



FINM3406

Real Estate Finance

Lecture 4

Real Estate Appraisal (Valuation)

Outline

- Real Estate Appraisal (Valuation)
 - What is a valuation?
 - Role of the Property Valuer
 - Different types of valuations – mortgage security, market value, existing use, rating/land tax etc
 - Valuation methodologies – direct comparison, hypothetical development, DCF, capitalisation.

WHAT IS A REAL ESTATE VALUATION?

Real Estate Valuation

- What is a valuation?
 - Real estate valuation is the formal process of determining the value or worth of real property, which as discussed previously could include land, buildings, and other improvements.
 - The aim of a real estate valuation is for an expert to establish an accurate and reliable assessment of the “*value*” of the bundle of rights that a person has in a particular property.
 - The assessment can be expressed as a range of values but generally a single amount is adopted.

Real Estate Valuation

- Why are valuations important?
 - **Buying or selling a property:** The value of a property is a crucial factor in determining the purchase price or selling price.
 - **Financing:** Lenders require an accurate valuation of a property before approving a mortgage or other loan secured by real estate.
 - **Property tax assessment:** Real estate valuation is used to determine the land tax and rates assessment, which is based on the assessed value of the property.
 - **Insurance:** The value of a property is a key factor in determining the amount of insurance coverage needed.
 - **Annual Reporting:** Valuations are used in both private and public sectors for their financial reports.

ROLE OF THE PROPERTY VALUER

The Property Valuer

- In Australia experts who undertake valuations are referred to as Property Valuers
 - Certified Practicing Valuers accredited through the Australian Property Institute; and/or
 - Registered Valuers - see *Valuers Registration Act* (Qld)
- In North America they are referred to as an “Appraisers”
- In the UK they are referred to as a “Chartered Surveyors”
- Profession has evolved over the years
 - 40 years ago just a diploma and practical experience
 - Now degree qualifications and minimum two years experience required
 - Specialisation of valuers (ie rural, mining, specialist retail, plant and machinery)

The Property Valuer

- The Property Valuer will receive instructions to undertake a particular type of valuation of a property.
- The Property Valuer will determine the “value” (whichever type of value is instructed) of the property as at the date they were asked to assess it.
- The date of valuation can be as at the date when the valuer was instructed or some date in the past BUT Property Valuers do not give predictions about the value of a property sometime in the future.

The Property Valuer

- The “value” is the **Property Valuer’s opinion** about the property's worth in accordance with the instructions given.
- It is an opinion given by a suitably qualified expert about something that possibly hasn’t happened and may never happen (ie a market value assessment of a property that hasn’t sold and may never sell).
- Property Valuers are engaged not only because the client wants a reliable assessment of value for their personal reasons but also because they want to have recourse to the Property Valuer’s Professional Indemnity insurance should something go wrong.

The Valuation Report

- Property Valuer's produce valuation reports that advise the “value” of the property and generally include:
 - Certificate of Valuation (stating the value of the property as at the date of valuation and signed by the valuer)
 - Outline of the primary method of valuation (including financial modelling) and check method adopted
 - Detailed description of any sales evidence relied upon
 - Outline of any assumptions, limitations (ie land not contaminated, no encroachments etc)

The Valuation Report

- The most comprehensive part of the valuation report tends to be about the subject property.
 - Detailed description of the property being valued including:
 - property's title
 - zoning
 - location
 - land size
 - building size and condition
 - site amenity and services
 - encumbrances (ie easements, registered leases)

DIFFERENT TYPES OF VALUATIONS

Land Value Components

- Land Value comprises:
 - ‘Private Benefit’ infrastructure, that services individual properties paid for through local government levied user charges (eg local roads, reticulated water and sewerage, stormwater drainage, local parks);
 - ‘Social’ infrastructure paid for by government through tax and excise income (eg schools and hospitals, public transport, arterial road networks); and
 - Urban externalities (eg amenity and aspect)
- Land value is impacted by external factors
 - **Betterment** is “the capitalised value of urban externalities (amenity, access to services, etc.) and (unpriced) social infrastructure”.
 - **Blight** can also impact property and is created by infrastructure development and planning policy decisions. It occurs where these activities diminish land value.

What do we mean by “value”?

- Value of real estate like most assets and commodities is ultimately governed by the law of supply and demand
 - When demand is high and supply is low prices tend to increase.
 - Conversely when supply is high and demand is low prices tend to decrease.
- Real estate is regarded as an “inelastic asset”
 - Real estate is a scarce/limited resource
 - There is a long lead time to build new or bring existing properties to market in response to demand
 - Changes in price of real estate do not always have a direct impact on quantity supplied or demanded

What do we mean by “value”?

