RIKSGÄLDEN
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Guidance on valuation capabilities

Expectations of institutions’ capabilities and preparedness for resolution valuations

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1. Introduction

According to Chapter 7 of the Resolution Act (2015:1016) – (*the Resolution Act*) – valuations shall be performed in connection with resolution (*resolution valuations*). The resolution valuations shall form the basis for the Swedish National Debt Office's resolution decisions and resolution actions as well as the assessment of whether owners, creditors and the deposit guarantee scheme would have been better off if the institution had undergone bankruptcy or liquidation proceedings instead. Commission Delegated Regulation (EU) 2018/345[1] (*CDR 2018/345*) sets out that resolution decisions and resolution actions shall be based on two different valuations. Together with the valuation to be performed after resolution actions have been taken, pursuant to Chapter 7, section 10 of the Resolution Act, a total of three valuations shall be performed in connection with resolution. The valuations shall be performed by a person (*valuer*) who is independent in relation to authorities and the institution undergoing valuation. The valuations are described in more detail in Appendix 1.

To enable the Debt Office to make informed decisions in resolution matters, the valuations need to be robust and possible to produce swiftly. Robustness means that the valuations are of such quality that the Debt Office's decision would not have been materially different if more time had been available to the valuer to perform the valuations. This presumes that the valuer has access to all data and information required for the task, that all data and information are complete and of high quality, and that all data and information are provided within a reasonable amount of time. A large part of the data and information needed by a valuer will need to be provided by the institution.

When it draws up a resolution plan or group resolution plan, the Debt Office shall, according to Chapter 3, sections 10–11 of the Resolution Act, assess resolvability (*resolvability assessment*). According to Article 29 of Commission Delegated Regulation (EU) 2016/1075[2], the Debt Office shall, in its

[1] Commission Delegated Regulation (EU) 2018/345 of 14 November 2017 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the criteria relating to the methodology for assessing the value of assets and liabilities of institutions or entities.

[2] Commission Delegated Regulation (EU) 2016/1075 of 23 March 2016 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the content of recovery plans, resolution plans and group resolution plans, the minimum criteria that the competent authority is to assess as regards recovery plans and group recovery plans, the conditions for group financial support, the requirements for independent valuers, the contractual recognition of write-down and conversion powers, the procedures and contents of notification requirements and of notice of suspension and the operational functioning of the resolution colleges.

resolvability assessment, take account of the capability of the institution or group to provide information to perform a valuation.

The guidelines on improving resolvability for institutions and resolution authorities under articles 15 and 16 BRRD (*resolvability guidelines* or *the guidelines*)[3] published by the European Banking Authority (*EBA*) in January 2022 are a central aspect of the Debt Office's resolvability assessment. The guidelines set out the conditions that institutions must fulfil to be considered resolvable in a number of different areas, including with regard to valuation.

In April 2022, the Debt Office published a document describing how it will apply the guidelines as an integral part its resolution planning. The Debt Office has also published guidance for institutions on how the guidelines should be interpreted and implemented.[4] This document supplements that guidance and forms part of the Debt Office's overall resolvability guidance for institutions.

According to paragraph 77 of the Guidelines, institutions should have capabilities (including management information systems and technological infrastructure) to support the timely provision of valuation data at a sufficient level of granularity to enable valuations to be performed within a suitable timeframe. Those capabilities are set out in the MIS chapter of the EBA valuation handbook.[5]

However, neither paragraph 77 of the Guidelines nor the EBA valuation handbook are sufficiently specific about what is expected of institutions. This guidance is intended to further specify what is expected of institutions for them to be considered resolvable with regard to valuation.

The overall objective of the guidance is to improve conditions for an effective valuation process in connection with resolution. The appointed valuer shall, with sufficient promptness, be able to deliver robust resolution valuations that the Debt Office can use as a basis for decisions in resolution matters. To enable this, institutions must stand prepared to assist the valuer in performing the resolution valuations and be capable of providing relevant data and information to the Debt Office and the valuer.

[3] EBA/GL/2022/01.

[4] See The Debt Office's application of the EBA's guidelines on improving resolvability and Guidance on EBA guidelines on improving resolvability for institutions and resolution authorities, Reg.no RGR 2022/24, https://www.riksgalden.se/sv/var-verksamhet/finansiell-stabilitet/resolution---hantering-av-banker-i-kris/planering-infor-resolution/vagledning-for-resolutionsbarhet/.

