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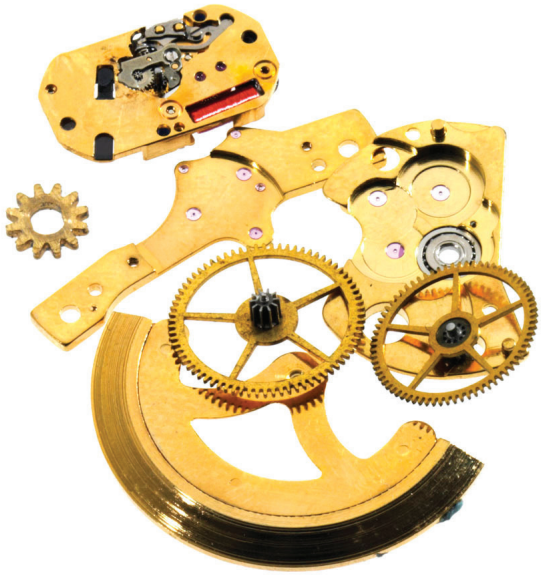

A Closer Look
Fair value measurement of financial instruments under IFRS 13

Introduction

This publication considers both practical and technical aspects of applying IFRS 13 *Fair Value Measurement*[1] to four specific areas affecting financial instrument valuations and disclosures:

- Including an own credit risk adjustment in fair valuing financial liabilities.
- Fair valuing portfolios of financial assets and financial liabilities with offsetting risks.
- Using quoted mid-market prices to derive fair value.
- Additional disclosures.

This publication also addresses important aspects of the transition requirements which will have an impact when the fair values determined under IFRS 13 are different to those determined under previous requirements that are now replaced by IFRS 13.

Further information about other areas of change introduced by IFRS 13 can be found in Deloitte's *IFRS in Focus* publication on IFRS 13.

Including an own credit risk adjustment in fair valuing financial liabilities

The change in definition of fair value for financial liabilities

IFRS 13 introduces a new definition of fair value which, for financial instruments, replaces the previous definition included in IAS 39 *Financial Instruments: Recognition and Measurement* (and IFRS 9 *Financial Instruments*).

Previous IAS 39 (IFRS 9) definition of fair value	New IFRS 13 definition of fair value
The amount for which an asset could be exchanged, or a **liability settled**, between knowledgeable, willing parties in an arm's length transaction.	The price that would be received to sell an asset or **paid to transfer a liability** in an orderly transaction between market participants at the measurement date.

Under both definitions of fair value, when determining the fair value of a financial *asset*, an entity is required to include counterparty credit risk (i.e. the risk that a counterparty will fail to discharge a particular obligation) in the valuation on the basis that a market participant would include it when determining the price it would pay to acquire the asset (i.e. the price the holder would receive to sell the asset). For a simple financial instrument such as a loan asset, counterparty credit risk is often included in the fair value by using a current market credit spread in the discount rate applied to the cash flows of the loan.

For a financial *liability* there has been some divergence in practice as to whether own credit risk (i.e. the risk that an entity will fail to discharge its own obligation) is included in the fair value of a financial liability. IFRS 13 uses the term 'non-performance risk'. Non-performance risk includes, but may not be limited to, the entity's own credit risk. As a result, some entities applying IFRSs, prior to the adoption of IFRS 13, do not update financial liability fair values, particularly for derivatives for changes in their own credit risk.[2]

1 IFRS 13 applies to both financial and non-financial items measured or disclosed at fair value and are mandatory for accounting periods beginning on or after 1 January 2013 with prospective application. The EU endorsed IFRS 13 for use in Europe in December 2012.

