

COMMISSION de SURVEILLANCE du SECTEUR FINANCIER

In case of discrepancies between the French and the English text, the French text shall prevail

Luxembourg, 2nd August, 2007

To all Luxembourg undertakings for collective investment in transferable securities («UCITS») and to those involved in the operation and supervision of such undertakings.

CSSF CIRCULAR 07/308

Concerns: Rules of conduct to be adopted by undertakings for collective investment in transferable securities with respect to the use of a method for the management of financial risks, as well as the use of derivative financial instruments.

Ladies and Gentlemen,

The purpose of this circular is to notify undertakings for collective investment in transferable securities (hereinafter referred to as «UCITS»), subject to Part I of the amended law of December 20, 2002 (hereinafter referred to as the «2002 Law»), of additional information with respect to the use of a method for the management of financial risks, within the meaning of Article 42 (1) of the 2002 Law, as well as the use of derivative financial instruments, within the meaning of Article 41 (1) g) of this same law.

I. General provisions

The principal reason why UCITS must devote greater efforts and means to risk measurement and control is that the 2002 Law has expanded (as compared to the law dated March 30, 1988) the list of financial instruments in which UCITS may invest. In addition to bank deposits, money market instruments, units of UCITS and units of UCIs, UCITS may, within the scope of their investment policy, use derivative financial instruments. This may involve derivative financial instruments dealt in on a regulated market of the type set forth in points a), b) and c) of Article 41 (1) of the 2002 Law, and derivative financial instruments dealt in over-the-counter ("OTC"), provided that the underlying consists of:

- instruments covered by Article 41, Paragraph (1),
- financial indices,

- interest rates,
- foreign exchange rates or
- currencies.

A UCITS may avail itself of derivative financial instruments within the scope of the techniques and instruments which are mentioned in Article 42 (2), and which relate to transferable securities and money market instruments. These transactions must also comply with the provisions of Article 41 (1) g), Article 42 and Article 43. Derivative financial instruments used pursuant to Article 41 (1) g) are however not automatically subject to the requirements associated with the efficient portfolio management referred to in Article 42 (2).

To prevent UCITS from being exposed to excessive financial risks, in particular through derivative financial instruments, the 2002 Law imposes on UCITS to employ a «Risk Management» structure, as well as a detailed financial risk limitation system.

By means of this circular, the Commission aims at providing UCITS with rules of conduct to be followed at the time of the implementation of such a «Risk Management» structure. Although the business activities of UCITS are often exposed to a multitude of risks, this circular is limited to the financial risks directly covered in the 2002 Law, namely the global exposure, the counterparty risk and the concentration risk. Moreover, the circular's purpose is to clarify the requirements with respect to the coverage of derivative financial instruments, a corollary to Article 52 of the 2002 Law, as well as the obligation to perform a daily valuation of the OTC derivative financial instruments arising from Articles 41 (1) g) and 42 (1) of this law.

The other risks (operational risk, settlement risk, legal risk, etc.) which are not directly covered in this circular, but which may cause losses to UCITS, must be the subject of adequate supervision at the UCITS level.

This circular shall, in point II, deal with the organizational requirements, as well as the Risk Management's field of operation as regards the above-mentioned financial risks before dealing with, in greater detail in Point III, the limitations of the risks in question. It shall finish, in point IV, with the coverage rules and the valuation of the OTC derivative financial instruments.

II. Implementation of a risk management process

II.1. Organizational principles

Article 42 (1) of the 2002 Law requires that UCITS implement a risk management method that enables them to monitor and measure at any time, the risk of the positions and their contribution to the overall risk profile.

The Commission expects that non-sophisticated UCITS, as defined hereafter, measure and control financial risks related to investments at least on a bi-monthly basis. For sophisticated UCITS, such frequency is daily.

By derogation to the foregoing, and subject to an adequate justification, other frequencies for measurement and control may be utilised in particular cases with the prior approval of the CSSF.

UCITS pursue more or less risky investment strategies, so that a distinction has to be made between sophisticated UCITS and non-sophisticated UCITS.

A sophisticated UCITS, as defined in point III, must entrust to a risk management unit (hereinafter referred to as «Risk Management»), which is independent of the units in charge of making portfolio management decisions, the task of identifying, measure, monitor and control the risks associated with the portfolio's positions.

The following qualitative criteria must be fulfilled in order to allow the Risk Management unit to satisfy the Commission's expectations in this regard:

- In order to accomplish its assigned missions, as described in this circular, Risk Management must have a sufficient number of qualified personnel with the necessary knowledge.
- Risk Management must have the necessary tools (IT and others) for accomplishing the missions described in this circular.
- The persons who conduct the business of the management company, respectively of the self-managed investment company (hereinafter referred to as "SIAG"), must be actively associated with the risk management and control process. They are notably in charge of approving the adoption of the method of risk management and control.
- Risk Management must answer directly to the persons who conduct the business, who must be regularly kept informed of Risk Management's work and the risks run by the UCITS by means of risk monitoring reports. It is up to the persons who conduct the business to take appropriate measures on the basis of the data reported.
- The Board of Directors of management companies and investment companies are responsible for ensuring that Risk Management complies with applicable legal and regulatory requirements and for ensuring that the mechanisms which have been implemented operate correctly.

These organisational rules must also be complied with by UCITS classified as non-sophisticated UCITS, but which make use of the approach of the internal model, which is explained in greater detail in Point III.

