

# International Valuation Standards (IVS)

Effective 31 January 2020



International Valuation Standards Council

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## IVS 500 Financial Instruments

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### 10. Overview

- 10.1. The principles contained in the General Standards apply to *valuations* of financial instruments. This standard only includes modifications, additional requirements or specific examples of how the General Standards apply for *valuations* to which this standard applies.

### 20. Introduction

- 20.1. A financial instrument is a contract that creates rights or obligations between specified parties to receive or pay cash or other financial consideration. Such instruments include but are not limited to, derivatives or other contingent instruments, hybrid instruments, fixed income, structured products and equity instruments. A financial instrument can also be created through the combination of other financial instruments in a portfolio to achieve a specific net financial outcome.
- 20.2. *Valuations* of financial instruments conducted under IVS 500 *Financial Instruments* can be performed for many different *purposes* including, but not limited to:
- (a) acquisitions, mergers and sales of businesses or parts of businesses,
  - (b) purchase and sale,
  - (c) financial reporting,
  - (d) legal or regulatory requirements (subject to any specific requirements set by the relevant authority),
  - (e) internal risk and compliance procedures,
  - (f) tax, and
  - (g) litigation.

- 20.3. A thorough understanding of the instrument being valued is required to identify and evaluate the relevant market information available for identical or comparable instruments. Such information includes prices from recent transactions in the same or a similar instrument, quotes from brokers or pricing services, credit ratings, yields, volatility, indices or any other inputs relevant to the valuation process.
- 20.4. When *valuations* are being undertaken by the holding entity that are intended for use by external investors, regulatory authorities or other entities, to comply with the requirement to confirm the identity and status of the *valuer* in IVS 101 *Scope of Work*, para 20.3.(a), reference *must* be made to the control environment in place, as required by IVS 105 *Valuation Approaches and Methods* and IVS 500 *Financial Instruments* paras 120.1-120.3 regarding control environment.
- 20.5. To comply with the requirement to identify the *asset* or liability to be valued as in IVS 101 *Scope of Work*, para 20.3.(d), the following matters *must* be addressed:
- (a) the class or classes of instrument to be valued,
  - (b) whether the *valuation* is to be of individual instruments or a portfolio, and
  - (c) the unit of account.
- 20.6. IVS 102 *Investigations and Compliance*, paras 20.2-20.4 provide that the investigations required to support the *valuation must* be adequate having regard to the *purpose* of the assignment. To support these investigations, sufficient evidence supplied by the *valuer* and/or a credible and reliable third party *must* be assembled. To comply with these requirements, the following are to be considered:
- (a) All market data used or considered as an input into the valuation process *must* be understood and, as necessary, validated.
  - (b) Any model used to estimate the *value* of a financial instrument shall be selected to appropriately capture the contractual terms and economics of the financial instrument.
  - (c) Where observable prices of, or market inputs from, similar financial instruments are available, those imputed inputs from comparable price(s) and/or observable inputs *should* be adjusted to reflect the contractual and economic terms of the financial instrument being valued.
  - (d) Where possible, multiple valuation approaches are preferred. If differences in *value* occur between the valuation approaches, the *valuer must* explain and document the differences in *value*.
- 20.7. To comply with the requirement to disclose the valuation approach(es) and reasoning in IVS 103 *Reporting*, para 20.1, consideration *must* be given to the appropriate degree of reporting detail. The requirement to disclose this information in the valuation report will differ for different categories of financial instruments. Sufficient information *should* be provided to allow users to understand the nature of each class of instrument valued and the primary factors influencing the *values*. Information that adds little to a users'

understanding as to the nature of the *asset* or liability, or that obscures the primary factors influencing *value*, *must* be avoided. In determining the level of disclosure that is appropriate, regard *must* be had to the following:

