

**Special Considerations in Auditing Complex Financial Instruments—
Draft International Auditing Practice Statement 1000****CONTENTS****[REVISED FROM JUNE 2010 VERSION]**

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International Auditing Practice Statement (IAPS) 1000, *Special Considerations in Auditing Complex Financial Instruments*, should be read in the context of the *Preface to the International Standards on Quality Control, Auditing, Review, Other Assurance, and Related Services*, which sets out the application and authority of IAPSs. While this IAPS highlights the requirements of certain ISAs, reading this IAPS is not a substitute for reading the ISAs themselves and there may be other requirements in the ISAs that are relevant.

Scope of this IAPS

1. The purpose of this International Auditing Practice Statement (IAPS) is to provide background information and guidance to the auditor regarding special considerations when auditing complex financial instruments. Complex financial instruments may be used by financial and non-financial entities of all sizes for a variety of purposes. Some entities have large holdings and transaction volumes while others do not. This IAPS is relevant to all of these situations.
2. Certain ISAs may be particularly relevant to audits of complex financial instruments. For example:
 - (a) ISA 540¹ deals with the auditor's responsibilities relating to auditing accounting estimates, including accounting estimates related to complex financial instruments measured at fair value; and
 - (b) ISA 315² and ISA 330³ deal with identifying and assessing risks of material misstatement and responding to those risks.
3. The applicable financial reporting framework may require the entity to measure complex financial instruments at fair value or disclose fair value information for financial instruments carried at amortized cost. The guidance on valuation in this IAPS is particularly relevant for complex financial instruments measured or disclosed at fair value, while the guidance on areas other than valuation applies equally to complex financial instruments either measured at fair value or amortized cost. This IAPS is also applicable to both financial assets and financial liabilities, as the auditing considerations for both are generally the same. Many of the considerations in this IAPS can also be applied to simpler financial instruments.

Section I—Background Information about Complex Financial Instruments

Nature of Financial Instruments Addressed by this IAPS

4. Different definitions of financial instruments may exist among financial reporting frameworks. For example, International Financial Reporting Standards (IFRS) define a financial instrument as a contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.⁴ Financial instruments may be cash, the equity of another entity, the right to receive or deliver cash or exchange financial assets or liabilities, and certain contracts settled in an entity's own equity instruments. This definition encompasses a wide range of financial instruments from simple loans and deposits to complex derivatives and structured products.

¹ ISA 540, *Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures*

² ISA 315, *Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment*

³ ISA 330, *The Auditor's Responses to Assessed Risks*

⁴ International Accounting Standard (IAS) 32, *Financial Instruments: Presentation*

5. This IAPS focuses on those financial instruments, both financial assets and financial liabilities that are more complex than, for example, a simple loan, deposit or spot foreign exchange transaction, but does not deal with loan loss provisioning. In particular, this IAPS does not deal with simple financial instruments such as cash, trade accounts receivable and trade accounts payable. However, sometimes financial instruments that ordinarily are relatively easy to value become complex to value because of particular circumstances, for example, instruments for which the market has become inactive.
6. The complexity of a financial instrument lies in the way in which future cash flows are determined. All financial instruments represent the right or obligation to pay or receive future cash flows. Examples of complexity can be:
 - (a) A very high volume of individual cash flows, where a lack of homogeneity requires analysis of each one or a large number of grouped cash flows to determine, for example, credit risk (for example, Collateralized Debt Obligations (CDOs)).
 - (b) Complex formulas for determining the cash flows.
 - (c) Uncertainty or variability of future cash flows, such as option contracts.

The higher the variability of cash flows to changes in market conditions, the more complex and uncertain the fair value measurement of the financial instrument is likely to be. In addition, the accounting for financial instruments under certain financial reporting frameworks or certain market conditions may be complex.

7. Originators of complex financial instruments are continuously developing new products and as a result it is not possible to provide an exhaustive list of all such instruments. For the purposes of this IAPS, complex financial instruments include, but are not limited to:
 - Derivatives (including forward contracts, swaps, caps, floors, swaptions, credit default options, credit default swaps, and other option contracts);
 - Leveraged finance commitments; and
 - Structured products - Some of these products may include embedded derivatives and can combine a number of financial instruments to achieve a desired overall effect (for example, CDOs, Asset Backed Securities (ABSs), and structured debt).
8. Complex financial instruments are susceptible to a lack of precision in their measurement, known as estimation uncertainty. The nature and reliability of information available to support the valuation of complex financial instruments varies widely, which thereby affects the degree of estimation uncertainty associated with their measurement. The degree of estimation uncertainty affects, in turn, the risks of material misstatement related to complex financial instruments, including their susceptibility to unintentional or intentional management bias. The importance of disclosures regarding the basis of measurement increases as the measurement uncertainty of the financial instruments increases. For example, many of the complex financial instruments referred to in paragraph 8 are required to be presented in the financial statements at fair value. Derivatives and structured products become more complex when they are a combination of individual complex financial instruments.

Types of Entities to which this IAPS Applies

9. The general principles applicable to auditing complex financial instruments are applicable to all entities, because all entities are subject to risks of material misstatement when using complex financial instruments. For example, entities may not have accurately recorded all financial instrument transactions, or may not have valued these instruments properly in accordance with the applicable financial reporting framework.
10. The use of complex financial instruments varies by entity. For example, some entities may take positions in complex financial instruments to assume and benefit from risk. Other entities may use financial instruments to reduce risk by hedging exposures. The guidance in this IAPS is intended to be helpful in audits of entities with different levels of use of complex financial instruments ranging from:
 - Entities with high levels of trading and use of complex financial instruments (for example, banks with complex dealing rooms, non-financial sector entities with treasury departments); to
 - Entities with relatively few transactions involving complex financial instruments (for example, an entity that wishes to hedge a relatively low number of foreign currency transactions or obtains a few instruments for investment purposes).

The volume of the financial instrument transactions at an entity typically determines the nature and extent of controls that may exist at an entity and an understanding of how complex financial instruments are monitored and controlled assists the auditor in determining the nature, timing, and extent of audit procedures.

Purpose of Using Complex Financial Instruments

11. More complex financial instruments, such as those arising from derivatives contracts, generally exist to do two things:
 - Change an existing risk profile to which an entity is exposed (i.e., for hedging purposes). This includes:
 - The forward purchase or sale of currency to fix a future exchange rate;
 - Converting future interest rates to fixed or floating through the use of swaps; and
 - The purchase of option contracts to provide an entity with protection against a particular price movement, including contracts which may contain embedded derivatives; and
 - Enable an entity to take a risk position to benefit from long term investment returns or from short term market movements (i.e., for trading purposes).

In addition, a complex financial instrument arising from a derivative contract may be a financial asset or a financial liability at different times and subject to different circumstances and can move from a financial asset to a financial liability in short order. Such volatility can also dramatically affect an entity's credit risk exposure to its counterparties.

Risks of Using Complex Financial Instruments

12. The use of complex financial instruments has become more commonplace and the accounting requirements to provide fair value and other information about them in financial statement presentations and disclosures are expanding. However, management and those charged with governance may not:
 - Fully understand the risks of using complex financial instruments;
 - Have the expertise to value them appropriately in accordance with the applicable financial reporting framework; or
 - Have sufficient controls in place over financial instrument activities.
13. The knowledge and experience of management and those charged with governance is an important element of the control environment at entities of all sizes. The use of complex financial instruments without relevant expertise within the entity may result in the entity unknowingly assuming a significant amount of risk (e.g., credit risk, interest rate risk, and liquidity risk), and increase the risks of material misstatement in the financial statements. Failure on the part of management to fully appreciate the risks inherent in a complex financial instrument will lead them not to manage these risks appropriately, and may ultimately threaten the viability of the entity.
14. The use of complex financial instruments can reduce exposures to certain business risks, for example changes in exchange rates, interest rates and commodity prices, or a combination of those risks. On the other hand, the inherent complexities also may result in increased business risk, in particular if entities are inappropriately hedging risks and inadvertently creating additional risks by doing so. This may in turn increase risks of material misstatement and present new challenges to management and auditors. Table 1 lists the principal types of risk related to financial instrument activities to which entities may be exposed.

Table 1: *Types of Economic Risks to which Entities May Be Exposed through the Use of Complex Financial Instruments*

The principal types of risk are listed below. This list is not meant to be exhaustive and different terminology may be used to describe these risks or classify the components of individual risks.	
a.	Market risk, which is the risk that the fair value or future cash flow of a financial instrument will fluctuate because of changes in market prices. Examples of market risk include currency risk, interest rate risk, commodity and equity price risk, and volatility risk.
b.	Credit (or counterparty) risk, which is the risk that one party to a financial instrument will cause a financial loss to another party by failing to discharge an obligation. Credit risk includes settlement risk and is often associated with default. Settlement risk is the related risk that one side of a transaction will be settled without consideration being received from the customer or counterparty.
c.	Liquidity risk relates to the risk that an entity will be unable to fund increases in assets and meet obligations as they become due without incurring unacceptable losses.

- d. Operational risk, which relates to the specific processing required for financial instruments and which includes:
- (i) The risk that confirmation and reconciliation controls are inadequate resulting in incomplete or inaccurate recording of financial instruments;
 - (ii) The risks that there is inappropriate documentation of hedged transactions and insufficient monitoring of these transactions;
 - (iii) The risk that transactions from a trade entry, operational processing, financial accounting or risk management perspective are split into individual transaction legs or cash flows, which do not reflect the economics of the overall trade, and which are therefore potentially incorrectly recorded, processed or risk managed;
 - (iv) The risk that undue reliance is placed by staff on the accuracy of model valuations or processing, without adequate review, and transactions are therefore incorrectly valued or risk managed;
 - (v) The risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events; and
 - (vi) The risks that there is inadequate or non-timely maintenance of models used to measure financial instruments.
- Operational risk also includes legal (enforceability) risk, which is the risk relating to losses resulting from a legal or regulatory action that invalidates or otherwise precludes performance by the end user or its counterparty under the terms of the contract or related netting arrangements. For example, legal risk could arise from insufficient or incorrect documentation for the contract, an inability to enforce a netting arrangement in bankruptcy, adverse changes in tax laws, or statutes that prohibit entities from investing in certain types of financial instruments.

Controls Relating to Complex Financial Instruments

15. ISA 315 establishes requirements for the auditor to understand the entity and its environment, including its internal control. Obtaining an understanding of the entity and its environment, including the entity's internal control, is a continuous, dynamic process of gathering, updating and analyzing information throughout the audit. The understanding establishes a frame of reference within which the auditor plans the audit and exercises professional judgment throughout the audit. Because the nature and extent of financial instrument transactions varies by entity, and depends upon whether the entity is an originator of, or investor in, complex financial instruments, the control environment at each entity will be unique. Table 2 describes internal controls that may exist in an entity that deals in a high volume of financial instrument transactions.
16. Key controls relating to an entity's financial instrument transactions include:
 - Setting a risk appetite for the financial instruments, including policies for investing in complex financial instruments, and the control framework in which the financial instrument activities are conducted;

- Processing financial instrument transactions, including confirmation and reconciliation of cash and asset holdings to external statements, and the payments process;
- Segregation of duties between those investing in the complex financial instruments and those responsible for valuing such instruments;
- Valuation processes, including the use of third-party expertise;
- Risk management; and
- Monitoring of controls.

Table 2: *Types of Internal Controls Relating to Complex Financial Instruments that May Exist within the Entity*

The extent of an entity's use of complex financial instruments and the degree of complexity of the instruments are important determinants of the necessary level of sophistication of the entity's internal control. For example, smaller entities may use less structured products and simple processes and procedures to achieve their objectives. It is the role of those charged with governance to determine an appropriate attitude towards the risks. It is management's role to monitor and manage the entity's exposures to those risks.

The following provides examples of internal controls that may exist in an entity that deals in a high volume of financial instrument transactions, whether for trading or investing purposes. The examples are not meant to be exhaustive and entities may establish different control environments and processes depending on their size, the industry in which they operate, and the extent of their financial instrument transactions.

1. Though it is for management to determine what internal control is necessary to enable the preparation of financial statements that are free from material misstatement, effective internal control assists management and, where appropriate, those charged with governance to fulfill their responsibilities to prepare financial statements in accordance with the applicable financial reporting framework with respect to complex financial instruments.

An entity's internal control may be effective when management and those charged with governance have:

- (a) Established an appropriate control environment, including a commitment to competence, participation by those charged with governance, a clear organizational structure, assignment of authority and responsibility, and human resource policies and procedures. In particular, clear rules are needed on the extent to which those responsible for financial instrument activities are permitted to participate in the trading markets;⁵ (see paragraphs 2–8)

⁵ Such rules should have regard to any legal or regulatory restrictions on using complex financial instruments. For example, certain public sector entities may not have the power to conduct business using derivative financial instruments.

- (b) Established a risk assessment process relative to the size of the entity and the complexity of its financial instruments (for example, in some entities a formal risk management function may exist); (see paragraphs 9–14)
- (c) Established information systems that provide those charged with governance with an understanding of the nature of the complex financial instrument activities and the associated risks; (see paragraphs 15–16)
- (d) Designed and implemented a system of internal control to:
 - Monitor risk and financial control;
 - Provide reasonable assurance that the entity's use of complex financial instruments is within its risk management policies; and
 - Ensure that the entity is in compliance with applicable laws and regulations; and
- (e) Considered the integrity of the entity's accounting and financial reporting systems to ensure the reliability of management's financial reporting of financial instrument activities.