- Real estate market is considered an “imperfect market”
 - **Information asymmetry:** Buyers and sellers may not have access to equal understanding of the market or the asset being sold
 - **High transaction costs:** barrier to entry for many potential buyers
 - **Limited competition:** Zoning restrictions and availability of infrastructure limit provision of new stock to compete with existing stock
 - **Emotional factors:** People buy real estate for personal sentimental reasons not always rationally
- **Price paid for a piece of real estate may not accurately reflect its true value**

More than one type of “value”

- International Valuation Standards effective 31 January 2022 defines different types of value:
- **Fair Market Value**
 - The Organisation for Economic Co-operation and Development (OECD) defines “fair market value” as the price a willing buyer would pay a willing seller in a transaction on the open market.
 - For United States tax purposes, Regulation §20.2031-1 states: “The fair market value is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts”
- **Liquidation Value**
 - The amount that would be realised when an asset or group of assets are sold on a piecemeal basis. Liquidation value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity. Liquidation value can be determined under two different premises of value:
 - (a) an orderly transaction with a typical marketing period; or
 - (b) a forced transaction with a shortened marketing period.

More than one type of “value”

- International Valuation Standards effective 31 January 2022 defines different types of value:
- **Market Value**
 - The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.
- **Existing Use Value**
 - Current use/existing use is the current way an asset, liability, or group of assets and/or liabilities is used. The current use may be, but is not necessarily, also the highest and best use.

Types of real estate valuations

- **Market Valuation**
 - Fee-simple in possession
 - Life Estate
 - Leasehold Estate
 - Stand alone value vs aggregation with other holdings
- **Mortgage Security Valuation**
 - Tends to be assessed at Market Value but may be requested by the bank to be assessed at Liquidation Value
- **Market Rent Valuation**
- **Insurance Valuation**
 - Replacement Cost (rebuild new structure with same utility)
 - Reproduction Cost (rebuild new identical structure)

Types of real estate valuations

- **Existing Use Valuation**
 - Tends to be specialist properties that have limited or no market and used for financial reporting (eg large scale industrial businesses such as sugar mills, processing plants, mines and private/public infrastructure such roads, tunnels, seaports and airports)
- **Statutory Valuation**
 - Assessment of notional “unimproved” value to assess rates and land tax.
 - Compulsory acquisition compensation assessments

VALUATION METHODOLOGIES

Steps to conduct a valuation

- **Step 1 - Define the Problem**
 - Define the property rights to be valued
 - Define the type of valuation being instructed
 - Define the date of valuation
 - Identify the data need to conduct the valuation
- **Step 2 – Determine the most probable use**
 - Is the current use the property’s “Highest & Best Use”?
 - “Highest and Best Use” is the use of an asset that maximises its potential and that is possible, legally permissible and financially feasible.

Steps to conduct a valuation

- **Step 3 - Define the most probable buyer**
 - Who is likely to buy the property
 - How is that sector of the market behaving (ie what are the buyers doing)
- **Step 4 – Select the Valuation Methodology**
 - What are the instructions from the client
 - Is the property likely to be valued on market activity, cost or income considerations (How do buyers and sellers act in this sector of the market)

Steps to conduct a valuation

- **Step 5 – Review and Adjust for External Factors**
 - Accurate property data (title, survey, permits, leases and rent review dates – normally easy to get)
 - Accurate market data (sales evidence readily available – leasing evidence not so much)
- **Step 6 – Value Conclusion and Limiting Conditions**
 - Final estimate/opinion of value determined
 - Report completed
 - Assumptions and limitations defined

Methods of Valuation

- Direct Comparison
- Summation
- Before and After
- Hypothetical Development (more detail in week 5)
- Discounted Cash Flow (more detail in week 6)
- Units of Production
- Capitalisation method

Methods of Valuation

- Only one method is considered inherently superior (depends upon property type), however each have their advantages in a particular application.
- Methods are used as primary and check methods.
- Directly comparable recent sale evidence is hard to beat.

Direct Comparison

- Simplest method
- Used when sales evidence is comparable enough to subject to allow direct comparison.
- Most popular method of valuation incorporated in the valuation of non income producing properties.
- Like with Like, Apples with Apples
- Perfect World Scenario – Real challenge is adjustments for items that are not comparable (no two properties the same)

Summation Method

- Collation of value through the addition of constituent parts or components of a property.
- Used predominantly as a check method. Example:

| | |
|-----------|-------------|
| Land | \$1,000,000 |
| Buildings | \$750,000 |
| Other Imp | \$250,000 |
| Total | \$2,000,000 |

- Land component treated as if it was vacant
- Building and improvements is their added value to the land (can be challenging to assess accurately – depreciated replacement cost)

Before and After

- Used to assess compensation as result of compulsory acquisition, easement or encumbrance
- Simply the difference in value before and after the imposition of the event
- Method requires two separate valuations
- One before and one after
- Can also be used in aggregating and/or subdividing properties

Hypothetical Development

- Used to assess land under-developed but has:
 - Highest and Best Use as a development site
 - Immediate potential for development
- Suited to assess englobo (in-globo) land
- Method starts at the end and works backwards
- Hypothetical Development Equation:
 - Value of Finished Product = land value + dev costs + finance costs + profit
 - Value of Land = Value of Finished Product – (dev costs + finance costs + profit)
- Suitable only for static residual value calculations (single phase developments)

