EBA/CP/2018/07

22 May 2018

Consultation Paper

Draft Regulatory Technical Standards on the specification of the nature, severity and duration of an economic downturn in accordance with Articles 181(3)(a) and 182(4)(a) of Regulation (EU) No 575/2013

Contents

1. Responding to this consultation

The EBA invites comments on all proposals put forward in this paper and in particular on the specific questions summarised in 5.2.

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the views expressed/ rationale proposed; and
- describe any alternative regulatory choices the EBA should consider.

Submission of responses

To submit your comments, click on the 'send your comments' button on the consultation page by 22.06.2018. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by the EBA's Board of Appeal and the European Ombudsman.

Data protection

The protection of individuals with regard to the processing of personal data by the EBA is based on Regulation (EC) N° 45/2001 of the European Parliament and of the Council of 18 December 2000 as implemented by the EBA in its implementing rules adopted by its Management Board. Further information on data protection can be found under the Legal notice section of the EBA website.

2. Executive Summary

The Basel II framework requires that the loss given default ("LGD" hereafter) and conversion factor ("CF" hereafter) estimates should reflect downturn ("DT") conditions if these are more conservative than the long-run averages, which is implemented in EU law via Articles 181 (b) and 182 (b) of Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR). The identification of robust estimation methods for LGDs appropriate for such downturn conditions ("LGD DT") has proven challenging. In addition, different practices around downturn conditions and the usage of collateral information have been identified as potential drivers of divergence of RWA in EBAs Benchmarking Report (LDP Exercise in 2014) and EBAs Report on Comparability and Pro-cyclicality.

A precondition to limiting unjustified variability stemming from downturn LGD DT estimation is a common terminology regarding "economic downturn" conditions as referred to in the relevant CRR Articles. In this regard EBA has been mandated in Articles 181(3)(a) and 182(4)(a) to specify an economic downturn in terms of its nature, duration and severity.

There has been considerable controversy to what extent the specification of an economic downturn as required by the mandates can and should be disentangled from LGD and CF estimation appropriate for an economic downturn. Therefore EBA consulted on an approach which tackled to some extent both the specification of an economic downturn as well as some aspects of CF and LGD DT estimation. The complexity of the proposed approach was however pointed out already in the CP. Therefore the approach presented in this document aims at specifying the identification of an economic downturn independent of the applied LGD or CF estimation methodology. Guidance on how LGDs appropriate for an economic downturn (as specified by the RTS) should be estimated is provided in guidelines on downturn LGD estimation. These guidelines are consulted separately, but simultaneously with the approach for identification presented here.

The economic downturn according to these draft RTS is defined as a multidimensional object characterised by three aspects, namely its nature, severity and duration. In this regard, the nature of an economic downturn is specified via macroeconomic or credit-related factors ('economic factors') that are explanatory variables or indicators for the business cycle of the considered type of exposure. In particular, the nature of the economic downturn is defined as a set of relevant economic factors for a considered type of exposure. The severity of an economic downturn is specified via the most severe values observed over a given historical period on the relevant economic factors. As such the severity of an economic downturn is a set of severities containing one distinct severity for each relevant economic factor. Finally the duration of an economic downturn is specified via the concept of "downturn period(s)", i.e. as the period of time where the severities identified in accordance with Article 3 are observed on one or several significantly correlated economic factors. Therefore, the duration of an economic downturn is defined as a set of durations associated to each identified downturn period.

3. Background and rationale

Articles 181(1)(b) and 182(1)(b) of Regulation (EU) No 575/2013 (Capital Requirements Regulation) specify that institutions shall use LGD and conversion factor (CF) estimates that are appropriate for an economic downturn, if those are more conservative than the respective long-run average. In this regard, Article 181(3)(a) and Article 182(4)(a) of the CRR mandate the EBA to specify the nature, severity and duration of an economic downturn, appropriate for the downturn LGDs and downturn conversion factors estimated by institutions. According to the CRR mandates, these draft RTS specify the three characteristics of the economic downturn, namely its nature, severity and duration, but they do not cover the methods used by institutions to reflect these downturn conditions in downturn LGD and CF estimates. The methods to be used regarding the LGD parameters are consulted separately, but alongside this consultation, in Guidelines on downturn LGD estimation. Ultimately, these RTS and the Guidelines, which will be integrated into the Guidelines on PD, LGD estimation and treatment of defaulted assets (EBA/GL/2017/16) of 20/11/2017 (EBA GL on PD and LGD estimation), will provide an comprehensive approach to identification and incorporation of the downturn component into the IRB model.

The requirement for LGD and CF estimates to reflect economic downturn conditions was introduced in the Basel II framework and stems from the general economic model which is applied to derive the formula used in that framework to calculate capital requirements. In the Basel II framework, in fact, the capital charge for unexpected losses relies on the conditional expected loss, which again is based on a conservative value of a single systematic risk factor. This factor, representing the global business conditions, entails that the conditional expected loss corresponds to the level of expected losses in a situation of an economic downturn. The conditional expected loss is defined as the conditional PD multiplied by the conditional LGD and the conditional exposure at default ("EAD"). At the same time, while the regulatory formula includes a supervisory mapping function to derive conditional PDs from average PDs estimated by the institutions, it does not provide an explicit function that would transform average LGDs and EADs into conditional LGDs and EADs. Instead, it is only specified that "*banks are asked to report LGDs that reflect economic downturn conditions in circumstances where loss severities are expected to be higher during cyclical downturns than during typical business conditions*".

The proposed draft RTS focus on the current mandate, namely on the specification of an economic downturn in terms of nature, severity and duration, setting aside the assessment of the impact of an economic downturn on the losses of a specific portfolio or LGD estimation model or on conversion factors.

Figure 1 visualises the economic downturn as a multidimensional object defined by three aspects, namely its nature, severity and duration. The draft RTS specify an economic downturn with respect to the business cycle relevant for the considered type of exposure, therefore:

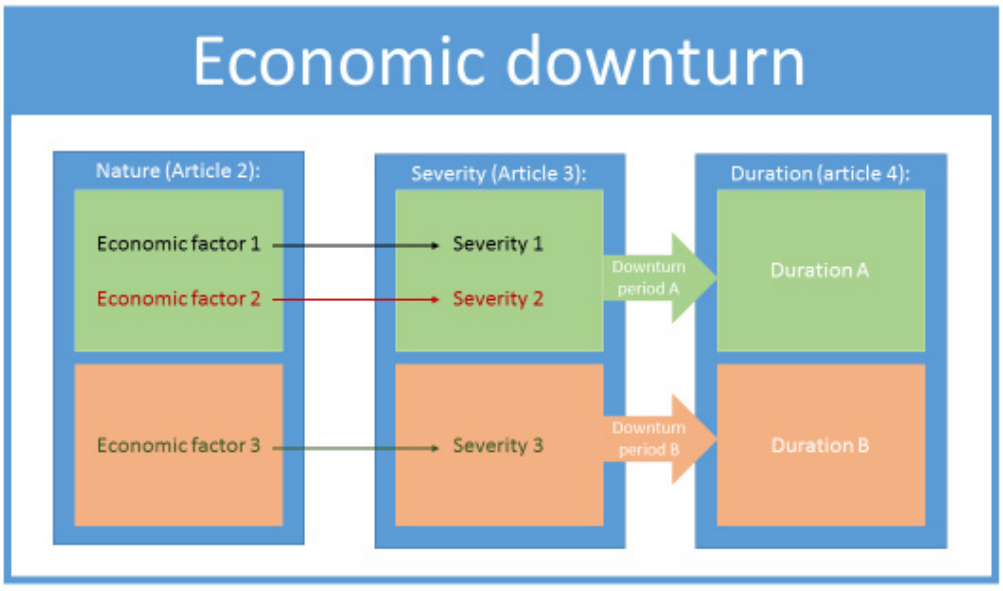
- The nature of an economic downturn is specified via the economic factors that are explanatory variables or indicators of the business cycle for the considered type of exposure. Therefore the nature of the economic downturn is defined as a set of relevant economic factors identified in accordance with Article 2;