The Entity's Control Environment

Commitment to Competence

2. The degree of complexity of some financial instrument activities may mean that only a few individuals within the entity fully understand those activities or have the expertise necessary to value the instruments on an ongoing basis. Significant use of complex financial instruments, without relevant expertise within the entity, therefore increases the risk of material misstatement.

Participation by Those Charged with Governance

3. Those charged with governance establish the entity's overall risk appetite and provide oversight over the entity's financial instrument activities. An entity's policies for the purchase, sale and holding of complex financial instruments are aligned with its attitude toward risk and the expertise of those involved in financial instrument activities. In addition, an entity may establish governance structures and control processes aimed at:
 - (a) Communicating investment decisions and assessments of all material valuation uncertainty to those charged with governance; and
 - (b) Evaluating the entity's overall risk appetite when engaging in financial instrument transactions.

Organizational Structure

4. Financial instrument activities may be run on either a centralized or a decentralized basis. Such activities and related decision making depend heavily on the flow of accurate, reliable, and timely management information. The difficulty of collecting and aggregating such

information increases with the number of locations and businesses in which an entity is involved. The risks of material misstatement associated with financial instrument activities may increase with greater decentralization of control activities. This may especially be true where an entity is based in different locations, some perhaps in other countries.

Assignment of Authority and Responsibility

Investment and Valuation Policies

5. Providing direction, through clearly stated policies approved by those charged with governance, for the purchase, sale, and holding of complex financial instruments, enables management to establish an approach to taking and managing business risks. These policies are most clear when they state the entity's objectives with regard to its risk management activities and the investment and hedging alternatives available to meet these objectives and reflect the:
 - (a) Level of the entity's management expertise;
 - (b) Sophistication of the entity's internal control and monitoring systems;
 - (c) Entity's asset/liability structure;
 - (d) Entity's capacity to maintain liquidity and absorb losses of capital;
 - (e) Types of complex financial instruments that management believes will meet its objectives; and
 - (f) Uses of complex financial instruments that management believes will meet its objectives, for example, whether derivatives may be used for speculative purposes or only for hedging purposes.
6. Management may design policies aligned with its valuation capabilities and may establish controls to ensure that these policies are adhered to by those employees responsible for the entity's valuation. These may include:
 - (a) Processes for the design and validation of methodologies used to produce valuations, including how valuation uncertainty is addressed; and
 - (b) Policies regarding maximizing the use of observable inputs and the types of information to be gathered to support valuations of complex financial instruments.
7. In smaller entities and entities without a treasury function, dealing in complex financial instruments may be rare and management's knowledge and experience limited. Nevertheless, establishing policies over complex financial instruments helps an entity to evaluate its risk appetite and consider whether investing in particular complex financial instruments achieves a stated objective.

Human Resource Policies and Practices

8. Entities may establish policies requiring key employees dealing with complex financial instruments to take mandatory time off from their duties. This type of internal control is used as a means of preventing and detecting fraud, in particular if those engaged in

trading activities are creating false trades or inaccurately recording transactions.

The Entity's Risk Assessment Process

9. An entity's risk assessment process exists to establish how management identifies business risks that derive from its use of complex financial instruments, including how management estimates the significance of the risks, assesses the likelihood of their occurrence and decides upon actions to manage them.
10. The entity's risk assessment process forms the basis for how management determines the risks to be managed. Risk assessment processes exist to ensure that management:
 - (a) Understands the risks inherent in a complex financial instrument before they enter into it, including the objective of entering into the transaction and its structure (e.g., the economics and business purpose of the entity's financial instrument activities);
 - (b) Performs adequate due diligence commensurate with the risks associated with particular complex financial instruments;
 - (c) Monitors their outstanding positions to understand how market conditions are affecting their exposures;
 - (d) Has procedures in place to reduce or change risk exposure if necessary and for managing reputational risk; and
 - (e) Subjects these processes to rigorous supervision and review.

Table 1 provides examples of risks related to complex financial instruments to which entities may be exposed.

11. The structure implemented to monitor and manage exposure to risks should:
 - (a) Be appropriate and consistent with the entity's attitude toward risk as determined by those charged with governance;
 - (b) Specify the approval levels for the authorization of different types of complex financial instruments and transactions that may be entered into and for what purposes. The permitted instruments and approval levels should reflect the expertise of those involved in financial instrument activities, demonstrating management's commitment to competence;
 - (c) Set appropriate limits for the maximum allowable exposure to each type of risk (including approved counterparties). Levels of allowable exposure may vary depending on the type of risk, or counterparty;
 - (d) Provide for the independent and timely monitoring of the financial risks and control activities;
 - (e) Provide for the independent and timely reporting of exposures, risks and the results of financial instrument activities in managing risk; and
 - (f) Evaluate management's track record for assessing the risks of particular complex

financial instruments.

12. The types and levels of risks present in an entity are directly related to the types of complex financial instruments with which it deals, including the complexity of these instruments, and the volume of complex financial instruments transacted.

Risk Management Function

13. Some entities, for example large financial institutions with a high volume of financial instrument transactions, may be required by law or regulation, or may choose, to establish a formal risk management function. This independent function is responsible for reporting on and monitoring financial instrument activities. Examples of key responsibilities in this area may include:
 - (a) Implementing the risk management policy set by those charged with governance (including analyses of the risks to which an entity may be exposed);
 - (b) Designing risk limit structures and ensuring these risk limits are implemented in practice;
 - (c) Developing stress scenarios and subjecting open position portfolios to sensitivity analysis, including reviews of unusual movements in positions;
 - (d) Reviewing and analyzing new financial instrument products.
14. The volume and sophistication of financial instrument activity and relevant regulatory requirements will influence the entity's consideration of whether to establish a formal risk management function and how the function may be structured. In entities that have not established a separate risk management function, for example entities with a relatively few number of complex financial instruments or financial instruments that are less complex, reporting on and monitoring financial instrument activities may be a component of the accounting function's responsibility or management's overall responsibility (see paragraph 21).

The Entity's Information Systems

15. The key feature of an entity's information system is that it be capable of capturing and recording all the transactions accurately, settling them, valuing them, and producing information to enable the financial instruments to be risk managed and for controls to be monitored. Typical difficulties for entities that engage in a high volume of complex financial instruments can be a multiplicity of systems that are poorly integrated and have manual interfaces without adequate controls.
16. Certain complex financial instruments may require a large number of accounting entries. As the sophistication or level of the financial instrument activities increases, it is necessary for the sophistication of the information system to also increase. Specific issues which can arise in respect to complex financial instruments include:
 - (a) Information systems, in particular for smaller entities, not having the capability or not being appropriately configured to process financial instrument transactions,

- especially when the entity does not have any prior experience in dealing with complex financial instruments;
- (b) The potential diversity of systems required to process more complex transactions, and the need for regular reconciliations between them, in particular when the systems are not interfaced or may be subject to manual intervention;
 - (c) The potential that more complex transactions, if they are only traded by a small number of individuals, may be valued or risk managed on spreadsheets rather than on main processing systems, and for the physical and logical password security around those spreadsheets to be more easily compromised;
 - (d) A lack of review of exception logs from systems, external confirmations and broker quotes, where available, to validate the entries generated by the systems;
 - (e) Difficulties in controlling and evaluating the key inputs to systems for valuation of complex financial instruments, particularly where those systems are maintained by the front office or a third-party service provider and/or the transactions in question are non-routine or thinly traded;
 - (f) Failure to evaluate the design and calibration of complex models used to process these transactions initially and on a periodic basis;
 - (g) The potential that management has not set up a model library, with controls around access, change and maintenance of individual models, in order to maintain a strong audit trail of the accredited versions of models and in order to prevent unauthorized access or amendments to those models;
 - (h) The disproportionate investment which may be required in risk management and control systems, where an entity only undertakes a limited number of financial instrument transactions, and the potential for misunderstanding of the output by management if they are not used to these types of transactions;
 - (i) The potential requirement for third-party systems provision, for example from a service organization, to record, process, account for or risk manage appropriately financial instrument transactions, and the need to reconcile appropriately and challenge the output from those providers; and
 - (j) Additional security and control considerations relevant to the use of an electronic network when an entity uses electronic commerce for financial instrument transactions.
17. Information systems relevant to financial reporting serve as an important source of information for the quantitative disclosures in the financial statements. However, entities may also develop and maintain non-financial systems used for internal reporting and to generate information included in qualitative disclosures, for example regarding risks and uncertainties or sensitivity analyses.

The Entity's Control Activities

18. Control activities over financial instrument transactions are designed to prevent or detect problems that hinder an entity from achieving its objectives. These objectives may be either

operational, financial reporting, or compliance in nature. Control activities over complex financial instruments are designed relative to the complexity and volume of transactions of complex financial instruments and will generally include an appropriate authorization process, adequate segregation of duties, and other policies and procedures designed to ensure that the entity's control objectives are met. This IAPS focuses on completeness and accuracy of recording, valuation, and presentation and disclosure. Management's process to value complex financial instruments is an important control activity that is described in paragraphs 49-81 of Section II. However, two important elements of control activities relate to authorization and segregation of duties.

Authorization

19. Authorization can affect the financial statement assertions both directly and indirectly. For example, even if a transaction is executed outside an entity's policies, it nonetheless may be recorded and accounted for accurately. However, unauthorized transactions could significantly increase risk to the entity, thereby significantly increasing the risk of material misstatement. To mitigate this risk, an entity will often establish a clear policy as to what transactions can be traded by whom and adherence to this policy will then be monitored by an entity's back office. Monitoring trading activities of individuals, for example by reviewing unusually high volumes or significant losses incurred, will assist management in ensuring compliance with the entity's policies and determining whether fraud has occurred.
20. The function of an entity's deal initiation records is to identify clearly the nature and purpose of individual transactions and the rights and obligations arising under each complex financial instrument contract, including the enforceability of the contracts. In addition to the basic financial information, such as a notional amount, complete and accurate records at a minimum typically include:
 - (a) The identity of the dealer;
 - (b) The identity of the person recording the transaction (if not the dealer), when the transaction was initiated (including the date and time of the transaction), and how it was recorded in the entity's information systems; and
 - (c) The nature and purpose of the transaction, including whether or not it is intended to hedge an underlying commercial exposure.

Segregation of Duties

21. Segregation of duties and the assignment of personnel is an important control activity. Financial instrument activities may be categorized into a number of functions, including:
 - (a) Executing the transaction (dealing). In entities with a high volume of financial instrument transactions, this may be done by a group of traders known as the front office;
 - (b) Initiating cash payments and accepting cash receipts (settlements);
 - (c) Sending out trade confirmations and reconciling the differences between the entity's

records and replies from counterparties, if any;

- (d) Recording of all transactions correctly in the accounting records;
- (e) Monitoring risk limits. In entities with a high volume of financial instrument transaction, this may be performed by the risk management function; and
- (f) Monitoring positions and valuing complex financial instruments.

Where an entity is too small to achieve proper segregation of duties, the role of management and those charged with governance in monitoring financial instrument activities is of particular importance.

Monitoring of Controls

- 22. Entities' ongoing monitoring activities are designed to detect and correct any deficiencies in the effectiveness of internal controls over transactions for complex financial instruments and their valuation. It is important that there is adequate supervision and review of financial instrument activity within the entity. This includes:
 - (a) All controls being subject to review, for example:
 - A detailed review of the application of particular controls. An example would be the review by a supervisor of bank or custodian reconciliations; or
 - The monitoring of operational statistics such as the number of reconciling items or the difference between internal pricing and external pricing sources.
 - (b) The need for robust information technology (IT) controls and monitoring and validating their application; and
 - (c) The need to ensure that information resulting from different processes and systems is adequately reconciled. For example, there is little benefit in a valuation process if the output from it is not reconciled properly into the general ledger.
- 23. In larger entities, sophisticated computer information systems generally keep track of financial instrument activities, and ensure that settlements occur when due. More complex computer systems may generate automatic postings to clearing accounts to monitor cash movements, and controls over processing are put in place to ensure that financial instrument activities are correctly reflected in the entity's records. Computer systems may be designed to produce exception reports to alert management to situations where complex financial instruments have not been used within authorized limits or where transactions undertaken were not within the limits established for the chosen counterparties. However, even a sophisticated computer system may not ensure the completeness of financial instrument transactions. Accordingly, management may put additional procedures in place to ensure completeness of all transactions (as discussed in Table 4).