The Commission allows management companies and SIAGs to delegate a portion or all of the risk management and control process to a third party acknowledged to be specialised in this type of activity. Notwithstanding this delegation, the minimum requirements formulated in this circular must be complied with by this third party, and it must be ascertained that the

UCITS receives the information required for the risk evaluation regularly, in order to allow it to take the measures which are required and to permit implementation of its own independent check. This delegation does not, in any way, discharge the management company or, respectively, the SIAG of its responsibility of ensuring an adequate follow-up of the UCITS' risks.

For a **non-sophisticated UCITS**, as defined in Point III (and applying the commitment approach with respect to the determination of the global exposure), the organizational structure of Risk Management does not have to be as developed and substantive as that of sophisticated UCITS. It is for this reason that the Commission gives these UCITS the option of organizing the function in a different manner as is indicated above. Despite this flexibility, the Commission will not allow such a UCITS to delegate the Risk Management function to the unit in charge of portfolio management decisions («Front Office»). In order to guarantee some independence, a third party, independent from the UCITS, could be assigned the responsibility of taking over all missions incumbent on Risk Management.

The Commission reserves the right, in consideration of the investment strategy used and the risks associated thereto, to require non-sophisticated UCITS to comply with the qualitative criteria formulated with respect to sophisticated UCITS.

II.2. Scope of activities of Risk Management

In compliance with this circular's scope, Risk Management must cover the global exposure, the counterparty risk, as well as the concentration risk associated with all the portfolio's positions.

In this context, special attention must be paid, along with stringent monitoring, to transactions with derivative financial instruments, given the specific risks (leverage effect, high volatility of market prices, complexity of instruments, etc.) associated with this category of instruments.

At the very least, the Commission expects that the work listed below be part of Risk Management's scope of activities:

- determination and monitoring of the global exposure (see Point III.1.),
- determination and monitoring of the counterparty risk associated with OTC derivative financial instruments (see Point III.2.),
- check and follow-up of the minimum requirements associated with the determination of the global exposure and the counterparty risk (see Points III.1., III.2., Appendix 1 or 2),
- determination of and/or monitoring of the use of concentration limits (see Point III.3.),
- monitoring and control of coverage rules (see Point IV.1.),
- determination and/or control, if applicable, of the valuations of the OTC derivative financial instruments (see Point IV.2.),

- establishment of the risk monitoring reports for the persons who conduct the business of the management company, respectively of the SIAG.

Depending on the risk profile noted, the Commission may impose more strict measures.

III. Limitation of risks applicable to UCITS investments

The 2002 Law defines a certain number of limitations with respect to the investments which can be made by UCITS; these are meant to ensure that the UCITS is not exposed to unreasonable risks which might imperil its continuity and, consequently, the principle of the investors' protection. The limitations shall be briefly introduced at this level, before being further detailed later in this circular:

- In compliance with Article 42 (3), "A UCITS shall ensure that its global exposure relating to derivative instruments does not exceed the total net value of its portfolio. The exposure is calculated taking into account the current value of the underlying assets, the counterparty risk, future market movements and the time available to liquidate the positions".

In its application of this Article, the Commission deems that the global exposure of UCITS may at most be doubled by the use of derivative financial instruments. The UCITS' total commitment is thus limited to 200%. The implications of this limitation are explained more explicitly in Point III.1. Given that the counterparty risk associated with OTC derivative financial instruments is specifically limited for a given entity by the provisions of Article 43, the Commission restricts the concept of global exposure solely to the market risk.

To this may be added the possibility for UCITS to borrow up to 10 % of its net assets, as long as these are temporary borrowings and that such borrowings may not be used for investment purposes.

- Pursuant to Article 43 (1), "The risk exposure to a counterparty of the UCITS in an OTC derivative transaction may not exceed 10 % of its assets when the counterparty is a credit institution referred to in Article 41, paragraph (1) f), or 5 % of its assets in other cases". Point III.2. shall deal with the rules with respect to the determination of the counterparty risk in greater detail.
- Pursuant to Article 42 (3), a UCITS may invest in derivative financial instruments, provided that the exposure to the underlying assets does not exceed in aggregate the investment limits laid down in Article 43. The Commission also extends this limitation to the units of UCIs and UCITS referred to in Article 46. The purpose of these limits is to restrict the exposure which the UCITS may take with respect to a given issuer or fund, i.e. concentration risk. The requirements in that regard shall be discussed in Point III.3.

III.1. Limitation of the market risk

III.1.1. Classification of UCITS on the basis of their risk profile.

The Commission allows UCITS to adapt the method of calculation of their global exposure to the risk profile resulting from their investment policy and to the Risk Management's level of sophistication.

More specifically, the Commission expects each UCITS to conduct a self-assessment of its risk profile and to classify itself, on the basis of this analysis, either as a non-sophisticated UCITS or as a sophisticated UCITS. This classification will require the approval of the persons who conduct the business and the board of directors. The assessment process must be documented and must be kept available for the Commission.

The following elements aim at supplying UCITS with the guidelines to consider in the classification process:

- A sophisticated UCITS is a UCITS using, for an important part, derivative financial instruments and/or making use of more complex strategies or instruments.
- A non-sophisticated UCITS is a UCITS with less and less complex positions on derivative financial instruments or with derivative financial instruments used solely for hedging purposes.

A UCITS that wants to change its risk profile must inform the Commission in advance in order to obtain the latter's consent. Depending on the scope of the risk profile change (for example: new types of derivative financial instruments, etc.), the UCITS' prospectus must, if appropriate, be adapted accordingly.

III.1.2. Determination of the global exposure: non-sophisticated UCITS

In the case of non-sophisticated UCITS, the global exposure related solely to positions on derivative financial instruments (including those embedded in transferable securities or money market instruments) must, in principle, be determined on the basis of the Commitment Approach.

