Property Income Analysis: Nuts and Bolts

This presentation explores how property income is analyzed in commercial real estate investments. We'll examine cash flow components, understand rent determination, and learn how to evaluate property-level performance.

The Proforma: Foundation of Investment Analysis

Definition

A detailed forecast of property cash flows, typically projected over 5-10 years.

Importance

The single most important document when analyzing commercial real estate investments.

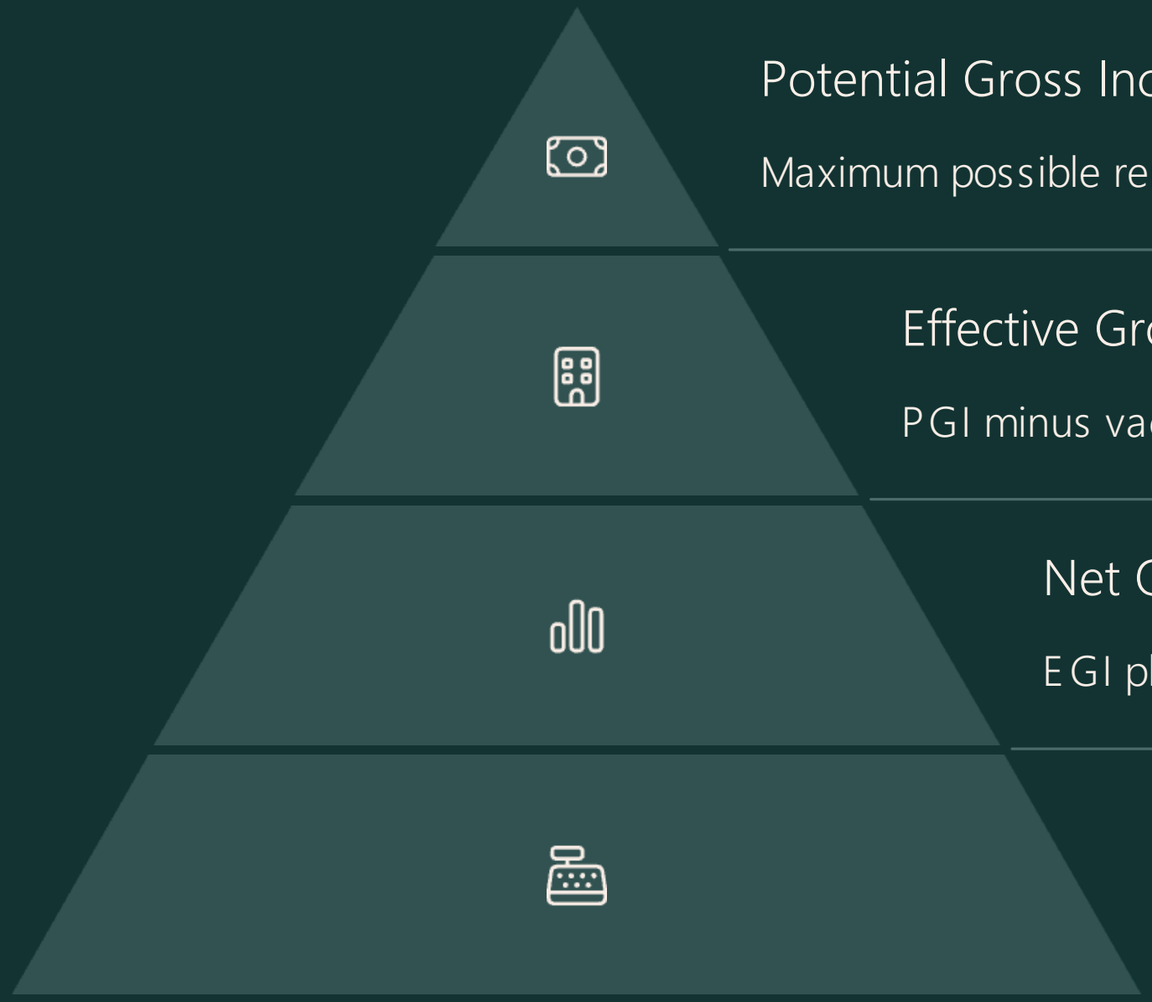
Purpose

Provides the numerator in DCF evaluation - the forecasted net cash flows.