[5] Se Valuation handbook for resolution purposes – Chapter 10 management information systems, EBA/Rep/2020/10, https://www.eba.europa.eu/eba-highlights-importance-data-and-information-preparedness-perform-valuation-resolution.

The Debt Office will assess an institution's resolvability in terms of valuation in accordance with this guidance as of 1 January 2024.

2. Delimitations

The guidance is limited to the valuations that need to be performed ahead of the Debt Office's resolution decision and resolution actions (also called valuations 1 and 2).

The guidance is directed at the institutions that are a resolution entity.

A resolution entity that is part of a resolution group needs to have the capability, or ensure that capability exists within the resolution group, to support valuations of the entire resolution group. It is particularly important to have internal capabilities and preparedness to support valuations of the resolution entity and significant subsidiaries. Significant subsidiaries refers at minimum to subsidiaries that are so-called material subsidiaries[6] or that have a minimum requirement for own funds and eligible liabilities (MREL) that exceeds the loss absorption amount. The resolution entity is expected to evaluate, and report to the Debt Office, if there may in addition be subsidiaries within the resolution group that can be considered significant in terms of valuation.

Institutions that are not part of a resolution group and that the Debt Office does not plan to manage through resolution in the event of default need not have capabilities to support resolution valuations.

[6] See Chapter 2, section 1 of the Resolution Act.

3. Expectations of institutions' capabilities and preparedness for resolution valuations

The process of performing the valuations needed for resolution decisions and resolution actions involves several steps and the institution will be a key source of information for a valuer. The institution will need to provide data and information and might also need to provide a valuer with access to internal models, systems, and staff.

In an actual resolution procedure, it will be up to the valuer to decide, on the basis of the legal framework, what data and information the institution shall provide and the extent to which the valuer relies on the institution's internal systems and models. The valuer's chosen approach and requests for data and information may depend on factors such as the institution's size, legal structure, complexity, operations, functionality in and quality of internal models and systems.

The valuation process will need to be carried out as swiftly as possible so as to minimise adverse external factors that impede the execution of resolution. Institutions therefore need to ensure in advance that they have internal preparedness and capabilities in management information systems and internal models to support resolution valuations and be able to provide relevant data and information within an appropriate period of time.

3.1 Internal models

Institutions are expected to ensure that internal models and systems have the requisite functionality to enable use for resolution valuations. In this context, the models are divided into two different types – internal reporting models and internal valuation models.

1. A valuer needs to be able to rely on the institution's internal models. Institutions are therefore expected to have internal models adapted for use in resolution valuations. The functionality required in internal models is described in more detail in Appendix 2.

2. Institutions are expected to have internal reporting models that enable an update of all on-balance-sheet and off-balance-sheet items, as set out in Appendix 2 (section 2.1).

3. Institutions are expected to have internal valuation models for the most important on-balance-sheet and off-balance-sheet assets and liabilities, as set out in Appendix 2 (section 2.2). Institutions are expected to appraise

any additional assets and liabilities that should be covered by internal valuation models. With regard to the loan portfolio, an institution that, given the nature and scope of its operations and their degree of complexity, is not to be regarded as a large institution may choose between having internal valuation models with requisite functionality for valuation of the loan portfolio, as described in Appendix 2 (section 2.2.1), or having capabilities to provide data on the loan portfolio in a virtual data room, as in the list in Appendix 3 (tab 3.4.5). Currently, Skandinaviska Enskilda Banken AB, Svenska Handelsbanken AB and Swedbank AB are in this respect to be regarded as large institutions, which are thus also expected to have requisite functionality in internal valuation models for the loan portfolio.

3.2 Data and information

Institutions are expected to ensure that they have complete, accurate and reliable data and information and that they have internal preparedness and capabilities in management information systems and internal models to enable updating, compiling, aggregating and making available relevant data and information for the Debt Office and a valuer within an appropriate period of time.

4. Institutions are expected to have capabilities to provide data and information within the time limits set out in Appendix 3.

