REPORT ON THE APPROPRIATE TARGET LEVEL BASIS FOR RESOLUTION FINANCING ARRANGEMENTS

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Contents

Executive summary

1. Article 102(4) of the Bank Recovery and Resolution Directive (BRRD) requires the European Banking Authority (EBA) to draft and submit to the European Commission (the Commission) a report with recommendations on the appropriate reference point for setting the target level for resolution financing arrangements and, in particular, the question of whether total liabilities constitute a more appropriate basis than covered deposits.

2. The report assesses various options based on:

   - their alignment between the basis for the target level and potential expected resolution financing needs in case of failure;
   - their consistency with the methodology for institutions' individual contributions;
   - their consistency with the BRRD and the wider regulatory framework and legislative decisions;
   - the dynamics and smoothness of contributions;
   - their practicality and the impact of the process on the resolution authorities and institutions; and
   - their simplicity and transparency.

3. Options assessed against the above-mentioned criteria include, in line with the mandate under Article 104(2) of the BRRD, 'covered deposits' and 'total liabilities'. In addition, the following options are considered: 'total liabilities (excluding own funds)', 'total liabilities (excluding own funds) less covered deposits', 'total liabilities excluding minimum requirement for own funds and eligible liabilities (MREL)-eligible instruments', 'total liabilities excluding the amount of MREL set by the resolution authorities', 'total risk exposure amount', and 'available own funds'.

4. Based on the assessment of the advantages and disadvantages of each option, this report recommends changing the base for the target level of the resolution financing arrangement to 'total liabilities (excluding own funds) less covered deposits', which achieved the most consistently positive scores across all the criteria, or 'total liabilities (including own funds)' or 'total liabilities (excluding own funds)'. The key arguments in favour of these options are their consistency with the regulatory framework and contributions methodology, as well as their simplicity and transparency. The burden arising from changes to the target level basis has been factored into the evaluation to reflect the procedural difficulties accompanying any changes for institutions and resolution authorities.

5. The report further recommends that if the Commission issues a legislative proposal on amending the target level basis for national resolution financing arrangements, it should also consider proposing to adjust: 1) the target level percentage accompanying the target level basis; and 2) the target level basis for the Single Resolution Fund (SRF). It is up to the Commission to decide when such a proposal would come into force.

1. Introduction

1.1 Legal mandate

1. Directive 2014/59/EU, establishing a framework for the recovery and resolution of credit institutions, investment firms and related entities (BRRD), sets out a Union-wide framework for crisis prevention, crisis management and the resolution of these entities.

2. This framework aims to ensure that, in the case of an institution's failure, the losses are first borne by the shareholders and creditors of that institution. The framework also requires Member States to have ex-ante funded resolution financing arrangements, which may be used to ensure the effective application of the resolution tools subject to strict conditions.[1]

3. Article 102(1) of the BRRD requires the resolution financing arrangement to reach a level of ex-ante contributions of at least 1% of the amount of covered deposits of all the institutions authorised in a given Member State's territory by 31 December 2024.

4. Article 102(4) of the BRRD requires the European Banking Authority (EBA) to draft and submit to the European Commission (the Commission) a report with recommendations on the appropriate reference point for setting the target level for resolution financing arrangements and, in particular, whether total liabilities constitute a more appropriate basis than covered deposits. The report must be submitted by 31 October 2016.

5. Based on the results of this report, the Commission shall, if appropriate, submit by 31 December 2016 a legislative proposal on the basis for the target level for resolution financing arrangements, as per Article 102(5) of the BRRD.

1.2 Objectives of the report

6. This report aims to deliver on the mandate given to the EBA in Article 102(4) of the BRRD by providing recommendations on the appropriate basis for the target level for resolution financing arrangements.

7. Importantly, the mandate of this report does not include recommendations on changing the absolute minimum amount of contributions to resolution financing arrangements at the EU level. It is recommended that, if the Commission proposes a change to the target level basis, it should also consider an appropriate target level percentage depending on that target level basis. The overall level is, therefore, assumed to be constant, irrespective

[1] As per Article 44(4), (5) and (8) and Article 101(2) of Directive 2014/59/EU.

of a change to the basis for calculating the target level. Given this assumption, any change to the basis will inevitably require a change of the percentage related to that basis. This is the case because, if the target basis were to change from covered deposits to total liabilities, keeping the target level at 1% would significantly increase contributions to the resolution financing arrangement.

8. The report assesses the appropriateness of the basis for the target level as per the BRRD but does not directly refer to the basis for the target level for the Single Resolution Fund (SRF). A separate review of that basis, done by the Commission with the aims of avoiding volatility in the flow of financial means to the SRF and ensuring the stability and adequacy of the financing of the SRF over time, is envisaged in Regulation (EU) No 806/2014 by 31 December 2018. It is beyond the mandate of this report to directly assess whether changes to the basis for the target level are necessary not only in the BRRD but also in Regulation (EU) No 806/2014. It is, therefore, up to the Commission to decide whether a potential legislative proposal on adjusting the target level basis of national resolution financing arrangements should be accompanied by a corresponding change in the target level basis of the SRF. It is also up to the Commission to decide when such a proposal would come into force.

2. The rationale and the role of resolution financing in the resolution regime

9. The Impact Assessment accompanying the Commission's proposal for Directive 2014/59/EU ('Impact Assessment') called for the establishment of appropriate resolution financing arrangements, as without them there would be 'no private resources raised today to finance the resolution of tomorrow's failures'.[2] The Impact Assessment stated that, in order to determine an appropriate target amount, the ex-ante financing arrangements were assumed to absorb the losses that banks' capital could not absorb, and to provide new capital.[3] It then established a link between the amount of bail-inable debt (i.e. debt which, in resolution, can be converted into equity), the level of funding needs in the Deposit Guarantee Scheme (DGS) and resolution financing arrangement, and the distribution of the losses of failed banks.[4]

10. The resolution financing arrangements agreed in the BRRD serve the purpose of ensuring the effective application of the resolution tools and powers to facilitate the resolution of the failing firm.

11. In accordance with Article 101(1) of the BRRD, these financing arrangements may be used to guarantee the assets or liabilities of, or grant loans to, the institution in resolution; purchase assets of the institution under resolution; make contributions to a bridge institution or an asset management vehicle; make a contribution to the assets of the institution under resolution in lieu of the write down or conversion of liabilities of certain creditors, which are excluded from the scope of bail-in; and pay compensation to shareholders, creditors or the DGS if any of them incurred greater losses during resolution than they would have incurred in a winding up under normal insolvency proceedings. Finally, the resolution financing arrangement may be used to lend to other financing arrangements on a voluntary basis.

12. Article 44(4), (5) and (8) of the BRRD describes the conditions applicable when a resolution action results in part of the losses of an institution being passed on to the resolution financing arrangement. The contribution of the resolution financing arrangement is capped at 5% of the total liabilities, including the own funds of a given institution, unless the conditions in Article 44(7) are met. This limits the exposure of the resolution financing arrangement (more can be used only if all unsecured, non-preferred

[3] http://ec.europa.eu/internal_market/bank/docs/crisis-management/2012_eu_framework/impact_assessment_final_en.pdf (p.15).

[3] p.58.

[4] p.126.

liabilities, other than eligible deposits, have been fully written down or converted in full). Furthermore, the resolution financing arrangement can only be used for this purpose after a contribution to loss absorption and recapitalisation equal to a certain percentage of the institution's total liabilities, including own funds, has been made by shareholders and creditors (generally at least 8% of total liabilities and own funds, but 20% of risk-weighted assets (RWAs) in certain conditions as per Article 44(8) of the BRRD).

13. Therefore, resolution financing arrangements—and so implicitly the ex-ante funds contributed by the banking sector—play a secondary role in loss absorption, after shareholders and at least some creditors have absorbed a certain part of the losses.

14. Information available on the financing arrangements of countries outside the EU shows that, up until recently, ex-ante resolution financing arrangements without DGS functions have been rare. The hybrid concept of a resolution fund combined with a DGS is more common (e.g. in Korea and Canada). With deposit insurance as part of their mandate, these bodies usually make reference to insured or covered deposits for their (annual) target levels. Given the difference in the mandate, the EBA considers that this observation should not influence the decision to be taken for the BRRD target level. Other countries have arrangements in place where the expenses of financing resolutions are recovered via ex-post levies (e.g. in the USA and Japan). Therefore, in the context of this report, clear international best practices in the setting of target levels for resolution financing arrangements could not be identified.

3. Criteria for evaluating different options for the target level basis

15. The need for funding from the resolution financing arrangements is closely related to the level of losses suffered by the failing institution, the need for liquidity support, and the need to provide capital to a bridge bank or an asset management vehicle, or any contribution to the institution under resolution under Article 44(4). Therefore, the central criterion for determining the most appropriate reference point for the target level should be:

    - the alignment between the basis for the target level and the potential expected resolution financing needs in case of the failure of one or more institutions that would undergo resolution.

16. Further criteria that have been considered are:

    - Consistency with the methodology for institutions' individual contributions. This criterion does not seek full alignment of the target level basis with the calculation method, but aims for a broad level of consistency. Obvious contradictions between the basis for the target level point and the calculation method for contributions to resolution financing arrangements, as laid down in the BRRD and Delegated Regulation (EU) 2015/63, should be avoided.

    - Consistency with the BRRD and the wider regulatory framework and legislative decisions. This criterion aims to ensure that the proposed option for the basis of the target level does not contradict other provisions of the regulatory and supervisory framework. The basis should strengthen, rather than undermine, other regulatory and supervisory provisions that aim to reinforce the resilience of institutions against failure or their resolvability upon failure. Furthermore, Article 44(5) of the BRRD states that the resolution financing arrangement may only make a contribution to resolution to cover losses or recapitalise the institution when a minimum contribution to loss absorption and recapitalisation of no less than 8% of the total liabilities, including own funds, of the institution under resolution has been made by the shareholders and creditors of the institution in resolution. The principles set out in Article 44 also apply in the event that the losses of an institution in resolution are passed on to the resolution financing arrangement in some other manner. Therefore, the assessment of the appropriate basis for the target level could also consider what amount of losses can be covered by bail-in of eligible liabilities (for example, using the amount of the MREL as a benchmark). Further reviews of the BRRD and the wider regulatory framework may necessitate further reassessment of the recommendation made under this report.