Presentation and Disclosure about Complex Financial Instruments

- 17. Management's responsibilities include the preparation of the financial statements in

accordance with the applicable financial reporting framework.⁶ Disclosures in the financial statements are intended to enable users of the financial statements to make meaningful assessments of effects of the entity's financial instrument activities, including the risks and uncertainties associated with these complex financial instruments. Accordingly, disclosures are of equal importance to the amounts recorded in the financial statements relating to financial instrument activities. Disclosures are most effective when they:

- Faithfully represent the underlying transactions and events, and illustrate how amounts recognized in the balance sheet, income statement, or statement of changes in equity relate to other quantitative and qualitative disclosures;
 - Provide comprehensive and meaningful information that fully describes the entity's risks and exposures from complex financial instruments and allow users to have an adequate understanding of the entity's financial instrument transactions (including reasonably possible alternative outcomes); and
 - Allow for comparison over time and between entities.
18. Most frameworks require the disclosure of quantitative and qualitative information (including accounting policies) relating to complex financial instruments. The accounting requirements to provide fair value and other information about them in financial statement presentations and disclosures are extensive in most financial reporting frameworks and encompass more than just valuation of the financial instruments. In preparing financial statement disclosures, management complies with the requirements of the applicable financial reporting framework in their jurisdictions and such other information that may be needed for fair presentation, for example describing significant risks to inform investors. For example, qualitative disclosures about financial instruments provide important contextual information about the characteristics of the financial instruments and their future cash flows.

Table 3: *Categories of Disclosures*

1.	Disclosure requirements can typically be characterized in three main categories:
(a)	Quantitative disclosures that are derived from the amounts included in the financial statements – for example, categories of financial assets and liabilities;
(b)	Quantitative disclosures that require significant judgment – for example, sensitivity analysis for each type of market risk to which the entity is exposed; and
(c)	Qualitative disclosures – for example, those describe the entity's objectives, policies and procedures for managing each type of risk arising from complex financial instruments and the methods used to measure the risks.
2.	The applicable financial reporting framework may permit, or prescribe, disclosures related to accounting estimates, and some entities may disclose voluntarily additional information in the notes to the financial statements. These disclosures may include, for

⁶ See paragraphs 4 and A2 of ISA 200, *Overall Considerations of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*.

example:

- A summary of significant accounting policies.
 - Relevant assumptions used.
 - The method of estimation used, including any applicable model.
 - The basis for the selection of the method of estimation.
 - The effect of any changes to the method of estimation from the prior period.
 - The sources and implications of estimation uncertainty.
3. Disclosures that give information about the significance of complex financial instruments to an entity's financial position and performance and may be required by the applicable financial reporting framework may include:
- Disclosures about the carrying amounts of financial assets and liabilities;
 - Disclosures about reclassifications of financial assets;
 - Disclosures about the carrying amounts of financial assets that have been pledged as collateral, including the terms and conditions;
 - Disclosures about net gains or net losses on particular categories of financial assets and financial liabilities;
 - Disclosures about movements in and out of level 3 of the fair value hierarchy; and
 - Disclosures about non-linear complex financial instruments and the factors that affect their valuation.
4. Entities may also be required under certain financial reporting frameworks to give quantitative disclosures such as:
- Summary data about the exposures at the reporting date; and
 - Market risk information such as a sensitivity analysis for each type of market risk to which the entity is exposed at the reporting date, showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date.
5. Some financial reporting frameworks require disclosure of information that enables users of the financial statements to evaluate the nature and extent of the risks arising from complex financial instruments to which the entity is exposed at the reporting date. This disclosure may be contained in the notes to the financial statements, or in management's discussion and analysis within its annual report. The extent of disclosure depends on the extent of the entity's exposure to risks arising from complex financial instruments. This includes qualitative disclosures about:
- The exposures to risk and how they arise, including the possible effects on an entity's future liquidity and collateral requirements;
 - The entity's objectives, policies and processes for managing the risk and the

- methods used to measure the risk; and
- Any changes in the above two bullets from the previous period.
6. Other qualitative disclosures that may be required by certain financial reporting frameworks include:
 - The judgments made in applying the entity's accounting policies that have the most significant effect on the amounts recognized in the financial statements;
 - Information about the assumptions concerning the future; and
 - Other major sources of estimation uncertainty at the balance sheet date that have a significant risk of causing a material adjustment in the carrying amount of assets and liabilities within the next financial year.
 7. In addition, qualitative disclosure is often used to add value to quantitative disclosures by providing analysis and interpretation of tables, for example to provide more information about valuation techniques and inputs to fair value measurements.
 8. As noted in Table 5, some financial reporting frameworks may establish a fair value hierarchy that reflects the significance of the inputs used in making the measurements. They may also require the entity to disclose whether changing one or more of the inputs to reasonably possible alternative assumptions would change fair value significantly and, if so, how the effect of a change in assumptions was calculated, or the effect of correlation between unobservable inputs if such correlation is relevant when estimating the effect on the fair value measurement of using those different levels of inputs. While these disclosures may be quantitative in nature in that an amount is calculated, the selection of reasonably possible alternative assumptions can often be a subjective process.
 9. For example, the additional disclosures required for complex financial instruments with fair value measurements that are in level 3 of the hierarchy are aimed at informing users of financial statements about the effects of those fair value measurements that use the most subjective inputs. Because the inputs to these fair value measurements reflect the entity's own assumptions about assumptions that market participants would use, including assumptions about risks, it is critical that disclosures are comprehensive and meaningful.

Section II—Audit Considerations Relating to Complex Financial Instruments

Planning the Engagement⁷

19. Certain factors may make auditing complex financial instruments particularly challenging. For example:
- It may be difficult for both management and the auditor to understand the nature of complex financial instruments and what they are used for, and the risks to which the entity is exposed;
 - Markets can move and change quickly, and this places pressure on management to manage their exposures effectively;
 - Evidence supporting valuation may be difficult to obtain;
 - Individual payments associated with certain complex financial instruments may be significant, which may increase the risk of misappropriation of assets; and
 - A few employees on the entity's financial instruments transactions may exert significant influence, in particular where their compensation arrangements are tied to revenue from complex financial instruments, and possible undue reliance on these individuals by others within the entity.

These factors may cause risks and relevant facts to be obscured, and latent risks can emerge rapidly, especially in adverse market conditions, which may affect the auditor's assessment of the risks of material misstatement.

20. In these circumstances, professional skepticism is important to the critical assessment of audit evidence. This includes questioning contradictory audit evidence and the reliability of documents and responses to inquiries and other information obtained from management and those charged with governance. It also includes consideration of the sufficiency and appropriateness of audit evidence obtained in the light of the circumstances.
21. Application of professional skepticism by the auditor increases in importance with the complexity of financial instruments, for example in regard to:
- Evaluating whether sufficient appropriate audit evidence has been obtained, which can be particularly challenging in inactive markets or when models are used.
 - Evaluating management's judgments in applying the entity's applicable financial reporting framework, in particular management's choice of models, use of assumptions in valuation models, and addressing circumstances in which the auditor's judgments and management's judgments differ.
 - Drawing conclusions based on the audit evidence obtained, for example assessing the reasonableness of valuations prepared by management's experts and evaluating whether disclosures in the financial statement achieve fair presentation.

⁷ ISA 300, *Planning an Audit of Financial Statements*, deals with the auditor's responsibility to plan an audit of financial statements.

22. Accordingly, the focus of the auditor in planning the audit is particularly on:
- Understanding the complex financial instruments in which the entity has invested or to which it is exposed, and their purpose and risks;
 - Determining whether the effectiveness of internal control is appropriate in light of the entity's financial instrument transactions, including whether the lack of effective internal control increases the possibility of fraud;
 - Understanding the accounting and disclosure requirements and the information systems that fall within the scope of the audit; and
 - Determining whether specialized skills and knowledge is needed in the audit.

Understanding the Complex Financial Instruments

23. Due to the complex nature of certain financial instruments, it is important to obtain an understanding of the instruments in which the entity has invested or to which it is exposed, including the characteristics of the instruments. This is because the characteristics of complex financial instruments may obscure certain elements of risk and exposure. This understanding can help an auditor to identify whether important aspects of a transaction are missing or inaccurately recorded, whether a valuation appears appropriate and whether the risks inherent in them are fully understood and managed by the entity.
24. Examples of matters that the auditor may consider when obtaining an understanding of the entity's financial instruments may include:
- What financial instruments the entity is exposed to;
 - What they are used for;
 - Their exact terms and characteristics so that their implications can be fully understood and, in particular where transactions are linked, the overall impact; and
 - How they fit into the entity's overall risk management strategy.

Inquiries of the risk management function, if such a function has been established by the entity, and discussions with those charged with governance may be particularly relevant to the auditor's understanding.

*Fraud Risk Factors*⁸

25. Incentives for fraudulent financial reporting by employees may exist where incentive compensation schemes are dependent on returns made from the use of complex financial instruments. Understanding how an entity's compensation policies interact with its risk appetite and the incentives that this may create for its traders may be important in assessing the risk of fraud.

⁸ See ISA 240, *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*, for requirements and guidance dealing with fraud risk factors.

26. Difficult financial market conditions may give rise to increased incentives for management or employees to engage in fraudulent financial reporting: to protect personal bonuses, to hide management error, to avoid breaching borrowing limits or to avoid reporting losses. For example, at times of market instability, unexpected losses may arise through failure to protect the entity from extreme fluctuations in market prices, from unanticipated weakness in asset prices, through trading misjudgments, or for other reasons. In addition, financing difficulties create pressures on management who are concerned about the solvency of the business.
27. Misappropriation of assets and fraudulent financial reporting often involves override of controls that otherwise may appear to be operating effectively. This can be controls over valuation assumptions and detailed process controls that allow losses and theft to be hidden.

*Using Those with Specialized Skills and Knowledge in the Audit*⁹

28. Specialized skills or knowledge may be needed in the audit in the areas of:
 - Understanding the operating characteristics and risk profile of the industry in which the entity operates and the structure of complex financial instruments used by the entity, and their characteristics, including their level of complexity.
 - Risk analysis, in particular the risks inherent in a complex financial instrument. This is important because it helps in checking whether all aspects of the complex financial instrument and related structures have been captured in the accounts, and evaluating whether adequate disclosure in accordance with the applicable financial reporting framework has been made (where disclosure of risks is required).
 - Valuation. When fair value is determined by a complex pricing model (“marked to model”); when markets are inactive and inputs are difficult to obtain; or when management has used an expert.
 - Information technology. In entities with high volume of complex financial instruments, the information technology may be highly complex, for example when significant information about those complex financial instruments is transmitted, processed, maintained or accessed electronically. In addition, it may include relevant services provided by a service organization.
 - Accounting. The applicable financial reporting framework is complex, including

⁹ When such a person’s expertise is in auditing and accounting, regardless of whether the person is from within or external to the firm, this person is considered to be part of the engagement team and is subject to the requirements of ISA 220, *Quality Control for an Audit of Financial Statements*. When such a person’s expertise is in a field other than accounting or auditing, such person is considered to be an auditor’s expert, and the provisions of ISA 620, *Using the Work of an Auditor’s Expert*, apply. ISA 620 explains that distinguishing between specialized areas of accounting or auditing, and expertise in another field, will be a matter of professional judgment, but notes the distinction may be made between expertise in methods of accounting for complex financial instruments (accounting and auditing expertise) and expertise in complex modeling for the purpose of valuing complex financial instruments (expertise in a field other than accounting or auditing).

circumstances where there are areas known to be subject to differing interpretation or practice is inconsistent or developing.

- The legal, regulatory, and tax implications resulting from the complex financial instruments, including whether the contracts are enforceable by the entity (for example, to review the underlying contracts).

Accordingly, more than one individual or organization with specialized skills may be involved, in order to assist in various stages of the audit.

29. The nature and use of particular types of complex financial instruments, the complexities associated with their valuation and disclosure, and market conditions may also lead to a need for the engagement team to consult¹⁰ with other accounting and audit professionals, from within or outside the firm, with relevant technical accounting or auditing expertise and experience, taking into account factors such as:

- The capabilities and competence of the engagement team;
- The attributes of the complex financial instruments used by the entity;
- The identification of unusual circumstances or risks in the engagement, as well as the need for professional judgment, particularly with respect to materiality and significant risks; or
- Market conditions.

Assessing and Responding to the Risks of Material Misstatement

Overall Considerations Relating to Complex Financial Instruments

30. The complexity of the financial instrument, and the other factors referred to above, influences the auditor's approach to identifying and assessing the risks of material misstatement associated with complex financial instruments in accordance with ISA 315 and to designing and implementing responses to address these risks in accordance with ISA 330. In an audit of financial statements in accordance with ISAs, risks of material misstatement are identified and assessed at the assertion level for classes of transactions, account balances and disclosures.¹¹ Doing so directly assists in determining the nature, timing, and extent of further audit procedures necessary to obtain sufficient appropriate audit evidence. This IAPS focuses on the assertions¹² on which the entity is likely to focus its control objectives in order to reduce the risks of material misstatement related to complex financial instruments, which are:

- (a) Completeness and accuracy of recording;
- (b) Valuation; and

¹⁰ ISA 220, paragraph 18(b), requires the engagement party to be satisfied that members of the engagement team have undertaken specific consultation during the course of the engagement, both within the engagement team and between the engagement team and others at the appropriate level within or outside the firm.

¹¹ ISA 315, paragraph 25

¹² ISA 315, paragraph A111, lists assertions used by the auditor to consider the different types of potential misstatements.

(c) Presentation and disclosure, including classification in the financial statements.

These assertions are likely to contain areas of significant risks of material misstatement.

