglected. In paper of Pisany-Ferry, J. at al [2012] the authors deal with the same issue by calling attention on the risk of deposit guarantee schemes managed by sovereigns. In their opinion remaining under sovereign management the effectiveness of the mechanisms could be undermined. Gros and Schoenmaker [2014] recommend implementing a European deposit insurance and resolution authority (EDIRA). As it will be highlighted afterwards, this proposal is partly realized.

In the following chapters we analyse the bank deposit insurance and resolution systems based on the directives. Though, activity of the investment firms are also covered by the directives and regulation mentioned, our analysis and findings are related to the banks.
2. The European deposit guarantee schemes

The directive of the European Parliament and Council [2014a] disposes the expectation to implement at least one deposit insurance system in each member state. According to the analysis of the European Commission [2013], generally one system works in the member states, but there are some exceptions. There are 5 systems in Austria, in Germany 4 systems operate and 2-2 schemes are maintained in Italy, Cyprus and Portugal.

According to the CRD IV (Directive of the European Parliament and Council [2013b]) a credit institution allowed to take deposits in a member state if this institution is member of a guaranty scheme. Therefore, a credit institution is allowed to take deposits in a member state even if this institution is not member of the guarantee scheme of the country in question.

According to the directive of the deposit guarantee scheme, the deposit and the related compound interest is protected up to EUR 100 000.

If a parent bank from non EU member state establishes branch in an EU member state, the authority of this EU state must check the deposit guarantee system of non EU member state the parent bank belongs to. The protection of deposits must be the same in that case. If it is not fulfilled, the branch must join to the DGS of the EU member state. Let’s see an example! Suppose an Australian parent bank establishes a branch in Poland. In this case, the Polish authority checks the Australian DGS. Among other things it examines if the deposits are protected at least up to EUR 100 000 in the Australian system. In other words, the authority must make sure whether the Australian deposit fund pays decent amount in reasonable cases or not. If the answer is no, the branch has to join to the Polish DGS (or DGS of any EU member state).

3. Financing the deposit guarantee schemes

The banking annual contribution is the main source of the deposit guarantee schemes. The target level is 0.8% of the covered deposits that must be reached by the member states by 3 July 2024. However, the recent value of assets of the DGSs already exceeds the target level in some member states. The following chart shows ratio of the available assets to the covered deposits of some member states as of 31/12/2012.

*Chart 2*

*Ratio of the available assets to the covered deposits of some member states the member states as of 31/12/2012*

Source: European Commission [2013], own calculation
The fund must be invested in low risk and diversified manner. The assets of the deposit guaranty funds must be primary used in order to compensate the deposit owners. However, during low risk environment, member states might allow that the systems use the available assets for alternative purposes. For example, alternative usage might be crediting another DGS. We note, the DGSs remain under national management. Mutual deposit guarantee fund is not created by the member states of the euro zone, either.

4. Resolution mechanism

4.1 General rules

The directive [2014b] as well as the regulation [2014c] of the European Parliament and Council brought significant changings in the process of resolution of the credit institutions being in critical financial situation. The directive is to be used in territory of each EU member state but the regulation must be applied only in the euro zone countries. Since one of the elements of the financial stability management is raised from national to European mutual level, as it also happened in case of introduction the single supervisory mechanism, the trilemma of Schoenmaker has been broken. Earlier if a government intended to bail-out a financial institution jeopardizing the financial stability of the country, the financial background of the rescue was provided by the tax payers. According to the new rules, applying the bail-in method the owners and the creditors (except for the owners of the covered deposits) become the payers of the resolution. Moreover, other tools are also available for the resolution authority. These tools will be introduced afterwards.

The maintenance of the critical function of the credit institution, avoidance of the unfavourable effect jeopardizing the financial stability and protection the depositors are the main purposes of the resolution mechanism. Nevertheless, more preconditions must be fulfilled in order to implement transparent resolution process.

At first, a resolution authority is needed to be independent from the supervisory authority. We note, the supervisory authority also participate in the resolution processes, it has predefined tasks during the resolution.

Also, credit institutions are obliged to compile their own recovery plan that must be updated annually. This plan must be sent to the supervisory authority. The authority examines the appropriateness of the plan, for example it investigates the capital and financial structure of the bank or checks if the plan contains proper measures for different unfavourable scenarios. The supervisory authority also has to examine whether there is any obstacle in implementation of the measures defined in the recovery plan. If the plan appropriate, the supervisory authority hands over the plan to the resolution authority. Based on the data of the recovery plan, the resolution authority makes resolution plan.

