COMMISSION SERVICES STAFF WORKING DOCUMENT

POSSIBLE CHANGES TO THE TRADING BOOK CAPITAL REQUIREMENTS

The EU-Capital Requirements Directive ('CRD') adopted in June 2006, contained several changes to the rules applicable to the trading book of credit institutions and investment firms ('institutions'). These changes were introduced following international agreement reached at the level of the G-10 Basel Committee on Banking Supervision ('Basel Committee). Among those revisions is a requirement for those institutions that model specific risk, to hold capital against default risk that is incremental to the default risk captured in the institution’s value-at-risk model. Based on guidance from the G7 finance ministers, the Basel Committee has recently decided to expand the scope of this capital charge to capture not only defaults but also a wider range of incremental risks. Furthermore, the Basel Committee plans to improve the expected standards for internal value-at-risk models and to update the prudent valuation guidance for positions subject to market risk under the Basel II Framework.[1]

The Commission services are of the opinion that updating European capital requirements in line with developments at the international level and thus broadening the scope of a capital requirement for 'incremental risks' in institutions' trading books is desirable. In particular in the light of the recent market turmoil, institutions' current value-at-risk models have not performed as well as expected in periods of stressed markets. As a consequence, loss events may occur in the trading books that exceed the losses for which institutions are currently required to hold capital. The incremental default risk charge developed by the Basel Committee produces higher capital requirements than those of value-at-risk models. This is because such models are driven only by default risk, while losses incurred during the recent market turmoil were driven by the widening of spreads of non-defaulted debt instruments.

After considering the Basel Committee's consultative paper, the Commission services now seek public feedback about how such could be implemented in European legislation.

Stakeholders are requested to provide feedback by October 15, 2008 to the following email address: markt-h1@ec.europa.eu.

Comments and observation on any aspect of this consultation document are welcome. Comments will be posted on the following website unless otherwise requested: http://ec.europa.eu/internal_market/bank/regcapital/index_en.htm The Commission services seek feedback in particular on the following issues:

i) Principles based approach vs. legal certainty

The Basel Committee's consultative paper and the possible CRD changes reflect broad regulatory principles. They would leave institutions and supervisory authorities a degree of latitude in respect of implementation. At the same time, and when compared to other areas of capital requirements, the text may be considered to offer institutions relatively limited

[1] see the Basel Committee's press release and consultation papers released July 22, 2008: http://www.bis.org/press/p080722.htm

guidance for the implementation of the capital calculations. This could raise concerns about the legal certainty offered. Additional and more detailed guidance could be offered - if desirable - either as part of the Directive or in (legally non-binding) guidelines to be prepared by the Committee of European Banking Supervisors CEBS.

> ***Stakeholders are requested to express any views as to whether more detailed guidance is desirable, in which areas, and in which legal format: Directive text or CEBS guidelines?***

ii) Implementation of the new requirements

The Basel Committee suggests that institutions adopt an approach for all incremental risks from 2011 onwards. During 2010, institutions would need to adopt an approach that covers, but is not limited to, both incremental default and incremental credit migration risks.

This give rise to a timing issue between the EU and any final Basel recommendations. According to the current Article 47 and Annex V of Directive 2006/49/EC, EU-institutions will be required to have an approach in place to capture incremental default risk at latest beginning 2010. Institutions would subsequently need to extend that approach to cover all incremental risks after the changes outlined in this consultation paper are applied. The Commissions services are of the opinion that these changes could apply by beginning 2011, bearing in mind the time needed for the European legislative process and national implementing legislation at Member States' level.

As consequence, during 2010, the Basel Committee would expect banks to hold capital for both incremental default and migration risk, while EU-legislation would only require capital for the former type of risk.

> ***Stakeholders are requested to express their views about the impact of this possible temporary deviation***.

iii) Impact of the new requirement

The Commissions services are interested in fully understanding and assessing the potential impact of the changes under consideration. Respondents are therefore requested to comment on:

- compliance costs, and
- the possible impact on the capital requirements of institutions.

