The INCOME APPROACH in Real Estate Valuation

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Concept and Theory Background

Income Approach

Principles

- Supply and Demand
- Substitution
- Anticipation
- Change

These provide the underlying premise of the income approach and are in the basic concepts of the approach:

- ❑ Value is the present worth of anticipated future benefits
- ❑ There is a relationship between value and income

MARKET VALUE vs INVESTMENT VALUE

- **Market value – most probable selling price in the open market with adequate exposure and no undue pressure in terms of cash-to-seller.**
  It is objective, impersonal, detached and based on market criteria.
- **Investment value – the value of a certain property to a particular investor.**

It is based on subjective, personal parameters and investment criteria. *For example an overall rate, R, may be specified as investment criteria; if used in capitalization instead of a market rate, investment value results.*

Income Approach

Stay tuned-in to the basics:

- Value is the present worth of expected benefits because that's what buyers-investors pay for. The question is: how much?
- Just because its a commercial property doesn't automatically mean the emphasis should be on the income approach. Owner-user? Most probable buyer?
- The devil IS in the details –what's there and maybe what's not there that should be. *Especially lease provisions*.
- It involves a balance between subject status information and market information
- Judgment and common sense are required.

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Income Estimation

Underlying notions in the income approach

1. there is a relationship between income and value.
2. value is the present worth of anticipated benefits; the money stream and reversion.

So…..

1. It is necessary to estimate **future** expected amounts – forecast income and expenses; at least first year, or a 'typical year.' Nobody buys past income benefits!
2. **Forecasting** is part of life, the market's (esp. buyer's) thinking process, the income approach; its normal.
3. You, whether you are an investor, analyst, or appraiser, will probably be wrong. …..and that's OK, you can live with it.

Appraisal forecasting means attempting to Simulate market participant thinking and forecasting.

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Income Approach

For income investment property, future benefits are measured in money, i.e. dollars.

*(For properties in which the benefits are **non-monetary**, i.e. so called '**utils of satisfaction**,' the income approach should not be used; this includes owner-user commercial property.)*

- Value is the present worth of future benefits; the benefits are.
  - ❑ 1 Cash flows during the projection period or term of ownership, plus
  - ❑ 2 The reversion; i.e. any proceeds from disposition of the property at the end of the projection or ownership.
- Or more simply, Value is related to income:

$$V = I / R$$

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Estimating Value by the Income Approach: 2-steps

1. Estimate $ income benefits to a buyer / owner.

Estimate or find Gross Potential Income *from subject and market leases*

Potential Gross Income
- Vacancy & Collection Allowance
+ Other Income
+ Reimbursements
= Effective Gross Income
-Subtract Operating Expenses which may include reserves for replacements
= Net Operating Income (NOI)
- Debt Service (Principal & Interest)
= Cash Flow to Equity (Re)

Used in most capitalization

2. Capitalize the income (NOI) to estimate value by either a ratio or yield method.

Most common: Ratio method, or Direct capitalization Value = Income / Rate

Less common: a Yield or Discounted Cash Flow method

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THE INCOME APPROACH

- The most common is Direct Capitalization; it's based on the idea that value
  - -is the present worth of future inflows
  - -is a relationship between income rate

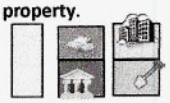
  For most income approaches it's just this simple:

$$V = I / R$$

- Don't be bedazzled by the numbers, old tables, formulas or computer print-out.
- Don't lose sight of these basic concepts in the rush, papers, and all the numbers in the hearings.

THE INCOME APPROACH

- The value of any investment position (i.e. equity, debt, leasehold, leased fee, partial ownership, or simply the whole property) can be found with standard appraisal techniques. **In assessing FCV, we are concerned with the value of the property – the whole thing, fee interest. Dirt + Box (not the business conducted in/on it)** [5-9]
- Property = rights to real estate ('real estate' is the physical item involved)
- **In the income approach we're concerned with the property rights to the real estate (dirt and box), particularly the rights to income the real estate is capable of producing from lease income and the reversion from sale of the property.**
- Property may componentized for analysis:
  - Economic: Debt + Equity
  - Physical: Site + Improvements



Income Approach

The **value of any investment position in income property** can be estimated in this way; i.e. using income approach techniques:

- Value overall: $Vo = I_o / R_o$
- Value Land $V_L = I_L / R_L$ physical
- Value Building $V_B = I_B / R_B$
- Value Mortgage $V_M = I_M / R_M$ economic
- Value Equity $V_E = I_E / R_E$
- **Normally we're interest in the value of the overall property, simply: $V = I / R$**

(this is the focus of the discussion here)

Valuation Models in the Income Approach

used to simulate investor rational thinking

1. Ratio Model

Value may be found using the market **relationship** between income and value.

Value = Income / Rate, V= I / R

For example **$50,000 / .10 = $500,000**

2. Yield Model

Value = PW of future benefits.

After forecasting cash flows, reversion, & discount rate:

$V = \Sigma(PWCF_{1-n})^*$ *or* V = PWcf1 + PWcf2 + PWcf3……PWCfn*

* the last year includes the inflows from the reversion to the investor when the property is sold

Ratio Model

- **Static** – relationships at one point in time; no explicit holding or forecast period, or expected value change (is implicit)
- **One income** - during ownership, income usually varies. Which income to use.
- Easiest to understand, easiest to support components. No computer needed.
- Minimal assumptions

Yield Model

- Dynamic – includes time; may reflect variable income streams and value change
- Requires forecasting – a constant source of error and problem of support
- Major problem of supporting discount rate – but not impossible
- Problem of necessary assumptions (rates of change in income, expense components, future value, for example)

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Two Key Terms: projection vs. forecast

Projection: a mechanical extension of trends of the past into the future.

~ "Population has been growing 7% every 5 years, so 5 years from now it will be 7% more than now."

Forecast: considers the past amounts and trends, *but also the current and likely future influences for change*. This is done by most investors whom we try to simulate, so it's OK to forecast rather than project.

~ "Population has been growing 2% per year, but rising prices and local job reductions will likely cause the growth rate to be less in the next year or so."

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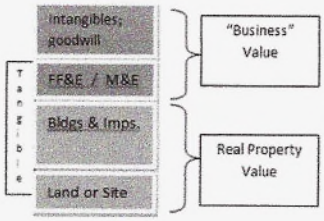
Valuation for ad valorem taxation is the value of the economic interests in the real estate or real property only



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More questions and problems concerning income and expense

- Did the **income or expense** include ANY **intangibles or business interest?**
- **Real property ad valorem tax valuation (FCV) is to use the value of the real property only – i.e. the dirt and the box**

Real estate valuation *excludes*:

- **FF&E (*furniture, fixtures, equip, machines, operational costs of these*)**
- **Intangibles (*Goodwill, contracts, going concern, business, intellectual prop, working capital*)**
- **Business enterprise**

SWANGO

EXAMPLE PROPERTY - INCOME APPROACH			Hotel							
Potential Gross Income from operation of the property			$1,000					Generalities of TOTAL		
- Vacancy and Collection Allow			20			Property		Value; real, personal -		
+ Other Income			5			Gross. Mult'r		Tangible & Intangible		
= Effective Gross Income				$985		3.0		$ 2,955	R.E., PP, Business	
Less Operating Expenses										
	Business (FF&E and Intangibles)									
		Interest on Capital Inv	50.0							
		Trained work force amts	50.0							
		Lap-ex (if 10 yrs)	400.0							
		Salaries & Payroll Taxes	100.0							
		Training, CE	10.0							
		FF&E Repl allow	20.0							
		Utilities	4.0							
		Franchise Amortz	2.0							
		Franchise Fees	59.7							
		Management, Admin	6.0							
		Signage, Adv, Referral	5.0							
		Membership, Adv, Promotion	5.0							
		Licenses, fees, business taxes	4.0							
		Insurance - business related	3.0							
		Depreciation - book deprec not included								
		Debt Service - not included								
		Owner benefits - not included								
		Other	4				Business		Business	
				683			Cap Rate		Value	
		Income to Business, FF&E, Intangibles			$302		20%		$ 1,511.50	FF&E, Intangibles
	Real Estate						From sale of			
		R.E. Tax	150				other businesses			
		Insurance	50							
		Utilities	not above							
		Management	5							
		Maintenance, CAM	5							
		Other	4				Real Estate		Real Estate	
				209			Cap Rate		Value	
Net Operating Income - Real Estate Only					$93		8.00%		$1,166.25	

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Exclude non-realty income and interests

Caution:

hotels, resorts, hospitality properties,

recreation,

restaurants,

amusement properties,

Many types of **special purpose properties** (hospitals, cell towers, etc.; BUT, how about

~shopping centers with super management,

~self storage, with above normal occupancy or rates,

~office buildings with 'super management'

~ subdivision developments, lot sell-out

SWANGO 20

Income and Capitalization

- **Capitalization** = converting expected benefits to a present capital amount. *With all implicitly included, the most common model is*
- **Value** = Income / Rate V = I / R

Sources of Income Information

1. The subject itself
2. The market

Which should be used for FCV in ad valorem taxation?

