

# Better capturing risks in the trading book

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*The 1996 Amendment to the Basel Capital Accord, which allows, under certain conditions, the use of internal models to calculate regulatory capital requirements for market risk, has resulted in an apparently sound supervisory trading book regime for internationally active banks.*

*Since this amendment was passed, the composition of the trading book has nevertheless changed substantially to include a more and more credit-related products such as credit derivatives and tranches of collateralised debt obligations (CDOs), as well as complex products such as hedge fund or fund of funds structured products. Furthermore, the contents of the trading book are expected to broaden due to the implementation of new international accounting and prudential standards.*

*This development has led to an increase in credit risk in the trading book and a concomitant rise in other risks such as default risk, event risk, liquidity risk, concentration risk and correlation risk, which were not adequately captured when market risk regulations were devised.*

*This has prompted:*

- banks to improve their risk assessment and control systems for trading book activities. These systems still often use Value at Risk (VaR) calculations based on a uniform 10-day holding period, which does not always appear relevant;*
- banking supervisors to enhance the supervision of these systems, in particular by ensuring that the measures proposed in July 2005 by the Basel Committee and the International Organisation of Securities Commissions (IOSCO), known as "Basel 2.5", are correctly implemented. These measures aim to capture risks in the trading book in a more rigorous and comprehensive manner.*

## 1| AN APPARENTLY WELL-ESTABLISHED TRADING BOOK SUPERVISORY REGIME

The trading book supervisory regime introduced in 1996 requires credit institutions and investment firms to measure risks resulting from the transactions held in their trading book and to cover these risks by regulatory capital. This regime offers firms the use of either a standardised approach or an internal models approach to calculate the capital requirements associated with the trading book. Most major internationally active banks favour the internal models approach, built on the Value at Risk (VaR) methodology. Both the general risk, arising from general market movements, and the specific risk, related to changes in the credit quality of issuers, must notably be covered by adequate capital.

### Box 1

#### Prudential definition of the trading book

*Positions held with trading intent are those that have been taken with a view to short-term sale and/or with the intent of benefiting from actual or expected short-term price movements or to lock in arbitrage profits. Positions held for hedging other elements of the trading book are those taken with a view to offsetting, totally or to a large extent, the risk factors associated with these items. For institutions subject to International Financial Reporting Standards (IFRS), the trading book includes:*

- financial assets held at fair value through profit and loss, i.e. those held for trading purposes, unless they are designated as effective hedging instruments;
- the temporary sales of securities and forward foreign exchange transactions, if they are carried out with a view to benefiting from favourable interest rate movements or if they hedge other elements of the trading book;
- other transactions with credit institutions or investment firms, if they finance one or more elements of the trading book.

*Source: Regulation 95-02 of 21 July 1995 on the prudential supervision of market risk, Advisory Committee on Financial Legislation and Regulation (CCLRF - le Comité consultatif de la législation et de la réglementation financières).*

### 1|1 Definition of the trading book

In order to calculate regulatory capital requirements, credit institutions and investment firms classify their assets and off-balance-sheet items under one of the two following categories: the banking book, in which most medium- and long-term transactions are held and which is subject to regulatory capital requirements for the credit risk<sup>1</sup> arising from these transactions; the trading book, which consists of positions in financial instruments and commodities held either with trading intent or in order to hedge other elements of the trading book (see Box 1), and which is subject to capital requirements for market risk.<sup>2</sup> In particular, the trading book includes most derivatives such as financial futures, interest rate and currency swaps, options on securities, etc.

### 1|2 Capital requirements for market risk

Capital requirements for market risk were introduced more recently than those for credit risk with the 1996 Amendment to the 1988 Capital Accord. Market risk includes: interest rate risk, equity position risk, settlement and counterparty risk and foreign exchange risk. With a view to limiting the vulnerability of institutions to these risks, the 1996 Amendment allows banks to use either a standardised approach or an internal models approach to calculate their capital requirements.

Most major international banks have developed, in accordance with strict qualitative and quantitative criteria laid down by the regulators, internal models built on daily Value at Risk (VaR)<sup>3</sup> measures, calculated from a number of risk factors: interest rate risk, foreign exchange risk, equity position risk, commodity price risk and option risk. Capital requirements are equal to the higher of the Value at Risk on the previous day or the average Value at Risk of the 60 previous business days, to which the competent supervisory authority applies a scaling factor of at least three depending on the quality of the risk management system and the accuracy of the model (see Box 2).