> ***If possible, stakeholders are asked to supply both quantitative and qualitative information. As far as is possible, this should be differentiated by sub-portfolios, describing their size and composition, and by providing a meaningful description of assumptions and methodologies underlying comments.***

iv) Scope and coverage

According to the draft proposals, the approach that would capture incremental risks would reflect all price risks, except those directly attributable to movements in commodity prices, foreign exchange rates, or the term structure of default-free interest rates. This gives rise to certain questions.

> ***(a) Should there be a list of specific types of events that must be captured (e.g. defaults, migrations, and only certain types of movements in credit spreads and equity prices)? How to determine which types of events should be included, and how to avoid a retrospective framework?***
>
> ***(b) Should the scope and coverage be expanded to capture the incremental risks and cover price risks associated with commodity prices, foreign exchange rates and the term structure of default-free interest rates?***

v) General versus specific risks

Capital requirements would depend in various ways on three types of risks: general market risks and specific risks, as defined under the current MRA, and incremental risks.

> ***Are the differences between these types of risks clear and measurable?***

vi) Double-counting adjustments

While the capital horizons and confidence levels underlying the approach to capture the incremental risks and the 10-day VaR charge would differ, the risk factors captured by these risk measures would overlap to a significant degree. However, any adjustments to offset any such 'double-counting' would complicate the framework and diminish the importance under Pillar 1 of the 10-day VaR calculations, including incentives to estimate the 10-day VaR as accurately as possible.

> ***The Commission services are interested in receiving views about the possibility of devising double-counting adjustments that would avoid the concerns mentioned above.***

vii) Capital horizon and confidence level

An approach to capture the incremental risks is envisaged that incorporates:

- a one-year capital horizon,
- a 99.9% confidence level, and
- a liquidity horizon appropriate for each trading position.

The Commission services understand that such an approach could present significant practical challenges for institutions in particular as regards the need to have data available to calibrate key parameters.

> ***(a) What alternative arrangements exist that could involve lower costs and avoid implementation challenges that would still achieve the same objectives?***
> ***(b) Given the current state of risk modelling, is it feasible to estimate the portfolio loss distribution over a one-year capital horizon at a 99.9 percent confidence level?***

(c) Should institutions be permitted to use a single horizon for all covered positions (e.g. three months) and a lower confidence level (e.g. 99%), together with a supervisory scaling factor, calibrated to achieve broad comparability with the IRB Framework for the banking book? Would such an approach be as useful for internal risk management purposes as the proposed approach to capture the incremental risks?

viii) Validation

Given the suggested approach to capture the incremental risks soundness standard over a one year time horizon and 99.9th percentile loss, the Commission services are interested in learning how the resulting risk measure could be validated from a quantitative perspective.

The Commission services are interested in stakeholders' views whether it would be for instance reasonable to validate the underlying model at shorter horizons and/or at lower percentiles? If so, how to ensure that the validation exercise is relevant for the one year 99.9th percentile standard? Also, would different aspects of a model require different validation approaches?

The flexibility built into the suggested approach to capture the incremental risks could potentially reduce the comparability of capital requirements for trading positions across institutions and across jurisdictions.

The Commission services welcome stakeholders' views about how the Directive or supervisory guidance could enhance comparability without unduly limiting firms modelling choices? In particular, would it be productive to require institutions to calculate risk measures for standardised 'test-decks' of trading portfolios, to be used to compare model results across institutions?

ix) Disclosures

The disclosure of relevant information is important for institutions, markets and supervisory authorities alike.

The Commission services would like to invite stakeholders' comments about whether any additional disclosures under Annex XII of Directive 2006/48/EC which would cover incremental risks, or the trading book more broadly, would be helpful and would further market discipline and level playing fields?

(DRAFTING NOTE: UNDERLINED TEXT IS NEW. STRIKETHROUGH INDICATES DELETION OF THE PRESENT DIRECTIVE TEXT)

Directive 2006/49/EC

ANNEX V

USE OF INTERNAL MODELS TO CALCULATE CAPITAL REQUIREMENTS

1. The competent authorities may, subject to the conditions laid down in this Annex, allow institutions to calculate their capital requirements for position risk, foreign-exchange risk and/or commodities risk using their own internal risk-management models instead of or in combination with the methods described in Annexes I, III and IV. Explicit recognition by the competent authorities of the use of models for supervisory capital purposes shall be required in each case.

