



## PRACTICE BRIEFING

Practice briefing

# Valuation of airports for financial reporting: fair value?

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### Abstract

**Purpose** – The purpose of the paper is to investigate issues associated with the application of international and national accounting and valuation standards to owner occupied property for financial reporting purposes.

**Design/methodology/approach** – The regulatory framework and relevant literature are reviewed and analysed in order to hypothesise a theoretical framework, comprising an order of classification and tests for application by valuers to owner occupied property. The hypothesised approach is then tested in principle for the valuation of airports and specifically for the valuation of a part building and underlying land.

**Findings** – While the hypothesised approach requires development through the proposition of further tests, it is found to be supported in application to both a part building, being the retailing area within an international terminal, and to the operational land underlying an airport.

**Research limitations/implications** – The research provides a theoretical framework for the application of accounting and valuation standards to owner occupied property for financial reporting purposes and highlights limitations therein for further research.

**Practical implications** – The hypothesised approach provides valuers with a globally consistent theoretical framework for application to the valuation of owner occupied property for financial reporting purposes.

**Social implications** – As airports grow and move from government ownership, the measurement of their value for financial statements becomes progressively more important if a robust basis for stakeholder decision making and the optimal allocation of capital is to be provided

**Originality/value** – The paper seeks to improve property appraisal, finance and investment skills by promoting awareness of new theories, applications and related concepts and their implications to market conditions in the context of airports.

**Keywords** Valuation, Airports, Fair value, Assets management, Standards

**Paper type** Research paper

### 1. Introduction

Over the last two decades, numerous large international airports around the world have been privatised through the sale of the airport as a going concern business, generally moving from government ownership into private ownership. Some large international airports remain in public ownership (such as John F. Kennedy Airport, New York), while some are owned directly in listed entities (such as Auckland International Airport) and others are owned indirectly (such as Heathrow Airport, London).

Those airports that are held in listed entities and in indirect ownership require inclusion in the balance sheet of the financial statements of the entity. A small sample of balance sheet entries for airports from around the world is provided in Table I,



Country	Listed company	Balance date	Value of airports <sup>a</sup> (US\$)	Accounting policy
Germany	Fraport AG	31.12.08	4.8bn	Cost
Spain	Ferrovial SA	31.12.08	25.4bn	Cost
China	Beijing Capital International Airport Company Limited	31.12.08	3.9bn	Cost
Thailand	Airports of Thailand	30.9.08	3.1bn	Cost
South Africa	Airports Company of South Africa	31.3.08	1.3bn	Cost
New Zealand	Auckland International Airport Limited	30.6.08	1.4bn	Fair value

**Table I.**  
Sample of airports in  
balance sheets

**Note:** <sup>a</sup> December 2008 monthly average exchange rate sourced from Australian Tax Office at: [www.ato.gov.au/taxprofessionals/content.aspx?doc=/content/00227825.htm](http://www.ato.gov.au/taxprofessionals/content.aspx?doc=/content/00227825.htm)  
**Source:** Author based on web search

which indicates the very significant amounts being attributable to same in financial statements.

Given that such large amounts are attributed to airports in financial statements, issues surrounding the validity of such amounts become significant for stakeholder decision making and the optimal allocation of capital. Further, since privatisation, numerous airports have undertaken major international and domestic terminal redevelopments with substantial increases in the level of retailing provided and have also commenced redevelopment programmes for vast areas of airport land. This leads to such broader questions as whether an airport should be framed, for financial statement valuation purposes, as a group of assets comprising an operating airport business, a shopping centre at which airplanes park or a property development business with ancillary aeronautical activities?