Discounted Cash Flow

- Method involves assessing the present value of future cash flow
- Method based on subjective assumption
- Allows cash flow flexibility
- Useful in the assessment of complex and variable income properties
- Can be dangerous in the wrong hands – lots of assumptions

Units of Production

- Common application for Rural properties
- Carrying capacity, Beast area value
- Applied to specialised commercial properties
 - hotel liquor consumption
 - bed rate in boarding houses
 - Room rate in hotel / motel

Capitalisation method

- This valuation method is used for investment class properties
- This method has been widely accepted as being suitable for the estimation of Market Value.
- Under this method, the Future Sustainable Annual Net Income of the subject property is converted to a capital sum (or value) by a market derived multiplier.
- There is a basic assumption that the level of income will remain constant in perpetuity, or at least sufficiently long term to adopt a calculation of the income stream in perpetuity.

Capitalisation Rate

- Cap rate often referred to as yield or “All Risks Rate”
- It is a rate that represents all current and future expectations and benefits to be derived from a property.
- The rate can be used as a benchmark for the comparison of investments
- Benefits - very simple to use and easy to compare with other assets
- Challenges – integrity and availability of market data to derive rate

Capitalisation Rate

- The formula used for the Capitalisation Method is:

$$CV = \frac{NI}{i}$$

- Where:
 - CV = Capital Value
 - NI = Net Annual Sustainable Income (also sometimes called Net Operating Income)
 - i = Capitalisation Rate (or Yield)
- The valuer needs to establish:
 - The Open Market Rental Rate applicable to the property by reference to market rental evidence.
 - The Cap Rate by analysis of recent sales evidence.
- The factor is generally applied to the analysis/valuation of income streams (annuities) from real property held freehold in fee simple which are considered to be enjoyed in perpetuity.

Capitalisation Rate – Why in perpetuity

- This concept can be tested by calculating the present value of an annuity over say 50, 100 years, etc. As the period of the annuity increases, the present value will approach the present value of the annuity in perpetuity. After 100 years the annuity can in effect be treated as one in perpetuity.
- Assume a freehold property is let with a net market income of \$21,000 and the appropriate cap rate is 10%

$$\begin{aligned} CV &= \frac{NI}{i} \\ CV &= \$21,000/0.1 \\ CV &= \$210,000 \end{aligned}$$

Note the present value of \$21,000 p.a. discounted at 10% per annum over

| | | |
|---------------|---|-----------|
| 30 years | = | \$197,965 |
| 40 years | = | \$205,360 |
| 50 years | = | \$208,211 |
| 100 years | = | \$209,984 |
| In perpetuity | = | \$210,000 |

Capitalisation Rate

- As the capitalisation rate rises, investment value falls. For example:

Calculate the investment value of a net income of \$100,000 expected from a freehold property at the following capitalisation rates: 8%, 10%, 12.5%.

| Capitalisation or All Risk Rates | Formula ($PV = \frac{R}{i}$) | Value |
|----------------------------------|--------------------------------|-------------|
| (a) 8% | $\frac{\$100,000}{.08}$ | \$1,250,000 |
| (b) 10% | $\frac{\$100,000}{.1}$ | \$1,000,000 |
| (c) 12.5% | $\frac{\$100,000}{.125}$ | \$800,000 |

- Note the Cap Rate is a market derived discount rate **BUT** is different from discount rate applied in a Discount Cash Flow.

Capitalisation Rate – Years Purchase

- An alternate way of explaining the relationship between net income and property value is the number of years needed to buy the property.
- Years Purchase is the reciprocal of the capitalisation rate:

$$\frac{1}{\text{Capitalisation Rate}} = \text{Years Purchase}$$

For example, using the same figures as previously:

$$(i) \quad \frac{1}{.08} = 12.5 \text{ Years Purchase}$$

$$(ii) \quad \frac{1}{.1} = 10 \text{ Years Purchase}$$

$$(iii) \quad \frac{1}{.125} = 8 \text{ Years Purchase}$$

Outgoings

- Outgoings are the expenses incurred in operating an income producing property. They are limited to non-capital items. Typically, they would include:
 - Repairs and Maintenance
 - Rates, Land Taxes, Fire Brigade Levy
 - Water & Sewerage, Gas, Oil and Power charges
 - Security
 - Gardening & Landscaping
 - Cleaning, Waste Removal & Pest Control
 - Insurances
 - Air Conditioning, Ventilation, Lifts
 - Management and Administrative costs

Outgoings

- Some property costs are the responsibility of the owner (eg., capital costs, land tax, etc).
- Other costs may be recovered from the Lessee, depending on what has been agreed in the lease document.
- Usually, any recoverable outgoings are charged to the Lessee monthly with the rent payment. These costs are based on a budget established at the beginning of each year, with audit adjustments at year's end. The Lessee is then charged or credited with the annual difference (actual versus estimate).

Property Income

- Gross Rent:
 - The annual rent, usually paid on a monthly in advance basis, as set out in the Schedule to the lease. The gross rent is inclusive of outgoings.
- Net Rent:
 - The gross rent payable less outgoings incurred. The lessee is required to pay an additional sum for outgoings as specified in the lease document.