- The severity of an economic downturn is specified via the most severe values observed on the relevant economic factors over a given historical period. In other words the severity of an economic downturn is identified as a set containing one distinct severity for each relevant economic factor;

- Finally, the duration of an economic downturn is specified via the concept of the "downturn period(s)". In this respect, the notion of "downturn period" is introduced in Article 1 as a period of time where the peaks or troughs, which relate to the most severe values in accordance with Article 3, of one or several economic factors, are observed.

According to the above concepts, a downturn period could include either one or several economic factors identified based on their associated severities. Put differently, a downturn period is characterised by a set of economic factors, where the most severe values are reached simultaneously or are the effect of one overall economic condition. It should be noted, that according to this, the duration of a downturn period refers to the period, where the downturn conditions are observed on the related relevant economic factors. It should also be stressed, that the approach is independent of the institutions loss experience and therefore a downturn period should not be confused with the period where the impact of a downturn period can be observed on an institution's loss data.

Figure 1: Economic downturn



The notion of a downturn period, nature, severity and duration is further explained and illustrated in the below sections related to Article 1, 2, 3 and 4 respectively.

Article 1: General

Article 1 sets out the structure of the RTS by pointing to the relevant articles where the nature, severity and duration of an economic downturn are specified. In particular in point (c) of paragraph 1, the concept of downturn period is introduced as a period of time where the peaks/troughs of one or several relevant economic factors are reached simultaneously or respectively where they are not reached simultaneously, but are nonetheless the effect of one single economic condition. Moreover Article 1 specifies in paragraphs (2) and (3) the main characteristics of an economic downturn according to the proposed draft RTS:

- Paragraph 2 provides the level of application at which an economic downturn should be specified. The proposed policy requires that an appropriate economic downturn is identified for each type of exposures as defined in Article 142 (2) of the CRR. Such an approach ensures alignment with the level of application of a rating system.
- Paragraph 3 sets out the conditions under which the same economic downturn may be considered for different jurisdictions: namely, where those jurisdictions are characterised by strong co-movements in economic factors.

The concept of a “downturn period” is relevant for the identification of the duration of an economic downturn. The latter in fact comprises a set of durations, one for each downturn period. Moreover, as explained above, the concept of several downturn periods constituting one economic downturn to be considered for the purpose estimating LGDs and CFs appropriate for an economic downturn reflects that different economic factors may show their peaks/troughs in different periods of time and these periods of time may reveal different impacts on an institution’s loss data depending on their underwriting, collateralisation and workout processes.

In this respect, the design of the economic downturn to be considered for the purpose of CF and LGD DT estimates may consist of either:

- One downturn period: where the peaks or troughs related to the severities of the relevant economic factors are reached simultaneously or are clearly related to the same overall economic condition; or

- Several downturn periods: if the peaks/troughs of the relevant economic factors are observed in different time periods and are not related to the same overall economic condition. In the latter case (i.e. more than one downturn period), the GL on downturn LGD estimation clarify how to reflect the multiple downturn periods in LGD downturn estimation.

Article 2: Nature of an economic downturn

Article 2 of the revised draft RTS specifies a list of economic factors which are relevant for the purpose of specifying the nature of an economic downturn for a considered type of exposure. The revised

drafting clarifies (i) that all of the economic factors listed in Article 2 (1) shall be considered relevant and (ii) that these economic factors should be customised to the considered type of exposures. This implies that GDP and unemployment rates of the jurisdiction(s) covered by the considered portfolio shall be considered relevant for the specification of an economic downturn.

The economic factors can however be customised further to the considered portfolio. An institution could, for example, consider the geographical or sectorial distributions of the considered portfolio and choose GDP for the main geographical areas covered and sectorial indices for the main sectors covered. This can for instance be done by an institution that provides credits of the considered type of exposure by considering regional GDP data series, if available, to take into account that there could be different downturn periods in different national regions. In this respect it is worth noting that according to the draft GL on downturn LGD estimation, the set of relevant economic factors for the whole type of exposure may contain factors which will only have an impact on an institution's loss data for a considered subset (say one region) but not in other subsets. Another example of customising would be if the main sectors covered by a considered rating system for corporate exposures are agriculture and tourism. In this example the sectorial indices for agriculture and tourism would be the relevant economic factors according to Article 2(1)(b)(i).

The list in Article 2(1) specifies which economic factors shall be considered relevant for the purpose of identifying the nature of the economic downturn of a considered portfolio. Article 2(2) requires the economic factors to be considered in levels or in changes of levels where more appropriate. Article 2(3) provides guidance regarding the customisation, namely that the economic factors shall reflect the geographical and sectorial distribution of the considered exposures as outlined in the examples above. The rationale for this customisation is to ensure that the most appropriate economic factor is considered. However, as the list in Article 2(1) may not contain all relevant economic factors for the business cycle related to the considered type of exposure, Article 2(4) requires institutions to consider additional economic factors, beyond what exists in the mandatory list, that are relevant drivers of the business cycle for the considered type of exposure. As a general example, interest rates could be considered as additional relevant economic factors.

Article 3: Severity of an economic downturn

For the purpose of specifying the severity of an economic downturn, institutions are requested to select the most severe observation for each of the relevant economic factors based on historical values observed over the last 20 years. Therefore the severity of an economic downturn is a set of severities containing one severity for each relevant economic factor identified according to Article 2. In order to avoid an overly mechanistic approach, the RTS also specifies conditions under which the severity identified, using the last 20 years, would not be considered sufficiently severe. In these cases, institutions are required to use longer periods of the respective economic factors. This approach avoids the situation where, e.g. a resulting LGD downturn estimation would significantly change as a result of a recalibration conducted at a point in time, where a previously detected downturn would drop out of the 20 years period sliding time window. Moreover, it covers the situation, where no significant variation of values can be observed within the last 20 years, as it may be the case in individual jurisdictions, which have not experienced any significant downturn conditions. For the

purpose of harmonisation, observations of relevant economic factors relate to a 12 month period in this draft RTS.

Regarding the length of the time series, looking only at 10 years of data history, i.e. approximately one economic cycle, might not be sufficient to capture the severity of an economic downturn. For the sake of simplicity and comparability a uniform backward looking period of 20 years is therefore considered in the RTS.

