

# *How to lick the cap rate problem*

## **(well, almost!)**

by Erwin G. Rode, who is a Professional Valuer

Originally published in *Rode's Report on the SA Property Market*, issue 1989: 3, but updated and expanded in January 2007 ©

The two crucial determinants of income-producing properties' market value are market rentals and capitalization (cap) rates. By comparison, all the other determinants are incidental.

For this reason it is alarming that many valuers would write thick valuation reports – dwelling in minute detail on well-nigh irrelevant facts – without as much as attempting to motivate the cap rate used. So in this article we examine the traps and tribulations faced by the valuer when gathering cap rates in the marketplace. And we also suggest a remedy.

The problems in gathering cap rates in the market place are:

### **Trap 1: Paucity of sales**

You have to value a grade A office building in the CBD of Johannesburg. But when last did a sale of a grade-A property take place in this node? So where does the valuer get his evidence? And how representative will that evidence be?

### **Trap 2: The sales data is dated**

This question is linked to problem 1. A year-old cap rate does not necessarily apply today anymore because a cap rate, like so many economic statistics, strictly speaking applies only to the date of sale (compare the cap rates in, for example, issue 2007:1 of *RR* with a year earlier). The old adage that you are not allowed to add apples and pears remains true.

### Standard cap rate vs initial yield

A standard cap rate<sup>1</sup> is the first year's expected net income divided by the purchase price, *assuming the building is fully let at market rents*. An initial yield is simply the first year's expected net income, based on existing leases and other estimates of expected actual income, divided by the purchase price/market value. The two are the same in only those few instances where a building is fully let at *market* rentals.

### Trap 3: The lease profiles are not similar

It rarely happens that the lease profiles of the comparable properties are the same as, or similar to, those of the subject property (the property which has to be valued). By this we mean that the leases of the comparables seldom have the same date of entry as that of the subject property. The practical effect of this is that one cannot simply take the initial yield of the comparable(s) and use this as a cap rate for the subject property. For instance, at the tail-end of a rental growth cycle it is not unusual for a grade-A office building to be sold at an initial yield of 7%, which might represent an imputed cap rate of 10%.

### How to compute a standard cap rate from an actual sale

A simplified example of a single lease  
that expires 3 years hence

and which is now R50 p.a. below market rents

<b>A. Sales price (actual sale)</b>	<b>R874</b>
B. Less PV of OCF	<u>-126*</u>
C. Standard capital value	<u>R1.000**</u>
<b>D. Net income year 1 assuming market rents</b>	<b>R100</b>
E. Cap rate (D/C)	10%

\* Present value (PV) of R50 p.a. for 3 years discounted at 20%. OCF stands for opportunity cash flow, and for every lease and every month/quarter/year it is the actual rental (as per the lease) less the market rental until expiry of the lease.

\*\* Standard capital value is otherwise calculated by capitalizing the net *market* rentals of the property.

<sup>1</sup> The British call this the 'remunerative rate'.

However, to calculate an imputed cap rate from such a sale could be an arduous task because (a) the lease information of individual sales is usually not available and (b), if obtainable, the workload, in the case of a multi-tenanted property, could be quite heavy.

An example of this workload is shown in the accompanying table. Note the work implied in calculating the opportunity cash flow: for every lease and for every month/quarter/year the difference must be computed between the actual rental as per the lease and the market rental – until expiry of that lease.

#### Trap 4: Outliers and the sample of one

A set of data is normally spread over a range, but it does tend to cluster around an “average”. We say the data is variable. The same applies to cap rates. Let us take the example of the cap rate for industrial leasebacks in Johannesburg. For a given quarter the mean might be 11% — i.e. most sales occurred at around this figure — but one would also expect sales at cap rates of as low as 10% and as high as 12%. The latter are known as outliers. The probability distribution of such a ‘normal’ data set is illustrated by the accompanying diagram, which is known as the normal or bell curve.

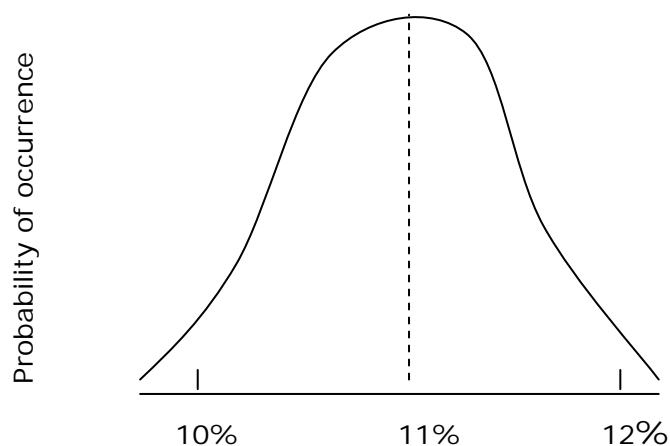


Table 1: Probability distribution of cap rates

The valuer's trap is to take one transaction – which might be an outlier at say 12% – and to use this, even after thorough investigation – as conclusive “evidence” of the ruling cap rate. We can call this the sample-of-one trap. The practice of relying on a sample of one is widespread in the valuation industry. Cap rates are by their nature variable, and because of the time and cost involved in gathering cap rates, and given the paucity of sales in so many categories, the valuer is very prone to adopting this practice. As an illustration, we need look no further than the current issue of *The South African Valuer*, official mouthpiece of the South African Institute of Valuers (SAIV), in which a past president of the SAIV, and highly regarded valuer, states<sup>2</sup>:

<sup>2</sup> *The South African Valuer*, undated issue published early 2007, p. 2

*... by analyzing one sale in exact detail and speaking to all parties involved in the sale will provide much more valuable information than using statistical information from a larger sample.*

Even the mean of a sample of a few transactions might not necessarily solve the problem of representativeness, because the thus calculated mean might still not represent the 'universe' or 'population'. This is so because the required size of the sample depends on the variability of the characteristics being observed: If every person in a 'population' had the same IQ, then a sample of one person would be all you would need to estimate the average IQ of the 'population'. If the IQs are very different (like cap rates), then you would need a bigger sample in order to produce a reliable estimate.

The danger of relying on one or two *sales* as evidence of *market* rates is highlighted by the definition of *price* (every quarter in the *Glossary of Rode's Report*), which states:

*(Price is) the amount actually paid for an asset. Not the same as **market value**, because special circumstances may have applied when the transaction was concluded.*

Examples of 'special circumstances' are:

- Either of the parties to the transaction was not knowledgeable/well informed, or
- Either of the parties did not act prudently, or
- Either of the parties was forced to transact, or
- The property was not marketed properly, or
- The transaction was between related parties.<sup>3</sup>

Even where the parties to a transaction comply with all the above criteria (being knowledgeable, prudent, etc) you would still expect a spread of cap rates because of a degree of randomness unrelated to the above rational contributing factors.

For instance, in financial economics there is a theory called **random walk**<sup>4</sup>, and even in a relatively **efficient market**<sup>5</sup> like a stock exchange, an example of this phenomenon would be the hour-by-hour – often random – fluctuations in the price of a listed share without any apparent new information regarding the counter having come to light.

---

<sup>3</sup> The definition of 'market value' approved by The International Valuation Standards Committee (IVSC), based in London, is: *(It is) the estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing, wherein the parties had each acted knowledgeably, prudently, and without compulsion.*

<sup>4</sup> The theory maintains that prices move in a random pattern and that they are no more predictable than the walking pattern of a wandering person. Source: [www.rbfcu.org/rbsg/dictionary\\_r.htm](http://www.rbfcu.org/rbsg/dictionary_r.htm)

<sup>5</sup> In economic theory, an efficient market is one in which market prices adjust rapidly to reflect new information. The degree to which the market is efficient depends on the quality of information reflected in market prices. Source: [www.cftc.gov/opa/glossary/opaglossary\\_e.htm](http://www.cftc.gov/opa/glossary/opaglossary_e.htm)

So what is the solution?

### Expert panel

We submit that the expert-panel method of collecting cap rates – as reported over the past 18 years every quarter in *Rode's Report* (RR) – goes a long way to offering a solution to all four traps. Its authority is such that we use this approach to compile market rentals for residential properties for Statistics SA for the compilation of the South African consumer price index (CPI). In fact, according to international CPI consultant Jacob Ryten, nine countries have started to use the Rode panel method of calculating residential rentals for the calculation of the CPI.<sup>6</sup>

The RR cap rate panel consists of two categories of panellists – major owners and leading, active brokers who know their market segments intimately. In the case of brokers, this means that their knowledge is based on actual sales. The question put to these carefully chosen panellists is:

**Owners:** *In your opinion, what is presently the standard capitalization rate at which your organization is equally happy to buy or sell the properties in the cities indicated below? (Assume a typical location and a cash sale, rather than paper.)*

**Brokers:** *In your opinion, what is presently the most prevalent standard capitalization rate at which the following buildings are sold/bought in the cities indicated below. (Assume a cash sale, rather than paper.)*

These questions are put to the same panellists every quarter. Their answers provide us with inter-city and intra-metropolitan cap rates over time, which were not available otherwise, and they go a long way towards solving the four above problems, viz:

- We now have cap rates for the crucial nodes, property types and grades that were previously exceedingly difficult to obtain. A shortcoming is that we cannot cover all nodes and property types and grades (but see **Capitalization-rate equations** below). Even so, quite often one can make deductions from RR cap rates with respect to nodes, grades and types not covered in RR.
- RR cap rates are updated quarterly – hence no more adding of apples and pears. This also means that subscribers to the RR can use the changes in the RR cap rates to update the comparable cap rates they compile themselves. For instance, a valuer might have a (dated) comparable cap rate for December 2005, and then consults old RRs to adjust this comparable cap rate with the change that has taken place in the RR cap rates since December 2005. Granted, during a period like the past few years, where cap rates have changed direction abruptly and rapidly, not even the expert-panel method can fully keep up, and the valuer is forced to make allowances for the lag in the reported trend. But, if this is the case with the expert-panel method, imagine the problems with cap rates derived from actual sales!