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INCOME

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Getting to Net Operating Income
which is capitalized to estimate value

Potential Gross Income	**PGIM**
- Vacancy and Collection loss allowance	
+ Reimbursements from tenants	
+ Other income	
= Effective Gross Income	**EGIM, GIM**
- Less Operating Expenses	
- Reserves for Replacements	
= Net Operating Income (**NOI** *or* **I** *or* **Io**)	Used in most capitalization

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Beyond Net Operating Income

- In some cases appraisers go on to.....
  - Net Operating Income
  - \- Debt Service (Principal & Interest)
  - = Cash Flow to Equity (CF, aka Cash Throw Off, Before Tax Cash Flow BTCF) "Re"
- This Cash Flow may be capitalized to calculate the value of the equity position. Ve = Ie / Re
  - ("Re" is Equity Dividend or cash-on-cash return)
- The value of the property is the value of equity plus the value of the mortgage (mtg. balance)
- This amount is sometimes used in Discounted Cash Flow capitalization when there is a mortgage and debt service (P&I)

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Exclude non-realty income and interests; costs, income, expenses, and portion included in some sales.

- Only the 'real property income' or 'income to the real property' should be used to find real estate value.
- Income should not include *any* business income or expenses – that's income to the business enterprise value.

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What's included in income?

- *Discussion: any other incomes, i.e. levels of income, to use in capitalization?*
- *Laundry? (Leased equip vs. owned – but it's personal property) ?*
- *Storage?*
- *Parking?*
- *Late fees & service charges?*
- *Percent of business sales (percentage lease for all or part of rent)?*

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Sources of Income Information

A. The subject actual leases in place. The 'contract income'

- Examine the operating statements for the property (1, 2, 3, 5 years).
- DOR form 82300 asks for 3 years of operating income-expense history.
- *In appeals hearings, must it be used and relied upon solely?*
- *NO ! It is simply one piece of information considered.*

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Sources of Income Information

A. Subject leases – Continued... [13-28]

What questions would ask about the leases if you were a potential buyer/investor

- Rent schedule (amounts, dates)
- Origination date, renewal date, and **remaining term**
- Who pays what expenses, limits/stops

Beware of

- Concessions which alter or offset rent dollars
- Related parties and/or entities (names may be different!)
- Short remaining term
- Short fuse cancellation or termination

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A. Subject leases – Beware of (Continued)

- Personal property included
- Unreported lease modifications
- Renegotiated rent or lease terms (may have been lowered during recession)
- Rents (all or part) tied to some level of business tenant income
- Purchase options
- Special provisions, non-realty components
- The lease may be modified from 'normal' or have separate amendments (unrecorded, may be withheld or hidden)

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More concerning subject leases

-The lease(s) may be modified from 'normal' or have separate amendments (unrecorded and may be withheld or hidden)

- Inclusion of any tangible or intangible personal property included (such as FF&E, PP, fixtures, restaurant or bar equip, personal property, equipment, machinery, fixtures, furniture, rights to name, franchise rights, contracts, signage, receivables, intangibles, etc.
- -The lease may be modified from 'normal' or have separate amendments (unrecorded, may be withheld or hidden)
- Any renegotiated rent amounts or lease terms, particularly lowering rent during recent recession. May not show up in copy of original lease or memorandum of lease; may be in a separate agreement.

and others... . . . . .

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What income to use in the capitalization process

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IF USING SUBJECT NET OPERATING INCOME

Which NOI

- Last calendar / fiscal year / 12 month period?
- Average last 2 years? ...3 yrs? ....4 yrs? ....5 yrs?
- Annualized year under way now?
- Average last xx years? (DOR form 82300 asks for owner's reported actual for past 3 years.) Use average? weighted average? Most recent year?
- Next year expected (as a buyer as of date of value would forecast)?
- Average next xx years expected?
- With or without reserves for replacements
- Note: **Projection vs. Forecast**
- Form 300 is a basis for analysis, to use as one 'information input' item in the analysis. This form's information may be a guideline.

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Direct Capitalization

V = I / R, Needed: INCOME and RATE first....

SUBJECT Net Income *	NOI .
• Avg. actual last 3 yrs:	$100,000
• Weighted avg last 3 years:	$105,000
• Current year annualized:	$107,000
• Last year:	$106,000
• Market:	$100,000
• Outlook, avg next 3 yrs:	$110,000

* Last year(s)? Current? Forecast? (by whom?)

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More questions concerning income and expense

Did the income or expense include ANY owner personal interest items?

For example ...how 'real estate only' reasonable were these expenses:

- management,
- travel, entertainment, promotion,
- advertising (?)
- equipment,
- supplies,
- repairs and maintenance,

and other items wherein personal expenses may be hidden.

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LEASES

Types, terms and provisions

Why our concern with types of leases?

For starters……

- To better understand the subject recent and current income picture
  - Who pays what expense
  - Reflecting current lease provision reality in the income calculations.
- To better understand market standards
  - how the subject compares to its competition particularly regarding its income stream
  - The nature of income in the comparable properties, particularly as we estimate market rents and derive rates.
- To be able to estimate reimbursements and amounts, if any.
- To know some key provisions that vary from lease to lease, so we don't make unwarranted assumptions about who pays which expenses, renewals, payment patterns, risk, termination provisions, etc.
- So we can better compare subject to market comparables in the sales comparison approach, and make appropriate comparisons and adjustments in estimating applicable capitalization rates, rents, and income estimates in the income approach

Leases

Types of Leases by Expense Provisions

Leases Types by Expense Burden

- Gross Lease
- Modified Gross Lease
- Net Lease
- Double Net Lease
- Triple Net Lease

Types of Expense Sharing con't...

- **Gross Lease**

  The tenant pays rent; the landlord pays <u>all</u> expenses
- **Modified Gross Lease**

  The tenant and landlord share in the expense burden according to specific provisions of the lease.

  (No set standard)

Types of Expense Sharing con't...

- **Net Lease**
  The tenant pays all operating expenses, utilities, taxes, and insurance; the landlord pays all remaining expenses.
- **Double Net Lease**
  The tenant pays **utilities, taxes and insurance**; the landlord pays all remaining expenses

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Types of Expense Sharing con't...

- **Triple Net Lease** **(aka NNN lease, purely Net Lease)**
  The tenant pays all expenses, and the landlord pays *only* major structural expenses, if any (and landlord liability, legal and accounting for his/her investment)

NOTE: the meaning of these terms may vary by location and property type. Always ask or read the lease to KNOW *who pays what expenses*!

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Types of Expense Clauses

	Who Pays for:				
Lease Type	Utilities	Property Taxes	Insurance	Property Maintenance	Structural Repairs
Gross	Landlord	Landlord	Landlord	Landlord	Landlord
Modified Gross	Tenant and Landlord Share Expenses				Landlord
Single Net	Tenant	Tenant or Landlord Pays one or the other		Landlord	Landlord
Double Net	Tenant	Tenant	Tenant	Landlord	Landlord
Triple Net	Tenant	Tenant	Tenant	Tenant	Landlord
Absolute Net	Tenant	Tenant	Tenant	Tenant	Tenant

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Broad rent payment types of leases

Flat rental
Variable rental
Step-up or step-down
Periodic change, increase, $ or %
Revaluation
Percentage leases

Term terminology

Month to Month
Short Term 5 yrs or less
Long Term 5+ years

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Sources of Income Information

B. Market Leases [13-28]

- What are normal/typical market terms, provisions.
- Who pays which expenses (breakdown expense burden)
- Concessions (x months free rent, or ....)
- Owner responsibilities and expenses
- Tenant responsibilities and expenses
- Turnover time period
- How tenant improvements handled (TIs)
- Normal renewal options
- Normal lease types, but define/explain/read – same as subject?

