PROPERTY VALUATION SOFTWARE PACKAGES: AN EVALUATION

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Abstract
The requirement for consistency, accuracy and transparency in cash flow forecasting by increasingly large and global property investment management groups has driven the trend to greater use of generic software packages for portfolio management and valuation. Though different generic software packages are used more often in each of North America, Europe and South East Asia, such packages as Dyna, Argus, Circle and Cougar are found to be in common use globally. By comparing and contrasting the features of generic software packages, issues arising for the valuation process and the role of the valuer are identified and considered with possible future changes proposed.

INTRODUCTION

A fundamental change in the nature of institutional property investment occurred during the 1990s. This was the global trend towards securitisation of investment property. One example is the massive expansion in the real estate investment trust industry in the United States. Another is the growth of the Australian listed property trust industry from a market capitalisation of A\$4.8 billion in the early 1990s to more than A\$33.3 billion by the end of 2000 (Property Council of Australia, 2001).

The 1990s also witnessed the emergence of global funds management and property investment groups through merger and consolidation. There is a trend to relatively few, relatively large and global institutions, investing diversely by both sector and geography and offering a multi-product range. Examples include AMP Hendersons now invest globally from Sydney, Lend Lease Real Estate Investments from London and ING from the Hague, complementing existing global property investors such as Rodamco from Amsterdam and GIC from Singapore.

Such phenomena as the harmonisation of international accounting standards and the global rollout of Charles Schwab (in a manner reflective of McDonalds) are indicative of the global

standardisation now pervading the financial and capital markets and the investment management industry generally.

The 1990s also witnessed a shift in the way in which investment property was perceived. The emphasis moved from the long term to the short term with an intense focus on performance measurement, as quarterly return rankings became a key industry driver. The bricks and mortar aspects of investment property were superseded by the cash flow aspects and properties were no longer principally considered individually but as a group or portfolio.

Property is no longer considered to be in a special class. To the global investment manager, it is just another asset class with a risk/return profile for use in asset class specific or diversified funds management products. Such investment managers are increasingly no longer trained in property, being from a financial or capital markets background and having familiarity with the relatively sterile valuation approaches of other asset classes and a lack of tolerance for the high level of subjectivity currently involved in the investment property valuation process.

For the international business of the new institution, the accurate forecasting of returns, both income and capital, from the property level through to the portfolio level is paramount. Cash flow and valuation measurement and forecasting are critical components of property investment management. Cash flow forecasting for income returns needs to include every tenancy/suite and income/expense line separately with explicit assumptions for vacancies, rent reviews, lease expiries and so forth. Capital returns, likewise, need to include capital expenditure, refurbishment/redevelopment and changes in capital value.

There is, therefore, a requirement for a high level of consistency, accuracy and transparency in the forecasting used for the investment property component within funds management portfolios. The cash flows appearing in a property valuation need to be consistent with those in the manager's budgets. The valuation undertaken needs to demonstrate consistency between variables and methods and to be mathematically accurate, with the process needing to be transparent such that each component of the valuation is capable of explicit explanation. Success in property investment management is now measured in terms of fractions of a basis point in performance, necessitating levels of consistency, accuracy and transparency never required before in the property investment management process.

For a process such as investment property valuation, which has become reliant on subjective adjustment and the defences of art rather than science, gut feel, intuition and a veil of mystique (Parker, 1996), these requirements of the funds manager could be challenging to achieve.

The capitalisation method of investment property valuation is, essentially, a very simple method. However, a century of evolution of idiosyncratic conventions of convenience have resulted in the method lacking consistency and being prone to inaccuracy and a lack of transparency.

Similarly, the DCF is, essentially, a very simple method. However, the quest for consistency, accuracy and transparency in the DCF method in Australia has been fraught with difficulty. Attempts at codification have been numerous and controversial (Parker and Robinson, 2000). Even with so much instructive material available, in less than two decades the DCF has also developed its own idiosyncratic conventions of convenience resulting in it too lacking consistency and being prone to inaccuracy and a lack of transparency.

The distinction between judgmental inputs into the process and the adjustment of that process has become blurred for the two principal investment property valuation methods, which has adverse implications for consistency, accuracy and transparency and the quality and integrity of the resulting valuation product.