Net vs Gross Rent

- **Example**

- An accountancy firm has leased one 1,000m² floor of a 5,000 m² office building, plus 10 parking bays, for period of five years at a commencing rental rate of \$250 per m² per annum for the office space and \$300 per calendar month per bay.
- The lease indicates that the Lessee is required to pay 20% of the building outgoings as specified in a schedule to the lease document. Total budgeted recoverable outgoings for the building is \$500,000, or \$100 per m² per annum.
- This is a net lease.
- If it were a gross lease, the rental would have been stated in the lease as \$350 per m² and there would be no mention of outgoings being paid.

Net vs Gross Rent

Lessee's Rental Costs

| | |
|--|---------------------------------------|
| <u>Net Rental:</u> | <i>Annual Cost</i> |
| 1,000m ² at \$250m ² | = \$250,000 |
| <u>Outgoings:</u> | |
| 1,000m ² at \$100m ² | = \$100,000 |
| <u>Sub Total</u> | = \$350,000 (or \$350m ²) |
| <u>Plus Car Parking:</u> | |
| 10 bays at \$300pcm x 12 = | \$36,000 |
| <u>Total Cost per annum =</u> | <u>\$386,000</u> |

| | |
|--|-------------------------|
| <u>Gross Rental:</u> | |
| 1,000m ² at \$350m ² | = \$350,000 |
| <u>Plus Car Parking:</u> | = \$36,000 |
| <u>Total Cost per annum =</u> | <u>\$386,000</u> |

Establishing the Annual Net Sustainable Income

- The valuer must critically examine and review the lease documents for the subject property to establish the passing rental rates.
- The valuer must then compare those rental rates to the market rent that would be applicable to the property if being let at the time of valuation.
- It is the market rental that is considered to be the potential or Future Sustainable Income for the property and it is this rental that is used to calculate the NI.
- The valuer will also capture any other income that the property is capable of producing, ie., car parking, naming rights, signage, etc.

Establishing the Capitalisation Rate (or Yield)

- At the simplest level, the Cap Rate can be determined by the valuer through an analysis of recently sold comparable properties.
- If two of the three factors of the basic capitalisation formula are known, then the third can be derived.
- Therefore, if the sale amount (the capital value) and the Net Operating Income can be established for the comparable properties, the third factor, the Cap Rate, can be calculated:

$$i = \frac{NI}{CV}$$

Capitalisation Method - A worked example

- The valuer must then subtract all building operating costs from the gross income.
- The final step in establishing the Net Sustainable Income is to apply a Vacancy Allowance factor which is also then subtracted from the income figure.
- For an example, let's return to our office building:

| | |
|-----------------|----------------------------|
| Area: | 5,000m ² |
| Rental Rate: | \$350/m ² Gross |
| Outgoings: | \$100/m ² |
| Parking Bays: | 50 |
| Parking Rate: | \$300 Per Calendar Month |
| Naming Rights: | \$10,000pa |
| Signage Rights: | \$15,000pa |
| Occupancy Rate: | 95% |

Capitalisation Method - A worked example

| | |
|-------------------------------|--|
| Rental Income | \$1,750,000 (\$350/m ² x 5,000m ²) |
| Other Income | |
| Parking months) | \$180,000 (50 carpark x \$300 pcm x 12) |
| Naming Rights | \$10,000 |
| Signage Rights | <u>\$15,000</u> |
| <i>Potential Gross Income</i> | <i>\$1,955,000</i> |
| Less Vacancy Allowance | <u>\$87,500</u> (5% of rent) |
| <i>Effective Gross Income</i> | <i>\$1,867,500</i> |
| Less Outgoings | <u>\$500,000</u> (\$100/m ² x 5,000m ²) |
| <i>Net Operating Income</i> | <i>\$1,367,500</i> |
| Capitalised at 8.5% | \$16,088,235 |
| Market Value: | Adopt \$16,100,000 |

Shortcomings of the Capitalisation Method

- **Data Errors**

- This has been an application of the Capitalisation Method at its most basic level. In the real world, there is obviously a lot more data collection, analysis and adjustment to the numbers that needs to be effected.
- In short, this method is simple to apply but is highly sensitive to data errors. Not only is there the difficulty of locating recently sold comparable properties, but there is the added problem of assessing their net annual income and an applicable cap rate, as much of this information is confidential.

Shortcomings of the Capitalisation Method

- **Reliability of Information:**
 - The valuer must invest considerable time and effort in reviewing the financial facts applicable to the subject property. The most reliable information sources will be from other assignments undertaken by valuer and colleagues, and this may be limited in scope.
 - The valuer must therefore network with others in the industries and hope for a sharing of information. Even then, the available data may come from buildings with differences in age, condition, location, materials, quality of services and finishes, lease structures and management quality, to name a few.

