Understanding fair value measurement in accordance with IFRS *13 Fair Value Measurement* in the context of a business combination

Date: 30 May 2023

Addis Ababa

The views expressed in this presentation are my own and not necessarily those of any organization with which I am associated.

Disclaimer and applicable version of IFRS Accounting Standards

» The sponsors, the authors, the presenters and the publishers do not accept responsibility for loss caused to any person who acts or refrains from acting in reliance on the material in this PowerPoint presentation, whether such loss is caused by negligence or otherwise.

» Unless specified otherwise, the accounting requirements that are the subject matter of this presentation are International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) that are applicable for annual period beginning on or after 1 January 2023 without early applying new and amended IFRS Accounting Standards that have a later mandatory application date.

Aim

- The aim of this session is to enhance knowledge and understanding, in the Ethiopian accountancy market, of fair value in accordance with IFRS 13 *Fair Value Measurement* in the context of business combinations.
- *[Note: the valuation session that follows after the coffee break is dedicated to enhancing skills in the Ethiopian accountancy market in the practical application of IFRS 13 to measuring the fair value in the context of Ethiopian business combinations.]*

Ethiopian context

Ethiopian context
The prevalence of business combinations in Ethiopia?
Summary of class discussion

- Business combinations in the scope of IFRS 3 are uncommon in Ethiopia. However, some do occur.
- Business combinations under common control (BCUCC) are more frequent in Ethiopia. Examples include, the formation of Ethiopian Investment Holdings (EIH) (Ethiopia launches fund to lure billions of dollars in foreign investment, www.ft.com/content/2c02152c-5b70-4dd0-b191-fd8670d197c2)

Context:
IFRS 3 *Business Combinations*

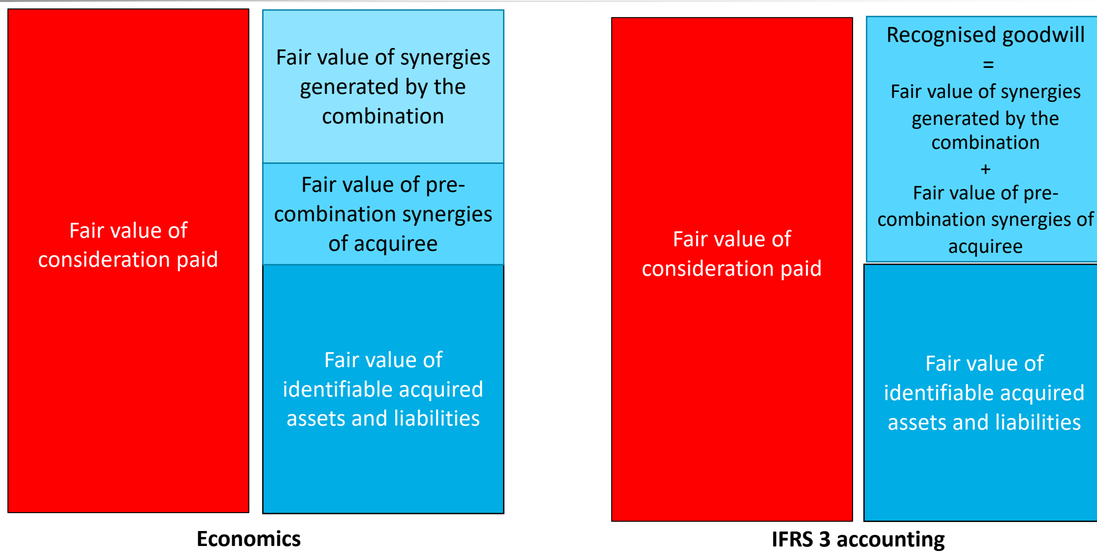
IFRS 3 *Business Combinations*
FVM faithfully reflecting the economics = relevant information

- **Core principle:** an acquirer of a business recognises separately from goodwill the identifiable assets acquired and liabilities (including contingent liabilities that are present obligations) assumed at their **acquisition-date fair values** and discloses information that enables users to evaluate the nature and financial effects of the acquisition. (paragraph IN5)
  - Some mandatory measurement rules override the core principle (paragraph 21 to 31).
- **Non-controlling interest** can be measured at either (paragraph 19):
  - its **fair value** (principle); or
  - proportionate share in the group carrying amount of the acquiree's identifiable net assets (a rule).
- The **consideration** transferred in a business combination (including any **contingent consideration**) is measured at **fair value**. (paragraph 37)