This paper seeks to compare and contrast alternative investment property valuation models using the two principal methods to determine their respective ability to provide a consistent, accurate and transparent product.

ALTERNATIVE MODELS

For the purposes of this paper, the alternative models for the preparation of a capitalisation of income valuation and a discounted cash flow valuation for larger income producing properties have been classified into three groups, namely, manual models, proprietary spreadsheet templates and dedicated software packages.

Manual calculation

The manual calculation is taken to be a one-off exercise using a financial calculator and/or a spreadsheet. A spreadsheet template may be developed by the user for repeated use or a new spreadsheet may be created for each valuation.

Although the capitalisation approach can be undertaken in a spreadsheet, it is usually undertaken by hand using a financial calculator whilst the DCF approach is usually undertaken in a spreadsheet.

Depending upon the spreadsheeting skills of the user, such spreadsheets may or may not include sophisticated formulae to deal with lease expiries, rental growth, incentives and so forth. Such spreadsheets may also need refinement to accommodate unusual or complex aspects of each valuation. Alternatively, such unusual or complex aspects may be assumed away or addressed by a rule of thumb or other proxy response.

A component of manual adjustment is usually required and in many cases it may be expected to be relatively substantial. This introduces the potential for error and inaccuracy which may adversely affect the final valuation. Furthermore, given the high level of manual involvement, there is a likelihood that such models may be inconsistent (both between versions and between assumptions within a version), contain inaccuracies in formulae and lack transparency.

Proprietorial spreadsheet templates

There is now a wide range of proprietary models, with each major valuation practice having its own model and its own protocols and conventions of convenience for the use of its model. Such proprietary models are generally spreadsheet based and of a relatively high level of sophistication, capable of dealing with the majority of scenarios likely to arise in the valuation of major income-producing properties.

Similarly, such proprietary models usually include both a capitalisation approach and a DCF approach using the same database. Whilst this facilitates consistency in such elements as rental income and outgoings costs, elements such as vacancy and capital allowances usually require separate entry into each valuation approach. Some proprietary models deal with aspects such as lease expiry/retention/relet in a more sophisticated manner than others, whereas some require manual amendment, application of a rule of thumb or other form of proxy.

The separation of some elements, manual adjustments and the application of firm specific protocols and conventions of convenience may result in two valuers from the same firm using the same proprietorial software model and producing two different, but equally defensible, results. Similarly, two firms using the same data in their own models may produce two different, but equally defensible, results. This state of affairs has been a source of frustration for property owners and fund managers.

Furthermore, it is evident that there are judgmental shortcomings in the use of such proprietary models. These may range from gaps in the logic of discount rate selection relative to growth rates, capitalisation rates and their respective inter-relationships through to subjective adjustment and include DCF's giving exactly the same result as the capitalisation method but at a discount rate precise to two decimal places.

Whilst such proprietorial software applications are generally similar, they are specifically different. Differences in the manner in which various aspects of the valuation are treated and differences in the definition of terms mean that it cannot be safely assumed that the key variables and outputs from two different proprietorial models are actually expressions of exactly the same thing.

Though proprietorial software applications are essentially consistent, the manual intervention required to model certain aspects potentially undermines their ability to provide consistency. Further, whilst the applications themselves may provide a high level of accuracy, there is a risk that any aspects modelled outside the application and imported as a result may contribute inaccuracy. As proprietorial software applications, they are, by definition, not transparent to the user at anything other than a low level with considerable experience of the respective application required before familiarity with the inter-relationship between all the various outputs in the reports can be gained.

Software packages
The rise of securitised investment in property and the role of the funds management industry in property investment were amongst the contributing influences to the development of software packages. Such packages provide a detailed cash flow forecast for portfolio management purposes but also have the capacity to provide valuations based on the same cash flow data.

Such software packages include both a capitalisation approach and a DCF approach, using the same database, being highly sophisticated applications. All aspects of both valuation approaches are serviced by the same database, precluding the need for any additional adjustment in either method to deal with issues such as vacancy or capital allowances or any other forms of manual adjustment.

