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VALUING THE LAND COMPONENT OF IMPROVED INVESTMENT PROPERTY FOR TAX PURPOSES

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Abstract

This paper proposes that a land residual valuation calculation that assesses the value of the improvements of an investment property on a cost base, is, in principle, wrong and should not be used as an accepted valuation technique. This practice is undertaken widely in Australia where the *ad valorem* tax base is site value. The paper recommends an alternative model to value the land component of improved investment property.

Initially the paper describes the importance of land value as a tax base and its current application in Queensland, Australia. It then considers mass appraisal systems and the reliance on the comparative valuation method for mass appraisal. Thereafter the paper examines the complexities of valuing the land residual of improved investment property when standardised, and possibly automated, procedures are necessary.

The paper recommends at the current practice of incorporating a cost based value of the improvements is flawed and explains alternate techniques when a residual or extraction technique is required. These techniques acknowledge that the market value of the improved property is based on its productivity and consequently each component of the property value should be assessed on a productivity basis. Finally the paper demonstrates the application of the proposed technique on developed shopping centre properties in Australia.

Keywords

Unimproved capital value**,** replacement cost, productivity value**,** mass appraisal, residual method, value benchmarks

Introduction

The inadequacies of using a summation method incorporating a depreciated replacement cost (DRC) to arrive at a market value have, recently, been debated in the UK (French and Gabrielle, 2007 and Wyatt, 2009). Most authors now seriously questioning whether a replacement cost method can be regarded as a legitimate method to assess the market value of a property component. In addition, the practice of apportioning the market value of an improved property between the land component and the building component is also being seriously challenged. Henricks (2005) raises the question: "should we separate the inseparable?"

We consider that cost method of valuation should not be a primary method of valuation to assess market value and, when assessing the market value of an **investment** property, the cost method should not be used even as an alternative method. This paper will specially consider the residual, or extraction, method when using a mass appraisal approach to assess the unimproved capital value for tax purposes.

Within Australia the dominant property tax base for both rating and land tax purposes is the value of the land, as unencumbered, referred to as *site value.* Determining the site value of complex properties, such as major investment properties, is difficult because there are few or no comparable sales of vacant land. Consequently the mass appraisal system must find an alternative technique to assess the land component and the common technique used in Australia is a residual technique which deducts the cost based value of the improvements from the market value of the developed property to arrive at the land value.

We believe that this technique is flawed and set out below a reasoned, alternative technique to determine the land value of improved investment property. Initially the background of this technique is explained by considering the place of land as a tax base, its application in Australia and the characteristics of mass appraisal methods. The importance of the comparative method is described and the reasoning for excluding any cost based technique is explained. Thereafter the proposal for an alternative technique is explained in detail and tested on major shopping centre properties.

Land Value as a Tax Base

Land productivity is one of the oldest forms of taxation. The "Book of the Dead" used at the beginning of the New Kingdom (circa 1550BC) spoke of the harvest tax in Egypt (Daw 2002). Land and property based taxes are still popular today. McCluskey et al (1999, p.5) state:

> The primary store of accumulated wealth in both developed and developing countries is in real estate. Such property is visible, immobile, and a clear indication of one form of wealth. The property tax is thus difficult to avoid and, if well administered, can represent a non-distortionery and highly efficient fiscal tool.

Land as an "ad valorem" tax system may be assessed in several forms with the three primary bases being: unimproved capital value, improved capital value, and/or assessed annual rental value. There has been substantial debate as to which is the better property based format for taxation purposes - the contribution of twenty-four papers to this debate are summarized in McCluskey et al (2006). The IAAO in their appraisal manual (1990 p.8) state:

> Opinions about which tax base is best – annual rental or market value land and improvements, or only land – differ. The key issue in choosing is the kind of market evidence available – rent information or sales prices.

This issue will be raised again in the methodology proposed in this paper.