The approach using the internal model (see III.1.3.), which applies to all UCITS positions, may also be used by the UCITS, as long as there is compliance with the related requirements.

III.1.2.1. Commitment Approach

On the basis of this approach, the positions on derivative financial instruments must be converted into equivalent positions on the underlying assets.

The UCITS' total commitment to derivative financial instruments, limited to 100 % of the portfolio's total net value, is then quantified as the sum, as an absolute value, of the

individual commitments, after consideration of the possible effects of netting and coverage, as described in Point III.1.2.2.

Appendix 1 details the calculation method of the commitment for the derivative financial instruments most commonly used by UCITS, although this list does not aim to be exhaustive. In the case of derivative financial instruments which are not on this list, the Commission expects the UCITS to inform it of the calculation method applied.

If UCITS are authorized to avail themselves of repurchase transactions or the lending/borrowing of securities in order to generate additional leverage through reinvestment of collateral, these transactions must be taken into consideration for the determination of the global exposure. Any reinvestment of collateral in financial assets that yield a return greater than the risk-free rates must be taken into consideration by this quantification.

As an exception to what is set forth above, and on the condition that there is adequate justification, an approach which differs from the commitment approach may be used by a non-sophisticated UCITS (example: "add-on approach", sensitivity approach), with the Commission's prior approval. An approach of this kind must be based on a level of prudence similar to that of the commitment approach in the determination of the global exposure.

III.1.2.2. Netting and position coverage process

When applying the commitment approach, UCITS may proceed with the following netting processes:

- netting between buying and selling positions on derivative financial instruments with identical underlying assets (reference rates, reference assets, etc.), regardless of the contracts' due date (example: long position on purchase option and short position on purchase option of the same underlying asset, etc.);
- netting between derivative financial instruments and assets held directly by a UCITS, on the condition that the two positions deal with the same underlying asset (example: long position on the XYZ share and short position on the purchase option for the XYZ share, etc.);

To this is to be added the possibility of not taking into account the derivative financial instruments whose function is to partially or totally cover the portfolio positions against a fluctuation of the market risk¹. This ability is strictly reserved for cases in which there is an undeniable and manifest risk reduction effect, i.e. the cash prices of the position or positions and the position on the derivative financial instrument are moving in opposite directions and that the asset or assets to be covered and the derivative financial instruments' underlying assets show an adequate similarity (i.e. adequate symmetry of the assets, term, currencies) (strong correlation).

¹ General or specific market risk, as defined in Appendix 2.

The netting may only be done for the amounts of equivalent commitments, either in terms of market value or in terms of risk (example: duration), and it may not result in the UCITS neglecting obvious and material risks.

The netting process in question must be accompanied by an adequate follow-up by Risk Management.

III.1.3. Determination of the global exposure: sophisticated UCITS

III.1.3.1. General principle

The Commission requires all UCITS pursuing a sophisticated investment strategy to use an approach based on the internal model, taking into consideration all the sources of global exposure (general and specific market risks²), which might lead to a significant change in the portfolio's value.

By internal model, the Commission refers to a model of the Value-at-Risk («VaR») type, which must comply with the requirements listed below.

The purpose of a VaR model is the quantification of the maximum potential loss which might be generated by a UCITS portfolio in normal market conditions. This loss is estimated on the basis of a given time period and a certain confidence interval. UCITS must complete this approach with stress tests, as described in Appendix 2, in order to quantify the risks associated with possible abnormal market movements. These tests evaluate the reactions of the portfolio's value to extreme financial or economic events at a given point in time.

Nevertheless, other risk quantification methods complying with the conditions listed in this document may, possibly, be deemed acceptable by the Commission. If the VaR does not appear appropriate for a UCITS by reason of the nature of the risks to which it is exposed, the Commission expects that the UCITS adopts other methods of measuring risks. In all such cases, the prior consent from the Commission is required.

² As defined in Appendix 2.

III.1.3.2. Limits applicable to the market risk

The investment policy pursued by a UCITS is determinant for the method of limitation of the global exposure. In all cases, the process of determining the method of limitation must be documented and kept available for the Commission. Two situations may be distinguished:

a) Relative VaR limitation

For the purposes of the limitation of the global exposure, the Commission is requesting that UCITS ensure that the global exposure associated with the total portfolio's positions, calculated by means of the VaR, does not exceed two times the VaR of a reference portfolio of the same market value as the UCITS. This management limit is applicable to all UCITS for which it is possible or appropriate to define a reference portfolio.

The reference portfolio must be determined by the UCITS, taking into account both the funds' investment policy, as set forth in the prospectus, and the portfolio's actual composition. It constitutes, in principle, a true picture of the «benchmark»³, by reference to which the UCITS will compare the performance of its investments and which does not include positions on derivative financial instruments.

The UCITS must ensure that this reference portfolio complies with the provisions of the 2002 Law.

The process of the determination of the reference portfolio has to be done in the context of appropriate procedures and must be closely overseen by Risk Management. Investment managers may take the initiative of proposing a reference portfolio which they feel to be the most appropriate for the funds' investment policy. However, Risk Management must analyse this proposal and formulate an opinion for the persons who conduct the business of the management company, respectively of the SIAG, with respect to the appropriateness of the proposed portfolio.

b) Absolute VaR limitation

Those UCITS which are unable or for which it is not appropriate to determine a reference portfolio (example: an «absolute return» type UCITS) must determine an absolute VaR on all of the portfolio's positions. The Commission expects that a UCITS, on the basis of the analysis of the investment policy and the given risk profile, fixes a maximum VaR; this management limit may not exceed the threshold of 20 %.