5. Institutions are expected to identify whether, in addition to the data and information contained in Appendix 3, there may be data and information that a valuer may require for the performance of a robust resolution valuation. Institutions are expected to ensure that they have the capabilities to also provide such data and information to the valuer and the Debt Office within an appropriate period of time.

6. Institutions are expected to ensure that, at minimum, all the data and information contained in Appendix 3 are in place internally within the institution and can be provided to the Debt Office and a valuer.[7] Data and information that a valuer is expected to retrieve from other sources, such as macroeconomic assumptions and projections produced by the public sector, market prices, and relevant valuation multiples for comparable institutions, do not need to be provided by the institution.

[7] The lists in Appendix 3 have been drawn up on the basis of the EBA Data Dictionary, which is contained in a separate Excel-format annex (Annex 2) to the EBA valuation handbook, https://www.eba.europa.eu/eba-highlights-importance-data-and-information-preparedness-perform-valuation-resolution.

7. Institutions are expected to have arrangements in place to ensure that all relevant data and information are complete, accurate, and reliable at all times. Relevant data and information therefore need to undergo regular verification and quality assurance and should at all times be reconciled with the most recent audited accounts.

8. Institutions are expected to have capabilities to compile and aggregate data at different levels and areas. This means, for example, that the institutions are expected to be able to

   a) compile and aggregate customer data from different data sources within the institution and concatenate data with unique identifiers
   b) produce an income statement and balance sheet, for example, for the resolution group, legal entities within the resolution group, operating segments, authorisation types (such as bank, insurance, and asset management), and geographical areas (such as country and region)
   c) produce capital requirement calculations, for example for the resolution group, legal entities within the resolution group, and authorisation types. Institutions are also expected to have capabilities to aggregate, at minimum, risk exposure amounts in relevant areas such as product types, operating segments, and geographical areas.

9. Institutions are expected to be able to provide both historical and current data and information, which have undergone internal controls as in paragraph 7. It is expected that current data and information can be provided on a reference date that is as close as possible to the valuation date[8].

10. As far as possible, institutions are also expected to be capable of updating data on the valuation date. It should thus be possible to update relevant data on a date that is not the final day of the month. On the valuation date,

[8] Article 3 of DR 2018/345 sets out that the valuation date is either a reference date determined by the valuer on the basis of the date as close as possible before the expected date of a decision by the Debt office to place the institution in resolution, or the resolution date if a definitive valuation is performed retroactively. The resolution date is defined in the regulation in Article 1(j) as the date on which the decision to resolve an entity is adopted.

In relation to liabilities arising from derivative contracts, the valuation date shall be the point in time determined pursuant to Article 8 of Commission Delegated Regulation (EU) 2016/1401 of 23 May 2016 supplementing Directive 2014/59/EU of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms with regard to regulatory technical standards for methodologies and principles on the valuation of liabilities arising from derivatives.

institutions are expected to be capable of, at minimum, updating the data set out in Appendix 2 (paragraph 1 of section 2.1).

11. Institutions are expected to be capable of providing data and information in a common format that a valuer can use. Examples of accepted formats for the provision of data are Excel, CSV, XBRL and TXT and, for the provision of information, PDF, DOCX, and PPTX.

12. Institutions are expected to have capabilities to provide the data and information set out in Appendix 3, and other data and information deemed relevant pursuant to paragraph 5, in a virtual data room to which the valuer and the Debt Office may obtain access. Institutions are expected to be capable of promptly setting up a virtual data room to this end if necessary.

3.3 Governance and documentation

Institutions are expected to ensure that they have the requisite internal capabilities and preparedness for resolution valuations and that these capabilities and this preparedness can be maintained before and during resolution. To this end, institutions should have effective internal governance processes and arrangements. Institutions are expected to have clear, complete, and up-to-date documentation of the internal models, systems, processes, procedures, and roles related to their ability to support resolution valuations.

13. Institutions are expected to have adequate and effective internal governance arrangements. This includes an expectation that the institution has clear and documented policies, processes, and procedures for aspects concerning the institution’s ability to support resolution valuations, such as data collection and aggregation.

14. Institutions are expected to have a clear internal allocation of responsibilities to enable, for example, data and information contained in Appendix 3, and other data and information deemed relevant pursuant to paragraph 5, to be made available within an appropriate period of time. Roles and the allocation of responsibilities should be documented in detail in internal policies and processes.