- The dynamics and smoothness of contributions. The reference point is intended to reflect changes in the risk profile of the contributing institution and potential funding needs in resolution. Therefore, the reference point should include a dynamic element. At the same time, in Article 102(2), the BRRD states that contributions should be spread out in time as evenly as possible until the target level is reached, with due account given to the phase of the business cycle and the potential procyclicality of contributions.[5] For this reason, it is important to assess whether potential options for the target basis are not excessively volatile (i.e. that fluctuations reflect a changing long-term risk rather than being randomly unstable) and do not result in considerable differences between target levels from one year to the next or unnecessarily put resolution authorities' decisions into question. An appropriate measure should ensure that the resolution authorities and institutions have an adequate level of certainty over the contributions during the build-up phase and at the end of the initial contributions period. Furthermore, changes should be the result of developments in the objective environment relevant to the aims of the BRRD and the resolution financing arrangement, rather than accidental or administrative factors—such as regulatory and accounting changes or exchange rates—result in further volatility.

- Practicality and the impact of the process on the resolution authorities and institutions. This criterion assesses:

    i. Accessibility – Whether the data can be gathered from existing sources (especially from competent and resolution authorities) without additional requests to financial institutions;

    ii. Availability, reliability and consistency of the historical series – Historical data is useful for facilitating the determination of the target level in its dynamic, forward-looking aspects and, thereby, ensuring the steady and successful achievement of the target level by the end of the relevant period. Any changes to the target level should also consider the timing of when particular data becomes available and how it matches the contributions schedule;

    iii. Comparability across Member States – Comparable measures and harmonised definitions are important in applying measures across the EU

[5] In this context, see also the EBA's technical advice on the initial period of the SRF, available at http://www.eba.europa.eu/documents/10180/983359/EBA-Op-2015-11+Technical+Advice+on+Art+69.pdf, and the Commission Delegated Regulation supplementing Regulation (EU) 806/2014 of the European Parliament and the Council on the criteria relating to the calculation of ex-ante contributions, and on the circumstances and conditions under which the payment of extraordinary ex-post contributions may be partially or entirely deferred, available at http://ec.europa.eu/finance/general-policy/banking-union/single-resolution-mechanism/index_en.htm.

in a consistent way. The report acknowledges that a number of definitions relating to the options discussed are not fully aligned—e.g. the definition of total liabilities or covered deposits—which may require further harmonisation in the course of future revisions of existing provisions.

The qualitative assessment also takes into account that introducing changes to the target level basis may be a burden for the resolution authorities and the institutions. The report does not, however, attempt to measure these costs and their impact on each Member State. This point may need to be addressed in more detail should there be a legislative proposal on changing the target level basis for the resolution financing arrangements.

- Simplicity and transparency. Straightforward indicators tend to be easier to implement and operationalise, reducing the risk of calculation errors. They are also easier to amend, if necessary. Moreover, simplicity goes hand in hand with transparency, which is crucial in raising public confidence in the framework. In practice, the simplicity of the measure should also make it easier to collect the necessary data, which would lower the regulatory burden on institutions and resolution authorities. Where possible, the need for additional reporting requirements for institutions should be avoided. Finally, the simplicity of the measure should allow the resolution authorities to immediately compare target levels and to gauge the overall system capacity across different types of financing arrangements (resolution and deposit guarantee).

17. In addition, it should be kept in mind that the BRRD prescribes a minimum target level, which means that Member States will always be able to assess whether a higher funding level is appropriate to ensure financial stability and public confidence in their jurisdiction.

4. Options for the target level basis

18. The BRRD sets covered deposits as the basis for determining the target level of the resolution financing arrangement. The Commission's proposal for the BRRD envisaged a common basis for the target levels of the resolution financing arrangement and the DGS funds in order to take advantage of the synergies between the two funds. This common basis would make it easier to raise the optimal level of funds—the more the DGS can contribute towards resolution, the smaller the need for contributions from the resolution financing arrangement, and vice versa. In addition, the assessment of the impact on the Member States and negotiations between the co-legislators on the BRRD and the Deposit Guarantee Schemes Directive (DGSD) were facilitated by referring to the same basis in both proposals. However, the contribution of the DGS to absorbing losses is limited under the BRRD, and the DGS must not contribute to recapitalisation.

19. The BRRD resolution framework envisages the possibility of contributions to resolution from both the resolution and the DGS funds, which may call for optimisation of the calibration between the target levels of the two funds. Using the same basis for both target levels also allows resolution authorities to easily monitor and adjust the overall financing capacity available to deal with crisis situations. On the other hand, the Commission's Impact Assessment states that the 'funding of resolution is to be expected very dependent on the size of banks' liabilities'.[6] These could have been the reasons why the legislator, in Article 102(4), mandated the EBA to prepare a report on the appropriate basis for the target level for resolution financing arrangements, specifically mentioning 'total liabilities' as a potentially more appropriate basis for the target level.

20. The importance of 'total liabilities' in resolution financing is further strengthened by the fact that this metric (with some adjustments) is the basis for contributions from individual institutions to resolution financing arrangements, as per Article 103(2) of the BRRD. However, the basis for individual contributions need not necessarily be the same as for the target. For example, the Swedish[7] and German[8] bank levies were designed with a liabilities-based individual calculation, but with the target level defined as a percentage of GDP and as an absolute amount, respectively.

[6] The Impact Assessment accompanying the proposal for a Directive of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC, and Regulation (EU) No 1093/2010 (p.58).

[7] Introduced in 2009 (source: http://www.sbs.ox.ac.uk/faculty-research/tax/publications/working-papers/can-taxes-tame-banks-evidence-european-bank-levies).

[8] Introduced through the Restructuring Act of December 2010 and the Restructuring Fund Ordinance of July 2011 (source: ibid).

21. Therefore, in line with the mandate under Article 104(2) of the BRRD,

    a. **Covered deposits** and

    b. **Total liabilities**

    are the first two options evaluated in this report. The definitions of these terms should be aligned with Delegated Regulation 2015/63 on the ex-ante contributions to resolution financing arrangements. The regulation uses the term 'total liabilities' as defined in Section 3 of Council Directive 86/635/EEC (1), or as defined in accordance with the International Financial Reporting Standards referred to in Regulation (EC) No 1606/2002 of the European Parliament and of the Council. Under Directive 86/635/EEC, total liabilities seem to include equity, whereas International Financial Reporting Standards (IFRS) use 'total liabilities and equity'. For clarity, this report indicates whether the term excludes or includes own funds and assesses both options. A more consistent definition and use of the term 'total liabilities' would also be desirable in other contexts of the BRRD. In accordance with Delegated Regulation 2015/63, 'own funds' means own funds as defined in point 118 of Article 4(1) of Regulation (EU) No 575/2013.

22. The Commission's Impact Assessment also drew links between the funding needs in resolution and the level of liabilities that can be bailed in.[9] The more liabilities available to be bailed in, the lesser the need to provide further loss absorption and funding from the resolution financing arrangement. Hence, in addition to covered deposits and total liabilities (including or excluding own funds), the following options are considered in this report:

    c. **Total liabilities (excluding own funds)** – This measure excludes own funds, as in a resolution these will absorb the losses in the first instance, ahead of the resolution financing arrangement.

    d. **Total liabilities (excluding own funds) less covered deposits** – This measure is the basis for establishing individual contributions to resolution financing arrangements (before risk adjustment), and, by excluding own funds and deducting covered deposits that are protected by the DGS, targets the remaining balance sheet.

    e. **Total liabilities excluding MREL-eligible instruments** – This measure excludes MREL-eligible instruments (including own funds) as they represent the easily bail-inable amount of loss-absorbing liabilities in resolution, which are highly likely to be available to be bailed in at the point of crisis, before the resolution financing arrangement is used.

[9] p.46.

f. **Total liabilities excluding the amount of MREL set by the resolution authorities** – This measure also excludes MREL-eligible, loss-absorbing instruments, but only to the amount set by resolution authorities (on a case-by-case basis) in accordance with Article 45 of the BRRD. For this option, it is assumed that this is the only amount which would certainly be available for loss absorption in a long-term perspective—although these instruments must have a minimum maturity of at least 1 year, there is no guarantee that the full amount exceeding the regulatory minimum requirement will be available for loss absorption over a longer period.

g. **Total risk exposure amount** – This is in accordance with the definition provided by Article 92(3) of Regulation (EU) No 575/2013. This measure captures the riskiness of an institution. The higher the riskiness of the balance sheet of an institution, the higher the probability of failure, and in turn, the higher the potential draw on the resolution financing arrangement (if used in the context of its failure). Furthermore, it is in line with the denominator of the own funds requirements.

h. **Available own funds** – The idea for this measure is to build the equivalent of an extra capital buffer in the hands of the resolution authorities. Contributions by an entity would be based on total liabilities less own funds and covered deposits (with risk adjustment), creating an individual incentive for entities to pay less by increasing their own funds. At the same time, the base of the target level is directly linked to the aim of the resolution arrangements (protection for the banking system through orderly resolution, the funding of which would be supported by an extra capital buffer).

5. Qualitative and quantitative assessment of the options for the target level basis

23. In this section, the report presents the main results of the analysis of the options outlined in Section 4 against the criteria identified in Section 3—these include qualitative and quantitative aspects of the assessment.