Shortcomings of the Capitalisation Method

- **The Assumption of Sustainable Net Income:**
 - The conventional practice is to estimate what a stabilised net annual income for the subject property will be. This assumes that this income level will “settle down” in perpetuity.
- **Selection of the Cap Rate:**
 - A minor error in establishing the Cap Rate will have a major impact on the estimated property value.
 - The Cap Rate is often referred to as an “All Risk Yield” because it incorporates allowances for every source of risk to which the investment is perceived to be exposed.
 - The component risks would include the “risk free rate”, inflation, anticipated interest rate movements, rental rate movements, vacancies, building expense variations, obsolescence, terminal value risk, etc.

Shortcomings of the Capitalisation Method

- Despite its shortcomings, the Capitalisation method is widely used in the property industry, either as a primary or secondary valuation methodology.
- It is not universally popular however, as one unkind commentator observed:

“The Capitalisation approach to valuation is a method that uses two unknowns (Sustainable Net Income and the Cap Rate) to calculate a third unknown (Property Value)!?”

The Valuation of Varying Incomes

- You will recall that a freeholder (lessor) of an investment class property controls a bundle of rights that can be sold or leased. A lessee also has an interest in the property (albeit a lesser interest) which is defined by the lease document and relevant legislation.
- Each of these interests (lessor's and lessee's) in the property has a value based on the potential income that is available to each party.

The Valuation of Varying Incomes

- **The Lessor:**
- The lessor has a right to receive rental and other income from the property under the terms of the lease. Once the lease has expired, the property reverts to the full control of the lessor who can then relet the property at the prevailing full market rental rates.
- The income derived from the lease can be capitalised to establish the value of the based on the lease term.
- The potential income at lease expiry is known as the Reversionary Income which can then be capitalised in perpetuity to establish the reversionary value of the property *at that time*.

The Valuation of Varying Incomes

- **The Lessee:**
- If the property is being rented by the lessee at a rate below the market rate, there is the potential for a profit to be made on the rent:
- For example:

| | |
|-------------------------|-------------------------------|
| <i>Full Market Rent</i> | <i>\$1,000 per annum</i> |
| <i>Passing Rent</i> | <i><u>\$800</u> per annum</i> |
| <i>Profit Rent =</i> | <i>\$200 per annum</i> |
- Subject to certain provisions of the lease, the lessee has the right to sub-lease the premises for the remaining term of the lease . In such cases, the lessee will become the Head-Lessee and this terminating “leasehold interest” (capitalisation of the profit rent) is the lessee’s interest.

The Valuation of Varying Incomes

- There are several methods available for the valuation of varying incomes:

1 – Term and Reversion;

- This method capitalises and then aggregates the term and reversionary Incomes. The reversionary value will need to be converted to a present value.

2 – Hard Core Method;

- Under this method, income flows are dealt with as horizontal slices, with passing rent being the “core” income, and future increases due to reviews or reversions being additional slices.

3 – Shortfall Method.

- This method calculates the “loss” of income before market rates are achieved and deducts the value so derived from full market value.

