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SUMMARY OF SPOT INSPECTIONS

VALUATION OF COMPLEX FINANCIAL INSTRUMENTS

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AUTORITÉ DES MARCHÉS FINANCIERS

AMF

INTRODUCTION

As announced in the AMF's presentation of its supervision priorities for 2019,[1] the last series of SPOT[2] inspections of asset management companies (AMCs) in 2019 focused on the valuation of complex financial instruments (CFIs). European Directive 2011/61/EU on Alternative Investment Fund Managers (the "AIFM Directive") introduced specific obligations regarding independent valuation, justification and traceability of the methods used and valuations obtained to ensure that the various assets of an alternative investment fund ("AIF") are properly valued. As stated in Recital 79 of EU Delegated Regulation No. 231/2013 supplementing the AIFM Directive with regard to exemptions, general operating conditions, depositaries, leverage, transparency and supervision (the "AIFM Delegated Regulation"), "*for some assets, especially complex and illiquid financial instruments, there is a higher risk of inappropriate valuation.* [The AIFM must therefore] *put in place sufficient controls to ensure that an appropriate degree of objectivity can be attached to the value of the AIF's assets*". A first series of SPOT inspections was carried out in 2018 on valuation systems within private equity firms. This series follows the same logic by looking at the scope of CFIs.

The main purpose of these targeted inspections was to (i) examine the conditions for using models for valuing or reviewing the valuation of CFIs, and (ii) verify that the risks specific to these instruments are taken into account in the valuation system.

These inspections were carried out simultaneously in five AMCs. The verifications covered the period 2017-2019 and examined:

- the organisation of the valuation system;
- the valuation policies and procedures;
- the use of valuation models;
- the actual mechanism for valuing and reviewing the valuation;
- the control system relating to the valuation.

This note aims to provide a summary of the SPOT inspections on the valuation of CFIs and shed light on AMCs' practices in this area, the difficulties they face and possible ways of providing support.

This document is neither a position nor a recommendation. The practices identified as either "good" or "poor" highlight approaches identified during the inspections that may facilitate, or complicate, compliance with regulations governing the valuation of CFIs.

1 In accordance with the guidelines of the #Supervision2022 plan published in early 2018, and as a supplement to the associated 2019 priorities for action, the AMF presented, on 10 January 2019, the themes constituting its supervision priorities for 2019. This publication is available on the AMF website: 2019 Supervisory Priorities for the Autorité des Marchés Financiers.

2 SPOT stands for *Supervision des Pratiques Opérationnelle et Thématique* – operational and thematic supervision of practices.

CONTENTS

AUTORITÉ DES MARCHÉS FINANCIERS AMF

1 SUMMARY OF THE MAIN FINDINGS OF THE INSPECTIONS

The five companies inspected are either independent (2/5) or part of a banking or insurance group (3/5). They all manage at least €1 billion of assets and have all been authorised to manage AIFs as defined by the AIFM Directive. Their clients are institutional investors (5/5) and retail investors (4/5). CFI portfolio holdings are minimal in terms of assets under management for some CIUs (3/5), while for others (2/5), they make up the core of their management strategy.

What is a complex financial instrument?

According to the definition in Article L. 211-1 I of the Monetary and Financial Code, a financial instrument is a financial security or derivative.

Definitions of a complex derivative and a complex financial security are provided in Position-Recommendation 2012-19 ("Programme of operations guide for asset management companies and self-managed collective investments"):
"A derivative is complex if:
(i) it is considered non-standard;[3]
(ii) its valuation method or risk profile can be considered complex;[4] *or*
(iii) its underlying is based on a non-traditional market or risk."[5]

Position-Recommendation 2012-19 also specifies that a financial security is complex if it involves a derivative and meets one of the following conditions:
"(i) the derivative itself is complex;
(ii) the valuation method or risk profile of the security can be considered complex; or
(iii) its underlying is based on a non-traditional market or risk."

This definition has been refined over the course of various updates to Position-Recommendation 2012-19, in particular by explicitly including contingent convertible bonds (or "CoCos") from 20 June 2017 and catastrophe bonds (or "cat bonds") and "autocall" derivatives from 24 January 2019 in the classification of complex financial instruments. Annex 1 of Position-Recommendation 2012-19 provides a "classification of derivatives and financial securities involving a derivative as either simple or complex. This classification is not exhaustive and it belongs to management companies to identify CFIs among instruments which the funds are entitled to deal with, for instance by using a decision tree .