International Accounting Standard 16 (IAS 16, (IASB, 2010)) requires owner occupied assets to be recognised at cost in financial statements and thereafter recorded at cost or fair value. As Table I shows, the adoption of cost is common with only Auckland International Airport Limited identified as recording its assets at fair value. However, the difference between recording assets at cost and at fair value may be substantial, with Auckland International Airport reporting the fair value of land to be 1054 per cent above the reported cost and the fair value of all land and buildings to be 205 per cent above the reported cost (source: [www.aucklandairport.co.nz/ebooks/annualreport08](http://www.aucklandairport.co.nz/ebooks/annualreport08)), bringing into question both the robustness of assessments of fair value and usefulness of recording assets at cost, though the latter will not be considered here (for a detailed consideration of issues associated with recording property assets at cost or fair value, see Parker (2009)). If the fair value of Auckland International Airport is correctly assessed, then those airports recording assets at cost could be significantly understating shareholder equity potentially leading to suboptimal decision making and capital allocation. Further, in particular, if the fair value of land at Auckland International Airport is correctly assessed, the difference to cost is very significant.

Accordingly, this paper proposes to investigate issues associated with the application of international and national accounting and valuation standards to owner

occupied property, for inclusion in financial statements under International Financial Reporting Standards (IFRS), in the context of large international airports generally. Specifically, the paper will consider the application of international and national accounting and valuation standards to a part building and to the operational land underlying an airport. As such, the paper seeks to improve property appraisal, finance and investment skills by promoting awareness of new theories, applications and related concepts and their implications to market conditions.

The paper will first analyse the regulatory framework within which valuations for IFRS are undertaken and then review the literature concerning the valuation of airports. Based on an analysis of the regulatory framework and literature, a theoretical framework will be hypothesised for the valuation of owner occupied property including international airports and then applied to a part building, being the retailing areas within an international terminal, and to operational land underlying large international airports in principle. Conclusions on the suitability of such classifications and tests will then be drawn and areas for further research identified.

## 2. Regulatory framework

Large international airports comprise exactly the type of assets for which IFRS was contemplated, being complex amalgams of land and buildings that may be found in many countries around the world and have the capacity to be measured and reported very differently in various countries in the absence of international guidelines. From a property valuation viewpoint, an airport is a complex system of functionally interconnected land and buildings which are mutually interdependent, being inextricably linked in an operating business. For example, airplanes need passengers and vice versa, airplanes need runways and control towers and vice versa, passengers need terminals and car parks and vice versa and so forth.

### 2.1 *International accounting standards*

Since the introduction of International Financial Reporting Standards (IFRS) for annual reporting periods beginning on or after 1 January 2005, the regulatory framework for the preparation of financial statements comprises international and national accounting standards and international and national valuation standards and guidance notes. For owner occupied property, the relevant international accounting standard is IAS 16 and national standard, in an Australian context, is AASB 116 (AASB, 2006). As stated above, following recognition at cost, an entity may elect to record assets in financial statements at cost or fair value, provided that fair value can be reliably measured.

IAS 16 paragraph 6 defines fair value as the amount for which an asset could be exchanged between knowledgeable willing parties in an arm's length transaction. IAS 16 paragraph 32 states that the fair value of land and buildings is usually determined as their market value by appraisal from market based evidence, undertaken by a professionally qualified valuer. In the absence of market based evidence, because of the specialised nature of the item of property, plant and equipment or where the item is rarely sold except as part of a continuing business, IAS 16 paragraph 33 suggests that the estimate of fair value may be based on an income or depreciated replacement cost (DRC) approach.

While fair value is strictly an assessment by the reporting entity, IAS 16 contemplates regard to market value by appraisal from market-based evidence undertaken by a professionally qualified valuer. Accordingly, the provisions of international valuation standards and guidance notes are of relevance in the determination of the market value of an airport.

## 2.2 International valuation standards

Consistent with IAS 40 paragraph 5 (IASB, 2010), IVA 1 (IVSC, 2007) defines owner occupied property as property held for use in the production or supply of goods or services or for an administrative purpose, being distinguished from investment property which is defined as property held to earn rentals or for capital appreciation or both but excluding property held for sale. This may be contended to introduce a first order classification of constituent assets between those held for the production or supply of goods and services, those held for investment and those held for sale.

IVA 1 may then be contended to provide a second order classification for owner occupied assets between operational assets and non-operational assets. Significantly, the Application requires the directors of the owning entity to provide a list of assets so classified which, as with the assessment of fair value, shifts the obligation from the valuer to the owner. Operational assets are defined as assets requisite to the operations of the entity with non-operational assets defined as properties held for future development or investment or surplus assets.