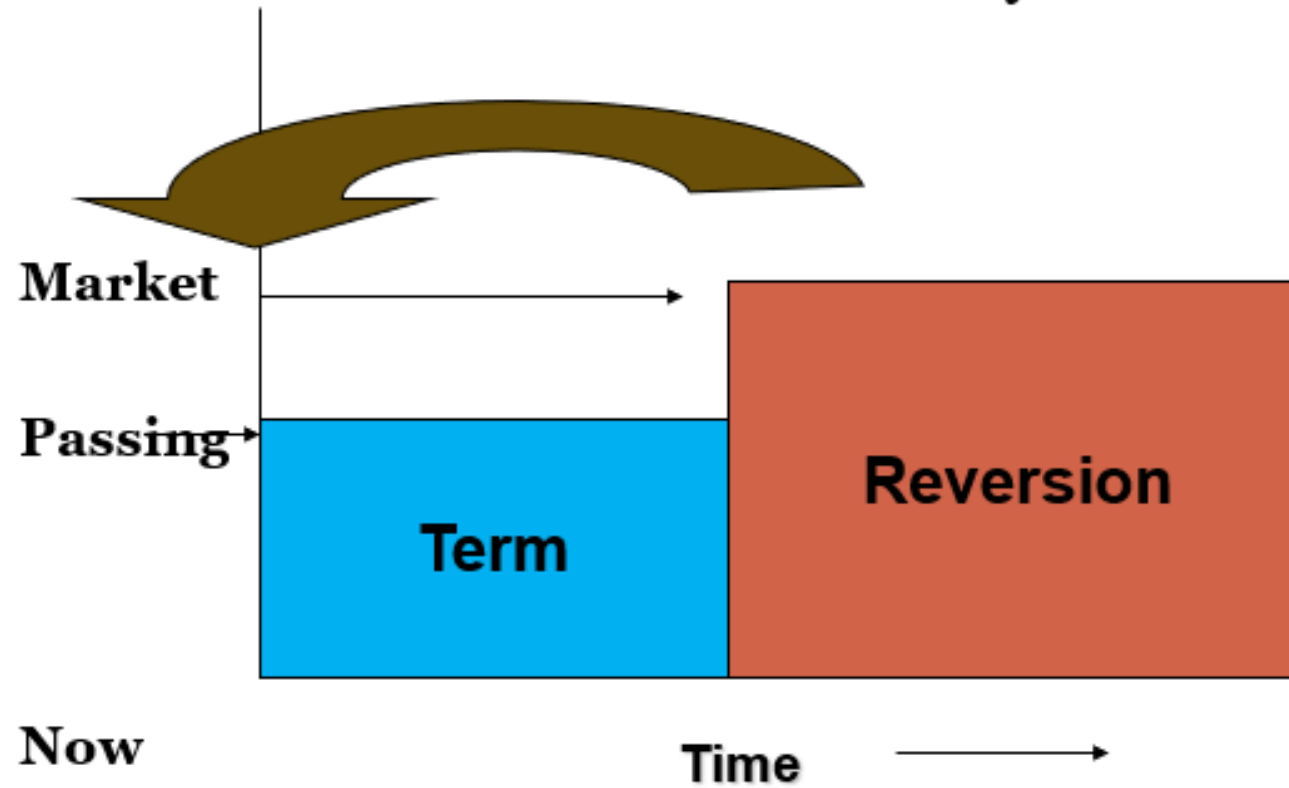
Term & Reversion

- Consider a relatively long lease term in a commercial class income producing property. The rental rates may well have been market based at the start of the lease, but over time have drifted to levels above or below market rates. This could easily happen where under the lease the rents are to be reviewed to a non -market based formula, ie to a set percentage rate or to CPI.
- This creates a problem when we need to value the freehold interest in the property. Remember, the freehold value of the property is based on the right to receive income from that property.

Term & Reversion

Rentals

Discount Reversionary Value to PV



Term & Reversion

- As an example, consider an industrial building which is now leased for 3 years at \$40,000 net pa (no outgoings). The market rent is still \$50,000 pa and the Cap Rate for this property is still 8%.
- In order to establish the property value subject to the lease, we need to assess the value of the lease term and then the reversionary value, and then aggregate the two.

1st step (Term Value)

| | | |
|---------------------------------|--------|------------|
| Passing Rental | | \$40,000pa |
| YP (period) for 3 years at 8% = | 2.5771 | |
| Capital Value | = | \$103,084 |

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|---------------------------------|--------|------------|
| Passing Rental | | \$40,000pa |
| YP (period) for 3 years at 8% = | 2.5771 | |
| Capital Value | = | \$103,084 |

Term & Reversion

To calculate the YP (period) for 3 years at 8%, we simply applied the PV of \$1 pp formula for an amount of \$1, to establish the factor to be applied to the annual net rent; ie.,

$$\text{PV of \$1 pp} = \frac{1 - (1 + i)^{-n}}{i}$$

Or, by calculator

Pmt = \$1

n = 3

i = 8

PV = ? = 2.5771

Term & Reversion

2ND Step (Reversionary Value)

Market Rental \$50,000

Cap Rate 8%

$$CV = NI \times YP = \$50,000 \times \frac{100}{8}$$

$$= 50,000 \times 12.5 = \$625,000$$

However, this is the value as at lease expiry, 3 years in the future. We now must discount that amount back to a Present Value.

$$\begin{aligned} PV \text{ of } \$1 &= (1 + i)^{-n} \\ &= (1 + 0.08)^{-3} \end{aligned}$$