Quantitative assessment

Analysis of the correlation of options for the target level basis and approved State aid

24. The main criterion—the potential funding needs of the resolution financing arrangements—requires a quantitative analysis. However, with a view to the fundamentally new paradigm of resolution and the far-reaching changes institutions and their balance sheet are undergoing as a result of this and other regulatory developments, as well as the changed market environment, there is no obvious approach to conducting this forward-looking analysis in a fully convincing and sound manner. As there seems to be no reliable basis for a prognosis of potential future funding needs, the analysis of such potential funding needs uses historical data from the last crisis; given the lack of experience with bank failure under the fully implemented BRRD framework, the analysis can be informed by past experience with the recapitalisation and liquidity support for failing banks. However, the analysis acknowledges the possible shortcomings of drawing lessons from the past, as the conceptual approach towards and the conditions for dealing with failing banks have been significantly changed by the introduction of the BRRD. Annex 1 contains an overview of the shortcomings and caveats, as well as further arguments in favour of this approach.

25. From an assessment of these shortcomings and caveats, the following conclusions have been reached regarding the available quantifiable analysis:

- The results of the quantitative analysis must be interpreted cautiously.
- The results will be used to support the analysis based on the qualitative criteria rather than to make definitive conclusions regarding the criterion of the potential funding needs for resolution financing arrangements. Had data with a closer link to the potential funding needs of the resolution financing arrangements been available, this criterion would have been given a higher weight relative to other criteria.

26. Potential funding needs are estimated with reference to losses that occurred during the last financial crisis. Reliable and comprehensive data are available for this crisis in the form of the Commission’s data on State aid cases in the period from 2008 to Q3 2014.

From a historical perspective, this financial crisis represents a major systemic crisis that resulted in a significant impact on the real economy on the one hand, and necessitated considerable public (and private) intervention to contain its effects.

27. The analysis tests the statistical correlation between the aggregate capital and liquidity support measures per Member State for the period from 2008 to Q3 2014 on the one hand, and on the other hand the options for the target level basis, including 'covered deposits' and 'total liabilities' for the year 2008, and, respectively the years 2008 to 2010 (to address problems with discontinuous data and to test the robustness of the results).[10] A higher statistical correlation could be interpreted as capturing a higher alignment of a certain reference point with the potential funding needs. However, the report acknowledges that the amount of public support granted during the analysed period is a proxy and cannot be seen as a perfect measure of funding needs in the new resolution framework.

28. The test brought the following main results (see Table 1):

- A high, positive correlation between State aid approved during the financial crisis and all of the indicators considered (between 0.5 and 0.8 in each specification) could be observed.
- Total liabilities (and its sub-categories, e.g. excluding deposits) and total risk-weighted exposures are consistently more positively correlated with State aid measures approved (total, capital, liquidity) than deposits (the difference being relatively small).
- For 2008-2010 averages, the correlation between total liabilities (and its modifications, e.g. plus equity, excluding deposits), risk-weighted exposures, and total and capital-related State aid consistently reaches coefficients of between 0.7 and 0.8.
- The correlation between State aid and banking sector liabilities tends to increase when deposits are excluded (e.g. sub-categories liabilities less deposits are by trend more positively correlated with State aid than total deposits).
- Correlation between deposits and State aid is reflecting the close (0.97) correlation between deposits and balance sheet size (liabilities plus equity).
- Correlation is generally higher for 'total' and 'capital' State aid than for liquidity-only data (evidence indicates that liquidity support was often provided to strengthen confidence in the wider system rather than to address bank-specific issues).

[10] Based on the ECB's consolidated banking data and MFI balance sheet statistics (explanatory details provided in annex).

Table 1. Correlation coefficients between banking sector indicators and State aid approved.

State aid approved	Deposits	Liabilities and equity	Liabilities	Liabilities and equity excl. deposits	Liabilities excl. deposits	Equity	Exposures
	2008-2010	***2008-2010***	***2008-2010***	***2008-2010***	***2008-2010***	***2008-2010***	***2008-2010***
Total	0.65	0.72	0.72	0.72	0.73	0.71	0.73
Capital	0.66	0.73	0.73	0.73	0.73	0.74	0.77
Liquidity	0.57	0.64	0.64	0.64	0.65	0.62	0.64

29. These initial results show that a reference point based on total liabilities or total risk exposures might be a more comprehensive and appropriate measure than one based on covered deposits. However, the quantitative differences are small and, therefore, qualitative criteria should be considered alongside these preliminary quantitative results.

30. The robustness checks of these results in various alternative specifications (alternative indicator proxies, State aid measures, reference periods, and correlation measures)[11] confirm the validity of the above conclusions across several technical specifications.

31. Complementarily, the statistical correlation between banks' financing needs and the reference points considered can be assessed at the micro-level, using bank-specific data. For that purpose, the report identified individual institutions benefiting from direct government support based on the Commission's communications on State aid provided during the financial crisis.[12] For those institutions, the correlation between approximate financing needs and the closest available approximations of the indicators discussed has been analysed.[13]

32. The sample consists of 75 institutions,[14] of which 29 are significant (in line with the Single Supervisory Mechanism criteria) and five are global systemically important institutions (in

[11] For details, see the annex.

[12] COM: State aid: Overview of decisions and on-going in-depth investigations of Financial Institutions in Difficulty (2016).

[13] A more detailed methodological explanation is provided in the annex.

[14] The majority of the sample (53 banks) had a balance sheet smaller than EUR 100 bn, of which 19 were smaller than EUR 10 bn. Nine institutions showed a balance sheet larger than EUR 500 bn, of which three were larger than EUR 1 tn. Around one third of the institutions incurred cumulative losses (after asset impairment) of more than EUR 1 bn. More than half of the institutions showed a negative average return on equity ratio over the observation period. The average

line with the Basel Committee on Banking Supervision assessment methodology). These institutions received support from 16 Member States, of which 13 are current Banking Union Members, who provided State aid to 67 of those institutions.

33. The analysis of that sample of 75 banks yields broadly similar results to the analysis at Member State (aggregate) level, namely:

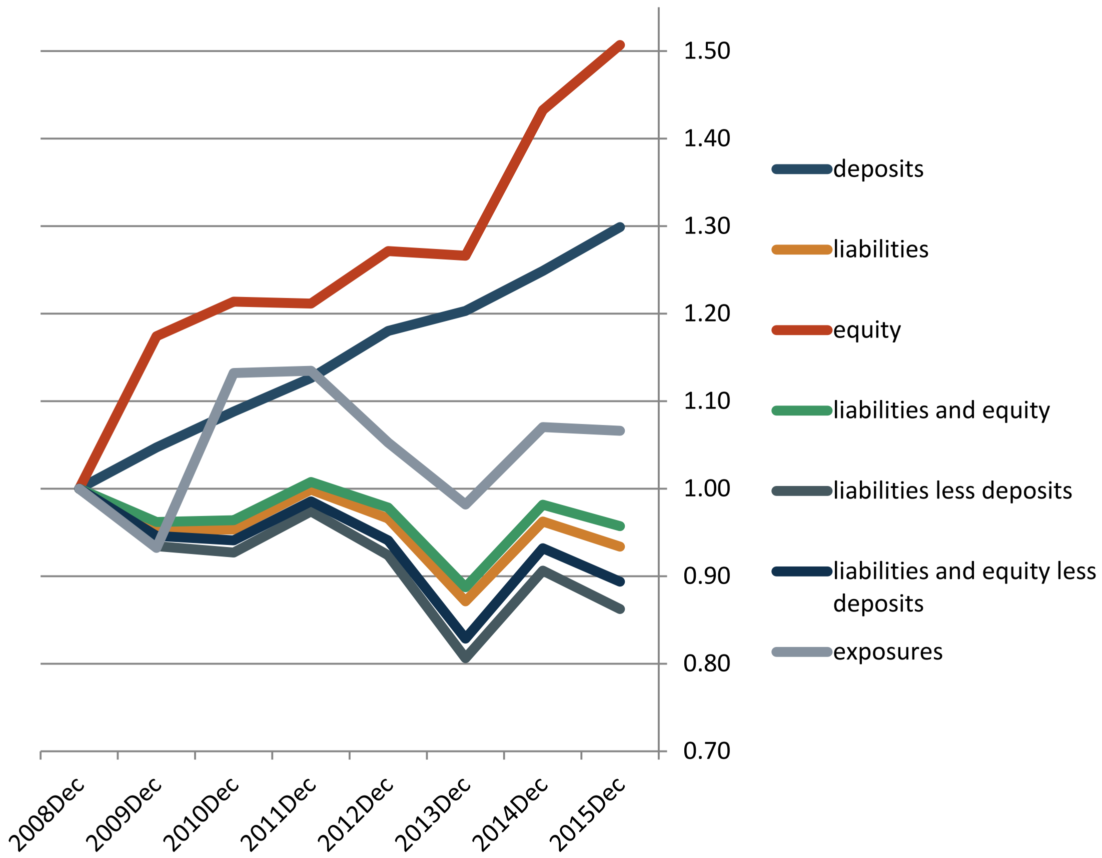
- correlation coefficients between cumulative losses and selected balance sheet items (proxies for the discussed reference points) averaged over time at around 0.7;
- total liabilities and own funds are only very slightly more closely correlated with cumulative losses than customer deposits—such a small difference could partly reflect the less-than-perfect indicator for covered deposits (approximated by customer deposits, being more highly correlated with banks' size);
- total exposure measure (as defined for leverage ratio) is significantly more closely correlated with cumulative losses than other indicators (>0.8).

Analysis of the stability of the reference points discussed over time

34. In addition to the correlation between historical losses and the options discussed, the report also analyses the stability of the measures over time. The analysis utilised the same data used for the correlation analysis and considered the period from the end of 2008 to the end of 2015 for the EU banking sector. Although it would be desirable to consider a longer period, no information covering the whole EU area is available for earlier years from this data source.

risk density ratio of the banks stood at 0.55%. The banks' average (customer) deposits funding ratio was 0.46%, which is similar to the average of the EU banking sector.

Figure 1. Evolution of alternative indicators at EU level (since 2008)



35. The analysis shows a very steady increase of customer deposits, even during the years of the financial crisis. This means that, while the level of covered deposits is not constant, their increase is expected to be steady and predictable.