8

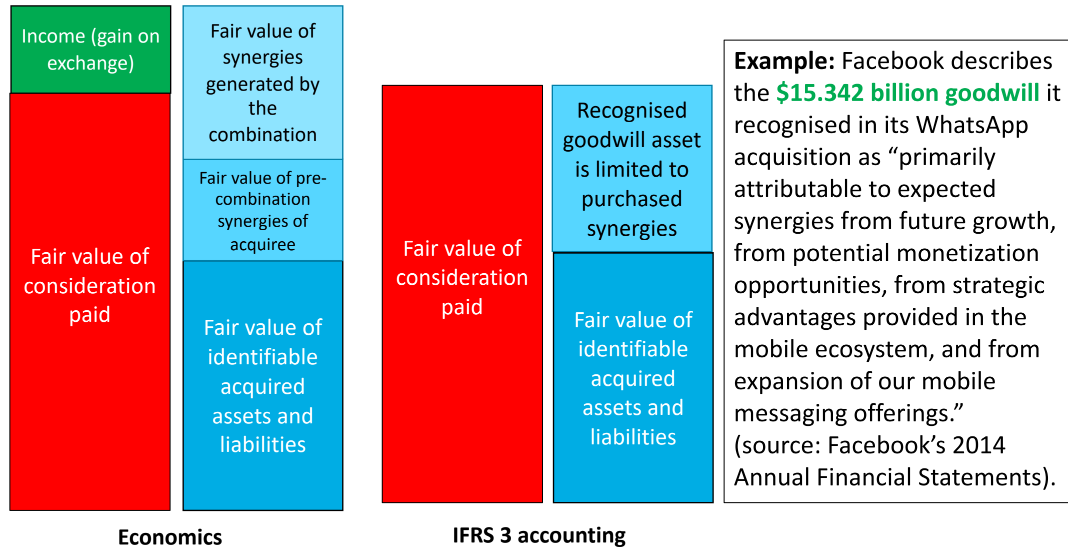
8

Economics vs IFRS 3 accounting for a business combination
Example 1: Acquirer pays for all synergies acquired in the business combination

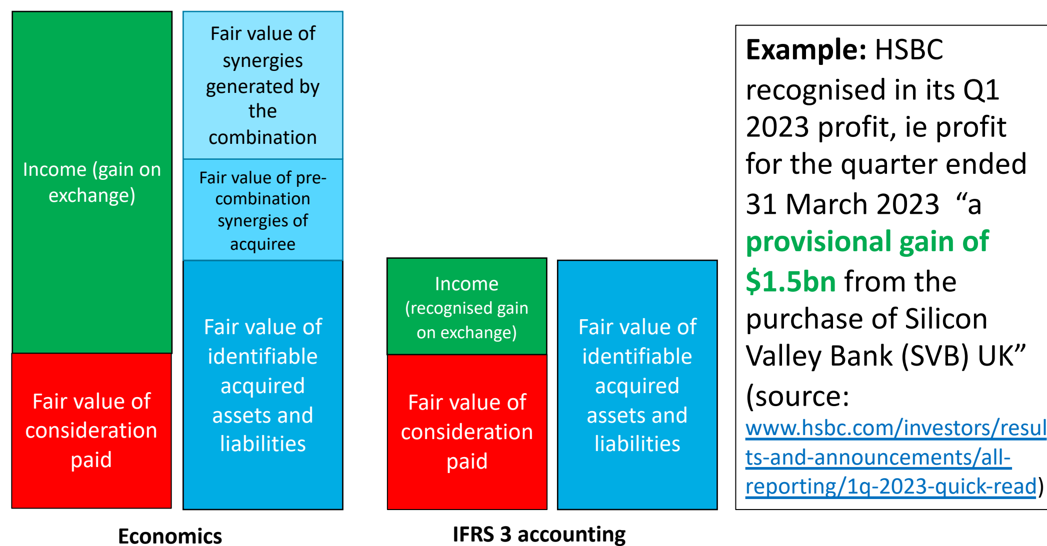


9

9



10



11

Which items are measured at acquisition-date fair value in a business combination

IFRS 3 *Business Combinations*
Recognition and measurement principles

- The acquirer <u>must</u>:
  - **recognise** separately from goodwill, acquisition-date (paragraph 10):
    - identifiable assets acquired;
    - liabilities assumed; and
    - any non-controlling interest in the acquiree.
  - **measure** the identifiable assets acquired and the liabilities assumed at their **acquisition-date fair values**. (paragraph 18)
  - **measure** the consideration (including contingent consideration) at **fair value**. (paragraph 37)
  - **expense** acquisition-related costs. (paragraph 53)

IFRS 3 *Business Combinations*
Exceptions from the recognition and measurement principles
Summary of class discussion

Item	Recognition exemption / exception	Acquisition-date measurement exemption / exception
Income tax	Apply IAS 12	Apply IAS 12
Employee benefits	Apply IAS 19	Apply IAS 19
Indemnification assets	Recognise an indemnification asset at the same time as recognising the indemnified item.	Measure indemnification asset on the same basis as the indemnified item. However, the asset is subject to impairment.
Lessee: right-of-use assets and lease liabilities	Apply IFRS 16. However, exceptions for short-term and small ticket items.	**Measure the lease liability** at the present value of the lease payments remaining at the acquisition date. Measure RoU asset at the same amount as the lease liability, adjusted to reflect favourable or unfavourable terms of the lease when compared with market terms.

