EBA Guidelines

on

Stressed Value At Risk (Stressed VaR)

EBA/GL/2012/2

London, 16.05.2012

Contents

I. Executive Summary

The amendments to the Capital Requirements Directive[1] by Directive 2010/76/EU (CRD III)[2] relate, among others, to Stressed Value-at-Risk (Stressed VaR) in the trading book. According to these amendments, the predecessor of the EBA, the Committee of European Banking Supervisors (CEBS)[3] is tasked with monitoring the range of practices in this area and drawing up guidelines in order to ensure convergence of supervisory practices.

The amendments to the Capital Requirements Directive by Directive 2010/76/EU (CRD III) entered into force on 31 December 2011.

Providing guidance on Stressed VaR modelling by credit institutions using the Internal Model Approach ('IMA') for the calculation of the required capital for market risk in the trading book, is seen as an important means of addressing weaknesses in the regulatory capital framework and in the risk management of financial institutions that contributed to the turmoil in global financial markets. It is also expected to reduce reliance on cyclical VaR-based capital estimates as well as to contribute to the development of a more robust financial system.

The first chapter, on 'Identification and validation of the stressed period', elaborates on the value-at-risk model inputs calibrated to historical data from a continuous 12-month period of significant financial stress relevant to an institution's portfolio and deals with i) the length of the stressed period, ii) the number of stressed periods to use for calibration, iii) the approach to identify the appropriate historical period and iv) the required documentation to support the approach used to identify the stressed period. The second chapter, on 'Review of the stressed period' provides guidance on the frequency and monitoring of a stressed period. The third chapter on 'Stressed VaR methodology' deals with i) consistency issues between the VaR and Stressed VaR methodologies and ii) the use and validation of proxies in Stressed VaR modelling. The fourth and final chapter, entitled 'Use tests' specifies use test requirements.

The Guidelines on Stressed VaR are expected to contribute to a level playing field among institutions and to enhance convergence of supervisory practices among the competent authorities across the EU. It is expected that the national competent authorities around the EU will implement the Guidelines by incorporating them within their supervisory procedures within six months after publication of the final guidelines. After that date, the competent authorities must ensure that institutions comply with the Guidelines effectively.

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[1] Capital Requirements Directive (CRD) is a colloquial reference to Directives 2006/48/EC and Directive 2006/49/EC. In this document, references to 'Directive 2006/48/EC' and 'Directive 2006/49/EC' or the 'CRD' are to the amended versions of the Directives; references to a particular Article of the CRD refer to the Directives as amended and in force.

[2] Directive 2010/76/EU was published on 24 November 2010 and can be found under: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:329:0003:0035:EN:PDF .

[3] The European Banking Authority (EBA) was established by Regulation (EC) No. 1093/2010 of the European Parliament and of the Council of 24 November 2010. The EBA came into being on 1 January 2011. It has taken over all existing and ongoing tasks and responsibilities from the Committee of European Banking Supervisors (CEBS).

II. Background and Rationale

The CRD III trading book amendments, including the requirement of Stressed Value at Risk (VaR) modelling for the calculation of the regulatory capital for market risk in the trading book, are the result of widespread international (G20, Basel, FSF) recognition in 2008 that further regulatory reform was needed to address weaknesses in the current regulatory capital framework and in the risk management of financial institutions that contributed to the turmoil in global financial markets.

In January 2009, the Basel Committee on Banking Supervision (BCBS) proposed supplementing the current VaR-based trading book framework with, among other measures, an incremental risk capital charge (IRC), which includes default risk as well as migration risk for unsecuritised credit products and a stressed value-at-risk requirement[4].

As observed losses in banks' trading books during the financial crisis have been significantly higher than the minimum capital requirements under the Pillar 1 market risk rules, the BCBS proposed to enhance the framework through requiring banks to calculate, in addition to the current VaR, a stressed VaR taking into account a one-year observation period relating to significant losses. The additional stressed VaR requirement is expected to help reduce the pro-cyclicality of the minimum capital requirements for market risk.

In the process of refining capital requirements for market risk, the BCBS conducted a quantitative impact study[5]. In the summer of 2009, the Trading Book Group (TBG) investigated the impact of the provisions of the 'Revisions to the Basel II market risk framework' and of the 'Guidelines for computing capital for incremental risk in the trading book' consultation papers published in January 2009, focusing (generally) on big internationally-active banks with extensive trading activities.

The amendments to the Capital Requirements Directive by Directive 2010/76/EU (CRD III) relating to Stressed VaR in the trading book are a direct transposition of the proposals from the BCBS in the EU context.

The European Banking Authority is requested to monitor the range of practices in this area and to provide guidelines on Stressed VaR models.

The objectives of these Guidelines on Stressed VaR are:

I. To achieve a common understanding among the competent authorities across the EU on Stressed VaR modelling in order to enhance convergence of supervisory practices;

II. To create more transparency for institutions when implementing Stressed VaR into the calculation of the required capital for market risk in the trading book and into their risk management practices; and

III. To create a level playing field among institutions in this area.

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4 Revisions to the Basel 2 market risk framework - final version (July 2009), Guidelines for computing capital for incremental risk in the trading book - final version (July 2009), Enhancements to the Basel II framework (July 2009).

5 Analysis of the trading book quantitative impact study (October 2009).

The guidelines presented in this paper do not aim to be a comprehensive set of rules, but rather to complement the new CRD provisions relating to Stressed VaR where additional guidance by the EBA was deemed necessary or appropriate.