31. The nature of risks can differ between entities with a large volume of complex financial instruments and those with only a few financial instrument transactions. For example:
- Typically an institution with large volumes of complex financial instruments will have a dealing room type environment in which there are specialist traders and segregation of duties between those traders and the back office. In such environments, the traders will typically initiate contracts verbally over the phone. Capturing relevant transactions and accurately recording complex financial instruments in such an environment is significantly more challenging than for an entity with only a few complex financial instruments, whose existence and completeness can be confirmed with a confirmation to one or two banks.
 - On the other hand, entities with specialist traders and back offices will typically have considerably more access to the market, and therefore possess more valuation indicators and expertise than a smaller entity, whose main business is not trading complex financial instruments.
32. The auditor's assessment of the identified risks at the assertion level in accordance with ISA 315 provides a basis for considering the appropriate audit approach for designing and performing further audit procedures in accordance with ISA 330, including the balance between substantive procedures and test of controls. This is influenced by the auditor's understanding of internal control relevant to the audit, including the strength of the control environment, the size and complexity of the entity's operations and whether the auditor's assessment of risks of material misstatement include an expectation that controls are operating effectively.

Factors in Determining Whether to Test Controls

33. The nature and extent of internal control that exists at an entity influences the auditor's determination of the balance between tests of controls and substantive procedures. An expectation that controls are operating effectively may be more common when dealing with a financial institution with well-developed internal controls, and therefore controls testing may be an effective means of obtaining audit evidence. Conversely, when auditing an entity with just a small number of complex financial instruments or when controls are weak, a substantive testing approach may be more efficient. Tests of controls, however, will not be sufficient on their own as the auditor is required by ISA 330 to design and perform substantive procedures for each material class of transactions, account balance and disclosure.¹³
34. Entities with a large volume of trading and use of complex financial instruments may have a more complex control environment and the auditor may be more likely to test controls in

¹³ ISA 330, paragraph 18

obtaining evidence about the completeness and accuracy of the recording of the transactions, having considered whether the controls described in Table 2 are in place at the entity.

35. In those entities with relatively few transactions involving complex financial instruments, for example, SMEs and non-financial institutions without treasury departments:
- Management and those charged with governance may have only a limited understanding of complex financial instruments and how they affect the business;
 - The entity may only have a few different types of instruments with little or no interaction between them;
 - There is unlikely to be a complex control environment (for example, the controls described in Table 2 may not be in place at the entity); and
 - Management may engage third-party experts to value such instruments.
36. When an entity has relatively few transactions involving complex financial instruments, it may be relatively easy for the auditor to obtain an understanding of the entity's objectives for using the financial instruments and the characteristics of the instruments. In such circumstances, much of the audit evidence is likely to be substantive in nature, the auditor may perform the majority of the audit work at year-end, and third-party confirmations are likely to provide evidence in relation to the completeness and accuracy of the recording of the transactions.
37. If an entity engages in a high volume of financial instrument transactions or has a complex structure of exposures, and does not have strong control environment, especially the controls set and monitoring by those charged with governance, this may constitute a significant risk in its own right and may result in the auditor focusing on substantive tests and, possibly, tests of process level controls.
38. In reaching a decision on the nature, timing and extent of testing of controls, the auditor may consider factors such as the monitoring of controls and:
- Where sufficient appropriate audit evidence can be obtained by performing substantive procedures alone. ISA 330 requires the auditor to design and perform tests of controls if substantive procedures alone cannot provide sufficient appropriate audit evidence at the assertion level.¹⁴
 - The strength of the control environment, including whether the control environment is appropriately designed to respond to the risks associated with an entity's volume of financial instrument transactions and whether there is a governance framework over the entity's financial instrument activities;
 - The importance of the control to the overall control objectives and processes in place at the entity, including the sophistication of the information systems to support financial instrument transactions;
 - Identified deficiencies in control procedures;

¹⁴ ISA 330, paragraph 8(b)

- The types of control activities being tested, for example whether substantial judgment is involved;
 - The competency of those involved in the control activities, for example whether the entity has adequate capacity, including during periods of stress, and ability to establish and verify valuations for the complex financial instruments in which it is engaged;
 - The frequency of performance of these control activities;
 - The level of precision the controls are intended to achieve;
 - The evidence of performance; and
 - The nature, frequency and volume of financial instrument transactions.
39. It is more likely that, as the level of judgment involved in the accounting for a complex financial instrument increases, the auditor will place less emphasis on control testing and more on substantive testing. This is because the nature of the control becomes less routine as the amount of judgment needed increases.

Substantive Procedures

40. Designing substantive tests includes consideration of:
- Significant risks relating to complex financial instruments that have been identified;
 - Availability of evidence – For example, when the entity uses a service organization, evidence concerning the relevant financial statement assertions may not be available from the entity if another organization holds, services or both holds and services the entity's complex financial instruments;¹⁵
 - Analytical procedures¹⁶ – While analytical procedures undertaken by the auditor can be effective as risk assessment procedures to provide the auditor with information about an entity's business, they are usually less effective as substantive procedures because the complex interplay of the factors from which the values of these instruments are derived often masks any unusual trends that might arise.
 - Non-routine transactions – Many financial transactions are negotiated contracts between an entity and its counterparty. To the extent that financial instrument transactions are not routine and outside an entity's normal activities, a substantive audit approach may be the most effective means of achieving the planned audit objectives. In instances where financial instrument transactions are not undertaken routinely, the auditor's responses to assessed risk, including the designing and

¹⁵ ISA 402, *Audit Considerations Relating to an Entity Using a Service Organization*, paragraph 15

¹⁶ ISA 315, paragraph 6(b), requires the auditor to apply analytical procedures as risk assessment procedures to assist in assessing the risks of material misstatement in order to provide a basis for designing and implementing responses to the assessed risks. ISA 520, *Analytical Procedures*, paragraph 6, requires the auditor to use analytical procedures in forming an overall conclusion on the financial statements. Analytical procedures may also be applied at other stages of the audit.

performing audit procedures, have regard to the entity's possible lack of experience in this area; and

- Procedures performed in other audit areas – Procedures performed in other financial statement areas may provide evidence about the completeness of financial instrument transactions. These procedures may include tests of subsequent cash receipts and payments, and the search for unrecorded liabilities.

A number of substantive procedures that the auditor may perform may also be controls performed by the entity.

Dual-Purpose Tests

41. The auditor may design a test of controls to be performed concurrently with a test of details. Although the purpose of a test of controls is different from the purpose of a test of details, both may be accomplished concurrently by performing a test of controls and a test of details on the same transaction, also known as a dual-purpose test. In practice, it may be difficult to distinguish between a test of controls and a substantive test. For example, the auditor may design and evaluate the results of a test to examine the entity's written documentation for a complex financial instrument to determine whether it has been approved and to provide substantive audit evidence of the transaction. A dual-purpose test is designed and evaluated by considering each purpose of the test separately.

Timing of the Auditor's Procedures¹⁷

42. Testing of controls and substantive procedures may be performed at year-end or at an interim period. The auditor's consideration of the appropriate timing for test of controls may depend on the frequency of the controls and the significance of the activity which is being controlled. More routine controls, such as IT controls and authorizations for new products, may be tested at an interim period. For example, to test the operating effectiveness of controls over new product approval, the auditor may gather evidence of the appropriate level of management sign-off on a new complex financial instrument at an interim period, in particular whether a signed contract has been maintained, and whether the details of the complex financial instrument have been appropriately captured in a summary sheet.
43. Auditors may also test models used for valuation at interim (for example, an option pricing model), for example by evaluating the theory of the model, testing its mathematical accuracy, and testing the inputs used in the model. At year-end, the auditor's procedures would likely focus on comparing the output of the valuation model to observable market prices to determine whether the model is appropriate. Auditors, or auditor's experts, may also independently develop a model at interim to compare to the model used by management. Auditors may also test an entity's model certification

¹⁷ Paragraphs 12 and 22-24 of ISA 330 establish requirements when the auditor performs procedures at an interim period and explains how such audit evidence can be used.

process, if one exists, at an interim period to determine that controls over models are operating effectively throughout the year.

44. At year-end, the auditor's focus is on the areas of more significant judgment, in particular relating to valuation and presentation and disclosure. Substantive procedures are likely to be performed at year-end because:
- Valuations can change significantly in a short period of time;
 - An entity may engage in an increased volume of financial instrument transactions substantially between an interim period and year-end; and
 - Non-routine or significant transactions may take place late in the accounting period.

Considerations for Specific Assertions Relating to Complex Financial Instruments

Completeness and Accuracy of Recording of Complex Financial Instruments

45. Completeness and accuracy of recording is an essential assertion. For example, without a process that completely and accurately records complex financial instruments:
- Financial information will be incomplete or inaccurate;
 - Risks will be improperly managed, because the entity's exposures will be inaccurately recorded; and
 - The entity will be unable to settle transactions accurately.

Many of the auditor's procedures to test the completeness and accuracy of recording of transactions will also serve to verify the existence and occurrence of complex financial instrument transactions and establish proper cut-off. This is because financial instruments arise from legal contracts and, by verifying the accuracy of the recording of the transaction, the auditor can also verify its existence and occurrence at the same time and confirm that transactions are recorded in the proper period.

Table 4: *Controls over Completeness and Accuracy of Recording*

Trade Confirmations and Clearing Houses	
1.	Generally, for transactions undertaken by financial institutions, the terms of complex financial instruments are documented in confirmations exchanged between counterparties or legal agreements. Clearing houses serve to monitor the exchange of confirmations by matching trades and settling them. A central clearing house is attached to an exchange and entities that clear through them typically have processes to manage the information delivered to the clearing house.
2.	Not all transactions are settled through such an exchange, however, but in many other markets, there is an established practice of agreeing the terms of transactions before settlement begins. To be effective this process needs to be run independently of those who trade the complex financial instruments, to ensure that the risk of fraud is minimized. In other markets, transactions are confirmed after settlement has begun and sometimes

confirmation backlogs also result in settlement beginning before all terms have been fully agreed. This presents additional risk and the transacting entities need to rely on alternative means of agreeing trades. These can include:

- Enforcing rigorous reconciliation controls between the records of those trading the complex financial instruments and those settling them (strong segregation of duties between the two are important) combined with strong supervisory controls over traders to ensure that they take the task of recording transactions seriously;
- Reviewing summary documentation from counterparties that highlights the key terms even if the full terms have not been agreed; and
- Thorough and in depth review of traders' profits and losses to ensure that they reconcile to what the back office has calculated.

Reconciliations with Banks and Custodians

3. Some components of complex financial instruments, such as bonds and shares, are held in independent depositories. In addition, most complex financial instruments result in payments of cash at some point and often these cash flows begin early in the contract's life. These cash payments and receipts will pass through an entity's bank account. Regular and thorough reconciliation of the entity's records to external banks and custodians enables the entity to ensure transactions are properly recorded. Appropriate segregation of duties between those transacting the trades and those reconciling them is important, as is a rigorous process for reviewing reconciliations and clearing reconciling items.
4. It should be noted that not all complex financial instruments result in a cash flow in the early stages of their lives or are capable of being recorded with an exchange or custodian. Where this is the case, reconciliation processes will not identify an omitted or inaccurately recorded trade and confirmation controls are more important.
5. In addition, cash movements may be quite small in the context of the overall size of the trade or the entity's own balance sheet and may therefore be difficult to identify. The value of reconciliations is enhanced when finance or other back office staff review entries in all general ledger accounts to ensure that they are valid and supportable. This process will help identify if the other side to cash entries relating to complex financial instruments has not been properly recorded. Reviewing suspense and clearing accounts is important regardless of the account balance, as there may be offsetting reconciling items in the account.
6. In entities with a high volume of financial instrument transactions, reconciliation and confirmation controls may be automated and, if so, adequate IT controls need to be in place to support them. In particular controls are needed to ensure that data is completely and accurately picked up from external sources (such as banks and custodians) and from the entity's records and is not tampered with before or during reconciliation, and that the criteria on which entries are matched are sufficiently restrictive to prevent inaccurate clearance of reconciling items.

Other Controls over Completeness and Accuracy of Recording

7. The complexity inherent in some financial instruments means that it will not always be obvious how they should be recorded in the entity's systems. In such cases, management may set up control processes to monitor policies that prescribe how particular types of transactions are measured, recorded and accounted for. These policies are typically established and reviewed in advance by suitably qualified personnel, who are capable of understanding the full effects of the complex financial instruments being booked.
8. Some transactions may be cancelled or amended after initial execution. Application of appropriate controls relating to cancellation or amendment can mitigate the risks of material misstatement due to fraud or error. In addition, an entity may have a process in place to reconfirm trades that are cancelled or amended.
9. In financial institutions with a high volume of trading, a senior employee typically reviews daily profits and losses on individual traders' books to determine whether this is reasonable based on the employee's knowledge of the market. Doing so may enable management to determine that particular trades were not completely or accurately recorded, or may identify fraud by a particular trader. It is important that there are transaction authorization procedures that support the more senior review.
10. Controls may also be established that require traders to identify whether a complex financial instrument may have unique features, for example embedded derivatives. In such circumstances, a product control group may work in connection with an accounting policy group to ensure the transaction is accurately recorded. While smaller entities may not have product control groups, it is likely that an entity will have a process in place relating to the review of complex financial instrument contracts at the point of origination in order to ensure they are accounted for appropriately in accordance with the applicable financial reporting framework.
11. The above describes controls that may be in place in a trading room environment, while an entity that does not have this environment may not have all these controls but may confirm their transactions; this can be relatively straightforward in that the entity may only transact with one or two counterparties.