2 Deloitte *Third Global IFRS Banking Survey*, published January 2013, found that of the 70 global banks surveyed only 43% of banks included DVA in their fair valuation of over-the-counter derivatives. See http://www.deloitte.com/ifrsbankingsurvey3

The justification for not updating the fair values for changes in own credit risk in the past has been based on the IAS 39 definition of fair values of a financial liability which refer to a *settlement* value for determining the fair value of a liability. The amount at which an entity can *settle* a financial liability with the counterparty is argued by some to be different to the amount at which the same liability could be *transferred* to another market participant. The reason given by some is that under a settlement view, the transaction is solely with the counterparty to the liability who would not consider changes in the obligor's credit risk when determining a settlement amount. For example, some argue that that when the obligor is a going concern, the counterparty would not allow a liability to be settled for less than the amount owed when the credit risk of the obligor increases. However, the counter view is that the settlement amount is equal to the transfer amount and that a transfer of a liability would consider all factors a market participant would consider in determining a price which would include the obligor's credit risk. In other words, the borrower looks at its own credit risk the same way as the counterparty that holds the assets looks at the borrower's credit risk.

Given the revised IFRS 13 definition of fair value for a financial liability is based on a *transfer* notion (rather than a *settlement* notion), the argument for not including own credit risk in financial liability fair values no longer holds. The transfer notion for a financial liability can seem theoretical at times, particularly because in many cases such a transfer is not legally permissible under the terms of the contract. However, IFRS 13 states that any legal restriction on transferring a financial liability should be ignored. This is because such a restriction is either implicitly or explicitly included in the other inputs to the fair value measurement. Therefore, IFRS 13 is clear that it is not necessary to be able to realise the change in own credit risk in a transfer transaction for it to be included in the fair value of a financial liability.

IFRS 13 also clarifies that the fair value of a liability is based on the assumption that the liability would remain outstanding after the transfer and the credit risk before and after the transfer would remain the same (i.e. it is assumed that the financial liability is transferred to a counterparty with the same own credit risk). As a result, the relevant credit risk to consider is that of the entity that has the liability, rather than the credit risk of another entity that might acquire the liability. To make this explicit, the standard goes further to state that where the other side of a liability is held as an asset (which will always be the case for financial liabilities), the fair value of the liability from the perspective of the issuer would be the same, in absolute amount as the fair value of the asset from the perspective of the holder.

This then leaves the challenge of determining the fair value of the financial liability that includes own credit risk. This is particularly challenging when fair valuing derivatives as the valuation techniques are more complex than for basic loans.

Reflecting credit risk in derivative fair values

When determining the fair values of derivatives it is common to derive a starting value based on forecast expected cash flows discounted by a 'risk-free' rate. In order to capture credit risk in the valuation it is then necessary to adjust this value. When there is an adjustment to capture counterparty credit risk it is referred to as a Credit Value Adjustment (CVA) or positive CVA. When the adjustment is to capture own credit risk it is referred to as a Debit Value Adjustment (DVA) or negative CVA.[3]

In practice, where banks provide derivative valuations for their clients, the fair values are based on risk-free rates without adjustment for counterparty or own credit risk. However, there are some cases where, on request, banks provide credit adjusted derivative valuations to their clients. In addition, an increasing number of valuation service providers offer valuations that include credit risk adjustments. Where fair values are provided by external parties, an entity should confirm whether or not the valuation includes an adjustment for credit risk.

There are a variety of ways to determine CVA or DVA. The calculations can range from basic to complex and vary depending on the purpose of the valuation and the type of instrument involved. Judgement will be required to assess the appropriateness of the method used to calculate the CVA or DVA. Determining the CVA or DVA for derivatives, such as interest rate swaps can be particularly challenging as there can be both cash inflows and cash outflows on the same instrument over its life and the instrument can also change from an overall asset to an overall liability during its life.

The following section outlines an approach to determining CVA or DVA.

Credit risk is determined at a counterparty level. Typically, entities will enter into master netting agreements with counterparties which provide that the net exposure between the two entities will be settled on the event of either party defaulting. Market practice is, therefore, to calculate CVA on the net exposure to a counterparty after reflecting netting in accordance with the master netting agreement (irrespective of whether the derivatives covered by the master netting agreement are offset in the statement of financial position). For example, the values of derivative assets are netted with the derivative liabilities and any other balances with the same counterparty in order to determine the open credit exposure.

3 This document uses the terms Credit Value Adjustments (CVA) and Debit Value Adjustments (DVA)

Where counterparties enter into collateral agreements, these counterparties are generally included in the CVA calculation to the extent that there may be short-falls in the collateral levels to cover exposures. Shortfalls in collateral can arise due to infrequent collateral calls or high threshold levels that need to be before collateral is passed, or even if fully collateralised the timing of the collateral calls results in some residual credit exposure.