Given that the Guidelines discussed in this paper do not go beyond the provisions of the CRD but rather clarify how the rules are to be applied in practice a detailed assessment of the costs and benefits associated with them is not required. These costs and benefits are unlikely to be incremental to those identified in the EU Commission's Impact Assessment accompanying its CRDIII proposal.

III. EBA Guidelines on Stressed VaR

Status of these Guidelines

1. This document contains guidelines issued pursuant to Article 16 of 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 ('the EBA Regulation'). In accordance with Article 16(3) of the EBA Regulation, competent authorities and financial market participants must make every effort to comply with the guidelines.

2. Guidelines set out the EBA's view of appropriate supervisory practices within the European System of Financial Supervision or of how Union law should be applied in a particular area. The EBA therefore expects all competent authorities and financial market participants to whom guidelines are addressed to comply. Competent authorities to whom guidelines apply should comply by incorporating them into their supervisory practices as appropriate (e.g. by amending their legal framework or their supervisory rules and/or guidance or supervisory processes), including where particular guidelines are directed primarily at institutions.

Notification Requirements

3. According to Article 16(3) of the EBA Regulation, competent authorities must notify the EBA as to whether they comply or intend to comply with these guidelines, or otherwise with reasons for non-compliance, by 16.07.2012. In the absence of any notification by this deadline, competent authorities will be considered by the EBA to be non-compliant. Notifications should be sent by submitting the form provided at Section V to compliance@eba.europa.eu with the reference 'EBA/GL/2012/2'. Notifications should be submitted by persons with appropriate authority to report compliance on behalf of their competent authorities.

4. The notification of competent authorities mentioned in the previous paragraph shall be published on the EBA website, as per article 16 of EBA Regulation.

Contents

Title I – Subject matter, Scope and Definitions

1. Subject matter

These guidelines aim at achieving a common understanding among the competent authorities across the EU on Stressed Value at Risk (VaR) models in order to enhance convergence of supervisory practices in line with Annex V of Directive 2006/49/EC, as amended by Directive 2010/76/EU.

2. Scope and level of application

1. Competent authorities should require institutions to comply with the provisions laid down in these Guidelines on Stressed VaR.

2. These guidelines should apply to institutions using an Internal Model Approach (IMA) for the purpose of calculating the capital requirement for market risk in the trading book.

3. The guidelines apply to institutions at the level (solo and/or consolidated) on which the model is authorised to be used by the relevant competent authority, unless stated otherwise in these Guidelines.

3. Definitions

In these guidelines the following definitions should apply:

a. The term *institutions* should mean credit institutions and investment firms as set out in Directives 2006/48/EC and 2006/49/EC.

b. The term *antithetic data* under point 6 of these Guidelines should mean price movements which are considered relevant irrespective of their direction.

c. The term *de-meaning* under point 10 of these Guidelines should mean a quantitative process to remove a trend from historical data. Depending on the positions and the size of the trend, not removing the drift from the historical data to simulate the price variations could generate mainly profitable scenarios and very few and limited losses.

d. The term *proxy* under point 11 of these Guidelines should mean an observable variable or price taken from a liquid market that is used to substitute a variable that cannot be observed (or whose hypothetical price does not reflect real transactions from a deep two-way market) and thus cannot be accurately measured. Institutions use proxies both for valuation and risk measurement purposes. From a theoretical perspective three types of proxies can be identified: those applied in the valuation of instruments (which would affect the adequacy of VaR and Stressed VaR as capital measures); those used for

VaR calculations (which would also be present in Stressed VaR metrics); and those affecting solely the Stressed VaR calculation.

Title II – Requirements regarding institutions' Stressed VaR modelling

A. Identification and validation of the stressed period

4. Length of the stressed period

1. The requirement set out in the CRD that the historical data used to calibrate the Stressed VaR measure have to cover a continuous 12-month period, applies also where institutions identify a period which is shorter than 12 months but which is considered to be a significant stress event relevant to an institution's portfolio.

2. The approach to be applied to identify the stressed period in order to meet the requirement of Paragraph 10a of Annex 5 of Directive 2006/49/EC as amended by Directive 2010/76/EU, to calculate a Stressed VaR measure calibrated to a continuous 12-month period of financial stress relevant to an institution's portfolio, is the most material element determining the output of the model and is therefore subject to approval by the competent authorities.

5. Number of stressed periods to use for calibration

1. For the purposes of approval of the choice of the stressed period by institutions, a competent authority is the competent authority responsible for the exercise of supervision on a consolidated basis of this EU institution and, in the case of an internal model also recognised at a subsidiary's level, the competent authority responsible for the exercise of supervision of this EU institution's subsidiary.

2. When the competent authorities approve the stressed period defined at group level according to Article 37(2) of Directive 2006/49/EC referring to Article 129 of Directive 2006/48/EC, a single stressed period should only be required to be defined at group level.

3. As an exception from the above, the competent authorities should require an EU institution to determine a different stressed period at a subsidiary's level if the stressed period defined for the group is not considered relevant to the subsidiary's portfolio. Where a single group-wide stressed period is used in an institution that has a subsidiary with a locally approved VaR model, institutions should provide proof that this group-wide stressed period is relevant to the subsidiary's portfolio.

6. The approach for identifying the appropriate historical period

1. In order to choose a historical period for calibration purposes, institutions should formulate a methodology for identifying a stressed period relevant to their current portfolios, based on one of the following two ways:

i. judgement-based approaches; or

ii. formulaic approaches.