Term & Reversion

By Calculator

$$FV = 1$$

$$n = 3$$

$$i = 8$$

$$PV = ? = 0.7938$$

$$\text{Therefore CV} = \$625,000 \times 0.7938 = \$496,125$$

3rd Step

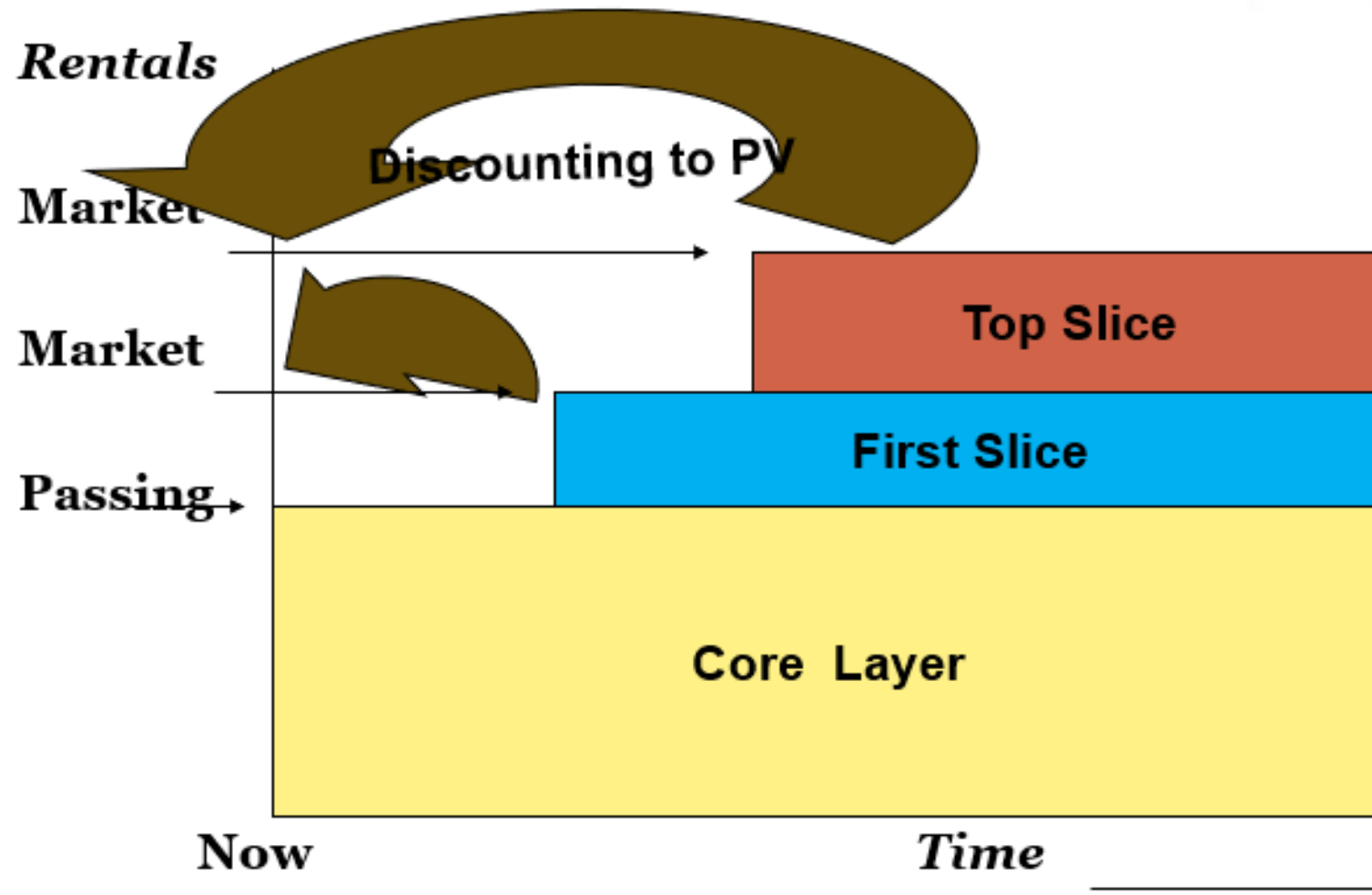
Add Term and Reversionary Values to arrive at the property value.

$$\begin{aligned}\text{Capital Value} &= \$103,084 \text{ (term)} + \$496,125 \text{ (reversion)} \\ &= \$599,209 \text{ (Adopt \$600,000)}\end{aligned}$$

Hard Core, or Layer Method

- Income under this method is treated in horizontal slices. The passing income is the “core” income which is the most secure. Rental increases achieved after future rent reviews are then additional slices (ie 2nd slice, 3rd slice, top slice) added later and are considered to be less secure income sources.
- Each slice is valued in perpetuity, with later slices being discounted to a present value.
- This method is useful when the property being valued has multiple tenancies.

Hard Core, or Layer Method



Hard Core, or Layer Method

- 15 year structured lease at the following rental rates:
 - 1st 5 years: \$100,000 pa
 - 2nd 5 years: \$150,000 pa
 - 3rd 5 years: \$200,000 pa
 - then reversion (at year 15) to Full Market Rental at \$250,000 pa
- We should be able to value this income flow using the Hard Core method at a Cap Rate of 10%.
- We need to capitalise each layer in perpetuity, then bring each to a Present Value and aggregate to obtain the total value.

Hard Core, or Layer Method

1st Step - Find the capital value of each layer

Layer 1

$$\begin{aligned} \text{CV} &= \text{NI} \times \text{YP} &= & \$100,000 \times 10 \\ & &= & \$1,000,000 \end{aligned}$$

Layer 2

$$\begin{aligned} \text{CV} &= \text{NI} \times \text{YP} &= & \$50,000 \times 10 \\ & &= & \$500,000 \end{aligned}$$

Layer 3

$$\begin{aligned} \text{CV} &= \text{Ni} \times \text{YP} &= & \$50,000 \times 10 \\ & &= & \$500,000 \end{aligned}$$

Layer 4

$$\begin{aligned} \text{CV} &= \text{NI} \times \text{YP} &= & \$50,000 \times 10 \\ & &= & \$500,000 \end{aligned}$$

Hard Core, or Layer Method

2ND Step - Bring each of the future values back to a present value using the PV of \$1 formula, or by calculator:

FV = amount shown

n = period shown

i = 10

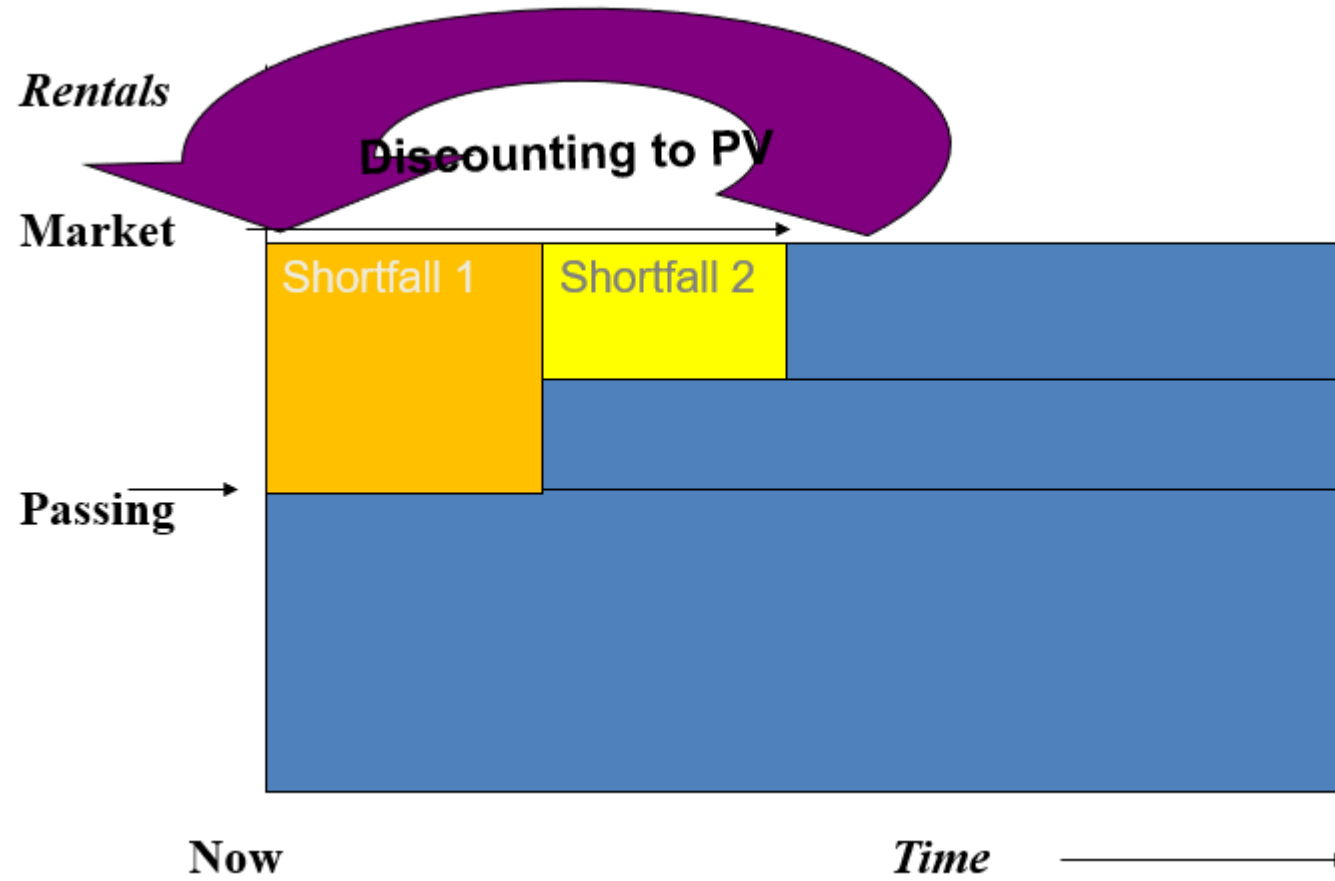
PV = ?

| | FV | Period | PV |
|-------------|-----------|--------|------------------|
| Layer 1 | 0 | | \$1,000,000 |
| Layer 2 | \$500,000 | 5 yrs | \$310,460 |
| Layer 3 | \$500,000 | 10yrs | \$192,772 |
| Layer 4 | \$500,000 | 15 yrs | <u>\$119,696</u> |
| TOTAL VALUE | | | \$1,622,928 |

Shortfall Method

- This Method essentially values the loss or profit above or below market to add or subtract from the market capitalisation
- Value a property subject to a 10 year structured lease at the following rental rates:
 - 1st 5 years: \$100,000 pa
 - 2nd 5 years: \$150,000 pa
 - then reversion to Full Market Rental at \$200,000 pa
- Cap Rate of 10%.

Shortfall Method



Shortfall Method

1st Step - Find the capital value of Shortfall 1

PV of \$100,000 pa being received for 5 years

PMT = \$100,000

n = 5

i = 10

PV = ? = \$379,079

Shortfall Method

2nd Step - Find the capital value of Shortfall 2

PV of \$50,000 pa being received for 5 years from Year 10

PMT = \$50 000

n = 5

i = 10

PV = ? = \$ 189 539 (FV 5 Years)

FV = \$ 189 539

n = 5

i = 10

PV = ? = \$ 117 688

Shortfall Method

3rd Step - Find the capital value of property assuming no lease

$$\$200000 / .1 = \$ 2,000,000$$

Subtract Rental Shortfall

Shortfall 1 - \$379,079

Shortfall 2 - \$117,688

$$CV = \$ 1,503,233$$



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Questions?