Where master netting agreements exist with a particular counterparty, the CVA and DVA is determined on a portfolio basis with that counterparty, rather than on an individual instrument-by-instrument basis. IFRS 13 explicitly permits the use of portfolio-level CVA/DVA if certain criteria are met (which is discussed further below, see *Fair valuing portfolios of financial assets and financial liabilities with offsetting risks*).

Below is an overview of a common calculation used to determine CVA, and the same calculation may be used for DVA. Other approaches may be appropriate.

CVA = Potential Future Exposure x Probability of Default x Loss Given Default

Potential Future Exposure (PFE)	PFE is defined as the maximum expected credit exposure over a specific period of time calculated with some level of confidence. It is calculated by evaluating existing trades against possible market prices in the future during the lifetime of the transactions. Hence, PFE is different to current exposure at the reporting date as it represents a distribution of outcomes rather than a single point in time estimate. To calculate PFE, exposures are aggregated by counterparty including positive and negative exposures to the extent that a master netting agreement is in place and an overall exposure determined (see discussion of portfolio fair values below). The methodology for calculating the PFE is complex and may vary. It is common practice to determine PFE using a Monte-Carlo simulation.
Loss Given Default (LGD)	LGD is the percentage loss over the total exposure when an entity goes into default. LGDs for entities are not typically observable unless the counterparty is in, or is close to default. Where market information is not available, it is necessary to determine LGD based on internal information (eg for a bank this could be based on internally generated credit measures used for capital purposes).
Probability of Default (PD)	PD is the likelihood of default over a particular time horizon. It is the most subjective input into the CVA calculation where there is a wide range in market practice currently observed. PDs used in practice can range from historical internally generated PDs (eg those used for capital purposes by banks), to current market implied PDs based on the credit default swap (CDS) market with a number of hybrid approaches in between. In certain market conditions, the difference between the historical and current implied PDs can have a significant difference and therefore have a material impact on the level of CVA adjustment that would be calculated. It is also important to remember that IFRS 13 prioritises observable market inputs over unobservable inputs when using a valuation technique to measure a fair value measurement. Observable benchmarks are sometimes provided on the PD of certain counterparties through the implied levels of PD from CDS contracts. Caution is needed when imputing PDs from other contracts such as CDSs as the CDS market only covers a relatively small proportion of the counterparties to which entities may have exposure, requiring alternative measures for the remaining counterparties.

Determining CVA and DVA on a portfolio basis will result in a single credit adjustment for all instruments included in the portfolio. When these instruments are presented in a single line in the statement of financial position (e.g. because they are all assets or all liabilities or both but presented net) and they are not designated separately in a hedging relationship, disaggregating the single adjustment may not be necessary. However, in all other cases it will be necessary to allocate the net portfolio adjustment to assets and liabilities and also individual trades if for example they have been designated in a hedging relationship as credit risk arises on individual hedging instruments. IFRS 13 requires this allocation to be done on a reasonable and consistent basis.

Consequences of adjusting for own credit risk

Entities which, on transition to IFRS 13, begin to adjust financial liability fair values to reflect own credit risk, should consider the impact that this will have on their financial statements. Below we consider three specific areas that are likely to contribute to that impact:

- transition;
- hedge accounting (e.g. where derivative are included in a hedging relationship); and
- fair value disclosures and the fair value hierarchy.

The impact of on hedge effectiveness and disclosures are relevant for all entities going forward irrespective of their previous policy for including changes in own credit risk in the fair valuation of liabilities.