2. Recognition shall only be given if the competent authority is satisfied that the institution's risk-management system is conceptually sound and implemented with integrity and that, in particular, the following qualitative standards are met:

(a) the internal risk-measurement model is closely integrated into the daily risk-management process of the institution and serves as the basis for reporting risk exposures to senior management of the institution;

(b) the institution has a risk control unit that is independent from business trading units and reports directly to senior management. The unit must be responsible for designing and implementing the institution's risk-management system. It shall produce and analyse daily reports on the output of the risk-measurement model and on the appropriate measures to be taken in terms of trading limits. The unit shall also conduct the initial and on-going validation of the internal model;

(c) the institution's board of directors and senior management are actively involved in the risk-control process and the daily reports produced by the risk-control unit are reviewed by a level of management with sufficient authority to enforce both reductions of positions taken by individual traders as well as in the institution's overall risk exposure;

(d) the institution has sufficient numbers of staff skilled in the use of sophisticated models in the trading, risk-control, audit and back-office areas;

(e) the institution has established procedures for monitoring and ensuring compliance with a documented set of internal policies and controls concerning the overall operation of the risk-measurement system;

(f) the institution's model has a proven track record of reasonable accuracy in measuring risks;

(g) the institution frequently conducts a rigorous programme of stress testing and the results of these tests are reviewed by senior management and reflected in the policies and limits it sets. This process shall particularly address illiquidity of markets in stressed market conditions, concentration risk, one way markets, event and jump-to-default risks, non-linearity of products, deep out-of-the-money positions, positions subject to the gapping of prices and other risks that may not be captured appropriately in the internal models. The shocks applied shall reflect the nature of the portfolios and the time it could take to hedge out or manage risks under severe market conditions; and

(h) the institution must conduct, as part of its regular internal auditing process, an independent review of its risk-measurement system.

The review referred to in point (h) of the first paragraph shall include both the activities of the business trading units and of the independent risk-control unit. At least once a year, the institution must conduct a review of its overall risk-management process.

The review shall consider the following:

(a) the adequacy of the documentation of the risk-management system and process and the organisation of the risk-control unit;

(b) the integration of market risk measures into daily risk management and the integrity of the management information system;

(c) the process the institution employs for approving risk-pricing models and valuation systems that are used by front and back-office personnel;

(d) the scope of market risks captured by the risk-measurement model and the validation of any significant changes in the risk-measurement process;

(e) the accuracy and completeness of position data, the accuracy and appropriateness of volatility and correlation assumptions, and the accuracy of valuation and risk sensitivity calculations;

(f) the verification process the institution employs to evaluate the consistency, timeliness and reliability of data sources used to run internal models, including the independence of such data sources; and

(g) the verification process the institution uses to evaluate back-testing that is conducted to assess the models' accuracy.

3. Institutions shall have processes in place to ensure that their internal models have been adequately validated by suitably qualified parties independent of the development process to ensure that they are conceptually sound and adequately capture all material risks. The validation shall be conducted when the internal model is initially developed and when any significant changes are made to the internal model. The validation shall also be conducted on a periodic basis but especially where there have been any significant structural changes in the market or changes to the composition of the portfolio which might lead to the internal model no longer being adequate. As techniques and best practices evolve, institutions shall avail themselves of these advances. Internal model validation shall not be limited to back-testing, but shall, at a minimum, also include the following:

(a) tests to demonstrate that any assumptions made within the internal model are appropriate and do not underestimate or overestimate the risk;

(b) in addition to the regulatory back-testing programmes, institutions shall carry out their own internal model validation tests in relation to the risks and structures of their portfolios; and

(c) the use of hypothetical portfolios to ensure that the internal model is able to account for particular structural features that may arise, for example material basis risks and concentration risk.

4. The institution shall monitor the accuracy and performance of its model by conducting a back-testing programme. The back-testing has to provide for each business day a comparison of the one-day value-at-risk measure generated by the institution's model for the portfolio's end-of-day positions to the one-day change of the portfolio's value by the end of the subsequent business day.