As it was mentioned in the introduction, an internationally active bank could jeopardize the financial stability of the whole region within which bank operates. In order to avoid this trap, an internationally active bank must compile group-wide recovery plan that must be submitted to the consolidated supervisory authority (in case of significant banks in the euro zone it is the European Central Bank). This plan (if appropriate) is passed to the group-level resolution authority, the related supervisory authorities and the related resolution authorities. That is, decision must be made on consolidated level. The supervisory authority is also entitled to use different tools in the early interventional phase (pre-resolution phase). For example the authority might require the management body of the institution to implement one or more measures specified in the recovery plan, the authority is entitled to convene the meeting of the shareholders in order to decide on certain measures or the authority is entitled to require one or more members of the management body or senior management to be removed or replaced.

4.2 Initiation of the resolution

The resolution directive defines the circumstances when resolution must be initiated. If in the opinion of the supervisory authority the credit institution is close to the bankruptcy, neither further supervisory measures, nor additional investor financial support could help, the resolution process must be initiated. When governing the resolution, the authority has to take that principal into consideration according to which the shareholders of the institution under resolution must be the first and the creditors must be
the second loss bearers of the resolution. This rule can be evaluated as the most important changing in
the process of the bank resolution.
When initiating the resolution, the management body and senior management of the institution under
resolution must be replaced. Moreover, it must be examined whether natural and legal persons are
responsible for failure of the bank or not.
During the resolution process the sale of the business, usage of bridge institution, asset separation and
the bail-in tools are available for the resolution authorities. These tools can be combined or can be
applied separately. If the sale of business or usage of bridge institution tools are employed and only
part of assets, liabilities and right handed over, the residual institution must be wound up under normal
insolvency proceedings.

4.3 The sale of business tool

When using the sale of business tool, the resolution authority has right to sell the shares, assets, rights
and liabilities of the institution under resolution procedure. The purchaser must be dealt as successor.
During usage of the sale of business tool the resolution authority must fulfil numerous criteria. The
conflict of interest rules must be kept, the transparency of the transaction must be ensured, the unduly
favour or discrimination between potential purchaser must be excluded as well as the need of quick
resolution and the purpose of the price maximizing must be taken into account.

4.4 Bridge institution tool

The resolution authority entitled to apply bridge institution in the resolution process. Doing so, the
authority has right to transfer the assets, rights, liabilities, shares possessed or issued by the institution
under resolution to a bridge institution without consent of the shareholders. The bridge institution must
be owned by one or more public authority. The bridge institution is controlled by the resolution
authority. Receiving and holding some or all of the shares or some or all of the assets, rights and
liabilities of the institution under resolution with a view to maintain the critical functions and to sell
the institution are the main purposes when funding bridge institution. The resolution authority appoints
the management body of the bridge institution and specifies the risk profile of the institution. The
management should pursue to maintain the critical function of the credit institution and to sell the
bridge institution under the possibly best condition.
When taking over the assets and liabilities, the value of the assets has to be higher than the liabilities.
That is, just a certain part of the liabilities is taken over by the bridge institution. This solution ensures
the viability of the bridge institution.

4.5 Asset separation tool

When applying the asset separation tool, the resolution authority has right to hand over the assets,
rights and liabilities of the credit institution under resolution procedure or to hand over the bridge
institution to an asset management vehicle.
The asset management vehicle shall be a legal person that wholly or partially owned by a public
authority and is controlled by the resolution authority. While holding the critical function is the main
purpose of the bridge institution, the price maximising through sale or orderly wind down are the goals
of usage the asset separation tool.

4.6 The bail-in tool

As it mentioned above, the cost of keeping alive the credit institution in difficult financial situation
was paid by the taxpayers earlier. However, by virtue of the new directive, the owners and the
creditors are the primer payers of the resolution cost of the credit institutions. This mechanism is
fulfilled by deleting or dilution of the shares, by reducing the principal amount of claims or debt
instruments or by converting claims to share.
The mentioned measures can be applied in case of any liability except for covered deposits, secured
liabilities, liabilities with a remaining maturity of less than seven days and salary liabilities.
In order that the bail-in tool might be applied, the credit institution should meet the minimum criteria of the own fund and eligible liabilities. That is, the following has to be fulfilled:

\[
\frac{OF + EL}{OF + EL + OL} \cdot 100\% > IM, \tag{1}
\]

where
- \(OF\) own fund,
- \(EL\) eligible liability, this liability might be taken into account when applying the bail-in tool,
- \(OL\) other liability, this liability is not taken into account when applying the bail-in tool,
- \(IM\) institute-specific minimal requirement and

\[
EL + OL = L, \tag{2}
\]

where
- \(L\) total liabilities.