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Some lease variations

- Who pays which expenses
- Expense 'stops'
- Moving allowance
- Setup move-in allowance
- Tenant improvements, allowances
- Free rent / "fixturization" period
- Personal guarantees
- Successor owner clauses
- Absolute net vs Triple net vs. Modified gross vs full service
- Insurance, business interruption
- Tenant disability insurance
- Rent participation percentage in business income

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more lease variations

- Exclusive use / competitor exclusion
- Percentage rent (of some level of business income)
- Rent escalation (percentage, stair-step, tied to an index)
- Rent or expense limits or stops
- Option to buy, lease more space or shrink,
- First right of refusal to buy
- First right of refusal for additional space
- Renewal options
- Buyout of tenant lease at former location
- Moving and relocation cost allowances

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So.....

It is critically important to know

1. the terms of the specific lease contract in a subject situation, and
2. market norms in a market lease situation appraisal to determine what expenses are paid by owner and by tenant – and the extent of limits and reimbursements to be used.

So.....

- Ask about the source(s) of vacancy and collection allowance
- Ask the presenter(s) questions about the leases for the subject (including some detail discussed above) and market 'comparable' leases used to apply income in subject valuation.

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More questions concerning income and expense

- Check subject against industry, or property type, norms (surveys, trade associations, brokers, management firms, other sources.)
- Was there any supplemental information to help support amounts on DOR form 300?
- Was there an accountant's statement? CPA? Tax return schedules? (Usually these have better breakdown and information than DOR 86300.)
- Any major expense (or income) exceptional 'stand outs' or unusual over the past 3 years (in form 300 or statement supplied)

SWANGO 47

Contract Leases and Income

vs

Market Leases and Income

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Rent terms applying to discrepancy between contract and market rents

1. Deficit Rent – Subject rent below market

- Tenant likely to stay
- Lower risk
- Below market low rent negatively affects desirability to investor and value
  - How much below market
  - For how long
- Tenant has leasehold interest

  Prop Value = Leased fee + Leasehold

SWANGO 49

Rent terms applying to discrepancy between contract and market rents

2. Excess Rent – Subject rent above market

- Tenant may move
- Lease may have to be renegotiated downward to keep tenant
- Premium rent has higher risk; Capitalize separately at higher risk rate
  - Tenant likely to move or
  - Likely to renegotiate to lower rent
  - Rent income comes with higher risk
    - (V&C or Cap Rate needs to reflect this)

SWANGO 50

Discussion:

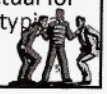
Actual or contract leases and rents vs. Market rents and leases –

What income (actual contract rent or market rent) is the applicable income to use in valuation for ad valorem taxes?

The conflict:

1. 'Value in current use' for ad valorem taxation suggests using current lease whether above or below market.

2. 'Fair market value = market value' suggests using market rents rather than actual, or adjusting actual for amounts and time delay to normalization for a typ buyer.



SWANGO

Vacancy and Collection Allowance

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Net Operating Income

Potential Gross Income

- Vacancy & Credit Allowance

+ Other Income

+ Reimbursements, if any

= Effective Gross Income

- Operating Expenses

- Reserves Allowance

NET OPERATING INCOME

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Vacancy and Collection Allowance

Defined:

- Vacancy and collection loss is an allowance for reductions in potential gross income attributable to vacancies, tenant turnover, and nonpayment of rent or other income.
- This line item considers two components:
  - [1] physical vacancy as a loss in income
  - [2] collection loss due to default by tenants

Source: TARE 14th ed. P. 478

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Frictional Vacancy

- Frictional Vacancy is the amount of vacant space needed in a market for its orderly operation.
- In a stabilized market, where supply and demand are in balance, frictional vacancy allows for move-ins and move-outs.
- It measures the lost rental income during time of tenant change as leases roll over.
- Also often called normal market vacancy.

S W A N G O 55

Vacancy also has a macro market importance

Trends in real estate markets can be seen in the interaction of several related market statistics:

- vacancy rates
- rental growth rates
- price changes
- capitalization rates
- changes in supply

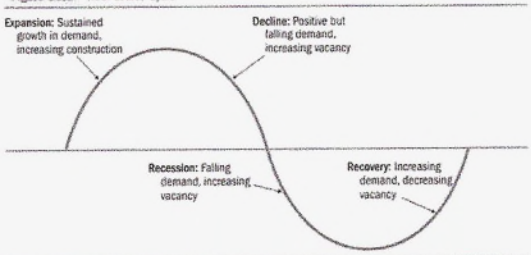
In general, if vacancy rates rise, rents will fall and capitalization rates will rise, although in the recent downturn capitalization rates fell because of artificially low interest rates. If vacancy rates fall, then rents will rise and capitalization rates will fall.

Source: TARE 14TH ed. P. 135

S W A N G O 56

Vacancy is a market barometer as well as an important item on a micro level

Figure 10.2 Real Estate Cycle



Source: TARE 14TH ed. P. 135

S W A N G O 57

Vacancy & Collection Allowance – micro;

for a particular property income estimate/forecast

a) A deduction from potential gross income, it is an **estimate** and an '**allowance**' based on subject experience and market influences; it is forward looking.

b) Several tenants are envisioned in theory; but when there are very few tenants, vacancy percentage can be very high if even one space is vacant for a few months.

c) In the **single-tenant*** situation – cap rate rather than vacancy. In this situation, there is risk of delays in collections, but collection risk is part of the cap rate risk component rather than vacancy *[examples include: car dealers, furniture stores, big box stores, f/s restaurants, some industrial, etc.]

S W A N G O 58

Sources of vacancy and collection allowance estimate

1. **Subject experience and** current situation
2. **Comparable properties** competing with the subject
3. **Market surveys** (past; but a basis for outlook)

   Caution: Submarket by location, property size, type, age, condition, features, demographics, rent/price range

4. General market trends, for example a change in market alternatives (sfr vs apts)

   Caution: number of tenants, technological change, location and property type trends

Caution: Fewer than 4-6 tenants can distort % !

S W A N G O 59

Vacancy and Collection, *cont'd*

The extent to which you use subject experience (form 300, for example), vs. market vacancy rates

Market information (surveys, comparables) should, of course, have SIMILAR:

- property type, features, size, users
- location, geographic influences
- age, condition,
- investment size
- investment risk
- potential investor type, entity
- investment outlook and
- other market influences, investor and user appeal

S W A N G O 60

Vacancy and Collection Allowance:

(micro – estimating a particular property income outlook)

- **Is a forecast** (typical year in direct capitalization; or specified yearly in DCF)
- **Considers subject experience** – history and current situation
- **Considers existing subject** leases, expiration dates, renewal probability.
- **Considers market conditions**, competition existing and planned, alternatives, **and outlook**

S W A N G O 61

OTHER INCOME

S W A N G O 62

Net Operating Income

Potential Gross Income

- Vacancy & Credit Allowance

+ Other Income

+ Reimbursements, if any

= Effective Gross Income

- Operating Expenses

- Reserves Allowance

NET OPERATING INCOME

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Other Income

Examples

- Storage
- Parking – assigned, open, or covered
- Vending *
- Laundry*
- Shopping, pick-up, delivery
- Meeting / conference rooms
- Clerical, phone, communications, cable, sat.
- Other available services, features, amenities or components

* Included even though from personal property equipment because it is part of the whole property package income.

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Other income

"Other Income" is normally entered as a net amount, i.e. the amount the property owner receives after expenses.

For example, the owner of an apartment project with a laundry, may either

[1] buy coin operated equipment and maintain it keeping any excess of income over expenses, or

[2] contract with a laundry operator who furnishes and maintains the equipment, paying the owner a commission.

Either way, the 'bottom line' net income from the source is entered as 'other income' in calculating NOI for capitalization.

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REIMBURSEMENTS

SWANGO 66

Net Operating Income

Potential Gross Income

- Vacancy & Credit Allowance

+ Other Income

+ Reimbursements, if any

= Effective Gross Income

- Operating Expenses

- Reserves Allowance

NET OPERATING INCOME

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Reimbursements

- Under some commercial leases [1] the property owner pays operating expenses, then [2]the tenant(s) reimburses the owner for a proportionate share of specified expenses.
- Examples. Insurance, common area maintenance and utilities, and others.
- Reimbursements vary with occupancy
- May vary by individual leases, specified expenses, and have 'stops' or limits.
- All leases in a market for a particular property type are not the same – they differ because of market conditions, L/T negotiation results, and other factors.

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Reimbursements

- Proportionate share may include common areas (tenant gross/net)
- Reimbursements are not common in residential leases
- These are more reasons to know [1] the provisions of the subject leases *and* [2] market standard lease terms and provisions. Yes, the devil may be in the details. (This is important in analyzing comparable sales and extracting capitalization rates from the market too.)