Furthermore, this definition has no direct link with the concept of financial instruments "considered as non-complex" as defined in Article 57 of Regulation (EU) 2017/565 and supplementing Directive 2014/65/EU which relates to the marketing of these instruments. The definition in Position-Recommendation 2012-19 is understood from the perspective of managing CFIs.

[3] As defined by Article 4(II) of AMF Instruction 2011-15 listing the derivatives that may fall within the category of standard financial derivatives.
[4] Assessment of whether the valuation method and/or risk profile is simple or complex can be based on: (i) whether the formula for valuing an instrument is closed; and/or (ii) the linearity of instrument payoff (non-closed valuation formula and/or non-linear payoff being characteristic of a complex valuation method and/or risk profile).
[5] As defined by Article 3 of AMF Instruction 2012-01 specifying the characteristics of the instruments for which the AMC must have a risk management function that is independent from operating units.

CFIs held in portfolio by the funds managed by the five AMCs between 2017 and 2019 included:

- Derivatives:
  - futures contracts on dividends or on a volatility index (VIX or VSTOXX);
  - total return swaps (TRS) on a contingent convertible bond index;
  - credit default swaps (CDS) on index tranches;
  - options on CDSs;
  - non-standard swaps (structured equity swaps, gap swaps[6]);
- Financial securities embedding a derivative:
  - contingent convertible bonds;
  - structured EMTNs;
  - asset-backed debt securities (ABS).

All the AMCs inspected have a risk management function that is independent of their operational functions (5/5). These companies have all chosen to assign the valuation task to either the internal risk management function (4/5) or middle office function (1/5), rather than outsource it to an external expert. However, the inspection task force found that responsibility for this task of valuing CFIs had not been assigned to a specific person (4/5), a poor practice that has a detrimental effect on clarity in relation to how the AMCs are organised.

Furthermore, most AMCs have clearly defined in their valuation policies and procedures the obligations, roles and responsibilities of all parties involved in the valuation process (4/5). However, the fifth company had not defined these obligations, roles and responsibilities, in particular those of the valuation committee. The inspections revealed that none of these AMCs has both a valuation policy and a procedure for valuing CFIs based on that policy. Instead, they have elected to describe the implementation of the valuation methods in a long policy document, whereas the regulations require AMCs to describe this in procedures.

The description of the price sources used in the valuation policies and procedures is not sufficiently detailed (4/5), either because some CFIs are not explicitly referred to despite potentially falling into at least one of the categories of financial instruments mentioned in these policies and procedures (for example, contingent convertible bonds may be considered as “bonds” or “convertible bonds”), or because the order of priority between the price sources used to value CFIs is not specified, or because the sources themselves are not sufficiently detailed. For all the AMCs inspected (5/5), the policies and procedures do not sufficiently describe the process for reviewing the valuation of CFIs (using a template, another source, additional controls, etc.). However, almost all AMCs (4/5) have recently (within the last year) updated their policies and procedures. The fifth company had not updated its policy since July 2016. As a result, the references to regulations in the policy were sometimes outdated, and one of the tools mentioned had not been used since March 2017.

Furthermore, the inspection task force found that the models used by the AMCs are neither sufficiently documented (3/5) nor appropriate in their modelling assumptions (4/5). The models were sometimes not formally validated by someone who was not involved in building them (2/5), and for one of the AMCs inspected, the models used for valuation purposes (and not just for review) were not approved by senior management prior to their implementation.

[6] Gap swaps are swap contracts to hedge against extreme market movements.

The inspection task force also found that almost all of the AMCs (4/5) followed a valuation process that did not fully reflect the one described in their policies and procedures, either because the specified reference price sources were not used (3/5) or because the way in which the valuation was reviewed were different from those described in the policies and procedures (1/5). Furthermore, in this latter case, the process actually followed was not in line with the provisions set out in that AMC's programme of operation.

Regarding contingent convertible bonds (CoCos), it appears that, firstly, performing a review of the valuation of these securities using a model, as explicitly required from December 2017, was implemented at a late stage by the four AMCs whose funds hold such instruments (3/4) and, secondly, that the prices provided by the models used are not sufficiently reliable to be used to check the accuracy of the market price (4/4).