2. A judgement-based approach is one that does not use a detailed quantitative analysis to identify the precise period to use for calibration, but rather relies on a high-level analysis of the risks inherent in an institution's current portfolio and past periods of stress related to those risk factors. Where this judgement-based approach is used by institutions, it should include quantitative elements of analysis.

3. A formulaic approach instead is one that applies, in addition to expert judgement, a more systematic quantitative analysis to identify the historical period representing a significant stress for an institution's current portfolio. This more systematic approach could be employed in a number of ways:

i. A risk-factor based approach: an institution identifies a restricted number of risk factors which are considered to be a relevant proxy for the movement in value of its portfolio. The historical data for these risk factors can then be fully analysed to identify the most stressed period (for example, through identification of the period of highest volatility of the risk factors), in the historical data window.

ii. A VaR based approach: the historical period is identified by running either the full VaR model or an approximation over a historical period to identify the 12-month period which produces the highest resulting measure for the current portfolio.

4. This approach should be employed to determine a historical period that would provide a conservative capital outcome rather than just selecting the period of highest volatility.

5. While either approach may be used by institutions, the use of the formulaic approach, where possible, should be preferred for the identification of the historical period.

6. Institutions may also combine the above two approaches to limit the computational burden of the formulaic approach. This can be done by using the judgement-based approach to restrict the historical data periods to be considered in the formulaic approach.

7. Irrespective of the approach used, institutions should provide evidence that the stressed period is relevant for their current portfolio and that they have considered a

range of potential historical periods in their analyses. The institutions should also have to prove that the portfolio on which the identification of the stressed periods is based is representative of the institutions' current portfolio, e.g. by applying the approach to identify the stressed period to other typical or previous portfolios. As an example, for many portfolios, a 12-month period relating to significant losses in 2007/2008 would adequately reflect a period of such stress, but, in addition to that, other periods relevant to the current portfolio should also be considered by institutions.

8. In all cases no weighting of historical data should be applied when determining the relevant historical period or when calibrating the Stressed VaR model, as the weighting of data in a stressed period would not result in a true reflection of the potential stressed losses that could occur for an institution's portfolio.

9. Finally, competent authorities may require institutions to use antithetic data when calibrating the Stressed VaR model, especially where an institution's portfolio is characterized by frequent position changes.

7. Documentation to support the approach used to identify the stressed period

1. Irrespective of the approach applied, institutions must produce robust documentation justifying the choice of approach made. This should in all cases include quantitative assessments to support the current choice of the historical period and its relevance for the current portfolio. This should also include documentation of the modelling of risk factors' returns.

2. Where institutions apply a formulaic approach to identify the stressed period the following issues should, as a minimum, be addressed in the related documentation:

i. Justification for the choice of risk factors used if a risk-factor based approach is applied and where fewer than the modelled risk factors are selected.

ii. Justification of any simplifications where a simplified VaR model is used to identify the historical period.

3. Where a formulaic approach is applied, which is based on a simplified VaR model, an institution should also provide adequate evidence that the simplified measure gives directionally the same VaR results as the full VaR model (and therefore is accurate in determining the most stressed period). This evidence should include empirical analysis.

4. Where a formulaic approach is applied, which aims at identifying the most volatile period for a set of risk factors, an institution should provide adequate evidence that a period of high volatility is a suitable proxy for a period in which the VaR measure

would be high and that the lack of inclusion of correlations or other factors that would be reflected in the VaR measure does not result in rendering this proxy unsuitable.

B. Review of the stressed period

8. Frequency

1. The requirement of the CRD, for the review of the identified 12-month period of significant stress to be performed at least yearly by institutions, means that different circumstances, including a very high turnover in the trading book or specific trading strategies, may require a review of the stressed period with a higher frequency.

2. Any changes to the choice of the historical period following the outcome of the review of the stressed period should be communicated to the competent authority before the intended implementation date of the proposed changes.

9. Monitoring the stressed period

1. In addition to the above-mentioned regular review, an institution should have in place procedures which ensure, on an on-going basis, that the specified stressed period remains representative, including when ,market conditions or portfolio compositions have been subject to significant change.

2. In order to put in place sound procedures for the ongoing monitoring of the relevance of a stressed period, an institution should document the soundness of the implemented approach. Monitoring may be based on a variety of factors which may differ among institutions. Factors to be considered include changes in market conditions, in trading strategies or also in portfolio composition. These factors may be analysed by comparing them to changes in the allocation of market values or notionals, in risk factor loadings, in the level of VaR or sensitivities, in the repartition of VaR or sensitivities over portfolios and risk categories, in the P&L and back-testing results or also by the impact of newly approved products on the risk profile.

3. In addition to the above-mentioned procedures, monitoring of Stressed VaR relative to VaR should be performed on an on-going basis, because, while in theory, due to differences in parameterisation, Stressed VaR can exceptionally be smaller than VaR, also at inception, this should not structurally be the case. The ratio between Stressed VaR and VaR at the moment of identification of the relevant stressed period should be used as a reference value for ongoing monitoring. Significant decreases in the ratio should be considered as indications for a potential need for review of a stressed period. A ratio between Stressed VaR and VaR below one should be considered as a warning signal triggering a review of the stressed period.