- (a) **Materiality:** The *value* of an instrument or class of instruments in relation to the total value of the holding entity's *assets* and liabilities or the portfolio that is valued.
- (b) **Uncertainty:** The *value* of the instrument *may* be subject to *significant* uncertainty on the valuation date due to the nature of the instrument, the model or inputs used or to market abnormalities. Disclosure of the cause and nature of any material uncertainty *should* be made.
- (c) **Complexity:** The greater the complexity of the instrument, the greater the appropriate level of detail to ensure that the assumptions and inputs affecting *value* are identified and explained.
- (d) **Comparability:** The instruments that are of particular interest to users *may* differ with the passage of time. The usefulness of the valuation report, or any other reference to the *valuation*, is enhanced if it reflects the information demands of users as market conditions change, although, to be meaningful, the information presented *should* allow comparison with previous periods.
- (e) **Underlying instruments:** If the cash flows of a financial instrument are generated from or secured by identifiable underlying *assets* or liabilities, the relevant factors that influence the underlying value *must* be provided in order to help users understand how the underlying value impacts the estimated value of the financial instrument.

### **30. Bases of Value**

- 30.1. In accordance with IVS 104 *Bases of Value*, a *valuer must* select the appropriate basis(es) of value when valuing financial instruments.
- 30.2. Often, financial instrument valuations are performed using bases of value defined by entities/organisations other than the IVSC (some examples of which are mentioned in IVS 104 *Bases of Value*) and it is the *valuer's* responsibility to understand and follow the regulation, case law, tax law and other interpretive guidance related to those bases of value as of the valuation date.

### **40. Valuation Approaches and Methods**

- 40.1. When selecting an approach and method, in addition to the requirements of this chapter, a *valuer must* follow the requirements of IVS 105 *Valuation Approaches and Methods*.
- 40.2. The three valuation approaches described in IVS 105 *Valuation Approaches and Methods* *may* be applied to the *valuation* of financial instruments.
- 40.3. The various valuation methods used in financial markets are based on variations of the market approach, the income approach or the cost approach as described in the IVS 105 *Valuation Approaches and Methods*. This standard describes the commonly used methods and matters that need to be considered or the inputs needed when applying these methods.

- 40.4. When using a particular valuation method or model, it is important to ensure that it is calibrated with observable market information, where available, on a regular basis to ensure that the model reflects current market conditions. As market conditions change, it *may* become necessary to change to a more suitable model(s) or to modify the existing model and recalibrate and/ or make additional adjustments to the valuation inputs. Those adjustments *should* be made to ensure consistency with the required valuation basis, which in turn is determined by the *purpose* for which the *valuation* is required; see the *IVS Framework*.

## 50. Market Approach

- 50.1. A price obtained from trading on a liquid exchange on, or very close to, the time or date of valuation is normally the best indication of the market value of a holding of the identical instrument. In cases where there have not been recent relevant transactions, the evidence of quoted or consensus prices, or private transactions *may* also be relevant.
- 50.2. It *may* be necessary to make adjustments to the price information if the observed instrument is dissimilar to that being valued or if the information is not recent enough to be relevant. For example, if an observable price is available for similar instruments with one or more different characteristics to the instrument being valued, then the implied inputs from the comparable observable price are to be adjusted to reflect the specific terms of the financial instrument being valued.
- 50.3. When relying on a price from a pricing service, the *valuer must* understand how the price was derived.

## 60. Income Approach

- 60.1. The *value* of financial instruments *may* be determined using a discounted cash flow method. The terms of an instrument determine, or allow estimation of, the undiscounted cash flows. The terms of a financial instrument typically set out:
- (a) the timing of the cash flows, ie, when the entity expects to realise the cash flows related to the instrument,
  - (b) the calculation of the cash flows, eg, for a debt instrument, the interest rate that applies, or for a derivative instrument, how the cash flows are calculated in relation to the underlying instrument or index (or indices),
  - (c) the timing and conditions for any options in the contract, eg, put or call, prepayment, extension or conversion options, and
  - (d) protection of the rights of the parties to the instrument, eg, terms relating to credit risk in debt instruments or the priority over, or subordination to, other instruments held.
- 60.2. In establishing the appropriate discount rate, it is necessary to assess the return that would be required on the instrument to compensate for the time *value* of money and potential additional risks from, but not limited to the following:
- (a) the terms and conditions of the instrument, eg, subordination,