Competent authorities shall examine the institution's capability to perform back-testing on both actual and hypothetical changes in the portfolio's value. Back-testing on hypothetical changes in the portfolio's value is based on a comparison between the portfolio's end-of-day value and, assuming unchanged positions, its value at the end of the subsequent day. Competent authorities shall require institutions to take appropriate measures to improve their back-testing programme if deemed deficient. At a minimum, competent authorities shall ~~may~~ require institutions to perform back-testing on ~~either~~ hypothetical (using changes in portfolio value that would occur were end-of-day positions to remain unchanged)~~, or actual trading (excluding fees, commissions, and net interest income)~~ outcomes~~, or both~~.

5. For the purpose of calculating capital requirements for specific risk associated with traded debt and equity positions, the competent authorities may recognise the use of an institution's internal model if, in addition to compliance with the conditions in the remainder of this Annex, the internal model meets the following conditions:

(a) it explains the historical price variation in the portfolio;

(b) it captures concentration in terms of magnitude and changes of composition of the portfolio;

(c) it is robust to an adverse environment;

(d) it is validated through back-testing aimed at assessing whether specific risk is being accurately captured. If competent authorities allow this back-testing to be performed on the basis of relevant sub-portfolios, these must be chosen in a consistent manner; and

(e) it captures name-related basis risk, that is institutions shall demonstrate that the internal model is sensitive to material idiosyncratic differences between similar but not identical positions.~~; and~~

~~(f) it captures event risk.~~

~~The institution shall also meet the following conditions:~~

~~- where an institution is subject to event risk that is not reflected in its value-at-risk measure, because it is beyond the 10-day holding period and 99 percent confidence interval (low probability and high severity events), the institution shall ensure that the impact of such events is factored in to its internal capital assessment; and~~

~~– t~~The institution's internal model shall conservatively assess the risk arising from less liquid positions and positions with limited price transparency under realistic market scenarios. In addition, the internal model shall meet minimum data standards. Proxies shall be appropriately conservative and may be used only where available data is insufficient or is not reflective of the true volatility of a position or portfolio.

Further, as techniques and best practices evolve, institutions shall avail themselves of these advances.

[the following paragraphs – as amended – are moved to a separate point 5a.]

If the competent authority does not recognise that an institution meets the requirements of this point and the requirements of point 5a to capture the incremental ~~default~~ risks through an internally developed approach, the institution shall calculate specific risk capital requirements according to Annex I rather than this Annex ~~the surcharge through an approach consistent with the either the approach set out in Articles 78 to 83 of Directive 2006/48/EC or the approach set out in Articles 84 to 89 of that Directive~~.

5a. In addition, the institution shall have an internally developed approach in place to capture, in the calculation of its capital requirements, the ~~default~~ risks ~~of~~ in its trading book ~~positions~~ that ~~is~~ are incremental to the ~~default~~ risk captured by the value-at-risk measure as specified in ~~the previous requirements of this~~ point 5. The approach shall be based on objective data such as market prices and verifiable trading experience.

~~To avoid double counting, an institution may, when calculating its incremental default risk charge, take into account the extent to which default risk has already been incorporated into the value-at-risk measure, especially for risk positions that could and would be closed within 10 days in the event of adverse market conditions or other indications of deterioration in the credit environment. Where an institution captures its incremental default risk through a surcharge, it shall have in place methodologies for validating the measure. The institution shall demonstrate that its approach meets soundness standards comparable to the approach set out in Articles 84 to 89 of Directive 2006/48/EC, under the assumption of a constant level of risk, and adjusted where appropriate to reflect the impact of liquidity, concentrations, hedging and optionality.~~

Scope

The approach to capture the incremental risks shall encompass all positions of the trading book, regardless of their perceived liquidity, except those positions whose valuations depend solely on commodity prices, foreign exchange rates, or the term structure of default-free interest rates. The approach to capture the incremental risks shall capture all relevant price risks. Relevant price risks are all price risks other than those directly attributable to commodity prices, foreign exchange rates and the term structure of default-free interest rates. The approach to capture the incremental risks shall capture both idiosyncratic and systematic– such as market-wide events affecting multiple issues/issuers, including events of generalised market illiquidity – risks and associated risk factors. Risks may be excluded on the basis of immateriality, provided that the aggregation of such excluded risks is immaterial for the trading book as a whole.