As regards the quality of the risk management system, banking supervisors require in particular, in

<sup>1</sup> Requirements determined in France in accordance with the provisions of Regulation 91-05 on the solvency ratio.

<sup>2</sup> Requirements determined in France in accordance with the provisions of Regulation 95-02 on the prudential supervision of market risks.

<sup>3</sup> Lévy-Rueff (G.) (2005) for the different VaR calculation methods.

**Box 2****Calculation of capital requirements under the internal models approach**

$$FP = \text{Max} \left( \text{VaR}_j, \left( \sum_{j=60}^{j-1} \text{VaR}_j / 60 \right) \times (3 + \text{additional factor}) \right)$$

Source: General Secretariat of the Commission bancaire.

addition to the existence of adequate internal control procedures, that internal models be closely integrated in the day-to-day risk management process and that operational limits be consistent with their modelling. The accuracy of the model is assessed on the basis of the number of exceptions (when observed losses exceed those calculated by the model) identified by backtesting by the institutions.

**1|3 General risk and specific risk**

For interest rate risk and equity position risk, a distinction is made between general risk, *i.e.* the risk arising from general market movements (fluctuations in the level of interest rates or general equity market movements), and specific risk, *i.e.* the risk related to the credit quality of issuers. While the current trading book regime aims to cover general risk and specific risk, internal models have been primarily designed to provide an alternative to the standardised measure of general risk and allow the effects of correlations across and within risk factors to be taken into account.

Although measuring specific risk under the internal models approach has also been allowed, it presents difficulties in terms of modelling a number of key variables such as event risk, defined as a significant and/or sudden change in the price of a security in the wake of events affecting the issuer and often beyond the assumptions of VaR models (99% confidence interval, 10-business-day holding period), or default risk, associated in particular with the sudden failure of an issuer (jump-to-default risk). The Basel Committee therefore made the use of internal models for measuring specific risk subject to additional conditions. In order to use estimates derived from modelling specific risk, these models must be able to explain *ex ante* historical changes in the value of the portfolio and capture concentrations in the composition of the portfolio. They must also demonstrate that they remain reliable in an adverse

environment and that they can be validated by backtesting. Lastly, a risk capital surcharge is applied to the use of such models if they inadequately capture event and default risk, equivalent to a multiplier of four.

**2| AN INCREASE IN CREDIT RISK IN THE TRADING BOOK**

Since the 1996 Amendment to the Capital Accord, banks have significantly improved their modelling of market risk but, to date, no supervisory authority has authorised an institution using internal models to measure specific risk to apply a multiplier of less than four, given that the capture of event and default risk remains partial. Furthermore, the composition of Banks' trading books has changed considerably over the past years to include more and more credit-related products, resulting in an attendant rise in event and default risk. This increase in credit risk in institutions' trading books is mainly attributable to the fast development of the credit derivatives market and hedge fund structured products. Moreover, it is likely to grow further due to the application of the new international accounting (IFRS) and prudential (Basel II) standards.

**2|1 Credit derivatives**

Initially used by banks to hedge and transfer the credit risk in their banking book, credit derivatives such as credit default swaps (CDSs) and collateralised debt obligations (CDOs) now form part of large institutions' trading activities. They are mainly used to generate short-term gains on expected changes in credit risk and to offer investors products with a higher risk/return profile. This development has been fuelled by the recent environment of low spreads and low volatility, which has prompted investors to seek higher yields.

While, at the end of 2000, the proportion of credit derivatives in the trading book of the main French banking groups only stood at 30% and 41% (for protection buying and selling respectively), it now stands at 93% and 98% (see Box 3). Nowadays, credit risk transfer instruments are used more widely for the dynamic management of portfolios than for hedging credit risk on banks' balance sheets. This development was accompanied, as highlighted by the Report of the Joint Forum<sup>4</sup> on Credit Risk Transfer

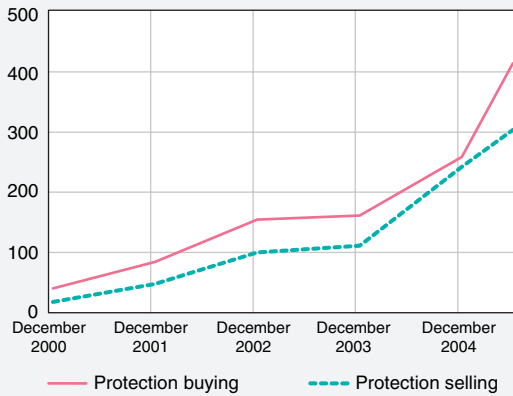
<sup>4</sup> The Joint Forum, established in 1996, is a forum for dialogue and exchange between the three international organisations charged with setting the standards applicable to the financial sector: the Basel Committee on Banking Supervision (BCBS), the International Organisation of Securities Commissions (IOSCO) and the International Association of Insurance Supervisors (IAIS).