Regarding the other CFIs covered by the valuation review process owing to their lack of liquidity or unlisted status, the inspection task force notes that, in practice, the scope is not exhaustive in most cases (3/4).

Furthermore, one of the AMCs performed a review of the valuation of contingent convertible bonds held in investors' portfolios only on a monthly basis despite these securities being valued daily (1/4). This frequency may not therefore be appropriate.

Lastly, the internal control plans of almost all of the AMCs clearly refer to audits of the processes for valuing and reviewing the valuation of CFIs based on fund assets (4/5). In one case, no audits relating to the valuation were carried out. In the other four cases, the audits carried out were not entirely satisfactory because they only covered some of the CFIs held in investors' portfolios.

2 CONTEXT AND SCOPE

2.1 PRESENTATION OF THE SAMPLE OF AMCs INSPECTED

The five AMCs inspected have been authorised to manage AIFs and are all entirely subject to the AIFM Directive. Four of them are also authorised to manage UCITS. For three AMCs, CFI portfolio holdings are minimal in terms of assets under management, while for the other two AMCs, they make up the core of their management strategy.

- AMC 1 is majority owned by a banking group, and its clients are institutional and retail investors;
- AMC 2 is independent, specialising in debt instruments, and its clients are institutional investors;
- AMC 3 is independent, specialising in managing securities in the banking and insurance sectors, and its clients are retail and institutional investors;
- AMC 4 belongs to an insurance group, and its clients are institutional and retail investors;
- AMC 5 belongs to a banking group, and its clients are institutional and retail investors.

CFIs held in portfolio by the funds of these five AMCs between 2017 and 2019 included:

- Derivatives:
  - futures contracts on dividends or on a volatility index (VIX or VSTOXX);
  - total return swaps (TRS) on a contingent convertible bond index;
  - credit default swaps (CDS) on index tranches;
  - options on CDSs;
  - non-standard swaps (structured equity swaps, gap swaps[7]);
- Financial securities embedding derivative:
  - contingent convertible bonds;
  - structured EMTNs;
  - asset-backed debt securities (ABS).

2.2 APPLICABLE REGULATIONS

The following table lists, by subject, the relevant articles of the Monetary and Financial Code (**MFC**), the AIFM Delegated Regulation and the AMF General Regulation (**AMF GR**), distinguishing between those applicable to the management of AIFs and those applicable to the management of UCITS.

Subject	AIF Management	UCITS Management
ORGANISATION OF THE VALUATION SYSTEM		
Independence of the valuation task	Article 67(4) of the AIFM Delegated Regulation Articles L. 214-24-14 to L. 214-24-17, L. 533-10-1 2° and R. 214-32-22 3° of the MFC relating to derivatives held by RIFs.[8]	Articles L. 533-10-1 2° and R. 214-15 3° of the MFC
Independence of the risk management function	Article 42 of the AIFM Delegated Regulation Articles 318-38 and 318-39 of the AMF GR	Article 321-77 II of the AMF GR
VALUATION PROCEDURE AND POLICY		
Appropriate procedure for accurate calculation of the net asset value	Article 59(2) of the AIFM Delegated Regulation Article L. 214-24-14 of the MFC Article 422-26 of the AMF GR for RIFs	Articles 321-29 2°, 321-101 4° and 411-24 of the AMF GR
Suitability and proportionality of procedures in relation to CFI complexity	Article 67(1) of the AIFM Delegated Regulation Article 422-64 II of the AMF GR in relation to OTC derivatives held by RIFs	Article 411-84 II of the AMF GR in relation to OTC derivatives
Consistent application of policies and procedures to all assets of a fund and to all funds	Article 69 of the AIFM Delegated Regulation Article 422-30 of the AMF GR for RIFs	Articles 411-28 and 411-31 of the AMF GR
Review by the risk management function of the procedures adopted for the valuation of CFIs	Article 70(3) of the AIFM Delegated Regulation	Articles 321-77 III f and 411-84 III of the AMF GR in relation to OTC derivatives

[7] Gap swaps are swap contracts to hedge against extreme market movements.
[8] Retail investment funds.