- (b) the credit risk, ie, uncertainty about the ability of the counterparty to make payments when due,
  - (c) the liquidity and marketability of the instrument,
  - (d) the risk of changes to the regulatory or legal environment, and
  - (e) the tax status of the instrument.
- 60.3. Where future cash flows are not based on fixed contracted amounts, estimates of the expected cash flows will need to be made in order to determine the necessary inputs. The determination of the discount rate *must* reflect the risks of, and be consistent with, the cash flows. For example, if the expected cash flows are measured net of credit losses then the discount rate *must* be reduced by the credit risk component. Depending upon the *purpose of the valuation*, the inputs and assumptions made into the cash flow model will need to reflect either those that would be made by *participants*, or those that would be based on the holder's current expectations or targets. For example, if the *purpose of the valuation* is to determine market value, or fair value as defined in IFRS, the assumptions *should* reflect those of *participants*. If the *purpose* is to measure performance of an *asset* against management determined benchmarks, eg, a target internal rate of return, then alternative assumptions *may* be appropriate.

## 70. Cost Approach

- 70.1. In applying the cost approach, *valuers must* follow the guidance contained in IVS 105 *Valuation Approaches and Methods*, paras 70.1-70.14.

## 80. Special Considerations for Financial Instruments

- 80.1. The following sections address a non-exhaustive list of topics relevant to the *valuation* of financial instruments:
- (a) Valuation Inputs (section 90).
  - (b) Credit Risk (section 100).
  - (c) Liquidity and Market Activity (section 110).
  - (d) Control Environment (section 120).

## 90. Valuation Inputs

- 90.1. As per IVS 105 *Valuation Approaches and Methods*, para 10.7, any data set used as a valuation input, understanding the sources and how inputs are adjusted by the provider, if any, is essential to understanding the reliance that *should* be given to the use of the valuation input.
- 90.2. Valuation inputs *may* come from a variety of sources. Commonly used valuation input sources are broker quotations, consensus pricing services, the prices of comparable instruments from third parties and market data pricing services. Implied inputs can often be derived from such observable prices such as volatility and yields.
- 90.3. When assessing the validity of broker quotations, as evidence of how *participants* would price an *asset*, the *valuer should* consider the following:

- (a) Brokers generally make markets and provide bids in respect of more popular instruments and *may* not extend coverage to less liquid instruments. Because liquidity often reduces with time, quotations *may* be harder to find for older instruments.
- (b) A broker is concerned with trading, not supporting *valuation*, and they have little incentive to research an indicative quotation as thoroughly as they would an executable quotation. A *valuer* is required to understand whether the broker quote is a binding, executable quote or a non-binding, theoretical quote. In the case of a non-binding quote, the *valuer* is required to gather additional information to understand if the quote *should* be adjusted or omitted from the *valuation*.
- (c) There is an inherent conflict of interest where the broker is the counterparty to an instrument.
- (d) Brokers have an incentive to encourage trading.

90.4. Consensus pricing services operate by collecting price or *valuation* input information about an instrument from several participating subscribers. They reflect a pool of quotations from different sources, sometimes with adjustment to compensate for any sampling bias. This overcomes the conflict of interest problems associated with single brokers. However, as with a broker quotation, it *may* not be possible to find a suitable input for all instruments in all markets. Additionally, despite its name, a consensus price *may* not necessarily constitute a true market “consensus”, but rather is more of a statistical estimate of recent market transactions or quoted prices. Therefore, the *valuer* needs to understand how the consensus pricing was estimated and if such estimates are reasonable, given the instrument being valued. Information and inputs relevant to the *valuation* of an illiquid instrument can often be gleaned through comparable transactions (see section 110 for further details).