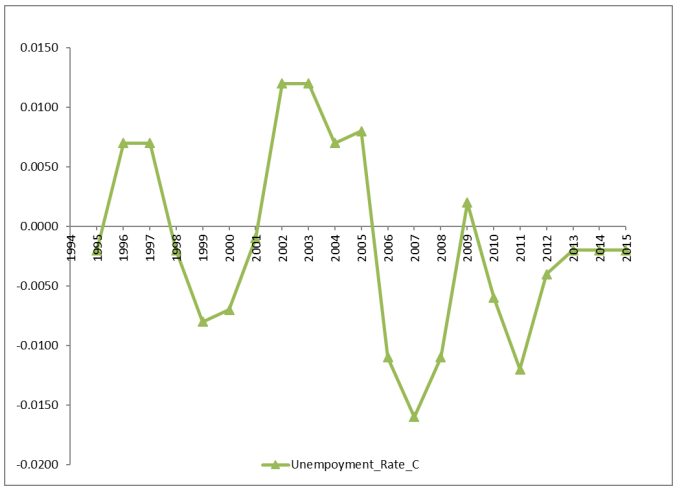
In summary, severity corresponds to the worst 12-months average for the relevant economic factor under consideration. Paragraph 2 of Article 3 clarifies that for identifying the worst 12-month average value of the economic factor, the 12-months period can start at any point in time within the identification period, where the historical data for the considered economic factor is available at a higher frequency than annual.

Article 4: Duration of an economic downturn

Article 4 of the draft RTS refers to the duration of an economic downturn. As such, the duration of an economic downturn is a set of durations, one for each identified downturn period.

If the downturn period only relates to one economic factor, the duration will be the 12-month period, where the considered economic factor shows its severity. However, where this severity is observed over a period longer than 12-months (i.e. the economic factor does not significantly move or fluctuate from its most severe 12-months observation), the duration of this downturn period, relating only to one economic factor, may last longer. Figure 2 below displays an example where the duration of a downturn period comprising unemployment rate as the unique economic factor is longer than 12 months due to prolonged severe conditions on unemployment rate. As Figure 2 shows unemployment rate peak, i.e. the severity of unemployment rate is observed, during both 2002 and 2003. In this case, the duration of the downturn period should be two years.

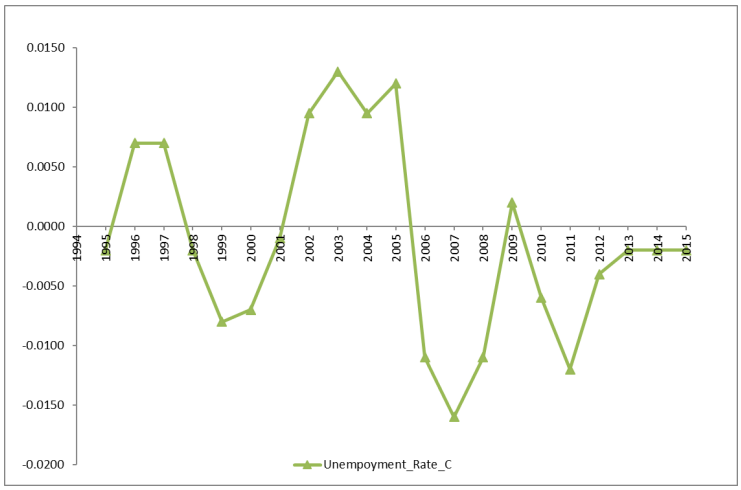
Figure 2: Duration longer than 12-months due to prolonged severity observed on one economic factor, Article 4(2)(a)



A longer duration could be also considered for a downturn period defined according to one economic factor, according to Article 4(2)(c), where the peak and trough related to the severity of that economic

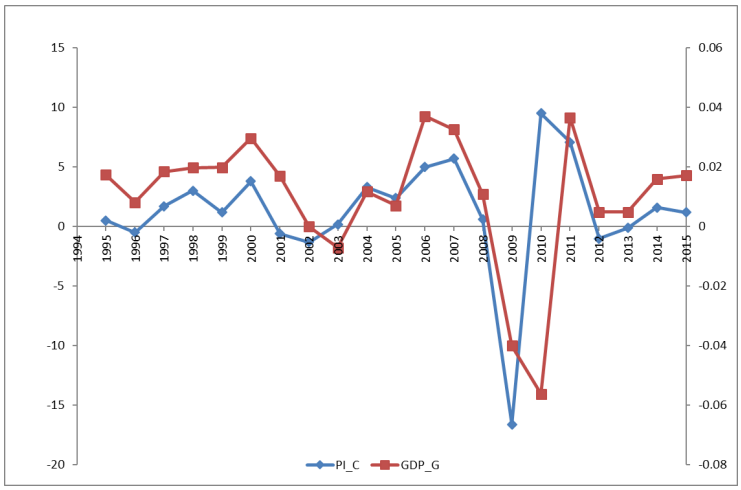
factor shows adjacent peaks and troughs related to the same economic conditions. Figure 3 below plots again a hypothetical time series for the unemployment rate. The severity of the unemployment rate is defined according to the worst 12-months observation that according to the figure below is 2003. Unemployment rate shows an adjacent peak in 2005 which could be related to the peak in 2003, where it is the result of the same economic conditions, leading to a duration of the downturn period of 3-years (2003-2005).

Figure 3: Duration longer than 12-months due to on one economic factor with adjacent peak/trough related to its severity, Article 4(2)(c)



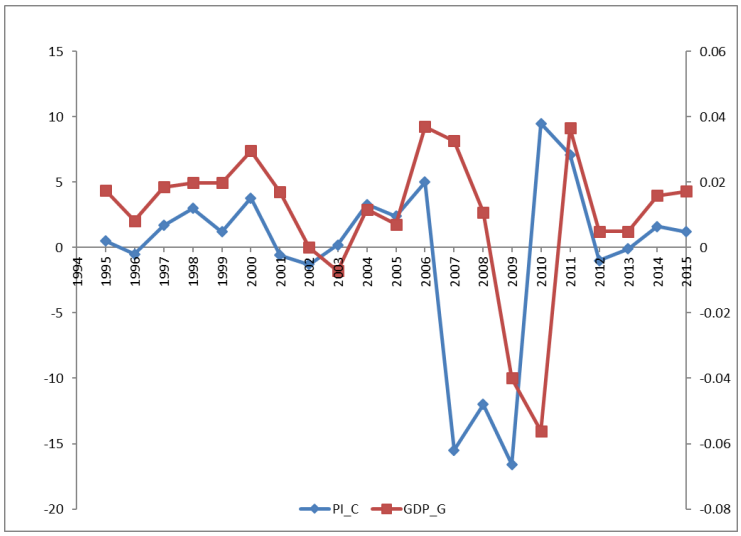
A downturn period comprises different economic factors and where therefore the peaks or troughs related to the severity of each relevant economic factor, as specified according to Article 3, it may not be reached simultaneously. However, if it is the effect of one overall economic condition, the duration of the downturn period related to these economic factors should be long enough to reflect the extended downturn situation. As an example, consider the time series for GDP growth and productivity index displayed in Figure 4 below. According to Article 4(2)(b) the set of economic factors pointing to the same overall economic condition should be assigned the same downturn duration, even if the respective severities are not reached simultaneously. In this example then an institution should analyse whether the trough in 2009 for GDP growth and the trough in 2010 for the productivity index relate to the same overall economic condition and if so reflect this by identifying the duration as starting from 2009 and lasting until 2010.