Components

Contains operating cash flows (regular income) and reversion cash flows (from property sale).

Operating Cash Flow Components



Potential Gross Income (PGI)

Maximum possible rental income if fully occupied

Effective Gross Income (EGI)

PGI minus vacancy allowance

Net Operating Income (NOI)

EGI plus other income minus operating expenses

Property-Before-Tax Cash Flow (PBTCF)

NOI minus capital expenditures

Potential Gross Income (PGI)

Definition

The maximum rental income a a property could generate if fully leased at market rates.

Calculation

Rentable area (square feet) multiplied by rent per unit of space.

Also Known As

Often called the "rent roll," especially in multi-tenant properties with long-term leases.

Building Area Measurements and Terms

1

Construction Gross Area (CGA)

Includes all occupiable and non-occupiable spaces.

2

Gross Area (GA)

Like CGA but excludes non-occupiable spaces.

3

Rentable Area (RA) aka Leasable Area

Tenant's area plus share of common spaces.

4

Net Assignable Area (NAA)

Spaces specifically assigned to people or programs.

Vacancy and Effective Gross Income

Vacancy Allowance

Properties cannot realistically be fully leased at all times. Vacancy allowance accounts for expected vacant periods.

For apartments: typically calculated as a percentage of PGI (e.g., 5%).

For commercial: often forecast for each rental unit based on lease expirations.

Effective Gross Income (EGI)

EGI = PGI - Vacancy Allowance

Represents the actual rental income expected after accounting for vacancy.

May also include a collection allowance (0.5-1.5%) for tenant defaults.

Other Income Sources

Parking Operations

Revenue from parking facilities in office or retail buildings.

Vending & Laundry

Income from machines in apartment

Billboard & Antenna Rental

Revenue from renting roof or exterior space.

Solar Energy

Income from selling excess electricity generated by solar panels.

Operating Expenses (OpEx)

Property Management

2-10% of EGI depending on property size

Property Taxes

Local government assessments

Utilities

Water, electricity, gas, internet

Insurance

Property and liability coverage

Maintenance & Repair

Regular upkeep of the property

Fixed vs. Variable Expenses

Fixed Expenses

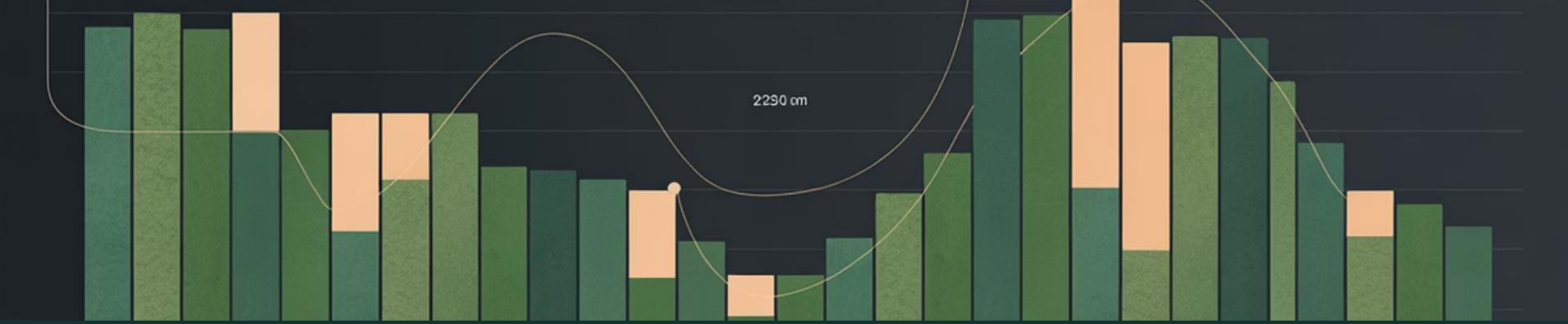
Costs that remain the same regardless of occupancy

- Property taxes
- Insurance premiums
- Some maintenance contracts

Variable Expenses

Costs that change in proportion to occupancy levels.