*2.2.1 Operational assets: specialised and non-specialised.* In concepts fundamental to generally accepted valuation principles (GAVP) (IVSC, 2007) at paragraph 8.2, specialised property is defined as “property that is rarely, if ever, sold in the market except by way of a sale of the business or entity of which it is part, due to uniqueness arising from its specialised nature and design, its configuration, size, location, or otherwise”. This may be contended to provide a third order classification for operational assets between specialised and non-specialised property, together with two tests to determine classification as a specialised property.

However, IVA 1 endorses IAS 16 in suggesting that the estimate of fair value may be based on a depreciated replacement cost approach in the absence of market based evidence because of the specialised nature of the property or where the property is rarely sold except as part of a continuing business, which may be contended to provide a further test to determine classification as a specialised property. Notably, IVA 1 specifically states that “The choice of approach is not dictated by the type of asset but by the presence or absence of market evidence” (paragraph 6.4, page 119).

*2.2.2 Land.* While DRC is not the focus of this paper, it is acknowledged that the method involves considerable complexity surrounding application of the concepts of optimisation, functional equivalence, obsolescence, over design and various forms of depreciation in the assessment of the cost element. However, the assessment of the land element for DRC is also problematical with limited and confusing direction provided by the valuation standards and guidance notes. IVGN 1 paragraph 5.13 and IVGN 8 paragraph 5.3 (IVSC, 2007) contemplate an estimate of the costs of acquiring land in the market suitable for the development of a facility with equal or equivalent utility, respectively, together with the cost of all improvements that would be required to the land with improvements defined as buildings, structures or modifications to land of a permanent nature intended to enhance the value or utility of the property. The cost

approach as an upper bound is qualified at paragraph 9.2.1.3 of Concepts Fundamental to GAVP (IVSC, 2007):

Unless undue time, inconvenience, and risk are involved, the price that a buyer would pay for the asset being valued would not be more than the cost of the modern equivalent.

*2.2.3 Whole or part assets.* Concerning classification as whole or part properties, at paragraph 6.7.1.1, IVA 1 echoes IAS 40 paragraph 10 in stating that where a property is part held as an investment property and part used for owner occupation or if the parts could be sold or leased separately, then the parts are accounted for separately. Further, if the parts could not be sold separately, then the property is an investment property only if an insignificant proportion is held for the production or supply of goods or services or for administrative purposes. Accordingly, IVA 1 may be contended to provide a fourth order classification for owner occupied property between whole and part assets, together with two tests to determine classification as whole or part properties.

### *2.3 National valuation standards*

In an Australian context, national valuation standards and guidance notes are consistent with and supplementary to international valuation standards. AVGN 1 (API, 2006) maintains the above classifications and extends the tests for non-specialised assets. Paragraph 3.3 defines such assets as those normally traded in an open market where market-based price indicators are available to guide both market participants and market observers. Non-specialised assets can be further categorised as those assets which are common and regularly traded in the marketplace (such as offices, warehouses, shops, etc. for which market based price indicators are available) and those that generate an income or profit by their operation and are traded in the open market (such as trading hotels, hospitals and casinos). Specialised assets are defined at paragraph 3.4 as those not normally traded in any market, except as part of a total enterprise by reason of their specific design, size, location or other factor (such as oil refineries or power stations) providing further tests.

*2.3.1 Operational assets: specialised and non-specialised.* At paragraph 3.2, operational assets are noted to be capable of being non-specialised or specialised in whole or in part, with the valuer assessing the degree of specialisation with regard to:

- the use to which the asset is put;
- the degree of special adaptation;
- the location;
- whether the category of asset has a readily definable market; and
- any guidance by the directors and/or technical staff of the entity

which may be contended to further expand the tests to determine classification as a specialised property and the tests for whole or part classification.

In Australia, the API released an exposure draft (ED) in March 2010 of a guidance note on the “Market value of property, plant and equipment as part of a going concern business” (Farthing, 2010). While the ED does not depart from the regulatory framework considered above, it does provide some additional focus and emphasis. For example, the ED focuses on the combined role of the constituent assets in the business

operation, thereby diminishing the notion of certain operating assets being potentially saleable separately, stating:

Because valuations of property, plant and equipment as part of a going concern business presupposes a sale of those assets in their existing use to an operator who would continue to use the assets as part of that business enterprise, the valuations, (depending upon how they are assessed) will usually include all assets used in that business enterprise.