## 100. Credit Risk Adjustments

- 100.1. Understanding the credit risk is often an important aspect of valuing a financial instrument and most importantly the issuer. Some of the common factors that need to be considered in establishing and measuring credit risk include the following:
- (a) Own credit and counterparty risk: Assessing the financial strength of the issuer or any credit support providers will involve consideration of not only historical and projected financial performance of the relevant entity or entities but also consideration of performance and prospects for the industry sector in which the business operates. In addition to issuer credit, the *valuer must* also consider the credit exposure of any counterparties to the *asset* or liability being valued. In the case of a clearing house settlement process, many *jurisdictions* now require certain derivatives to be transacted through a central counterparty which can mitigate risk, however residual counterparty risk needs to be considered.
  - (b) The *valuer* also needs to be able to differentiate between the credit risk of the instrument and the credit risk of the issuer and/or counterparty. Generally, the credit risk of the issuer or counterparty does not consider specific collateral related to the instrument.

- (c) Subordination: Establishing the priority of an instrument is critical in assessing the default risk. Other instruments *may* have priority over an issuer's *assets* or the cash flows that support the instrument.
  - (d) Leverage: The amount of debt used to fund the *assets* from which an instrument's return is derived can affect the volatility of returns to the issuer and credit risk.
  - (e) Netting agreements: Where derivative instruments are held between counterparties, credit risk *may* be reduced by a netting or offset agreement that limits the obligations to the net value of the transactions, ie, if one party becomes insolvent, the other party has the right to offset sums owed to the insolvent party against sums due under other instruments.
  - (f) Default protection: Many instruments contain some form of protection to reduce the risk of non-payment to the holder. Protection might take the form of a guarantee by a third party, an insurance contract, a credit default swap or more *assets* to support the instrument than are needed to make the payments. Credit exposure is also reduced if subordinated instruments take the first losses on the underlying *assets* and therefore reduce the risk to more senior instruments. When protection is in the form of a guarantee, an insurance contract or a credit default swap, it is necessary to identify the party providing the protection and assess that party's creditworthiness. Considering the credit worthiness of a third party involves not only the current position but also the possible effect of any other guarantees or insurance contracts the entity has written. If the provider of a guarantee has also guaranteed other correlated debt securities, the risk of its non-performance will likely increase.
- 100.2. For parties for which limited information is available, if secondary trading in a financial instrument exists, there *may* be sufficient market data to provide evidence of the appropriate risk adjustment. If not, it might be necessary to look to credit indices, information available for entities with similar risk characteristics, or estimate a credit rating for the party using its own financial information. The varying sensitivities of different liabilities to credit risk, such as collateral and/or maturity differences, *should* be taken into account in evaluating which source of credit data provides the most relevant information. The risk adjustment or credit spread applied is based on the amount a *participant* would require for the particular instrument being valued.
- 100.3. The own credit risk associated with a liability is important to its *value* as the credit risk of the issuer is relevant to the *value* in any transfer of that liability. Where it is necessary to assume a transfer of the liability regardless of any actual constraints on the ability of the counterparties to do so, eg, in order to comply with financial reporting requirements, there are various potential sources for reflecting own credit risk in the *valuation* of liabilities. These include the yield curve for the entity's own bonds or other debt issued, credit default swap spreads, or by reference to the *value* of the corresponding *asset*. However, in many cases the issuer of a liability will not have the ability to transfer it and can only settle the liability with the counterparty.