- Utilities
- Cleaning services
- Some maintenance costs



Net Operating Income (NOI) % of PGI, example:

100%	92%	67%	45%
PGI	EGI	NOI	PBTCF
Potential Gross Income	After 8% average vacancy	After operating expenses	After capital expenditures

Capital Improvement Expenditures (CapEx)

Building Improvements

Major expenditures that maintain or add value to the property over the long term.

Tenant Improvements (TIs)

Customized physical improvements provided to tenants when signing leases.

Leasing Commissions

Fees paid to brokers for securing tenants, typically 1-8% of lease value.

Timing Characteristics

Occur less frequently and at irregular intervals, with considerable owner discretion.

Property-Before-Tax Cash Flow (PBTCF)

NOI

Net Operating Income

Subtract

Capital Expenditures

Equals

PBTCF

PBTCF represents the true free-and-clear cash flow available to property owners before debt service and income taxes.

Reversion Cash Flows

Definition

Cash flows that occur when the property is sold, typically at the end of the holding period.

Components

Expected resale price minus selling expenses such as broker fees and transaction costs.

Importance

Must be included in any complete investment analysis, even if there are no immediate plans to sell.

Forecasting Property Value at Sale

Project Future NOI

Forecast the NOI for one year beyond the analysis period (e.g., Year 11 in a 10-year analysis).

Determine Terminal Cap Rate

Estimate the appropriate cap rate at time of sale (going-out cap rate).