IFRS 3 *Business Combinations*
Exceptions from the recognition and measurement principles
Summary of class discussion

Item	Acquisition-date measurement exemption / exception
Contingent liabilities	Apply IAS 37 best estimate measurement
Reacquired rights	Measure the value of a reacquired right recognised as an intangible asset on the basis of the remaining contractual term of the related contract.
Share-based payment transactions	Apply IFRS 2 'market-based measure'
Assets held for sale	Apply IFRS 5
Insurance contracts	Apply paragraphs 39 and B93–B95 of IFRS 17

Acquisition-date measurement of assets acquired in a business combination

Quiz: Summary of class discussion

- **Which measurement applies to financial assets acquired in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) it depends…
- **Which measurement applies to immovable property acquired in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) it depends…
- **Which measurement applies to intangible assets acquired in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) it depends…
- **Which measurement applies to biological assets acquired in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) it depends…

Acquisition-date measurement of liabilities assumed in a business combination

Quiz: Summary of class discussion

- **Which measurement applies to a financial liability assumed in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) best estimate; 6) projected unit credit method; 7) it depends…
- **Which measurement applies to a contingent liability (that is a present obligations) assumed in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) best estimate; 6) projected unit credit method; 7) it depends…
- **Which measurement applies to an other long-term employee benefit liability assumed in a business combination on its acquisition date?** Choose one of: 1) historical cost; 2) fair value; 3) fair value less costs to sell; 4) value in use; 5) best estimate; 6) projected unit credit method; 7) it depends…

Fair value of consideration transferred in a business combination mini-case study: a regulators ruling: JSE (South Africa)

Matter 4 (2018)

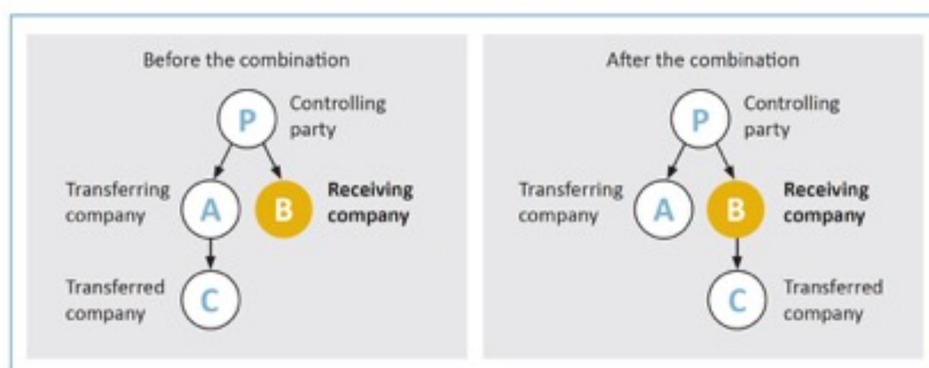
Paragraph 37 of IFRS 3 states that, “The consideration transferred in a business combination shall be measured at fair value” which is required to be calculated at the acquisition date. In terms of paragraph 24 IFRS 13 fair value is the price that would be received to sell an asset in the principle market at measurement date. The consideration paid cannot be determined using the ‘contractual price’ of the shares issued to the vendors. The resultant error in this case led to a material understatement of goodwill.

Source: Combined findings of the JSE proactive monitoring of financial statements, 28 October 2022, p70

Context: business combinations under common control

Business combination under common control (BCUCC)

Note: IFRS 3 does not apply to a combination of entities or businesses under common control (paragraph 2(c) of IFRS 3 *Business Combinations*).



Source: IASB, Discussion Paper DP/2020/2 *Business Combinations under Common Control*

Business combination under common control (BCUCC)
What do you think?

- **Whose eyes** must Receiving company's management look through when determining its accounting policy for business combinations under common control in its consolidated financial statements?
  - **Whose eyes** must Receiving company's management look through when making judgements in applying its accounting policy for business combinations under common control in its consolidated financial statements?
- **How** must Receiving company determine its accounting policy for business combinations under common control in its consolidated financial statements?

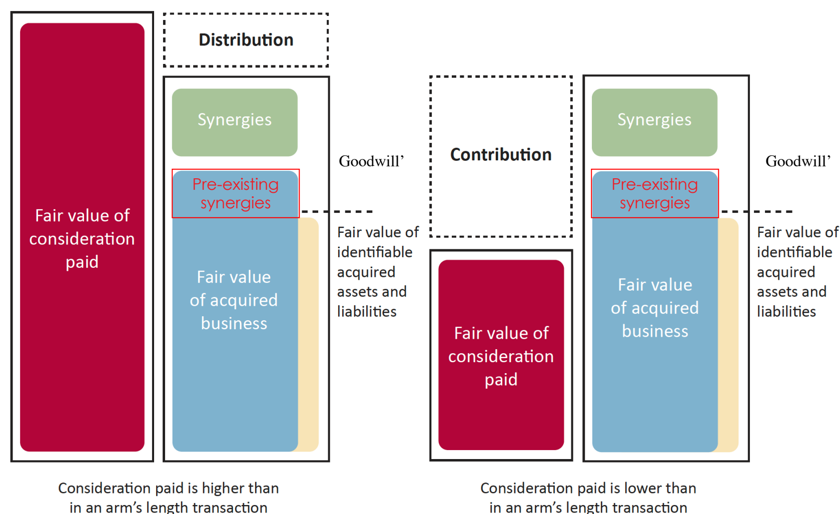
BCUCC: whose eyes to look through when determining and and making judgements in applying its accounting policy?
Summary of class discussion

- **Primary users' eyes**, ie existing and potential investors lenders and other creditors that are not in a position to demand bespoke information from Receiving company. In particular:
  - **Receiving company non-controlling interests'** eyes likely provide a relevant perspective because they are investors that likely are not in a position to require Receiving company to provide information directly to them.
  - Receiving company's management must not look through the Controlling companies' eyes. Consequently, it is irrelevant that from the perspective of Controlling company the exchange transaction does not change the composition of the assets under Controlling company's control (ie it controls all assets of the group before and after the combination).