Figure 4: Duration longer than 12-months due to correlated severities of different economic factors, *Article 4(2)(b)*



It should be noted that there could be cases where both point (b) and (c) of Article 4(2) apply. Figure 5 below shows an example where GDP growth and production index have correlated severities, as in the example of Figure 4 above, and moreover the production index shows a trough in 2007 adjacent to the trough defining its severity in 2009, which is the result of the same overall economic condition. In this case institutions shall consider a duration for the downturn period comprising both economic factors which last from 2007 until 2010 (where we observe the rough for GDP growth defining its severity).

Figure 5; duration longer than 12-months due to both correlated severity of different economic factors and adjacent peaks/troughs of one economic factor, Article 4(2)(b) and (c)



Generally, no durations shorter than 12-months should be considered for the purpose of a more stable and harmonised notion of downturn (as economic factors that are only available on a yearly basis need to be comparable to economic factors available at a higher frequency). As well the possibilities to deviate from 12-months duration of a downturn period, as laid down in points (a), (b) and (c) of Article 4(2), should not lead to unreasonably long downturn periods, which would probably rather reflect structural changes than adverse conditions in cyclical behaviours of the considered economic

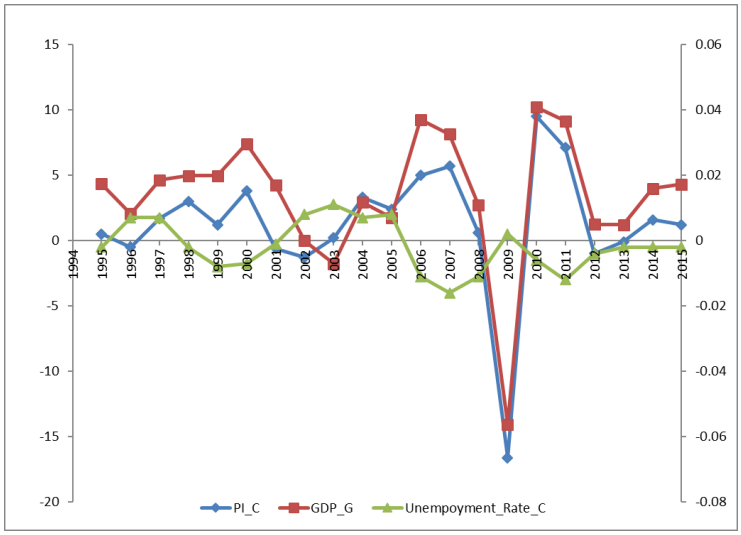
factors. There should be no concern that longer downturn periods could lead to the inclusion of numerous non-downturn observations into the LGD downturn estimate and thus lower it, as under the proposed approach in the GL on downturn LGD estimation the duration of an economic downturn, only defines[1] the period where the impact of a downturn period has to be analysed. The proposed policy in the draft GL on downturn LGD estimation requires institutions to consider yearly loss data and therefore longer downturn-periods will rather increase the probability that evidence of an impact is found.

Identification of an economic downturn: Examples

In order to better clarify the general concept, the economic downturn is specified for a couple of examples below.

In order to determine the economic downturn for an individual portfolio according to the specification put forward in these draft RTS in a first step an institution would need to select the relevant economic factors. As an example, consider a corporates portfolio mainly covering production-related business located in jurisdiction "A". According to Article 2, an institution would consider at least the GDP and the unemployment rate of "A" as relevant economic factors, as well as the productivity index for the production industry (assuming that externally provided default rates and credit losses are not available) for the purpose of specifying the nature of an economic downturn. In this example, the economic factors are considered in terms of changes, i.e. the GDP growth, the changes in unemployment rate and the changes in the considered productivity index.

Figure 6: Economic factors for a portfolio of corporate exposures mainly covering production related businesses



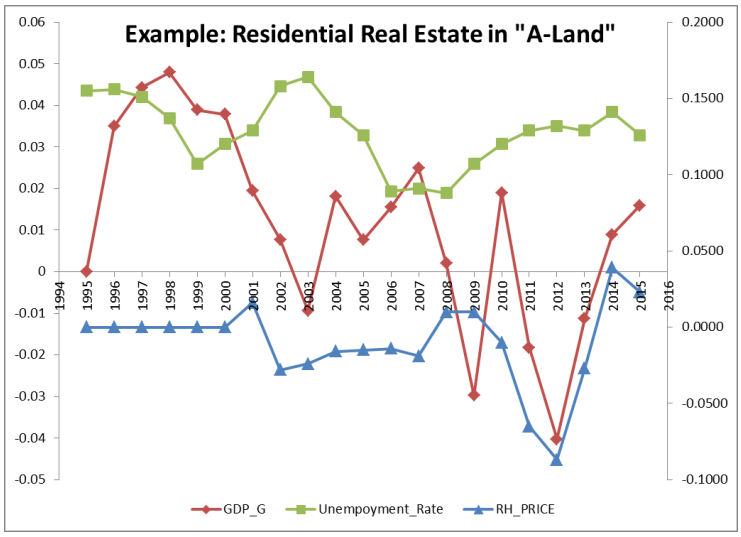
In a second step the institution would need to select the most severe observation in at least 20 years for each economic factor, which would result in 2009 for the productivity index and the GDP and in 2003 for the unemployment rate. Therefore, the final economic downturn to be considered for the purpose of LGD estimation would consist of two downturn periods: the first one in 2009 is characterized by the productivity index and the GDP – each carrying as severity its levels of 2009 and

[1] More precisely, it is only an indication since institutions have to analyse the effect of time lags.

the second one in 2003, where the highest level in the unemployment rate has been observed. The duration of the economic downturn is defined as the set of durations of the two downturn periods identified with respect to the economic factors under considerations: a duration of 12-months, in 2009, for the downturn period comprising the trough of GDP growth and productivity index as well as a duration of 12 month, in 2003, for the downturn period characterised by the peak in unemployment rate..

The rationale to specify an economic downturn as potentially comprising two or more downturn periods is that even for two portfolios relating to the same underlying business (e.g. retail real estate financing), the impact of a downturn period on an institution's loss data (in scope in the GL on downturn LGD estimation) may be different depending among others on the contract design, collateralisation and the institution's work out procedures.