**Box 3**

**Changes in the notional amount and the classification of credit derivatives used by the main French banks**

**Changes in the notional amount of credit derivatives used by the main French banks.**

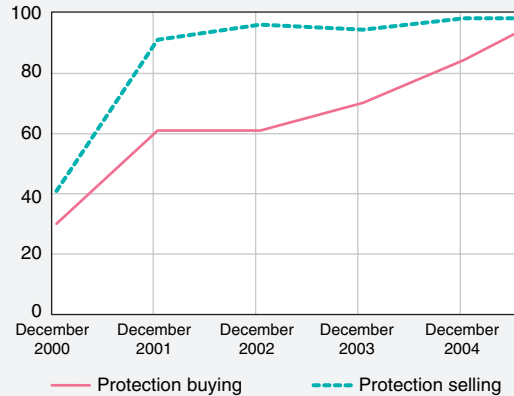
(Notional in billions of euro)



Source: General Secretariat of the Commission bancaire.

**% share of positions on credit derivatives in the trading book**

(%)



(October 2004), by a growing sophistication of trading instruments and strategies: arbitrage CDOs (synthetic CDOs), CDOs of CDOs (CDOs-squared), STCDOs (single tranche CDOs), correlation trading, etc.

**2|2 Hedge fund structured products**

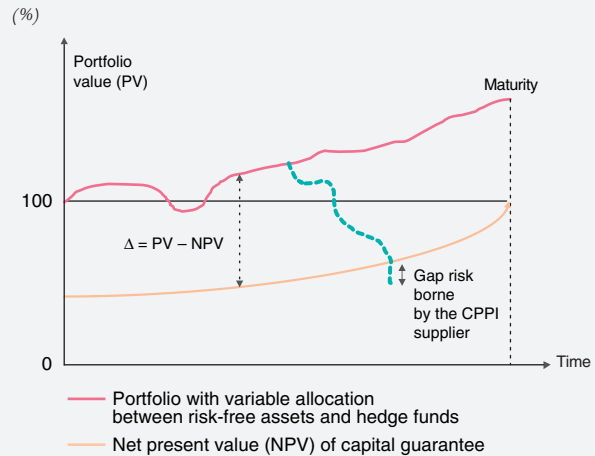
The development of banks' hedge fund activities has also led to an increase in credit risk in the trading

book. In addition to financing granted in the form of credit facilities and repos, trading operations in the form of financial derivatives and prime brokerage activities,<sup>5</sup> the major international banks have been developing their marketing of hedge fund or fund of funds structured products. These products, such as Constant Proportion Portfolio Insurance (CPPI) –see Box 4– aim to offer investors a capital guarantee plus a return indexed on the performance of a hedge

**Box 4**

**Constant Proportion Portfolio Insurance (CPPI)**

CPPI products offer investors a capital guarantee (“principal-protected”) as well as a return indexed on the performance of a high-yield risky asset, for example an equity stake in a hedge fund. In order to be able to guarantee the repayment of the principal, the bank invests the capital put forward by the client in both risk-free and risky assets, with the allocation between the two types of asset varying according to the performance of the hedge fund; the greater the proportion invested in risky assets, the higher the potential return, and vice versa. The risk for the institution is low in normal market conditions, but may increase in the event of adverse developments that push the liquidation value of the risky asset below the level that allows the institution to purchase the risk-free assets needed to guarantee repayment of the principal at maturity.



Source: Risk.

<sup>5</sup> Prime brokers offer hedge funds a wide range of services: financing in the form of securities and/or cash loans, execution of orders, settlement and clearing of transactions, valuation, preparation of daily accounts, etc.

fund or a fund of funds. Equity stakes in hedge funds or in funds of funds, purchased by banks in order to structure such products are usually booked in the trading book. They contribute to the total VaR of the trading portfolio and are therefore subject to capital requirements calculated under the internal models approach.

