

Issue 1: A roadmap to valuing agricultural properties (including biological assets)

The IVSC issues Perspectives Papers from time to time, which focus on pertinent valuation topics and emerging issues. Perspectives Papers serve a number of purposes: they initiate and stimulate debate on valuation topics as they relate to the International Valuation Standards (IVS); they provide contextual information on subject matter from the perspective of the standard setter; and they support the valuation community in their application of IVS through guidance and case studies.

Perspectives Papers are complimentary to the IVS and do not replace or supersede the standards. Valuers have a responsibility to read and follow the standards when carrying out valuations.

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Defining agricultural and biological assets in valuation and accounting standards

Agricultural properties, which include but are not limited to, crop farms, perennial plantings, dairy farms, forestry/timberland, and aquaculture are key contributors to economic growth, especially for developing economies, where land and an active workforce are generally available. If combined, these resources of land and people can produce valuable natural commodities, such as palm oil, coffee, timber, livestock and milk.

Other than these more conventional commodities, 'biological assets' also include the use of bacteria in the production of dairy (yoghurt, cheese) or the cultivation of viruses to produce vaccines for the pharmaceutical

industry, all of which are categorised as agriculture properties in the modern world.

Commodities (mineral and natural) are recognised as one of the core asset classes, together with cash, equities, bonds, real estate, gold/precious metals, and other alternative investments in International Valuation Standards (IVS). Each of these asset classes, however, has different characteristics and risk profiles.

From the perspective of the IVS Tangible Assets Board, agricultural property, within the context of this article, can be further defined as follows;

"Agricultural property is defined as all the rights,

*interest and benefits
attached in agriculture
assets associated with
the agricultural activity."*

Agricultural properties comprise:

- i. Land
- ii. Structural improvements - i.e. buildings and site improvements (both permanent and/or semi-permanent)
- iii. Plant and machinery attached to the land e.g. processing plant
- iv. Plant and machinery *not* attached to the land e.g. vehicles, heavy equipment
- v. Biological asset attached to the land i.e. living plants
- vi. Biological asset *not* attached to the land i.e. living animals
- vii. Agricultural produce



The International Accounting Standard 41 (IAS 41) establishes accounting standards for agricultural activity. IAS 41 generally requires biological assets to be measured at Fair Value

less costs of realisations and includes the following definitions;-

'Agricultural activity is the management by an entity of the biological transformation and harvest of biological assets for sale or for conversion into agricultural produce or into additional biological assets.'

'Agricultural produce is the harvested product of the entity's biological assets.'

'A biological asset is a living animal or plant.'

'Biological transformation comprise the processes of growth, degeneration, production, and procreation that cause qualitative or quantitative changes in a biological asset.'

It should be noted, however, that while IAS 41 applies to:

- a. Biological assets with the exception of bearer plants
- b. Agricultural produce at the point of harvest, and
- c. Government grants related to these biological assets.

It does *not* apply to land related to agricultural activity (which is covered in IAS 16 - *Property, Plant and Equipment*); intangible assets related to agricultural activity (which is covered in IAS 38 - *Intangible Assets*); government grants related to bearer plants, and bearer plants (IAS 16 - *Property, Plant and Equipment*). It also does not apply to agriculture produce which has been harvested from its bearer plants (IAS 2 -

Inventories). The scope of IVS in respect of the valuation of Agricultural Properties, including Biological Assets, is therefore greater than the scope of IAS 41.

The challenge of inconsistent valuations and the case for new standards

The IVSC's Tangible Assets Standards Board and Business Valuation Standards Board ("the boards") have discussed the issues in valuation of agricultural properties and biological assets and have noted inconsistencies in the valuations carried out of these assets across all markets. This makes auditing these valuations extremely difficult, often resulting in the need for the biological assets/to be revalued as part of the audit process.

Reliable and consistent valuations of agricultural properties are, however, essential. Robust valuations are vital in order to unlock the investment required to support a sustainable economy; to promote the productive use of agriculture property (including land) in sustainable economic growth; to maintain the confidence of capital markets; and to meet the requirements of financial reporting under IAS 41.