This difference is best illustrated by considering an example with two different banks – Bank A and Bank B. Bank A has a very high rate of credits that revert to non-defaulted status because of low LTVs and high penalty fees or interest rates for exposures in default. At the same time, bank B has a low rate of credits that revert to non-defaulted status because of early contract termination and collection procedures. In this example, it is reasonable to assume that bank A may observe an impact from a high unemployment rate on its rate of return to non-defaulted status, as those obligors that defaulted due to unemployment may remain in default longer than under average economic conditions. For bank B such impact would be less probable due to the early termination policy. To further explore this example, according to these draft RTS the banks would identify two downturn periods for the considered types of exposures, namely 2003 (where the unemployment rate peaks) and 2012 (where GDP_G and house price indices show troughs):



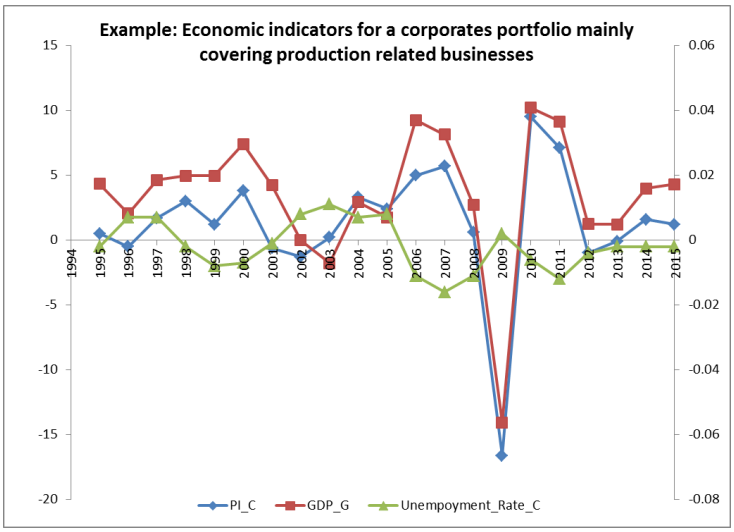
As illustrated along the example above, it is likely that the economic downturn to be considered in LGD downturn estimation may comprise of more than one downturn period. Furthermore, for comparable portfolios relating to the same underlying business an impact from one downturn period may be visible for one bank or even sub portfolio but not for another one (and vice versa). The

proposed draft RTS harmonises the economic factors that institutions need to consider for a given type of exposure as well as the duration and severity related to these economic factors.

The analysis of how the downturn periods of the identified economic downturn impact the loss data of an individual portfolio will, as previously noted, be treated separately in the GL on downturn LGD estimation. It is however useful to understand the interaction with the envisaged process of LGD downturn estimation and shows which part of this process is covered by these draft RTS and which part is covered by the GL on LGD downturn estimation. The following illustration provides this overview:

Covered by the **draft RTS on economic downturn**

Step 1: Identification of relevant **economic factors** and their **severities**



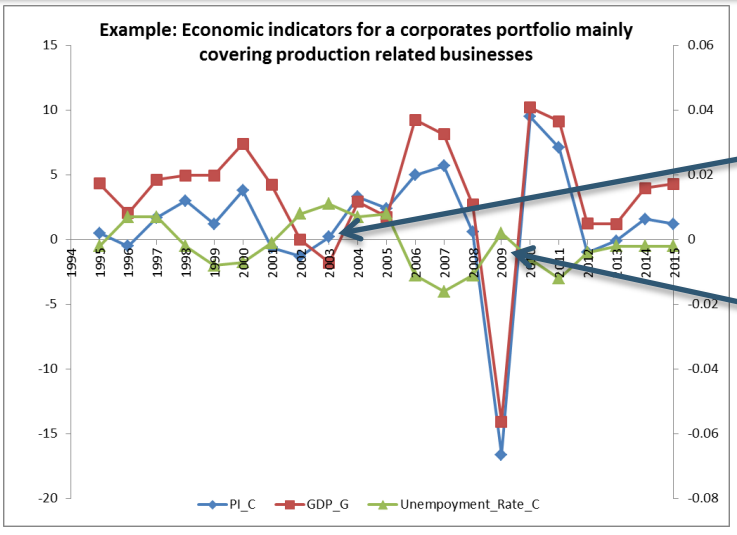
According to Article 2 for all types of exposure:

GDP: Trough 2009
Unemployment rate: Peak 2003

For a portfolio of corporate exposures: Productivity Index Trough 2009

Covered by the **draft RTS on economic downturn**

Step 2: Identification of **downturn periods** and their **duration**



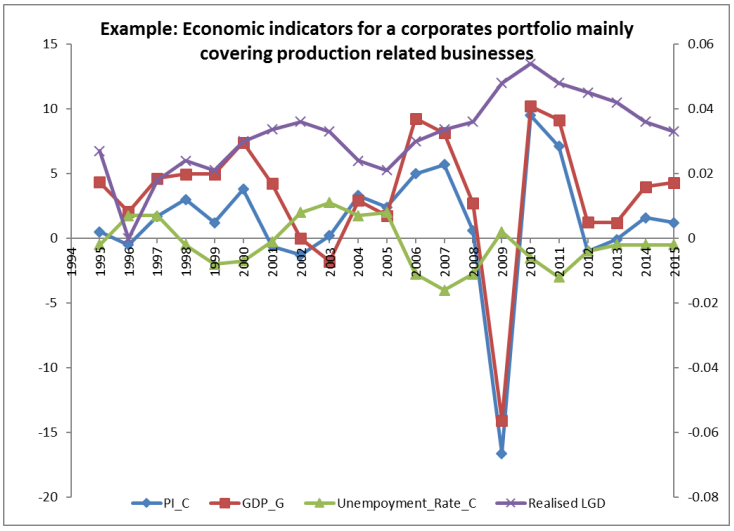
According to Article 1 and 4:

Downturn Period A (Unemployment rate): Peak 2003

Downturn Period B (GDP, PI): Trough 2009

Covered by the **GL on LGD downturn estimation**

Step 3: **Analysis of the impact** of all identified downturn periods on an institutions relevant loss data



GL on LGD downturn estimation:

Impact analysis: No impact on realised LGDs for the downturn period in 2003

Significant impact on realised LGD with one year lag for downturn period in 2009.

Step 4: Estimation of **LGD appropriate for an economic downturn**

Example: The final LGD downturn estimates relate to the downturn period identified in 2009 and are based on the observed impact of that downturn period on realised LGDs per vintage of defaults (however the impact materialised only with a one year time lag) as well as on the observed impact on rates of return to non-defaulted status, annual recoveries and time-in-default.

The rationale for disentangling the specification of an economic downturn from the requirements on LGD downturn estimation is that in this way the RTS provide a well-defined and common specification of the nature, duration and severity of an economic downturn for portfolios relating to comparable types of exposure. The impact of the harmonized identification of the economic downturn on an institution's relevant loss data may however be very specific. It may in particular depend on the following, non-exhaustive elements: 1) on the institution-specific contract design, 2) collateralisation policies and work out procedures and 3) the general measures taken by an institution in order to limit the impact of an economic downturn on its business. Whereas these differences do not influence the identification of an economic downturn, they are expected to influence the realised LGD or relevant drivers of the realised LGD and, in turn, the considerations institutions are expected to account for when assessing the appropriateness of their LGD estimates with respect to the identified economic downturn.

This approach deviates from the proposed draft RTS presented in the consultation paper [CP/EBA/2017/02], which tackled to some extent both the specification of an economic downturn as

well as some aspects of LGD estimation methodologies appropriate for an economic downturn. The approach presented in the draft RTS of the CP reflected an economic factors approach, where the downturn is driven by macroeconomic and credit-related factors ("economic factors"). The approach required specific analysis in order to identify the economic factors appropriate for the considered portfolio and LGD estimation method (e.g. analysis of the dependency of economic factors with specific features of realised LGDs and CFs i.e. 'model components'). The proposed approach in the CP aimed at retaining risk sensitivity, while ruling out variability stemming from different approaches to identify the relevant economic downturn conditions, but at the cost of high complexity. The approach presented in this draft RTS, avoid this complexity and provide a clear and common specification of an economic downturn in terms of its nature, duration and severity.