Procedures relating to completeness and accuracy of recording of complex financial instruments

46. Procedures that may provide audit evidence to support the completeness and accuracy assertion include:
 - External confirmation¹⁸ of bank accounts, trades, and custodian statements. This can be done by direct confirmation with the counterparty (including the use of bank letters), where a reply is sent to the auditor directly. Alternatively this information may be obtained from the counterparty's systems through a data feed. Where this is

¹⁸ ISA 505, *External Confirmations*, deals with the auditor's use of external confirmation procedures to obtain audit evidence in accordance with the requirements of ISA 330 and ISA 500.

done, controls to prevent tampering with the computer systems through which the information is transmitted may be considered by the auditor in evaluating the reliability of the evidence from the confirmation. External confirmations, however, do not provide adequate audit evidence with respect to the valuation assertion.

- Reconciliation of external data with the entity's own records. This may necessitate evaluating IT controls around and within automated reconciliation processes and ensuring that reconciling items are properly understood, followed up and dealt with.
- Reading individual contracts and reviewing support documentation of the entity's financial instrument transactions, including accounting records, thereby verifying existence and rights and obligations. For example, an auditor may read individual contracts associated with complex financial instruments and review supporting documentation, including the accounting entries made when the contract was initially recorded, and may also subsequently review accounting entries made for valuation purposes. Doing so allows the auditor to determine whether the complexities inherent in a transaction have been fully identified and reflected in the accounts.
- Reviewing journal entries to determine if entries have been made by employees other than those authorized to do so.
- Testing controls, for example by reperforming controls described in Table 4.

Valuation of Complex Financial Instruments

47. Most complex financial instruments are classified to be measured at fair value for the purpose of balance sheet presentation, calculating profit or loss, or for disclosure. This would include any embedded derivative feature that would be required to be recorded at fair value. Under most financial reporting frameworks, the objective of fair value measurement is to arrive at the price at which an orderly transaction would take place between market participants¹⁹ at the measurement date; that is, it is not a forced liquidation or a distressed sale. In meeting this objective, all relevant available market information is taken into account.
48. Fair value measurements of financial assets and financial liabilities may arise both at the initial recording of transactions and later when there are changes in value. Changes in fair value measurements that occur over time may be treated in different ways under different financial reporting frameworks. Depending on the applicable financial reporting framework, the whole complex financial instrument or only a component of it (for example, an embedded derivative) may be required to be measured at fair value.

¹⁹ As a result, fair value is market-based and reflects the assumptions that market participants would use in pricing the asset or liability, rather than entity-specific.

Table 5: *Fair Value Hierarchy*

Some financial reporting frameworks, for example IFRS and U.S. Generally Accepted Accounting Principles (GAAP), establish a fair value hierarchy to develop increased consistency and comparability within and between entities. The hierarchy classifies valuation methodology inputs into three broad levels:

- Level 1 inputs – Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.
- Level 2 inputs – Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices). If the financial asset or financial liability has a specified (contractual) term, a level 2 input must be observable for substantially the full term of the financial asset or financial liability. Level 2 inputs include the following:
 - Quoted prices for similar financial assets or financial liabilities in active markets.
 - Quoted prices for identical or similar financial assets or financial liabilities in markets that are not active.
 - Inputs other than quoted prices that are observable for the financial asset or financial liability (for example, interest rates and yield curves observable at commonly quoted intervals, volatilities, prepayment speeds, loss severities, credit risks and default rates).
 - Inputs that are derived principally from or corroborated by observable market data by correlation or other means (market-corroborated inputs).
- Level 3 inputs – Inputs for the financial asset or financial liability that are not based on observable market data (unobservable inputs). Unobservable inputs are used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

In practice, however, the distinction between the levels in the hierarchy is not always apparent.

Understanding management's methodology for valuing its complex financial instruments

49. ISA 540 requires the auditor to obtain an understanding of how management makes the accounting estimates and the data on which the accounting estimates are based.²⁰ Management's responsibility for the preparation of the financial statements includes applying the requirements of the applicable financial reporting framework to the valuation of complex financial instruments. Management's approach to valuation also takes into account the selection of an appropriate valuation methodology and the level of the evidence expected to be available. To meet the objective of a fair value measurement, an entity develops a valuation methodology to measure the fair value of complex financial instruments that considers all relevant market information that is available. A thorough understanding of the

²⁰ ISA 540, paragraph 8(c).

complex financial instrument being valued allows an entity to identify and evaluate the relevant market information available about identical or similar instruments that should be incorporated into the valuation methodology.

50. Such information to be considered includes, for example:
 - Prices from recent transactions in the same or a similar instrument;
 - Quotes from brokers or pricing services;
 - Indices; and
 - Other inputs to model-based valuation techniques.
51. An entity uses such information to measure the fair value of its complex financial instruments by assessing all available information and applying it as appropriate. The valuation methodology may be simple and may consist of the use of observable prices (level 1), or may be more complex, and involve the use of one or more models to calculate assumptions or inputs used in a valuation, or the output of the valuation. Models can be used for any financial instrument that involves inferring a price for the instrument from market data. Unless a complex financial instrument is traded on an exchange, it is likely that a model will be used in its valuation. Models may also be used to calculate inputs to other models, such as prepayment speeds and discounted cash flows. Risks of material misstatement relating to valuation of complex financial instruments primarily relate to the risk that the entity has not used the appropriate information to support its valuations (for example, if level 1 information is available but not used), and the risk that an inappropriate model(s) was used.

Table 6: *An Entity's Considerations when Using Models in a Valuation Methodology*

1.	Models are used to value financial instruments, including complex financial instruments, where the price cannot be directly observed in the market (that is, for levels 2 and 3 in the fair value hierarchy, which may range from relatively simple to extremely complex). There can be a number of reasons for this. For example, markets might only quote for certain standard transactions such as those with one, three and five year maturities. For example, an OTC transaction with an original maturity of five years will therefore only have a directly observable quote on three days during its life, because for the remainder of the time, its terms do not match one, three or five years. In addition many transactions are not directly quoted in the market place but are constructed through combinations of more simple interest rate, foreign exchange rate and other products.
2.	Depending on the circumstances, matters that the entity may address when establishing or validating a valuation model for a complex financial instrument, include whether: <ul style="list-style-type: none"> • The model is validated prior to usage, with periodic reviews to ensure it is still suitable for its intended use. The entity's validation process may include evaluation of: <ul style="list-style-type: none"> ○ The model's theoretical soundness and mathematical integrity, including the appropriateness of model parameters and sensitivities.

- The consistency and completeness of the model's inputs with market practices, and whether the appropriate inputs are available for use in the model.
- The model's output, including sensitivities, as compared to actual transactions (internal or external) or other relevant benchmarks.
- Appropriate change control policies and procedures, and security controls over the model, exist.
- The model is periodically calibrated, reviewed and tested for validity by an independent function, particularly when inputs are subjective. Doing so is a means of ensuring that the model's output is a fair representation of the value that marketplace participants would ascribe to a complex financial instrument.
- The model maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs.
- Adjustments are made to the output of the model, including in the case of fair value accounting estimates of complex financial instruments, whether such adjustments reflect the assumptions marketplace participants would use in similar circumstances.
- The model is adequately documented, including the model's intended applications and limitations and its key parameters, required inputs, and results of any validation analysis performed.

Valuation uncertainty

52. Valuing complex financial instruments is not a precise science. For this reason, management's valuation methodology for a complex financial instrument typically addresses valuation uncertainty. Valuation uncertainty is an aspect of estimation uncertainty, which is defined in ISA 540 as "the susceptibility of an accounting estimate and related disclosures to an inherent lack of precision in its measurement." Uncertainties over the reliability of market quotes, the validity of models and the accuracy of their calibration to actual market activity will exist, particularly for highly complex financial instruments that are not actively traded.
53. Certain financial reporting frameworks may require or permit the entity to adjust for valuation uncertainties, in order to adjust for what a willing buyer would require in the pricing to take account of the uncertainties of the outcome of the complex financial instrument. For example, if a portfolio of such instruments were sold, a buyer would reduce their price to reflect these uncertainties and the risks that (s)he was thereby assuming. Estimating the level of adjustment required for such factors involves a high level of judgment and will be specific to each entity and its applicable financial reporting framework. Consideration of all the factors taken into account in the valuation process and the use of experience and judgment will assist the auditor in evaluating the amount of any reserve required, if any. The auditor may need to engage individuals with specialized skills or knowledge to assist in doing this.

54. An entity also makes adjustments to a model valuation when it results in a better estimate of the price at which an orderly transaction would take place between market participants on the measurement date. When using a model, an entity periodically calibrates the model to observable market information to ensure that the model reflects current market conditions and to identify any potential deficiencies in the model. As market conditions change, it may become necessary either to change the model(s) used or to make additional adjustments to model valuations.
55. For example, it may be necessary for the entity to adjust model derived prices for factors that the model cannot take into account in order to reflect assumptions that market participants would use, for example:
- Credit spreads. Some market prices are quoted for an assumed level of credit risk. Adjustments should be made for counterparties, which do not match this assumption;
 - Bid/offer spreads. Some accounting frameworks require the bid/offer spread to be taken into account when valuing complex financial instruments. If the price quoted does not reflect this, appropriate adjustments will need to be made; and
 - Model deficiencies. For example, adjustments needed to calibrate the model to observable market information, and liquidity and credit adjustments that market participants would make. A value measured using a model that does not taken into account all factors that market participants would consider in pricing the complex financial instrument does not represent an estimate of a current transaction price on the measurement date, and therefore may need to be adjusted separately to comply with the applicable financial reporting framework.

However, adjustments are not appropriate if they adjust the measurement and valuation of the complex financial instrument away from fair value, for example for conservatism, which is a form of management bias.

56. Management's valuation policies and documentation of the valuation methodology used for a particular complex financial instrument, including rationale for the model(s) used, the selection of assumptions in the valuation methodology, and the entity's consideration of whether adjustments for valuation uncertainty are necessary, are important, because such documentation provides evidence used by the auditor in determining the nature, timing, and extent of procedures on valuation.

Observable and unobservable inputs

57. The nature and reliability of information available to support valuation of complex financial instruments varies depending on the observability of inputs to its measurement, which is influenced by the nature of the market (e.g., the level of market activity and whether it is through an exchange or over-the-counter (OTC)). Accordingly, there is a continuum of evidence used to support valuation, and it becomes more difficult for management to obtain information to support a valuation when management is dealing with level 3 inputs or when markets become inactive.

58. When observable inputs are not available, an entity uses unobservable inputs that reflect the assumption that market participant assumptions would use when pricing the financial asset or the financial liability, including assumptions about risk. Unobservable inputs are developed using the best information available in the circumstances, which might include an entity's own data. In developing unobservable inputs, an entity may begin with its own data, which is adjusted if reasonably available information indicates that (a) other market participants would use different data or (b) there is something particular to the entity that is not available to other market participants (for example, an entity-specific synergy), and the entity is able to quantify these adjustments.
59. When the market for a complex financial instrument is no longer active, an entity measures fair value using a valuation methodology that involves a model. The use of a model within an entity's valuation technique aims to maximize the use of observable inputs and minimize the use of unobservable inputs in order to estimate the price at which an orderly transaction would take place between market participants on the measurement date. Regardless of the valuation methodology used, an entity takes into account current market conditions and includes appropriate risk adjustments that market participants would make, such as for credit and liquidity.

Table 7: *Effects of Inactive Markets*

1.	Valuation is more complicated when the markets in which complex financial instruments or their component parts are traded are inactive or where no price is observable. There is no clear point at which an active market becomes inactive.
2.	Characteristics of an inactive market include a significant decline in the volume and level of trading activity, available prices vary significantly over time or among market participants or the prices are not current. However, these factors alone do not necessarily mean that a market is not longer active. An active market is one in which transactions are taking place regularly on an arm's length basis. "Regularly" is a matter of judgment and depends on facts and circumstances of the market for the complex financial instrument being measured at fair value.
3.	When markets are inactive, measuring complex financial instruments becomes more difficult because of the lack of observable trades and other market data. Prices quoted may be stale (that is, out of date) or may not represent prices at which market participants may trade. Accordingly, valuations are based on level 2 and level 3 inputs. Under such circumstances it is desirable for entities generally to have: <ul style="list-style-type: none"> • A valuation policy that includes process for determining whether level 1 inputs are available; • An understanding of how particular prices or inputs from external sources used as inputs to models were calculated in order to assess their reliability. For example, in an active market, a broker quote is likely to reflect actual transactions, but, as the market becomes less active, the broker may rely more on proprietary models to determine prices;

- An understanding of how deteriorating business conditions in one or more entities similar to the counterparty may affect the counterparty's ability to meet its obligations (i.e., the risk of nonperformance);
 - Policies for adjusting for valuation uncertainties. Such uncertainties can include lack of liquidity, uncertainties arising from model calibration and nonperformance credit risks; and
 - The capability to calculate the range of realistic outcomes given the uncertainties involved, for example by performing a sensitivity analysis.
4. Where there is no pricing source based upon current active market trading, the entity will be using level 3 inputs. It is therefore necessary for the entity to gather other price indicators to use in a model to value the complex financial instrument. Price indicators may include:
- Recent transactions or transactions after the balance sheet date in the same instrument. Consideration is given to whether an adjustment needs to be made for changes in market conditions between the measurement date and the date the transaction was made, as these transactions are not necessarily indicative of the market conditions that existed at the balance sheet date. In addition it is possible that the transaction represents a forced transaction and is therefore not indicative of a price in an orderly trade. Indicators of a forced transaction may include:
 - A legal requirement to transact, for example a regulatory mandate.
 - A necessity to dispose of an asset immediately to create liquidity, resulting in insufficient time to market the asset to be sold.
 - The existence of a single potential buyer as a result of the legal or time restrictions imposed;
 - Current or recent transactions in similar instruments. Adjustments will need to be made to such prices to reflect the difference between them and the instrument being priced and to take account of differences in liquidity between the two instruments; and
 - Indices for similar instruments. As with transactions in similar instruments, adjustments will need to be made to reflect the difference between the instrument being priced and the index used.
5. Particular difficulties may develop where there is severe curtailment or even cessation of trading in particular complex financial instruments. In these circumstances, complex financial instruments that have previously been valued using market prices may need to be valued on a mark to model basis, and changing the manner in which the complex financial instruments are valued may be a difficult process for management, in particular when management does not possess expertise in modelling.