The value of the IM is specified by the resolution authority and depends on numerous criteria. There is no a predefined value, it is different in case of different institutions. However, in case of “Union parent credit institution”, the minimum requirement must be determined on consolidated-level.

When applying the bail-in tool, write down or conversion of capital instruments, the following sequence must be kept by the resolution authority:
- common equity Tier 1 items,
- additional Tier 1 items,
- Tier 2 instruments,
- subordinated debts,
- rest of eligible liabilities.

Let’s see an example! Suppose the resolution authority decides writing down 1263 unit. The remaining values of the liabilities are the following:

<table>
<thead>
<tr>
<th>Liability</th>
<th>The value of the liability before using the bail-in tool (unit)</th>
<th>Write down (unit)</th>
<th>Compound write down (unit)</th>
<th>The value of the liability after using the bail-in tool (unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common equity Tier 1 items</td>
<td>524</td>
<td>524</td>
<td>524</td>
<td>0</td>
</tr>
<tr>
<td>Additional Tier 1 items</td>
<td>195</td>
<td>195</td>
<td>719</td>
<td>0</td>
</tr>
<tr>
<td>Tier 2 instruments</td>
<td>254</td>
<td>254</td>
<td>973</td>
<td>0</td>
</tr>
<tr>
<td>Subordinated debts</td>
<td>312</td>
<td>290</td>
<td>1263</td>
<td>22</td>
</tr>
<tr>
<td>Rest of eligible liabilities</td>
<td>5 604</td>
<td>0</td>
<td>1263</td>
<td>5 604</td>
</tr>
</tbody>
</table>

An instrument could be reduced if the liabilities being on higher rank in the abovementioned hierarchy have already been reduced to zero. Therefore, the cost of the resolution is primarily paid by the owners and such creditors who have receivables related to eligible liabilities of the bank under resolution procedure.
5. Financial background of the resolution mechanism

According to the directive, the resolution authority has right to use the money of the fund for the followings: warranty or loan granting for the institution under resolution, buying the assets of these institutions, supporting the activity of the bridge institutions, asset management vehicle, lending to other financing arrangements or combination of the previously mentioned. However, the fund cannot be applied for capitalizing institutions in critical financial situation. The target level of the fund is 1% of the covered deposits that must be reached by the member states by the end of 2024. Due to this rule, the compound target is 1.8% together with the fund to be uploaded for deposit guarantee assurance. However, while the deposit guarantee schemes remain under member states management, the contribution paid for resolution mechanism is gathered in a common fund in case of euro zone member states. This fund is the so called Single Resolution Fund.

Each member state has to ensure that the institutions pay contribution in order to fulfil the target level. The contribution is proportional which could be expressed in the following form:

\[ RC = \frac{L - CD}{TL - TCD}, \]

where
- \( RC \) ratio of the contribution,
- \( L \) liabilities of the credit institution,
- \( CD \) the covered deposits from the liabilities,
- \( TL \) total liability of the credit institution in the member state,
- \( TCD \) the total covered deposits from the total liabilities in the member state.

It means that the contribution of an institution has to be paid based on the amount of the uncovered liabilities in the bank compared with the uncovered liability portfolio in the member state in question. The highest level of uncovered liabilities the highest level of contribution.

6. The forecasted level of the resolution funds

The European Commission [2014a] declared in its statement the target level of the Single Resolution Fund which is EUR 55 billion. However, we prove this level is underestimated. Our calculation is partly based on survey made by the European Commission [2013]. The survey was made in 2007 at first but was repeated in 2009 and 2013. Data were provided by bank deposit guarantee schemes of the member states. Since the survey made by the Commission is related to the covered deposits and contribution to the resolution fund depends on their level (1%) we can forecast the level of funds (in case of euro zone member states it is the Single Resolution Fund and in case of non-euro zone member states they are the national resolution funds).

