

ZENTRALER KREDITAUSSCHUSS

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Secretariat of
Basel Committee on Banking Supervision
c/o Bank for International Settlements
Centralbahnplatz 2
CH-4002 Basel

Switzerland

31 May 2010

Consultative document “Sound practices for backtesting counterparty credit risk models” (BCBS 171)

Dear Sir or Madam,

Thank you for the opportunity to comment on the proposals of the consultative document “Sound practices for backtesting counterparty credit risk models” of April 2010, which we have pleasure in taking.

I. General Observations

In principle we welcome the endeavour to create a uniform framework for the validation of internal model methods (IMM), whilst not wishing to restrict the variety of models. We therefore endorse the intention expressed by the Basel Committee in point 1 not to prescribe any specific methods or test procedures. It is also necessary to bear in mind, for the backtesting requirements that the models are subject to a continuous development process.

In fact, however, the following guidance on backtesting gives rise to the surmise that the consultative document implicitly assumes certain types of model for internal model methods which do not depict the entire conceivable range of models. This is in conflict with the prudential principle – subject to the approval of the national supervisor – to allow institutions

with an internal model method the necessary freedom of choice of method to depict counterparty risks independently.

Overall, the guidance gives very little direction on which focal points to adopt for the validation. Rather, the consultative document gives rise to the impression that model banks in future are to carry out a comprehensive myriad of tests. There is consequently a risk of losing the eye for the essential. In addition, the IMM operating costs will be increased significantly, which represents an enormous burden especially for smaller institutions. We therefore suggest confining the guidance to a validation approach based on out-of-sample backtesting.

Please find our comments below on individual points of the consultative document.

II. Evaluating Probabilistic Forecasts

Point 8

The guidance under point 8 calls for EPE models as well as market risk models for the testing of not only individual high percentiles, but the entire distribution of exposure.

Regard to market risk factor models, we consider the requirement as not necessary, and refer to our further comments, particularly for the points 22 and 41.

In our view, the requirement to review the entire distribution of EPE models is associated with methodological issues.

First, we will consider that risk factors and their correlations are not generally stationary. At the very most, a market risk factor model calibrating on historical data can randomly generate a reasonably accurate distribution of exposure. A review of distribution with observed values to granular percentiles will inevitably lead to many breaches of the required reliability.

Second, even an advanced modelling methodology requires some basic assumptions about functional forms of distributions and statistical dependencies, which do not reflect observable reality of market exactly. We explained above, this may have the result that the required reliability is not or is not achieved in any market situations.

We ask for clarification and revision of the requirements and therefore propose the following amendment to the guidance (amendments in italics):

Guidance: Backtesting of forecast distributions produced by EPE models ~~and market risk factor models~~ needs to be performed on *the entire forecast distribution one or several certain percentiles or moments that have to be pre-specified by the firm.*

Point 9

According to point 9, the institutions must justify the criteria by which they judge the model performance, especially where thresholds are used. Such thresholds must be conservative so that exposure is not underestimated. These requirements are not comprehensible to us as the backtesting focuses on the precision of the forecast distribution and not on the question of how conservative the EPE assessor is.

III. Backtesting

a) Definitions

Point 12

Point 12 states: “In order to calculate EEPE daily, IMM firms must initialise their models daily”. We consider this statement to be ambiguous. We assume that the requirement of a daily EPE calculation is not established.

Points 16-20, 32

We can only understand the proposed differentiations between cases in part. In our view, aggregating over various time horizons is appropriate only if the requirement of independence of the data is observed and no model changes are contained. We request clarification in this respect.

b) Aggregation of Data

Point 22

The consultative document makes reference to the problem that poor performance at the level of the individual trades may be concealed or masked by good performance in other places. The question arises in this respect of why the requirement cannot simply be made to prove through suitable analyses that this problem does not arise.