Periodic review of valuation policies and procedures	Articles 60(3) and 70(1) of the AIFM Delegated Regulation	Article 321-35 of the AMF GR
VALUATION MODELS		
Use of a valuation model based on a recognised and appropriate method	Article R. 214-32-22 3° of the MFC relating to derivatives held by RIFs	Article R. 214-15 3° of the MFC relating to derivatives
Use of fair, accurate and transparent pricing models and valuation systems	-	Article 321-101 4° of the AMF GR
Documentation of models	Article 68(1) of the AIFM Delegated Regulation	Article 12 of AMF Instruction 2008-06[9]
Validation of the models by someone who was not involved in building them	Article 68(2) of the AIFM Delegated Regulation	Article 321-77 III f of the AMF GR in relation to OTC derivatives AMF Instruction 2008-06
Prior approval by executive management of the valuation models used	Article 68(3) of the AIFM Delegated Regulation	-
ACTUAL PROCESS FOR VALUING AND REVIEWING THE VALUATION OF CFIs		
Accurate valuation method for CFIs	Article L. 533-10-1 2° of the MFC Article 59(2) of the AIFM Delegated Regulation Annex 1.9 of AMF Instruction DOC-2008-03	Article L. 533-10-1 2° of the MFC Article 321-101 4° of the AMF GR Annex 1.9 of AMF Instruction DOC-2008-03
Correct valuation of CFIs at all times	Article 71(1) of the AIFM Delegated Regulation Article 421-30 of the AMF GR	Article 411-27 of the AMF GR
Use of independent price sources whenever possible and appropriate	Article 67(1) of the AIFM Delegated Regulation	
Consistency of valuation methods	Article 121-4 of the French Accounting Standards Authority regulation 2014-01	Article 121-4 of the French Accounting Standards Authority regulation 2014-01
Review of the market price obtained from a single counterparty	Article 71(2) of the AIFM Delegated Regulation Article R. 214-32-22 3° of the MFC relating to derivatives held by RIFs Article 422-64 I of the AMF GR in relation to OTC derivatives held by RIFs	Article R. 214-15 3° of the MFC relating to derivatives Article 411-84 I of the AMF GR in relation to OTC derivatives
Review of asset values in the event of illiquid market prices	Article 71(2) of the AIFM Delegated Regulation	Article 411-27 of the AMF GR
CONTROL SYSTEM IN PLACE FOR THE VALUATION OF CFIs		
Appropriate internal control mechanisms for compliance with decisions and procedures	Article 57(1) of the AIFM Delegated Regulation	Article 321-23 IV of the AMF GR
Controls on the effectiveness of the measures, policies and procedures implemented to detect any risk of non-compliance and to minimise this risk	Article 61(2) of the AIFM Delegated Regulation	Article 321-31 1° of the AMF GR

[9] Adoption of Articles L. 533-10-1 of the MFC and Articles 311-1 and 311-8 of the AMF GR.

3 OBSERVATIONS AND ANALYSES

3.1 ORGANISATION OF THE VALUATION SYSTEM

In accordance with the provisions of Articles L. 214-24-14 and L. 533-10-1 2° of the MFC for AIFs and Articles L. 533-10-1 2° and R. 214-15 of the MFC for UCITS, the AMC must ensure that the valuation task is performed independently of the portfolio management functions, either by appointing an external valuation expert or by assigning this task internally to a person who is functionally separate from the operational functions.

All companies inspected had chosen to perform the valuation task in-house. However, the inspection task force found that in four companies, the valuation task had been assigned to a team or committee without specifying the person who was responsible for it:

- Two companies had assigned responsibility for this task to a valuation committee chaired by the risk controller and comprising members of the portfolio management and operations teams;
- One company had assigned it to its risk committee, consisting of the Chief Executive Officer, the Risk Controller, the Portfolio Management Director and the Chief Compliance and Internal Control Officer;
- One company had assigned it to a particular unit in its risk management department consisting of three people.

This approach has a detrimental effect on clarity in relation to how the AMC is organised and may call into question the independence of the valuation task, particularly in cases where individuals performing operational functions participate in the valuation committee. Individuals performing operational functions may participate in the valuation task (e.g. as part of a valuation committee) provided that responsibility for the task is clearly assigned to an independent person.