BCUCC: determining accounting policy
Summary of class discussion

- **IAS 8 Hierarchy:** consider the applicability of, the following sources in descending order:
  - the requirements in IFRS dealing with **similar and related issues**; and
  - the definitions, recognition criteria and measurement concepts for assets, liabilities, income and expenses in the *Conceptual Framework* (see paragraph 11 of IAS 8).
  - In parallel, management may also consider the most recent pronouncements of other standard-setting bodies that use a similar conceptual framework to develop accounting standards, other accounting literature and accepted industry practices, to the extent that they do not conflict with the sources in paragraph 11 (see paragraph 12 of IAS 8).
- The IFRS Interpretations Committee observed that when management develops an accounting policy through analogy to an IFRS dealing with similar and related matters, it needs to use its judgement in applying all aspects of the IFRS that are applicable to the particular issue (see IFRIC Update March 2011).

Economics of a BCUCC from the receiving entity's perspective source: paragraph 3.6 of DP/2020/2 BCUCC (annotations added)



27

Economics of a BCUCC from the receiving entity's perspective Scenarios with NCI

On 01/01/2022 Receiving company (75% owned by controlling party) incurs $50 transactions costs in acquiring 100% of **Transferred company ($400 identifiable assets and $100 synergies**) from Transferring company.

Consider the following scenarios, Receiving company:

» **Scenario A:** pays $500 cash

» **Scenario B:** pays $300 cash

» **Scenario C:** pays $700 cash.

Using the elements of financial position and the elements of financial performance describe separately for each of Scenarios A–C the economics of the exchange transaction on 01/01/2022 from Receiving company's consolidated financial statements perspective.

28

Economics of a BCUCC from Receiving Company's perspective? Scenario A: at the market (25% NCI)

summary of class discussion

Date	Assets	Liabilities	Equity	Income	Expense
Before BCUCC	**$1,100** (including $700 cash)	**$100**	**$1,000** (including $250 NCI)		
BCUCC	↑$400 identifiable ↑$100 unidentifiable (goodwill) ↓$500 cash	↑$50 for transaction costs	↓$50 (via profit or loss)		↑$50 transaction costs
After BCUCC	**$1,100**	**$150**	**$950** (including $237.5 NCI)		

Note: the transaction costs erode NCI by $12.5.

30

Economics of a BCUCC from Receiving Company's perspective? Scenario B: at $200 discount to the market (25% NCI)

summary of class discussion

Date	Assets	Liabilities	Equity	Income	Expense
Before BCUCC	**$1,100** (including $700 cash)	**$100**	**$1,000** (including $250 NCI)		
BCUCC	↑$400 identifiable ↑$100 unidentifiable (goodwill) ↓$300 cash	↑$50 for transaction costs	↑$200 contribution from owners ↓$50 (via profit or loss)		↑$50 transaction costs
After BCUCC	**$1,300**	**$150**	**$1,150** (including $287.5 NCI)		

Note: because the BCUCC is priced at $200 discount to the market, $50 wealth transfers from the controlling party shareholder to the NCI. However, the transaction costs erode NCI by $12.5.

32

Economics of a BCUCC from Receiving Company's perspective? Scenario C: at $200 premium to the market (25% NCI) *summary of class discussion*

Date	Assets	Liabilities	Equity	Income	Expense
Before BCUCC	**$1,100** (including $700 cash)	**$100**	**$1,000** (including $250 NCI)		
BCUCC	↑$400 identifiable ↑$100 unidentifiable (goodwill) ↓$700 cash	↑$50 for transaction costs	↓$200 distribution to owners ↓$50 (via profit or loss)		↑$50 transaction costs
After BCUCC	**$900**	**$150**	**$750** (including $187.5 NCI)		

Note: because the BCUCC is priced at $200 premium to the market, $50 wealth transfers from the NCI to the controlling party shareholder. Furthermore, transaction costs erode NCI by a further $12.5.

BCUCC: which method of accounting for BCUCC most relevant? *Summary of class discussion*

Which method of accounting for business combinations under common control provides the most relevant information (ie reveals the most economics) about the exchange transaction?

Choose one of:

1) acquisition accounting (as set out in IFRS 3);
2) a book value method—on initial recognition the acquirer uses the acquiree's carrying amounts—as required or permitted by some standards that have a similar conceptual framework;
3) fresh-start accounting—basically start afresh with all of the combined assets and liabilities at fresh start-date fair value; or
4) different methods are more relevant in particular circumstances (see slides that follows)

BCUCC: which method of accounting for BCUCC most relevant? *Summary of class discussion*