## 2|3 New accounting and prudential standards

Lastly, the International Financial Reporting Standards (IFRS) are also likely to lead to an increase in credit risk in the trading book. Until these standards were adopted (1 January 2005 in Europe<sup>6</sup>), positions booked in the banking book were subject to different accounting treatment (accrual) than those booked in the trading book (market value). Yet, the implementation of IFRS results in

an extension of the scope of the application of fair value accounting, which is closely based on market value,<sup>7</sup> to non-trading activities. This removal of the differences in accounting treatments tends to blur the boundary between the banking book and the trading book and could broaden the contents of the latter, especially since the capital requirements for credit risk in the trading book are lower than those for the banking book (see section 3|1).

Furthermore, the fact that institutions subject to IFRS generally have to measure at fair value instruments held to hedge other elements accounted on an accrual basis in the banking book, in particular credit derivatives hedging loans, is a source of accounting mismatch. In order to prevent such a mismatch, which results in volatility in the P&L accounts, banks could more systematically book all these items in the trading book, which may be contrary to the prudential criteria laid down for the booking of such transactions (see Box 5).

### Box 5

#### Criteria for classifying credit derivatives in the trading book

*In order to be booked in the trading book, credit derivatives must be purchased with trading intent or for the purpose of hedging other elements of the trading book. They must be free of any restrictive covenants on their tradability or be able to be hedged completely.*

*Moreover, the General Secretariat of the Commission bancaire may object to a credit derivative being recorded in the trading book if the institution does not have the necessary resources and experience to actively manage them or if it does not have adequate systems and controls.*

*In order to be eligible for the trading book, all the following conditions must be satisfied:*

- *the institution must have a clearly documented trading strategy for credit derivatives which has been approved by senior management;*
- *there must be clearly defined procedures including, in particular, a system of limits and daily tracking of their observance;*
- *a daily, conservative valuation must be carried out, either at market prices or with reference to a model that has been validated by the internal risk monitoring division and that has not been objected to by the institution's internal or external auditors;*
- *an active monitoring of positions must be carried out, including in particular an evaluation of the quality and availability of market data used in the valuation process, the volume of transactions, and the size of the positions traded;*
- *the institution must have in place a system of reporting to senior management as part of its global monitoring of the management of risks arising from the institution's trading activities;*
- *valuations at market prices or with reference to a model must take into account liquidity risk and modelling risk, using a methodology that has been approved by senior management.*

*Source: General Secretariat of the Commission bancaire/Procedures for calculating the international solvency ratio.*

<sup>6</sup> For the consolidated accounts of companies listed on an organised European market.

<sup>7</sup> Amis (P) and Rospars (É.) (2005) for changes in international accounting standards.



Lastly, the removal, in the new capital adequacy framework (Basel II), of the current cap associated with the minimum capital requirements (8% of risk-weighted assets) applied to positions in the banking book may encourage banks to transfer part of these assets, in particular high-risk positions, to the trading book. Indeed, the spectrum of risk weights in Basel II is much broader than in the 1988 Accord and will result in the application of risk weights of over 100% (current maximum) to exposures on counterparties with a high probability of default.

### 3 | AN INCOMPLETE ASSESSMENT OF RISKS IN THE TRADING BOOK

In addition to the increase in default and event risk, the growing presence, in the trading book, of credit risk transfer instruments and complex and structured products, which are generally less liquid, has resulted in an escalation of certain types of risk. The latter, which include liquidity risk, concentration risk and correlation risk, are not fully addressed in current regulations on market risk.

#### 3|1 Liquidity risk

The liquidity of a financial instrument plays a key role in determining the holding period for a bank of such an instrument and therefore in assessing the regulatory capital requirement to which it is subject. In general, credit risk in the trading book is subject to lower regulatory capital requirements than in the banking book. For instance, under the standardised approach, selling protection through a credit derivative with a notional of 100 and whose underlying reference entity has a minimum rating of BBB- (investment grade) would generate a credit risk capital requirement of 8 in the banking book compared to a specific risk capital requirement of only 1.6 in the trading book. This difference, often accentuated when the internal models approach is used to measure specific risk, can be mainly attributed to the different time horizons on which the risks are assessed: one year for credit risk (corresponding to a horizon for estimating the probability of default of the issuer) and ten days for market risk (corresponding to a horizon for the closing out or hedging of positions).