15. In order to ensure coordination within the institution and effective communication with the Debt Office and the valuer in connection with resolution, the institution should appoint a person to be responsible for contacts with the Debt Office and the valuer in matters concerning resolution valuations. The main contact person, as in paragraph 57 of the EBA resolvability guidelines, should be an experienced senior-level executive.

16. Institutions are expected to identify key personnel with whom a valuer may need to be in contact in connection with performing the resolution valuations. Institutions are expected to have up-to-date contact details for such key personnel, and descriptions of their respective roles and responsibilities, which can be submitted to the Debt Office and a valuer if necessary.

17. Assumptions and input parameters with underlying information sources in internal models, which are important to the ability to perform robust resolution valuations, need to be reliable and of high quality. To ensure this, institutions are expected to regularly review and quality-assure assumptions, input parameters, and information sources.

18. Institutions are expected to have clear, complete, and up-to-date documentation, including manuals, for all internal models of relevance to resolution valuations. The documentation should include in particular descriptions of the methodology, criteria, model calibration, input parameters, underlying assumptions, scenarios, data sources and the institution's processes and procedures for oversight, quality assurance, maintenance and operation of each model. The documentation should also describe the possibility of modifying assumptions and input parameters and making overlays in the models.

19. Relevant documentation, such as policy documents and documentation and manuals for internal models, systems, processes, areas of responsibility and procedures, is expected to be gathered in an organised and readily accessible manner at the institution, and it shall, when necessary, be possible to submit it to the Debt Office and a valuer within a reasonable time.

3.4 Self-assessments and tests

Institutions are expected to review and evaluate their ability to contribute to resolution valuations on the basis of this guidance. Institutions are also expected to test their capabilities through dry runs.

20. At the request of the Debt Office, institutions are expected to perform self-assessments of their ability to contribute to resolution valuations on the basis of this guidance. A resolution entity that is part of a resolution group should evaluate its ability to contribute to the resolution valuations of the entire resolution group.

21. At the request of the Debt Office, institutions are expected to organise dry runs to test their ability to contribute to resolution valuations in accordance with paragraph 76 of the EBA resolvability guidelines. In particular, institutions should test their ability under stressed scenarios defined by the Debt Office. Institutions should, among other aspects, test their capability to swiftly set up a virtual data room and upload relevant data and information.[9]

22. At the request of the Debt Office, institutions are expected to provide the information needed by the Debt Office to assess the institution's resolvability with regard to valuation. This includes detailed information on the institution's self-assessments and dry runs, any identified deficiencies, and ongoing or planned measures to improve the institution's ability to contribute to resolution valuations. The Debt Office may also request access to relevant internal and external audit reports, or other documentation addressing the institution's internal preparedness and capacity in management information systems and internal models.

[9] If an institution cannot set up a virtual data room within a short timeframe if necessary, the institution may need to have a permanent virtual data room in place.

Appendix 1: Resolution valuations

According to Chapter 7, section 1 of the Resolution Act, before the Debt Office decides on resolution and resolution actions, it shall engage an independent valuer to perform a fair, prudent, and realistic valuation of the assets and liabilities of the institution. CDR 2018/345 sets out that, in practice, two valuations shall be performed before the resolution authority makes a decision. First, a valuation shall be performed to assess whether the conditions for resolution have been met (*valuation 1*), and then an additional valuation shall be performed to form the basis for the decision to implement one or more resolution tools (*valuation 2*).

In order for valuations 1 and 2 to be considered definitive, the valuations must meet the requirements set out in Chapter 7 of the Resolution Act and the criteria laid down in CDR 2018/345. If the valuations do not meet the requirements of Chapter 7 of the Resolution Act, they shall be considered provisional. The Debt Office may take resolution decisions and resolution actions based on provisional valuations performed by the Debt Office.[10] A provisional valuation 2 shall include a buffer aimed at covering any additional losses.