- Most respondents argue for acquisition accounting (as set out in IFRS 3).
- However, some discussants argued that **fresh-start accounting** provides more relevant information than acquisition accounting, because it would also provide current values of Receiving company's pre-existing assets, liabilities and contingent liabilities.
  - However, others argue that one-time updating of all historical cost data to fair value **would obscure trends** in the historical financial information and that they might observe that fresh-start accounting is not required for business combinations that are within the scope of IFRS 3.
  - In developing IFRS 3, the IASB and the US national accounting standard-setter, the Financial Accounting Standards Board (FASB), considered other methods of accounting for 'true mergers' or 'mergers of equals'. The boards concluded that if they were to be accounted for using a method other than the acquisition method, the **fresh-start method would be better than the pooling of interests method** (see paragraph BC35 of the Basis for Conclusions on IFRS 3).*
  - However, the boards concluded that all business combinations are economically similar. Accordingly, use of the same method to account for all combinations enhances the comparability of the resulting financial reporting information (see paragraph BC39 of the Basis for Conclusions on IFRS 3).
  - Nevertheless, in the first part of their respective business combinations projects, both the IASB and the FASB acknowledged that **a case could be made for using the fresh-start method** to account for the **relatively rare type of business combination that does not clearly qualify as an acquisition** (see paragraph BC56 of the Basis for Conclusions on IFRS 3).

* Note: this conclusion was drawn within the context of 'true mergers' or 'mergers of equals' of parties that are independent of one another. In drawing their conclusions documented in paragraphs BC29–BC57 of the Basis for Conclusions on IFRS 3, the boards did not consider mergers of entities that are under common control.

BCUCC: which method of accounting for BCUCC most relevant? *Summary of class discussion*

- Most discussants conclude that it is **difficult to see how the pooling of interests method could provide information that is relevant to, for example, the NCI in Receiving company.** Because the pooling of interests method records the net assets acquired at their carrying amounts rather than at their fair values, the information that the pooling of interests method provides about the cash-generating abilities of those net assets is less useful than the information provided by the acquisition method.
  - Support for that conclusion can be found in paragraph BC37 of the Basis for Conclusions to IFRS 3. Both boards also concluded that the information provided by the pooling of interests method is **less relevant** because it has less predictive value and feedback value than the information that is provided by other methods.
  - It is also **less complete**, because it does not reflect assets acquired or liabilities assumed that were not included in the pre-combination financial statements of the combining entities (in this case, goodwill and contingent liabilities).
  - The pooling of interests method also provides a **less faithful representation** of the combined entity's performance in periods after the combination. For example, by recording assets and liabilities at the carrying amounts of predecessor entities, post-combination revenues may be overstated (and expenses may be understated) as the result of embedded gains that were generated by predecessor entities but that were not recognised by them (see paragraph BC38 of the Basis for Conclusions on IFRS 3).
  - Moreover, because the pooling method records the combination in terms of the pre-combination carrying amounts of the parties to the transaction, **it fails to record, and thus to hold management accountable for, the investment made in the combination** (see paragraph BC41 of the Basis for Conclusions on IFRS 3).

BCUCC: which method of accounting for BCUCC most relevant?
Summary of class discussion

If Receiving company was wholly owned by Controlling company, would your answer to be different?

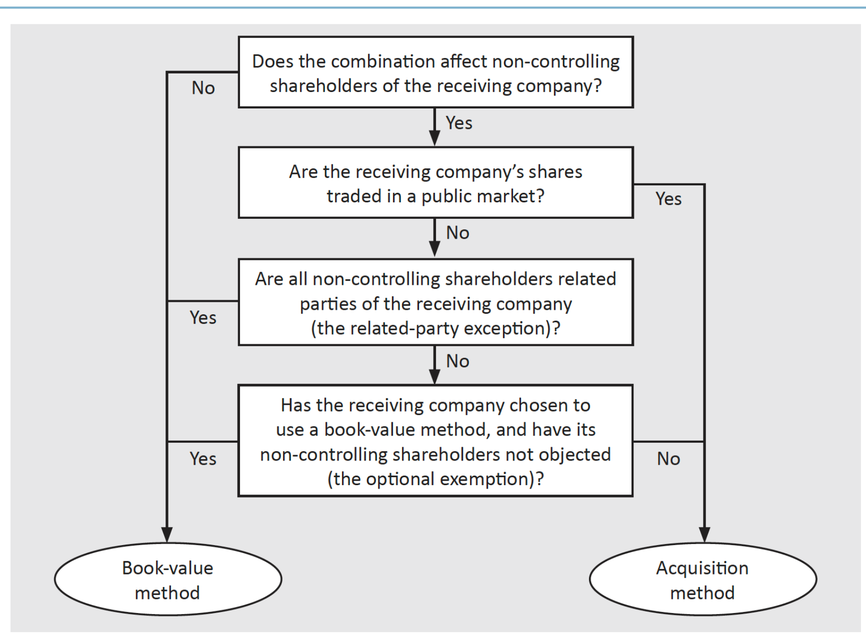
» Discussants generally say "No. However, without NCI application of the **cost constraint** might justify specifying different accounting."

» The IASB believes, see DP/2020/2, acquisition accounting is cost-beneficial when:

» the receiving company **has NCI**; and

» is less likely to be cost-beneficial when the receiving company with NCI is a **private company**.