Transition to IFRS 13	As discussed in further detail below, any change in fair value on initial application of IFRS 13 would be treated as a change in accounting estimate and recognised in profit or loss in the first period reported under IFRS 13 (rather than as an adjustment to retained earnings). Therefore, the adjustment for own credit risk will impact current year earnings when first applied.
Hedge accounting	For derivatives designated in hedging relationships, changes in credit risk affecting the fair value of the derivative would typically be a source of hedge ineffectiveness because that change in value would not be replicated in the hedged item. For those entities previously not adjusting for own credit risk in the fair value of derivative liabilities, this would represent a new source of hedge ineffectiveness that would impact the assessment of hedge effectiveness (ie qualifying for hedge accounting under the 80 to 125% offset test applied both prospectively and retrospectively). It could also have an effect on the measurement of hedge ineffectiveness recognised in profit or loss. This is particularly important in the period of transition as transition adjustments are treated as a change in estimate and such an adjustment could result in the hedge effectiveness failing the 80 to 125% test.
Disclosures and the fair value hierarchy	IFRS 13 carries over the three level fair value hierarchy disclosures from IFRS 7 which requires an entity to distinguish between financial asset and financial liability fair values based on how observable the inputs to the fair value measurement are. Level 1 is the most robust fair value based directly on a quoted market price for the same instrument without adjustment. Level 2 fair values are based on valuation techniques where all significant inputs into the valuation are based on observable market data. Level 3 fair values are also determined using a valuation technique but with at least one significant input based on unobservable market data. Where a valuation technique is used to determine fair value, the inclusion of DVA in the fair value of a financial liability could in some cases cause the fair value to move from Level 2 to Level 3 if the credit adjustment is regarded as an unobservable input significant to the fair value of the liability. A shift to Level 3 of the hierarchy would prompt further disclosures to be made as IFRS 13 requires a reconciliation of beginning balances to ending balances for Level 3 items, separately disclosing: • gains or losses recognised in profit or loss and where they are presented (with separate presentation of those relating to assets and liabilities held at the end of the reporting period); • gains or losses recognised in other comprehensive income; • purchases, sales issues and settlements (each separately); and • transfers into or out of Level 3 (each separately) and the reasons for the transfer. Also, for recurring Level 3 fair values, a sensitivity analysis showing the effect of reasonably possible changes to unobservable inputs that would change fair value significantly is required.

Fair valuing portfolios of financial assets and financial liabilities with offsetting risks

The general requirement in IFRS 13 is for fair value to be determined at the unit of account level indicated by the IFRS that requires or permits the use of fair value measurement (e.g. for financial instruments, this is IAS 39 or IFRS 9).

The unit of account is relevant for fair value measurement because the sum of the fair values of individual assets and/or liabilities can be different to a group (i.e. portfolio) level fair value of the same assets and/or liabilities. There can be various reasons for this difference. For example, if the portfolio includes items with offsetting positions in market risks (i.e. interest rate risk, currency risk or other price risk), then the fair value of the portfolio would be impacted by the offsetting risks which would not be included in the fair value of the individual items. This difference between the portfolio valuation and individual valuation can also arise in respect of credit risk where a portfolio of financial assets and financial liabilities with the same counterparty would be valued differently to the individual items due to the reduction in credit risk arising from the existence of a master netting agreement.

It is common for financial institutions to manage portfolios of assets and liabilities on a net basis. For example, instead of selling a financial asset or transferring a financial liability to unwind a position, it is common for entities to manage their risk exposure by entering into a transaction for another financial instrument that would result in an offsetting position in the same risk.

Under IAS 39 and IFRS 9 prior to the adoption of IFRS 13, the differences in portfolio valuations arising from offsetting market risks were effectively captured by the ability to use a mid-market price to value an individual asset or individual liability if there was an offsetting market risk position. Also, there was a practice of applying this same concept by analogy to credit risk such that entities would adjust the carrying value of financial assets and financial liabilities held with the same counterparty to take account of the offsetting credit risk position.

As a result of these practices, IFRS 13 introduces an exception (the 'portfolio exception') to the general requirement that for financial instruments fair value measurement is based on individual instrument. That exception permits an entity to measure the fair value of a group of financial assets and financial liabilities[4] on the basis of the price that would be received to sell a net long position (i.e. an asset) for a particular risk exposure or to transfer a net short position (i.e. a liability) for a particular risk exposure. This exception has conditions attached (see box) one of which mean that it is available only if the portfolio is managed and reported to key management personnel on a net exposure basis.