When the reasons put forth by the UCITS have been deemed acceptable by the Commission, the latter may exceptionally allow the UCITS to use a different management limit if it is convinced that the principle of investor protection is not endangered by the granting of such a derogation.

³ In principle, an external index.

III.1.3.3. Criteria governing the use of a VaR model by UCITS

The use of an internal model, as described above, is subject to the Commission's prior approval. In order to be able to be considered an acceptable model, all the criteria set forth in Appendix 2 must be complied with.

III.2. Limitation of the counterparty risk

III.2.1. Maximum limit per entity / group

In compliance with Article 43 (1) of the 2002 Law, the risk exposure to a counterparty of a UCITS in an OTC derivative transaction may not exceed 10 % of its assets, when the counterparty is a credit institution referred to in Article 41, paragraph (1), point f), or 5 % of its assets in other cases.

There can be excluded from the calculation of the use of counterparty risk limitations, all transactions on derivative financial instruments executed on a market the clearing house of which complies with the following three conditions:

- backing by an appropriate completion guarantee;
- daily valuation of the market values of the positions on derivative financial instruments; and
- making margin calls at least once a day.

The counterparty risk is thus reduced, in principle, to OTC derivative financial instruments.

III.2.2. Counterparty status

Pursuant to Article 41 (1), g), counterparties to OTC derivative transactions must be institutions subject to prudential supervision and belonging to the categories approved by the Commission. In addition, they must be specialised in this type of transaction.

III.2.3. Determination of the counterparty risk

III.2.3.1. Calculation principles

In order to determine the counterparty risk relating to OTC derivative financial instruments, UCITS must apply the method, set forth in 3 stages, described below. The Commission may, subject to appropriate elements of justification, allow UCITS to use another method. A derogation of this nature is subject to the Commission's prior approval.

- 1st stage:

For each contract, the UCITS must determine the current replacement cost by carrying out a valuation at market price. Only the contracts with positive replacement cost will be selected

for stage 1. The rules to be observed during the valuation process of OTC derivative financial instruments are specified in Point IV.2.

- 2nd stage:

In order to reflect the risk which might be incurred later (potential future credit risk), the amount of the principal notional or the underlying asset of all the contracts is multiplied by the following percentages («add-on factor»):

Residual term	Interest rate contracts	Exchange rate contracts	Ownership title contracts	Other eligible contracts
One year or less	0 %	1 %	6 %	10 %
More than one year and less than five years	0.5 %	5 %	8 %	12 %
More than five years	1.5 %	7.5 %	10 %	15 %

Those derivative financial instruments which cannot be entered in one of the first three categories of this table, with the exception of credit derivatives, the details of which are set forth below, are automatically included in the «Other eligible contracts» category.

For credit derivatives of the total return swap and credit default swap type, the percentage to be taken into account with regard to the future potential risk is equal to 10 %, regardless of the contract's residual term. However, for credit default swap contracts where the UCITS acts as a protection seller, the percentage in question may be set at 0 % unless the credit default swap contract comprises a provision of closeout upon insolvency. In the latter case, the amount to be taken into account for the add-on factor will be limited to the premium/ interest to be received, i.e. unpaid premium at the time of the calculation.

- 3rd stage:

The sum of the current replacement cost and the potential future credit risk is multiplied by a weighting factor of 20 % for credit institutions and investment enterprises of EU origin or those recognised from third countries. A 50% weighting factor is to be applied in all other cases.

The counterparty risk for each entity, respectively group, is then calculated by adding the sum of the risks of all contracts entered into.

III.2.3.2. Techniques for mitigating counterparty risk

a) Netting of exposures vis-à-vis a given counterparty

UCITS are allowed to net their positions on OTC derivative financial instruments vis-à-vis a given counterparty, as long as the netting procedures comply with the conditions set in Part 7 of Annex III of Directive 2006/48/EC, and that they are based on legally binding agreements.

b) Financial collateral given as guarantees

UCITS are allowed to take into consideration collateral in order to mitigate the counterparty risk, to the extent that this collateral:

- is valued at market price, at a calculation frequency at least equal to the calculation frequency of the NAV of the UCITS in question;
- presents limited risks, is adequately diversified, is liquid, and does not present a significant, positive correlation with the counterparty's credit status;
- is held by a third party trustee, which has no link with the supplier, or is legally protected from the consequences of a default by a related party;
- can be realised entirely at any time by the UCITS, i.e. the UCITS must be entitled to assert its rights over the collateral at any time.

The Commission allows UCITS, in compliance with the provisions set forth above, to make use of the following financial collateral to reduce the counterparty risk:

- cash deposits and financial instruments equivalent to cash;
- debt instruments with an external credit rating at least equivalent to "investment grade";
- shares and convertible bonds which are comprised in a main index.

UCITS may disregard the counterparty risk on the condition that the value of the collateral, valued at market price, taking into account appropriate discounts, exceeds the value of the amount exposed to risk.

For the valuation of the collateral presenting a significant risk of value fluctuation, UCITS must apply prudent discount rates. In this context it is to be noted that collateral in the form of cash deposits in a currency other than the currency of exposure must also be the subject of an adjustment for risk of currency mismatch. On an indicative basis, the Commission considers that an adjustment of 10% is appropriate.

Still on an indicative basis, the Commission considers that an adjustment of approximately 20%, respectively 15%, is appropriate for shares or convertible bonds which are comprised in a main index, respectively debt securities issued by a non-governmental issuer rated BBB.

Collateral received by the counterparty to the OTC derivative financial instrument is likely to expose the UCITS to a credit risk with respect to the trustee of the collateral. If such a risk exists, the Commission requires that UCITS take such risk into account in the context of the limitations on deposits provided for by Article 43 (1) of the 2002 Law.