This may be contended to add a further test to determine classification as a specialised property based on propensity for continued use as part of the business enterprise.

### 3. Literature review

The literature concerning airport valuation issues in general and the valuation of airports for financial reporting purposes in particular was found to be relatively limited and dated (see, for example, Wadlington (1957) and Foster (1960)). In an Australian context, the majority of the literature identified considered either the impact of aircraft noise on property values (McGrath, 1996; Burns *et al.*, 2001; Rossini *et al.*, 2002) or issues associated with airport pricing for regulatory purposes (Schuster, 2009; Forsyth, 2003). Pitchford and Wait (2005) and Access Economics (2006) both consider the value of airport land for regulatory pricing purposes in general, with the latter noting that this differs in concept and intent to land value for accounting purposes.

Boyd (2001) considers valuation issues in the context of assessing charges for airport services in New Zealand and advocates valuation based on existing use with land valued in relation to comparative market evidence and improvements assessed on the basis of optimised depreciated replacement cost (ODRC), consistent with Bond (1993). The author notes that there is no open market for airports (presumably as portfolios of land and buildings rather than as operating businesses) and so no comparable sales to form the basis for an exchange value.

Regarding the valuation of airports for financial reporting purposes in particular, Horsley and Seed (1996) provide an entire chapter on the valuation of airports for a textbook on specialist valuations. Significantly, the text predates the introduction of the current regulatory framework. As a text written in the early days of the privatisation of airports in New Zealand and Australia, the distinction between valuation issues associated with regulatory pricing and with financial statements is blurred but the authors contribute several useful concepts.

Horsley and Seed (1996) introduce the division of an airport into “airside” and “landside” activities, which is considered useful and may be contended to be a fifth order classification. “Airside” relates to the operation of aircraft including runways, taxiways and air bridges with such activities and land uses considered to be within the high security portion of an airport, so limiting the notions of use, occupation or ownership for anything other than specifically as an airport. “Landside” activities are described as including car parking, roading and terminal building space for concessions and may be considered to be outside the high security portion of an airport with notions of use, occupation or ownership less limited.

The authors conclude that airports are “clearly specialised” and support the use of ODRC for valuation, being described as an estimate of the most efficient, lowest cost combination of assets which could replace existing assets and offer the same amount of

utility (page 195). Significantly, the authors expand the tests to determine classification as whole or part properties by introducing the notion of “separability” whereby:

An asset is separable if the airport could rent, sell, or exchange the asset without affecting either the value of the airport core or the separable asset.

The authors propose that separability tests how interconnected the assets operations are, providing the test of an assets ability to stand alone when separated from the bundle of assets that comprise the airport, but otherwise not proposing a more detailed process for determining separability.

Horsley and Seed (1996) specifically consider the value of “the large area of underlying land used by the operation” which “must be valued in it (sic) current use – assuming it is part of the airport core” and posit that “the actual use for major international airports may well reflect land values more akin to commercial and industrial land values” rather than the underlying zoning which may be residential or rural. The authors further distinguish between the valuation of land used for airport operations, considered further below, and non-specialised land assets that should be valued at market value if separable.

The authors then refer to the “replacement cost” of airport land used for airside activities and introduce a notion of optimised replacement cost where:

The optimised replacement cost (ORC) of land at an existing location is estimated as the market value of a comparable plot of land at an alternative location providing the same utility.

Effectively, this would appear to be a theoretical application of the principle of substitution for which caution may be required in practical application.