All users are required to enter data in the same manner and for the same purpose providing a high level of consistency and ensuring mathematical accuracy. Whilst such packages are in the nature of a black box and the detail of their formulae not accessible, the very high level of reporting permits the user to easily trace the cashflow entered through each stage of the valuation process in order to clearly observe how the final result is achieved.

The four most common software packages in use globally (and their website addresses from which a detailed profile can be obtained) were identified to be as follows:

> **Dyna – www.theRealm.com**
>
> **Argus – www.argussoftware.com**
>
> **Circle – www.circle-systems.co.uk**
>
> **Cougar – www.cougarc.com.au**

By way of example, Cougar is a "fully featured Windows™ program based upon a powerful database structure" (*Cougar* 2000) which separates the data input, calculation and reporting functions with each being undertaken in a separate part of the programme. The software generates a series of monthly cash flows for the property on a lease by lease basis over a period of 21 years, based on the detailed information input into the programme, providing valuations by both capitalisation and DCF.

Such information is a combination of known information (being essentially tenancy schedule and outgoings information) and user assumptions about the property market (capitalisation rate, discount rate, growth rates, etc) and the economy (such as the inflation rate). *Cougar* arranges all the information in a logical, ordered, hierarchical structure which may be likened to an information tree:

> Level 1 - Global Assumptions

Level 2 - Sector Assumptions
Level 3 - Property Assumptions
Level 4 - Premises Assumptions
Level 5 - Lease Assumptions

Cougar Ó offers a range of standard reports which can be viewed or printed by property or portfolio on a monthly, quarterly or annual basis and can be saved, charted or copied to other Windows™ applications.

The four software packages identified are in common use globally by valuation groups, property investors and funds managers. However, though each may offer a high degree of consistency, accuracy and transparency within itself, the four systems are generally similar whilst being specifically different.

In order to compare and contrast each of the manual model, the proprietorial spreadsheet template model and the software package models to determine their ability to provide a consistent, accurate and transparent product, a common valuation exercise was designed for completion by each approach.

THE VALUATION EXERCISE

A valuation exercise was developed by one of the authors to include the following features:
- multiple tenancies including car parking, retail and office uses, with single and multi-floor lettings;
- varying lease terms, expiry dates, rent review dates and rent review bases;
- varying outgoings bases;
- a turnover rent component;
- vacancy components;
- refurbishment and capital expenditure;
- differing growth rates for rent and outgoings;
- reletting assumptions that vary in line with incentives;
- acquisition and disposal costs; and
- a specified capitalisation rate, terminal capitalisation rate and discount rate.

The valuation exercise was specified in a brief with attached tenancy schedule and a copy (Appendix A) provided to participants. The brief contained all the information provided to participants and was revised following questions from participants, with a revised version then provided to each participant. Accordingly, all participants had common information and worked in isolation and without influence.

The brief was designed such that all information required (including judgmental inputs) were specified, in order to isolate the valuation process within each of the alternative approaches for consideration.

Completion of the valuation exercise in the respective approaches was undertaken as follows:

Manual calculation
This was undertaken by the other author who did not develop the valuation exercise. The capitalisation approach was undertaken in a specially prepared Excel^{TM} spreadsheet with a second specially prepared spreadsheet (rather than a template spreadsheet) used for the DCF approach.

Proprietorial spreadsheet template
As a proxy for this approach, the valuation exercise was completed by the valuation department of one of the major international firms in Australia using their proprietorial software. Whilst it is acknowledged that completion of the valuation exercise by other international valuation firms may have raised other issues, it is contended that the principal aim was to indicatively compare and contrast the proprietorial approach with the other two approaches.

Software packages
The valuation exercise was undertaken in each of the four generic software packages as follows:

> **Dyna**
> Completed in Sydney by the Senior Marketing Consultant for Argus Financial Software in Australia;

> **Argus**
> Completed in Houston, Texas, by analysts at Argus Financial Software in the USA;

> **Circle**
> Completed in London by an analyst at Circle Systems in the UK; and

> **Cougar**
> Completed in Sydney by the Relationship Manager for Cougar Consulting in Australia.