Moreover, the Commission expects that the UCITS back, by means of appropriate procedures and controls, the other risks which result from the use of counterparty risk mitigation techniques (legal, operational, etc. risks).

III.2.4. Risk concentration limits

The counterparty risk on a same entity or group must be added to the issuer risk resulting from the fund's exposure on transferable securities, money market instruments and deposits with respect to this same entity or group, in compliance with the provisions of Article 43 of the 2002 Law. The sum of the exposures shall not exceed 20 % per entity, respectively per group.

II.3. Limitation of the concentration risk

III.3.1. General principle

Pursuant to Article 42 (3), the Commission deems that UCITS may invest in derivative financial instruments provided that the exposure to the underlying assets does not exceed in aggregate the investment limits set in Article 43. The Commission extends this limitation to units of UCIs and UCITS referred to in Article 46. This provision only affects, in principle, those derivative financial instruments whose underlying assets entail an issuer risk, thus, those based on an ownership deed or a debt security.

In accordance with the calculation method of the commitment applicable to non-sophisticated UCITS (point III.1.2.), the derivative financial instruments are to be converted into equivalent positions on the underlying assets. The method used to convert the derivative financial instruments into equivalent positions on the underlying assets must be adapted to the type of instrument involved and must be in line with the guidelines provided in Appendix 1. As indicated in point II.1.2., in the case of derivative financial instruments for which the calculation method has not been detailed in Appendix 1, UCITS are responsible for informing the Commission on the method applied.

If the conversion method of derivative financial instruments into their equivalent underlying positions proves to be inappropriate or technically not feasible because of the complexity of the derivative financial instrument in question, an approach based on the maximum potential loss linked to this derivative financial instrument may be used. This maximum potential loss is then considered as the threshold for the estimate of the maximum loss which the UCITS is at risk to incur on this position.

The derivative financial instruments embedded in transferable securities or money market instruments must, for the purpose of this point, be isolated, using the methods described in this point and taken into account in the determination of the use of concentration risk limits.

As is the case for the market risk determination, UCITS may benefit from possible netting effects before determining the use of the concentration limits per entity, respectively per group (see point III.1.2.2.).

III.3.2. Specific provisions

In compliance with Article 42 (3), UCITS may exclude from the calculation of the concentration limits, those derivative financial instruments based on an index:

- the composition of which is sufficiently diversified,
- which represents an adequate benchmark for the market to which it refers,
- which is published in an appropriate manner.

It should be noted that, generally, in the case of the application of this provision, management or investment companies should not use derivative financial instruments based on an index which they have composed themselves with the intention of circumventing the concentration limits set forth in Article 43 of the 2002 Law.

IV. Other provisions regulating the use of derivative financial instruments

IV.1. Coverage rules applicable to derivative financial instruments

Generally, UCITS should be, at any given time, capable of meeting the obligations incurred by transactions involving derivative financial instruments and which give rise, for UCITS, to delivery as well as payment obligations.

In the case of contracts which provide, automatically or at the counterparty's choice, for the physical delivery of the underlying financial instrument on the due date or the exercise date, and insofar as physical delivery is a normal practice in the case of the instrument in question, UCITS must:

- hold in their portfolio the underlying financial instrument as cover, or
- in case the UCITS deems that the underlying financial instrument is sufficiently liquid, it may hold as coverage other liquid assets (including liquidities) on the condition that these assets (after applying appropriate safeguards, i.e. discounts), held in sufficient quantities, may be used at any time to acquire the underlying financial instrument which is to be delivered.

In respect of contracts which provide for cash payment, automatically or at the UCITS' discretion, the latter must hold enough liquid assets (after the application of appropriate safeguard measures, i.e. discounts, etc.) to allow it to make the contractually required payments (example: margin calls, interest payments, contractual cash payments, etc.). Given the number of different situations which might arise, the Commission leaves it up to the UCITS to determine itself the method by which it will determine the coverage level of the contracts which are payable in cash. This method must, in any event, allow the UCITS to meet, at any time, all payment obligations.

Liquid assets, as defined by the Commission, besides cash, are liquid debt securities or other liquid assets (investment grade debt instruments, shares comprised in a main index, etc.) which can be converted into cash on very short notice at a price corresponding closely to the current valuation of the financial instrument on its market.

It is thus up to Risk Management to regularly check whether the coverage available to UCITS, either in the form of the underlying financial instrument or in the form of liquid assets as described above, exist in sufficient quantity to meet future obligations.

IV.2. Valuation of OTC derivative financial instruments

Pursuant to Articles 41 (1) g) and 42 (1), OTC derivative financial instruments must be subjected to a precise valuation, verifiable on a daily and independent basis by the UCITS.

UCITS must be able to determine, with reasonable accuracy, the «fair value» of the OTC derivative financial instruments for their entire life span. «Fair value» is defined as the amount for which an asset may be exchanged or a liability settled, between knowledgeable, willing parties, in an arm's length transaction.

The reference to a reliable and verifiable valuation is meant to be understood as a reference to a valuation made by the UCITS, which corresponds to the fair value, which is not only based on market prices supplied by the counterparty and which complies with the following criteria:

- the valuation is based on a current market value, which was established in a reliable manner for the instrument, or, if no such value is available, on a valuation model using an appropriate and recognized methodology;
- the verification of the valuation shall be done by one of the following entities:
 - an appropriate third party, independent of the counterparty to the OTC derivative instrument, which will proceed with the verification at an appropriate frequency and pursuant to methods allowing the UCITS to check it;
 - a unit of the UCITS which is independent of the department overseeing asset management and which is appropriately equipped for this purpose. The UCITS may, if applicable, make use of valuation tools, respectively data, provided by a third party subject to ensuring that they are appropriate prior to making use of them in the valuation process. Valuation models provided by a

party linked to the UCITS (example: dealing room through which the UCITS settles its derivative transactions) and which have not been reviewed by the UCITS, are not acceptable.