SWANGO 69

OPERATING EXPENSES

SWANGO 70

Net Operating Income

Potential Gross Income

- Vacancy & Credit Allowance

+ Other Income

+ Reimbursements, if any

= Effective Gross Income

- Operating Expenses

- Reserves Allowance

NET OPERATING INCOME

SWANGO 71

Operating Expenses

Allowed, if payable by building owner:

- real estate tax,
- insurance,
- utilities,
- maintenance (roof, HVAC, plumbing, electrical, etc.)
- janitorial,
- building casualty insurance,
- legal and accounting fees,
- promotion –marketing of property for rent,
- management fees,
- trash collection,
- pest control,
- fix up, paint, décor between tenants
- landscape maintenance
- building or project signage maintenance
- utilities, lighting, water, sewer
- licenses & fees,
- interior / exterior decorating
- rental tax (if included in income)
- trash and snow removal
- pest control
- misc. building and property expenses of operation

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Operating Expenses, *Continued…*

Not allowed or 'inappropriate':

- debt service; principal, interest ;
- depreciation used in accounting, book depreciation;
- depreciation, obsolescence from cost approach;
- owner personal or business expenses;
- capital outlays, major improvements beyond maintenance;
- start-up expenses;
- owner income tax, all or part;
- any expenses related to the business operating in or on the property.

SWANGO 73

EXAMPLE PROPERTY - INCOME APPROACH	Hotel						
Potential Gross Income from operation of the property	$1,000					General Idea of TOTAL	
- Vacancy and Collection Allow	20			Property		Value; real, personal -	
+ Other Income	5			Gross. Mult'r		Tangible & Intangible	
= Effective Gross Income		$985		3.0		$ 2,955	R.E., PP, Business
Less Operating Expenses							
Business (FF&E and Intangibles)							
Interest on Capital Inv	50.0						
Inclined work force amts	50.0						
Exp-ex (@ 10 yrs)	400.0						
Salaries & Payroll Taxes	100.0						
Training, CE	10.0						
FF&E Replaillow	20.0						
Utilities	4.0						
Franchise Amortiz	2.0						
Franchise Fees	19.7						
Management, Admin	6.0						
Signage, Adv. Referral	5.0						
Memberships, Adv. Promotion	5.0						
Licenses, fees, business taxes	4.0						
Insurance - business related	5.0						
Depreciation - book deprec not included							
Debt Service - not included							
Owner benefits - not included							
Other	4				Business		Business
		683			Cap Rate		Value
Income to Business, FF&E, Intangibles			$302		20%		$ 1,511.50 FF&E, Intangibles
Real Estate					Inventsale of		
C.E. Tax	150				other businesses		
Insurance	50						
Utilities	Inclusbove						
Management	2						
Maintenance, CAM	3						
Other	4				Real Estate		Real Estate
		209			Cap Rate		Value
Net Operating Income - Real Estate Only			$93		8.00%		$1,166.25

SWANGO 74

Operating Expenses - Sources

Real estate operation expenses borne by the owner of the real estate – not the business using the real estate.

- **Subject history and recent experience** (DOR 82300)
  - Smoothing and some adjustments ("reconstruction") are usually necessary because of extraordinary income or expense items.
  - Caution – reality: petitioners income may be understated and expenses overstated; and assessor's income and expenses may need support.
- Owner statements - more credible if done by CPA (PA, EA)
- Schedule E from income tax returns
- Market standards, norms (trade associations, other publications)
- Surveys and interviews, property managers, owners
- Specific comparable properties, sales and listings

SWANGO 75

Operating Expenses

Operating Expenses. *Often the following breakdown is used as a matter of custom and convenience:*

Fixed
Variable
Replacement Reserves allowance

- **Fixed** expenses do not vary with occupancy; must be paid whether property is occupied or vacant

SWANGO 76

Fixed Expense Examples

- Building Insurance
- Liability Insurance
- Structural and Basic Maintenance
- Licenses, HOA type fees,
- Minimum utilities
- Real Estate Tax

SWANGO 77

Real Estate Taxes and the Effective Tax Rate

- Most appraisals enter real estate tax as a line-item expense
- In valuation for ad valorem taxes, the real estate tax amount is not known (because we are estimating value which is necessary to calculate the real estate tax amount)
- But the effective tax rate can be found and is knowable.
- Basically, it is the relationship between taxes paid and the value of the property.

SWANGO 78

Real Estate Taxes and the Effective Tax Rate

To solve the problem in ad valorem valuation:

1. the taxes are not entered as an expense. This raises the net operating income.
2. The effective tax rate is added to the capitalization rate. This lowers the valuation, offsetting the higher income

SWANGO 79

example

For 'standard' valuation:

- Net operating income with r.e. tax: $10,000
- Capitalization Rate .10, so
- Value = $10,000 / .10 = $100,000

For ad valorem valuation:

- Effective tax rate = 0.025
- Net operating income without r.e. tax $12,500
- Capitalization rate .10 + .025 =.125
- Value ad valorem = 12,500 / .125 = $100,000

SWANGO 80

ETR - note

Normally the values don't come out exactly the same because the actual effective tax rate for a particularly, is not the same as the market or full cash value effective tax rate.

SWANGO 81

Operating Expenses, continued.....

Variable Expenses are operating expenses that generally vary to some degree with level of occupancy (though most have a minimum regardless of occupancy).

Possible examples:

Base administrative / management charges,
leasing fees & commissions,
payroll,
advertising and promotion,
on-site management,
utilities,
HVAC,
general and equip maintenance,
repairs,
trash collection,
decorating,
grounds maintenance,
decorating,
security,
supplies, and
exterminating.

SWANGO 82

Reserves for Replacements,
or
Replacement Allowance
or
Reserves

Replacement Allowance, aka Reserves for Replacements, aka **Reserves**

Reserves, an allowance that provides for the periodic replacement of building components that wear out more rapidly than the building itself and must be replaced periodically during the building's economic life. [TARE 14th ed Pg. 485]

(In some industries, such as the hospitality industry, referred to as annual 'capex' , short for capital expenditures.)

Reserves for Replacements, or Replacement Allowance

- Some expenses or outlays occur every few years rather then monthly or yearly.
- Such items include replacing roof covering, repaving parking lots, replacing carpeting, repainting, replacing HVAC units, replacing appliances, carpeting, and others – specific items vary depending on property type and leases.
- To allow for an 'average amount per year' to cover such items, a "reserves for replacement" or "replacement allowance" may be used.

Reserves for Replacements, *continued....* [35-37]

Example:

- Carpeting costs $100,000 to replace, and normally lasts 5 years in a particular apartment project.
- So 100,000 / 5 = $20,000 per year replacement reserve allowance needed and deducted from income to calculate Net Operating Income..
- Usually listed separately from "expenses," fixed or variable
- Looks at more than one year; i.e. what would be an average annual expenditure or set-aside
- Normally for major maintenance and replacements. The item is not capital expenditures.

Example items.....

Reserves for Replacements			
ITEM	COST	LIFE - Years	Reserves/Yr.
Roofing	$ 60,000	12	$ 5,000
Painting	42,000	8	5,250
Carpeting	68,000	7	9,714
HVAC	75,000	10	7,500
Appliances	25,000	6	4,167
Total	$ 270,000		$ 31,631 / yr

SWANGO 87

If a sinking fund earning, say 6% annually, with annual compounding, were assumed, the previous replacement reserves would look like this:

Reserves for Replacements Sinking Factor Analysis @ 6% Annually				
ITEM	COST	LIFE - Years	S F Factor	Reserves/Yr.
Roofing	$60,000	12	0.059277	$3,557
Painting	$42,000	8	0.101036	$4,244
Carpeting	$68,000	7	0.119135	$8,101
HVAC	$75,000	10	0.075868	$5,690
Appliances	$25,000	6	0.143363	$3,584
Total	$270,000			$25,176 / yr

Less set aside; i.e. $25,176 / yr rather than the $31,631 / yr with no sinking fund and interest earned.

SWANGO 88

Reserves

Examples of items included in such 'reserves' include:

- Roof covering,
- Deck covering
- Exterior painting
- Sidewalks, driveways
- Carpeting, floor covering
- Interior common area decorating
- Appliances
- Electronics, tech features, security
- Mechanical equipment, elevator, HVAC, WH
- Landscaping components, irrigation system
- Parking, paving
- and .....xyz depending on the property characteristics and requirements

SWANGO 89

Reserves for Replacements Allowance –some questions

- Reserves; include as a deduction from gross income or not?
  - sellers/brokers often omit or under-estimate; standard appraisal practice is to include. Use it *unless* market does not.
- Reserves are filled with forecasts / estimates
  - Cost$ to replace;
    - now vs. then -in the future
  - Life expectancy
    - Overall vs. remaining
- Interest earning 'account' or sinking fund; and
- How about inflation assumptions (i.e. include in the likely cost to replace items in the future)?