Basing the fair value of such portfolios on the net long/short position also means that other factors that market participants would consider in valuing the portfolio as a single position are also included in the valuation. For example, a size adjustment (see example below) should be incorporated into the valuation of the portfolio with offsetting risks to which the portfolio exception is applied if a market participant would include this adjustment in determining the price for the portfolio. This exception does not change the unit of account (which continues to be the individual instrument determined under IAS 39 or IFRS 9), but changes the unit of valuation from the individual financial instrument to the portfolio of financial instruments. Because the unit of account differs from the unit of valuation, an allocation may need to be made for the purposes of presentation (see example below). This exception is available as an accounting policy choice and should be applied consistently for a particular portfolio.

An entity is permitted to use the portfolio exception under IFRS 13 only if the entity:

(a) manages the group of financial assets and financial liabilities on the basis of the entity's net exposure to a particular market risk (or risks) or to the credit risk of a particular counterparty in accordance with the entity's documented risk management or investment strategy;

(b) provides information on that basis about the group of financial assets and financial liabilities to the entity's key management personnel, as defined in IAS 24 Related Party Disclosures; and

(c) is required or has elected to measure those financial assets and financial liabilities at fair value in the statement of financial position at the end of each reporting period. [IFRS 13:49]

Example of measuring the fair value of portfolios with offsetting risk positions
Entity A owns 30 million ordinary shares of Entity B (i.e. long position of 30 million shares). In addition, Entity A enters into a prepaid forward contract that will result in Entity A delivering 10 million ordinary shares of Entity B at a future date (i.e. short position of 10 million shares for which the forward strike price is not a factor in the short position fair value measurement). Entity B's ordinary shares are traded in an active market. This example assumes that Entity A is permitted to measure the group of financial assets and financial liabilities using the measurement exception in IFRS 13:48 (see box above for the conditions) and has elected to do so.

Entity A measures the fair value of its net long position (20 million shares) using the exception in IFRS 13:48. Pursuant to this exception, the unit of valuation is the net position and not the individual shares. The fair value of the net long position should reflect the size of the net position and take into account how much market participants would pay Entity A to buy the net long position of 20 million shares.

In these circumstances, the valuation of the net position may not solely be the quoted price (P) for the individual share multiplied by the quantity (Q) of shares held (i.e. P x net Q). Rather, adjustments to that amount may be required to reflect the size of the net position (i.e. a 'size' or 'blockage factor' adjustment made to the quoted price for the shares to reflect the fact that the market's normal daily trading volume is not sufficient to absorb the quantity held by Entity A) and other characteristics that market participants would take into account in valuing the net position as opposed to valuing individual shares.

For the purposes of presenting the shares and the prepaid forward contract in the financial statements, in accordance with IFRS 13:50 Entity A should allocate the portfolio-level adjustments on a reasonable and consistent basis to the long position, or to the short position, or to both, using an approach that is appropriate in the circumstances. For example, in the circumstances described, Entity A could allocate the entire size adjustment to the 30 million shares (i.e. the long position) because the net position is long and the size adjustment relates to Entity A's large holding of Entity B's shares. Other approaches may be appropriate. Entity A should determine how best to allocate portfolio-level adjustments for factors other than size by considering relevant facts and circumstances.

In applying IFRS 13's fair value hierarchy the fair value of the net position would not qualify as a Level 1 measurement (as there is no observable price for the net position) and would be considered either a Level 2 or a Level 3 measurement.

4 The IASB has proposed to clarify IFRS 13 in the Annual Improvements to IFRSs 2011-2013 Cycle published November 2012, that this includes all contracts within the scope of, and accounted for in accordance with, IAS 39 or IFRS 9, regardless of whether they meet the definition of financial assets or financial liabilities in IAS 32 *Financial Instruments: Presentation*

Mid-market pricing

If an asset or a liability measured at fair value has a bid price and an ask price (e.g. an input from a dealer market), IFRS 13 requires the price within the bid-ask spread that is most representative of fair value in the circumstances to be used to measure fair value regardless of where the input is categorised within the fair value hierarchy (i.e. Level 1, 2 or 3 discussed above).