Accordingly, in order to maintain the focus on the approach itself without the influence of extraneous issues, each approach was undertaken by a skilled proponent of that approach, fully familiar with the operation of that approach and capable of undertaking the valuation exercise in that approach.

Thus, the results for the capitalisation approach and the DCF approach should directly reflect the valuation process without being influenced by the valuers judgement or skill in the use of the approach.

RESULTS

The results of the valuation exercise are summarised in Table 1.

Table 1: Valuation results

	Capitalisation	**DCF**
Manual calculations	$71.9m	$69.4m
Proprietorial template	$71.9m	$70.8m
Software Packages		
Dyna	$76.0m	$69.7m
Argus	(Not calculated)	$70.0m
Circle	$78.0m	$71.8m
Cougar	$69.6m	$67.5m

Two of the capitalisation calculations, Dyna and Circle, involved capitalisation of the face rentals, so these results are excluded from the summary (see below). Significantly, all of the other results are in the range of $67.5m to $71.90, with an average of $70.3m and a variance of $2.15m (or +/- 3.1%).

The DCF valuations are quite close, though there is one relative outlier. With a range of $67.5m to $71.8m, they provide an average result of $69.9m with a variance of $2.1m (or +/- 3.0%).

The three usable valuations prepared by the capitalisation method exhibit a narrower range of results from $69.6m to $71.9m. The average is $71.1m with a variance of $1.8m (or +/- 2.5%).

In all usable cases, the differences between the capitalisation and DCF results are fairly small being less than 5% apart (less than +/- 2%). It may, however, be contended that in the normal course of events, the two methodologies should provide different results with one being an estimate of price and the other being an estimate of investment worth. Occasionally they will coincide as worth leads the cycle and price lags it.

An initial analysis of the results of each approach indicates that the key differences in the capitalisation method are:

- the treatment of the market net face rental values where the associated incentive must be taken into account to establish effective market rental value;
- the treatment of over-rentals and under-rentals as a capital addition or deduction; and
- the inclusion (or otherwise) of the present value of the capital expenditure projected for 2009.

Thus the variance in results appears to be as a result of differing interpretations of the scenario rather than due to the financial model itself. This may be attributable to the more significant role of the implicit variables in the capitalisation method.

The DCF outcomes are all so close (with the exception of one result) that no specific differences present themselves. This probably results from the more explicit variables applied in DCF methodology. Ideally, the results should be identical but the differences that do occur are probably due to the interpretation of the periods of voids between leases and the rent free periods associated with the leasing incentives in future negotiations. Differences may also arise as a result of the treatment of the value of the property at the end of the DCF time horizon. Some models capitalise the year 10 rent whilst others capitalise the year 11 rent. Still others undertaken on a monthly basis multiply the month 121 rent by 12 and capitalise the result. It is postulated that this may account for the one DCF result that is somewhat adrift of the other results.

A detailed, line by line comparative analysis of the alternative approaches is beyond the scope of this paper.

The initial analysis of the alternative approaches, above, facilitates the identification of a range of issues arising for the valuation process and the role of the valuer which are considered, respectively, below.

ISSUES

Valuation Process
The quest for consistency, accuracy and transparency with the resulting shift from the use of manual approaches and proprietorial spreadsheet applications to generic software packages raises numerous issues for the valuation process including:

- the relevance of the quarter percent convention – is it appropriate to continue the use of quarter percent increments for the capitalisation rate or the discount rate when generic software packages do not devalue to the quarter percent? Should the capitalisation rate or the discount rate produced by devaulation using a generic software package be rounded and, if so, by what increment?;

- the relevance of the annual cashflow convention - generic software packages allow monthly, quarterly and annual cash flows and rent is often billed monthly or quarterly, so the relevance of valuing in annual increments should be reviewed. The generic software packages calculate monthly but gather cashflows together as annual cashflows for presentation purposes. However, the use of annual, quarterly and monthly cashflows may generate the requirement for different discount rates (all other things being equal) though it is debatable the extent to which valuers currently adopt the appropriate discount rate with evidence of monthly cashflows being discounted at a rate reflective of annual cashflows;