#### 4. Hypothesis of theoretical framework

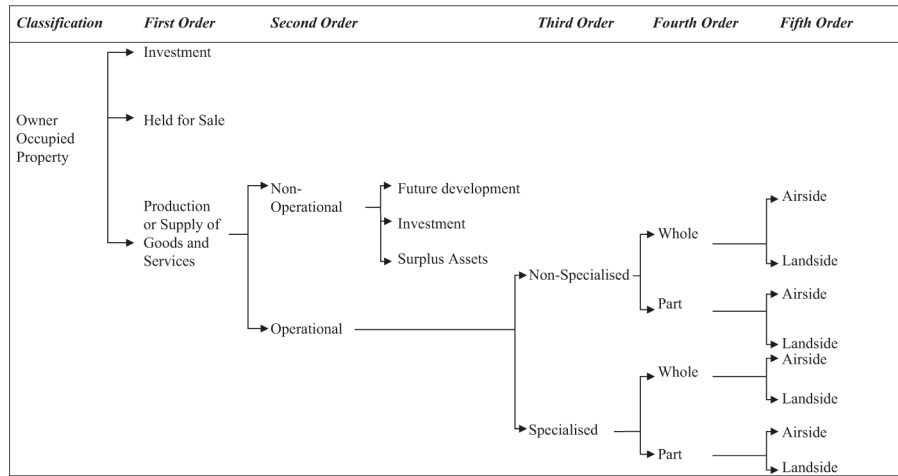
Having analysed the regulatory framework within which valuations for IFRS are undertaken and reviewed the literature concerning the valuation of airports, a theoretical framework may now be hypothesised for the valuation of owner occupied property in principle.

The international and national accounting and valuation standards and guidance notes may be contended to provide a classification framework with supporting tests for the valuation of owner occupied property. The classification framework contended is summarised in Figure 1, comprising five orders to which the following tests may be applied to the third and fourth orders.

##### 4.1 Tests to determine classification as a specialised property

The following tests may be applied:

- (1) Property that is not normally or rarely, if ever, sold in the open market except by way of a sale of the business or entity of which it is part.
- (2) Property for which there is an absence of market-based price indicators or market evidence available to guide both market participants and market observers because of the specialised nature of the property.
- (3) Property that may not be reliably apportioned from sales evidence of a business as a going concern.



**Figure 1.**  
Owner occupied property  
– hypothesised order of  
classification

Source: Author

- (4) Property for which there is not a readily definable market.
- (5) Uniqueness arising from the property's:
  - specialised nature or degree of special adaptation;
  - use to which the property is put;
  - design;
  - configuration;
  - size;
  - location; or
  - other factor.
- (6) Propensity for continued use as part of the business enterprise.
- (7) Any guidance by the directors and/or technical staff of the entity.

#### 4.2 Tests to determine classification as whole or part properties

The following tests may be applied:

- (1) Capability for separability:
  - capability to stand alone;
  - capability for rent, sale or exchange; and
  - without affecting either:
    - value of the airport core; or
    - value of the separable asset.
- (2) Significance of proportion held for the production or supply of goods or services or for administrative purposes.
- (3) Degree of specialisation or non-specialisation arising from the property's:



- specialised nature or degree of special adaptation;
- use to which the property is put;
- location;
- lack of a readily definable market; and
- any guidance by the directors and/or technical staff of the entity.

The classification framework for owner occupied property in principle, proposed in Figure 1, together with the tests described above may be capable of application to large international airports generally and to a part building and underlying operational land specifically.

### 5. Application of theoretical framework to terminals and land

Having hypothesised a theoretical framework for the valuation of owner occupied property, such as large international airports, in principle, it is now proposed to test the hypothesised approach through specific application to:

- a part building, being the retailing area within an international terminal; and
- the operational land underlying an airport.

#### 5.1 Valuation of part building: retailing area, international terminal

An international terminal provides a single building venue comprising several levels over which a range of activities are conducted including check in, baggage handling, immigration, customs, airline lounges, administrative offices and so forth together with retailing areas both landside and airside.

As a single building, based on the classification order proposed in Figure 1, an international terminal may be classified as an owner occupied property for the production or supply of goods and services (first order) and operational (second order). Applying the seven tests for classification as specialised property (third order), an international terminal as a single building may be contended to satisfy tests one to six with the probability of satisfying test seven (guidance by directors and/or technical staff).

The challenge in valuation for financial statement purposes comprises the fourth order (whole/part building) and fifth order (airside/landside) classifications, particularly in the context of retailing areas.