Sources of amounts and information

- Subject experience, studies, industry norms (capex), specific comparables, subject itself, property managers, and , surveys and interviews: maintenance firms, specific subcontractors and trades

SWANGO 90

Use Reserves – *or not?*

What's the effect of using reserves

- Replacement reserves increase deductions from income, lower the NOI, and thus lower the value estimate.

Who uses the concept?

- Lenders, market participants wanting to be 'conservative,' tax reps seeking lower values.

Who does not usually use reserves?

- Many brokers, many sellers.

Do most appraisers in the private sector use reserves for replacements?

- It depends on the property, local market custom, and simulation of what potential buyers do in deciding how much to offer or pay for an investment.

Is a <u>sinking fund factor</u> normally used in the calculations?

- Use of a sinking fund factor is not commonly used by those using reserves. Some clients, lenders, and others permit it, some do not.

SWANGO 91

Capitalization

SWANGO 92

Net Operating Income

Potential Gross Income
- Vacancy & Credit Allowance
+ Other Income
<u>+ Reimbursements, if any</u>
= Effective Gross Income
- Operating Expenses
<u>- Reserves Allowance</u>
NET OPERATING INCOME
<u>-Debt Service (Principal & Interest)</u>
=Cash Flow to Equity

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Cash Flow to Equity; NOI - DS

- **Equity Dividend** is the portion of NOI that remains after debt service is paid. A dollar amount. "Cash in pocket" before income taxes and book depreciation.
- **Equity Dividend Rate** is the rate found when comparing the equity dividend amount to the amount of equity invested.

SWANGO 94

The transformation of expected monetary benefits to value is CAPITALIZATION

Capitalization is simply **the conversion of expected benefits into a present lump sum amount, i.e. capital amount.**

1. Typical, or first, year monetary income benefits

$$\text{Value} = I / R$$

1. Specified expected annual benefits during the period of ownership (DCF or Yield Cap).

Value = PW of CF_1 + $PWCF_2$ + $PWCF_3$ + $PWCF_4$ + ...(CF_n+ $Reversion_n$)

S W A N G O 95

Alternative capitalization techniques – primarily DCF

Discounted Cash Flow (DCF) ; yield capitalization considering returns over time.

- **Seldom used because of all the needed forecasting, details, and the number of assumptions.**
- Difficult to support the discount rate,
- Difficult to support, in each of several future years, assumptions and forecasts for:
  - Gross income,
  - vacancy and collection,
  - other income,
  - operating expenses,
  - Reserves
  - – all the future annual amounts and changes forecast.

S W A N G O 96

Capitalization – converting expected income to a present capital amount

Static vs. Dynamic Models: **V=I/R** *and* **DCF**

STATIC MODEL V = I / R	DYNAMIC MODEL DCF. V = $PWCF_1$ + $PWCF_2$ + ...PW (CF_n + Reversion to equity at end of forecast period)
Premise: Value = the Relationship between Income and Value found in the market applied to the subject actual or estimated income.	**Premise:** Value = Present worth future annual quantified benefits
One Income. Typical or first year of new ownership	**Multiple Incomes** Specify multiple-years' anticipated income; may be variable, positive – negative mixed.
Net Operating Income before debt service.	**Net Operating Income** before debt service.
Forecasting needed: Limited	Forecasting needed: *Extensive* forecasting of income and expenses.
Rate is from Market Data, R = I / Value by sales price. (or alternate methods including 1. band-of-investment, 2. debt coverage formula, or 3. multipliers and income ratios.)	Rate is a discount rate, cumbersome to extract from the market and support.

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The transformation; benefits to value is CAPITALIZATION

Ratio model, aka Direct Capitalization, is the **most common:**

$$V = I / R$$

- Static or semi-static: one income, one rate
- Simple, relatively easy to understand and explain
- Most commonly used by brokers, sellers, investor/buyers, lenders, etc.
- One income and one rate needed
- Many investment components *implicit* rather than *explicit*
- Several sources for **Income** estimates
- Several sources for **Rate** estimates

S W A N G O 98

Direct Capitalization. V = I / R

Advantages

- Most commonly used for all income property sizes (DCF is an alternative, but used more to show timing of expected inflows/outflows and analysis)
- Simple, easy to understand. Used by the market – agents, buyers, sellers of most investment – income property.
- Most widely used by buyers of income / investment property
- One rate, one income; get one value – sweet.

Disadvantages:

- **Problem – which income (past, present, future)**
- Problem – may not have level annuity type income stream (so may need to accommodate)
- Problem – rate from same income calculation level and type as subject, and same property type, size, risk, location, features, condition, etc.

S W A N G O 99

Direct Capitalization

we have:

- Indicated income = $100,000
- Rate from market = 10.0%

But where did the 10% Rate come from?

V = I / R, so

$100,000 / .10 = $1,000,000.

S W A N G O 100

Capitalization – converting income to value.

Most common: Direct Capitalization: **V= I / R** in which V=value, sales price I = Net Operating Income R = Overall Rate aka Ro

Most Common Sources of Rate:

- **Sales data.** R= Income / Vsp (aka direct extraction of rate)
  - Direct extraction of rate from specific comparable and competitive property sales which were producing net operating at the time of sale
- **Surveys.**
  - Using direct extraction as noted above
  - Interviews (investor-owners, buyers, brokerage agents.

S W A N G O 101

Direct Capitalization – Rate from Comps

RATE. From market....

Sale	Price	Income	Rate
1	$ 950,000	$ 91,000	.096
2	$ 1,100,000	$120,000	.109
3	$ 1,000,000	$100,800	.101
4	$ 450,000	$ 55,000	.122

Indicated rate about 10.0%.

Note #4 is a property with just half the size as subject -- the others are more similar.

S W A N G O 102

Ratio Model; Direct Capitalization

Sources for Rate in V=I/R

Sources of Rate

1. Market Extraction **from Sales (and listing) Data: R = I / Vsp**

Needed: very similar properties, lease terms, financing, and income streams, recently sold.

Example

Sale Price	Net Income	Rate
1. $ 1,500,000	$150,000	150,000/1,500,000 = 0.100 = 10.0%
2. $ 1,200,000	$130,000	130,000/1,200,000 = 0.108 = 10.8%
3. $ 1,150,000	$100,000	100,000/1,150,000 = 0.086 = 8.7%

Note:

Importance of same income: With/without reserves. Most recent actual year, typical year est., buyer forecast for first year, or average buyers estimate of first few years average? Consistency between comps and subject level of income.

S W A N G O 103

These are from market also, but are more complex and mechanical – and less understandable to taxpayers and clients

Table 23.2 Known and Unknown Variables in Residual Calculations From TARE 14th ed. P. 501

Residual Technique	Known	Unknown
Land residual	Net operating income (*NOI* or I_o) Building value (V_B) Building capitalization rate (R_B) Land capitalization rate (R_L)	Land or site value (V_L)
Building residual	Net operating income (*NOI* or I_o) Land or site value (V_L) Land capitalization rate (R_L) Building capitalization rate (R_B)	Building value (V_B)
Mortgage residual	Net operating income (*NOI* or I_o) Amount of equity (V_e) Equity capitalization rate (R_e) Mortgage capitalization rate (R_m)	Mortgage amount (V_m)
Equity residual	Net operating income (*NOI* or I_o) Mortgage amount (V_m) Mortgage capitalization rate (R_m) Equity capitalization rate (R_e)	Amount of equity (V_e)

S W A N G O 104

Income Approach – Direct Capitalization

There are many ways to calculate Rate; all depend on market information; among them:

- Built-up Method
- Band of Investment
  - Physical: land and building
  - Financial: debt and equity
- Debt Coverage Ratio
- GIM and Expense ratio
- Mortgage Equity Analysis
  (R=Y+MC-(app * 1/Sn) or +(dep * 1/Sn)
- **Direct Extraction of Rate from the market** **R = I / V[sp]**
- **Interviews**
- **Surveys**

Our focus here is this direct extraction of rate from market sales information. -the technique easiest to explain, understand, and most often used in SBOE hearings.

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Rate derivation, *continued…*

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2. Surveys

-Sources – independent data firms, brokers, Universities and Ed. Insts, Financial insts.,

-Geographic - National, Regional, Local

-Custom Survey

-Same: Product? Income Level? Location? Risk? Capital Commitment? Age, Features, Condition? Investor appeal? Timing?

- Any source bias?