Parameters

The approach to capture the incremental risks must measure the relevant price risks at the 99.9 percent confidence interval over a capital horizon of one year.

Correlation assumptions must be supported by analysis of objective data in a conceptually sound framework. The approach to capture the incremental risks shall appropriately reflect issuer concentrations. Concentrations that can arise within and across product classes under stressed conditions shall also be reflected.

The approach shall be based on the assumption of a constant level of risk over the one-year capital horizon, subject to the liquidity horizon for a given individual trading book positions or sets of positions. Alternatively, an institution may elect to use a one-year constant position assumption.

The liquidity horizons shall be set according to the time required to sell the position or to hedge all material relevant price risks in a stressed market, having particular regard to the size of the position. The liquidity horizon shall be measured under conservative assumptions and shall be sufficiently long that the act of selling or hedging, in itself, would not materially affect the price at which the selling or hedging would be executed. The determination of the appropriate liquidity horizon for a position or set of positions may take into account an institution’s internal policies relating to valuation adjustments/reserves and the management of stale positions. Liquidity horizons shall reflect actual practice and experience during periods of both systematic and idiosyncratic stresses.

The determination of the appropriate liquidity horizon for a position or set of positions is subject to a floor of

a) one month for

- exposures to equities traded on a regulated market;

- exposures to stock indices that — in the opinion of the competent authorities — represent broadly diversified indices; and

- exposures to benchmark interest rate spreads traded in a liquid market two-way market;

b) one year for re-securitisations; and

c) three months for all other positions.

Whenever an institution sets liquidity horizons for sets of positions, the criteria for defining sets of positions shall be defined in a way that meaningfully reflects differences in liquidity.

The liquidity horizons shall be greater for positions that are concentrated, reflecting the longer period needed to liquidate such positions. The liquidity horizon for a securitisation warehouse shall reflect the time to build, sell and securitise the assets, or to hedge the material risk factors, under stressed market conditions.

Hedges can be incorporated into an institution’s approach to capture the incremental risks. Institutions shall reflect the impact of potential risks that could occur during the interval between the hedge’s maturity and the liquidity horizon as well as the potential for significant basis risks in hedging strategies by product, seniority in the capital structure, internal or external rating, maturity, vintage and other differences in the instruments. An institution shall reflect a hedge only to the extent that it can be maintained even as the obligor approaches a credit or other event.

The approach to capture the incremental risks must reflect the nonlinear impact of options, structured credit derivatives and other positions with material nonlinear behaviour with respect to price changes. The institution shall also have due regard to the amount of model risk inherent in the valuation and estimation of price risks associated with such products.

The approach shall be based on objective data.

Validation

As part of the independent review of their risk measurement system and the validation of their internal models, institutions shall, with a view to the approach to capture incremental risks, in particular:

- validate that its modelling approach for correlations and price changes is appropriate for its portfolio, including the choice and weights of its systematic risk factors. An institution must document its modelling approach so that its correlation and other modelling assumptions are transparent to supervisors;
- perform a variety of stress tests, including sensitivity analysis and scenario analysis, to assess the approach's qualitative and quantitative reasonableness, particularly with regard to the treatment of concentrations. Such tests shall not be limited to the range of events experienced historically; and
- apply appropriate quantitative validation.

The approach to capture the incremental risks must be consistent with the institution's internal risk management methodologies for identifying, measuring, and managing trading risks.

Internal approaches based on different parameters

An institution may apply parameters different from those set out in the previous section if and only if it is consistent with the institution's internal risk management methodologies for identifying, measuring, and managing trading risks. Unless its approach leads to an equivalent capital requirement, the institution shall either:

- run an alternative version of its internal model using parameters consistent with those set out in the previous section; or
- propose, subject to supervisory approval, a Capital Adjustment Factor to adjust for differences in its internal model compared to the parameters set out in the previous section.