The Australian Land Tax Base

The Commonwealth of Australia was formed in 1901 and, for a relatively small population of approx 23 million, has three tiers of Government; all of which have rights to the collection of taxes. In relation to land-based taxation, the local authorities (lowest level of government) use a land value base to levy rates for local authority costs and each State of Australia uses the land value to levy a land tax on certain categories of property. Each State has its own regulation relating to the valuation and taxation of land and there are differences between them (see Hefferan and Boyd, 2010 and Cowley, 2006).

Despite the differences between the States, each State now relies, primarily, on the unimproved capital value, called *site value* as the basis for the rating and land taxes. Certain States such as New South Wales and Victoria have the right to levy rates on the annual rental value or on improved capital value, but these States rely substantially on site value. Consequently the land component of property forms the basis for nearly all property linked taxes in Australia.

In Queensland a new land valuation Act was adopted in 2010 (Land Valuation Act 39 of 2010) and this Act defines the **site value** as:

> The expected realisation of land under a bona fide sale is the capital sum that its unencumbered estate in fee simple might be expected to realise if that estate were negotiated for sale as a bona fide sale. (s 17)
> . . and . .
> A bona fide sale, for land, is its sale on reasonable terms and conditions that a bona fide seller and buyer would require assuming the following —
> (a) a willing, but not anxious, buyer and seller;
> (b) a reasonable period within which to negotiate the sale;
> (c) that the property was reasonably exposed to the market. (s 18).

A major problem when using an unimproved capital value as the tax base is that, in highly developed urban areas, it is often difficult to find comparative evidence of vacant land sales. Consequently the land component is, at times, calculated from the improved capital value as the residual land value. When considering investment properties, this residual land exercise is complex, inaccurate and prone to debate and challenge.

In Australia investment property and, in particular, retail property, is a significant portion of the property wealth and makes a substantial contribution to the local authority rates and the state land taxes. Newell and Hsu (2007, p.147) describe retail property in Australia and state: " The retail sector makes an important contribution to the Australian economy, being the largest employment sector (14% contribution) and the seventh largest contribution to gross domestic product (5% contribution)".

The Land Court of Queensland has recently been besieged by objections against the assessment of the land value component of retail property and have considered many cases debating the merits or otherwise of using a residual method to assess the unimproved capital value of major investment properties such as regional shopping centres and CBD office buildings. Refer: Kent Street Pty Ltd. V Chief Executive, Department of Natural Resources and Mines, LAC 2007/0033.

Mass Appraisal Methodology

Mass appraisal is defined as:

> The systematic appraisal of groups of properties at a given date using standardised procedures and statistical testing (d'Amato 2004,p205).

There is extensive literature on the methods developed for mass appraisal systems. The International Association of Assessing Officers (IAAO) continues to be active in improving assessment practice. Kauko and d'Amato (2008) have completed a list on the latest tools being used to enhance automated valuation methods (AVM) and empirical modeling of value. Tretton (2007, p.484) writes:

> Governments now demand analysis, interpretation and application of property information, managed and delivered through technology. The use of automated valuation processes for new or significantly revised systems of property valuation for local taxation is now universal.

Later in his paper, Tretton (2007, p.508) reviews the development of AVMs and concludes:

> A fully automated process with the AVM arriving at values annually would be an ideal but given the variety of commercial property this is not feasible. Much can be automated. However the following are likely to particularly need valuer intervention:
> - Analysis of complex transactions
> - Updating relativities/updating calibration
> - Basic price

We believe that AVMs are necessary tools, but, as mentioned by Tretton, there are limitations where complex properties are involved. AVMs are ideal when there are many transaction records with a relatively homogeneous area. However when valuing the unimproved capital value of developed regional shopping centres, or similar complex investment properties, the standardized methods are not appropriate.

If we accept that a standardized AVM will not be suitable for this solution, it is necessary to consider a model that will assist when the following situations exist:

1. The unimproved capital value is being assessed, and,
2. The properties being valued are improved investment properties with a highly developed urban area.