3. Interviews - primarily [a] brokers and [b] buyers

specific conversations, and/or done in the process of confirming comparable sales and listings

S W A N G O

Income Approach – Rates Ro

3 Rates vary with

- Market conditions
- Economic conditions
- Market outlook
- Alternative investments
- The degree of perceived risk
- Inflation outlook
- Rates 'normal' as found in comparable property in the recent past
- Prevailing tax law
- Financing cost and availability
- Specific property condition, expenses, income, outlook
- Income quality or stability
- Tenant creditworthiness, business/industry outlook
- PERCEIVED RISK particularly relative to alternatives.

SWANGO 107

Derivation of R from the market

4 Comparable properties from which rate is derived should be similar to the subject concerning:

- Location
- Physical characteristics
- Physical condition
- Investment size
- Lease types and provisions
- Tenant types, demographics
- Expense ratios
- Zoning, use restrictions
- Site coverage
- Access, visibility
- Features, amenities

SWANGO 108

Income Approach – Deriving Rates from the Market

5.If individual comparable sales are used to derive rate

- Is NOI calculated on a 'like' basis compared to each other in the data set and the subject.
- Are the properties really comparable and competitive as investments *and* for tenants
- Are leases comparable, with similar rates, terms, conditions, expense burdens similar to each other and the subject
- Are vacancy and collection similar to each other and the subject
- Are locations, physical characteristics, condition, features and amenities similar to each other and the subject?

SWANGO 109

Direct Capitalization – Rate from comps

Some real 'what ifs' - -

- What if one or more of the sales sold under duress at a below market price.
- What if one of the sales was encumbered by leases at below market levels by 10 or 20% for the next 2 or 3 years.
- What if one of the sales was in a location with poor outlook for value increase, high vacancy, or in an area known for high level of vandalism.
- What if one of the sales was an REO sale ---to a poorly informed buyer?

SWANGO 110

Direct Capitalization Rate from Comps

-What if some of the properties had income calculations based on historic, last year's, income and others used income based on the investor-buyer's forecast of a first year, or 'typical' year's income?

-What if some of the NOIs were based on expenses including reserves, or allowance for replacements, and in other sales NOI included only 'active' operating expenses with no reserves?

-What if a sale had very favorable financing for the buyer which affected the price?

Direct Capitalization Rate from Comps

- What if some of the NOIs were based on using an average of the last 2-5 years actual vacancy, some based on current vacancy surveys for the property type and location, and others used vacancy based on the buyer's own forecast?
- What if some of the improvements were masonry with concrete tile roofs and others were frame with minimum shingle roofing?
- What if some of the leases were 'gross' leases and others were 'net' leases

So

- The appraiser must have and analyze information on each property's price, income, expenses, financing, property features and condition, sale conditions, and market condition.
- The appraiser must make certain the net operating income of each comparable property is calculated and estimated in the same way as the subject Net Operating Income. (*past, current future; with or without reserves, etc*)

Direct Capitalization - Rate

SALES PRICE of a comparable may have to be adjusted.* before extracting rate .....for:

- Market conditions
- Financing impact on price
- Sale conditions

** subject of some debate as to what, if any, items should be cause for sales price adjustment in deriving overall rate.*

Direct Capitalization – Rate from Market Comps

NET OPERATING INCOME OF THE SALES from which rate is extracted **MAY HAVE TO BE ADJUSTED FOR:**

- Extra-ordinary or one-time items of income or expense
- Improper items included in expenses

  examples: – book depreciation, income tax, owner/management personal expenses, interest, debt service, balloon payments, financing or organization costs, and such
- Reserves or allowance for replacements.
- Buyer/investor outlook rather than historic expenses and income.

so that comparable income is on the same basis as subject

S W A N G O 115

Direct Capitalization – Rate from Market Comps

- If there are differences between a comparable and the subject that could affect investment appeal, returns, risk, and attractiveness, such items must be considered in arriving at the final conclusion of rate.
- Risk, outlook for income, relative expense levels, location, outlook for probable value change, materials of construction ....all are some of the items which may influence relative rate differences.

S W A N G O 116

Direct Capitalization – Rate from Market Comps

6. Surveys for RATE

may be misleading or dangerous as a source for rate for a subject property because....

- Source may be biased (check one against others)
- Different stratification (price and rent levels, property size, type, features, location, expenses, tenant type – demographics, for example.)
- Were prices and income adjusted as necessary?
- Survey taken under the same market conditions and outlook
- Surveys tell you only about the **past** and recent **trends**

S W A N G O 117

Income Approach – Deriving Rates from the Market

If survey information is used, know:

- Who did it
- How it was done
- Data base size and characteristics, detail
- Time period covered by the data,
- Whether prices or incomes were adjusted to make them 'like' each other and the subject.
- Stratification; price range, feature range, property characteristics (construction, age, condition) range, tenancy demographic, investment size, etc.

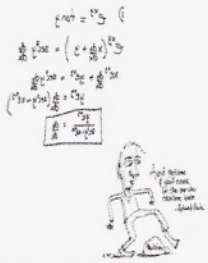
S W A N G O 118

Derivation of Capitalization Rate: R

In any type of direct market extraction (***specific sales*** or ***surveys***) of the rate from the market, ask....

Were the sales properties comparable to the subject; especially regarding:

macro and micro location,
age, condition,
investment size,
property size,
features,
risk level,
financing,
market conditions (time),
Use, user,
Outlook
Capital requirement – investment size and commitment,



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Derivation of Capitalization Rate: R

Was the income in the sales properties on the same level as the subject income used in valuation; i.e. consistent:

- With or without reserves?
- Potential gross vs. effective gross?
- Which income: Past, 'current', or expected future income?
- With or without reserves?
- Adjusted for tax expense vs. using effective tax rate (ETR)?
- Sold 'as is' or subject to....
- What did the buyer DO with the property?

S W A N G O

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Income Approach

Plausable Manipulation

S W A N G O

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Frequent problems, errors, misconceptions, and challenges in the income approach

A. Ranges. The income approach is not as scientific as it looks, not as 'set in concrete' or precise.

Each of its elements comes from the **market in ranges** and requires analysis in application to a particular property:

1) Market rent (vs. contract rent)
2) Vacancy and Collection allowance
3) Reimbursements
4) Other income
5) Operating expenses
6) Reserves for replacements (include? Included in rate derivation?)
7) Rates: Capitalization, discount, or yield rates

S W A N G O

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Income Approach - Frequent Problems

27-28

- B. It has many assumptions – amounts and methods
- C. It is subject to easy manipulation - for example here are some things people do to DECREASE the calculated value in the income approach.

✓ *Usually done through nudges and gentle bumps* in various categories:

- Understate PGI
- Overstate V&C
- Forget or Understate Reimbursements
- Overstate Expenses (subj. experience, check against market norms)
- Overstate Reserves for Replacements, aka replacement reserves, (use short life expectancy range, high replacement cost (even amounts including inflation assumptions in cost)

✓ In Direct Capitalization, use the high end of market capitalization rates; omit data with the lower capitalization rates. The higher the rate, the lower the value.

✓ For DCF, use the high end of the yield range, nudge expense growth assumptions upward, and such.

S W A N G O

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Shading and Shaving

(can be done in reverse to enhance value calculation also)

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Gross Size	15,000	SF	
Net Rentable	12,000	SF	
efficience Ratio	80%		

line ref		Standard			Shaved		
1	**Operating Income**						
2	**Potential Gross Income $12-13.50/sf**	$ 12.50	$ 187,500		$ 12.00	$ 180,000	
3	Other Income 25,000 - 45,000	$ 35,000	$ 35,000		$ 30,000	$ 30,000	
4	**Total**		$ 222,500			$ 210,000	
5	Vacancy and Credit Allow 5-10%	7.5%	$ 16,688		10%	$ 21,000	
6	**Effective Gross Income**		$ 205,813			$ 189,000	
7							
8	**Operating Expenses**						
9	Insurance $0.09-0.15/sf	$ 0.11	1,650		$ 0.12	1,800	
10	Utilities $3-4/sf	$ 3.50	52,500		$ 3.75	56,250	
11	Management 7-12% of EGI	10%	20,581		11%	20,790	
12	Legal and Accounting		1,100			1,650	
13	Maintenance $1-2/sf	$ 1.50	22,500		$ 1.75	26,250	
14	Misc $2,000 - 3,000	$ 2,100	$ 2,520		$ 3,000	$ 3,000	
15	Total Operating Expenses		$ 100,831			109,740	
16	**Net Operating Income**		$ 104,981			$ 79,260	
17							
18	**Overall Capitalization Rate .09 - .098**		0.095			0.0975	
19	**Value Calculation**		$1,105,066			812,923	

A 26.5% reduction in value – just by a gentle push of a few numbers – nothing outlandish; BUT what a difference in results !