C. Stressed VaR methodology

10. Consistency with VaR methodology

1. The Stressed VaR methodology should be based on the current VaR methodology, with specific techniques required, where applicable, in order to adjust the current VaR model into one that delivers a Stressed VaR measure. Any risk factor occurring in the VaR model should therefore be reflected in the Stressed VaR model.

2. With respect to standards used in both measures, and further to the ones prescribed by the Directive (e.g. the 99% confidence level), institutions may consider the use of 'square root of time' scaling to calculate a 10-day Stressed VaR measure. Nevertheless, given some known limitations of the scaling factor, an analysis to demonstrate that the assumptions underlying the use of the 'square root of time' rule are appropriate, should form part of the internal model validation process.

3. While the Stressed VaR model should share some of the current VaR standards, others may diverge due to explicit Directive requirements or to methodological incompatibilities related to the Stressed VaR concept. In particular, this is the case in the following areas:

(i) Length of the stressed Period

Given the length of the stressed period must be 12 months, any action to reduce or increase the stated stressed period based on the need for consistency between VaR and Stressed VaR should not be permitted.

(ii) Back-testing requirement

The multiplication factor m_s used for capital requirements should be at least 3 and be increased by an addend between 0 and 1 depending on the VaR backtesting results. Nevertheless, backtesting is not a requirement in itself for determining the Stressed VaR measure.

(iii) Periodicity of the Stressed VaR calculation

As the CRD provides that the calculation of the Stressed VaR should be at least weekly, institutions may choose to compute the measure more frequently, for instance, daily, to coincide with the VaR periodicity.

If, for example, institutions decide on a weekly Stressed VaR computation, and assuming a one-day Stressed VaR scaled up to 10 days, for the daily calculation of capital requirements based on internal models the following would apply:

a) The same Stressed VaR number would be used for 5 subsequent business days following the running of the Stressed VaR model;

b) With respect to the calculation of the average Stressed VaR numbers during the preceding sixty business days, institutions should use the previous 12 Stressed VaR numbers to compute that average;

c) An institution should be able to prove that, on the day of the week chosen for Stressed VaR calculation, its portfolio is representative of the portfolio held during the week and that the chosen portfolio does not lead to a systematical underestimation of the Stressed VaR numbers when computed weekly. For example, proof that the VaR is not systematically lower on the day of the week chosen for Stressed VaR calculation could be considered sufficient.

4. Stressed VaR standards may diverge from VaR standards in other circumstances where there could be methodological incompatibilities between the current VaR and the Stressed VaR model. One example includes changes in the current VaR methodology that cannot be translated into the Stressed VaR measure and the use of local valuation (sensitivity analysis/proxies) as opposed to full revaluation, which is the preferred approach for Stressed VaR.

5. As a general rule, changes in an institution's VaR model or VaR methodology should be reflected in changes to the model/methodology used to calculate the Stressed VaR charge.

6. Under exceptional circumstances, if an institution can demonstrate that it cannot incorporate enhancements to the current VaR methodology in the Stressed VaR, such situations should be documented and the institution should be able to demonstrate that the impact (for example, in terms of VaR or capital requirements) resulting from the current VaR developments which are not implemented in the Stressed VaR measure is limited.

7. Where sensitivities rather than full revaluation are used within a VaR model, the institution concerned should demonstrate that this approach is still appropriate for Stressed VaR where larger shocks are applied. A sensitivity-based approach for Stressed VaR may require that higher order derivatives/convexity are factored in.

8. Any revaluation ladders or spot/volatility matrices employed should be reviewed and extended to include the wider shocks in risk factors that occur in stressful scenarios. It is preferable that full revaluation be used for Stressed VaR with shocks applied simultaneously to all risk factors.

9. In terms of calibration to market data, the process of 'de-meaning' is not considered necessary for Stressed VaR. If there is a significant drift in market data, the use of antithetic data is preferable to 'de-meaning'.

10. The table below summarises the main issues described above concerning the level of consistency between the methodological aspects of the current VaR and Stressed VaR measure.

Is consistency between VaR and Stressed VaR required?		
Yes for...	**No for...**	**Subject to verification**
Confidence level	Weighting scheme	Changes to models
Holding period	Back-testing	Use of Taylor series approximations
	Length of historical observation period	
	Frequency of computation	Scaling method

11. Estimation of proxies for Stressed VaR

1. Given that the data constraints that make necessary the use of proxies for VaR, become even more relevant for Stressed VaR and that it is expected that any proxies used in VaR will also be necessary for Stressed VaR, while additional ones may also be needed, whereas any new risk factor not present in the historical data should naturally require the use of a proxy for VaR calculation, but only on a 'temporary' basis (e.g. after one year there would be enough real information to complete a 12-month data series),the same proxy should be more 'permanent' for Stressed VaR purposes (due to the more constant nature of the historical time series).

2. If a risk factor is missing in the stressed period because it was not observable during that period (for example for a newly listed equity) the institution may use another risk factor (in this example, another equity from the same sector and with a similar risk and business profile) for which there is information available and for which a highly correlated behaviour with the factor that the institution is trying to capture can be demonstrated. Where these proxies are used, institutions should consider whether an assumption of 100% correlation between the risk factor and its proxy is appropriate.

3. Institutions may alternatively map the missing factor to another one similar in terms of volatility (though not necessarily correlated). If this approach is used, institutions should demonstrate that it is conservative and appropriate.