Once all resolution actions have been taken, under Chapter 7, section 10 of the Resolution Act a further independent valuation shall be performed to determine whether owners, creditors, and the deposit guarantee scheme would have been better off if the institution had undergone bankruptcy or liquidation proceedings instead of being placed in resolution (*valuation 3*). The valuation determines whether the principle in Chapter 1, section 8 of the Resolution Act has been fulfilled; that is, the principle that owners, creditors and the deposit guarantee scheme shall not be worse off in resolution than in bankruptcy or liquidation (*the NCWO principle*[11]). If the NCWO principle has not been fulfilled and any owner, creditor, or the deposit guarantee scheme has emerged from resolution worse off, they are, according to Chapter 23, section 8 of the Resolution Act, entitled to compensation from the resolution reserve for the difference.

[10] As set out in the report Implementation of the bail-in tool, the Debt Office allows for there only being a provisional valuation 2 in place when decisions on resolution actions are to be taken. See Implementation of the bail-in tool, (Reg.no RGR 2022/327): https://www.riksgalden.se/sv/var-verksamhet/finansiell-stabilitet/resolution---hantering-av-banker-i-kris/planering-infor-resolution/vagledning-for-resolutionsbarhet/.

[11] The no-creditor-worse-off principle.

The valuations are described in more detail below and in the EBA valuation handbook.[12]

1.1 Valuation before the resolution decision (valuation 1)

Valuation 1 shall be based on fair and realistic assumptions and shall be consistent with the applicable accounting and prudential regulatory framework.[13] However, the valuer is able to deviate from the assumptions made by the management of the institution and which form the basis for the institution's financial statements. The main purpose of valuation 1 is to determine whether the institution's assets exceed its liabilities; that is, whether or not the institution is balance-sheet solvent, and to provide a basis for assessing whether the institution fulfils the conditions for authorisation as a bank or a credit market company, including applicable capital requirements.

1.2 Valuation for decisions on resolution actions (valuation 2)

Valuation 2 shall take account of the resolution actions that the resolution authority is considering taking and assess the impact of each resolution action on the valuation.[14] A valuer may therefore need to produce several different valuations to take account of various potential resolution actions. For certain resolution tools, or combinations of tools, valuation 2 may also require performing various sub-valuations.

When implementing the bail-in tool, both a valuation of the institution's assets and liabilities, to determine the losses, and a valuation of the shares, to determine the post-conversion equity value of the shares, are performed. The latter calculation forms the basis for determining the conversion rates used in the conversion of liabilities into shares.

Valuation 2 shall be based on fair, prudent, and realistic assumptions. The purpose of the valuation is to appraise the economic value – rather than the book value – of assets and liabilities, businesses, or the entity as a whole. In contrast to valuation 1, valuation 2 may deviate from applicable accounting frameworks.

[12] See the Handbook on valuation for purposes of resolution, https://www.eba.europa.eu/eba-publishes-handbook-on-valuation-for-purposes-of-resolution.

[13] Article 7 of CDR 2018/345.

[14] Article 10.1 of CDR 2018/345.

CDR 2018/345 sets out that there are two measurement bases for valuation 2 – the hold value and the disposal value. A valuer shall choose the measurement basis founded on the resolution actions that the Debt Office is considering taking.[15]

If the resolution actions are aimed at the institution retaining assets and liabilities and continuing as a going concern after the resolution action has been taken (as in the case of application of the bail-in tool), the valuer shall use the hold value as the measurement basis.[16] When estimating the hold value, the valuer may, if it is considered fair, prudent and realistic, assume a normalisation of market conditions.

If, however, the resolution actions involve a transfer of assets to an asset management vehicle or to a bridge institution, or if the sale-of-business tool is implemented, the valuer, pursuant to Article 11.4 of CDR 2018/345, may not use the hold value but shall instead use the disposal value as the measurement basis. The disposal value shall take account of prevailing market conditions. When determining the disposal value, account may be taken of reasonable expectations for franchise value.[17]

Pursuant to Chapter 7, section 5 of the Resolution Act, valuation 2 shall also contain an estimation of the financial outcome for owners and creditors if the institution had instead undergone bankruptcy or liquidation proceedings at the time of the resolution decision (*NCWO estimation*). The purpose of the NCWO estimation is to reduce the risk of the Debt Office taking resolution actions that would cause owners and creditors to be worse off than if the institution had been wound up through normal insolvency proceedings.