36. However, the statistical deviation of other measures over the considered period, with fluctuations around the level of 100%, proved to be lower than that of covered deposits, increasing steadily to a level of 130% at the end of 2015. Measured in terms of standard deviation, total liabilities (and its modifications) are the least volatile indicators.

37. This means that using covered deposits as a basis for the target level results in a steady increase of that target level, whereas the other measures (in particular, liabilities) are statistically less volatile and more responsive to changes in the banking industry.

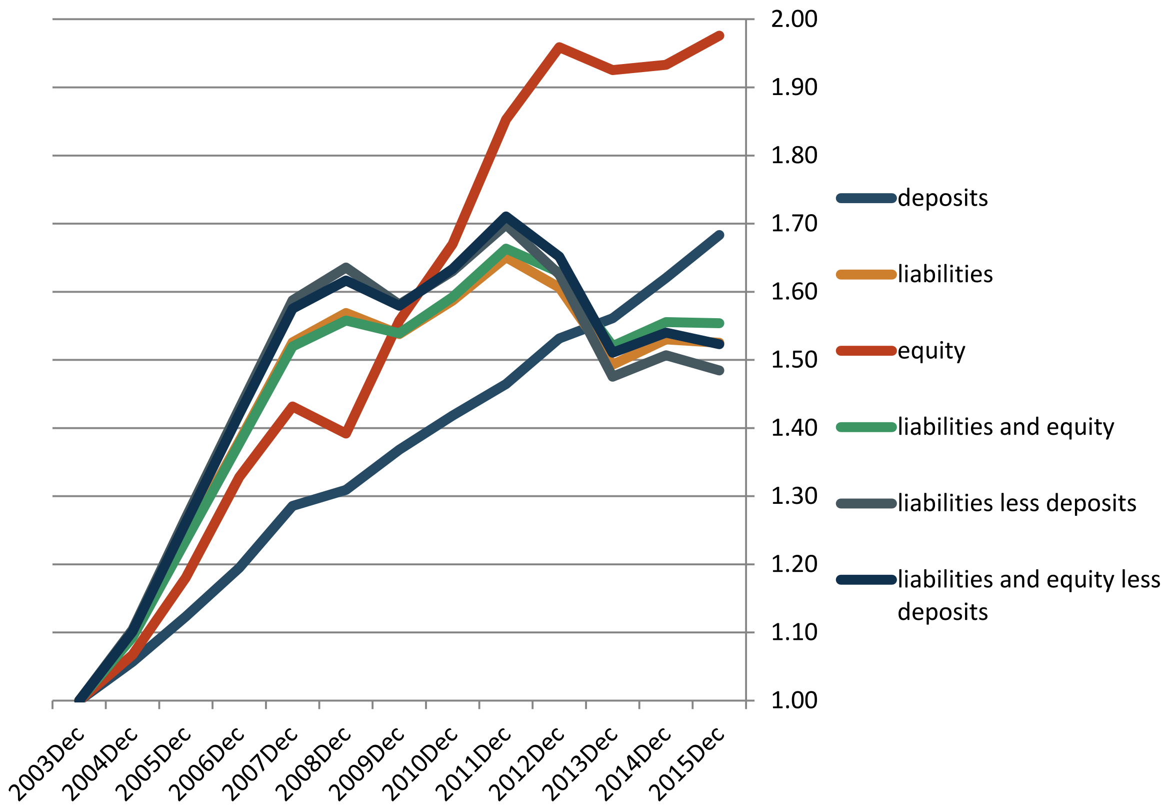
38. The picture can be completed by analysing the development of the considered indicators over time, based on an alternative data set, which is also available for the years before the crisis broke out (before 2008). Based on the European Central Bank's (ECB) Financial Statistics,[15] it can be shown that, for the available sample of banks,[16] the level of all

[15] MFI balance sheet statistics (explanatory information on methodology and concepts is provided in the annex).

indicators is actually considered to have increased and the arguably desirable characteristic of a steady increase over time is not unique to the indicator based on (household) deposits. In fact, in the run up to the crisis, liability and other balance sheet size based indicators increased at a comparatively strong rate. Also reflecting regulatory requirements, the increase is most significant for banks' equity.

39. Expressed in terms of statistical volatility measures (standard deviation), all indicators are of an approximately similar volatility over the observation period (since 2008), with the exception of equity, which shows significantly higher volatility (e.g. a steady increase).

Figure 2. Evolution of alternative indicators for selected Member States (since 2003)



Methodology of assessing each option against the chosen criteria

40. The qualitative criteria, as outlined in Section 3 of this report, are not weighted and the analysis below addresses the criteria in alphabetical order. The analysis below describes the advantages and disadvantages for each option-criterion combination and assesses them as 'highly positive' (++), 'positive' (+), 'neutral' (0), 'negative' (-) or 'highly negative' (--) based on expert judgement and empirical evidence, where available.

[16] Data are available for 16 EU Member States, covering 95% of the EU banking system in terms of total assets.

Option 1. Covered deposits

Criteria	Advantages and disadvantages
Consistency with the contributions methodology	- (--) The calculation of contributions may appear logically inconsistent, as covered deposits are used as a basis for the target level, but are deducted from contributions to the national resolution financing arrangement. This could mean that institutions with lower deposits would have to pay a disproportionately high share of the contributions when comparing across Member States.
Consistency with the regulatory framework	- (+) There is a link between the resolution financing arrangement and the DGS—both are elements of the safety net in the case of a bank failure. The same target level basis allows synergy between both. - (+) Covered deposits are statutorily excluded from bail-in. Instead, the DGS makes a contribution to loss absorption. Due to the limitations on the contribution from a DGS under Article 109 of the BRRD, it is questionable whether this contribution would be sufficient to replace funding from the resolution financing arrangement. In particular, the DGS may not contribute to a recapitalisation in the meaning of Article 46(1)(b) of the BRRD, which might then need to be funded by the resolution financing arrangement. Therefore, a large share of funding through covered deposits increases the probability of the need for a contribution from resolution financing arrangements. - (--) Does not adequately cater for potential losses stemming from investment firms, and bank activities other than deposit taking. - (-) Measure not sensitive to the riskiness of the assets of the institutions. - (-) Potential conflict with the use of the resolution financing arrangements, as the objective is not to deal with depositors' contributions but to support resolution activity, i.e. covered deposits can be assumed to be unchanged within the resolution process. - (--) There is no obvious causality between changes to covered deposits and the need for resolution financing arrangements. It could be misleading in cases where covered deposits are removed and held in cash (e.g. negative interest rates, expectation of capital controls). The perceived weakness of a Member State's banking sector can result in deposit outflows to other countries. This would weaken the banking system and, thus, add to potential funding needs in resolution while

	reducing the target level. - (--) No link to bail-inable amount, which excludes covered deposits.
Correlation with historical losses	- (+) The statistical correlation with the historical need for State aid is the lowest among all options, although the differences are not significant, due to the positive correlation of all options to size, and the correlation of size with the amount of State aid received.
Dynamics and smoothness of contributions	- (++) It provides certainty to resolution authorities and institutions during the build-up phase as compared to changing the definition of the target level when already a few years into it. - (+) The increase of covered deposits is relatively stable, in normal times, and can be forecast easily. In a crisis, however, there may be migrations of deposits from the banking system of a Member State as a whole, once the retail depositors perceive it as unstable.
Practical considerations	- (++) Maintaining covered deposits as the basis does not introduce any new practical challenges in implementation. - (-) Some flexibility in the definition of covered deposits in DGSD means the measure is not entirely consistent across Member States. - (-) Built-in volatility due to currency exchange, in particular in non-Eurozone Member States, which could impact the target level of the resolution financing arrangements.
Simplicity and transparency	- (++) No change from the current procedure. Method well understood by banks. - (++) Simple and understandable calculation. - (++) Data already available for other purposes. - (-) Currently, data is not publicly available in every Member State.

Option 2. Total liabilities and own funds (2a); total liabilities (excluding own funds) (2b); total liabilities (excluding own funds) less covered deposits (2c)

Criteria	**Advantages and disadvantages**
Consistency with the contributions methodology	- (+) Largely consistent with the basis of the contributions methodology (2a and 2b). - (++) Fully consistent with the basis of the contributions methodology, where own funds and covered deposits are deducted (2c).
Consistency with the regulatory framework	- (++) Captures the size of the whole sector, by including investment firms within the scope of the BRRD (2a and 2b and 2c.). - (++) Covers interbank instruments and wholesale funding, which are related to contagion risk and, therefore, are used as a measure of the systemic relevance of individual banks (e.g. in the G-SII indicators) (2a and 2b and 2c). This is directly linked to decision makers' motivation to provide funding from the resolution financing arrangement. - (+) The simplest measure of potential call on the resolution financing arrangement (2a and 2b and 2c). - (++) The measure changes in line with a potential build-up of risk in the system, often preceded (or reflected) by an increase in balance sheet (2a and 2b and 2c). - (+) Complementarity with the existing target for the DGS fund, which is based on covered deposits (2c). - (-) The measure is not sensitive to the riskiness of the assets of the institutions (2a and 2b and 2c). (-) There may be arguments that total liabilities overestimate funding needs, as total liabilities include both bail-inable liabilities and liabilities that are excluded or unlikely to be bailed in. Capital instruments and other bail-inable liabilities and the potential DGS contribution in case of a bail-in are not reflected, which would reduce the financing needs provided by the resolution financing arrangement (2a). This argument is weaker in the case of total liabilities excluding own funds, as own funds are fully loss-absorbing, and it is least applicable where total liabilities exclude own funds and covered deposits (2b and 2c).