The boards reviewed the valuation of agricultural properties to establish whether a separate chapter within IVS was needed to deal with these issues. The boards noted that the physical and economic characteristics of agricultural properties differ from those of common real property (residential or

commercial properties) in urban areas, for the following reasons:

- Agricultural properties undergo a process called "biological transformation" where the biological asset is "nurtured" for either (IAS 41.5):
 - Sale, or
 - Agricultural produce, or
 - Additional biological assets.
- Land in urban environments should be suitable for bearing the improvements erected on them, while for agricultural properties; the soil is the principal agent in production, varied in its capacity to support a given amount of a particular commodity or class of commodities.
- In urban environments, the economic use of a property may remain unchanged over a period of years and might be guaranteed by contractual arrangements. In agricultural properties, however the same use may extend over a long duration (oil palm plantations harvested within 20+ years, forestry harvested after >15+ years), and for others, the economic use may vary from year to year or crop cycle, depending on the Highest and Best Use commodities the land could produce. On the other hand, its economic use may be competition from other more financially profitable land uses such as industrial and residential.
- The income stream associated with the agriculture property will vary according to the type of agriculture

for which it is used, the commodities produced and the cyclical nature of the commodity markets.

- In the valuation of agricultural properties, the physical and environmental aspects to the property assume special importance, which include features such as climate, soil type (and their productive capability), the availability of water for irrigation and the feeding/carrying capacity for livestock. External factors to be considered include the availability and adequacy of support facilities required for storage, processing and transportation.

The boards also reviewed the purpose of valuation of agricultural properties and noted that agricultural property valuations were required for a number of purposes including:

1. Asset disposal/acquisition
2. Business M&A
3. Secured lending
4. Taxation
5. Financial reporting



A way forward

Following their discussions, the boards felt that majority of issues in relation to the valuation of biological assets revolved around the implementation of IAS 41 - *Agriculture*, especially in the area of measurement of agriculture produce and the allocation of value. However, agriculture property valuation should be seen as broader than those issues, not only is it an asset class which is critical in the socio-economic development, capital investment and overall aspect of the economy, but the asset class needs to be understood so that valuers may provide valuation by promoting prudent, transparent and consistent procedures.

The boards further noted that agriculture property differs distinctly from other real property valuations for a number of reasons, to include:

- Agricultural property goes through a biological transformation (growth)
- The economic use of agricultural property might vary from time to time dependent on the commodities /agriculture produce yielded from property.

In reviewing the issues in relation to the valuation of agricultural assets (including biological assets), the Business Valuation and Tangible Assets boards identified the following key issues:

- Allocation of value – land, improvements, business value, bearer plants, produce and intangibles.
- Establishing Highest and Best Use – where there associated demand for more intensive use of land and how this is reflected in the total entity value and associated allocation.
- Apportionment of value during production – prior to crop/output reaching maturity.

The boards felt that no additional guidance – beyond that which is already set out within IVS – was required for the valuation of agricultural properties and biological assets. The boards determined that IVS includes all the information needed to carry out robust valuations of these assets.

IVS 2017 is divided into two main sections, General Standards and Assets Standards. The General Standards apply to the valuation of all assets classes, including agricultural properties and biological assets and comprise the following chapters;

General Standards:

IVS 101 Scope of Works

IVS 102 Investigation and Compliance

IVS 103 Reporting

IVS 104 Bases of Value

IVS 105 Valuation Approaches and Methods

The General Standards provide all the information a valuer needs from instruction to final reporting. Two main bases of value for the valuation of Agricultural Properties are Market Value (MV) and Fair Value (FV). The

basis used will largely depend on whether the valuation is required for asset disposal, acquisition or secured lending, where MV would be the correct basis of value or financial reporting purposes where FV (as defined by IFRS 13) is the correct basis of value to use.

Under IVS 104 *Bases of Value* it is the valuer's responsibility "to select the appropriate basis (or bases) of value and follow all applicable requirements associated with that basis of value, whether those requirements are included as part of this standard (for IVS-defined bases of value) or not (for non-IVS-defined bases of value)." The definitions for MV and FV contained within IVS 104 are shown below:

"Market Value is the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

IFRS 13 defines Fair Value as 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"

MV, however, operates under the premise of value of "Highest and Best Use", which is defined within IVS 104 section 140 as follows:

"Highest and best use is the use, from a participant perspective, that would produce the highest value for an asset. Although the

concept is most frequently applied to non-financial assets as many financial assets do not have alternative uses, there may be circumstances where the highest and the best use of financial assets needs to be considered."

In applying the Highest and Best Use analysis, the valuer will need to analyse and disclose in the report:

- a. Whether the current land use reflects its Highest and Best Use or should be converted into other uses such as industrial or residential.
- b. Whether the current agricultural use is to be continued, or should be converted to another, more profitable, type of agriculture.