Should there not be a valuation of this nature for a given product, UCITS may not make use of it, even if the investment policy expressly allows it.

IV.3. Description of risks

UCITS, which use derivative financial instruments for purposes other than coverage, should include in their prospectus an appropriate description of the risks resulting from the use of this type of instrument, which description can include an indication of the level of leverage or market risk.

V. Information to be provided to the Commission

Pursuant to Article 42 (1) of the 2002 Law, the Commission requires that each management company and SIAG provides to it a certain amount of information relating to the risk measurement and control process, as well as the use of derivative financial instruments and the associated risks.

Thus, each management company and SIAG must provide to the Commission clear and precise documentation with respect to the Risk Management process which was implemented pursuant to the rules and principles formulated in this circular. In particular, they must ensure that such documentation covers, at any given time, all UCITS (including the compartments of UCITS) for which they are responsible. Before the launch of a new UCITS (including a compartment), the management company, or the SIAG, must ensure the appropriateness of the Risk Management process with respect to this new product. If this is not the case (example: lack of coverage of a given product by the VaR), the necessary adjustments must be made and incorporated into the above-mentioned documentation. The updated version must be sent to the Commission.

This documentation must show possible delegations which have been made in the context of Risk Management, in which case the procedure must comprise a clear and precise description of the risk management process implemented by the delegatee, as well as the monitoring done by the management company or the SIAG.

Management companies and SIAGs already approved by the CSSF, must proceed with an internal self-evaluation in order to determine the possible variances to the provisions of this circular. These possible variances must be dealt with and an updated version (in «track changes» mode) of the above-mentioned documentation must then be sent to the Commission.

The Risk Management procedure must, at a minimum, include the following information (if applicable):

V. 1. Implementation of a risk management process

- organization of the Risk Management department (flow chart, number of people, past experience of the people in charge, allocation of responsibilities, IT tools, etc.)
- list of the UCITS to which the above-mentioned procedure is applicable, while indicating for each UCITS (and compartment), if the UCITS is a sophisticated or non-sophisticated UCITS, as well as the associated global exposure calculation method (including the maximum limit set in the event that there is an absolute VaR limitation); this list may be in the form of a table, such as the one supplied below:

UCITS	Risk profile N-S or S (**)	Market risk calculation	Limit (*)	Reference Portfolio	Exposure/ Market risk
UCITS 1	N-S	Commitment	100 %	N.A.	40 %
UCITS 2 – compartment 1	S	Relative VaR	200 %	MSCI World	3 % Ref. Portf. 5 % UCITS → 166 %
UCITS 2 Others	N-S	Commitment	100 %	N.A.	71 %
UCITS 3	S	Absolute VaR	20 %	N.A.	11 %

(*) in the case of an absolute VaR limitation; by default 100 % in the case of the use of the commitment approach or 200 % in the case of a relative VaR;
 (**) N-S → non-sophisticated; S → sophisticated

V.2. Determination and monitoring of global exposure

a) Commitment approach

- list of the derivative financial instruments for which the commitment approach is used, while specifying the calculation method for each instrument (with an illustrative numbered example for each product);
- details of the implementation of the other requirements listed in this circular (Appendix 1);
- details with respect to the netting and coverage policies;

b) Internal model approach

- list of financial instruments (cash and derivatives) for which the global exposure is quantified using an internal model;

- description of the internal model (type of methodology⁴, «third party vendor model», model which has already been approved⁵, etc.) and details on the implementation of the requirements laid down in this circular (III.1.3., Appendix 2) such as:
 - process for determination of the reference portfolio and internal evaluation of the adequacy of this portfolio («relative VaR limitation» case)
 - process for setting the management limit for the «absolute VaR limitation» case;
 - ...
- c) All approaches combined
 - global exposure monitoring procedures and procedures for the purpose of avoiding limits to be exceeded («escalation procedures, ...»);
 - other risk indicators calculated for the purposes of monitoring and controlling the global exposure (duration, beta, exposure per rating, etc.);
 - details on the drawing up of reportings on risk monitoring (frequency, addressees, content, etc.); attach the «main» reporting.

V.3. Determination and monitoring of the counterparty risk associated with OTC derivative financial instruments

- selection and approval process of a given counterparty;
- confirmation with respect to the calculation method of the counterparty risk;
- use or not of netting and collateral agreements with indication of the type of collateral accepted and the processing of the residual risk on the collateral (third party trustee);
- details on the drawing up of reportings of the risk monitoring (frequency, addressees, content, etc.); attach the «main» reporting.
- other risk indicators calculated for the purpose of monitoring and controlling counterparty risk.

⁴ Variances-Covariances, Historic Simulation or Monte-Carlo.

⁵ The UCITS must indicate whether the model was approved by a supervisory authority (example: UCITS using the internal model which is used by a credit institution and which was approved by a supervisory authority for the calculation of regulatory own funds requirements, etc.)

V.4. Determination and/or monitoring of the concentration risk

- allocation of tasks at the UCITS level and, in particular, that of Risk Management in the determination and/or monitoring of the concentration risk;
- details on the drawing up of reportings of the risk monitoring (frequency, addressees, content, etc.); attach the «main» reporting.

V.5. Valuation of the OTC derivative financial instruments

- description of the valuation process of OTC derivative financial instruments (position / department in charge, tools, controls made, etc.).