Similarly, in accordance with the provisions of Article 42 of the AIFM Delegated Regulation and Articles 318-38 and 318-39 of the AMF GR for AIFs and 321-77 II of the AMF GR for UCITS, the AMC must establish a functional and hierarchical separation of the risk management function from operational functions, and in particular from portfolio management functions. The AMC may derogate from this obligation where the derogation is appropriate and proportionate in view of the nature, scale, diversity and complexity of its business and of the CIUs it manages. An AMC that uses CFIs may not claim such a derogation.

The inspection task force found that all five AMCs inspected did have a risk management function that was independent of operational functions.

Good practice:

↗ Appointing by name or function the person responsible for the valuation task who is independent of portfolio management.

3.2 CFI VALUATION POLICIES AND PROCEDURES

In accordance with the provisions of Article L. 214-24-14 of the MFC and Articles 59 2° and 67 1° of the AIFM Delegated Regulation, AIF AMCs must implement and maintain written operational policies and procedures that support a robust, transparent, comprehensive and properly documented valuation process. Similarly, in accordance with Article 321-29 2° of the AMF GR, UCITS AMCs must implement appropriate procedures to ensure the correct and accurate valuation of the assets and liabilities of UCITS. However, **none of the five AMCs inspected had clearly separated what falls under the CFI valuation policy from what falls under the procedures.** Policies and procedures should be structured as follows.

As specified in Articles 67 and 70 of the AIFM Delegated Regulation, the valuation policy:

- defines the obligations, roles and responsibilities of all parties involved in the valuation process, including the AMC's senior management;
- describes the safeguards implemented to ensure that the valuation task is functionally independent;
- determines the valuation methods used for each type of asset in which the funds could invest;
- provides for a periodic review of policies and procedures, including valuation methods.

The valuation procedures:

- reflect the organisation of roles and responsibilities defined in the valuation policy;
- implement the valuation methods used.

As the inspection task force found in the five companies inspected, a policy without procedures is too general and does not provide sufficient supervision and control over the practical implementation of the valuation process, or conversely, runs the risk of burying the essential principles of valuation in an array of endless details specific to each valuation method. While four of the companies inspected had a valuation policy and clearly described the roles of the various parties involved in the valuation process, the policy of one of the companies inspected was 48 pages long, of which only the first seven pages included the information required in a policy (the subsequent pages detailed the implementation of the valuation methods). Conversely, procedures without a policy make it difficult to maintain any consistency between them as they are updated and do not provide a clear understanding of the responsibilities and overall valuation process. For example, one of the companies inspected did not have a policy describing the role of the parties involved in the valuation process, in particular the role of the valuation committee. Furthermore, one of its procedures was obsolete.

With regard to the definition in the valuation policy of the reference price sources used (Article 67(1) of the AIFM Delegated Regulation), the inspection task force noted several inaccuracies.

Firstly, the types of CFIs held by the funds were not all clearly specified or were grouped into categories that were too vague. For example, in the policies of two of the companies inspected, contingent convertible bonds did not appear, and could be included in either the "Bonds" or "Convertible Bonds" category. One of the other companies inspected referred in its policy to a very general "Structured Products" category, the primary reference price source for which was provided by the counterparty. It appeared, however, that structured swaps had a different primary price source.

Secondly, the reference price sources themselves were not always adequately identified. For example, one policy examined by the inspection task force only specified the name of the data provider as a source, failing to specify the function used and the type of price (mid, bid, last, etc.).[10] Another policy stated a "mark-to-model" as the source, without specifying the model used.

[10] The policy simply stated "Bloomberg" as the price source for floating rate bonds.

While it is important to state clearly the price sources used for each type of instrument, it is equally important to specify their order of priority. To this end, three of the companies inspected had chosen to rank these sources in a table, with the types of instruments in question provided online. The fourth company specified the reference price sources in its policy without explicitly stating the order in which they were to be used. The fifth company's policy was deficient both in terms of describing the sources and stating their order of priority.

With regard to reviewing the valuation of CFIs, none of the companies inspected had sufficiently described the process and procedures specific to each type of instrument in their policies and procedures:

- One of the companies inspected has a "monthly structured product counter-valuation" procedure, but this procedure only covered some of the CFIs under management;
- Two of the companies inspected considered that the valuation of VIX futures or dividend futures did not need to be reviewed at a specific frequency but had not justified this decision in their policies and procedures;
- The procedure of one of the company's inspected mentions reviewing the valuation of CFIs by the risk controller but does not specify by what means or how often;
- One of the companies inspected made no mention of any review of the valuation of CFIs in its policies and procedures.