1.3 Valuation after resolution actions have been taken (valuation 3)

Valuation 3 shall, pursuant to Chapter 7, section 10 of the Resolution Act, determine

1. the financial outcome that owners and creditors would have obtained in the case of bankruptcy or liquidation

2. the actual financial outcome obtained by owners and creditors in the case of resolution

[15] Article 11.1 of CDR 2018/345.
[16] Article 11.4 of CDR 2018/345.
[17] Franchise value is defined in Article 1(g) of CDR 2018/345.

3. the difference between the financial outcomes in points 1 and 2.

The method for performing valuation 3 is specified in more detail in Commission Delegated Regulation (EU) 2018/344.[18]

Appendix 2: Internal models

Institutions are expected to ensure that they have internal models that can be used for resolution valuations. Institutions commonly have a number of internal models and systems that are used, for example, to estimate book values, risk numbers and capital needs. Some of the institutions' existing models aim to estimate fair values in accordance with applicable accounting frameworks. However, this is not necessarily sufficient for resolution valuations.

To enable a valuer to rely on an institution's internal models, the models need to be adapted to resolution valuations. This means, for instance, that the models need to have functionality to estimate book values and economic values, and present best point estimates of the value and value range, for on-balance-sheet and off-balance-sheet items. The models need to be sufficiently flexible and dynamic to enable a valuer to modify assumptions and input parameters or make overlays. The models also need functionality to support scenario and sensitivity analyses.

Institutions are expected to evaluate whether their existing models have the functionality needed for resolution valuations. If the models lack this functionality, institutions should evaluate whether it is appropriate to develop existing models to equip them with the necessary functionality, or whether new models should be developed to this end.

Two different types of models are relevant for performing the valuations that form the basis for the Debt Office's resolution decision and resolution actions; that is, valuations 1 and 2. The models are referred to hereinafter as internal reporting models and internal valuation models. Internal reporting models are relevant for both valuations 1 and 2, while internal valuation models are used for valuation 2.

[18] Commission Delegated Regulation (EU) 2018/344 of 14 November 2017 supplementing Directive 2014/59/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the criteria relating to the methodologies for valuation of difference in treatment in resolution.

2.1 Internal reporting models

Internal reporting models refers to internal systems that enable updating all on-balance-sheet and off-balance-sheet items and that can provide up-to-date capital adequacy and liquidity information. The models need to be sufficiently flexible to handle adjustments or modified input parameters and assumptions by a valuer.

To enable a valuer to rely on the institution's internal reporting models when performing valuations 1 and 2, the models require at minimum, in addition to the description in the paragraph above, functionality to enable

1. updating book values according to applicable accounting frameworks. It should be possible to update all values, both on-balance-sheet and off-balance-sheet, at the end of the month. However, it should also be possible to update certain items on a reference date that is not the end of a month. This applies, at minimum, to

   a) deposits from the public
   b) items in the liquidity portfolio, such as cash and balances held at central banks or other institutions, bonds and other securities
   c) derivative instruments, including net positions in relation to each individual counterparty
   d) material current assets and liabilities
   e) other items for which the market value or underlying position could materially change during a month.

2. producing up-to-date balance sheets based on the book values of, for example, the resolution group, legal entities within the resolution group, operating segments, authorisation types, and geographical areas.

3. producing up-to-date balance sheets based on economic values (*resolution balance sheet*), taking account of values derived from internal valuation models, for example for the resolution group, legal entities within the resolution group, operating segments, authorisation types, and geographical areas.

4. updating capital adequacy information based on up-to-date balance sheets, as in paragraphs 2 and 3. The models are expected to show aspects such as own funds, exposure amounts, risk-weighted exposure amounts, and capital requirements. It is also expected that the models could be used for scenario and sensitivity analyses of relevant key ratios.

5. updating liquidity measures based on up-to-date balance sheets, as in paragraphs 2 and 3. For example, it is expected that the models can show liquidity coverage ratio (LCR) and net stable funding ratio (NSFR). It is also expected that the models could be used for scenario and sensitivity analyses of relevant key ratios.

2.2 Internal valuation models

Internal valuation models refers to internal systems capable of providing robust and high-quality estimates of the value, on the valuation date, of the institution's most important assets and liabilities, on-balance-sheet and off-balance-sheet, which can be used in valuation 2. The models need to be capable of estimating economic values – hold and disposal values – in accordance with CDR 2018/345. Hold and disposal values may involve diverging from accounting frameworks and deviations from book values, even if the book values are at fair value.