V.6. Monitoring and control of coverage rules

- description of the monitoring and control process of the coverage rules and specification, in particular, of the role of Risk Management;
- details on the determination of the coverage associated with derivative financial instruments.

VI. Repealing provisions

This circular repeals CSSF circular 05/176 and enters into force immediately.

Yours sincerely,

COMMISSION DE SURVEILLANCE DU SECTEUR FINANCIER

Simon Delcourt
Director

Arthur Philippe
Director

Appendices

Appendices

Appendix 1: Determination of the commitments associated with derivative financial instruments

1. Calculation principles

The purpose of this Appendix is to lay down, for a certain number of derivative financial instruments, the method used for the calculation of the commitment to be taken into account for the limitation of the global exposure for non-sophisticated UCITS. With respect to the derivative financial instruments which are not covered below, the UCITS must inform the Commission of the method applied.

Share option

market value of the underlying asset, adjusted by the option's delta

number of contracts x number of shares x underlying price x delta

Bond option

market value of the underlying asset, adjusted by the option's delta

number of contracts x face value x underlying price x delta

Warrant

market value of the underlying asset, adjusted by the option's delta

In respect of buying positions on options and warrants, the UCITS may refer to the market value of the contracts (adjusted premium) for the purpose of the limitations set forth in point III. 1.2.

UCITS (example: UCITS with limited exposure to options) may use a delta equivalent to 1 for determining commitments arising from options and warrants.

In the case of optional contracts for which the delta method is not appropriate, given the risk profile, respectively, the «payoff» function, UCITS will not be able to use the calculation method set forth above (example: digital options, barrier options). An approach based on the maximum potential loss could, in this case, be applied. In all cases, the Commission expects the UCITS to inform it of the method used.

Index future

market value of the contract or the underlying asset

number of contracts x value of 1 point x index level

Bond future	market value of the contract or the underlying asset number of contracts x notional of the future contract x market value of the future or number of contracts x notional x market price of the cheapest bond to be delivered, adjusted by the conversion factor.
Forward exchange	principal of the contract
Interest rate swap	principal of the contract
Credit default swaps	protection buyer: sum of the premiums to be paid during the entire life of the contract protection seller: contract's notional value.
Total rate of return swap	protection buyer and seller: contract's notional value

The determination of the commitment for a protection buying position through a TRORS on the basis of a contract's notional value is only acceptable in those cases where the buyer does not hold the underlying asset in the portfolio.

A performance swap, the purpose of which is to swap the global return of a financial asset held in portfolio by the UCITS for the global return of another financial asset may not be taken into consideration for the purposes of the calculation of commitments when the swap in question does no longer subject the UCITS to a market risk of the asset held and it does not include either leverage clauses nor other additional risks as compared to a pure and simple holding of the other financial asset, of which the UCITS will receive the return. This reasoning can be extended to cases in which the performance swap involves several assets or even the entire portfolio.

Currency swaps **principal of the contract**

As an exception to what is set forth above, and on the condition that there is adequate justification, an approach which differs from the commitment approach may be used by a non-sophisticated UCITS (example: "add-on approach", sensitivity approach), with the Commission's prior approval. An approach of this kind must be based on a level of prudence similar to that of the commitment approach in the determination of the global exposure.

2. Qualitative criteria

2.1. Risk Management

Risk Management is responsible for ensuring that the calculation of the global exposure relating to the various derivative instruments dealt with by the UCITS is in compliance with the calculation principles formulated above.

Further information on the organizational requirements may be found above under point II of this circular.

2.2. Documentation of the approach

The calculation approach must be the subject of appropriate documentation (calculation of the commitment per product).

Appendix 2: Criteria governing the use of an internal model

1. Quantitative criteria

1.1. VaR calculation standards

The calculation of the Value-at-Risk must be done according to the following calculation standards:

- unilateral confidence interval of 99 %;
- holding period equivalent to 1 month (20 days);
- effective observation period (history) of risk factors of at least 1 year (250 days) unless a shorter observation period is justified by a significant increase in price volatility;
- quarterly data update;
- daily calculation, in principle.

In principle, UCITS must apply an instant price choc equivalent to a 20 days price variation and a confidence interval of 99%.

A UCITS that wishes, for a well-justified reason, to use a confidence interval or a holding period which differ from those indicated above (example: calculation coherency within a group, parameters which are better suited to the relevant portfolio's risk profile, etc.) may do so, subject to obtaining the Commission's prior approval.

However, UCITS having the benefit of a derogation of this kind must, for market risk limitation reasons, translate their VaR figure to a VaR equivalent to 99 % confidence interval and 1 month holding period. This conversion can be done under the hypothesis of a normal distribution with identical and independent distribution of risk factors returns.

For example, for the conversion of the holding period, this hypothesis implies the use of multiplication by the square root of time.

For example, in order to convert a VaR with a holding period of 10 days into a VaR based on a holding period of 1 month (20 days), everything else being equal, one would have to multiply the VaR figure by the factor of

$$\sqrt{\frac{20}{10}}$$

In the same manner, to convert a VaR figure with a confidence interval of 95 % into an equivalent number with a confidence interval of 99 %, one would go through the quantiles of

normal distribution and multiply the VaR figure by the factor of $\frac{2.3263}{1.6449}$

The Commission would like to draw the UCITS' attention on the fact that the method of calculation of a VaR equivalent to 99% confidence interval and one month holding period described above is based on simplifying hypothesis which are far from being always observed in reality. Consequently, the Commission expects that the UCITS applies such equivalent VaR with caution and makes use, if appropriate, of a more conservative method or determines directly the VaR on the basis of the parameters of 99% and one month holding period (instant choc) when it becomes obvious that the indicated method (square root of time, quantiles of normal distribution) results in an underestimate of the risk for the standard calculations determined at the beginning of this point (i.e. 99%, one month).