Over the last two decades, there has been a global trend to increasing the extent of retailing in airport terminals generally and in international terminal particularly to trade off a captive customer base which is held in the terminal for up to several hours awaiting airplane departures (Gelbtuch, 1992). The extent of such retailing has not only increased in floor area (approximating 30-40 per cent in modern international terminal buildings) but also in diversity and in the proportion of airport revenue produced, often anchored by large, high volume duty free stores.

Accordingly, the challenge in valuation for financial statement purposes comprises whether an international terminal should be considered for valuation as a whole or for valuation as a series of parts. The difference in outcomes may be particularly dramatic with a significant difference between the ODRC of the retailing area within an international terminal and the net rental generated by such areas capitalised or discounted at rates applicable to shopping centre investments generally.

5.1.1 *Application of whole or part tests.* Applying the three tests for classification in whole or part, the retailing area within an international terminal may be considered as follows:

- (1) *Capability for separability.* This test may be contended to comprise three interlinked elements, each of which should be fulfilled to satisfy separability. While it may be contended to be impossible to determine the capability for rent, sale or exchange without further criteria, the tests of capability to stand alone without affecting either the value of the airport core or the value of the separable asset would appear incapable of being fulfilled. It may be contended that the value of the retail area would be significantly affected if the airport was to cease operation such that it does not have a capability to stand alone. Similarly, should the retail area cease operations, the value of the airport core may be contended to be likely to be adversely affected until retail operations recommence.
- (2) *Significance of proportion held for the production or supply of goods or services or for administrative purposes.* An international terminal as a whole building was contended to be classified as operational and specialised. Accordingly, the test may be considered in the context of the significance of the proportion of the whole building held for the production or supply of goods or services or for administrative purposes. Given the proportion of floor area of the whole international terminal used for non-retailing purposes, relative to the area used for retailing purposes, it may be contended that the proportion used for retailing purposes is insignificant such that the building should be valued as a whole.
- (3) *Degree of specialisation or non-specialisation.* The international terminal as a whole building has been classified as specialised, above, but the specialisation tests are also capable of application to parts of the international terminal as follows:
  - *specialised nature or degree of special adaptation* – for the retailing areas, the degree of special adaptation may be contended to be limited;
  - *use to which asset is put* – for the retailing areas, the use may be contended to be non-specialist;
  - *location* – for the landside retailing areas, the location may be contended to be non-specialist but for the airside retailing areas, the location may be contended to be specialised due to being within the high security portion of the airport;
  - *no readily definable market* – this may be contended to be impossible to determine without further criteria; and
  - *guidance by directors and/or technical staff* – while this may not be available as a general principle and be asset specific, it may be contended that it is not determinative but supportive to the valuers decision making.

Accordingly, the tests for the degree of specialisation or non-specialisation when applied to that part of an international terminal used for retailing may be contended to be inconclusive.

5.1.2 *Application of rent, sale, exchange and definable market tests.* To complete the application of the tests for whole/part classification, it may be contended that further criteria are required to determine the capability for rent, sale or exchange and the related test of the existence or otherwise of a readily identifiable market. Having regard to valuation principles, the following additional tests may be proposed to determine the whole/part classification:

- (1) *Legal separability.* Being whether part of the building is capable of being legally separated from the rest of the building in order to provide a form of title which a purchaser would accept. While the creation of a freehold strata title lot or a long leasehold interest may be legally conceivable, the definition of boundaries may be challenging if the operational flexibility of the rest of the building is to be maintained.
- (2) *Physical separability.* Being whether part of the building is capable of being physically separated from the rest of the building in order to provide an identifiable space which a purchaser would accept. While creation of a physical space through the building of walls or installation of sliding doors/grilles would be possible, flexibility in physical boundaries would be essential to enable adaptation to changes in the layout of the rest of the building.
- (3) *Financial separability.* Being whether the cash flow from part of a building is capable of being supported if that part of the building is separated from the rest of the building. While an occupier occupying a physical space for a use unrelated to the rest of the building may be capable of paying occupancy costs without the rest of the building being occupied, an occupier with a use related to the rest of the building may be incapable of paying occupancy costs if the rest of the building were to be unoccupied. Further, consideration should be given to the relativity of occupancy costs to prevailing market levels for similar accommodation and uses in surrounding areas to determine if such occupancy costs could be achieved competitively and are supported by known market benchmarks.
- (4) *Purchaser demand.* Being whether, for the nature of the legal interest, physical interest and financial interest, purchaser demand for such an asset may exist with such demand determining the existence or otherwise of a readily identifiable market.