	On the other hand, it could be argued that: (-) Own funds—in particular CET1—absorb losses on an ongoing basis and may be depleted before resolution. Therefore, even if the level of own funds exceeds the minimum requirements established by the competent authority, this does not mean that these funds will be available in a resolution (2b and 2c). (-) Covered deposits are statutorily excluded from bail-in. Instead, the DGS makes a contribution to loss absorption. Due to the limitations on the contribution from a DGS under Article 109 of the BRRD, it is questionable whether this contribution would be sufficient to replace funding from the resolution financing arrangement. In particular, the DGS may not contribute to a recapitalisation in the meaning of Article 46(1)(b) of the BRRD, which might then need to be funded by the resolution financing arrangement. Therefore, a large share of funding through covered deposits may, in some instances, increase the probability of a need for a contribution from resolution financing arrangements (2c).
Correlation with historical losses	- (+) The statistical correlation with historical need for State aid is positive.
Dynamics and smoothness of contributions	- (+) Dynamic measure where changes are related to potential to call on the resolution financing arrangement (2a). Even more dynamic with deductions of own funds and covered deposits, which are usually more stable (2b and 2c). - (--) Changing the definition of the target level when already a few years into the build-up phase introduces uncertainty for resolution authorities and potentially unexpected changes for the institutions (2a and 2b and 2c).
Practical considerations	- (--) Introducing changes to the target level basis is likely to be a burden for the resolution authorities and the institutions (2a and 2b and 2c). - (-) The definition is not completely harmonised due to national generally accepted accounting principles (GAAP) vs IFRS (e.g. treatment of derivatives differs—mainly relevant for the transitional period). To adjust for derivatives would require complex calculations which introduces the risk of mistakes. However, Member States are already using the same definition in the calculation of the individual ex-ante contributions (2a and 2b and 2c).

	- (-) Some flexibility in the definition of covered deposits in DGSD means the measure is not entirely consistent across Member States (2c).
Simplicity and transparency	- (++) Data already available for other purposes (2a and 2b and 2c). - (++) Simple and transparent calculation based on publicly disclosed data (2a and 2b). - (+) Simple and transparent calculation; however, part of the calculation—covered deposits—is not publicly disclosed in all Member States (2c). - (-) While the definition of ‘own funds’ is harmonised, the definition and the composition of own funds are subject to regulatory changes (2b, 2c). - (-) Differences in the level of own funds requirements across Member States, including due to different applications of transitional arrangements (2b, 2c).

Option 3. Total liabilities less MREL-eligible instruments (including own funds) (3a) and total liabilities less the amount of MREL set by the resolution authorities (3b)

Criteria	Advantages and disadvantages
Consistency with the contributions methodology	- (+) To some extent consistent with the basis of contributions defined in the BRRD, which deducts own funds from total liabilities (3a and 3b). (-) The level of consistency is dependent on resolution authorities' decision on MREL (3b).
Consistency with the regulatory framework	- (++) Captures the size of the whole sector by including investment firms within the scope of the BRRD (3a and 3b). - (++) A realistic measure of potential call on the resolution financing arrangement as remaining losses and recapitalisation needs are clearly linked to the amount of loss absorption and recapitalisation that can be achieved through bail-in. The measure is a good proxy for the objectives of the resolution financing arrangement when used to make a contribution in lieu of the write down and conversion of the liabilities of certain creditors (3a and 3b). - (++) Covers interbank instruments and wholesale funding, which are related to contagion risk (3a and 3b). - (-) Measure not sensitive to the riskiness of the assets of the institutions (3a and 3b). - (-) May be seen as inconsistent with the regulatory objective of setting MREL. Authorities set a relatively high MREL to reflect the higher systemic risk and to achieve a higher level of certainty that losses can be absorbed. A higher MREL is set for institutions that are likely to be resolved rather than undergo regular insolvency proceedings (i.e. institutions that are likely to meet the public interest test and where liquidation is not a feasible and credible option). This directly implies a higher likelihood of funding needs from the resolution financing arrangements. Setting a higher MREL may also result from the higher risks of individual institutions—which can be reflected in a higher own funds requirement and, consequently, a higher need for recapitalisation, or higher loss absorbency in the event of failure in the form of eligible liabilities—and the banking system or higher risk adversity. This could be thwarted by the result that the resolution financing arrangement has less means if a higher MREL is deducted and MREL instruments increase as a result of this (3a and 3b).

	- (+) The measure is more stable than the option to deduct MREL-eligible liabilities, as the resolution strategy (and therefore the recapitalisation amount, MREL) is expected to change less with the annual review of resolution plans than the liabilities in institutions' balance sheets (3b). However, (-) it does not accurately reflect the effective amount at the disposal of the resolution authorities for loss absorption and recapitalisation, only the required amount (3b). - (-) MREL provides a line of defence in resolution in order to cover all liquidity and capitalisation requirements that can be anticipated in resolution planning (adjusting for the regulatory risk of an institution), whereas resolution financing only contributes when the capital or liquidity requirements exceed the foreseen measure. Therefore, the excess of eligible instruments over the MREL requirement set by the NRA might provide a more appropriate measure (3b).
Correlation with historical losses	- (+) The statistical correlation with the historical need for State aid is positive.
Dynamics and smoothness of contributions	- (+) Includes a dynamic element where changes are related to the potential to call on the resolution financing arrangement (3a and 3b). - (--) Changing the definition of the target level when already a few years into the build-up phase introduces uncertainty for resolution authorities and potentially unexpected changes for the institutions (3a and 3b).
Practical considerations	- (--) Introducing changes to the target level basis is likely to be a burden for the resolution authorities and the institutions. - (-) No data available yet. The current estimated amount of MREL may not accurately reflect the liability structure after the determination of MREL requirements (3a and 3b). - (-) The definition is not completely harmonised due to national GAAP vs IFRS (e.g. the treatment of derivatives differs, which is mainly relevant for the transitional period). The adjustment for derivatives requires complex calculations, which increases the risk of mistakes (3a and 3b). - (-) There is yet to be a common approach to MREL setting, including uncertainty of approach to institutions subject to simplified obligations. In addition, there is ongoing debate on TLAC and MREL (3a and 3b). - (-) MREL remains an untested concept (3a and 3b).

	- (-) Currently, MREL has not been determined for most institutions, and the timing may differ among institutions and Member States. So the measure would be fully relevant and comparable among Member States only after resolution authorities have determined the MREL for all institutions.
Simplicity and transparency	- (+) Data will be collected for other purposes, so it will be simple to apply in this case, too (3a and 3b). - (-) Relatively complex. The basis is not easy to understand for non-experts (3a). - (-) The view on MREL-eligible instruments might complicate the data collection since an institution's view on MREL-eligible instruments might differ from the NRA's view (e.g. on excluded liabilities). Such differences also reduce the harmonisation effect (3a). - (-) Data may not be publicly available (3a and 3b).

Option 4. Total risk exposure amount (TREA)

Criteria	Advantages and disadvantages
Consistency with the contributions methodology	- (+) Risk-adjusted measure, as is the contributions method. - (-) No clear link with the contributions method beyond being risk-based. - (-) TREA focuses only on risks covered by minimum own funds requirements and does not include others (e.g. Pillar 2 risks). It does not reflect supervisory assessment of risks, as it is calculated by institutions. This leads to the underestimation of risks, which may lead to own funds being lower than needed and, in consequence, the amount in the resolution financing arrangement may be inadequate.
Consistency with the regulatory framework	- (++) Captures the size of the whole sector by including investment firms. - (++) Reflects the risk profile of institutions, and consequently of the banking sector. - (++) Reflects that recapitalisation needs are based on the TREA (though after restructuring in resolution), and not on liabilities. - (+) The measure is aligned with the expected use of the resolution financing arrangement, as the higher the riskiness of an institution, the higher the probability of failure, and in turn, the higher the probability that resolution financing might be needed upon its failure.
Correlation with historical losses	- (+) The statistical correlation with historical need for State aid is positive.
Dynamics and smoothness of contributions	- (--) Changing the definition of the target level when already a few years into the build-up phase introduces uncertainty for resolution authorities and institutions.
Practical considerations	- (+) Homogeneity of data across jurisdictions. - (--) Introducing changes to the target level basis is likely to be a burden for the resolution authorities and the institutions. - (-) Significant change from current methods. - (-) Model risk. Internal ratings-based (IRB) models depend on a correct

	specification. If the models are not correct in their evaluation of risks, TREA is an imperfect measure of the risk of an institution. Admittedly, however, the same argument applies to the standard approach, since the risk element of each type of asset is implicitly defined by the regulator. - (-) Limited knowledge about TREA's development and volatility EU-wide over a credit cycle and how this might impact the potential reference point and contribute to the resolution financing arrangements.[17]
Simplicity and transparency	- (+) Data is available and could be collected from competent authorities. - (-) Complex. The basis is not easy to understand for non-experts.

[17] The EBA has conducted a long-term review on RWAs, though, which resulted in insights regarding the consistency of RWAs: http://www.eba.europa.eu/risk-analysis-and-data/review-of-consistency-of-risk-weighted-assets

Option 5. Available own funds

Criteria	Advantages and disadvantages
Consistency with the contributions methodology	- (+) The measure reflects the risk of an institution linked to the asset side of the balance sheet. - (--) Calculation of contributions may appear logically inconsistent—own funds are used as a base for the target level, but are deducted from actual contributions to resolution financing arrangements.
Consistency with the regulatory framework	- (+) Own funds reflect the capital requirements in place and are, therefore, in line with the prudential framework. - (-) Own funds—in particular CET1—absorb losses on an ongoing basis and may be depleted before resolution. Therefore, even if the level of own funds exceeds the minimum requirements established by the competent authority, this does not mean that these funds will be available in a resolution. - (-) The measure will penalise jurisdictions with stricter prudential requirements and higher levels of own funds. - (-) Counterintuitive measure, as the bigger the amount of own funds in the system, the lower the probability of failure and, therefore, of the use of the resolution financing arrangements. - (--) Introduces the risk of 'double prudential failure'. If the competent authority underestimates capital requirements, available own funds may be lower than needed and, therefore, may lead to a lower amount in the resolution financing arrangement.
Correlation with historical losses	- (+) The statistical correlation with the historical need for State aid is positive.
Dynamics and smoothness of contributions	- (+) It provides a stable target in times of volatility of balance sheet sizes. - (+) Own funds-based contributions will have countercyclical effects, as there will be higher contributions when there is more capital in the system and lower contributions when there is a drop in own funds during a downturn. - (--) Changing the definition of the target level when already a few years

	into the build-up phase introduces uncertainty for resolution authorities and institutions.
Practical considerations	- (--) Introducing changes to the target level basis is likely to be a burden for the resolution authorities and the institutions. - (-) Model risk. At the national and Euro-wide level, own funds depend significantly on the capital requirements set by the competent authority, which are, in turn, dependent on the correct calculation of the TREA. However, both the IRB and the standard models have their limitations.
Simplicity and transparency	- (+) Relatively simple and transparent. - (+) Historical data are publicly available. - (-) While the definition of own funds is harmonised, the definition and the composition of own funds are subject to regulatory changes. - (-) Differences in the level of own funds requirements across Member States, including differences due to different applications of transitional arrangements.