In the guidance to point 22, there is a call in particular for the backtesting of market risk factor models. In so far as institutions also operate an internal market risk model alongside an IMM and results of this model are incorporated in the IMM or EPE model, the backtesting should be sufficient in the context of the prudential rules for the validation of internal market risk models. Otherwise the curious situation would arise that institutions with internal market risk models would have to comply with differing validation requirements depending on whether they also use an internal model method. We therefore propose the following amendment to the guidance (amendments in italics):

Guidance: The performance of market risk factor models must be validated using backtesting. ~~The validation must be able to identify poor performance in individual risk factors.~~ The backtesting requirements for internal market risk models apply.

c) Frequency of Backtesting Analysis

Point 27

The wording of point 27 leaves it unclear how the backtesting of the internal model method is to take place on the basis of “recent performance”. In our opinion, the requirement would be questionable if the data history available is to be restricted further thereby reducing the validity of statistical results. We request clarification.

Point 29

We advocate a regulation in point 29 which in addition to a regular update of the parameters of the model, also includes a need-based review of the parameterisation on an ad hoc basis – e.g. in the event of significant market fluctuations. We propose supplementing the guidance as follows:

Guidance: The frequency with which the parameters of an EPE model are updated needs be assessed as part of the on-going validation process or rather in case of need as part of an ad hoc activity.

d) Backtesting Criteria

Point 31

We do not consider the requirement proposed in point 31 of developing the criteria independently of observed results to be absolutely essential. Rather, the observed results should lead to further investigations, the results of which should be incorporated into the criteria. We request the deletion of the phrase “developed independently of observed results”.

e) Representative Portfolios

Point 33

Point 33 requires model banks to define criteria for representative portfolios. Backtesting is to take place on the basis of these representative portfolios. This is obviously appropriate only if the business model of an institution or market practices in a specific product area systematically lead to typical portfolio compositions. In all other cases, the guidance would

force the institutions to make an arbitrary selection, which cannot be what is in mind for supervision. We propose the following amendment to the guidance (amendments in italics):

Guidance: *Unless firms apply EPE model backtesting to all counterparty portfolios included in their IMM, firms need to define what constitutes a representative counterparty portfolio for the purposes of carrying out EPE model backtesting.*

Point 34

It is additionally required in point 34 that model banks must generate hypothetical portfolios to test risk factor assumptions and in particular the correlations between them. This guidance is contrary to that in the previous point which provides for restriction to representative portfolios. In our understanding, the combination of the guidance in points 33 and 34 means that the backtesting is to be undertaken on the one hand on the basis of representative real customer portfolio and on the other on the basis of hypothetical portfolios. In general, we are of the opinion that where the institution is in a position to base the backtesting of representative portfolios on real portfolios, it is not necessary to carry out backtesting of hypothetical portfolios in addition. No additional insight is to be expected from this.

Furthermore, it is unclear how the guidance is to be put into practice. A typical internal market risk model – which may be an input model for an IMM – will often comprise well over 1000 risk factors. The calculation of all hypothetical combinations from only two risk factors would generate about a million hypothetical portfolios. All hypothetical combinations as from three and more risk factors would mean that the number of portfolios is no longer manageable. We therefore propose deleting the guidance relating to point 34.

f) Real Trade Backtesting vs Hypothetical Trade Backtesting

Point 38

Point 38 lays down the requirement that the EPE model must be capable of estimating exposures out to longer time horizons too. It is unclear how this requirement is to be met. We therefore request clarification.

g) Time Horizons

Points 39, 40

According to point 39, time horizons for the backtesting of the EPE models must amount to at least one year. Point 40 further requires that the time horizons must correspond to the longest maturities of the underlying contracts. For derivatives, this regularly means time horizons of

several years, and possibly even several decades. Such long time horizons provide no additional insight if margining and close-out netting regulations exist.

On the other hand, it is emphasised in point 39 that although margining reduces an exposure, it does not change the tenor of exposure. We cannot understand this view. Margining – both for OTC and market derivatives – is as a rule directly linked to the possibility of closing the position if the counterparty no longer meets his margin commitments.