---

<sup>6</sup> Personal communication in the offices of Statistics SA in Pretoria on 1 March 2007.

- The lease profile assumed by our cap rates is very simple and consistent: it assumes the building has just been fully (re-)let at market rents, with market escalation rates and/or market turnover clauses. Hence there is no need first to impute a standard cap rate from imperfect evidence.

The valuer can now use this cap rate to capitalize the subject property's first year's net operating market income. This is known as the standard capital value. In those circumstances where a building's leases do not comply with the market-rental assumption, it is up to the valuer to make a further adjustment to the standard capital value in order to arrive at market value.

- The outlier problem is mitigated, because the means reported in *RR* represent the opinions of the best-informed players in the market, based on a *standardized* assumption regarding the lease-renewal profile.<sup>7</sup> Of course, the market players themselves will have differing opinions, reflecting uncertainty in the marketplace. The greater this range of opinions, reflected in the magnitude of the standard deviation, the greater the uncertainty, and, therefore, the lower the confidence the reader can have in the derived market value.

As might be expected, in smaller nodes, where few transactions take place and where the players are often less knowledgeable, one finds a greater standard deviation. Even in large nodes, but which are degenerating, the uncertainty might also be huge. In nodes like these, sellers and buyers have a greater chance of selling at high prices or buying cheaply (transacting below or above the *most likely* price), and valuers will often be accused, by players that confuse 'price' with 'market value', that their valuation was "wrong".

This is another way of saying that, in nodes like these, the probability distribution of cap rates is wider (the range is greater) than in nodes where many transactions take place. There is, of course, nothing the valuer can do about this, because he or she cannot change the market. However, what the valuer can, and should, do is to inform the reader of the degree of confidence that can be placed in his or her valuation estimate. Here the standard deviation of the panel-generated cap rates is of great help.

And that brings us to towns that are too small to be surveyed by *RR*.

### Capitalization-rate equations

Every quarter in *RR* we update regression equations that allow the reader to estimate the capitalization rate of a property if the market-gross-rental rate is known. Generally, these equations can be used in any *dorp*, and they can be used to check cap rates in metropolitan areas as well. The regressions are based on data generated by the above expert-panel surveys in the metropolitan areas. For more information, consult any issue of *RR*.

We previously made the point that the panel method is generally superior to the analysis of actual sales – even in metropolitan areas. Imagine how superior the cap-rate equations are in

---

<sup>7</sup> The whole property is let at market rentals.

country towns like Paarl, where data is exceedingly volatile and scarce, for the reasons discussed above.

An example of such an equation is:

$$\text{office capitalization rate \%} = 15,433 - (0,0781 * \text{gross rental})$$

**where**

gross rental = the gross market rental rate per rentable m<sup>2</sup> per month for grades A, B or C office buildings in quarter 2006: 3.

### In sum ...

To sum up, we submit that the *RR* way of compiling standard cap rates through the expert-panel method and the concomitant cap-rate equations, results in more accurate, faster, more consistent and more cost-effective valuations in both metropolitan and country areas, and is superior to relying on direct-sales data that are volatile and deficient in important respects. This applies even more to a situation where a valuer sets up a custom-made expert panel for a specific property. This is so because the broker informant now needn't generalise about the cap rate of, for example, grade-A properties, but he or she can express an opinion on a named individual building, which results in greater accuracy.

Valuers who put all their faith in one or two sales, do not understand the difference between 'market value' and 'price'. Nor do they have an understanding of basic statistics and the inherent danger of single-sale samples. In no branch of science would researchers get away with sample-of-one surveys, so why are valuers allowed to get away with this?

Old-timer valuers who complain that statistics generated using the expert-panel method now make valuers lazy, remind me of the old-timer farmer who complained when his son switched from oxen to a tractor to plough his fields. The farmer thought that his son had become lazy, and failed to realize that his son could now plough deeper, faster and use less labour (but contribute to earth warming!).

Did I suggest that valuers should not follow up actual sales in trying to deduce the standard cap rate? No, I didn't. What I am advocating is that we should recognize the many inherent shortcomings of the actual-sales approach, including the time and cost implications, not to mention its lack of accuracy, and keep our minds open to statistically better methods. If I got conflicting results from the two approaches, I would mostly opt for the expert-panel method.

■