The preferential treatment granted to the trading book can be ascribed to the fact that the positions are held for short-term sale and they can be easily unwound or hedged on the market. However, in practice, this is often not the case.

Admittedly, the liquidity of credit derivatives is tending to increase, in particular for the most standard products (such as single-name credit default swaps) and, more generally, due to the creation of standardised indices for credit default swaps.<sup>8</sup> Nevertheless, the assumption that positions can be closed out or hedged within ten days, which is currently used as a basis for calculating capital requirements using VaR models, may prove inappropriate for the increasingly frequent case of complex structured products. For instance, equity stakes in hedge funds or in funds of funds held for hedging structured products that are sold to investors are generally booked by banks in the trading book even though the liquidity of these equity stakes is limited given the narrowness of the market and the low frequency at which the issuing funds may redeem them (usually on a monthly or quarterly basis and sometimes on a half-yearly basis). The inclusion of such equity stakes in the trading book therefore generally results in insufficient capital requirements, as they only marginally contribute to the VaR on the institutions' overall trading portfolio.

Moreover, the lack of observable prices or values in active markets that can be used in the daily valuation of these exposures increases the liquidity risk associated with such positions even further. The results of the survey conducted, in April 2005, by the Basel Committee among 47 international banks<sup>9</sup> show that a very significant proportion of all the positions booked in the trading book could not be valued with an active reference market, and over a quarter of these positions were on credit derivatives.

#### 3|2 Concentration risk

In this survey, concentration risk is also cited by institutions as being particularly difficult to capture in VaR measures across products (credit, interest rate, foreign exchange, equity, and commodities products). While enabling banks to diversify their exposures across different sectors of the economy and different credit quality segments, the rapid development of the credit

<sup>8</sup> *iTraxx in Europe, CDX in the United States.*

<sup>9</sup> *BCBS (2005), "Trading book survey: A summary of responses", April.*

risk transfer market and in particular the CDO market has nevertheless made it necessary for institutions to enhance the sensitivity of their internal models to concentration risk in the trading book. Indeed, most CDOs include the same names in their reference portfolio, giving rise to concentration risk on an entity and/or a sector associated with their widespread use in institutions' active credit portfolio management.<sup>10</sup>

### 3|3 Correlation risk

More generally, current models do not fully capture the growing complexity of products or all the parameters that could influence the risks associated

with them. In particular, as the BIS 75th Annual Report stresses, much progress remains to be made in assessing the risk profiles of highly-leveraged instruments such as CDOs and CDOs of CDOs and their sensitivity to correlations between probabilities of default. The credit risk correlations across names in a given reference portfolio are most often calculated, in order to price the risk, using a one-factor Gaussian copula model that is based on strong theoretical assumptions (identical constant default time correlations across all names, normal joint default probability distribution) and not empirically tested.<sup>11</sup> An increase in trading in such instruments, mispriced in relation to the real risk incurred, would constitute a structural risk.

#### Box 6

### The point of view of De Nederlandsche Bank by Jan Brockmeijer, Director of the Financial Stability Division

#### **The banking and the trading book in prudential regulation**

*Traditionally, the international capital adequacy rules for banks distinguish between the banking book and the trading book. This distinction has its rationale, because banking book items run into longer-term credit and other risks that deserve a different capital adequacy regime. Typically, in the banking book "non-tradable" financial instruments are recorded, i.e. instruments that are difficult to value at market prices and to sell to third parties. These instruments, such as bank loans, are generally intended to be held on the balance sheet until maturity. The trading book traditionally is reserved for financial instruments held for short-term profit taking ("trading intent") or in order to hedge other elements of the trading book; these instruments should be liquid and valued at market value. The latter implies that any change in value of a trading book instrument immediately shows up in the P&L and capital. Given its focus on tradability, the trading book capital regime measures risk exposure on the premise of a ten-day holding period, consistent with a feasible liquidation horizon, whereas the banking book capital regime is based on a much longer holding period. As a result, the capital charge on instruments recorded in the trading book may be substantially lower than the same instruments held in the banking book.*

#### **Blurring of the banking and the trading book – movement towards the trading book**

*The distinction between the banking and the trading book is gradually becoming more artificial, because of a variety of –often intertwined– developments that have led to a blurring of the borders between the two books and to a gradual shift towards the trading book. Some examples are:*