Use of the direct comparison method

When vacant, or near vacant land is being valued, it is always preferable to use comparable vacant, or near vacant land to determine the market value. Consequently when assessing the land component for tax purposes, the primary method of valuation should be the direct comparison method, if comparative data is available. Whipple (2006 p.250) states:

> In comparing sold and subject properties, there are at least three requirements that must be met: the heads of comparison must be significant price determinants, the number of properties used in the comparison must be sufficient, and the comparison must be "weighted" – that is significant.

The fact is that the comparison requirements mentioned by Whipple are often not met when valuing the unimproved capital value of complex properties, such as investment properties. Consequently it is commonplace, in Australia, to consider sales of improved property as part of the comparative valuation method. However this residual, or extraction, technique has a higher degree of uncertainty and thus the resultant valuation will probably have a higher margin of error. Consider Figure 1 as follows:

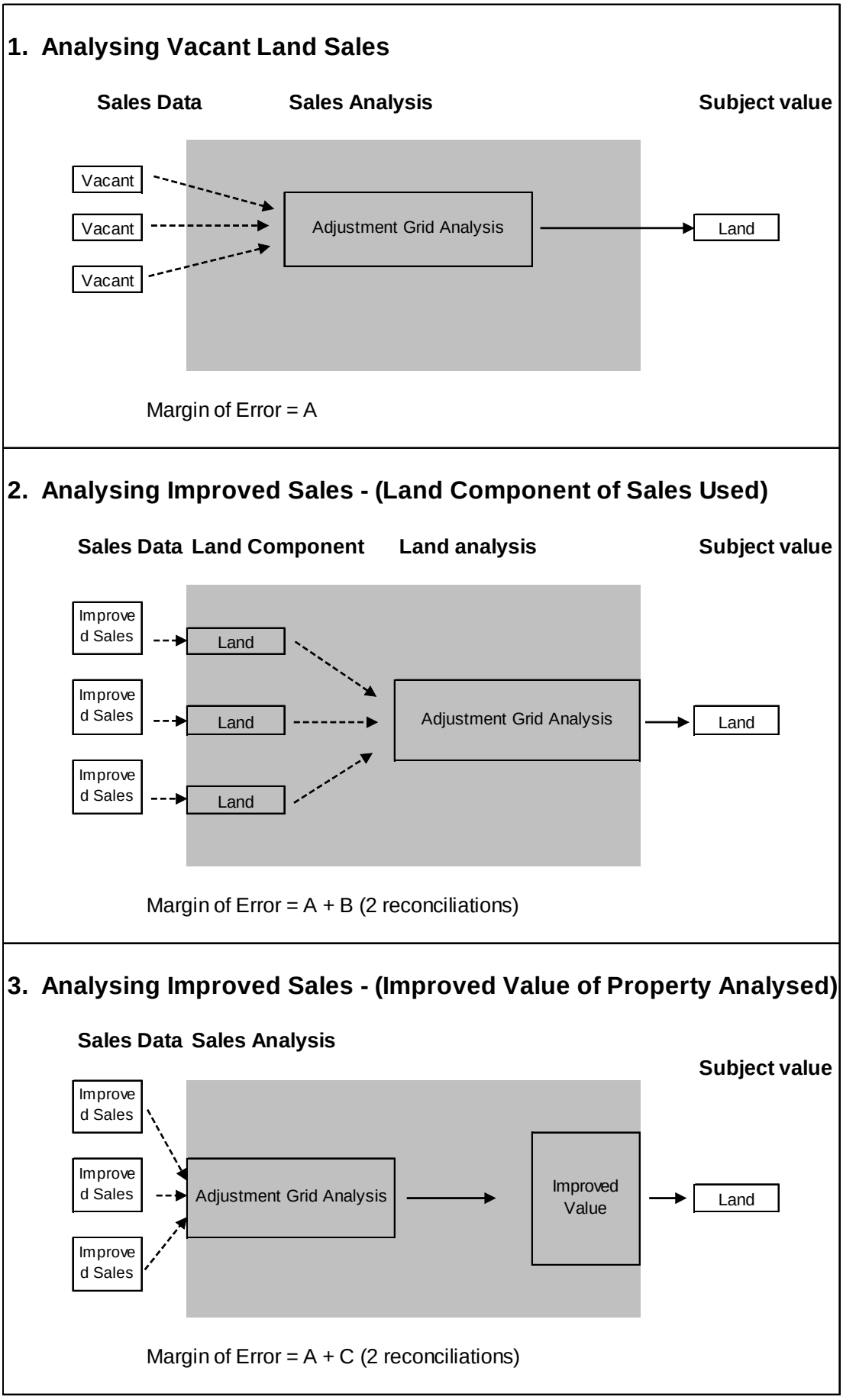

Figure 1: Comparative sales analysis processes to determine land values

The margin of error is distinctly higher in either method B or C. This leads to the first recommendation that the residual or extraction technique should not be used as a primary method for the valuation of vacant land when comparable vacant land sales are available.

The question arises whether any residual or extraction techniques can be used when assessing the land component of investment property. There are two serious complications when applying a residual technique; they are (1) the discounted replacement cost (DRC) estimate of the improvements and (2) the value of the intangibles.

The DRC problem

In the introduction to this paper the concerns of several UK and European authors (French and Gabrielle 2007, Wyatt 2009 and Henriks 2005) about the use of DRC method when assessing market values were highlighted. While this issue is not being actively debated in Australia, it is generally accepted that the DRC method is a "last resort" method.

Unfortunately the new Queensland Land Valuation Act 2010 makes mention of the cost method and states:

> If land is improved, its site value is its expected realisation under a bona fide sale assuming all non-site improvements for the land had not been made (s 21(1))
> and . .
> The value of the actual improvements is the lesser of the following –
> (a) the added value of the actual improvements give to the land on the valuation day, regardless of their cost;
> (b) the cost that should have reasonably been involved in effecting on to the land, on the valuation day, improvements of a nature and efficiency equivalent to the existing improvements. (s 25 (2))