S W A N G O

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And with reserves for replacements included, the "shaved value" goes down even further

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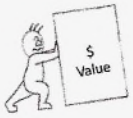
Line ref		Standard			Shaved		
1	**Operating Income**						
2	**Potential Gross Income $12-13.50/sf**	$ 12.50	$ 187,500		$ 12.00	$ 180,000	
3	Other Income 25,000 - 45,000	$ 35,000	$ 35,000		$ 30,000	$ 30,000	
4	**Total**		$ 222,500			$ 210,000	
5	Vacancy and Credit Allow 5-10%	7.5%	$ 16,688		10%	$ 21,000	
6	**Effective Gross Income**		$ 205,813			$ 189,000	
7							
8	**Operating Expenses**						
9	Insurance $0.09-0.15/sf	$ 0.11	1,650		$ 0.12	1,800	
10	Utilities $3-4/sf	$ 3.50	52,500		$ 3.75	56,250	
11	Management 7-12% of EGI	10%	20,581		11%	20,790	
12	Legal and Accounting		1,100			1,650	
13	Maintenance $1-2/sf	$ 1.50	22,500		$ 1.75	26,250	
14	Misc $2,000 - 3,000	$ 2,500	$ 2,500		$ 3,000	$ 3,000	
15	Total Operating Expenses		$ 100,831			109,740	
16	**Net Operating Income**		$ 104,981			$ 79,260	
17							
18	**Overall Capitalization Rate .09 - .098**		0.095			0.0975	
19	**Value Calculation**		$1,105,066			812,923	
20							
21	**AND WITH RESERVES FOR REPLACEMENTS**						
22	**Effective Gross Income**		$ 205,813			$ 189,000	
23	**TOTAL OPERATING EXPENSES**		$ 100,831			$ 109,740	
24							
25	**Reserves for replacement**						
26	**& Remaining life est. as of value date**						
27	*Roofing 5-10 yrs*	$3.00	$ 49,000		$3.50	$ 52,500	
28	*Painting 3 - 5 years*	$4.00	$ 60,000		$4.50	$ 67,500	
29	*HVAC replacement 5-8 years*	$3.00	$ 45,000		$3.50	$ 52,500	
30							
31	**Life estimate - Years, annual amount**						
32	Roofing	7	6,429		6.0	7,505	
33	Painting	4	11,250		3.5	12,857	
34	HVAC	6	7,500		7.0	6,429	
35	**Total Reserves for Replacements**		25,179			26,789	
36							
37	**Total Expenses and Reserves for Repl.**		$ 125,010			$ 136,529	
38	**Net Operating Income**		$ 79,803			$ 52,471	
39							
40	**Value Estimate**						
41	**Ro**		0.09500			0.09750	
42	**Value Calculation**		$ 840,028			$ 538,198	
		Difference	36%				

Nudging and pushing



The foregoing Gillette property example, calculation of NOI for capitalization:

A 26.5% reduction in value – just by a gentle push of a few numbers – nothing outlandish, BUT what a difference in results !

And with reserves for replacements included, the "shaved value" goes down even further:

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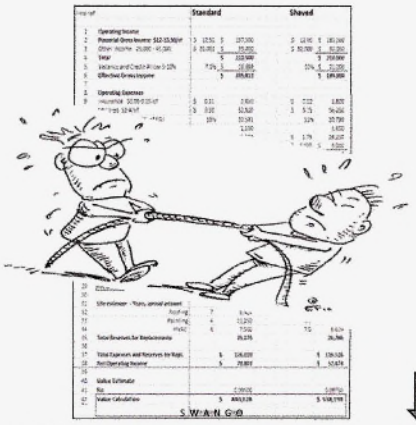

	Standard		Shaved	
Operating Income				
Potential Gross Income: $12-15,000/yr	$ 12.50	$ 187,500	$ 12.95	$ 181,300
Other Income: 25,000 - 45,000	$ 35,000	$ 35,000	$ 50,000	$ 50,000
Total		$ 222,500		$ 259,000
Vacancy and Credit Allow 5-10%	7.5%	$ 16,688	10%	$ 25,900
Effective Gross Income		$ 205,812		$ 189,800
Operating Expenses				
Insurance: 10,000-0.05 sf	$ 0.31	2,800	$ 0.22	1,800
Utilities: 12-14 sf	$ 0.10	12,500	$ 0.75	56,250
[illegible]	10%	10,581	10%	10,790
		1,100		1,600
		[illegible]	$ 1.79	24,207
			$ 4.00	$ 4,000
Life Estimate - Years, annual estimate				
Roofing	7	[illegible]		
Painting	4	11,250		
HVAC	6	7,500	7.5	[illegible]
Total Reserves for Replacements		25,275		26,366
Total Expenses and Reserves for Repl.	$	106,029	$	136,526
Net Operating Income	$	79,800	$	52,474
Value Estimate				
Rate		0.0900		0.0900
Value Calculation	$	883,328	$	538,198

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Nudging the income approach value calculation upward

Some things people do to RAISE the calculated value in the income approach. One or more of these may be done by gentle inconspicuous 'nudges' of the amounts to cause an increase in the calculated results. In most cases + / - 5 % sets off no alarm bells; and even 10% may be plausible. But there is a cumulative effect !

Among the most frequently used.....

- **Overstate PGI**
- **Understate V&C**
- **Understate expenses (check against market norms)**
- **Omit reserves for replacements (aka replacement reserves)**
  - **If included, understate reserves for replacements (use long life expectancy estimates, low end replacement costs, and/or *use sinking fund factors so less need be set aside each year*.**
- **Use a capitalization rate at the low end of the data range, or lower its components.**
- **Use total economic life expectancy rather than remaining life expectancy for reserves for replacement**

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And the user can muddle the waters completely by including some business related outlays in some property types.

Here is one method.....

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EXAMPLE PROPERTY - INCOME APPROACH											
Potential Gross Income from operation of the property				$1,000					General Idea of TOTAL		
- Vacancy and Collection Allow				10			Property		Value; real, personal -		
+ Other Income				5			Gross. Mult'r		Tangible & Intangible		
= Effective Gross Income					$685		3.0		$ 2,955	R.E., PP, Business	
Less Operating Expenses											
	Business (FF&E and intangibles)										
		Interest on Capital Inv		50.0							
		Trained work force amtz		50.0							
		Tap-ex (if 10 yrs)		400.0							
		Salaries & Payroll Taxes		100.0							
		Training, CE		50.0							
		FF&E Replaflow		20.0							
		Utilities		4.0							
		Franchise Amortz		2.0							
		Franchise Fees		19.7							
		Management, Admin		6.0							
		Signage, Adv. Referral		5.0							
		Membership, Adv, Promotion		5.0							
		Licenses, Fees, business taxes		4.0							
		Insurance - business related		3.0							
		Depreciation - book deprec not included									
		Debt Service - not included									
		Owner benefits - not included									
		Other		4				Business		Business	
					603			Cap Rate		Value	
		Income to Business, FF&E, Intangibles				$302		20%		$ 1,511.50	FF&E, Intangibles
	Real Estate							from sale of			
		R E Tax		150				other businesses			
		Insurance		50							
		Utilities		incl above							
		Management		5							
		Maintenance, CAM		5							
		Other		4				Real Estate		Real Estate	
					20%			Cap Rate		Value	
Net Operating Income - Real Estate Only						$85		8.00%		$1,166.25	

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EXAMPLE PROPERTY - INCOME APPROACH	Hotel						
Potential Gross Income from operation of the property	$1,000				General Idea of TOTAL		
- Vacancy and Collection Allow	20		Property		Value: real, personal -		
+ Other Income	5		Gross. Mult'r		Tangible & Intangible		
= Effective Gross Income		$985	3.0		$ 2,955	I.E., PP, Business	
Less Operating Expenses							
Business (FF&E and Intangibles)							
Interest on Capital Inv	50.0						
trained work force amts	50.0						
Sales ex (if 10 yrs)	400.0						
Salaries & Payroll Taxes	100.0						
Training, CE	10.0						
FF&E Real allow	20.0						
Utilities	4.0						
Franchise Amortz	2.0						
Franchise Fees	19.7						
Management, Admin	6.0						
Signage, Adv. Referral	5.0						
Membership, Adv. Promotion	5.0						
Licenses, fees, business taxes	4.0						
Insurance - business related	3.0						
Depreciation - book depret not included							
Debt Service - not included							
Owner benefits - not included							
Other	4			Business		Business	
		683		Cap Rate		Value	
Income to Business, FF&E, Intangibles			$302	20%		$ 1,511.50	FF&E, Intangibles
Real Estate				from sale of			
R.E. Tax	150			other businesses			
Insurance	50						
Utilities	incl above						
Management	2						
Maintenance, CAM	5						
Other	4			Real Estate		Real Estate	
		209		Cap Rate		Value	
Net Operating Income - Real Estate Only			$93	8.00%		$1,166.25	

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Yield Capitalization Models

SWANGO 132

2 capitalization models
Static or Direct and Dynamic or Yield.