- the role of rounding – the use of rounding is endemic in the valuation process with rent and outgoings rates psm being rounded, annual cash flows being rounded, capitalisation and discount rates being rounded and then the final number itself being rounded. The extent of rounding is probably greater within the capitalisation method than within the DCF method, where rounding is often left to the bottom line. However, generic software packages do not need to round as they compute each calculation unrounded. Whether or not final number should then be rounded requires further consideration;

- the double counting of risk and growth – the treatment of risk and growth in the cashflows, the capitalisation rate, the terminal capitalisation rate and the discount rate requires very careful attention. Without a rigorous application of the same principles to valuation as are adopted in devaluation, the potential for double counting is considerable and can significantly impact the results using generic software packages;

- separate capitalisation and DCF approaches – the use of generic software packages working from a common database removes the need for the capitalisation method to be undertaken separately from the DCF method. However, when the two methods share a common database, it is necessary for all other aspects of the valuation process to be consistent if a similar result is to be obtained. This places considerable focus on conventions of convenience, firm specific protocols and other proxy approaches, necessitating a clinical clarity in assumptions and methodology if a similar result is to be obtained, though a significant contribution to the understanding of the inter-relationship between the capitalisation method and the DCF method results;

- an end to the debate – the use of generic software packages effectively obviates the need for any further argument about the mechanical aspects of DCF by the valuation profession;

- forecasting consistency - for a global investor, generic software packages offer the potential to forecast the returns for each property in the portfolio on the same basis, regardless of the type of property or its geographical location, in a manner consistent with the cashflows underlying the valuation; and

- increased levels of accuracy and transparency – the use of generic software packages mean that the institutional investor can be more confident that (subject to the appropriate data

entry protocols) the data and calculations are accurate, that each property in the portfolio has been treated consistently and that each result can be deconstructed to observe its composition. However, care will still be required until a common global understanding of the nature and role of each of the variables is established.

software packages allow the valuation to comprise accurate, consistent and transparent forecasts that align with the property management system and portfolio management system of the institutional investor. This results in the cash flow forecasts within the valuations aligning with the property management budgets and the portfolio management distribution and NTA forecasts, so providing an additional layer of transparency not available from the cashflows appearing in the manual approach or the proprietorial software approach.

As such, the software packages allow the property valuation process to be brought seamlessly within the overall portfolio management process which is a very attractive prospect for the funds management industry.

Role Of The Valuer

Not only does the quest for consistency, accuracy and transparency with the resulting shift from the use of manual approaches and proprietorial spreadsheet applications to generic software packages raise numerous issues for the valuation process, but it also raises issues for the role of the valuer including:

- control - generic software approaches allow the valuer control over the key variables (such as discount rate selection) whilst providing the institutional investor with all of their valuations undertaken on the same basis in an accurate, consistent and transparent manner;

- focus - generic software packages facilitate a clear focus by the valuer on the key aspects of returns through cashflows, being quantum, direction and timing and their respective sensitivities;

- judgmental inputs – the use of generic software packages allows the basic data to be imported electronically from the property management system, releasing the valuer to provide expert judgmental input for such variables as growth rates, discount rate, capitalisation rate, etc. As such, it is a much higher order use of the valuer's skills, knowledge and expertise which potentially finally shifts the focus of the valuer away from location, bitumen sealed dual carriageways and tenancy schedule data entry to a detailed, analytical consideration of the key variables being entered into the model;

- forward looking focus – the greater emphasis in generic software packages is on looking forward and on forecasts in the assessment of worth, with a lesser emphasis on looking backwards in the assessment of price;

- database management – the provision of an accurate and portable database by the client to the valuer reduces the need for collation and checking of data by the valuer, resulting in potentially significant time savings. Further, the prospect of mathematical error, omission of data, differing treatments of the same issue and so forth become much reduced;

- integration into the capital markets - as property market variables become less important in the valuation process over time and the economic, financial and capital market variables become more important, such generic software packages impose a discipline on the valuer to consider the relativities and interactions between each;

- client/valuer relationship - with an increasing number of institutions specifying which form of generic software package the valuer is to use, it is rapidly becoming not a question of if but when the use of such packages will be prevalent. This has potentially significant implications for change in the valuer/client relationship, for professional indemnity issues, fee levels and so forth; and

- stratification - the further stratification of the valuation profession would appear inevitable as such generic software packages gain widespread acceptance. Not only will the gap between the residential and commercial valuation profession widen, but the gap between the smaller commercial property and larger commercial property valuation practitioner will also be likely to widen.