6. Conclusions and recommendations

41. The analysis in this report is mainly based on qualitative assessment of the chosen options against the chosen criteria. The report describes the advantages and disadvantages for each option-criterion combination and assesses them as 'highly positive' (++), 'positive' (+), 'neutral' (0), 'negative' (-) or 'highly negative' (--). As the analysis is qualitative, the summary of each option against each criterion is then assessed based on the strength of the pros and cons. As the analysis is qualitative, the outcome is not a simple sum of pluses and minuses, but includes expert judgement. Table 2 summarises these results, acknowledging the inevitably qualitative element of the summary score.

Table 2. Summary of options for the target level basis

	Consistency with the contributions methodology	**Consistency with the regulatory framework**	**Correlation with historical losses**	**Dynamics and smoothness of contributions**	**Practical considerati ons**	**Simplicity and transparency**
Covered deposits	(--)	(-)	(+)	(++)	(+)	(++)
Total liabilities (including own funds)	(+)	(+)	(+)	(-)	(-)	(++)
Total liabilities (excl. own funds)	(+)	(+)	(+)	(-)	(-)	(++)
Total liabilities (excl. own funds) less covered deposits	(++)	(++)	(+)	(-)	(-)	(++)
Total liabilities less MREL-eligible instruments (including own funds)	(+)	(++)	(n/a)	(-)	(--)	(-)
Total liabilities less the amount of MREL set by the resolution authorities	(0)	(++)	(n/a)	(-)	(--)	(-)
Total risk exposure amount	(0)	(++)	(+)	(-)	(-)	(0)
Available own funds	(--)	(-)	(+)	(-)	(-)	(+)

Recommendations

42. This report assessed each of the options outlined in Section 4 against all of the criteria set out in Section 3. Based on the assessment of the advantages and disadvantages of each option, both quantitative and qualitative, this report recommends changing the base for the target level of the resolution financing arrangement to: 'total liabilities (excluding own

funds) less covered deposits', which achieved the most consistently positive scores across all the criteria, or 'total liabilities (including own funds)' or 'total liabilities (excluding own funds)'. In the analysis presented in Section 5 of the report and summarised in the table above, these three indicators received the highest scores overall, and had the most consistently positive scores across a range of criteria. The key arguments in favour of these options are their consistency with the regulatory framework and contributions methodology, as well as their simplicity and transparency, without the major disadvantages of any of the other options. In particular, it is crucial that the target level basis based on total liabilities (with or without further exclusions) captures the whole population of institutions in the scope of the BRRD, and, especially in the case of 'total liabilities (excluding own funds) less covered deposits', accurately reflects the potential to call on the resolution financing arrangements in the case of a given failure. The burden arising from changes of the target level basis has been factored into the evaluation to reflect the procedural difficulties accompanying any changes for institutions and resolution authorities. Had the report disregarded such practical considerations, the recommendation would not have been different, but the assessment would have been more clearly in favour of the recommended options.

43. The report further recommends that if the Commission issues a legislative proposal on amending the target level basis for national resolution financing arrangements, it should also consider proposing to adjust: 1) the target level percentage accompanying the target level basis; and 2) the target level basis for the SRF. It is up to the Commission to decide when such a proposal would come into force.

7. Annex 1

7.1 Outline of the methodology for the quantitative analyses

The quantitative analyses in this report have focused on two aspects of the considered indicators to assess their appropriateness as a target level basis for the resolution financing arrangements.

The first element of the quantitative analysis tests the statistical correlation between State aid support measures for the period 2008 to Q3 2014 on the one hand and the options for the target level basis, including 'covered deposits' and 'total liabilities', on the other hand. This correlation analysis is conducted first at the Member State level and second at the level of the individual institutions.

The analysis at aggregate (Member State) level is based on information about State aid amounts approved (from the Commission data) and Member States' performance with regard to the reference points discussed, approximated based on information from the ECB's financial statistics.[18]

The analysis at the bank level is based on the institutions identified as having received State aid during the financial crisis (2008-2014) and information on those institutions' profits and losses and relevant balance sheet indicators, which most closely approximate the potential target level basis discussed. A recent study on the target level of the SRF[19] followed a similar approach: to estimate the potential funding needs of the SRF, the study referred to the Commission's State aid data and, on this basis, estimated the losses of individual banks in Euro area Member States to draw conclusions on potential recapitalisation needs.

The second element of the quantitative analysis tests the stability of the considered indicators over time, under the assumption that a more stable indicator over time would provide a more reliable target level basis for resolution financing arrangements and contribute to ensuring that the resolution fund is sufficiently financed to fulfil its purposes. That volatility analysis is conducted, first, for the same period as the (aggregate) correlation analysis, using the same data source (to ensure consistency) and, secondly, for a longer period in time, partly using alternative data sources to understand the indicators' volatility characteristics over a longer period of the economic/financial cycle (including the period leading up to the crisis of 2008). Both specifications complement each other and strengthen the reliability of the results and conclusions.

[18] The ECB's consolidated banking data and MFI balance sheet statistics.

[19] De Groen/Gros, 'Estimating the Bridge Financing Needs of the Single Resolution Fund: How expensive is it to resolve a bank?', November 2015.

7.2 Shortcomings and caveats

The approach taken in this report has its shortcomings. In these early days of the new resolution framework, uncertainty remains as to the future of:

The amount and structure of institutions' loss absorption capacity, including:

- The future liability structure of institutions and the volume of own funds and eligible liabilities. The liability structure not only depends on regulatory decisions, but also on the conditions for various types of refinancing, as well as on banks' management decisions and the wider economic environment.

- The practice of competent authorities setting buffer and Pillar 2 own fund requirements and the MREL under Article 45 of the BRRD. These would increase loss-absorption capacity, but, on the other hand, higher own fund requirements might result in higher recapitalisation needs following resolution.

- Losses may be different in volume and distribution due to a changed regulatory environment and higher risk awareness of bank management and investors, as well as the specific circumstances in a future crisis.

- Resolution authorities' practice in applying resolution tools instead of regular insolvency proceedings, in particular in applying the public interest test under Article 32(5) of the BRRD.

Practice in handling resolution:

- Resolution authorities' practice in applying the bail-in tool and exceptions from bail-in, in particular with regard to a potential contagion risk, which may depend on the holders of bank debt. In addition, practice may vary depending on whether, after shareholders and creditors have contributed 8% of total liabilities, resolution authorities decide that the resolution financing arrangement should contribute or rather seek additional loss participation from creditors.

- Member States' practice in applying the no creditor worse off (NCWO) safeguard under Article 74 of the BRRD and valuers' practice in conducting valuations, as the compensation to creditors is paid by the resolution financing arrangements.

Further factors in the wider context of resolution:

- The sources of liquidity available to banks after resolution and their size following restructuring, as this determines how much liquidity support may be needed. This depends on whether market confidence in the resolved entity can be restored. If institutions fully depend on liquidity support, this would significantly increase funding needs.

- The nature of future crises, in particular the amount of losses and their distribution within the banking sector, and the number of institutions failing in case of a systemic crisis.

- The availability of ex-post contributions or alternative sources of funding (borrowing between financing arrangements).

In addition to the problems mentioned above, the results are subject to more caveats, including:

- The practice among Member States in terms of whether and under what circumstances they granted State aid to failing institutions may have varied during the last financial crisis for policy and macroeconomic reasons, rather than for reasons that might be reflected in balance sheet data. This applies, in particular, with regard to the question of which institutions are regarded as systemic in terms of the public interest test, and whether sufficiently capitalised institutions received State aid or not.

- All potential target level basis options are correlated to size. Therefore, a certain level of correlation is to be expected; as a result, the differences in the level of correlation are small, which casts doubt on the causality reflected in the data.

On the other hand, it is reasonable to assume that State aid was given predominantly to systemically important institutions. Although the notion of systemically important institutions may have been broader during a severe systemic crisis and in the absence of resolution tools than is the case now under the BRRD public interest test, it should be noted that not all institutions received State aid—there were failures and private sector solutions. For these there is an indication that they would not pass the public interest test under the BRRD and would not be resolved, but would have been wound down in regular insolvency proceedings, or at least would not receive contributions from the resolution financing arrangements. Therefore, there are arguments for parallels between the past crisis and potential future funding needs.

7.3 Assumptions and data

For the aggregate correlation analysis, data from the following sources are used:

- Data regarding State aid (recapitalisation, asset relief measure, liquidity support and guarantee) granted to financial institutions in the context of the recent financial crisis from the Commission’s State Aid Scoreboard 2014. The test looks at the total of State aid measures as evaluated by the Commission, as well as looking at capital and liquidity measures separately.

- Data on household deposits from the ECB’s monetary financial institutions’ (MFI) balance sheet statistics, which covers the entirety of the European banking sector (Banking Union and other EU Member States) and is available consistently for a sufficiently long time period (from 2007 onwards). Given the analytical purpose of these statistics (Eurosystem’s monetary analysis), counterparty sector information (households) is used to approximate covered deposits. Tests have shown that those are the closest approximation available for covered deposits.

