Real Estate Valuation

Income Approach

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Principal valuation approaches

1. **Market approach**

2. **Income Approach**

3. **Cost Approach**

Income Approach

Converts future cash flow(s) to a single current value

- Investors expect to receive a return on their investments → return <u>should</u> reflect the perceived level of risk

<u>Should</u> be applied and afforded significant weight

- The income-producing ability of the asset is <u>the critical element</u> affecting value from a participant perspective
- Reasonable projections of the amount and timing of future income are available for the subject asset, but there are few, if any, relevant market comparables

NOTE: "Although no one approach or method is applicable in all circumstances, <u>price information from an active market</u> is generally considered to be the strongest evidence of value."

Income Approach

May be applied and afforded significant weight

- the income-producing ability of the subject asset is <u>only one of several factors affecting value</u> from a participant perspective
- there is <u>significant</u> uncertainty regarding the amount and timing of future income related to the subject asset
- there is a lack of access to information related to the subject asset
- the subject asset <u>has not yet begun</u> generating income, but is projected to do so

Discounted Cash Flow (DCF) Method

Forecasted cash flow is <u>discounted</u> back to the valuation date, resulting in a <u>present value</u> of the asset

For long-lived or indefinite-lived assets, DCF may include a terminal value which represents the <u>value of the asset at the end of the explicit projection period</u>

The value of an asset may be calculated solely using a terminal value with no explicit projection period

→ <u>income capitalisation method</u>

DCF Method Steps

1. **Choose the most appropriate type of cash flow for the nature of the subject asset and the assignment**
2. **Determine the most appropriate explicit period, if any, over which the cash flow will be forecasted**
3. **Prepare cash flow forecasts for that period**
4. **Determine whether a terminal value is appropriate for the subject asset at the end of the explicit forecast period**
    - Determine the appropriate terminal value for the nature of the asset
5. **Determine the appropriate discount rate**
6. **Apply the discount rate to the forecasted future cash flow, including the terminal value, if any**

Type of Cash Flow

When selecting the appropriate type of cash flow for the nature of asset or assignment, valuers <u>must</u> consider the factors below.

- The discount rate and other inputs <u>must</u> be consistent with the type of cash flow chosen
- The type of cash flow chosen should be in accordance <u>with participant's viewpoints</u>.

Cash flow to whole asset or partial interest?

<u>Pre-tax</u> or post-tax?

<u>Nominal</u> or real cash flows?

- If expected cash flow incorporates an expected inflation rate, the discount rate has to include the same inflation rate.

Currency?

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Explicit Forecast Period

Valuers <u>should</u> consider the following factors when selecting the explicit forecast period:

- Life of the asset
- A reasonable period for which reliable data is available
- Minimum explicit forecast period which should be sufficient for an asset <u>to achieve a stabilised level of growth and profits</u>
- Valuation of cyclical assets: the explicit forecast period <u>should</u> generally include an entire cycle, <u>when possible</u>
- For finite-lived assets, the cash flows typically forecasted over the full life of the asset

Cash Flow Forecasts

Prospective financial information (PFI) **(projected income/inflows and expenditure/outflows)**

- Valuer <u>must</u> perform analysis to evaluate the PFI, the assumptions underlying the PFI and their appropriateness for the valuation purpose
- The cash flow is divided into suitable periodic intervals
  - The choice of interval depends upon (1) the nature of the asset, (2) the pattern of the cash flow, (3) the data available, and the (4) length of the forecast period

Cash Flow Forecasts

The projected cash flow should capture the amount and timing of all future cash inflows and outflows associated with the subject asset from the perspective appropriate to the basis of value

- Free Cash flows to the firm (FCFF) and free cash flows to equity (FCFE)

Typical cash flow projections

- contractual or promised cash flow,
- the single most likely set of cash flow,
- the probability-weighted expected cash flow
- multiple scenarios of possible future cash flow

Terminal value

The terminal value <u>should</u> consider:

- Is the asset deteriorating/finite-lived in nature or indefinite-lived?
- Is there future growth potential for the asset beyond the explicit forecast period?
- Is there a pre-determined fixed capital amount expected to be received at the end of the explicit forecast period?
- What is the expected risk level of the asset at the time the terminal value is calculated?
- Cyclical assets: the terminal value should consider the cyclical nature of the asset
- The tax attributes inherent in the asset at the end of the explicit forecast period (if any)
  - Are those tax attributes expected to continue into perpetuity?

Terminal value

Most common methods:

1. Gordon growth model/constant growth model
   - Only for indefinite-lived assets
2. Market approach/exit value
   - For both deteriorating/finite-lived assets and indefinite-lived assets
   - Common way: application of a market-evidence based capitalisation factor or a market multiple
   - Valuers should consider the expected market conditions at the end of the explicit forecast period and make adjustments accordingly
3. Salvage value/disposal cost (appropriate only for deteriorating/finite-lived assets)

Discount Rate

The discount rate should reflect not only <u>the time value of money</u>, but also <u>the risks associated with the type of cash flow and the future operations of the asset</u>

In developing a discount rate, a valuer <u>should</u> consider
- Risk associated with the cash flow projections
- Type of asset being valued
- <u>Rates implicit in transactions in the market</u>
- Geographic location of the asset and/or the location of the markets in which it would trade
- Life/term of the asset and the consistency of inputs
- Type of cash flow being used
- <u>Bases of value being applied</u>

Examples of the methods to determine a Discount Rate

Capital asset pricing model (CAPM)
- Cost of equity

Weighted average cost of capital (WACC)
- Cost of equity and cost of debt combined

Observed or inferred rates/yields
- Real property market value

Internal rate of return (IRR)
- To analyse investment opportunities when acquisition value is known
- IRR = discount rate that gives NPV = 0

Weighted average return on assets (WARA)

Build-up method
- Generally used only in the absence of market inputs