Having considered some of the issues arising from the trend to software packages and away from alternative approaches for the valuation process and for the role of the valuer, possible future changes are proposed below.

Possible Future Changes
For increasingly large and complex investment properties, the manual approach, though transparent, lacks consistency and accuracy and is rapidly becoming irrelevant.

The lack of prescriptive guidance on DCF compounded by inconsistencies in structure between various proprietorial software approaches and the manual adjustments required limit their consistency, accuracy and transparency. Given the trend to fewer, larger global investors, the willingness to accept and usefulness of differing proprietorial software packages is debatable when alternatives such as generic software packages are available.

Thus, a trend towards the use of generic software packages by major institutional investors is contended to be inevitable. The use of the same generic software package by the valuer, the property manager and the portfolio manager provides the level of consistency, accuracy and transparency required by global property investors, irrespective of sector or geographical location.

What is far from clear, however, is which of the alternative generic software packages will emerge as the dominant or preferred approach. When, or if, one package emerges as the most commonly preferred system, it will be only a small step forward to standardise exactly what each input means and so finally minimise differences in interpretation of terminology between valuers leading to results distinguishable only by differences in judgmental inputs.

Conclusions

Generic software approaches offer the attractions of accuracy, consistency and transparency. The mathematics are standard so the model is purely a function of that which is entered. The answer is directly related to the assumptions in the inputs and is always calculated in the same way and is always mathematically accurate. There is no capacity in such software for subjective adjustment and the extent of reporting provides an unparalleled level of transparency.

The focus on the cashflow in generic software packages, rather than on bricks and mortar, further aligns property with the other asset classes. Having cash flows for valuation that accord with those for property management and portfolio management contributes to a greater transparency for the property asset class. Historically, the inability of auditors and independent experts to match cashflows in valuation reports with property management or portfolio management cashflows was often a cause for concern and suspicion that was negative for the reputation of property as a competing asset class.

Generic software packages potentially provide a common global language for property valuation with the emergence of one dominant package likely to facilitate the greater integration of property into the other capital markets asset classes.

Whilst there are similarities in the results using the manual approach, a proprietorial software application and generic software packages, there are also considerable differences. Such differences may be attributable to the interpretation of variables, the interpretation of results, issues of price vs worth and so forth. Though the reasons for such differences require further investigation and explanation, it is apparent that generic software packages provide a potentially more consistent, accurate and transparent product than do alternative approaches.

Acknowledgements

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<div align="right">**Appendix A**</div>

<div align="center">**Property Valuation Software Packages: An Evaluation**</div>

Introduction
Valuations should be undertaken by both the capitalisation method and the discounted cash flow method over a 10 year period, with the unrounded result provided for each.

There should be no need for judgemental or subjective input in the following valuations.

The valuations are to be undertaken as at 30th June, 2001.

The Property
The property to be valued comprises a 12 level car park, retail and office complex leased to 8 tenants as detailed in the attached spreadsheet. All tenants pay rental monthly in advance with outgoings paid monthly in arrears.

Outgoings for the year ending 30th June, 2001 total $75psm pa, comprising $25psm pa statutory charges and $50psm pa non-statutory charges. The car park has no liability to pay outgoings. The supermarket pays statutory outgoings only, apportioned on the basis of proportionate floor area.

Gross leases all have a common base date and recoveries over the base date equate to $10psm pa. All base dates are only updated on lease expiry.

Current car park turnover is $2.4 million pa and the tenant pays a turnover rent equivalent to 30% of turnover less the base rent, annually in arrears. It should be assumed that the turnover rent for the year ending 30th June, 2001 has been paid. Car park turnover grows by CPI. There is no updating of the base rent/turnover threshold during the life of the current lease. It should be assumed that, at lease expiry, the rent reverts to market and the turnover rent mechanism ceases to exist.