4. If a VaR model is enhanced by incorporating a risk factor, an institution should also incorporate it into its Stressed VaR calculations. In certain cases, this may mean reviewing the historical data series for the risk factors and introducing an appropriate proxy. For example where a new risk factor used for valuation purposes is incorporated into the VaR model as required under Annex V point 12 first Paragraph of Directive 2006/49/EC as amended by Directive 2010/76/EU.

5. In all cases, the use of these proxies, including simplifications and any omissions made, will only be acceptable provided they are well documented and their limitations are taken into account and addressed in the institution's capital assessment.

12. Validation of proxies

1. Whereas validation of a proxy should be broadly performed in the same way for VaR and Stressed VaR, any proxy validated for the day-to-day VaR is not automatically acceptable for Stressed VaR. Proxies in use should be reviewed periodically to assess their adequacy and ensure that they provide a conservative outcome.

2. Regarding those proxies which might be used for Stressed VaR purposes only (for instance, due to lack of data in the selected period), an institution should ensure that the risk factor used as proxy is conservative.

13. Validation of model inputs/outputs

1. All qualitative standards defined for the control of consistency, accuracy and reliability of data sources of VaR also apply to Stressed VaR.

2. Underlyings for which institutions do not have a history of data complete enough to cover the reference period, should be shocked by approximation, using closely related underlyings (same market, similar structure and characteristics). Following the same process that has been approved for the institutions' internal models, in order to ensure the quality of historical data used for the reference period, institutions should document the methodology followed for identifying and for proxying missing data. Institutions should also perform tests of the potential impact of the use of these proxies.

3. With a view to preserving arbitrage inequalities, institutions may need to apply data cleaning for Stressed VaR. Where this is the case, the removal of outliers from

historical data series should be appropriately justified and documented, as it should not end up decreasing the magnitude of extreme events.

4. As Stressed VaR entails, by definition, the application of highly stressed scenarios to current market parameters, which may lead to incoherent market conditions (e.g. negative forward rates) more frequently than within a VaR computation, institutions should monitor the calibration failures that may materialise. Institutions using full revaluation when estimating their Stressed VaR may be more frequently confronted with those calibration failures than institutions not using full revaluation, not because failures will not happen, but because their methodology will not enable them to spot these calibration failures when they occur.

D. Use test

14. Use test

1. The Stressed VaR model should be subject to a use test through use of Stressed VaR output in risk management decisions. Stressed VaR output should be in place as a supplement to the risk management analysis based on the day-to-day output of a VaR model. The results of Stressed VaR should be monitored and reviewed periodically by senior management.

2. Where Stressed VaR outputs reveal particular vulnerability to a given set of circumstances, prompt steps should be taken to manage those risks appropriately.

Title III – Final Provisions and Implementation

15. Date of application

Competent authorities should implement these Guidelines by incorporating them within their supervisory procedures within six months after publication of the final Guidelines. Thereafter, competent authorities should ensure that institutions comply with them effectively.

IV. Accompanying documents

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

1. The European Banking Authority (EBA) officially came into being on 1 January 2011 and has taken over all existing and ongoing tasks and responsibilities from the Committee of European Banking Supervisors (CEBS).

2. On 16 November 2011, the draft Guidelines on Stressed VaR were presented to the EBA's Banking Stakeholder Group (BSG). The BSG provided broad comments and suggestions, to be considered by the EBA, when finalizing the Guidelines[6].

3. On 30 November 2011, the EBA submitted the draft Guidelines on Stressed Value at Risk (Stressed VaR) for public consultation. The consultation period ended on 15 January 2012. Ten responses were received[7]. In addition, a public hearing was held on 13 December 2011 at the EBA's premises in London, to allow interested parties to share their views with the EBA.

4. The responses to the consultation paper were generally positive and supportive of EBA's work and required only some clarification; however, on some paragraphs in the consultation paper, the majority of the respondents disagreed or requested significant clarification.

5. A detailed account of the comments received and the EBA´s responses to them is provided in the feedback table below. The feedback table is divided between general remarks and specific comments received from respondents and includes a section with EBA's point of view on them and the changes made in the final guidelines to address them.

6. In some cases, several respondents made similar comments. In such cases, the comments, and EBA's analysis of them are included in the section of the detailed part of this paper where EBA considers them most appropriate.

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[6] A summary of the discussion with the BSG has been published on the EBA website in the BSG meetings and minutes section (November 2011 meeting).
[7] The public responses to CP 48 have been published on the EBA website together with the consultation paper.

Feedback table on CP 48: analysis of the responses and suggested amendments

The first column of the feedback table makes reference to the terminology and paragraph numbering used in the CP on Draft Guidelines on Stressed Value at Risk. The last column refers to the terminology and numbering in the final EBA guidelines.

CP 48	Summary of comments received	The EBA's response	Amendments to the proposals
Guidelines on Stressed Value at Risk			
General Comments			
Status GL	The status of the guidelines is not clear. While the paper referred to as 'guidance' the wording in their scope and level of application is more consistent with rules-based regulation. Furthermore there are examples in the paper where it would be difficult for a firm to comply with both the national rules and guidance and the EBA's proposed guidelines.	Competent authorities have a legal requirement to notify the EBA if they comply or intend to comply with the guidelines within two months after publication. In order to maximize harmonization between competent authorities and Member States, the EBA has chosen to write the guidelines in a more rules-based manner.	No change.
Timing GL	The timing of EBA's guidelines areunfortunate. Most banks have already submitted detailed model documentation for approval and often received approval under existing national rules and guidance. Where the final EBA guidelines differ from the BCBS guidance and/or national rules and guidanceand banks are obliged to	As the competent authorities have been involved while drafting the guidelines well before the publication of the consultation paper and institutions' model approvals, the EBA expects that the competent authorities have followed the EBA guidelines as much as possible when approving models and does not expect that institutions will have to substantially change models to comply with	No change.