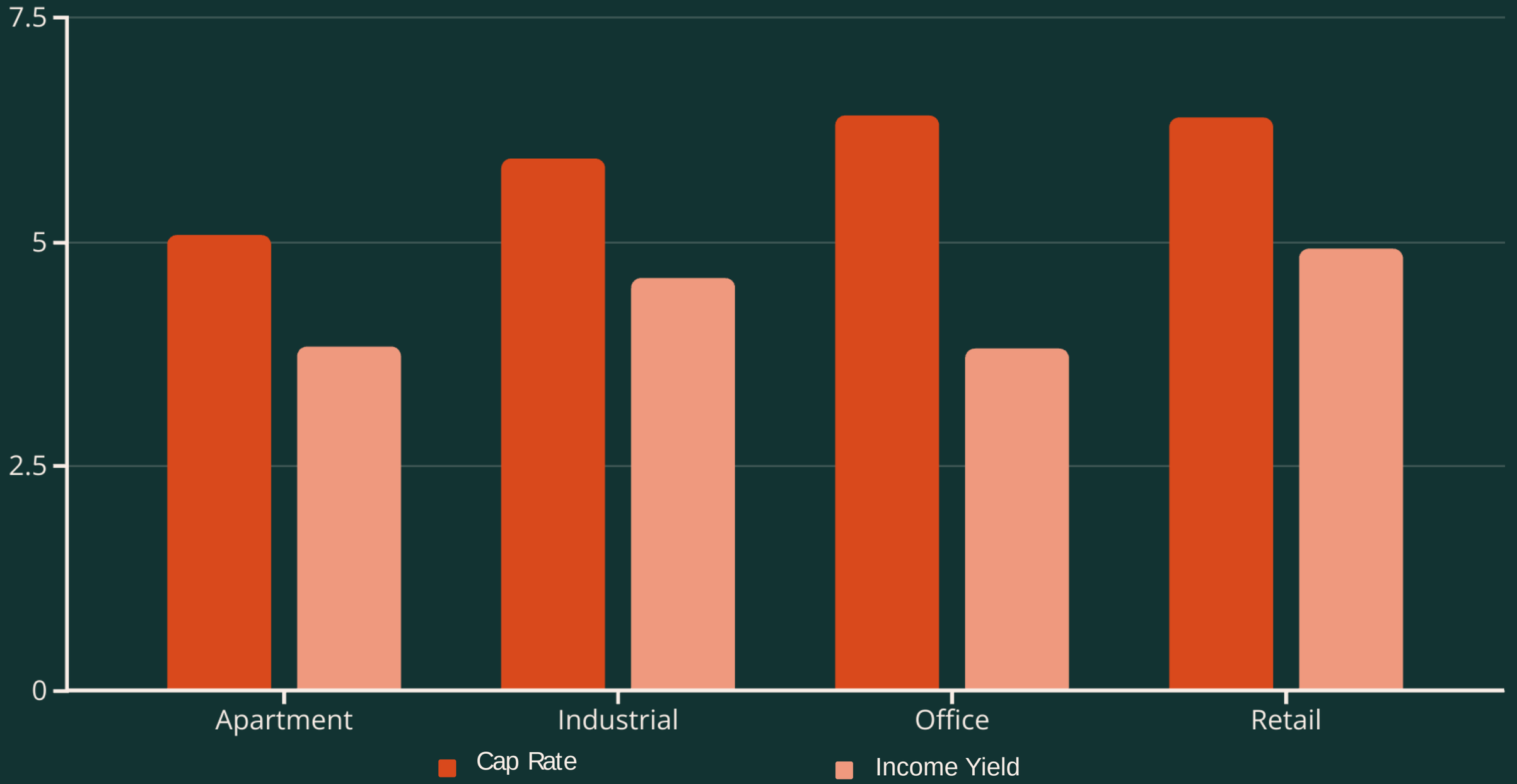
Calculate Terminal Value

Divide the projected NOI by the terminal cap rate: TV = NOI ÷ Cap Rate.

Subtract Selling Costs

Deduct selling expenses (typically 2.5-10% of sale price) to find net proceeds.

Cap Rates vs. Income Yields



Selling Expenses

Property Assessment

Engineering firms evaluate the property's condition.

Appraisal

Professional valuation to set realistic asking price.

Brokerage Fees

1-8% of selling price depending on property size and type.

Closing Costs

Legal fees and title clearance expenses.

Total selling costs typically range from 2.5% to 10% of the sales price, with larger properties having relatively lower percentage costs.

Sample Proforma Cash Flow Projection

Year	1	2	3	4	5
PGI	$103,000	$106,090	$109,273	$112,551	$115,927
Vacancy	$5,150	$5,305	$5,464	$5,628	$5,796
OpEx	$20,600	$21,218	$21,855	$22,510	$23,185
NOI	$77,250	$79,568	$81,955	$84,413	$86,946
CapEx	$15,450	$15,914	$16,391	$16,883	$17,389
PBTCF	$61,800	$63,654	$65,564	$67,531	$69,556

This sample shows a 5-year projection with 3% annual growth in PGI, 5% vacancy rate, and OpEx at 20% of PGI. CapEx is 20% of NOI.

Discounted Cash Flow Valuation

1

Project Cash Flows

Forecast PBTCF for each year of the holding period.

2

Estimate Terminal Value

Calculate property value at sale using cap rate method.

3

Determine Discount Rate

Find appropriate opportunity cost of capital.

4

Calculate Present Value

Discount all cash flows and sum to find property value.

Key Inputs for Property Valuation

Current PGI & Vacancy

Starting point for cash flow projections

Growth Rate (g)

Expected increase in rental income

Discount Rate (r)