It is difficult to comprehend why a replacement cost should be mentioned when attempting to determine the market value of the land. We can only assume that it is a basis to restrict the combined value of improvements (which may include substantial intangibles) to a figure equal to the replacement cost of the improvements.

There may be some justification for using the DRC technique as a supportive method when substitution is practical and practised in the market. However we are not able to find any circumstance where DRC is a legitimate method to derive market value for investment properties. The reason why the DRC method is totally inappropriate for valuing investment property is because the cost of the property is not a determining factor in establishing the present value of the future stream of financial benefits, which is the basis for calculating its market value.

It is, in our opinion, incorrect to assume that the market value using a productive method of assessment (which may well include contractual agreement and intangibles) can be equated to a summation method that assesses components of the property using a cost base. When it is necessary to assess the unimproved capital value of an improved investment property, no component of the property should be assessed using a cost base.

Rent is the best measure of productivity for improved investment property. Miller (2006, p.30) referring to land residual theory says:

> A key measure of site productivity is the rent received. It becomes extremely difficult to quantify the benefits or advantages of one site versus another using a cost approach to value.

While England and Wales correctly, in our opinion, use rental as the basis for property tax for commercial property, Australia does not differentiate its *ad valorem* property base for residential and commercial property. Consequently in Australia the rental data on investment property is not readily available and the productivity value does not feature in most investment property valuations for tax purposes.

When considering the use of a residual technique to establish the unimproved capital value of investment property, it is necessary to consider the value of intangibles. In particular where a business is an integral part of an investment property, such as a regional shopping centre, there is value in the intangible property. Several authors discuss the value of intangibles within investment property – see Dunse et al (2004), Malloy (2005), Lagrost et al (2010) and Miller (2006). Brands, franchises, licences, management expertise, loyalty by a customer base and other forms of goodwill are difficult property components to value. When considering a cost based technique to assess the value of improvements it is necessary to give consideration to possible intangible property value. This is another reason for avoiding the use of a cost-based improvement value for investment property.