- *banks increasingly use credit risk transfer (CRT) instruments to trade credit risk. For instance, a bank might securitise a credit portfolio held in its banking book by using CDOs, creating junior (high default risk) and senior (low default risk) tranches. Banks that buy credit risk may well be inclined to hold the junior tranches in their trading book, even though these are not very liquid;*
- *moreover, the different prudential treatment of the banking book and the trading book –in combination with new accounting standards promoting valuation at market or fair value– has created incentives for banks seeking to hedge risks related to banking book items to place more positions in the trading book. To reduce non-trading income volatility and in order to benefit from the more lenient capital charges, banks have an incentive to place both the hedged item as well as the associated hedge together as "economic hedge" in the trading book.*
- *Finally, some hedge fund performance related products are recorded in the trading book, although their risk characteristics do not comply with the tradability condition of a trading book treatment.*

<sup>10</sup> Cousseeran (O.) and Rahmouni (L.) (2005): "The CDO market –Functioning and implications in terms of financial stability".

<sup>11</sup> Amato (J.) et Gyntelberg (J.) (2005).

*The general trend is that due to the rise of CRT and other hedging instruments, through which the underlying risk components like credit and interest rate risk can be hedged within an assumed short-term horizon, institutions are inclined to hold more and more financial instruments in their trading portfolio, even though the liquidity of some of them can be questioned. The result is that a higher concentration of risks –specific credit risk (default and event risk) and liquidity, correlation and concentration risk– enters the trading book, which was not originally designed for that purpose.*

### **Regulatory reaction**

*One factor behind this shift towards the trading book is the fact that, under the new Basel Accord, the approach towards risks run in the trading book and that towards risks run in the banking book do not fully concur with each other. For example, the banking book requirements do not take into account diversification of credit risk, while this aspect reduces the calculated risk in the trading book regime. To strengthen the alignment between the prudential regulatory framework and current practice and to reduce potential regulatory arbitrage, the trading book capital regime –in particular the regulations on default risk– has to be designed in a way equivalent with the regime adopted for the banking book. With the publication of the Basel II capital framework in the summer of 2004, the Basel Committee stressed the importance of addressing the increased market liquidity and default risks in the trading book. In July 2005, the BCBS and IOSCO presented further improvements to the trading book regime. Most important elements are:*

- *the provision that banks must have policies and procedures for placing items in the trading account for capital purposes –to prevent regulatory arbitrage;*
- *that trading positions that cannot be sold or hedged in liquid markets within ten days are subject to an incremental default risk charge. In addition, the introduction of the fair value option under IFRS might reduce the incentive for a bank to place its hedged item and the associated hedge in the trading book.*

### **Future challenge**

*It remains to be seen whether these recent regulatory changes will be sufficient to mitigate the practice of banks to place less liquid instruments in the trading book, for which this book was not originally designed. Due to the lack of sufficient, reliable data to measure and price credit risks, particularly during stress conditions, the distinction between banking book and trading book has its merits in the present environment. In the longer term however, with the increasing potential for modelling and trading credit risks, the development of a uniform regulatory framework capturing all kind of risks poses new and difficult challenges for regulators.*

## **4| ENHANCING THE TRADING BOOK SUPERVISORY REGIME**

In order to better capture the risks that might affect their financial soundness, most major internationally active banks have been developing both economic capital calculations, integrating in particular credit and market risks, and stress testing. These tools will be increasingly scrutinised by banking supervisors under the supervisory review process (Pillar 2) of the New Basel Accord. Furthermore, through the implementation of measures known as “Basel 2.5”, supervisors will enhance the oversight of systems set up by banks for measuring and managing risks within their trading book.

### **4|1 Economic capital and stress testing**

Most major internationally active banks have been developing tools for calculating economic capital integrating, in particular, credit and market risks and their different components. Economic capital<sup>12</sup> for all types of risk is generally calculated at the one-year horizon with a confidence interval determined by the bank on the basis of the probability of default corresponding to its current or targeted rating. While the main tool for measuring economic capital associated with market risk often remains a VaR calculation based on a 10-day holding period, some institutions have devised complementary approaches using stress testing and/or scaling up the VaR to

<sup>12</sup> Tieset (M.) and Troussard (P.) (2005) for the difference between economic capital and regulatory capital.



reflect a horizon for closing out or hedging positions assumed to exceed ten days.