IFRS 13 permits, but does not require, asset positions to be measured at bid prices and liability positions to be measured at ask prices. It allows an entity to use mid-market pricing or other pricing conventions that are used by market participants as a practical expedient for fair value measurements within a bid-ask spread. [IFRS 13:71]

An entity does not need to meet any specific qualifying criteria to use mid-market pricing or other pricing conventions as a practical expedient for measuring fair value, provided that the selected pricing convention:

- is used by market participants (e.g. an industry-accepted pricing convention); and
- is consistent with the fair value measurement objective of IFRS 13. For example, it would not be appropriate to use ask prices for recognised assets or bid prices for recognised liabilities because such a pricing approach would be inconsistent with the IFRS 13 objective that fair value represents an exit price.

The decision to use a particular pricing convention is an accounting policy choice that should be applied consistently from period-to-period and to assets or liabilities with similar characteristics and risk.

Example where mid-market prices may be used
Entity X and Entity Y hold the same debt security as an asset. Entity Y, a broker-dealer, is a market-maker in the debt security but Entity X is not. The debt security is traded in an active market by Entity Y (and other broker-dealers) using bid and ask prices.

Even though Entity X would most likely sell the debt security at or close to the bid price, Entity X may select a policy to use the mid-market price as the fair value of the debt security as a practical expedient. However, it would not be appropriate to use the ask price for the debt security because this would be inconsistent with the objective of fair value being an exit price.

Even though Entity Y may be able to exit at a price greater than the bid price, Entity Y may choose as its policy to measure the debt security by using the bid price as a practical expedient.

Additional Disclosures

Many of the fair value measurement disclosures in IFRS 7 *Financial Instruments: Disclosures* have been retained in IFRS 13 (and in fact are extended to apply to non-financial items measured or disclosed at fair value). However, there are some additional disclosure requirements under IFRS 13. These additional disclosure requirements are summarised below.

- For fair value measurements categorised within Level 3 of the fair value hierarchy, an entity shall provide quantitative information about the significant unobservable inputs used in the fair value measurement.
- For recurring fair value measurements categorised within Level 3 of the fair value hierarchy, a narrative description of the sensitivity of the fair value measurement to changes in unobservable inputs if a change in those inputs to a different amount might result in a significantly higher or lower fair value measurement. In addition, a description of the interrelationships between unobservable inputs and how this interrelationship affects the sensitivity analysis.
- IFRS 13 provides more guidance on what a 'class' of assets or liabilities is for the purposes of aggregating and disaggregating information for disclosure purposes.
- Any transfers between Level 1 and Level 2 of the fair value hierarchy and the policy for determining when transfers between the levels of the fair value hierarchy take place.

- For financial assets and financial liabilities not measured at fair value in the statement of financial position but for which the fair value is disclosed, an entity shall disclose:

  – Level of the fair value hierarchy.
  – Description of the valuation techniques used.
  – Description of the inputs used in the fair value measurement and if there has been a change in the valuation technique, disclose the change and the reason for making it.

- For a financial liability measured at fair value and issued with an inseparable third-party credit enhancement, an issuer shall disclose the existence of that credit enhancement and whether it is reflected in the fair value measurement of the liability.

Transition requirements

IFRS 13 is mandatory for accounting periods beginning on or after 1 January 2013 with early application permitted. The standard requires prospective application from the beginning of the annual period to which it is first applied. Accordingly, prior period fair values are not restated. Also the disclosure requirements of IFRS 13 need not be applied in comparative information provided for periods before initial application of IFRS 13.

In its deliberations the IASB clarified that prospective application of IFRS 13 should be applied in the same way as a change in accounting estimate (prescribed by IAS 8) and hence recognised in profit or loss in the period of the change which would be the first period on adoption of IFRS 13 (IFRS 13:BC229). The IASB's reason for this was that a change in the methods used to measure fair value would be inseparable from a change in the fair value measurements (i.e. as new events occur or as new information is obtained, eg through better insight or improved judgement). As a result any changes in fair value arising from adoption of IFRS 13, such as those noted in this publication, would be recognised in profit or loss in the first period of reporting under IFRS 13.

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