Institutions are expected to evaluate which on-balance-sheet and off-balance-sheet items should be encompassed by internal valuation models. In the evaluation, the institution shall pay particular attention to items that have a material impact on the overall valuation and to items that may be assumed to be complex for a valuer to measure within a short period of time. Institutions should at minimum ensure that they have internal valuation models for

a) loan portfolios[19]
b) complex, and/or wholly or partly illiquid, derivatives, or other financial instruments for which there is no quoted price on an active market
c) material holdings, such as in real estate, subsidiaries, and financial investments, for which there is no quoted price on an active market.

In order to produce relevant estimations of the values that can be used in valuation 2, the model needs to be capable of applying an appropriate valuation method to the specific item to be valued. The model needs to be sufficiently flexible to enable producing estimations of values according to different scenarios and assumptions and, where appropriate, also according to different valuation methods. The model needs to be capable of performing scenario and sensitivity analyses, and it needs to be structured such that a valuer can understand the method and assumptions applied.

[19] An institution that, in accordance with paragraph 3 of section 3.1, instead chooses to ensure capability to provide a data list of the loan portfolio need not have internal valuation models for valuation of the loan portfolio.

Internal valuation models are expected to be capable of compiling and presenting the outcome of the valuations, including other relevant information, that a valuer needs for the resolution valuation. The models should, at minimum, under different scenarios be capable of presenting

1. a best point estimate of the value and value range at the contract and portfolio level
2. a specification of best point estimates of the value and value range for different areas such as relevant operating segments, product types, authorisation types, and geographical areas
3. an overview of the expected future cash flows for each asset or liability, at the contract and portfolio level
4. an overview of all the assumptions that have been applied in the model under each scenario
5. outcomes of scenario and sensitivity analyses.

In addition to the information listed in the points above, the institution is also expected to provide model documentation that clearly describes the method applied – and other relevant information that may be assumed to be necessary for a valuer to validate the model and judge the plausibility of estimated values and underlying assumptions and parameters.

2.2.1 Internal valuation models for valuation of loan portfolios[20]

Institutions are expected to ensure that they have internal valuation models that can estimate economic values of the loan portfolio, which can be used in valuation 2.

The models are expected to have functionality to enable applying a discounted cash flow methodology (*DCF methodology*) in the valuation, in accordance with CDR 2018/345. The DCF methodology for valuations in the context of resolution is described in more detail in the EBA valuation handbook.

The internal valuation model is also expected to have functionality to enable valuation of individual loans separately, which can then be aggregated into a portfolio value (a bottom-up approach).

[20] This section is only applicable to those institutions which, in accordance with paragraph 3 of section 3.1, are expected, or have chosen, to ensure that they have internal valuation models for valuation of the loan portfolio.

As set out in section 2.2, internal valuation models are expected to be capable of providing best point estimates of the value, and value range, at the contract and portfolio level under different scenarios and assumptions. The model shall also be capable of updating values based on assumptions and adjustments from the valuer.

The model is expected to be capable of presenting an overview of the outcome of the valuation, including other relevant information, that enables the valuer to judge plausibility in assumptions and in the estimated values that have ensued from the valuation. Such an overview should at minimum contain, but not be limited to

1. an overview of the book value and the estimated economic value produced by the internal valuation model (best point estimate of the value and value range) for different portfolio components. For example, based on the loan-to-value ratio (LTV), probability of default (PD), original and current risk classification, interest rate, product type, collateral type, category of loans past due and, where relevant, geographical areas

2. expected future cash flows for individual loans or loan portfolios

3. expected future progression of key assumptions in the valuation, for example with regard to advance payments, weighted average interest rates, and relevant expenses associated with the loans (risk, funding, and administrative expenses)

4. an overview of all the assumptions that have been applied in the model under each scenario

5. outcomes of scenario and sensitivity analyses.

Institutions are also expected to be capable of providing model documentation and other relevant information that may be assumed to be required by a valuer. This may include, for example, information concerning

a) historical payment details
b) historical defaults for the portfolio
c) historical loss levels on defaulted exposures or recovery rates for non-performing exposures
d) collateral
e) forborne exposures.