4. [Draft regulatory technical standards on the specification of the nature, severity and duration of an economic downturn in accordance with Articles 181(3)(a) and 182(4)(a) of Regulation (EU) No 575/2013]

EUROPEAN COMMISSION

Brussels, XXX
[…](2012) XXX draft

COMMISSION DELEGATED REGULATION (EU) No …/..

of XXX

[…]

Supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 with regard to regulatory technical standards on the specification of the nature, severity and duration of an economic downturn in accordance with Articles 181(3)(a) and 182(4)(a) of Regulation (EU) No 575/2013

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012[2], and in particular the third subparagraph of Article 181(3) in relation to point (a) and the third subparagraph of Article 182(4) in relation to point (a) thereof,

Whereas:

(1) According to Articles 153 and 154 of Regulation (EU) No 575/2013 own funds requirements are designed to cover losses in the 99,9% of the realisations of the systemic variability factor. In order to reach a 99,9% quantile of the loss distribution for the case where LGD is a random variable sensitive to economic conditions, the LGDs used as inputs in the regulatory risk weight ("RW") formulae are required to be the own-LGDs estimated appropriately for an economic downturn if those are

[2] OJ L 176, 27.06.2013, p. 1.

more conservative than the long-run average, as stated in Article 181(1)(b) of Regulation (EU) No 575/2013. When own-LGD estimates exhibit volatily through time, a downturn effect on own-LGD estimates may then be observed in periods where probabilities of default ("PDs") are high. However, a period of higher dependency between PD and LGD is not necessarily the only factor indicatorof an economic downturn. Any relevant economic factor linked in some way to the own-LGD estimates may be used to identify an economic downturn impacting own-LGD estimates, and therefore the specification of the economic downturn should be based on economic factors, including both macroeoncomic and credit-related. The same requirements apply, for the same reasons, to own-conversion factor estimates, that institutions are required to apply in accordance with Article 182(1)(b) of Regulation (EU) No 575/2013.

(2) Even though the level of realised LGDs and realised conversion factors ("CFs") may be substantially above its long-run average as a result of an economic downturn, an economic downturn should not be considered as the equivalent of stress-testing conditions, which may be more severe and potentially use extreme scenarios, which are not necessarily based on historical observations. Regulation (EU) No 575/2013 and the delegated acts that complete it, adequately provide for the carrying out of stress testing where this is required, and does not include any indication for stress-testing in the provisions relating to own-LGD and own-CF estimates.

(3) Given the specificities of different portfolios, the economic downturn should be examined separately for each type of exposures covered by own-LGD estimates or own-CF estimates. As a result, only where an institution can demonstrate that different jurisdictions exhibit strong co-movements in realised macroeconomic or credit-related factors, the institution should be allowed to group those jurisdictions for the purpose of defining the economic downturn.

(4) The economic downturn specified according to this Regulation may comprise one or several disjunctive downturn periods, each of which carries its own distinct duration. A downturn period is characterised by a set of macroeconomic or credit-related factors, each of which carries a downturn severity as defined by Article 3 and where the peaks and troughs related to these severities are reached simultaneously or where they are not reached simultaneously, they are nonetheless significantly correlated.

(5) In order to define the nature of this economic downturn in a manner that allows for an accurate but also simple implementation, an economic downturn should first be understood in respective of at least one economic factor. As a result, it is necessary to establish a list of economic factors which should be considered at all times and which should be complemented by institutions with additional identified relevant economic factors for each given type of exposures.

(6) For the purpose of specifying the severity of the economic downturn as a set of severities associated to each relevant economic factor, and for the sake of simplicity and comparability, it is appropriate to establish a minimum length of 20 years of observations for each economic factor to be used by institutions. Moreover, it is

appropriate to consider that the most severe observation, either the highest or lowest value depending on the economic factor under consideration, relating to a 12-months period during the minimum length as referred to above, should account for the appropriate level of severity. This should ensure that the length of the backward looking period covers at least two economic cycles. Where these data do not account for a sufficiently severe downturn, institutions should look further back into the data history. An exception is foreseen for cases where the considered economic factor has been subject to a structural change due to a country's process of entry into the European Union, where institutions could use a shorter period.

(7) The duration of a downturn period is driven by the realisation of economic factor(s). For the purpose of simplicity and comparability at least a 12-months duration for each downturn period should be considered and for reasons of flexibility that is necessary to ensure accuracy in the results, this period of time should be treated as a minimum, and institutions should apply a longer duration where the most severe values related to the economic factors belonging to the downturn period under consideration imply a continued downturn condition. The duration of a downturn period should, however, reflect adverse conditions in cyclical behaviours of the considered economic factors and should not be confused with structural changes.

(8) The provisions in this Regulation all deal with the nature, severity and duration of an economic downturn that affects the two parameters of the IRB approach, namely own-LGD and own-CF estimates. To ensure coherence between those provisions, which should enter into force at the same time, and to facilitate a comprehensive view and compact access to them by persons subject to those obligations, it is desirable to include both of the regulatory technical standards required by Regulation (EU) No 575/2013 in a single Regulation.

(9) This regulation is based on the draft regulatory technical standards submitted by the European Banking Authority to the Commission.

(10) The European Banking Authority has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits, in accordance with Article 10 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council3, and requested the opinion of the Banking Stakeholder Group established in accordance with Article 37 of Regulation No 1093/2010,

HAS ADOPTED THIS REGULATION:

[3] Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2010, p. 12).

Article 1

General

1. In order to determine own-LGD estimates that are appropriate for an economic downturn, in accordance with point (b) of Article 181(1) of Regulation (EU) No 575/2013, and in order to determine own-CF estimates that are appropriate for an economic downturn, in accordance with point (b) of Article 182(1) of that Regulation, institutions shall apply all of the following:

   (a) they shall identify the nature of the economic downturn by considering relevant economic factors, including both macroeconomic and credit-related factors, in accordance with Article 2;

   (b) they shall identify the severity of the economic downturn by considering the most severe value relating to a 12-month period for each of the relevant economic factor referred to in point (a), in accordance with Article 3;

   (c) they shall identify the duration of the economic downturn as a set of durations, consisting of one duration for each downturn period in accordance with Article 4. Institutions shall specify, for this purpose, an economic downturn that comprises one or several distinct downturn periods, taking into account all of the following:

      i. a downturn period shall be the period in which a relevant economic factor, as referred to in point (a), reaches its most severe value, as referred to in point (b).

      ii. where different economic factors are significantly correlated and where therefore their peaks or troughs, which relate to the most severe values in accordance with Article 3, are reached simultaneously or shortly after each other, the downturn period relating to these economic factors shall be the period covering these peaks and troughs.

2. Institutions shall specify the economic downturn for each type of exposures as defined in point 2 of Article 142(2) of Regulation (EU) No 575/2013.

3. Institutions may specify the same economic downturn for different jurisdictions, only where those jurisdictions are characterised by strong co-movements in the economic factors.