	comply with the EBA guidelines this will be difficult and will lead to significant additional costs and resources which are already tied up with the implementation of Basel III/CRDIV requirements.	the guidelines or that it will lead to significant additional costs.	
Implementation GL	The timing for making the model changes remains unclear: we understand that the EBA will issue final guidance late in the first quarter of 2012 and that there will then be a six month period in which the guidance will be transposed into national requirements at which point banks would have to be compliant. If so the timetable is too short to implement any potential model changes.	Indeed, as mentioned in the guidelines, the EBA expects competent authorities to implement the guidelines within six months after publication of the final guidelines. Indirectly this means that EBA expects institutions to comply with the guidelines as soon as they are implemented by the competent authorities in their supervisory practices, but in any case within six months after publication of the final guidelines. The EBA believes sufficient time is given to competent authorities and institutions to implement the guidelines.	No change.
Level Playing Field with US	The US continues to be stalled in the implementation of the Basel 2.5 Trading Book amendments because of the Dodd-Frank Act requirement to remove all references to ratings from regulation. However, the Notice of Proposed Rulemaking that was issued by the US authorities in December 2010 already diverges in a number of areas from the CRD 3 requirements. The EBA draft guidelines further tie EU firms to an inflexible model before the US has implemented Basel 2.5. Flexibility should be retained so that a level playing field	Although the comment raised is important, it is not directly relevant to the guidelines on Stressed VaR. The EBA will communicate the concerns raised to the European Commission.	No change.

	can be achieved if the US moves ahead.		
Basel Fundamental review of Trading book	The Basel Committee's Fundamental Review of the Trading Book will most likely lead to a comprehensive change in the treatment of market risk. It is expected that the Basel Committee will issue new proposals before the end of 2012. The adjustments to the models set out in these EBA consultation papers may be redundant following the Fundamental Review.	The guidelines on Stressed VaR relate to the CRD III and have also been included in the current CRR/CRDIV proposals. In any case, the EBA is following the developments of the fundamental review of the trading book that is currently conducted in Basel and it does not expect any final conclusion soon nor any transpositions to the CRR/CRD following the fundamental review in the short or medium term.	No change.
A. Identification and validation of the stressed period			
Para 5.2	Most respondents argued that the wording of paragraph 5.2 is too vague.The provision appearsto demand the selection of a specific 12-month historic stress period for each legal entity that reports VaR. This would be extremely problematic from a process perspective. Banks would have to run the period selection process for multiple legal entities. Globally active banks should be permitted to apply universally the stress period they select on group level. Clarification is also required about which competent authority should approve the approach to identifying the stressed period adopted by globally active banks, given that	The choice of the stressed period is subject to approval by the competent authorities. The competent authorities for an EU institution are the competent authorities responsible for the exercise of supervision on a consolidated basis of this EU institution and, in the case of an internal model also recognised at a subsidiary's level, the competent authorities responsible for the exercise of supervision of this EU institution's subsidiary. The competent authorities approve the stressed period defined at group level according to Article 37(2) of Directive 2006/49/EC referring to Article 129 of Directive 2006/48/EC. They may alsorequire an EU institution to determine a different stressed period at a subsidiary's level if the stressed period defined for the	Section 5 has been re-drafted.

	the internal models of its different legal entities are authorised by different supervisory authorities.	group is not considered relevant to thesubsidiary's portfolio.	
Para 6.4	One respondent argued that the formulaic approach implies that the period of stress to be selected should be the period of highest VaR for the given portfolio. This is not consistent with the stated objective of calculating VaR over a period of stress and (para 6.4) 'a conservative capital outcome rather than just selecting the period of highest volatility'. It was recommended that a judgment override be specifically introduced for the formulaic approach. On the other hand, one respondent questioned why the EBA would accept judgement-led approaches; VaR approximations and a range of less onerous stress period monitoring techniques when a national regulator has ruled these out, and urge a re-think before completing the final guidelines.	The EBA has a preference for the formulaic approach. However it recognizes that competent authorities should also take into consideration the size and sophistication level of the institution when an approach is chosen.	No change.
Para 6.7	The second part of the first sentence prohibits weighting of historical data during the stressed period. In our view such exclusion is pointless. In practice, weightings could be calibrated in a way that ensures that a predetermined weight shall simultaneously correspond to a predetermined period. To this end, more recent time series could be given a higher weighting than periods dating back to the	Para 6.7 follows the requirement from Basel on this point.	No change.

	more distant past. Since the general exclusion of weightings imposes an unnecessary restriction upon the methodology, we would like to suggest deleting the respective part of the sentence.		
Para 6.8	When it comes to the calibration of the stressed VaR model, this section stipulates that it shall be permissible to use the so-called ‘antithetic data’. Yet, the method for determining such data is left unclear. The same applies to the potential compatibility of this provision with the other requirements concerning the stressed VaR. Please provide a clear definition of the concept of ‘dynamic portfolio’ as the historical period must apply to the whole (IMM-approved) trading book.	Paragraph 6.8 has been re-drafted.	Paragraph 6.8 has been re-drafted.
Chapter 7	A VaR-based selection process creates a circular reference and is thus not ideal as it amplifies model risk.	A VaR-based process is considered an acceptable approach for the identification of the stressed period.	No change.
Para 7.1	Under the provisions of Paragraph 6, Section 3 that historic period shall be selected which produces the highest VaR measure. Pursuant to Paragraph 7, Section 1, ‘statistical assessments’ have to be produced as part of the justification for the respective stressed period chosen. In this context, once the period with the highest VaR measure has been selected, it remains unclear which ‘statistical	Clarify wording to ‘quantitative assessments’ if an institution uses a judgment-based approach.	Change wording.