The above tests may be applied to the retailing area within an international terminal as follows:

- (1) *Legal separability.* The creation of a legal interest which provides both certainty of boundaries to the purchaser and ongoing operational flexibility to the international terminal operator would be extremely challenging, if not impossible, to create.
- (2) *Physical separability.* While the creation of physical spaces in shopping centres is well established, so too is an understanding of the difficulties arising when customer flows or volumes passing the physical space are impacted in some way.

- (3) *Financial separability.* For retail areas, financial separability may be contended to be impossible to achieve due to the interdependence of the retailers businesses with the customer flows through the airport.
- (4) *Purchaser demand.* Given the constraints on legal separability and financial separability, it may be challenging to identify a purchaser group willing to accept such fundamental risks which would suggest that a readily identifiable market does not exist.

*5.1.3 Summary.* The application of the three tests for whole or part classification, when expanded as proposed above, may be contended to indicate that the retailing area within an international terminal should not be valued separately from the rest of an international terminal for financial statement purposes. Accordingly, it may be contended that the application of ODRC is appropriate rather than the consideration of income methods of valuation for that part of the building comprising the retailing area.

Regarding the fifth order classification of airside and landside, it may be contended that those parts of an international terminal that are airside are subject to a security regime that would fundamentally undermine several of the tests proposed. Accordingly, it may be contended to be unlikely that any part of an international terminal that is airside would be capable of separate valuation as a part building.

### *5.2 Valuation of land underlying an airport*

IAS 16 contemplates the fair value of land to be market value based on market evidence with Boyd (2001) advocating existing use value, a view echoed by Horsley and Seed (1996) who also introduce the notion of separability of non-specialised land assets from land used for airport operations.

With airports comprising extensive land areas, post privatisation property development of airport land has led to claims that the property development business is dominant and the aeronautical activities are ancillary. Given the potential value of development land, this may have a significant effect on the land value to be included in financial statements.

Adopting the orders of classification proposed above, if the first order classification is assumed to be the production or supply of goods and services (rather than investment or held for sale), then airport land may be second order classified between operational and non-operational. Operational land may be defined as land requisite to the operations of the entity and non-operational land may be defined as land held for future development or investment or surplus. Adopting the approach proposed above, operational land would require valuation at market value for existing use and non-operational land would require valuation at market value.

*5.2.1 Operational and non-operational land.* Currently, the standards framework does not appear to provide tests to determine which land may be classified as operational and non-operational. Having regard to valuation principles, the following tests are proposed to identify non-operational land:

- (1) Identification as not required for operational purposes by the directors and/or technical staff of the entity.
- (2) Capability for separability:
  - capability to stand alone;

- capability for rent, sale or exchange, including:
    - legal separability;
    - physical separability, including road access;
    - financial separability; and
    - purchaser demand.
  - without affecting either:
    - value of airport core; or
    - value of separable land.
- (3) Appropriate planning regime with development permitted within the relevant zoning and use controls.
- (4) Appropriate regulatory regime with development permitted by the relevant regulator(s).

Effectively, if land within an airport boundary fulfilled each of the above tests, it would be demonstrably non-operational land and capable of development. As development land, determination of market value by reference to comparable sales or hypothetical development may be expected to encounter no greater problems than would normally arise, subject to careful consideration of the quantum and timing of land supply on local market conditions.

Concerning the valuation of operational land, the seven tests proposed above for third order classification as specialised would appear to be fulfilled (with the theoretical exception of land underlying non-specialised assets) as would the three tests proposed above for fourth order classification for valuation as a whole rather than in parts. However, the fifth order classification of airside/landside requires further attention in the context of operational airport land and will be considered further below.