Where a Capital Adjustment Factor is used, its appropriateness shall be reassessed by the institution not less than annually.

A Capital Adjustment Factor shall not be used to adjust from a lower percentile to the 99.9 percent confidence interval.

The institution shall demonstrate no less than annually that the resulting capital requirement is at least as conservative as the result produced by a model agreed with its competent authority that is parameterised consistently with the previous section.

Frequency of calculation

An institution shall calculate the approach to capture the incremental risks at least weekly. The capital requirement for incremental risks for a given reporting period would equal the average of the calculations over the reporting period.

6. ~~With respect to c~~Cash or synthetic securitisation exposures that would be subject to a deduction treatment under the treatment set out in Article 66(2) of Directive 2006/48/EC, or risk-weighted at 1,250 % as set out in Part 4 of Annex IX to that Directive~~, these positions~~ shall be subject to a capital charge that is no less than set forth under that treatment. Institutions that are dealers in these exposures may apply a different treatment where they can demonstrate to their competent authorities, in addition to trading intent that a liquid two-way market exists for the securitisation exposures or, in the case of synthetic securitisations that rely solely on credit derivatives, for the securitisation exposures themselves or all their constituent risk components. A ~~For the purposes of this section a~~ two-way market is deemed to exist where there are independent good faith offers to buy and sell so that a price reasonably related to the last sales price or current good faith competitive bid and offer quotations can be determined within one day and settled at such a price within a relatively short time conforming to trade custom. For an institution to apply a different treatment, it shall have sufficient market data to ensure that it fully captures the concentrated ~~default~~ risk of these exposures in its internal approach for measuring the incremental ~~default~~ risks in accordance with the standards set out above.

~~6. Institutions using internal models which are not recognised in accordance with point 4 shall be subject to a separate capital charge for specific risk as calculated according to Annex I.~~

7. For the purposes of point 9(b), the results of the institution's own calculation shall be scaled up by a multiplication factor of at least 3.

8. Table 1

Number of overshootings	Plus-factor
Fewer than 5	0,00
5	0,40
6	0,50
7	0,65
8	0,75
9	0,85
10 or more	1,00

The competent authorities may, in individual cases and owing to an exceptional situation, waive the requirement to increase the multiplication factor by the "plus-factor" in accordance with Table 1, if the institution has demonstrated to the satisfaction of the competent authorities that such an increase is unjustified and that the model is basically sound.

If numerous overshootings indicate that the model is not sufficiently accurate, the competent authorities shall revoke the model's recognition or impose appropriate measures to ensure that the model is improved promptly.

In order to allow competent authorities to monitor the appropriateness of the plus-factor on an ongoing basis, institutions shall notify promptly, and in any case no later than within five working days, the competent authorities of overshootings that result form their back-testing programme and that would according to the above table imply an increase of a plus-factor.

9. Each institution must meet a capital requirement expressed as the higher of:

(a) its previous day's value-at-risk measure according to the parameters specified in this Annex plus~~, where appropriate,~~ the incremental ~~default~~ risk charge required under point 5a; or

(b) an average of the daily value-at-risk measures on each of the preceding 60 business days, multiplied by the factor mentioned in point 7, adjusted by the factor referred to in point 8 plus~~, where appropriate,~~ the incremental ~~default~~ risk charge required under point 5a.

10. The calculation of the value-at-risk measure shall be subject to the following minimum standards:

(a) at least daily calculation of the value-at-risk measure;

(b) a 99th percentile, one-tailed confidence interval;

(c) a 10-day ~~equivalent~~ holding period;

(d) an effective historical observation period of at least one year except where a shorter observation period is justified by a significant upsurge in price volatility; and

(e) ~~three-~~monthly data set updates.

For purposes of letter (c), institutions may scale up measures derived for shorter holding periods only if they periodically justify the appropriateness of the scaling approach to the competent authority. Institutions must have processes in place that allow for data set updates more frequently than monthly.

11. The competent authorities shall require that the model captures accurately all the material price risks of options or option-like positions and that any other risks not captured by the model are covered adequately by own funds.