Lots of discussion and negotiation were necessary among member states to implement a common resolution fund. Though, the operational mechanism is defined in the resolution regulation, the contribution of the member states to the common fund is not determined. Only, an intergovernmental agreement (Council of the European Union [2014]) regulates the measure of contribution of the member states. According to the agreement, participation in implementation of the Single Resolution Fund is compulsory for euro zone member states but others could also join. In the first year 40% of the available financial asset paid by the banks for resolution is to be transferred to the mutual resolution fund by the counterparties. In other words, 40% of the contribution paid by the banks operating in the territory of a euro zone member state could be used for mutual resolution of an institution operating in other country of the euro zone and 60% of the contribution might be spent on resolution of institution operating in the member state in question. In the second year additional 20% of the available sources must be transferred and after that this portion will be increased by 6 2/3 %. As a result of it 8 years is needed to reach the 100%. Taking the survey of the Commission into consideration, according to which the amount of the covered deposit portfolio was EUR 5 212 705 million\(^1\) in the euro zone at the

\(^1\) Since in the meantime Republic of Latvia, the Republic of Lithuania became member of the euro zone, the related deposits are included
end of 2012 and suppose it is not changing as well as suppose the Single Resolution Fund will be uploaded by equal amounts, the following level of the funds showed in the chart will be available for mutual resolution in the euro zone in the transitional period.

Chart 3
Forecasted mutual fund available for resolution of euro zone institution in case the level of covered deposit does not change (EUR billion)

Source: European Commission [2013], own calculation

Accepting the assumptions, the forecasted mutual resolution fund will be EUR 52 billion at the end of 2024. Independently of the territorial location within the euro zone, this fund will be available for guarantee or loan granting for euro zone institution under resolution procedure, buying assets of these institutions, financing the activity of the bridge institutions, asset management vehicle.

In case of member states outside the euro zone, the following forecasted level of national resolution fund will be after 2024 (if the level of covered deposit does not change):

Chart 4
Forecasted value of resolution funds of non-euro zone member states after 2024 in case the level of covered deposit does not change (EUR million)

Source: European Commission [2013]

When compiling the charts above, we assumed data given as for 2012 remained unchanged. However, the portfolio of covered deposits is changing. The portfolio changing of the covered deposits depends on numerous factors. The size of the population, the level of the national GDP, the unemployment

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2 In case of Croatia there are no available data
rate, the abroad activity of the credit institutions could have effect on the level of covered deposits belonging to one member state. In order to simplify our calculation compare the GDP of home country with the covered deposits reported in the Commission’s survey as for 2012.

**Chart 5**
The GDP in 2012 and the covered deposits of the member states as of 31/12/2012

It is well visible that there is tight connection between national GDP and the level of the coverage deposits. Taking the continuous changing in the covered deposits into account we use linear regression to determine the level of covered deposits after 2024 where the level of covered deposits is dependent variable of the national GDP. In that case the equilibrium of the linear regression line is the following:

\[ \hat{y} = -12681.7 + 0.5424x \quad (4) \]

The value of the coefficient of determination (R\(^2\)) is definitely high (0.95) which shows that our model is applicable. The equilibrium expresses that when the GDP increases by 1 EUR the covered deposit portfolio increases by 0.5424 EUR. If we calculate the forecasted value of the GDPs of the member states, we could determine the value of covered deposits, thus we could determine the level of resolution funds. We accept the forecast of the European Commission [2014b] regarding expected GDPs in period 2015-2016. As for period 2017-2024 we make 4 scenarios in case of each member state. We suppose the GDP growth will be 0%, 1%, 2% and 3%. The following table shows 1% of the forecasted covered deposits\(^3\) as of 12/31/2024 in case of different scenarios.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>1% of the forecasted covered deposits as of 31/12/2024 (EUR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% GDP growth</td>
<td>Single resolution fund: 54 529</td>
</tr>
<tr>
<td>1% GDP growth</td>
<td>59 158</td>
</tr>
<tr>
<td>2% GDP growth</td>
<td>64 120</td>
</tr>
<tr>
<td>3% GDP growth</td>
<td>69 434</td>
</tr>
</tbody>
</table>

*Source: European Commission [2014a], own calculation*

\(^3\) non-euro zone member states. In order to demonstrate the covered deposits we used curve but the values can be interpreted only at the member states.

\(^4\) The target level of the resolution funds is 1% of the covered deposits.
Since the target level is determined as 1% of the covered deposits in the resolution regulation and directive, data given in the above table show practically the forecasted level of the Single Resolution Fund and the forecasted cumulative level of the national resolution funds.

It is observable that the level expected by the Commission (EUR 55 billion) will be fulfilled even if there is no GDP growth after 2017 (in case of euro zone member states). However, its value will likely be significantly higher. In other words, the 1% proportion of the covered deposits defined in the abovementioned regulations ensures significantly higher level of the Single Resolution Fund comparing with the expected EUR 55 billion.

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