Source of inputs to a valuation methodology

60. Inputs represent assumptions used by management to support valuations.²¹ Inputs to a valuation methodology may be obtained or calculated by the entity in a number of ways:
- From external sources, for example, exchanges, indices, brokers, and pricing services;
 - By adjustment to external sources to reflect assumptions that would be used by marketplace participants; and
 - By using the outcome of one or more models as an input to another model.
61. Assumptions are integral components in the valuation of complex financial instruments, as they are used as inputs to valuation models. Management may support assumptions with different types of information drawn from internal and external sources, the relevance and reliability of which will vary.
62. The best indicators of evidence of a complex financial instrument's fair value are found in contemporaneous transactions in an active market (i.e., level 1 inputs). In such cases, the valuation of a complex financial instrument may be relatively simple. Quoted market prices for complex financial instruments that are listed on exchanges or traded in liquid over-the-counter markets may be available from sources such as financial publications, the exchanges themselves, brokers or pricing services, for example prices for interest rate swaps that are based on LIBOR. When using quoted prices, it is important that management understand the basis on which the quote is given to ensure that the price reflects current market conditions. Quoted prices obtained from publications or exchanges may provide sufficient evidence of value if:
- The prices are not out of date or "stale" (for example, if the quote is based on the last traded price and the trade occurred some time ago); and
 - The quotes are prices at which dealers would actually trade in reasonable volume.
63. However, in many cases complex financial instruments are not actively traded, but components of their valuations are based on observable data (such as interest rate curves, or the assets underlying options), for example, an ABS whose cash flows are tracked by a pricing service. In such cases, management may take the available cash flow data and adjust for certain factors such as prepayment speed and default rates. This moves the valuation into levels 2 and 3, the assessment of which becomes more judgmental for both the entity and the auditor.
64. Exchange prices can be used as inputs to valuation models to derive estimates for fair value of complex financial instruments. Theoretical prices for customized products may be created by breaking down complex financial instruments into a series of listed options or futures, weighted by standard expiry dates. Many complex financial instruments are likely to be correlated to security and derivative contracts already listed and traded on exchanges.

²¹ Paragraph A32 of ISA 540 notes that the term "inputs" may also be used to refer to the underlying data to which specific assumptions are applied.

However, management may need to take into account basis differences, credit risk, and other factors in arriving at a valuation.

65. Pricing information may also be obtained from brokers or pricing services.²² Quotes obtained from brokers are not always binding offers to trade and hence may not represent a price at which a transaction would actually take place. Understanding how the broker or pricing services calculated a price enables management to determine whether such data is suitable for use in its valuation methodology, including as an input to a model. For example, brokers and pricing services may value complex financial instruments using proprietary models, and it is important that management understands both the model and assumptions used. Pricing services may also poll a number of market participants and brokers anonymously to obtain prices, which are then averaged in some way to produce a “consensus price.” Pricing services may combine a number of approaches to arrive at a price.
66. An entity may also use pricing data from consensus pricing services as inputs to their models. Consensus pricing services obtain pricing information about an instrument from several participating entities (subscribers). Each subscriber submits prices to the pricing service. The pricing service treats this information confidentially. The pricing service returns to each subscriber the consensus price, which is usually an arithmetical average of the data after a data cleansing routine has been employed.²³ For some markets, such as for exotic derivatives, consensus pricing services might constitute the best available data. However, many factors are considered when assessing the representational faithfulness of the consensus prices, for example, whether the prices submitted by the consensus subscribers reflect actual transactions or just indicative prices based on their own models. The number of sources from which prices have been obtained and the quality of the sources are key factors in the quality of the consensus data.
67. If broker quotes or quotes obtained from pricing services are not based on current prices of actively traded instruments, it will be necessary for management to evaluate whether the quotes were derived in a manner that is consistent with the applicable financial reporting framework. The entity’s understanding of the prices includes:
 - How the prices were determined – for example, whether the prices were determined by a model, in order to assess whether they are consistent with the fair value measurement objective;
 - Whether the prices are indicative prices, indicative spread, or binding offers; and
 - How frequently the prices are estimated by the broker or pricing service – in order to assess whether they reflect marked conditions at the measurement date.

²² For more information on broker quotes and pricing services, see the October 2008 IASB Expert Advisory Panel report, *Measuring and Disclosing the Fair Value of Financial Instruments in Markets that are no Longer Active*.

²³ Some consensus pricing services may provide reports for users of its data to explain their controls over pricing data, that is, a report prepared in accordance with International Standard on Assurance Engagements (ISAE) 3402, *Assurance Reports on Controls at a Service Organization*. Management may request, and the auditor may consider obtaining, such a report to develop an understanding of how the pricing data is prepared and evaluate whether the controls at the pricing service can be relied upon.

Understanding the bases on which brokers and pricing services have determined their quotes in the context of the particular complex financial instruments held by the entity assists management in evaluating the relevance and reliability of this evidence to support its valuations.

68. If a price obtained by management comes from a counterparty (for example, the broker who sold the complex financial instrument to the entity) or another entity with a close relationship with the entity being audited, the price may not be reliable. In such cases, additional quotes are often obtained from counterparties or pricing services that do not have a close relationship to the entity. In these cases, the auditor may consider this in determining the nature, timing and extent of audit procedures to be performed.
69. It is possible that there will be disparities between price indicators from different providers. Understanding how the price indicators were derived, and investigating these disparities, assists management in corroborating the evidence used in developing its valuation of complex financial instruments in order to determine whether the valuation is reasonable. Simply taking the average of the quotes provided, without doing further research, may not be appropriate, because one price in the range may be the most representative of fair value and this may not be the average. To determine whether its valuations of complex financial instruments are reasonable, management may:
 - Consider whether actual transactions represent forced transactions rather than transactions between willing buyers and willing sellers. This may invalidate the price as a comparison;
 - Analyze the expected future cash flows of the instrument. This could be performed as an indicator of the most relevant pricing data;
 - Depending on the nature of what is unobservable, extrapolate from observed prices to unobserved ones (for example, there may be observed prices for maturities up to ten years but not longer, but the ten year price curve may be capable of being extrapolated beyond ten years as an indicator). Care is needed to ensure that extrapolation is not carried so far beyond the observable curve that its link to observable prices becomes too tenuous to be reliable;
 - Compare prices within a portfolio of complex financial instruments to each other to make sure that they are consistent among complex similar financial instruments;
 - Use more than one valuation model to corroborate the results from each one, having regard to the inputs and assumptions used in each; and
 - Evaluate movements in the prices for related hedging instruments and collateral.

In coming to its judgment as to its valuation, an entity may also consider other factors that may be specific to the entity's circumstances.

70. Understanding the credit risk is an important aspect of valuing both financial assets and financial liabilities. This valuation reflects the credit quality and financial strength of both the issuer and any credit support providers. In some financial reporting frameworks, the measurement of a financial liability assumes that it is transferred to a market participant

on the measurement date; it is not assumed to be settled with the counterparty of otherwise extinguished. Where there is not an observable market price for a financial liability, its value is typically measured using the same method as a counterparty would use to measure the value of the corresponding asset. The fair value of a financial liability reflects the non-performance risk associated with the liability, which can include the effects of the entity's own credit risk. How own credit risk is calculated is an important assumption for the auditor to evaluate in testing the valuation of a financial liability.

Use of management's experts and service organizations

71. The preparation of an entity's financial reporting, including the valuation of complex financial instruments and the preparation of financial statement disclosures relating to these instruments, may require expertise that management does not possess. Entities may not be able to develop appropriate valuation methodologies, including models used in valuation, and may rely on third-party valuation experts to arrive at a valuation or to prepare disclosures for the financial statements. This may particularly be the case in smaller entities or in entities that do not engage in a high volume of financial instruments transactions (for example, non-financial institutions with treasury departments). In such cases, management often engages third-party experts to provide assistance with valuation of its complex financial instruments.
72. Where such expertise is in a field other than accounting or auditing, such as valuation, individuals or organizations possessing such expertise who are used by the entity to assist it in preparing the financial statements are referred to as management's experts. Management's experts may be employed by the entity (management's internal experts, for example, quantitative staff) or engaged by the entity (management's external experts, for example, third-party valuation specialists). The use of one or more management's experts may be fairly common, regardless of the size of the entity.
73. The use of a management's expert does not relieve management or those charged with governance of their responsibilities for the preparation of the financial statements. In measuring the entity's complex financial instruments, management may support its valuation with information from internal and external sources, the relevance and reliability of which will vary. Management's experts supplement, but do not replace, management's own process for valuation. Assumptions may be made or identified by a management's expert to assist management in valuing its complex financial instruments. Such assumptions, when used by management, become management's assumptions.
74. Understanding the methodology used by management's experts to develop assumptions, therefore, enables management to meet its responsibilities for ensuring the complex financial instruments recorded in the financial statements are properly valued and presented and providing written representations to the auditor about whether they believe significant assumptions used valuing the complex financial instruments are reasonable.
75. Individuals such as brokers and organizations such as pricing services may possess expertise in the application of models to estimate the fair value of complex financial instruments for which there is no observable market and may offer such services to entities in addition to providing pricing data. For example, an entity may engage a broker or pricing services to

value an entity's complex financial instrument portfolio, typically by using proprietary models. Regardless of whether such individuals or organizations are considered management's experts, management's understanding includes the process described in paragraph 67.

76. Entities may also use service organizations (for example asset managers) to initiate the purchase or sale of complex financial instruments or maintain records of transactions for the entity. Some entities may be dependent on these service organizations to provide the basis of reporting for the complex financial instruments held. However, if management does not have an understanding about the controls in place at a service organization, the auditor may not be able to obtain sufficient appropriate audit evidence to rely on controls at that service organization. See ISA 402, which establishes requirements for the auditor to obtain sufficient appropriate audit evidence when an entity uses the services of one or more service organizations.
77. The use of service organizations may strengthen controls over complex financial instruments. For example, a service organization's personnel may have more experience with complex financial instruments than the entity's management or may have more robust internal control over financial reporting. The use of the service organization also may allow for greater segregation of duties. On the other hand, the use of a service organization may increase risk because it may have a different control environment that is not in line with the entity's accounting policies or process transactions at some distance from the entity.

Consistency of valuation methodology across periods

78. Consistency is generally a desirable quality in financial information, but may be inappropriate if circumstances change. As markets become inactive, the change in circumstances may lead to a move from valuation by market price to valuation by model, or may result in a change from one particular model to another. Reacting to changes in valuation techniques may be difficult if management does not have policies in place to consider the ramifications of changing market conditions, prior to their occurrence. Management may also not possess the expertise necessary to develop a model on an urgent basis, or select the valuation technique that may be appropriate in the circumstances. Even where models have been consistently used, there is a need for management to examine the continuing appropriateness of the models and assumptions used for determining valuation of complex financial instruments. Further, models may have been calibrated in times where reasonable market information was available, but may not provide reasonable valuations in times of unanticipated stress.
79. The susceptibility to management bias increases with the subjectivity of the valuation. For example, management may tend to ignore observable marketplace assumptions or inputs and instead use their own internally-developed model if the model yields more favorable results. Even without fraudulent intent, there may be a natural temptation to bias judgments towards the most favorable end of what may be a wide spectrum, rather than the point in the spectrum that might be considered to be most consistent with the applicable financial reporting framework. Changing the valuation methodology from period to period without a clear and appropriate reason for doing so may also be an indicator of management bias. Although some form of management bias is inherent in

subjective decisions relating to the valuation of complex financial instruments, when there is intention to mislead, management bias is fraudulent in nature.

Sensitivity analysis

80. Complex financial instruments may have the associated risk that a loss might exceed the amount, if any, of the value of the complex financial instrument recognized on the balance sheet. For example, a sudden fall in the market price of a commodity may force an entity to realize losses to close a forward position in that commodity due to collateral, or margin, requirements. In some cases, the potential losses may be enough to cast significant doubt on the entity's ability to continue as a going concern. The entity may perform sensitivity analyses or value-at-risk analyses to assess the hypothetical effects on complex financial instruments subject to market risks. However, value-at-risk analyses may not fully consider all the risks that may affect the entity and are not a substitute for the auditor's risk assessment procedures.
81. The more sensitive the valuation is to movements in a particular variable, the more likely it is that disclosure will be necessary to indicate the uncertainties surrounding the valuation. Sensitivity analyses for complex financial instruments with high estimation uncertainty become embedded in the valuation methodology, rather than it being used as a check once management has come up with a valuation. Certain financial reporting frameworks may also require disclosure of sensitivity analyses, including the effects of changes to assumptions used in the entity's valuation methodology.