	assessments' would still be necessary.		
Para 7.2	Complete historical data may not be available for those periods, as acknowledged in the draft Guidelines, and some risk factors might not have been known at all. Hence, at a minimum, consideration of those periods would not be meaningful and, additionally, the application of quantitative analysis (also required for judgement-based approaches) might lead to misleading results.Paragraph 7.2 should be deleted or amended accordingly.	EBA recognises comments made by the profession and has deleted this provision in the final guidelines.	Delete para 7.2.
B. Review of the stressed period			
Chapter 8	Regarding the frequency firms are required to review the stressed period, the CRD clearly states that this is required at a minimum on an annual basis, which is echoed in the CP, with a preference stated for more frequent monitoring, whereas some regulators have insisted upon a minimum quarterly review.	A competent authority may require an institution to review the stressed period on a quarterly basis, a frequency that is in compliance with the guidelines.	No change.
Para 8.3	A two weeks' notice to the competent authorities prior to applying the new stressed period creates an unnecessary additional workload for sides, i. e. banks and competent authorities. In our view, any changes to the choice of the stressed period – most notably when this involves only minor deviations in terms of the result – should merely engender	EBA agrees with the comment and has deleted the 'at least two weeks' requirement from para 8.3.	Suppression of the two weeks requirement.

	the need for an ex-post notification which is to be made during the notification of minor model adjustments that has to take place at least once a year.		
Chapter 9	This section is overly-conservative regarding regular review and monitoring of the appropriateness of the SVaR time window (e.g. when de-risking trades have been put onto the book), although in practice there may not be a large impact if the SVaR window changes by a few months during the financial crisis (which is likely to be the relevant period for most banks). Furthermore this section stipulates the need for a regular review ('on-going basis') in order to ensure that the specified stressed period is still representative for the portfolio. We hold the view that the provisions on the rotating review or reviews triggered by certain circumstances (c. f. section 8) will be sufficient.	EBA believes that having procedures and communicating documentation on the monitoring of the stressed period will ensure that the stressed period remains representative on an on-going basis and provides additional value above the requirements set out in chapter 8.	No change.
Para 9.2	It is not clear how to implement quantitatively the procedures described in paragraph 9.2. It would be very useful if some clarifying examples could be provided.	EBA believes para 9.2 is sufficiently clear.	No change.
Para 9.3	The mere fact that positions have been taken to reduce (hedge) the Stressed VaR should automatically trigger a review of the Stressed VaR period. A review of the Stressed VaR period should be triggered only if there is a	EBA has decided to delete paragraph 9.3. Paragraph 9.3's objective was to prevent regulatory arbitrage. EBA believes that this objective is addressed by other paragraphs.	Delete para 9.3.

	reason to believe that the risk structure of the portfolio has significantly changed or if a new period of greater stress has emerged. This point is in contradiction with 15.2. We understand the EBA intention here is more to prevent ‘arbitrage’ actions that are artificially reducing the sVaR and should be re-formulated accordingly		
Para 9.3	Does this mean that the use of proxies during hedging transactions has to be accompanied by an appropriate reflection of the residual basis risk?	EBA has decided to delete paragraph 9.3. Paragraph 9.3’s objective was to prevent regulatory arbitrage. EBA believes that this objective is addressed by other paragraphs.	Delete para 9.3.
Para 9.5	The decision as to whether or not a position should be entered into the trading book ought to be left to the discretion of traders. For instance, due to operational reasons in the event of several thousands of individual trades per day in larger organisations, monitoring that an individual position was merely entered for the purposes of reducing Stressed VaR may become virtually impossible for risk controlling.	This comment was linked to para 9.3 which has now been deleted.	No change.
3. Stressed VaR methodology			
Chapter 10	This chapter is further evidence for an increasing inconsistency between the VaR methodologies and the Stressed VaR calculation. This is a source of growing	EBA believes this chapter is consistent with the Basel requirements on Stressed VaR methodology and does not see any reason to deviate from the Basel requirements.	No change.

	concern for us. We feel that this will only be warranted under exceptional circumstances.		
Para 10.2	The requirement to review the appropriateness of the square root of time to scaling up a one-day stressed VaR measure is unnecessary. If the methodology required for stressed VaR to be consistent with VaR and there is an existing CRD requirement to justify this approach for VaR then there should be no additional need to review this technique as applied to stressed VaR.	The EBA believes it is even more important to review the appropriateness of the square root of time for scaling up the stressed VaR than for the VaR. This requirement is therefore maintained.	No change.
Para 10.3 (iii)	The proposed equation is inconsistent with the guidance provided by our national regulator. The NSA rules require a calculation based on a sixty-day average with the weekly values of sVaR rolled each day.	EBA and the competent authority referred in the comment letter do not believe there is an inconsistency between the EBA guidelines and the competent authorities' rules on this point	No change.
Para 10.3 (iii)c	We'd like to clarify that this requirement should not be construed as a de facto requirement for a daily computation of the Stressed VaR. This requirement should be satisfied by other means or indicators. For example, proof that the VaR is not systematically higher on the day of the week chosen for Stressed VaR calculation should be considered sufficient.	This paragraph does not require institutions to compute a daily Stressed VaR. For example, proof that the VaR is not systematically lower on the day of the week chosen for the SVaR calculation could be considered sufficient by competent authorities.	Addition of a sentence to para 10.3 (iii)c.
Para 10.7	The present proposal stipulates the need to provide evidence for the fact that in sensitivity based risk calculations the approach for	EBA is of the opinion that full revaluation is preferable to the use of sensitivities and that banks should move towards full revaluation. This paragraph has been	Clarification added to para 10.7