Assessing the land component of investment property

There are times when the land component of an investment property must be assessed but we have argued that any form of depreciated replacement cost of the improvements should be used for investment properties. Consequently we must seek an alternative technique to derive the land component and this technique should, following our argument, distribute the productivity value (market value) between the land and improvements on the land. We have wrestled with this problem, as have many other valuers, and believe that there are more accurate ways to determining the land component than by deducting a cost-based improvement value from the market value.

The key issue is how to incorporate into the land component a proportion of the productivity value. Unfortunately the whole property constitutes the utility that produces income and profit. If there was a rental figure that could be distributed between land and improvements this would be the best solution; but this is not possible. Similarly if the turnover of a retail property could be divided into the land and improvement parts, this would be ideal, but again this is not realistic.

A reasonable solution is to determine a land value from the market value while using whatever sales and productivity data is available. Essentially this means that known productivity factors, such as the **existing plot area ratio** (ePAR) and the **moving annual turnover** (MAT) are incorporated in the analysis. The existing plot area ratio is:

$$\text{ePAR} = \frac{\text{gloss lettable area (GLA)}}{\text{land area}}$$

Note: The gross lettable (or leasable) area (GLA) measure is used for shopping centres in Australia rather than the net lettable area (NLA). The alternative unit of measurement is GLAR – which is gross lettable area retail.

Recall that the technique is required for a mass appraisal purpose and consequently it is essential that it is simple, makes use of accessible data and can be applied to all properties. The proposal is structured to determine relevant benchmarks for each shopping centre category and then allow an adjustment from the benchmark for each property's particular productivity measure.

Our proposal is the dual approach to assess the land component, one technique is a comparative analysis making adjustments for productivity factors and the other is an extraction method based on the known market value. It is suggested the two resultant values should be reconciled taking account of the quality of the data available in each exercise. The two techniques are:

1. Land value/GLA comparative analysis
2. Land value extraction from improved market value

A process diagram of the two distinct exercises arriving at the land component value of an improved shopping centre is shown in Figure 2 as follows:

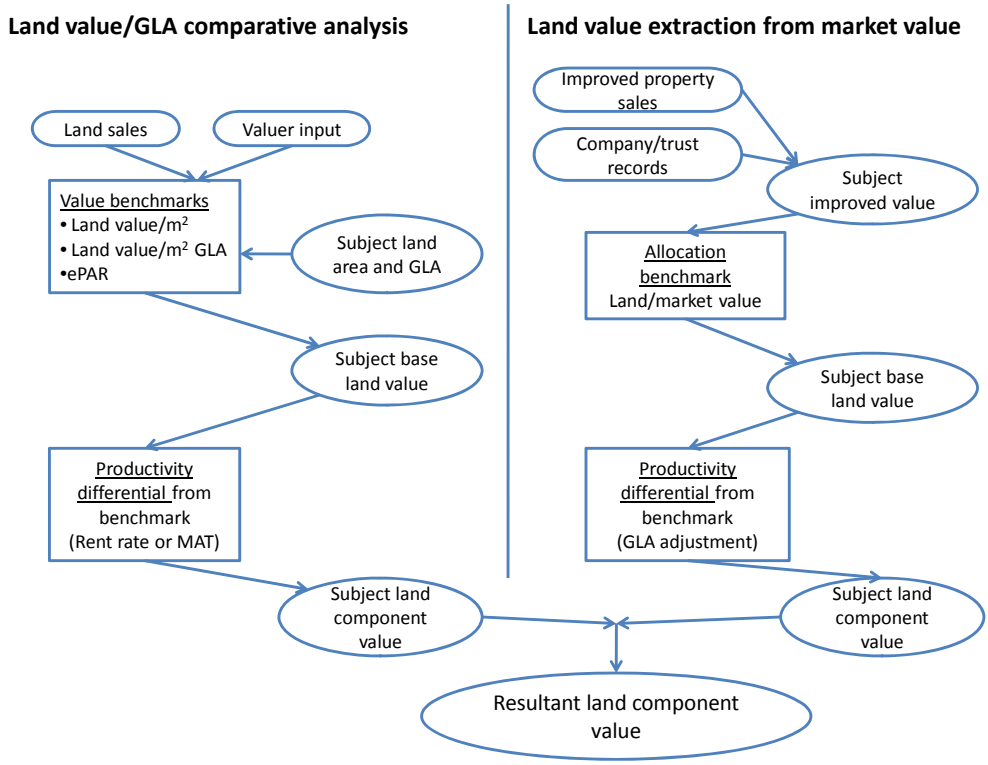

Figure 2: Land Component Valuation processes for investment properties

The application of these two techniques has been tested on a sample of 20 major shopping centre properties in Queensland, Australia. Information on the property details and productivity of Australian shopping centres is published by the Shopping Centre Council of Australia and Urbis Pty Ltd (add in website addresses). The sample excludes shopping centres that are within the CBD of major cities.

The application of the two techniques to developed shopping centre properties is described below.

Technique 1: Land Value/GLA comparative analysis

This technique establishes land value ranges for different categories for shopping centres using both sales analysis and professional opinions of valuers. It is acknowledged that sales data will be limited and consequently national sales records and advice from specialist valuer are both used to define the mean value. This value is also expressed as a rate per m2 of existing GLA; this removes the differences in plot area ratios. The subject property is then given a base value by applying its GLA to the benchmark rate per GLA. Thereafter the productivity of the subject property is compared to benchmark index; this will usually be in the form of the MAT for that category of shopping centre. The rent rate could also be used as an adjustment for productivity difference, but it is more difficult to assess. The final stage is to adjust the subject base land value by a factor representing the difference between the benchmark MAT and the subject MAT.

The preliminary benchmark table for Queensland, Australia, is shown below in Figure 3. The figures in this table, and subsequent tables, are average but rounded figures, that are provided for illustrative purposes only. This initial analysis was restricted to properties with a recent sale price or market valuation.

Shopping centre classification	**Regional centres**	**Sub-regional centres**	**Neighbourhood centres**
ePAR	0.5	0.45	0.6
Land value/m^2	$500/$m^2$	$400/$m^2$	$300/$m^2$
Land value/m2 of GLA	$1000/m2	$890/m2	$500/m2
MAT/m2 of GLA	$6000/m2 GLA	$5500/m2 GLA	$5000/m2 GLA

Figure 3: Preliminary Shopping Centre Land value benchmark table

Once the benchmark figures have been applied to a specific property, it is necessary to make adjustments to the value for the productivity level of the specific property. The productivity measure that is available for all major centres is the MAT and this measure is considered appropriate in this exercise. The MAT factor table should be structured from market evidence and Figure 4 below is a preliminary table based on market price adjustment for differing MATs. When calculating the MAT of neighbourhood centres it was necessary to rely heavily on the supermarkets' MAT.

MAT % differential	-40	-30	-20	-10	0%	+10	+20	+30	+40
Multiplier	0.68	0.76	0.84	0.92	1.0	1.08	1.16	1.24	1.32

Figure 4: Preliminary MAT differential adjustments from benchmarks

This is the first valuation exercise and it should be complemented by the second valuation exercise.

Technique 2: Land value extraction from improved market value

The second technique extends the sales analysis of the first technique by determining a ratio between the land value and the market value. This is an allocation technique and suffers from the problem of generalizing a relationship. It is however a useful rule of thumb provided assessed market values from a large number of properties are used and the land values are determined in line with the benchmarks identified in Figure 3 above. The incorporation of the relationship between the market values and the market-based land values is shown in Figure 5 below:

Shopping centre classification	**Regional centres**	**Sub-regional centres**	**Neighbourhood centres**
ePAR	0.5	0.45	0.6
Land value/m^2	$500/$m^2$	$400/$m^2$	$300/$m^2$
Land value/m2 of GLA	$1000/m2	$890/m2	$500/m2
MAT/m2 of GLA	$6000/m2 GLA	$5500/m2 GLA	$5000/m2 GLA
Land value: market value (%)	10%	12%	16%