- 100.4. Collateral: The *assets* to which the holder of an instrument has recourse in the event of default need to be considered. In particular, the *valuer* needs to be understand whether recourse is to all the *assets* of the issuer or only to specified *asset(s)*. The greater the *value* and liquidity of the *asset(s)* to which an entity has recourse in the event of default, the lower the overall risk of the instrument due to increased recovery. In order not to double count, the *valuer* also needs to consider if the collateral is already accounted for in another area of the balance sheet.
- 100.5. When adjusting for own credit risk of the instrument, it is also important to consider the nature of the collateral available for the liabilities being valued. Collateral that is legally separated from the issuer normally reduces the credit exposure. If liabilities are subject to a frequent collateralisation process, there might not be a material own credit risk adjustment because the counterparty is mostly protected from loss in the event of default.

#### 110. Liquidity and Market Activity

The liquidity of financial instruments range from those that are standardised and regularly transacted in high volumes to those that are agreed between counterparties that are incapable of assignment to a third party. This range means that consideration of the liquidity of an instrument or the current level of market activity is important in determining the most appropriate valuation approach.

Liquidity and market activity are distinct. The liquidity of an *asset* is a measure of how easily and quickly it can be transferred in return for cash or a cash equivalent. Market activity is a measure of the volume of trading at any given time, and is a relative rather than an absolute measure. Low market activity for an instrument does not necessarily imply the instrument is illiquid.

Although separate concepts, illiquidity or low levels of market activity pose similar valuation challenges through a lack of relevant market data, ie, data that is either current at the valuation date or that relates to a sufficiently similar *asset* to be reliable. The lower the liquidity or market activity, the greater the reliance that will be needed on valuation approaches that use techniques to adjust or *weight* the inputs based on the evidence of other comparable transactions to reflect either market changes or differing characteristics of the *asset*.

#### 120. Valuation Control and Objectivity

The control environment consists of the internal governance and control procedures that are in place with the objective of increasing the confidence of those who *may* rely on the *valuation* in the valuation process and conclusion. Where an external *valuer* is placing reliance upon an internally performed *valuation*, the external *valuer* *must* consider the adequacy and independence of the valuation control environment.

In comparison with other *asset* classes, financial instruments are more commonly valued internally by the same entity that creates and trades them. Internal valuations bring into question the independence of the *valuer* and hence this creates risk to the perceived objectivity of *valuations*. Please reference 40.1 and 40.2 of the IVS *Framework* regarding *valuation* performed by internal *valuers* and the need for procedures to be in place

to ensure the objectivity of the *valuation* and steps that *should* be taken to ensure that an adequate control environment exists to minimise threats to the independence of the *valuation*. Many entities which deal with the *valuation* of financial instruments are registered and regulated by statutory financial regulators. Most financial regulators require banks or other regulated entities that deal with financial instruments to have independent price verification procedures. These operate separately from trading desks to produce *valuations* required for financial reporting or the calculation of regulatory capital guidance on the specific valuation controls required by different regulatory regimes. This is outside the scope of this standard. However, as a general principle, *valuations* produced by one department of an entity that are to be included in financial statements or otherwise relied on by third parties *should* be subject to scrutiny and approval by an independent department of the entity. Ultimate authority for such *valuations should* be separate from, and fully independent of, the risk-taking functions. The practical means of achieving a separation of the function will vary according to the nature of the entity, the type of instrument being valued and the materiality of the *value* of the particular class of instrument to the overall objective. The appropriate protocols and controls *should* be determined by careful consideration of the threats to objectivity that would be perceived by a third party relying on the *valuation*.

When accessing your valuation controls, the following include items you *should* consider in the valuation process:

- (a) establishing a governance group responsible for valuation policies and procedures and for oversight of the entity's valuation process, including some members external to the entity,
- (b) systems for regulatory compliance if applicable,
- (c) a protocol for the frequency and methods for calibration and testing of valuation models,
- (d) criteria for verification of certain *valuations* by different internal or external experts,
- (e) periodic independent validation of the valuation model(s),
- (f) identifying thresholds or events that trigger more thorough investigation or secondary approval requirements, and
- (g) identifying procedures for establishing *significant* inputs that are not directly observable in the market, eg, by establishing pricing or audit committees.

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