Furthermore, although modelling credit risk correlations is not as yet common practice, progress is being made in this area. Some models now incorporate contagion effects, which allow banks using them to capture the impact on credit risk from declines in overall market liquidity,<sup>13</sup> the failure of large firms or adverse industry-level developments. Such approaches make it possible to better take into account extreme or tail risks as well as liquidity risk.

Banking supervisors, in addition to the increase in the current VaR multiplier and/or the opposition to the inclusion of certain items in the trading book, will enhance the review and the assessment of the methods developed by banks to calculate and monitor their economic capital, as proposed in the International Convergence of Capital Measurement and Capital Standards: a Revised Framework (Basel II).<sup>14</sup>

## 4|2 “Basel 2.5”

In July 2005, the Basel Committee and IOSCO proposed a series of measures,<sup>15</sup> known as “Basel 2.5”, that aim to improve the trading book regulatory regime. The proposed improvements follow the Basel II architecture, based on three complementary pillars:

### PILLAR 1: MINIMUM CAPITAL REQUIREMENTS

The measures adopted aim to clarify the types of exposures that qualify for inclusion in the trading book, provide further guidance on prudent valuation methods for these exposures and stress testing, and strengthen modelling standards for market risk. These measures require banks to meet following requirements:

- the implementation of a clear set of policies and procedures for determining which positions could be included in, and which should be excluded from, the trading book. In this respect, the Committee decided that open equity stakes in hedge funds should be booked in the banking book, considering that their very limited liquidity and the uncertainty surrounding

their daily marking-to-market meant that they rarely qualify for inclusion in the trading book;

- the use of prudent valuation methods for less liquid trading book positions and, where necessary, higher valuation adjustments than those made under standard accounting practice;
- the taking into account, under the internal models approach, of the results of stress testing in the assessment of capital adequacy;
- the capture of event risk by internal models used to measure specific risk, and the calculation of an incremental capital charge for default risk not captured in the VaR-based calculation;
- the use of more robust modelling standards for specific risk and the conduct of more complete backtesting and model validation tests.

Banks that have already received specific risk model recognition will have to meet these requirements by 1 January 2010. If they fail to do so, they will have to use the standardised rules for specific risk.

### PILLAR 2: SUPERVISORY REVIEW PROCESS

The measures adopted require banks to make a comprehensive assessment of risks in their trading book. They aim to ensure that these risks are adequately covered by economic capital, taking into account the output of the VaR model, valuation adjustments and stress testing. These measures require banks using internal models to demonstrate that:

- they hold enough internal capital to withstand a range of severe but plausible market shocks;
- internal capital assessments include an assessment of market concentration and liquidity risks under stressed market conditions;
- stress testing factors include market risks that are not adequately captured in the VaR model, for instance, non linear/deep out-of-the-money products, jumps-to-defaults, significant shifts in correlations;
- their different risk measurement techniques are used in an appropriate manner to arrive at the overall internal capital assessment for market risk (VaR, stress testing, etc.).

<sup>13</sup> Bervas (A.) (2006): “Taking market liquidity into account in risk management”.

<sup>14</sup> Basel Committee on Banking Supervision (BCBS), November 2005.

<sup>15</sup> BCBS (2005): “The application of Basel II to trading activities and the treatment of double default effects”, July.

**PILLAR 3: MARKET DISCIPLINE**

Lastly, the additional disclosure requirements under Pillar 3 aim to improve the quality of information disclosed relating to the trading book. In this respect, banks are subject to the following disclosure requirements:

- qualitative information on trading book valuation techniques;
- the soundness standard used for modelling purposes;
- the methodologies used to achieve the firm's internal capital adequacy assessment.

*First, the “Basel 2.5” measures should strengthen the trading book supervisory regime. The implementation of these measures will be scrutinised by national banking supervisors and the Basel Committee. For this purpose, a working group was set up by the Committee in Autumn 2005: the Accord Implementation Group on Trading Book.*

*Second, these measures will result in an increase in the level of capital charges associated with trading book positions that are less liquid or incur a high default risk. They will thus promote the convergence of the level of capital required to cover such positions between the banking book and the trading book and so reduce the possibilities of regulatory arbitrage.*

*Lastly, in the longer term, they may provide an opportunity, beyond the already scheduled review of the prudential recognition of the use of internal credit risk models, to examine the possibility of adopting an economic and regulatory approach that is more focused on risks themselves than the way these risks are booked.*

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