Article 2

Nature of an economic downturn

1. Institutions shall identify the nature of an economic downturn by considering the following economic factors as relevant:

   (a) for all exposures:

i. gross domestic product ("GDP");

ii. unemployment rate;

iii. externally provided aggregate default rates, where available;

iv. externally provided aggregate credit losses, where available;

(b) in addition to the factors referred to in point (a), for specific exposures:

i. for exposures to corporates and retail SMEs: sector or industry-specific indices;

ii. for residential real estate exposures to corporates and retail obligors: house prices or house price indices;

iii. for commercial or industrial real estate exposures: commercial real estate prices or indices and rental indices;

iv. for retail exposures other than falling under i., ii. or iii.: total household debt and disposable personal income where available;

v. for specialised lending exposures where:

- real estate: real estate prices or indices, rental prices or indices, residential, commercial or industrial indices depending on the situation;

- project finance: prices of the underlying products supplied;

- object finance: indices for different collaterals;

- commodity finance: commodity prices or indices.

vi. for exposures to institutions: financial credit indices.

vii. for equity exposures: stock indices.

2. The economic factors referred to in paragraph 1 shall be considered in levels or in changes of these levels, where more appropriate.

3. The economic factors shall be customised to the relevant geographical areas and sectors covered by the considered type of exposures. Where there is strong co-movement of specific economic factors across different geographical areas or across different sectors, a common economic factor may be considered.

4. Institutions shall consider additional economic factors as relevant, where these are explanatory variables for the economic cycle specific for the considered type of exposures and they are not included in the list referred to in paragraph 1.

Article 3

Severity of an economic downturn

1. Institutions shall identify the severity of an economic downturn as a set of severities consisting of one severity for each relevant economic factor identified in accordance with Article 2. The severity of an economic factor shall be the most severe value relating to a 12-month period observed on the historical values of this economic factor for a minimum period that shall be one of the following:

   (a) the preceding twenty years

   (b) a minimum period shorter than the one referred to in point (a), where the considered relevant economic factor has been subject to a significant change due to the corresponding country's process of entry into the European Union;

   (c) where the values observed for a considered economic factor in the minimum period referred to in point (a) are not sufficiently severe, longer than the preceding twenty years referred to in point (a).

2. For the purposes of paragraph 1, where the historical data for the considered economic factor is available at a higher frequency than annual, the 12-months period may start at any point in time available within the minimum period defined in paragraph 1(a),(b) and (c).

3. For the purposes of point (c) of paragraph 1, the severity of economic factors observed in historical data shall be considered to be not sufficiently severe where the historical variability of the economic factors over the time period analysed is not representative of the likely range of variability of those factors for the future.

Article 4

Duration of economic downturn

1. Institutions shall apply a 12-months duration for each downturn period specified in accordance to Article 1(c). This 12-months period shall be either of the following:

   (a) the calendar year where the severity in accordance with Article 3 is observed on the relevant economic factors selected in accordance with Article 2 and associated to the considered downturn period;

   (b) the 12 month period where the severity in accordance with Article 3 (2) is observed on the relevant economic factors selected in accordance with Article 2 and associated to the considered downturn period;

2. By way of derogation from paragraph 1, institutions shall apply a duration longer than 12-months, where the relevant economic factors associated to the considered downturn period are available, in any of the following cases:

(a) where the historical data shows that the economic factors associated to the considered downturn period do not significantly deviate from their severities as specified in Article 3 in a period longer than 12-month;

(b) the peaks or troughs of different economic factors are not reached simultaneously but they are nonetheless significantly correlated and as such they belong to the same downturn period in accordance with Article 1(c). In such cases, the duration related to these economic factors shall be long enough to cover all the peaks and troughs related to the most severe values in accordance with Article 3 of each of the economic factors belonging to the considered downturn period;

(c) the peaks or troughs related to the most severe value specified in accordance with Article 3 of one economic factor shows adjacent peaks or troughs related to the same overall economic condition.

Article 5

Final provision

This Regulation shall enter into force on the 31st of December 2019.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President

On behalf of the President

[Position]

Question for the consultation

Q1: Do you have any concerns around the workability of the new approach (e.g. data availability issues, burden on the analysis, split between the definition of the economic downturn and its impact on the internal loss data)?

Q2: Do you see any issues of applicability of this RTS for estimating conversion factors appropriate for an economic downturn identified in accordance with this RTS?

5. Accompanying documents

Feedback on the public consultation and on the opinion of the BSG

5.1 Draft cost-benefit analysis / impact assessment

The impact Assessment (IA) analyses the potential related costs and benefits of the policy provided in the draft RTS. This analysis shall provide the reader with an overview of the findings as regards the problem identification, the options identified to remove the problem and their potential impacts.

A. Problem identification

The primary problem that the current RTS aim to address is the lack of common institutions and supervisory practices regarding the definition of downturn economic conditions for the purpose of the estimation of downturn LGD and CF. All issues that have been considered while developing this RTS and the GL on LGD downturn estimation refer to the identification and/or limitation of drivers of unjustified RWA variability.

B. Policy objectives

The RTS aim to define common criteria in the major policy fields including:

- General approach to identify economic downturn conditions (article 1)
- Nature of an economic downturn (article 2)
- Severity of an economic downturn (article 3)
- Duration of an economic downturn (article 4)

C. Baseline scenario

The work on the harmonisation of the estimation of the risk parameters has been completed in 2017 through guidelines[4] which were based on a survey on the main practices of modelling. In this context, the report on the IRB practices[5] published in 2017 also highlights the wide variety of practices in term of identification of the downturn period.

[4] https://www.eba.europa.eu/regulation-and-policy/model-validation/guidelines-on-pd-lgd-estimation-and-treatment-of-defaulted-assets

[5] https://www.eba.europa.eu/documents/10180/1720738/EBA+Report+on+IRB+modelling+practices.pdf/0212ecde-426d-4e18-84f8-04b036dcce00

Findings from the IRB survey on the variety of methodologies

Table 57: How is a downturn period defined?

	No.	%	% EAD
Based on historical macroeconomic and credit factors	95	47	41
The year(s) with the highest observed realised LGD	34	17	15
The year(s) with the highest observed DR	17	8	12
Based on macroeconomic and credit factors, both historical and forward-looking	16	8	6
Expert judgement	6	3	2
Not applicable (downturn adjustment is not necessary because downturn is already reflected in the data)	6	3	3
Based on supervisory guidance	5	2	4
Based on a correlation analysis between PD and LGD	4	2	1
Not applicable (downturn is not reflected in the estimates)	3	1	1
Other	16	8	15
Total	202	100	100

230. Table 57 shows how institutions define downturn periods across all LGD models. In 47% of all LGD models, the downturn period is defined on the basis of historical macroeconomic and credit factors, and in an additional 8% of LGD models the downturn is defined based on a combination of historical and forward-looking macroeconomic and credit factors. Several respondents specified which credit factors are used: based on the years/months with the highest litigation rates, based on the years/months with the highest loss rates (some banks mention that they calculate these as the multiplication of observed DRs and observed LGDs), or based on insolvency rates. Some of the macroeconomic factors are time series of real estate prices, interest rates, GDP and unemployment rates.

231. In 8.5% of LGD models, the downturn period is defined based on the year(s) with the highest DR. This approach is somewhat similar to that based on macroeconomic and credit factors, where the period is defined based on loss rates.