39

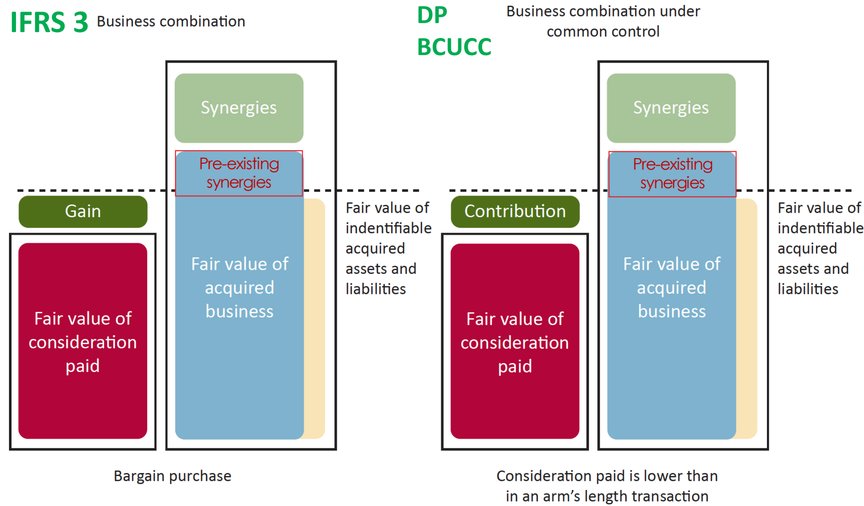


Tentatively proposed accounting for a BCUCC (source: paragraph 2.55 of DP/2020/2 BCUCC)

40

Proposed accounting for a BCUCC: the acquisition method source: paragraph 3.19 of DP/2020/2 BCUCC

Diagram 3.3—Measuring a bargain purchase gain and a contribution to equity

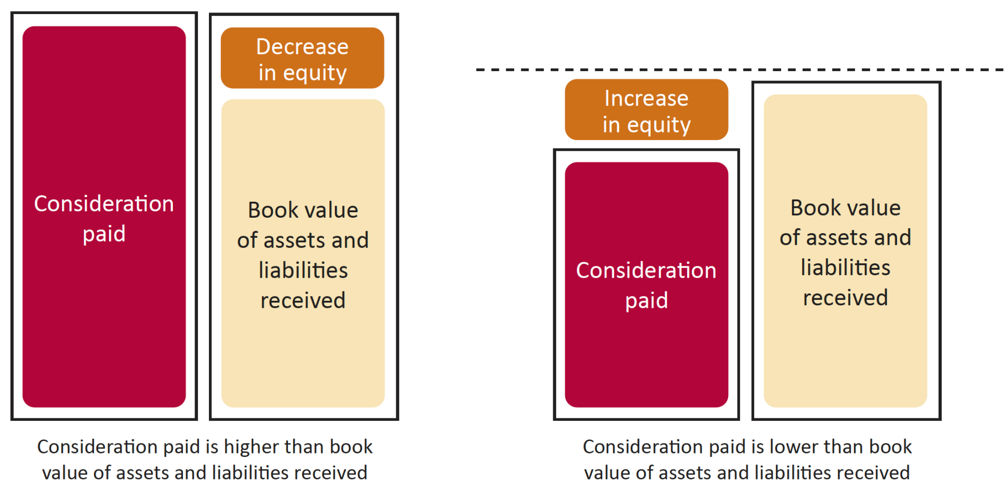


On the other hand, "in the unlikely event that an **overpayment** occurs … it would be initially included in goodwill and addressed through subsequent testing of goodwill for impairment" (paragraph 3.14).

41

Proposed accounting for a BCUCC: book-value method source: paragraphs 4.24 of DP/2020/2 BCUCC

Diagram 4.2—The key features of a book-value method



42

What is fair value?

Fair value: an asset
the concept

- The fair value of an asset is:
  - the price that would be received to sell an asset (exit price)
  - in an orderly transaction (not a forced sale)
  - between market participants (market-based view)
  - at the measurement date (current price) (IFRS 13 *Fair Value Measurement*)

Fair value *measurement objective*

» **Objective** of fair value measurement: **estimate the price** at which an orderly transaction to sell an asset would take place between market participants at the measurement date under current market conditions (paragraph B2 of IFRS 13)

» The objective **provides focus** to fair value measurement

  » **Market participant perspective:** consequently, the entity's intention to hold an asset is not relevant when measuring fair value.

Fair value measurement application guidance: market participants

» Although specific market participants need not be identified, characteristics that distinguish market participants generally must be identified, considering factors specific to: (i) the asset or liability; the principal (or most advantageous) market for the asset or liability; and (iii) market participants with whom the reporting entity would enter into a transaction in that market.

» **Characteristics of market participants:** (i) independent; (ii) knowledgeable; (iii) diligent; (iv) use all available information; (iv) willing to transact for the asset or liability; (iv) able to transact for the asset or liability.

» Types of market participants:

  » **Strategic buyers:** could include the acquirer's peers or competitors, or an entity seeking to diversify its operations. Typically, strategic buyers have synergies specific to their existing operations.

  » **Financial buyers:** could include private equity and venture capital investors and financial institutional investors, ie non-strategic buyers, including those who have no ownership interests in businesses or operations similar to that of the acquirer.

» Assumption: market participants act in their economic best interest!