Procedures relating to understanding and testing the valuation of complex financial instruments

82. Table 5 discusses the establishment of a fair value hierarchy by some financial reporting frameworks. The objective of a fair value measurement is the same regardless of the level of the hierarchy. As the inputs become less observable, the degree of estimation uncertainty increases and affects the auditor's assessment of the risks of material misstatements. As estimation uncertainty increases, the availability of evidence to support a particular valuation decreases, requiring more judgment by both management and the auditor and may represent a significant risk, as it may be challenging for the auditor to substantiate the valuations of complex financial instruments with unobservable inputs.
83. In accordance with ISA 540,²⁴ the auditor considers the entity's valuation policies and methodology and supporting documentation for inputs and assumptions used in the valuation methodology. In some cases, the applicable financial reporting framework may prescribe the valuation methodology for complex financial instruments, for example, a particular model to be used. In many cases, however, the applicable financial reporting framework does not prescribe the valuation methodology. When this is the case, matters that may be relevant to the auditor's understanding of management's methodology used to value complex financial instruments include, for example:
 - Whether management has a formal valuation policy and, if so, whether the valuation

²⁴ ISA 540, paragraph 8(c).

methodology used for a complex financial instrument is appropriately documented in accordance with that policy;

- How management considered the nature of the complex financial instrument to be valued when selecting a particular methodology;
 - Whether there is a greater risk of material misstatement because management has internally developed a model to be used to value complex financial instruments or is departing from a method commonly used to value the particular complex financial instrument;
 - Whether those involved in developing and applying the valuation methodology have the appropriate skills and expertise to do so, including whether a management's experts may have been used; and
 - Whether there are indicators of management bias in selecting the methodology to be used.
84. In testing how management values the complex financial instrument and in responding to the assessed risks of material misstatement in accordance with ISA 540,²⁵ the auditor undertakes one or more of the following options, taking account of the nature of the accounting estimates:
- (a) Determine whether events occurring up to the date of the auditor's report provide audit evidence regarding the accounting estimate.
 - (b) Test how management made the accounting estimate and the data on which it is based (including models used by the entity in its valuations).
 - (c) Test the operating effectiveness of the controls over how management made the accounting estimate, together with appropriate substantive procedures.
 - (d) Develop a point estimate or a range to evaluate management's point estimate.

This section of the IAPS deals primarily with the auditor's procedures to test how management made the accounting estimate and the data on which it is based and to develop a point estimate or range to evaluate management's point estimate.²⁶ While subsequent events may provide some evidence about the valuation of complex financial instruments, other factors may need to be taken into account to address any changes in market conditions subsequent to the balance sheet date.

85. Audit procedures to test how management values its complex financial instruments may include:
- Reviewing and assessing the judgments made by management, for example by reviewing accounting position papers prepared by management.
 - Considering whether there are any other relevant price indicators or factors to take into account, including requesting additional information that management may

²⁵ ISA 540, paragraphs 12-14

²⁶ ISA 540, paragraphs 13(b) and 13(d).

have collected but did not take into account in its valuation methodology;

- Obtaining third-party evidence of price indicators, for example by obtaining a broker quote;
- Assessing the mathematical accuracy of the methodology employed; and
- Testing data to source materials, including documentation to support inputs, after considering the reliability, completeness and accuracy of the source materials.

The auditor may consider using persons with specialized skills and knowledge to perform these audit procedures, in particular when management has used an expert to value the complex financial instrument. If such expertise is not available within the auditor's firm, the auditor may need to engage external auditor's experts.

86. When the auditor determines that testing how management made the accounting estimate is an appropriate response to the assessed risk of material misstatement in accordance with ISA 540,²⁷ the auditor tests the models and assumptions and inputs, regardless of whether management develops the estimates themselves, uses third-party information, or utilizes a management's expert.
87. When markets become inactive or dislocated, management's valuations may be more judgmental and less verifiable and, as result, may be less reliable. In such circumstances, the auditor may test the model by a combination of testing controls operated by the entity, evaluating the design and operation of the model, testing the assumptions and inputs used in the model, and comparing its output to a point estimate or range developed by the auditor or to other third-party models.²⁸
88. In addition, the auditor's industry knowledge, knowledge of market trends and understanding of other entities' valuations (having regard to confidentiality) and other relevant price indicators informs the auditor's testing of the valuations and the consideration of whether the valuations overall appear reasonable. If the valuations appear to be consistently overly aggressive or conservative, this may be an indicator of possible management bias.
89. Multiple sources of evidence may help corroborate management's valuation of complex financial instruments. However, these sources of evidence may be circular, or act to reinforce a misleading trend of misconception. For example, if both management and the auditor have used the same expert (such as a pricing service) to arrive at a valuation, other procedures may need to be performed to corroborate the valuation.

Significant risks

90. The auditor's risk assessment process may lead the auditor to identify one or more significant risks relating to the valuation of complex financial instruments, when any of the following

²⁷ ISA 540, paragraph 13(b)

²⁸ ISA 540, paragraph 13(d) describes requirements when the auditor develops a point estimate or range to evaluate the entity's point estimate. Models developed by third parties and used by the auditor may be considered the work of an auditor's expert and subject to the requirements in ISA 620.

circumstances exist:

- High estimation uncertainty related to the valuation of complex financial instruments (for example, those with unobservable inputs).²⁹
 - Lack of sufficient evidence to support management's valuation of its complex financial instruments.
 - Lack of management understanding of its complex financial instruments or expertise necessary to value such instruments properly, including the ability to determine whether valuation adjustments to valuations from models are needed.
 - Lack of management understanding of complex requirements in the applicable financial reporting framework relating to measurement and disclosure of complex financial instruments, and inability of management to make the judgments required to properly apply those requirements.
 - The significance of valuation adjustments made to model outputs when the applicable financial reporting framework requires or permits such adjustments.
91. For accounting estimates that give rise to significant risks, in addition to other substantive procedures performed to meet the requirements of ISA 330,⁷ ISA 540³⁰ requires the auditor to evaluate the following:
- (a) How management has considered alternative assumptions or outcomes, and why it has rejected them, or how management has otherwise addressed estimation uncertainty in making the accounting estimate.
 - (b) Whether the significant assumptions used by management are reasonable. Auditing the valuation of a complex financial instrument requires the auditor to use professional judgment, due to the estimation uncertainty associated with many complex financial instruments.

Evaluating models used by the entity

92. When evaluating whether the model used by an entity is appropriate in the circumstances, and whether controls over models are in place and operating effectively (see Table 6), the factors considered by the auditor may include:
- The theoretical model being used. For example, there are a number of option pricing models and it is important that the uncertainty inherent in the assumptions underlying each one are understood and taken into account in the valuations;
 - Whether the model is commonly used by other market participants and has been previously demonstrated to provide a reliable estimate of prices obtained from market transactions;

²⁹ Where the auditor determines that the high estimation uncertainty related to the valuation of complex financial instruments gives rise to a significant risk, ISA 540 requires the auditor to perform substantive procedures and evaluate the adequacy of the disclosure of their estimation uncertainty. See ISA 540, paragraphs 11, 15 and 20.

³⁰ ISA 540, paragraph 15

- Whether the models operate as intended and there are no flaws in their design, particularly under extreme conditions, and whether they have been independently validated;
- Whether the model takes account of the risks inherent in the financial instrument being valued, including counterparty creditworthiness, and own credit risk in the case of models used to measure financial liabilities;
- Who developed the model and whether its design could have been unduly influenced by traders or others who may not be objective;
- How the model is calibrated to the market, including how sensitive the model is to changes in variables and whether this reflects market behavior;
- Whether market variables and assumptions are used consistently and whether new conditions justify a change in the model, market variables or assumptions used;
- Whether sensitivity analyses indicates that valuations would change significantly with only small or moderate changes in assumptions; and
- The competence and objectivity of those responsible for the development and application of the models, including management's relative experience with particular models that may be newly developed.

The auditor (or auditor's expert) may also independently develop a model to compare its output with that of the model used by management.

Evaluating whether the assumptions and inputs used by management are reasonable

93. An assumption used in a valuation methodology may be deemed to be significant if a reasonable variation in the assumption would materially affect the measurement of the complex financial instrument. Management may have considered alternative assumptions or outcomes by performing a sensitivity analysis. The extent of subjectivity associated with assumptions influences the degree of estimation uncertainty and may lead the auditor to conclude there is a significant risk, for example in the case of level 3 inputs (see paragraphs 90-91).
94. Audit procedures to test the assumptions used by management, including those used as inputs to valuation models, are based on information available to the auditor at the time of the audit and may include evaluating:
 - Whether management has the intent and ability to carry out certain courses of actions that affect its assumptions (if taking these intentions or plans into account is permitted by the applicable financial reporting framework);
 - Whether and, if so, how management has incorporated market-specific inputs into the development of assumptions, as it is generally preferable to seek to maximize market-specific inputs and minimize entity-specific inputs;
 - Whether the assumptions are consistent with observable market conditions, and the characteristics of the financial asset or financial liability;

- Whether the sources of market-participant assumptions are relevant and reliable, and how management has selected the assumptions to use when a number of different marketplace assumptions exist;
 - Whether the inputs to the models are complete and appropriate for the model, including whether sources of the inputs have changed during the period; and
 - Whether sensitivity analyses indicate that valuations would change significantly with only small or moderate changes in assumptions.
95. In some cases, one particular assumption may be adjusted to account for the uncertainties in the valuation, rather than adjusting each assumption. In many cases, this is the discount rate used in the present value calculation, which is adjusted to reflect what willing buyers in the marketplace would pay. In such cases, an auditor's procedures may focus on the discount rate, by looking at an observable trade on a similar security to compare the discount rates used or developing an independent model to calculate the discount rate and compare with that used by management.
96. Where valuation of complex financial instruments is based on unobservable inputs, matters that the auditor may consider include, for example, how management supports the following:
- The identification and characteristics of marketplace participants relevant to the complex financial instrument.
 - How models are calibrated on day 1 to determine the unobservable inputs.
 - Modifications it has made to its own assumptions to reflect its view of assumptions marketplace participants would use.
 - Whether it has incorporated the best input information available in the circumstances.
 - Where applicable, how its assumptions take account of comparable transactions, financial assets or financial liabilities.
 - Sensitivity analysis of models when unobservable inputs are used and whether adjustments will need to be made to address valuation uncertainty.
97. Where there is a lack of observable external evidence, it is particularly important that those charged with governance have been appropriately engaged to understand the subjectivity of management's valuations and the evidence that has been obtained to support these valuations. In such cases, it may be necessary for the auditor to determine whether there has been a thorough review and consideration of the issues, including any documentation, at all appropriate management levels within the entity, including with those charged with governance.
98. Finally, it is likely that in testing the inputs used in an entity's valuation methodology, for example, where such inputs are classified in the fair value hierarchy, the auditor will also be obtaining evidence to support the disclosures required by the applicable financial reporting framework. For example, the auditor's substantive procedures to determine whether the inputs used in an entity's valuation methodology (that is, level 1, level 2 and level 3 inputs)

are appropriate and testing of an entity's sensitivity analysis will be relevant to the auditor's evaluation of whether the disclosures achieve fair presentation.

Considerations when a management's expert or service organization is used by the entity

99. The use of a management's expert or service organization may have implications for the auditor, including the auditor's decision whether to involve persons with specialized skills or knowledge and the auditor's procedures to evaluate the sufficiency and appropriateness of evidence to support the complex financial instruments measured or disclosed in the financial statements.
100. For example, management of the entity may not have access to details of the model(s) used, and the key assumptions, used by brokers and pricing services to value complex financial instruments. The auditor may not be able to obtain sufficient appropriate audit evidence in order to conclude about the reasonableness of the valuation of the complex financial instruments if management is unable to understand:
- The assumptions and inputs used by the management's expert in valuing the complex financial instruments in order to determine whether these assumptions are appropriate; or
 - The objectives of the valuation model in order to ensure it uses the measurement criteria of the applicable financial reporting framework.
101. ISA 500 establishes requirements for the auditor when information to be used as audit evidence has been prepared using the work of a management's expert.³¹ The extent of the auditor's procedures in relation to a management's expert and that expert's work depend on the significance of the expert's work for the auditor's purposes. Evaluating the appropriateness of management's expert's work assists the auditor in assessing whether the prices or valuations supplied by a management's expert provide sufficient appropriate audit evidence to support the valuations. Examples of procedures the auditor may perform include:
- Evaluating the competence, capabilities and objectivity of the third-party bank/other financial institution, for example: their relationship with the entity; their reputation and standing in the market; their experience with the particular types of instruments; and their understanding of the relevant financial reporting framework applicable to the valuations; and
 - Evaluating the appropriateness of the valuations and sensitivities developed by management's expert, including assessing the appropriateness of the model(s) used and the key market variables and assumptions used in the model(s).