Lastly, the inspection task force identified outdated references to regulations in the valuation policy of one of the companies inspected and a reference to a tool that had not been used for several years.

Regulatory reminders:

↗ UCITS AMCs must implement appropriate procedures to ensure the correct and accurate valuation of the assets and liabilities of UCITS (Article 321-29 2° of the AMF GR) and AIF AMCs must implement and maintain effective accounting and valuation policies and procedures to calculate the net asset value of each AIF accurately (Article 59 2° of the AIFM Delegated Regulation).

↗ AIF AMCs must describe in their policies and procedures the process for reviewing asset values where there is a significant risk of incorrect valuation. These procedures must indicate the persons responsible for this process and the frequency of the review process. Where this review process uses a model, the model must be specified and the procedures for its implementation described (Article 71 of the AIFM Delegated Regulation).

↗ AMCs must ensure that they periodically update their valuation policies and procedures, including their valuation methods (Article 70 of the AIFM Delegated Regulation for AIFs, and Article 321-35 of the AMF GR for UCITS). For AIF AMCs, this review must be carried out at least once a year and before the fund embarks on a new investment strategy or invests in a new asset type not covered by the valuation currently in place.

Good practice:

↗ Summarising in a table the reference price sources and their order of priority for each type of CFI used.

Poor practice:

↗ Combining in a single document the provisions that fall within the scope of the valuation policy and those that fall within the scope of the valuation procedures.

3.3 USE OF VALUATION MODELS

The company may use a model as part of valuing or reviewing the valuation of a CFI. All the companies inspected (5/5) use valuation models.

The model and its assumptions must be tested and validated by a person with sufficient expertise who is independent of the model builder (Article 68 of the AIFM Delegated Regulation for AIFs and AMF Instruction 2008-06 for UCITS). In two of the companies inspected, **this validation was not sufficiently formalised**:

- For one AMC, one of the executive managers had validated the procedure describing the models but without formalising this validation;
- For the other AMC, the model governance procedure states that the risk controller is responsible for testing and validating the models, but the documents describing the models do not mention this validation.

Furthermore, the only company that used models for valuation purposes (and not just for valuation review purposes) had these models validated by its risk management function but not by its executive management team.

With regard to defining and formalising the models used, the inspection task force noted several inaccuracies. Firstly, the assumptions were not always supported by testing or evidence proving their soundness (4/5). Secondly, some models were considered as widely used in the market, and the AMCs had not taken the necessary steps to verify their proper implementation (2/5):

- One of the companies inspected states in the documentation for its valuation method for contingent convertible bonds: *"for the calibration and valuation phases, the maturity used for the calculations is the next call date as this seems to be market practice, particularly for perpetual bonds"* and *"for implied volatility, the implied 12-month average one-month volatility available on Bloomberg has been used. A two-month historical volatility can be used in the absence of volatility from the options market"*. However, these choices are not backed by any evidence;
- Another company uses pre-configured models in a valuation tool that it purchased from an external supplier to value its structured products, without actually testing these models.

Furthermore, the task force points out that a model that is widely used because of its ease of use and availability is not necessarily the most accurate.

For example, the inspection task force found that, of the companies inspected that hold contingent convertible bonds in their portfolios, two companies had an incomplete model (it did not provide an assessment of the issuer's coupon non-payment option) and another company had no model at all. When checking whether a particular model is suitable, a good starting point is to analyse all the components of the instrument to be modelled. For example, one of the companies inspected had chosen to use the following criteria defined by the Bank for International Settlements for its valuation model for contingent convertible bonds:[11]

- It is a bond;
- The issuer has the option to not pay the coupons;
- There are one or more early redemption options;
- There is an option to convert into shares or to reduce the nominal value.

The models used should be reviewed regularly. This review must cover the theoretical basis, the IT-related implementation, the choice of model parameters and the market data used. The models used in the companies inspected were all recent.