Fair value measurement
market participant characteristics: business combinations

- **Identifying market participant characteristics** when measuring fair value in a business combination is subjective and dependent on facts and circumstances.
- Helpful sources include:
  - press releases, board of director presentations, due diligence documents and deal models
  - if the transaction was subject to competitive bids: known and potential bidders and comparable entities.
- Absent such information, determine the most likely buyer/s by considering:
  - whether strategic buyers would be interested in the asset or liability, or
  - whether financial buyers would be looking to arbitrage or trade on the asset or liability.
  - If, both types are identified as interested, conclude which group is the appropriate market participant by determining which would pay the highest price.

Fair value measurement
market participant characteristics: business combinations

- In a business combination, the transaction price may be a starting point in the analysis of fair value. However, the acquirer must determine the extent to which it has characteristics that are similar/dissimilar from its competitors (strategic buyers) or financial buyers.
- Market participants must be determined separately for each asset or liability, as the market participant for each may vary.
  - Easy for those assets (eg commodities, real estate and many biological assets) that have established markets in the identical asset
  - For assets that have established markets in similar assets, those transactions should be considered in developing market participant assumptions.
  - In other cases, significant judgment is necessary to develop market participant characteristics for a hypothetical market. For example, there might be no apparent exit market for some intangible assets like customer relationships.

Fair value measurement process

Fair value: market participant perspective
application guidance: how to measure fair value

- To measure the fair value of an item:
  - determine all characteristics of the item being measured (exclude things that are not characteristics of the item);
  - apply the valuation premise;
  - determine the highest and best use;
  - determine the principal (or most advantageous) market;
  - determine the appropriate valuation technique/s and inputs that **market participants would use** when pricing the item
  - determine the level of the fair value hierarchy within which the inputs are categorised.

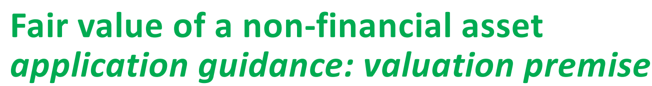
Source: paragraph B2 of IFRS 13

FVM: unit of account application guidance

- **Principle:** measure fair value using the assumptions that market participants would use when pricing the item when acting in their economic best interest.
- However, specified rules override the principle
  - **Rule 1:** use '**unit of account**' specified in Standard that requires fair value be measured (see paragraph 14 of IFRS 13)
  - **Rule 2:** if **Level 1** input is available, it must be used without adjustment (see paragraphs 22, 69, 77 and 80 of IFRS 13)

Fair value: market participants' viewpoint
application guidance: characteristic of an asset or liability

- Fair value measurement is for the **particular** intangible asset
  - it captures all characteristics of the intangible asset being measured that **market participants would take into account** when pricing the item
    - location
    - condition
    - restrictions on use or sale that are a characteristic of the item
  - it excludes things that are not characteristics of the asset
    - transactions costs
    - restrictions on use or sale that are not a characteristic of the item



» If a non-financial asset provides **maximum value through its use in combination with other assets** market participants are assumed to hold complementary assets.

» **Example:** a manufacturer has unique work in progress inventory which market participants would convert into finished goods. To measure the fair value of the unique work in progress the manufacturer assumes that market participants have the machinery necessary to convert the unique work in progress inventory into finished goods

  » this assumption applies even when the necessary equipment is bespoke and unique to the entity holding the inventory

» Fair value measurement logically assumes that a market participant would put a non-financial asset to its **highest and best use** because that maximises the value of the asset.

» The highest and best use must be

  » physically possible

  » legally permissible

  » financially feasible

- On 31 December 2022, in a business combination, Reporting Entity (a hotelier) acquires land and the three-storey building constructed thereon in the financial centre of Addis Ababa.
- The property is currently used as a teff-based bakery. Consistently with the market participant perspective, Reporting Entity intends demolishing the existing building and replacing it with a prestigious high-rise hotel.
- **On 31 December 2022 what is the highest and best use of the land?** Choose one of: 1) existing use a bakery; 2) high-rise prestigious hotel; or 3) other on the basis of the highest and best use to which market participants would put the land.

- **On 31 December 2022 what is the fair value of the bakery building?**
- Probably nil as should be demolished for land to be put to its highest and best use.
  - Note: if valued by discounting cash flows the CACs (market rental for the land in its highest and best use) would render the fair value of the building negative.
  - IFRS 13 Illustrative Example 2 suggests that the IASB believes that the cost of demolition attaches to the land (ie is a characteristic of the land) and that the FV of the building (asset) should not be reduced below nil.

Fair value of an item
application guidance: appropriate valuation technique/s and inputs