232. Several other respondents (16.83%) indicated that the downturn period is defined on the basis of the year(s) with the highest observed realised LGD. A few institutions also mentioned that they then selected defaults to obtain an annual average realised LGD: by vintage on a three-year window, or in accordance with the complete recovery processes.

233. In almost 3% of models, the downturn adjustment is reflected based on supervisory guidance given by the competent authority (in one case, it was mentioned that a stressed scenario is applied to the loan-to-value risk driver and the discount factor).

234. The answer 'not applicable (downturn adjustment is not necessary because downturn is already reflected in the data)' was chosen in a few cases, for instance for sovereign exposures, where it was argued that loss data always stem from downturn periods; for municipalities, where it was mentioned that a downturn adjustment is not applicable; and for a shipping portfolio and a portfolio of insurance

products, where it was mentioned that this segment has no risk of lower recovery rate during downturn periods.

235. Around 8% of responses could not be grouped in a specific category and are therefore represented in the category 'other'. While not all comments were entirely clear, the following methods were mentioned: selecting the most conservative periods for each model component over time; using the distance from each annual LGD from the long-run average; using the volatility of loss rates over a seven-year period; and selecting the worst month-on-month recoveries observed during the 2009 recession. In several cases, the approach is a combination of several aspects. In one model, for instance, it was mentioned that the downturn period was defined as the period with the maximum LGD selected from a PIT LGD with buffer, long-run LGD (default-weighted average across five years), and stressed default LGD (highest LGD at time when default peaked, +/- 9 months).

236. In four models, the downturn period is defined based on a correlation analysis between PD and LGD estimates. The principle of downturn is seen as the correlation between PD and LGD, which is lacking in the regulatory formula, as the unexpected aspect is only taken through the PD. Therefore a stressed LGD was computed based on the correlation notion between PD and LGD (Tasche approach).

D. Options considered

This section presents the assessment of the technical options considered in the development of the draft RTS. Under each option, the potential advantages and disadvantages of the options together with potential costs and benefits are discussed. Many options were already presented in the previous Consultation Paper (CP); this section therefore also refers to relevant passages in the CP and focuses on changes in the analysis. Most of the time, these changes are a direct consequence of the better split between the identification of the economic downturn (in the RTS) and the estimation of downturn LGD (in the GL) introduced in the new package.

General approach and nature of an economic downturn (article 2)

The conclusion of costs-benefits analysis on the general approach presented in the CP[6] remains broadly the same on the need to refer an economic factors: notwithstanding the simplicity and the high level of harmonisation implicit in a direct estimation of downturn LGD and CFs using internal realised credit losses/drawings (option 1) the economic factor approach is deemed necessary under data availability and consistency with CRR considerations.

However, the notion of the relevance of an economic factor has changed, since the proposed definition of the nature of the economic downturn has been adjusted[7]: the list of economic factors to be considered has been reduced (article 2), but the possibility to dismiss one factor has been deleted. This change was a direct consequence of the split between the definition of the economic

[6] See "*General approach to identify economic downturn conditions"* in the CP

[7] See *"Identification of the nature of an economic downturn (Article 3)"* in the CP

downturn and the estimation of the downturn LGD. Hence, the possibility to add other relevant economic factors is now connected with the impact on the economic cycle of the type of exposures.

Scope of application of the RTS (Article 2)

The conclusion of the cost-benefit analysis presented in the CP[8] remain valid, and option 2, i.e. the definition of the downturn at the level of the type of exposures, was kept. Indeed, while it can be argued that the impact of a downturn can be computed and accounted for in different manners, it was deemed not possible to have two different downturns for the same type of exposures.

Furthermore, it has to be noted that the level of definition of the downturn (type of exposures) is now different from the level of estimation of the downturn LGD (reference to the estimation of the Long Run Average). Therefore the diversification effects are no longer problematic since this is directly taken into account the GL on LGD downturn estimation.

Severity of an economic downturn (Article 3)

The cost-benefit analysis presented in the CP[9] remain valid, hence only technical changes were proposed in this new version of the RTS. In particular, it has to be noted that the severity no longer depends on the duration, since it is defined as the realisation of the economic factor over a fixed 12 months period.

Duration of the economic downturn (Article 4)

The conclusions of the cost-benefit analysis presented in the CP have to be adjusted since the concept of a downturn period has changed. Indeed, the duration of an economic downturn now refers to the duration of "downturn scenario" introduced in the previous CP, and does not impact the severity of the economic downturn nor the severity on the loss data (both time series are defined using yearly data). Therefore, under the previous option 2, "One year as a minimum backstop", the dilution effect is no longer problematic since the severity of the downturn does not depend anymore on the duration. However, this option was still no retained because of the non-comparability concerns which remain valid.

Instead, a new compromise solution builds on the previous option 3, where the one year period as a minimum backstop and additional criteria for having longer duration would be kept, but with additional criteria now refering to an economic analysis based on the realisation of the economic factors rather than on the impact on loss data[10]. This balances the need for harmonization and the complexity of the approach, which is kept at a reasonable level (compared to the previous option 3) with no reference to the specificities of the LGD of the CF parameters.

[8] See *"Scope of application of the RTS (Article 1)"* in the CP

[9] See "*Duration of an economic downturn (Article 4)"* in the CP

[10]

E. Cost-Benefit Analysis

The guidance given in these RTS regarding the identification of economic downturn conditions will affect LGD and CFs modelling. Therefore it is expected that these RTS will prompt additional model steps, involving the identification and inclusion of economic downturn conditions.

However detailed assessment of the costs for institutions of model changes and their impact on capital requirements is not possible as the current flexibility of the IRB Approach does not allow a definition of a common baseline scenario regarding current modelling choices from an institutions perspective.

Furthermore, it has to be noted that this RTS only refers to the identification of the economic downturn: the costs of this regulatory product is therefore mainly operational (training of the staff and adaptation of the IT system). It is generally expected that these costs will be reduced with the current methodology compared to the proposed one in the CP, mainly because the economic downturn is defined in an independent manner from the impact on loss data (for instance, this RTS does no longer introduces the concept of model components). The analysis is also streamlined thanks to a reduced list of economic factors, and more flexibility is left to the expert judgment when adding new economic factors: it is therefore expected that institutions will be able to build on their current knowledge and analysis performed on their portfolios.

In terms of the regulatory environment the baseline scenario for downturn LGD estimates is set out by the currently applicable Guidelines on the implementation, validation and assessment of Advanced Measurement (AMA) and Internal Ratings Based (IRB) Approaches (so called GL 10) published by CEBS in April 2006. These previous Guidelines define appropriate downturn conditions as those in which relevant drivers of default rates are consistent with conditions in which credit losses for the supervisory exposure class are expected to be substantially higher than average. This framework put emphasis on the correlation between default rates and recovery rates, in fact, if no material dependencies between default rates and recovery rates are identified the LGD downturn estimates may be based on the long-run average LGD.

5.2 Overview of questions for consultation

Q1: Do you have any concerns around the workability of the new approach (e.g. data availability issues, burden on the analysis, split between the definition of the economic downturn and its impact on the internal loss data)?

Q2: Do you see any issues of applicability of this RTS for estimating conversion factors appropriate for an economic downturn identified in accordance with this RTS?