12. The risk-measurement model shall capture a sufficient number of risk factors, depending on the level of activity of the institution in the respective markets~~ and in particular the following~~. Where a risk factor is incorporated in the institution's pricing model but not in the risk-measurement model, the institution must be able to justify this omission to the satisfaction of the competent authority. In addition, the risk-measurement model shall capture nonlinearities beyond those inherent in options and in particular where tranching of exposures or nth loss positions are present, as well as correlation risk and basis risk. Where proxies for risk factors are used they shall show a good track record for the actual position held. In addition, the following shall apply for individual risk types:

Interest rate risk

The risk-measurement system shall incorporate a set of risk factors corresponding to the interest rates in each currency in which the institution has interest rate sensitive on- or off-balance sheet positions. The institution shall model the yield curves using one of the generally accepted approaches. For material exposures to interest-rate risk in the major currencies and markets, the yield curve shall be divided into a minimum of six maturity segments, to capture the variations of volatility of rates along the yield curve. The risk-measurement system must also capture the risk of less than perfectly correlated movements between different yield curves.

Foreign-exchange risk

The risk-measurement system shall incorporate risk factors corresponding to gold and to the individual foreign currencies in which the institution's positions are denominated.

For CIUs the actual foreign exchange positions of the CIU shall be taken into account. Institutions may rely on third party reporting of the foreign exchange position of the CIU, where the correctness of this report is adequately ensured. If an institution is not aware of the foreign exchange positions of a CIU, this position should be carved out and treated in accordance with the fourth paragraph of point 2.1 of Annex III.

Equity risk

The risk-measurement system shall use a separate risk factor at least for each of the equity markets in which the institution holds significant positions.

Commodity risk

The risk-measurement system shall use a separate risk factor at least for each commodity in which the institution holds significant positions. The risk-measurement system must also capture the risk of less than perfectly correlated movements between similar, but not identical, commodities and the exposure to changes in forward prices arising from maturity mismatches. It shall also take account of market characteristics, notably delivery dates and the scope provided to traders to close out positions.

13. The competent authorities may allow institutions to use empirical correlations within risk categories and across risk categories if they are satisfied that the institution's system for measuring correlations is sound and implemented with integrity.

<u>ANNEX VII</u>

TRADING

Part A remains unchanged.

Systems and Controls

1. Institutions shall establish and maintain systems and controls sufficient to provide prudent and reliable valuation estimates.

2. Systems and controls shall include at least the following elements:

(a) documented policies and procedures for the process of valuation. This includes clearly defined responsibilities of the various areas involved in the determination of the valuation, sources of market information and review of their appropriateness, <u>guidelines for the use of unobservable inputs reflecting the</u>

institution’s assumptions of what market participants would use in pricing the position, frequency of independent valuation, timing of closing prices, procedures for adjusting valuations, month end and ad-hoc verification procedures; and

(b) reporting lines for the department accountable for the valuation process that are clear and independent of the front office.

The reporting line shall ultimately be to a main board executive director.

Prudent Valuation Methods

3. Institutions shall mark their positions to market when calculating market risk capital requirements whenever possible and unless the mark is the result of a distressed sale or forced liquidation. Marking to market is the at least daily valuation of positions at readily available close out prices that are sourced independently. Examples include exchange prices, screen prices, or quotes from several independent reputable brokers.

4. When marking to market, the more prudent side of bid/offer shall be used unless the institution is a significant market maker in the particular type of financial instrument or commodity in question and it can close out at mid market.

5. Where marking to market is not possible, institutions must conservatively mark to model their positions/portfolios before applying trading book capital treatment. Marking to model is defined as any valuation which has to be benchmarked, extrapolated or otherwise calculated from a market input.