- Data on total liabilities, own funds (approximated by equity) and RWAs/risk-weighted exposure amounts from the ECB's consolidated banking data. These statistics broadly cover the European banking sector (Banking Union and other EU Member States) and are available for the large majority of Member States since 2007 (until 2015, annual frequency). Given the analytical purpose of these statistics (macroprudential analysis, microprudential supervision), the concepts of the data items presented are closely related to the reference points considered in this report.

- Data available at the EBA (standard supervisory reporting (ITS), other data collections) to assure the quality and robustness of the primary data sources used.

For the granular correlation analysis, data from the following sources are used:

- Commission's list of institutions that received State aid.

- Cumulative losses (operative and impairment) of institutions concerned from SNL[20] database, under the assumption that the cumulative losses from 2007 to 2015 are the closest available approximation for the State aid received (the implicit assumption being that banks operate at regulatory capital requirements and state intervention aims at restoring bank capital to the level of applicable regulatory requirements).

- Approximations for potential target level basis from SNL database, assuming that averages over the period 2007-2014 are a reasonable approximation of the relevant indicator levels. The balance sheet items used are Total Financial Liabilities, Customer Deposits, Total Equity, Total Risk-Weighted Assets and Total Exposures, as defined for the Leverage Ratio. The choice of items has been guided by the objective of ensuring the best data availability and the highest methodological accuracy possible.

For the volatility analysis (since 2008), data from the following source were used:

- Same sources as those used for the aggregate correlation analysis described above (ECB Statistics).

For the volatility analysis (since 2003), data from the following source were used:

- The ECB's MFI balance sheet statistics (capital and reserves, total liabilities, household deposits), to best approximate own funds and covered deposits. Data are available for AT, BE, CZ, DE, ES, FI, FR, UK, EL, HU, IE, IT, LU, NL, PT and SE. The choice of the observation period has been guided by the objective of ensuring the largest EU banking sector coverage over as long a period as possible.

[20] http://www.snl.com/

7.4 Robustness checks

To test the robustness of these results and analytical conclusions, the EBA has conducted various alternative specifications of this analysis. More concretely, the following approaches have been analysed:

- alternative correlation measures (Pearson, Spearman);
- alternative approximations of the reference points discussed;
- alternative approximations of the measures for government intervention; and
- alternative time periods for the reference points discussed.

These robustness tests broadly confirm the results presented in the table above, providing evidence that those results are valid across alternative technical specifications.

7.5 Overview of questions for consultation

Question 1. Do you think the report is missing any crucial criteria or arguments in favour or against a particular option?

Question 2. Do you have a preference for one of the following recommended options?:

(a) total liabilities (including own funds),

(b) total liabilities excluding own funds,

(c) total liabilities excluding own funds less covered deposits.

Questions 3. Is there any other option which would be preferable to those in the recommendation? Please provide the rationale supporting your view.

7.6 Feedback on the public consultation

The EBA publicly consulted on the draft proposal contained in this paper.

The consultation period lasted for six weeks and ended on 2 September 2016. Eight responses were received, all of which were published on the EBA website.

This paper presents a summary of the key points and other comments arising from the consultation, the analysis and discussion triggered by these comments, and the actions taken to address them if deemed necessary.

In many cases, several industry bodies made similar comments or the same body repeated its comments in response to different questions. In such cases, the comments and the EBA's analysis of them are included in the section of this paper where the EBA considers them most appropriate.

Changes to the draft report have been incorporated as a result of the responses received during the public consultation.

Summary of key issues and the EBA's response

Of the eight respondents to the public consultation, six showed a preference for maintaining 'covered deposits' as the target level basis. The main arguments for the status quo were concentrated on predictability, clarity and practical considerations, with any change would introduce uncertainty for little or no benefit. Two respondents favoured 'total liabilities excluding own funds less covered deposits' as a more appropriate measure, mainly because of the consistency with the contributions methodology and the simplicity and transparency of this measure.

Several respondents stressed the link between national resolution financing arrangements and the SRF. Respondents argued that, despite different deadlines for reviews of both target level bases in the BRRD and the SRMR, any changes to the target level basis should happen simultaneously in both the Directive and the Regulation.

Many respondents highlighted that a change of the target level basis would have an impact on the level of contributions between Member States, even under the assumption that the overall level of contributions across the EU remains constant. They argued for a more detailed quantitative assessment to determine the impact on individual Member States and institutions, including various business models. Furthermore, a few respondents stressed that any change of the target level basis could have a significant impact on the amount of contributions to national resolution financing arrangements, when the issue of resolution financing, as well as the level of contributions, was subject to intense political negotiations in the context of the BRRD and the SRMR. Therefore, they argued that the report is not the place to propose significant changes.

Finally, several respondents pointed out that differences in the accounting treatment of 'total liabilities' across Member States could create arbitrage and competitive distortions.

The EBA acknowledges the majority of respondents' preference for 'covered deposits' as the appropriate target level basis. However, the arguments mentioned in favour of maintaining 'covered deposits' as the target level basis for national resolution financing arrangements are already reflected in the report. Few new arguments have been provided to influence the assessment of that option.

The report already acknowledges the link with the separate SRF review and stresses that it is up to the Commission to decide whether to issue a proposal that adjusts the target level basis for the national resolution financing arrangements and the SRF at the same time, and when such a change should occur. The recommendation in the report now also states that the Commission should consider whether to propose a corresponding change to the SRF target level basis.

The EBA agrees that a detailed quantitative analysis is warranted. However, the report's mandate is to assess the appropriate target level basis. This mandate is understood to entail a qualitative and, where possible, quantitative assessment of various options, but it is considered to be outside the scope of the report to assess which Members States, and which institutions within them, would have higher or lower contributions as a result of any potential change. This would depend on changes to the target level basis, the accompanying target level percentage, and the corresponding features of the SRF. Therefore, this report assumes that any such analysis should be part of a potential legislative proposal by the Commission. This approach is further supported by the arguments made by the respondents indicating that the level of resolution financing is a political issue, which would need to be discussed in the context of any potential legislative proposal.

The report already acknowledges differences in the accounting treatment of 'total liabilities' across Member States and stresses that measures such as 'total liabilities' and 'covered deposits' may need to be harmonised further as part of a broader review of the regulatory framework. This, however, is beyond the scope of this report. Furthermore, the 'total liabilities' measure is already a feature of the methodology for individual contributions to national resolution financing arrangements, and introducing it into the target level basis would not bring additional discrepancies because of the accounting treatment—the current framework already includes an element of inconsistency. Finally, 'total liabilities' is not the only measure that is not fully harmonised. The scope of the 'covered deposits' favoured by most respondents is not identical between Member States either, albeit with the divergences being smaller than is the case with 'total liabilities'.

Summary of responses to the consultation and the EBA's analysis

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
General comments			
Timing/interaction with SRF review end-2018	• Several respondents raised the point that the review for the target level basis in the course of the BRRD is inappropriate, as the review for the SRF will take place by the end of 2018 and more experience and data are needed to make a full assessment. Furthermore, the respondents stated that a differing target level basis for banks contributing to the SRF and other EU banks should be avoided in order to ensure a level playing field and avoid distortion of competition. Two respondents further stressed that the review is premature given ongoing reforms, such as work on MREL and TLAC.	• Article 102(4) of the BRRD requires the EBA to draft and submit to the Commission a report with recommendations on the appropriate reference point for setting the target level for resolution financing arrangements, and, in particular, whether total liabilities constitute a more appropriate basis than 'covered deposits'. The report must be submitted by 31 October 2016. The report already acknowledges the link with the separate SRF review and stresses that it is up to the Commission to decide whether to issue a proposal that adjusts the target level basis for the national resolution financing arrangements and the SRF at the same time, and when such a change should occur. The report also acknowledges that there is a link between the amount of MREL and the probability of a draw on resolution financing arrangements, but that, at this stage, a target level basis with an MREL element poses a number of drawbacks and so is not most appropriate at this time.	Paragraph 43 now also recommends that the Commission consider whether to propose a corresponding change to the SRF target level basis.
Consistency with the target level basis for DGS funds	• Two respondents stated that synergy between the resolution financing	• The report already acknowledges that one of the benefits of 'covered deposits' as a	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	arrangements and the DGS funds should receive a higher weight and the assessment of this synergy should warrant a marking of (++) rather than just (+).	target level basis for the national resolution financing arrangements is the potential synergy with the DGS funds, where the target level basis is based on 'covered deposits'. However, the original synergy envisaged by the Impact Assessment accompanying the BRRD proposal was based on the assumption that the two funds could be merged. Without such a merger, synergy between the two is present, but does not seem to be significant.	
Impact on the target level for resolution financing	• Several respondents stated that any change to the target level basis without a corresponding change in the target level percentage could lead to a significant increase in contributions. Some respondents stressed that the level of the contributions should remain constant.	• The report clearly states that the discussion of the appropriate target level is beyond its mandate. The report focuses on the appropriate target level basis and assumes the overall level of funding across the EU to be constant. It also recommends that if the Commission were to propose a change to the target level basis, it should be accompanied by a change to the target level percentage.	No change.
Volatility of different options	• Some respondents argued that 'total liabilities' is a more volatile measure than 'covered deposits' and, therefore, the latter is preferable.	• The report states that the reference point is intended to reflect changes in the risk profile of the contributing institution and potential funding needs in resolution, while offering stability and predictability for the authorities and the institutions. For this reason, the report assesses whether the	Paragraphs 38-39 have been added.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
		potential options for the target basis are not excessively volatile (i.e. that fluctuations reflect a changing long-term risk rather than being randomly unstable) and do not result in considerable differences between target levels from one year to the next. Analysis of data highlights that deposits show a steady increase, even during the years of the financial crisis, offering predictability but seemingly limited responsiveness to changes in the market. Other measures, including 'total liabilities', offer more volatility, but also more responsiveness to the build-up of riskiness in the financial system.	
Impact on contributions from institutions with diversified business models	• One respondent stated that changing the basis from 'covered deposits' to 'total liabilities' or other balance sheet measures would punish institutions with more diversified business models, as they would need to contribute more. Another respondent stated that a change would be welcome as Member States where institutions hold more deposits are currently punished with higher target levels for their resolution funds. Finally, one respondent stated that the target level basis and the contributions methodology should be closely aligned.	• The report is only concerned with the appropriate target level basis, and does not discuss any changes to the individual contributions from each institution. The contributions methodology in the BRRD is already based on 'total liabilities less own funds less covered deposits' adjusted for the riskiness of that institution. The report acknowledges that the target level basis and the contributions methodology do not need to be perfectly aligned but indicates that they should not be contradictory.	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
Link between bail-in and resolution financing arrangements	• One respondent argued that 'covered deposits' is an appropriate target level basis as all liabilities—with the exception of those excluded from bail-in (including covered deposits)—may be included in bail-in and so would not need to be secured by the financial resources available to the resolution financing arrangements.	• Article 44(5) of the BRRD outlines the conditions under which the resolution financing arrangement may make a contribution in a resolution. It is not necessary for all bail-inable liabilities to bear losses before the resolution financing arrangement can contribute to the resolution. Therefore, it should not be assumed that having bail-inable instruments removes the probability of the resolution financing arrangements being used.	No change.
Responses to questions in Consultation Paper EBA/CP/2016/210			
Question 1. **Analysis missing any crucial criteria or arguments**	• Five respondents stated that a quantitative impact study (QIS) is necessary to better evaluate the impact that the proposed options will have on banks. One respondent detailed this request by asking for a QIS on a Member State level and based on different types of banks, classified by riskiness. One respondent argued that the assessment of the different options does not sufficiently consider the economic implications and the related incentives concerned with the difference between the resolution fund target level and the basic annual contribution.	• The report's mandate is to assess the appropriate target level basis. This mandate is understood to entail a qualitative and, where possible, quantitative assessment of various options. However, it is considered to be outside the scope of the report to assess which Members States, and which institutions within them, would have higher or lower contributions as a result of any potential change. This would depend on changes to the target level basis, the accompanying target level percentage, and changes to the corresponding features of the SRF. Therefore, this report assumes that any such analysis should be part of a potential legislative proposal by the	Paragraph 16 now includes a sentence on the need to consider data availability in the context of the contributions schedule. Paragraphs 31-33 have been added and the table assessing 'covered deposits' and the summary table in paragraph 42 have