	measuring risk is adequate and that this even holds true for the extreme values resulting from the stressed periods. However, since this period constitutes a historic period during which, more often than not, the VaR model will already have been in use, in our view this question is academic. After all, the above evidence will already been provided in the form of VaR adequacy. Where sensitivities rather than full revaluation are used is where this VaR model has been approved. Therefore this approach, on a stressed period which already occurred, is already regarded as appropriate as it is authorised.	clarified to better reflect this view.	
Para 10.9	We believe the use of antithetic data should remain an example among others in the list of possible adaptations of the VaR methodology to the Stressed VaR calibration (consistent with basel 2.5) and should either be a 'compulsory' or 'preferred' method. One obvious reason for that is the fact that using antithetic date is relevant for historical VaR but much less so for Monte Carlo where it could distort the distribution.	EBA agrees and believes the use of antithetic data is the preferable approach in case of a significant drift in market data as mentioned in para 10.9.	No change.
Para 10.10	Section 7 and 8 spell out a preference for full revaluations in the context of Stressed VaR. There are two reasons why this gives us cause for concern: On the one hand this shall inform the approach towards risk measurement. On	EBA is indeed of the opinion that banks should move towards full revaluation.	No change.

	the other hand it means that VaR and the stressed VaR model will no longer be identical in terms of their calculation method, resulting in the deployment of two different risk models.		
Para 12.6	This addition of a new vague, unspecified capital add-on, determined by the bank itself, is not appropriate. In fact, the supervisor is already able to impose capital add-ons, if deemed necessary to take account of any shortcomings in the internal models used.	EBA has changed the wording in the final guidelines to clarify this requirement.	Change wording of para 12.6.
Para 13.1	Separate validation of the same proxy for VaR and SVaR would be extremely burdensome. It would effectively force the implementation of two inconsistent VaR models.	EBA guidelines do not explicitly require a separate validation for VaR proxies used for Stressed VaR purposes. However, institutions are required to show appropriateness of the use of same proxies for VaR and Stressed VaR and to consider if/when a separate validation of proxies for Stressed VaR is necessary.	No change.
D. Use Tests			
Chapter 15	The concept of a use test for stressed VaR is difficult. The more remote in time a stress period becomes, the less relevant risk drivers and correlations become, and the harder it becomes to demonstrate model use. Similarly, the use of the stressed VaR to validate the impact of current VaR modelling choices does not appear very relevant.	EBA believes the Stressed VaR can be used as an additional risk management tool and can support risk management decisions.	No change.

	We recommend removal of references to the Use Test and insertion of a requirement that regulators observe how firms use stressed VaR and provide guidance.		
Para15.1	In the Stressed VaR, the current reference of the risk parameter is replaced by a historic one. As a result, portfolio management and thus the SVaR-based use test become more difficult. We therefore feel that monitoring stressed VaR at various levels of aggregation would be unconstructive. Also, it is not clear to us in how far this requirement deviate from the CRD III. Recommend to delete the wording 'at different aggregation levels' in para 15.1. Please clarify that the examples given in this paragraph (limit setting, reporting and escalation procedures, etc) are examples only and that there are different ways to satisfy the use test.	EBA agrees with the comment and has deleted 'at different aggregation levels' in para 15.1. The examples given in para 15.1 form a non-exhaustive list and indeed there are different ways to satisfy the use test requirements.	Delete 'at different aggregation levels' in para 15.1.
Para 15.2	We believe the use of the Stressed VaR as a tool to validate the current VaR modelling choices is very questionable. This would not be very objective and cause us to 'look over our shoulder' when we should rather be looking forward when improving VaR modelling.	EBA agrees with this comment and has deleted the first sentence of this paragraph.	Deletion of the first sentence of para 15.2.

V. Confirmation of compliance with guidelines and recommendations

Date:

Member/EFTA State:

Competent authority:

Guidelines/recommendations:

Name:

Position:

Telephone number:

E-mail address:

I am authorised to confirm compliance with the guidelines/recommendations on behalf of my competent authority: ☐ **Yes**

The competent authority complies or intends to comply with the guidelines and recommendations:

☒ **Yes** ☐ **No** ☐ **Partial compliance**

My competent authority does not, and does not intend to, comply with the guidelines and recommendations for the following reasons[1]:

Details of the partial compliance and reasoning:

Please send this notification to compliance@eba.europa.eu[2].

[1] In cases of partial compliance, please include the extent of compliance and of non-compliance and provide the reasons for non-compliance for the respective subject matter areas.

[2] Please note that other methods of communication of this confirmation of compliance, such as communication to a different e-mail address from the above, or by e-mail that does not contain the required form, shall not be accepted as valid.