Figure 5: Preliminary shopping centre land value and allocation benchmark table

The valuation process for the second technique is similar to the first technique with the subject base land value being calculated from the allocation benchmark. Thereafter the base value is adjusted for its ePAR compared to the ePAR of the benchmark. Figure 6 below illustrates the preliminary ePAR adjustment factors.

ePAR % differential	-80	-60	-40	-20	0%	+20	+40	+60	+80	+100
Multiplier	0.64	0.73	0.82	0.91	1.0	1.09	1.18	1.27	1.36	1.45

Figure 6: Preliminary ePAR differential adjustments from benchmarks

The ePAR ratio for each category of shopping centre has been identified (Figure 3) and the adjustment for the subject property is taken from the table above. This results in the land component value using the extraction technique.

It would be highly beneficial to have the benchmark tables and the differential tables widely exposed to industry comment as the whole valuation process revolves on these two table. If these tables are accepted by the property practitioners, there should be very limited objections to the resultant valuations.

The final step in the valuation process is to reconcile the two land values, this should be done by applying weightings to each technique according to the quality of the market information available to determine the benchmarks and differentials required in each technique.

A worked valuation example, using the tables above is illustrated below.

A Queensland Site Value Determination Example

Using the two techniques and the tables shown above, a (hypothetical) Queensland valuation example is:

Subject Property:

ABC Shopping Centre, Queensland, Australia
Land area: 185,000 m^2
GLA: 89,500 m^2
ePAR: 89,500/185,000 = 0.48
MAT: \$6,821/m^2 GLA
Market Value: \$1,090,000,000 as at January 2011 (Source - Annual Report)

Technique 1:

Regional centre land rate/m^2 GLA: \$1,000/m^2
Base land value: 89,500m^2 X \$1,000 = \$89,500,000
MAT differential: \$6,821/\$6,000 = 114%
MAT differential multiplier: 1.11
Land component value is \$89,500,000 X 1.11 = \$ 99,345,000

Say, \$99 Million

Technique 2:

Market value of property: \$1,090,000,000
Base land value: \$1,090,000,000 X 10% = \$109,000,000
ePAR differential: 0.48/0.5 = 96% (-4%)
ePAR differential multiplier: 0.98
Land component value is \$109,000,000 X 0.98 = \$106,820,000

Say \$ 107 Million

Reconciliation:
Based on the level of accuracy of the input data, greater weighting is given to technique 1, so resultant land component value is set at \$100,000,000
Consequently **site value for ABC Shopping Centre is \$100 Million**.

Conclusions

In Australia site value is the most popular basis for land tax and rating charges. Site value is an unimproved capital value and it is best valued using a comparative analysis of vacant land sales. However there are many types of specialist properties where vacant land sales are not available and this means that improved property sales are used to arrive at a residual land value.

Investment properties are usually valued based on their anticipated income stream. We consider that it is wrong to use a depreciated replacement cost of the improvements in an extraction method to value the land component of an investment property. In the paper we have proposed alternative methodology to value the land component of investment property for tax purposes.

Our proposal is a two technique approach which focuses on the productivity value rather than using a cost or summation technique. The first technique is a comparative analysis of land value that establishes benchmark values based on productivity area and productivity differentials to arrive at the land component value. The second technique is a ratio allocation between market value and a land value with both of these values being established from market evidence. This relationship is established for different categories, and, as in technique 1, a productivity differential is used to adjust from the benchmark values. Once the two values have been obtained, the final value should be a reconciliation of the two figures.

This proposal has been examined in relation to major Australian shopping centre properties as they are complex properties that often incorporating intangible values. The resultant figures from the initial examination of approximately twenty major shopping centres are promising. The example illustrated in this paper appears to fit the accuracy standards required of a mass appraisal process. We will undertake further refinement of these techniques and would greatly appreciate comment by other researchers to this paper.

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