Developing a point estimate or range

102. The auditor may also develop a range to evaluate the results of management's valuation methodology. In accordance with ISA 540,³² if the auditor uses assumptions, inputs, or a

³¹ ISA 500, *Audit Evidence*, paragraph 8

³² See paragraph 13(d).

methodology that differs from management's, the auditor shall obtain an understanding of management's assumptions, inputs, and methodology sufficient to establish that the auditor's range takes into account relevant variables and to evaluate any significant differences from management's valuation. An auditor may use an independently developed model and then compare the output of this model with the range used to evaluate management's valuation to determine whether management's valuation is reasonable.

103. If the auditor concludes that sufficient evidence cannot be obtained from the above procedures, for example where the third party uses internally developed models and software and does not allow access to information on the models, the auditor may not be able to obtain sufficient appropriate audit evidence about the valuation if the auditor is unable to perform other procedures to respond to the risks of material misstatement as explained in paragraph 13 of ISA 540, for example by developing a point estimate or a range to evaluate management's point estimate. ISA 705³³ describes the implications of the auditor's inability to obtain sufficient appropriate audit evidence.

Presentation and Disclosure of Complex Financial Instruments

104. Management's responsibilities include the preparation of the financial statements in accordance with the applicable financial reporting framework.³⁴ Disclosures in the financial statements are intended to enable users of the financial statements to make meaningful assessments of effects of the entity's financial instrument activities, including the risks and uncertainties associated with these complex financial instruments. Accordingly, disclosures are of equal importance to the amounts recorded in the financial statements relating to financial instrument activities. Disclosures are most effective when they:
- Faithfully represent the underlying transactions and events, and illustrate how amounts recognized in the balance sheet, income statement, or statement of changes in equity relate to other quantitative and qualitative disclosures;
 - Provide comprehensive and meaningful information that fully describes the entity's risks and exposures from complex financial instruments and allow users to have an adequate understanding of the entity's financial instrument transactions (including reasonably possible alternative outcomes); and
 - Allow for comparison over time and between entities.
105. In representing that the financial statements are in accordance with the applicable financial reporting framework, management implicitly or explicitly makes assertions regarding the recognition, measurement, presentation and disclosure of the various elements of financial statements and related disclosures. Assertions about presentation and disclosure encompass:
- (a) Occurrence and rights and obligations—disclosed events, transactions, and other matters have occurred and pertain to the entity.

³³ ISA 705, *Modifications to the Opinion in the Independent Auditor's Report*

³⁴ See paragraphs 4 and A2 of ISA 200, *Overall Considerations of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*.

- (b) Completeness—all disclosures that should have been included in the financial statements have been included.
- (c) Classification and understandability—financial information is appropriately presented and described, and disclosures are clearly expressed.
- (d) Accuracy and valuation—financial and other information are disclosed fairly and at appropriate amounts.

The auditor's procedures around auditing disclosures are designed in consideration of these assertions.

Procedures relating to the presentation and disclosure of complex financial instruments

106. Areas of particular importance in respect to complex financial instruments are:

- The financial risks and exposures inherent in complex financial instruments cannot always be effectively captured in a balance sheet and profit and loss account. Financial reporting frameworks generally require additional disclosures regarding estimates and related risks and uncertainties to supplement and explain assets, liabilities, income, and expense. The auditor's focus may need to be on the disclosures relating to risks and sensitivity analysis.
- The information required to do this may come from systems outside traditional financial reporting systems, such as risk data. For example, information included in disclosures relating to the hierarchy of inputs to valuation, ranging from level 1 to level 3 may be derived from information systems that are not otherwise used to generate information for inclusion in the financial statements. In order to test the adequacy of disclosures, the auditor may test the operating effectiveness of the controls over the process by which management identifies the need for disclosures in the financial statements and the processes from which they derive the information used in disclosures.
- In relation to complex financial instruments having significant risk,³⁵ even where the disclosures are in accordance with the applicable financial reporting framework, for example the auditor may conclude that the disclosure of estimation uncertainty is inadequate in light of the circumstances and facts involved and, accordingly, the financial statements may not achieve fair presentation. ISA 705 provides guidance on the implications for the auditor's opinion when the auditor believes that management's disclosures in the financial statements are inadequate or misleading.
- Auditors may also consider whether the disclosures are complete and understandable, for example, all relevant information may be included in the financial statements (or accompanying reports) but it may be insufficiently drawn together to enable users of the financial statements to obtain an understanding of the position or there may not be

³⁵ ISA 540, paragraph 20, requires the auditor to perform further procedures on disclosures relating to accounting estimates that give rise to significant risks to evaluate the adequacy of the disclosure of their estimation uncertainty in the financial statements in the context of the applicable financial reporting framework.

enough qualitative disclosure to give context to the amounts recorded in the financial statements. For example, even when an entity has included sensitivity analysis disclosures, the disclosure may not fully describe the risks and uncertainties that may arise because of changes in valuation, for example, possible effects on debt covenants, collateral requirements, and the entity's liquidity. The auditor may wish to bring concerns in this area to the attention of those charged with governance and the audit committee.

Master netting agreements

107. An entity that undertakes a number of financial instrument transactions with a single counterparty may enter into a master netting arrangement with that counterparty. Such an agreement provides for a single net settlement of all complex financial instruments covered by the agreement in the event of default of any one contract. These arrangements are commonly used by financial institutions to provide protection against loss in the event of bankruptcy or other circumstances that result in a counterparty being unable to meet its obligations. Financial reporting frameworks may establish requirements relating to such agreements which permit or prohibit netting for purposes of balance sheet presentation.
108. In assessing whether the classification of financial statement presentation is appropriate, it is important for auditors to consider whether master netting agreements are in effect and relevant assets and liabilities that subjects to such netting contracts are identified comprehensively. In addition, if the total assets or liabilities are used to determine the incentive compensation for managements or corporate tax payments, it is also important for auditors to be alert to the fraud risk that netting is not appropriately made with a fraudulent intent. In addition, the auditor's consideration of day 1 accounting and the effects on presentation, for example on short-term and long-term classification, in substantive testing of complex financial instruments will be equally relevant in the auditor's evaluation of the disclosures.

Other Relevant Audit Considerations

*The Role of the Internal Audit Function*³⁶

109. The knowledge and skills required of an internal audit function to understand and perform procedures to provide assurance to management or those charged with governance on the entity's use of complex financial instruments are generally quite different from those needed for other parts of the business. The extent to which the internal audit function has the knowledge and skill to cover, and has in fact covered, the entity's financial instrument activities, as well as the competence and objectivity of the internal audit function, is a relevant consideration in the external auditor's determination of whether the internal audit function is likely to be relevant to the overall audit strategy and audit plan.

³⁶ If the entity has an internal audit function, paragraph 23 of [proposed] ISA 315 (Revised) requires the auditor to obtain an understanding of the nature of the internal audit function's responsibilities, how the function fits in the entity's organizational structure, and the activities performed, or to be performed.

110. In many large entities, the internal audit function may perform work that enables senior management and those charged with governance to review and evaluate the entity's controls relating to the use of complex financial instruments. Inquiries with the appropriate individuals within the internal audit function may provide information to assist the external auditor in obtaining an understanding of the entity and its environment, including its use of complex financial instruments, and therefore to assess the risks of material misstatement. Areas where the work of the internal audit function may be particularly relevant are:³⁷

- Developing a general overview of the extent of use of complex financial instruments;
- Evaluating the appropriateness of policies and procedures and management's compliance with them;
- Evaluating the operating effectiveness of financial instrument control activities;
- Evaluating systems relevant to financial instrument activities;
- Assessing whether new risks relating to complex financial instruments are being identified, assessed and managed; and
- Conducting regular evaluations to:
 - Provide management with assurance that financial instrument activities are being properly controlled; and
 - Ensure that new risks and the use of complex financial instruments to manage these risks are being identified, assessed and managed.

However, [proposed] ISA 610 (Revised) notes that, for a particular account balance, class of transaction or disclosure, the higher an assessed risk of material misstatement at the assertion level (in particular for significant risks), the more judgment is often involved in planning and performing the audit procedures and evaluating the results thereof. In such circumstances, it is less likely that the external auditor can make substantial use of the work of the internal audit function in obtaining sufficient appropriate audit evidence.

Written Representations

111. ISA 540 requires the auditor to obtain written representations from management and, where appropriate, those charged with governance whether they believe significant assumptions used making accounting estimates are reasonable.³⁸ Depending on the volume and degree of complexity of financial instrument activities, written representations to support other evidence obtained about complex financial instruments may also include:

- Management's objectives with respect to complex financial instruments, for example,

³⁷ Work performed by functions such as the independent risk management function, model review functions, and product control, also be relevant to the auditor in these areas.

³⁸ ISA 540, paragraph 22. Paragraph 4 of ISA 580 states that written representations from management do not provide sufficient appropriate audit evidence on their own about any of the matters with which they deal. If the auditor is otherwise unable to obtain sufficient appropriate audit evidence, this may constitute a limitation on the scope of the audit may have implications for the auditor's report.

whether they are used for hedging, asset/liability management or investment purposes;

- Representations about the appropriateness of presentation of the financial statements, for example the recording of financial instrument transactions as sales or financing transactions;
- Representations about the financial statement disclosures concerning complex financial instruments, for example that:
 - The records reflect all financial instrument transactions; and
 - All embedded derivative instruments have been identified;
- Whether all transactions have been conducted at arm's length and at market value;
- The terms of transactions;
- Whether there are any side agreements associated with any complex financial instruments;
- Whether the entity has entered into any written options;
- Management's intent and ability to carry out certain actions;³⁹
- If applicable, the appropriateness of the basis used by management to overcome the presumption relating to the use of fair values; and
- Whether subsequent events require adjustment to the valuations and disclosures included in the financial statements.

Communication with Those Charged with Governance and Others

112. Because of the uncertainties associated with the valuation of complex financial instruments, the potential effect on the financial statements of any significant risks may be of governance interest. The auditor may communicate the nature of significant assumptions used in fair value measurements, the degree of subjectivity involved in the development of the assumptions, and the relative materiality of the items being measured at fair value to the financial statements as a whole. In addition, the need for appropriate controls over commitments to enter into complex financial instrument contracts and over the subsequent measurement processes are matters that may give rise to the need for communication with those charged with governance.
113. ISA 260⁴⁰ deals with the auditor's responsibility to communicate with those charged with governance in an audit of financial statements. With respect to complex financial instruments, matters to be communicated to those charged with governance may include:
- A lack of management understanding of the nature or extent of the financial instrument activities or the risks associated with such activities;
 - Significant deficiencies in the design or operation of the systems of internal control

³⁹ Paragraph A80 of ISA 540 provides examples of procedures that may be appropriate in the circumstances.

⁴⁰ ISA 260, *Communicating with Those Charged with Governance*

or risk management relating to the entity's financial instrument activities that the auditor has identified during the audit;⁴¹

- Significant difficulties encountered when obtaining sufficient appropriate audit evidence relating to valuations performed by management or a management's expert, for example, where management is unable to obtain an understanding of the valuation methodologies, including the assumptions and inputs, used by the management's experts and such information is not made available to the auditor by management's expert;
- Significant differences in judgments between the auditor and management or a management's expert regarding valuations;
- The potential effects on the entity's financial statements of material risks and exposures required to be disclosed in the financial statements, including the valuation uncertainty associated with complex financial instruments;
- The auditor's views about the appropriateness of the selection of accounting policies and presentation of financial instrument transactions in the financial statements;
- The auditor's views about the qualitative aspects of the entity's accounting practices and financial reporting for complex financial instruments;
- A lack of comprehensive and clearly stated policies for the purchase, sale and holding of complex financial instruments, including operational controls, procedures for designating complex financial instruments as hedges, and monitoring exposures; or
- Failure to comply with ethical requirements.

The appropriate timing for communications will vary with the circumstances of the engagement; however, it may be appropriate to communicate significant difficulties encountered during the audit as soon as practicable if those charged with governance are able to assist the auditor to overcome the difficulty, or if it is likely to lead to a modified opinion.

Communications with Regulators and Others

114. In some cases, auditors may be required,⁴² or may consider it appropriate, to communicate directly with regulators or prudential supervisors, in addition to those charged with governance, regarding matters relating to complex financial instruments. Such communication may be most useful in the early stages of the audit. For example, in some

⁴¹ ISA 265, *Communicating Deficiencies in Internal Control to Those Charged with Governance and Management*, establishes requirements and provides guidance on communicating deficiencies in internal control to management, and communicating significant deficiencies in internal control to those charged with governance. It explains that deficiencies in internal control may be identified during the auditor's risk assessment procedures in accordance with ISA 315 or at any other stage of the audit.

⁴² For example, ISA 250 requires auditors to determine whether there is a responsibility to report identified or suspected non-compliance with laws and regulations to parties outside the entity. In addition, requirements concerning the auditor's communication to banking supervisors and others may be established in many countries either by law, by supervisory requirement or by formal agreement or protocol.

jurisdictions, banking regulators and auditors are seeking closer cooperation to share information about the operation and application of controls over financial instrument activities, challenges in valuing complex financial instruments in inactive markets, and compliance with regulations. This enhanced coordination may be helpful to the auditor in identifying risks of material misstatement.