Opportunity cost of capital

OpEx & CapEx Estimates

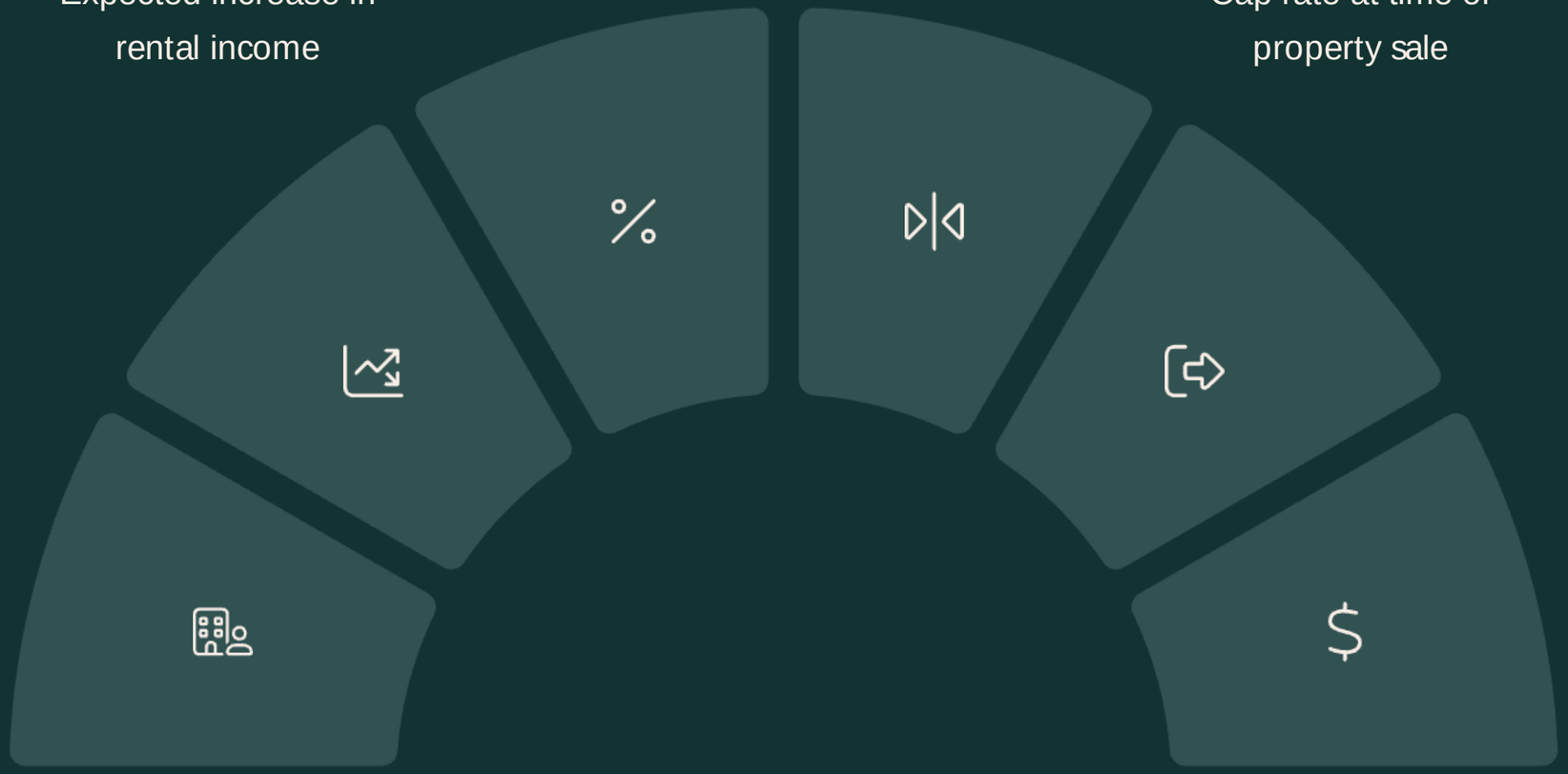
Projected property expenses

Terminal Cap

Cap rate at time of property sale

Selling Costs

Expenses associated with property sale



Summary: Property Income Analysis

Proforma Construction

Building accurate cash flow projections is fundamental to sound investment decision-making.

Key Sensitivities

Property valuation is most sensitive to rent growth assumptions, terminal cap rate, and discount rate.

Cash Flow Components

Understanding the relationship between PGI, EGI, NOI, and PBTCF is essential for accurate analysis.

Looking Forward

Next chapters will explore how to forecast rental growth and understand market dynamics.