[11] www.bis.org

Regulatory reminders:

- When a model is used for valuing or reviewing the valuation of a CFI, it must be documented and validated prior to any use of that CFI (Article 68 of the AIFM Delegated Regulation and AMF Instruction 2008-06 for UCITS). When a UCITS AMC bases itself on modelling tools or external academic work, it must also have tested them beforehand.
- For CFIs held by an AIF and valued using a model, the AMC's senior management team must approve the model before it is used (Article 68 of the AIFM Delegated Regulation).

Good practice:

- Using the structural criteria that make up a complex financial instrument to model its price.

3.4 ACTUAL PROCESS FOR VALUING AND REVIEWING THE VALUATION OF CFIs

The inspection task force examined whether the AMCs were complying with their valuation policies and procedures.

Two of them did not comply with the order of priority of price sources. The first company's documentation stated that Bloomberg's BGN function was used as the main source of contingent convertible bond prices in its position-keeping tool. However, it used Bloomberg's CBBT function[12] for 13 instruments, either systematically or occasionally between the middle of 2017 and the end of 2019. The second company's documentation also stated that Bloomberg's BGN function was used as the main source of contingent convertible bond prices, but it used Bloomberg's CBBT or TRAC functions on five occasions in March 2019. In both companies, these errors had not been detected as part of the checks carried out by the middle-office team. The second company merely verified that the difference between the price source used by the service provider to which it had delegated its fund account management and the price source used in its valuation policy did not exceed a certain threshold.

The inspection task force found shortcomings in the process of reviewing the valuation of CFIs in all five companies inspected. Some instruments were effectively excluded from this process:

- Eight structured EMTNs in one company's portfolios could not be modelled in its valuation tool;
- The two companies that held dividend or volatility index futures in their portfolios chose not to review the valuation of these instruments but did not justify and document this choice as required by Annex 1.9 of AMF Instruction DOC-2008-03 (Authorisation procedure for investment management companies, disclosure obligations and passporting), according to which *"for certain instruments traded on a regulated market, where the company is able to justify and document sufficient liquidity, it may derogate from the counter-valuation obligation via a model (for VIX or VSTOXX type futures contracts for example)"*;
- Two companies were late in implementing the review process for contingent convertible bonds (in January and May 2019 respectively), even though this type of instrument had been in the portfolio since 2017.

In its process of reviewing the valuation of contingent convertible bonds, one of the companies inspected chose to add, to the comparison of the market price with a model price, the comparison of the same market price with prices of actual or potential transactions provided by the fund management team.

[12] Both functions give real-time prices built from multiple contributed sources. CBBT reflects more recent contributed sources while BGN gives a broader consensus.

Lastly, **the inspection task force found that the review was not always carried out sufficiently frequently:** one of the companies inspected did not comply in 2018 with the monthly frequency of reviewing the valuation of contingent convertible bonds specified in its valuation procedure, which was already insufficient for instruments with daily valuations and funds with daily net asset values.

Regulatory reminder:

- The process for reviewing the valuation must be applied to all CFIs where there is a significant risk of incorrect valuation. It is also worth pointing out that the review, as defined by Article 71 of the AIFM Delegated Regulation, does not necessarily involve the use of a valuation model.
- CFIs concluded by UCITS funds and retail AIFs should be valuated in a reliable manner. Valuation should be based on a current market value of the instrument, calculated in a sound manner, or, if not available, on a valuation model using an appropriate and proven methodology (Articles R. 214-15 and R. 214-32-22 of the MFC, and Articles 411-84 and 422-64 of the AMF GR).

Good practice:

- Systematically using transaction prices in a comparison check with the prices used for the valuation.

Poor practices:

- When the AMC has delegated the fund account management, simply verifying, in a first-level control, that the difference between the price source used by the service provider and the price source used in its valuation policy does not exceed a certain threshold, instead of checking that the price source used by the provider is the one required for the given type of instrument by the valuation policy.

Reviewing the valuation of contingent convertible bonds

Contingent convertible bonds have been explicitly classified as complex financial instruments since 20 June 2017 (AMF Position-Recommendation 2012-19).

Following this update to its policy, the AMF asked AMCs to review the valuation of these instruments using a model. The additional information sheet in Annex 1.9 of AMF Instruction DOC-2008-03 (Authorisation procedure for investment management companies, disclosure obligations and passporting) authorises AMCs to *"implement this counter-valuation at a lower frequency than the calculation of the net asset value (for certain convertible contingent bonds, a counter-valuation on a weekly rather than a daily basis could be considered for example, liquidity permitting)"*.