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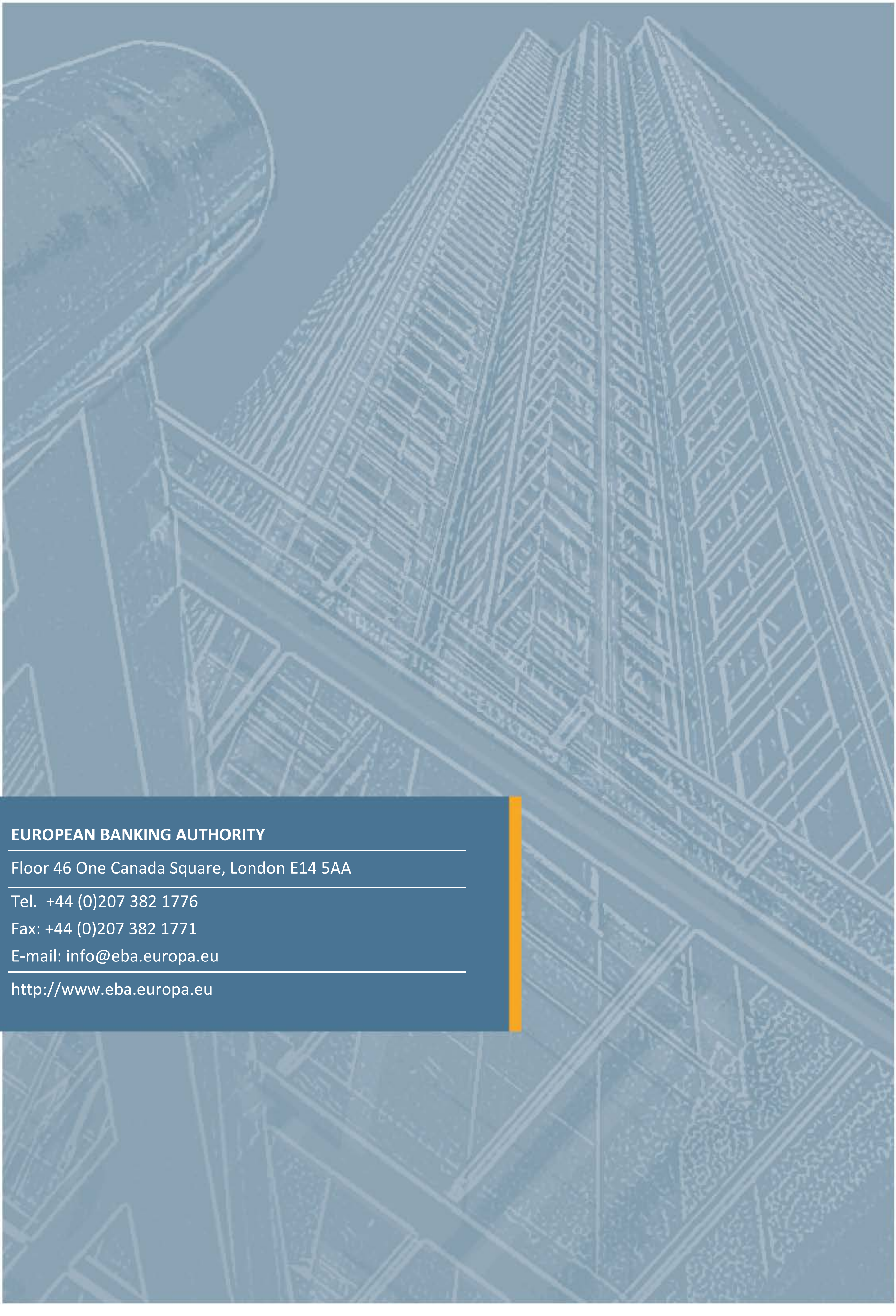
	• Two respondents emphasised that the report does not sufficiently consider that a change to any of the three proposed options will be a burden for the resolution authorities and the institutions. One respondent stated that a change would not have a considerable impact as long as the recalibration of the target level basis is smooth. • Two respondents argued that a change to any of the three recommended options will result in a data availability problem, as covered deposit data is usually available as of 31 January of a financial year, whereas total liabilities data is usually only available later in the financial year. This may lead to the calculation of the contribution to the resolution funds based on financial data not on the previous year, but on the year before that year, which represents a significant time lag. • Three respondents stated that the term ‘total liabilities’ is not harmonised, as there are accounting differences due to the application of IFRS and local GAAP across Member States and banks. Although mentioned in the report, it does not receive enough weight in the evaluation and, according to two respondents, is a serious obstacle to a	Commission. • The report already acknowledges that a change to the target level would be a burden for the authorities and the institutions, and accordingly, assigns negative marks on this criterion to all the options other than ‘covered deposits’. • Data availability is an important consideration and the EBA agrees that the timing of when information becomes available should be taken into account when proposing changes to the target level basis. • The report already acknowledges that the ‘total liabilities’ definition differs from an accountancy perspective and recommends that further harmonisation, as part of future reviews of the existing regulatory framework, be considered. It needs to be noted that the ‘covered deposits’ measure is not fully harmonised either (albeit to a lesser extent). • The EBA acknowledges that the difference in correlations between State aid and covered deposits and State aid and other assessed measures is not significant. Therefore, the EBA changed the evaluation of the ‘correlation with historical losses’ criterion for the ‘covered deposits’ options	been amended accordingly.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	level playing field. • Two respondents stated that the correlation between State aid levels and deposits is positive and is not significantly different from correlations with the other assessed options.	to (+) instead of (0).	
Question 2. **Preference for one of the recommended options**	• Two respondents preferred option (c) – 'total liabilities excluding own funds less covered deposits'. One of them stated that option (c) is preferable because it would align the formula to calculate banks' individual contributions and captures the remaining outstanding liabilities in the scope of a possible intervention of the fund. • Two respondents stated that they prefer to maintain the status quo, hence keeping covered deposits as a reference base. However, in case a change is unavoidable, they would opt for option (c) – 'total liabilities excluding own funds less covered deposits'.	• The EBA acknowledges that if there were a change of the target level basis, the respondents' preference would be for option (c) – 'total liabilities excluding own funds less covered deposits'. This preference is in line with the assessment in the report.	No change.
Question 3. **Any other preferable option**	• Six respondents stated that they are strongly in favour of maintaining the status quo, hence using 'covered deposits' as a reference base. The main arguments in favour of the status quo are that 'covered deposits' are relatively stable	• The EBA takes note of the majority of respondents' preference for 'covered deposits' as the appropriate target level basis. The arguments mentioned in favour of maintaining 'covered deposits' as the basis are already reflected in the report.	No change.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	and the calculation of the contribution is simple, implying a higher predictability with regards to banks' financial planning. Several respondents also argued that a change in the target level would bring limited benefits while creating considerable confusion. One respondent stated that the risk of an institution is not driven by the structure of its deposits but by its asset-side business policy, risk management, capital planning and liquidity management. Another respondent supported the change of the target level basis, as this would help to improve the dynamics and smoothness of contributions, as well as the simplicity, transparency and predictability of contributions.	'Covered deposits' is not a significantly simpler measure than those recommended in the report. It is true that the 'covered deposits' measure offers higher predictability with regards to banks' financial planning; however, predictability should be weighed against the basis's responsiveness to changes in the financial markets and any increases or decreases in riskiness, which change the probability that the resolution financing arrangement may need to be deployed. On that measure, the 'covered deposits' option does not seem to be the most appropriate. The report already acknowledges that changing the basis would be a burden for the authorities and the institutions, and factors this into the analysis.	



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