6. The following requirements must be complied with when marking to model:

(a) senior management shall be aware of the elements of the trading book which are subject to mark to model and shall understand the materiality of the uncertainty this creates in the reporting of the risk/performance of the business;

(b) market inputs shall be sourced, where possible, in line with market prices, and the appropriateness of the market inputs of the particular position being valued and the parameters of the model shall be assessed on a frequent basis;

(c) where available, valuation methodologies which are accepted market practice for particular financial instruments or commodities shall be used;

(d) where the model is developed by the institution itself, it shall be based on appropriate assumptions, which have been assessed and challenged by suitably qualified parties independent of the development process;

(e) there shall be formal change control procedures in place and a secure copy of the model shall be held and periodically used to check valuations;

(f) risk management shall be aware of the weaknesses of the models used and how best to reflect those in the valuation output; and

(g) the model shall be subject to periodic review to determine the accuracy of its performance (e.g. assessing the continued appropriateness of assumptions, analysis of profit and loss versus risk factors, comparison of actual close out values to model outputs).

For the purposes of point (d), the model shall be developed or approved independently of the front office and shall be independently tested, including validation of the mathematics, assumptions and software implementation.

7. Independent price verification should be performed in addition to daily marking to market or marking to model. This is the process by which market prices or model inputs are regularly verified for accuracy and independence. While daily marking to market may be performed by dealers, verification of market prices and model inputs should be performed by a unit independent of the dealing room, at least monthly (or, depending on the nature of the market/trading activity, more frequently). Where independent pricing sources are not available or pricing sources are more subjective, prudent measures such as valuation adjustments may be appropriate.

Valuation adjustments or reserves

8. Institutions shall establish and maintain procedures for considering valuation adjustments/reserves.

General standards

9. The competent authorities shall require the following valuation adjustments/reserves to be formally considered: unearned credit spreads, close-out costs, operational risks, early termination, investing and funding costs, future administrative costs and, where relevant, model risk.

Standards for less liquid positions

10. Less liquid positions could arise from both market events and institution-related situations e.g. concentrated positions and/or stale positions.

11. Institutions shall establish and maintain procedures for calculating an adjustment to the current valuation of less liquid positions. Under these procedures, Institutions shall consider several factors when determining whether a valuation adjustment/reserve is necessary for less liquid positions. These factors include the amount of time it would take to hedge out the position/risks within the position, the volatility and average of bid/offer spreads, the availability of market quotes (number and identity of market makers) and the volatility and average of trading volumes, market concentrations, the aging of positions, the extent to which valuation relies on marking-to-model, and the impact of other model risks.

12. When using third party valuations or marking to model, institutions shall consider whether to apply a valuation adjustment. In addition, institutions shall consider the need for establishing reserves for less liquid positions and on an ongoing basis review their continued suitability.

13. When valuation adjustments/reserves give rise to material losses of the current financial year, these shall be deducted from an institution's original own funds according to point (k) of Article 57 of Directive 2006/48/EC

14. Other profits/losses originating from valuation adjustments/reserves shall be included in the calculation of "net trading book profits" mentioned in point (b) of Article 13(2) and be added to/deducted from the additional own funds eligible to cover market risk requirements according to such provisions.

15. Valuation adjustments/reserves which exceed those made under the accounting framework to which the institution is subject shall be treated in accordance with point 13 if they give rise to material losses, or point 14 otherwise.

Part C and Part D remain unchanged.

Directive 2006/48/EC

ANNEX XII, part 2 point 10

The following information shall be disclosed by each credit institution which calculates its capital requirements in accordance with Annex V to Directive 2006/49/EC:

(a) for each sub-portfolio covered:

(i) the characteristics of the models used;

<u>(i bis) the characteristics of the approach used to capture the incremental risk of trading book positions;</u>

(ii) a description of stress testing applied to the sub-portfolio;

(iii) a description of the approaches used for back-testing and validating the accuracy and consistency of the internal models and modelling processes;

(b) the scope of acceptance by the competent authority;

(c) a description of the extent and methodologies for compliance with the requirements set out in Annex VII, Part B to Directive 2006/49/EC;

(d) the highest, the lowest and the mean of the daily value-at-risk measures over the reporting period and the value-at-risk measure as per the period end;

<u>(e) the amount of capital for incremental risk, together with the weighted average liquidity horizon for each sub-portfolio covered,</u>

(f) a comparison of the daily end-of-day value-at-risk measures to the one-day changes of the portfolio's value by the end of the subsequent business day together with an analysis of any important overshootings during the reporting period.;