All tenants vacate at lease expiry when the lessor spends $60psm (to be indexed by CPI) on upgrade works to make the accommodation relettable and this takes one month to undertake. On completion of this one month period, the reletting period (referred to below) commences.

All tenancies (including the supermarket and car park) are then relet on a nett lease basis with recovery of all outgoings at market rent with the incentive taken as rent free from lease commencement, being leased for 5 year terms with annual market reviews, no ratchet (such that the rent may rise or fall on review). Leasing fees are 10% of year one market rent only (excluding outgoings recoveries and car parking).

No rent review fees are payable.

The property is ageing and will require annual capital expenditure of $100,000 each December and an additional $1.5 million capital expenditure in June 2009, each to be indexed by CPI.

The Market
The open market nett face rental value of each section of the property may be summarised as follows:

Car parks	$250pcm
Supermarket	$250psm pa
Offices (all floors)	$500psm pa

CPI growth, both statutory and non-statutory outgoings growth, market rental growth and incentives are projected as follows:

Over Calendar	CPI	Outgoings	Market Rentals		Incentives
2001	+6%	+5%	+10%	20%	
2002	+5%	+4%	+8%	16%	
2003	+4%	+3%	+6%	12%	
2004	+3%	+2%	+4%	10%	
2005	+2%	+1%	+2%	5%	
2006	+1%	+0%	+0%	+0%	
2007	+0%	+0%	-5%	10%	
2008	-1%	+0%	-7%	15%	
2009	+0%	+1%	-5%	25%	
2010	+1%	+2%	+0%	20%	
2011 and thereafter	+3%	+2%	+4%	10%	

All market rentals and incentives are projected to change as follows:

In 2001, it takes 6 months to relet vacant accommodation on lease expiry and this period increases and decreases in the same proportion as incentives. Such reletting period is in addition to the one month period after lease expiry taken to make the accommodation relettable.

The capitalisation method should include a vacancy allowance equivalent to 5% of the market income in year 1.

The appropriate capitalisation rate for all cashflows from the property is 10% at June 2001 and 10% at June 2011 with the appropriate discount rate being 10.5% at June 2001. Acquisition costs equate to 5% and disposal costs equate to 3%.

Level	NLA (SqM)	Use	Tenant	Lease Term	Lease Expiry Date	Rent Passing $PA	Next Rent Review	Rent Review Basis	Ougoings Basis
Basement	200 cars	Car Park	Jones	15	30/06/2012	$480,000	30/06/2002	Turnover linked	No outgoings paid
Ground	3,500	Supermarket	Ellis	20	30/06/2003	$525,000	30/06/2002	CPI annual	Net - stats only
1	2,500	Office	Knight	5	31/12/2003	$1,000,000	31/12/2001	5% annual	Gross
2	2,500	Office	Collier	5	31/12/2004	$1,500,000	31/12/2001	Mkt - ratchet - 2 yearly	Gross
3	1,000	Office	Stanton	5	30/06/2004	$400,000	30/06/2002	Mkt ratchet - max 2%pa - 2 yearly	Gross
4	1,000	Office	Debenham	5	30/06/2005	$400,000	30/06/2002	Mkt ratchet - min 5% pa - 2 yearly	Net
5	1,000	Office	Chesterton	5	30/06/2005	$400,000	31/12/2001	Greater CPI/2% annual	Gross
6	1,000	Office	Davies	10	31/12/2008	$600,000	31/12/2001	2 Yrly Mkt - no ratchet	Net
7	1,000	Office	Davies	10	31/12/2008	$600,000	31/12/2001	2 Yrly Mkt - no ratchet	Net
8	1,000	Office	Davies	10	31/12/2008	$600,000	31/12/2001	2 Yrly Mkt - no ratchet	Net
9	1,000	Office	Davies	10	31/12/2008	$600,000	31/12/2001	2 Yrly Mkt - no ratchet	Net
10	1,000	Office	Davies	10	31/12/2008	$600,000	31/12/2001	2 Yrly Mkt - no ratchet	Net
Total	16,500								