IVS 2017 provides guidance on this matter and states that *"the determination of the highest and best use involves consideration of the following:*

- (a) To establish whether a use is physically possible, regard will be had to what would be considered reasonable by participants.*
- (b) To reflect the requirement to be legally permissible, any legal restrictions on the use of the asset, e.g., town planning/zoning designations need to be taken into account as well as the likelihood that these restrictions will change.*
- (c) The requirement that the use be financially feasible takes into account whether an alternative use that is*

physically possible and legally permissible will generate sufficient return to a typical participant, after taking into account the costs of conversion to that use, over and above the return on the existing use"



Therefore, when valuing Chekhov's cherry orchard at Market Value for secured lending purposes, the valuer must consider highest and best use and whether the cherry orchard could be better used for some other purpose, such as residential development. When making a decision, however the valuer must ensure that such a development is physically possible, legally permissible and financially feasible.

Once the correct basis of value has been chosen the valuer will need to refer to IVS 105 *Valuation Approaches and Methods* and *"The principal valuation approaches within IVS 105 are:*

- (a) Market approach,*
- (b) Income approach, and*
- (c) Cost approach."*

In order to correctly select the method for the valuation, IVS 105 states that: *"the goal*

in selecting valuation approaches and methods for an asset is to find the most appropriate method under the particular circumstances. No one method is suitable in every possible situation. The selection process should consider, at a minimum:

- (a) The appropriate basis(es) of value and premise(s) of value, determined by the terms and purpose of the valuation assignment;*
- (b) The respective strengths and weaknesses of the possible valuation approaches and methods;*
- (c) The appropriateness of each method in view of the nature of the asset, and the approaches or methods used by participants in the relevant market, and;*
- (d) The availability of reliable information needed to apply the method(s)."*

In some instances, more than one method may be used or a method such as the Discounted Cash Flow ("DCF") may require inputs using elements of both the cost and market approach for quantification purposes such as rent or refurbishment/renewal costs.

IVS 105 does not however require the valuer to use more than one method and states:

"Valuers are not required to use more than one method for the valuation of an asset, particularly when the valuer has a high

degree of confidence in the accuracy and reliability of a single method, given the facts and circumstances of the valuation engagement. However, valuers should consider the use of multiple approaches and methods and more than one valuation approach or method should be considered and may be used to arrive at an indication of value, particularly when there are insufficient factual or observable inputs for a single method to produce a reliable conclusion. Where more than one approach and method is used, or even multiple methods within a single approach, the conclusion of value based on those multiple approaches and/or methods should be reasonable and the process of analysing and reconciling the differing values into a single conclusion, without averaging, should be described by the valuer in the report."

In some instances, several versions of the same method may be used. For example, oil palm plantation valuations using the DCF method may differ and the following models may be constructed.

1. A model based on a cash flow allowing for replanting of the palms and allowing for yield profiles of the palms to be properly reflected in the future cash flows, plus a terminal value.
2. A model may essentially be solely based on the current planting and a "reversion to bare site value" as the terminal value.

The use and structure of the model will largely depend on the agricultural property or biological asset to be valued and the professional judgement of the valuer.

In addition to adopting the General Standards within IVS 2017, the valuer must follow the Asset Standards in order to be IVS compliant. The only exception to this rule is where there is a Departure, which is defined in IVS as follows;

"A "departure" is a circumstance where specific legislative, regulatory or other authoritative requirements must be followed that differ for some of the requirements within IVS. Departures are mandatory in that valuer must comply with legislative, regulatory and other authoritative requirements appropriate to the purpose and jurisdiction of the valuation Tobe in compliance with IVS. A valuer may still state that the valuation was performed in accordance with IVS when there are departures in these circumstances."

The Assets Standards shown below are specialism specific, so if one is valuing an agricultural property, which could include a real property interest and plant and equipment then there is a need to comply not only with the General Standards IVS 101 to IVS 105, but also the relevant Asset Standards (ie. IVS 300 *Plant and Equipment* and IVS 400 *Real Property Interests*). Furthermore, if the agricultural property was being valued as a business and included some intangible assets such as brand or intellectual property then valuer would need to comply with IVS 200

Businesses and Business Interests and IVS 210 *Intangible Assets*.

Assets Standards

IVS 200 Businesses and Business Interests

IVS 210 Intangible Assets

IVS 300 Plant and Equipment

IVS 400 Real Property Interests

IVS 410 Development Property

IVS 500 Financial Instruments



Conclusions

In conclusion, IVS 2017 already includes all the elements required to the value agricultural properties and biological assets. However, care should be taken to ensure all of the relevant parts of IVS are considered and this will largely depend on the nature of the assets and the basis of value adopted.

Should you have any questions in relation to IVS and agricultural or biological asset valuations then please contact the IVSC through the Technical Enquiry form, which can be found on the IVSC website.

You can contact the authors through the IVSC: contact@ivsc.org