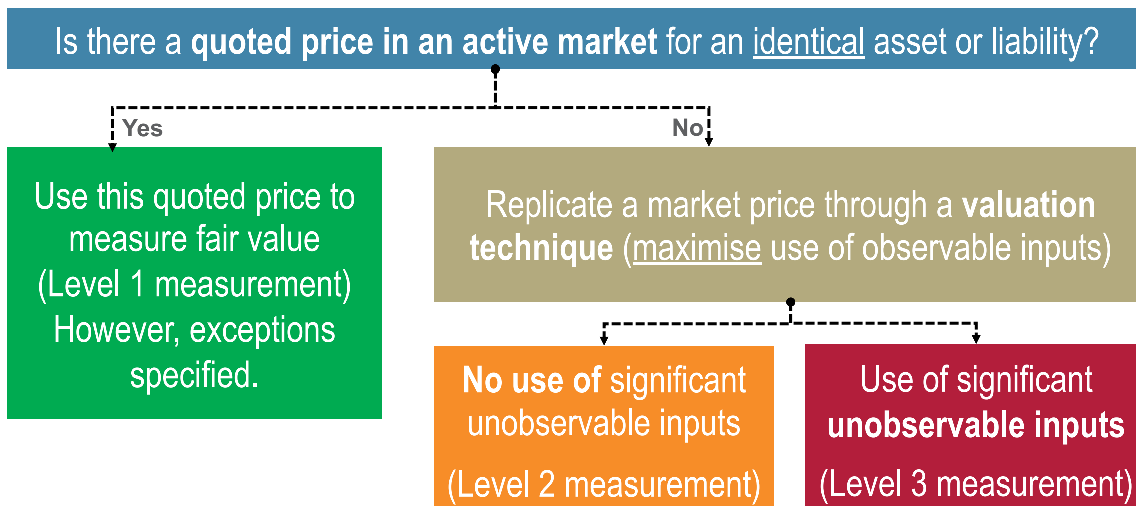
» Fair value is measured using the valuation technique/s and inputs that **market participants would use** when pricing the item.

» The level of the fair value hierarchy within which the inputs are categorised must be determined because:

  » Unadjusted Price x Quantity rule applies to Level 1 fair value measurement.

  » To achieve a reliable measurement (faithful representation) different disclosures are specified for each level of the fair value measurement hierarchy.

Fair value hierarchy
application guidance: Levels 1, 2 and 3



Fair value measurement hierarchy judging the boundaries of the artificial constructs

» Boundary between **levels 1 & 2**—do transactions in the market in which the **identical item** trades (and that the entity can access at the measurement date) take place with **sufficient frequency and volume** to provide pricing information on an ongoing basis? (Appendix A to IFRS 13)

» By definition an active market cannot exist for a unique intangible asset.

» Active markets exist only for a few standardised intangible assets.

Example: Tesla (2022) 10K Annual Report, (p63)
"We determine the fair value of our digital assets on a nonrecurring basis …, based on quoted prices on the active exchange(s) that we have determined is the principal market for such assets (Level I inputs)."

67

Fair value measurement hierarchy judging the boundaries of the artificial constructs

» Boundary between **level 2 and level 3**—significant unobservable inputs?

Example entity-specific policy—HSBC (2020) financial statements, (p292)

» "significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit or greater than 5% of the instrument's valuation is driven by unobservable inputs

» 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used)"

68

FVM valuation approaches
which valuation technique/s to use?

» To measure fair value of each of the items or collections of items recognised separately in a business combination, determine which valuation techniques market participants use to value the item:
  - » market approach: which valuation technique/s
  - » income approach: which valuation technique/s
  - » cost approach: which valuation technique/s
  - » combination of approaches: which approaches and which valuation techniques

69

FVM valuation approaches and techniques
tangible assets
Summary of class discussion

	Market approach	Income approach	Cost approach*
Commonly used when	Market prices are available for model market participants use to price item.	Directly income-producing, ie directly identifiable cash flows	Does not trade in an active market and is not directly income-producing.
Examples of reportedly commonly used valuation techniques	Commodities that trade in active markets: • unadjusted observable transaction prices for identical items at the same location • adjusted observable transaction prices for identical items at a different location and similar items.	Bearer plants: discounted cash flows techniques including notional contributory asset cash outflows.	Factory PPE: depreciated replacement cost method (cost to replace required capacity rather than the cost of replacement with an identical asset).

* Cost approach 'logic': investor will pay no more for an asset than the cost to buy or construct a substitute asset of comparable utility.

FVM valuation approaches and techniques financial instruments
Summary of class discussion

	Market approach	Income approach
Commonly used when	Market prices are available for model market participants use to price item	Directly income-producing, ie directly identifiable cash flows
Examples of reportedly commonly used valuation techniques	• Exchange listed equity securities and futures: **observable transaction prices** for identical items • Unlisted equity instruments: comparable company **valuation multiples** derived from quoted prices or other arm's length transactions • Unquoted debt securities similar to benchmark quoted debt securities: **matrix pricing**	• Unlisted equity instruments and debt securities with little or no trading: **present value** techniques • Over-the-counter European call option or American call option: **Black-Scholes-Merton** model or lattice model

73

FVM valuation approaches and techniques intangible assets
Summary of class discussion

	Market approach (N/A to most intangibles)	Income approach	Cost approach* (N/A to most intangibles)
Examples of reportedly commonly used valuation techniques	• Actively traded agricultural produce quotas: **observable transaction prices** for identical items • Competitive bidding processes for standardise licences: **observable transaction prices** for similar or identical items	For primary income generating intangibles: **multi-period excess earnings method** (MPEEM) For secondary intangibles: • **MPEEM** • **relief-from-royalty** method • **With-or-without** method • **Greenfield** method	• Internally developed and used software • Assembled workforce (because it is a necessary input for multiple-period excess earnings method)

* the 'logic' of the cost approach is that an investor will pay no more for an asset than the cost to buy or construct a substitute asset of comparable utility.

75