Since 2017, the market segment for contingent convertible bonds has grown considerably and has also gained visibility. The inspection task force analysed, for the period of market stress in March 2020,[13] the behaviour of 20 contingent convertible bonds held in the portfolios of the companies inspected. These CoCos were from various issuers and had issue sizes ranging from $230 million to $2.5 billion. These securities were compared with 10 conventional bonds with similar characteristics in terms of issuer and issue size. The results of this analysis are summarised in the following table.

[13] It should be noted that this period of market stress did not particularly affect the financial sector and that the observation of the liquidity of contingent convertible bonds would probably be different during a crisis affecting this sector.

Security	Average liquidation time frame for €10 million of shares (in number of days)[14]			Price change between 30/01/2020 and 19/03/2020
	30/01/2020	19/03/2020	Change	
Contingent convertible bonds	0.9	1.4	+0.5	-23%
Conventional bonds	0.7	1.8	+1.1	-10%

The inspection task force also performed a test comparing the prices of transactions carried out by the companies inspected between the beginning of 2017 and the end of 2019 with the prices used for the valuation for a sample of 20 securities. It found only three differences of more than 1% out of approximately 450 transactions.

In addition, the inspection task force found, for the four companies using convertible contingent bonds, that the valuation of these CFIs by a model was too inaccurate to be used for market price valuation control purposes (the main source for these four AMCs being Bloomberg's BGN function). The valuation of contingent convertible bonds does appear to be complex to model, in particular the issuer's coupon non-payment option.

For example, one of the AMCs, which conducted a price comparison exercise from December 2017 to October 2019 between prices obtained from its model and market prices, reported differences of more than 2% in 61% of cases and differences of more than 10% in 23% of cases. In response to similar differences, another AMC chose to track the change in the differences over time rather than the size of the differences at a specific date.

↗ Based on this finding, the AMF will work on the evolution of its doctrine in relation to valuation review for contingent convertible bonds, in particular regarding their frequency and which could be an acceptable gap between prices obtained from a model and market prices.

The inspection task force attempted to compare the prices obtained from the different models used by the AMCs inspected by analysing a sample of 20 contingent convertible bonds held in the portfolios of at least two companies. This comparison was not possible because:

- one company had not yet developed its own model at the time of the inspection and was using prices from another company's model;
- another company used its model to calculate spreads rather than prices, comparing the spreads they obtained with market spreads, and was unable to provide the inspection task force with a price history;
- the two remaining companies have models that are difficult to compare since the parameters of one are recalibrated every day while those of the other are reviewed much less frequently.

3.5 SECOND-LEVEL CONTROLS RELATING TO THE VALUATION OF CFIS

The inspection task force found that **the five companies inspected had a permanent control plan covering the key points of the valuation system, although there were disparities in the level of detail in the description of the controls carried out:** one of the companies described a series of 12 control points, while another mentioned only two points.

However, the task force found that **the permanent controls relating to the valuation of CFIs, when carried out, did not comply with the scope or due diligence provided for in the control plan:**

[14] Data from Bloomberg, the number of days comes from the LQA module, the prices from the BVAL module.

- One company inspected did not perform the planned audit of compliance with its valuation policy in 2018;
- None of the companies carried out an audit covering the entire scope of the CFIs and, for three of them, the audits of the valuation process only covered non-complex instruments.

In this regard, the inspection task force found that, for the three AMCs for which CFIs make up only a fraction of the portfolios under management, the Chief Compliance and Internal Control Officer’s review of these products was inadequate or even non-existent compared with the work carried out on more standard instruments. However, CFIs are by their very nature instruments that require more attention in terms of internal controls.

With regard to periodic controls, this aspect was not part of the controls carried out by the companies between the beginning of 2017 and the end of 2019.

Regulatory reminder:

↗ AMCs that hold CFIs in their portfolios must ensure that the CFI valuation process is conducted properly, as part of their ongoing and periodic controls (Articles 57(1) and 61(2) of the AIFM Delegated Regulation for AIFs and Articles 321-23 IV and 321-31 I 1° of the AMF GR for UCITS).

Poor practice:

↗ Not paying particular attention to the valuation of CFIs as part of second-level controls on the grounds that they are used only marginally.