*5.2.2 Land valuation for existing use.* Boyd (2001), in the context of New Zealand, noted that absence of an open market for airports (presumably as portfolios of land and buildings rather than as operating businesses) and so no comparable sales to form the basis for an exchange value. Within the context of Australia, the same situation prevails with airports transacting as businesses as a going concern but not as portfolios of land and buildings. In the absence of comparable market evidence of the value of operational land in use as an airport, therefore, the valuation of land for existing use as an airport is particularly challenging.

Following conventional valuation principles, sales of surrounding vacant land for other uses may be considered with adjustments made for area, nature, location, zoning, use and passage of time relative to the airport land being valued. While principles and conventions for adjustments to reflect size, location and so forth are well established in valuation practice, it is contended that careful consideration is required for adjustments to reflect zoning and use. Generally, the right to operate an airport is both conferred by and heavily regulated by a national government such that the monopolistic aspects of the value of an airport arise from such a right to operate the airport. While the underlying land may be zoned for use as an airport, its actual use as an airport is only possible by an operator who has secured a right to operate an airport. Similarly, the heavy regulation of airport operators may serve to place further

limitations on the underlying land in terms of alternative use, development potential and so forth.

*5.2.3 Summary.* Accordingly, therefore, it may be contended that the existing use value of operational land underlying an airport may be below the value of surrounding land uses due to the constraints imposed on the land by regulation, zoning and use. On application of the fifth order of classification of airside/landside to the underlying land, it may be contended that the downward adjustment may be greater for airside land than for landside land due to the greater limitations on such land arising from the high level of security inherent for airside land. This is of particular significance to value as the airside land may represent some 75 per cent of the land area with landside land only approximating 25 per cent.

While value for alternative uses may be more straightforward to determine, value for existing use, which is generally the only legally permissible use so obviating consideration of other higher and better uses, is particularly challenging. IVGN 1 proposes hypothetical subdivision development as an alternative to sales comparison for the valuation of land, though the use of such a technique still does not accommodate the constraints arising out of the existing use as an airport.

Given the general absence of comparable sales transactions, quantification of the downward adjustment to surrounding land values to reflect existing use value as an airport for the purposes of financial statement reporting is contended to be very challenging to determine, potentially to the point where it is debatable whether fair value for the purposes of IAS 16 can be measured reliably.

Further, it is contended that concepts of existing use value for airport operational land consistent with IAS 16 are very challenging to reconcile with the notion of an estimate of the costs of acquiring land in the market suitable for the development of a facility with similar utility together with the cost of all improvements that would be required to the land as contemplated in IVGN 1 paragraph 5.13 and IVGN 8 paragraph 5.3 and Horsley and Seed (1996), for DRC purposes.

## 6. Conclusions and areas for further research

As international airports around the world continue to grow and increasingly move into listed and unlisted non-government ownership, the measurement of their value for financial statements becomes progressively more important if a robust basis for stakeholder decision making and the optimal allocation of capital is to be provided.

While international accounting standards provide a framework for financial reporting principles that is contended to have global applicability, international and national valuation standards and guidance notes may be contended to require further evolution to ensure global applicability.

The evolution of international terminals and airport land provide examples of the limitations of existing international and national valuation standards and guidance notes for application by valuers in practice. Using retailing areas in an international terminal as an example, further tests for whole or part building classification were hypothesised and tested, providing an indication of how international and national valuation standards and guidance notes may be evolved.

However, for airport land, the limitations in existing international and national valuation standards and guidance notes were found to be somewhat greater. Accordingly, further research is required into the issues raised by the analysis and by

the application of existing international and national valuation standards and guidance notes to land underlying owner occupied property. This may lead to revision through a clearer statement of principles more consistent not only with international accounting standards but also between the respective international and national valuation standards and guidance notes.

The widespread use of the cost basis of valuation for airports found in the financial statements of airport owners and operators may be testament to the challenges inherent in adoption of the fair value basis of valuation. Accordingly, such further research would appear essential if assets are to be appropriately measured for reporting in financial statements as the basis for stakeholder decision making and the optimal allocation of capital.

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