1.2. Risk coverage

The sources of market risks which the VaR model (or equivalent model) must cover may be broken down as follows:

- general market risk
- specific market risk.

The general market risk is defined as the risk of a price fluctuation (of the debt security or the equity, or, in the case of a derivative financial instrument, the latter's value) caused by the market's general trend.

Specific risk covers two types of risks:

- the *idiosyncratic* risk is the risk of a price fluctuation which is the result of factors associated with the issuer of the debt security or the ownership title, or, in the case of a derivative financial instrument, with the issuer of the underlying instrument.

In order to take the idiosyncratic risk into account, the VaR model could, for example, call on risk factors such as daily fluctuations of the prices of individual products (example: prices of ownership titles), or use spread curves as a comparison to market reference rate curves.

- The *event risk* is the risk that the value of a debt security or an ownership title will vary suddenly as the result of an event with particular significance to the issuer of the security in question. The event risk covers, for example, the migration risk for interest rate products or the risk of significant fluctuations or jumps in share prices.

For the application purposes of this point, the Commission expects that the VaR model used by the UCITS in order to demonstrate its exposure to market risk takes into account, as a minimum, general risk and idiosyncratic risk.

UCITS which can show the Commission that the idiosyncratic risk constitutes a negligible risk component within the context of their investment policy may waive the obligation of covering this risk through the model. UCITS which, for example, within the scope of their investment strategy, make use of credit derivatives may not take advantage of this waiver.

As an exception to the foregoing, the Commission expects that the UCITS which are extensively subject to event and/or default risks (example: exotic instruments, credit derivatives, etc.) take this sufficiently into account when determining market risk. If the proposed VaR model should prove inadequate, the Commission reserves the right to require stricter measures for such UCITS.

1.3. Accuracy and completeness of the risk assessment

UCITS must be able to show the Commission that the internal model assesses the risk with reasonable accuracy. More specifically, the model must adequately cover all the risks associated with portfolio positions and, in particular, the specific risks associated with derivative financial instruments. It must be able to adequately catch all significant price risks with respect to option positions or assimilated positions.

All the risk factors which have a non-negligible influence on the fluctuation of the portfolio's value must thus be covered by the model. The model must be able to catch a sufficient number of risk factors which will depend on the investments which the UCITS will make in various markets (interest rate, exchange, ownership title, spread, etc.).

Before using the model for the first time, Risk Management must validate the model.

Moreover, UCITS must implement procedures which will guarantee that the model in question covers all the portfolio positions at a given point in time.

1.4. Backtesting of the VaR model's results

UCITS must oversee the reliability and efficiency of their model (i.e. risk estimate predication capacity), using a backtesting program. The backtesting must supply a comparison, for each business day, between the quantification of the value-at-risk on a day calculated by the UCITS model on the basis of the positions at the end of the day and the fluctuation over a day of the portfolio's value at the end of the following working day. UCITS must undertake the backtesting program at least on a quarterly basis, subject to always performing retroactively the aforesaid comparison for each business day.

The Commission encourages the UCITS to implement backtesting checks, basing themselves either on the effective fluctuations ("dirty backtesting") or the hypothetical fluctuations ("clean backtesting") of the portfolio's value and to take the appropriate steps to improve their backtesting program, if its is deemed to be insufficient.

The backtesting checks on the hypothetical fluctuations of the portfolio's value are based on a comparison between the portfolio's value at the end of the day and its value, its positions unchanged, at the end of the following day.

UCITS must follow up on cases in which the VaR predicted by the model is less than the value noted after backtesting. There is thus an excess when the fluctuation of the portfolio's value over one day is greater than the VaR's quantification on a corresponding day, calculated by the model.

Once a year, UCITS are obliged to inform the Commission of the number of instances of excess noted upon applying the backtesting program.

In the event that numerous overshootings reveal that the model is not sufficiently reliable, that is to say, that the number of overages is greater than the number which was predicted by the confidence interval selected for the calculation of the VaR, the Commission, after having informed the UCITS, reserves the right to impose appropriate measures in order to ensure that the model is quickly improved, or, if need be, to disallow the use of the model for the purpose of determining market risk.

1.5. Stress tests

The Commission requires that sophisticated UCITS follow up on the risk of the occurrence of extreme variations of the risk factors to which UCITS might be exposed through their investments by implementing a rigorous program of stress tests. The program should cover all the risk factors having a non-negligible influence on the portfolio's value and should also deal with correlation changes between risk factors.

The scenarios defined by Risk Management must be adapted to the nature of the portfolio's positions and risks, and therefore any fundamental change in the investment strategy should be accompanied by a recalibration of the crisis scenarios.

The calculations' results must be analyzed by Risk Management and should, if need be, lead to amended measures for the purpose of adjusting the UCITS' risk situation.

The stress test calculations should be done with a frequency which is in line with the UCITS' risk profile, but, at a minimum, once per month.

2. Qualitative criteria

In order to be able to determine its global exposure through the use of a VaR model, UCITS must be able to show compliance with the following criteria:

2.1. Risk management

Risk Management is responsible for ensuring that the model is continuously adapted to the portfolio's type and structure and should, before its first use, undergo initial validation. Further details about the organizational requirements in this regard may be found above in point II of this circular.

2.2. VaR model documentation and procedures

The model must be the subject of appropriate documentation (model methodology, mathematical hypotheses and bases, data used, backtesting, etc.) and procedural supervision.