The following example shows the effect of the margining on the credit exposure: Assuming an institution – for example in its role as clearer on a derivatives market – has a position in futures with a customer for which, in accordance with the market specifications, a margin system from initial margin (collateral) and variation margin (daily mark-to-market) has been agreed. If the customer meets his variation margin commitments from day d to day $d+1$, the market value of his futures portfolio will each day come to zero. A one-year time horizon for backtesting is then obviously pointless. On the other hand, if the customer does not meet his commitments, closure takes place within a few days, claiming the collateral where appropriate, so that the exposure is reduced to zero. A one-year time horizon for backtesting is obviously pointless in that case too.

In addition, the proposal under point 39 also differentiates between margined and un-margined exposures and for both types requires backtesting of the relevant input models. Full backtesting of hypothetical margined exposures, for which no real collateral is exchanged, is not feasible, however. Testing of margined exposures should consequently be required only for real portfolios, for which a collateral process exists.

In so far as unmargined exposures are involved to a relevant extent, the time horizons for the backtesting-like validation of all relevant models should not exceed one year. As already stated, in general backtesting gives rise to no additional benefit for longer time horizons. Therefore forecasting methods and backtesting results of the shorter time horizons should be transferable to the longer time horizons.

We therefore propose deleting the guidance under points 39 and 40 and replacing it by the following guidance:

Guidance: Firms must backtest their EPE models and all relevant models that input into the calculation of EPE out to time horizons that are no less than the time until the next margin payment plus the time until close-out is executed where a counterparty does not meet its margin obligations. Where margin payment dates are not fixed but depend on

portfolio value triggers, firms must evaluate adequate time horizons that are commensurate with the periods between margin payment dates.

In this context, the call for time horizons of varying length in **point 21** is not appropriate. We therefore propose deleting this guidance too.

h) Initial Validation

Point 41

Point 41 requires comprehensive tests to be carried out on the basis of historical data for new products and new risk factors before inclusion in an EPE model. The requirement can obviously not be fulfilled if no historical data are available on account of the novelty of the products or markets. In particular in the rapidly developing sector of the commodity markets, there are plenty of examples of new products which were introduced on account of the demand for hedging from industry and SMEs. As regards market derivatives, Eurex for instance has recently introduced: potato, piglet and hog index futures, weather futures, property index futures. At the end of May, a milk contract is to be introduced. The energy exchange EEX recently extended its range to include weekly short-term electricity futures.

Generally speaking, there are no historical data available for such contracts or risk factors to be derived from them. According to point 41, these should not then be included in the EPE model. Consequently, hypothetical positions and potential hedge relations would have to be defined here. This would give rise to considerable expense for questionable benefit. Therefore only in cases where a type of product proves to be material and representative for an institution should this be included after its introduction in the representative portfolios and in the backtesting. The same applies for newly introduced market data or risk factors.

Furthermore, an initial validation with retrospective effect over a long history is technically feasible only with very great difficulty on account of the lack of availability of data. We suggest restricting how far back in time the initial validation extends in respect of the risk factor model.

In addition, irrespective of the procedure proposed above, we cannot identify any corresponding requirements for the backtesting process on the market price risk side. In our view, this different treatment is incomprehensible and accordingly should be avoided.

We therefore propose the following amendment (amendments in italics):

Guidance: Prior to implementation of a new EPE model or new model that inputs into the calculation of EPE a firm must carry out backtesting of its EPE model and all the relevant models that input into the calculation of EPE at a number of distinct time horizons using historical data, *if such data exist*, on movements in market risk factors for a range of historical periods covering a wide range of market conditions. *Where historical data do not exist, firms have to carefully evaluate the evolving price history.*

If you have any questions, please do not hesitate to contact us.

Yours faithfully,

On behalf of

ZENTRALER KREDITAUSSCHUSS
Deutscher Sparkassen- und Giroverband


Dr. Silvio Andrae


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