Static vs. Dynamic Models: V=I/R *and* **DCF**

STATIC MODEL	DYNAMIC MODEL
V = I / R	DCF. V = $PWCF_1$ + $PWCF_2$ + ...PW (CF_n + Reversion to equity at end of forecast period)
Premise: Value = the Relationship between Income and Value found in the market applied to the subject actual or estimated income.	**Premise:** Value = Present worth future annual quantified benefits
One Income. Typical or first year of new ownership	**Multiple Incomes.** Specify multiple years' anticipated income; may be variable, positive – negative mixed.
Net Operating Income before debt service.	**Net Operating Income** before debt service.
Forecasting needed: Limited	Forecasting needed: Extensive forecasting of income and expenses.
Rate is from Market Data, R = I / Value by sales price. (or alternate methods including 1. band-of-investment, 2. debt coverage formula, or 3. multipliers and income ratios.)	Rate is a discount rate, cumbersome to extract from the market and support.

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Capitalization, *continued….* 32

Yield Models – DCF ***may*** be a great tool.

- Consider investment performance over a specified **time** period (holding or forecast period)
- Uses a yield rate, *aka* discount rate to cover 'time'
- Very flexible, especially for variable income and expenses during startup, fill-up, remodeling/renovation, and such.
- Includes expected changes in property value (and equity position in some cases.

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Yield Model – Discounted Cash Flow Problems

- Forecasting inflows and outflows
  - ✓ Lease types / clauses used in the future
  - ✓ Income: gross, effective gross
  - ✓ Vacancy Allowance, other income, reimbursements
  - ✓ Expenses: Taxes, Insurance, Maintenance, Utilities, CAM, --all expenses, even those reimbursed.
  - ✓ Net Operating Income
  - ✓ Income and expense individual changes, and property value change or future 'terminal' overall rate
- Extracting / Forecasting Yield - Discount rate

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The Yield Rate

- The rate is an internal rate of return
  - It is the rate at which all the inflows discount to equal the initial outflow (purchase).
- May rarely be extracted from the market – limited usefulness, however. Analyst would need to know comparable sale's **purchase outlay**, all **outflows and inflows** including the **reversion**, and **timing** of inflows and outflows.
- Even if you have all the information from a comparable sale, it's usually a long time from the purchase – and what has happened is not indicative of what will be expected to happen especially for the subject.

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EXAMPLE DISCOUNTED CASH FLOW DCF
3 YEAR DCF

25,000	sf
20,000	sf
$12.00	per sf per yr
10.0%	applied to following yr
6%	of sales price
12%	Source ???

	Start	Change	End of Year 0 (Now)	1	2	3	4
Potential Gross Income	$12.00	5%		$240,000	$252,000	$264,600	$277,830
Vacancy & Collection Allowance	5.00%			$12,000	$12,600	$13,230	$13,892
Effective Gross Income				$228,000	$239,400	$251,370	$263,939
Operating Expenses	$5.50	10%		$137,500	$151,250	$166,375	$183,013
summarize or itemize							
Subtotal				$90,500	$88,150	$84,995	$80,926
Reimbursements	$1.50	12%		$37,500	$42,000	$47,040	$52,685
Net Operating Income NOI				$128,000	$130,150	$132,035	**$133,611**
			Sale			$1,336,108	=133,611/0.10
			Less Selling Exp			$80,166	
			Net to Seller			$1,255,942	
			Summary of Cash Flows	$128,000	$130,150	$1,387,977	

Net Present Value **$1,205,975**
Rounded to $1,205,000 PW @ 12%

The Income Approach

~ A Few Problems

in Paradise ~

S W A N G O 138

Income Approach

The income approach has the advantages of

- Logically applies the concept of value being equal to the present worth of expected benefits
- Simulating market behavior and thinking process
- Flexibility, capitalization methods range from simple to complex.
- Flexibility to accommodate changing income streams and other property and investment components. We have good alternative models from simple to complex, static and dynamic, making use of today's computing power if necessary. DCF, particularly, has good reasoning, logic, and capability, and can be simple or complex as needed.

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Income Approach Challenges

However, the income approach has some difficulties – some inherent, and some with hope of refinement as the profession progresses. Here are some of the problems, causing need for thorough support and analysis:

1. Forecasting. Most appraisers are uncomfortable with forecasting. You are going to be wrong, but you can live with it.

- Appraisers are more comfortable with forecasting than they used to be.
- Forecasting market supply, demand, occupancy, rent levels, existing and prospective tenant behavior, operating expenses, reserves needed, timing of needed funds for negative net income, interest rates, government regulations, social changes, location changes, and on and on.

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Income Approach Challenges

2. Words and meanings across disciplines

- The many meanings of 'Rate' and Rate of return can be confusing to clients and taxpayers
  - We have capitalization rates, discount rates, yield rates, equity rates, mortgage rates, internal rates, modified internal rates, overall rates, land rates, building rates…the list is extensive.

3. Efficiency

It's time-consuming to research information and talk to the participants. Time vs. quality; Time vs. fee structure.

Detailed information is needed, and difficult to obtain and estimate.

- More information than ever out there, but usually not the critical details. People don't like to share financial stuff.
- Market rents, lease provisions/terms, expenses, projects planned, timing of necessary outflows, buyer thinking and analysis process.

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Income Approach Challenges

4. Including Risk in the analysis and comparisons.

- Example risks: Monetary, financial, marketing – competition, technological, purchasing power, regulatory, taxation, government rules and fees, market timing, etc etc
- We have difficulty in measuring, forecasting, defining and meaningfully dealing with RISK. We have no units of comparison for risk, such as KM/hr, Meters, Dollars, Hectares, GIM, Ro – all these are units of comparison we use to communicate; but nothing is present in measuring and commmunicating Risk in Real Estate.
  - We are vague and say things like the apartment project is more risky than the office building, but we don't have 3 meters of risk in one and 6 meters of risk in the other.
  - Some work in the area of risk in the finance, stock, insurance, and other fields has not been successfully applied to real estate because each property is unique.

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Income Approach Challenges

5. **Individual vs. Part of a Portfolio**

- Often in dealing with commercial property and REITS in particular, decisions are made on the basis of a portfolio, of which the valued property is a part, with vague clearness contribution to the whole.

6. **Real Estate vs. Total Assets of the Enterprise**

We still have difficulty in separating value of personal and intangible property from the real estate for some property types.

- Hotels provide one good example of intertwined and interdependent components, still a challenge to separate if we want only the value of the real property.

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Income Approach Challenges, *continued…*

7. Specific Property relative to other investments

- There is difficulty in relating alternative investments to specific real estate because of differences in items such as
- Relative risk, not quantified
- Size disparity
- Time commitment disparity
- Liquidity disparity
- Tax treatment
- Management involvement, and management expertise needed
- Capital requirements to own/operate,
- Availability and accessibility of data

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Income Approach Challenges, *continued…*

8. Evaluating Investor Confidence

The influence on investors, outlook, leases, expenses, rates, risk, etc. of outside events, likely and unknown, raises the level of uncertainty and error. Items such as

- Energy prices
- Insurance costs and exclusions
- Weather and natural events
- Political uncertainty (local, state, national)
- Terrorism
- The Black Swan

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Income Approach Challenges, *continued…*

Impact of outside events, continued….

- Elections and Government policies concerning business, taxes, services – all changing at an increasing rate (at the stroke of a pen)
- Competing economies influence on business, supply, demand, users and tenants economic situation and outlook, willingness to make commitments, as well as owners and buyers
- Technology. (*examples* - Building systems, impact on tenants, space type and requirements, internet impact, just in time shipping, communication, transportation
- Social changes *(examples* – household make-up and size, aging of population, European low or negative growth rates)

S W A N G O 146

The Income Approach - situations….

- Petitioner submits form 300 for an apartment project
- Surveys of rents and vacancies are available
- Industry norms are available for expenses

On the next slide is what petitioners may present; and what the assessor respondent may present.

- Where is which reasonable or unreasonable? . . . . . .

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Different routes to NOI for capitalization

	Petitioner 1		Petitioner 2		Petitioner 3		Assessor 1		Assessor 2		Assessor 3		
PGI (1 yr on new leases)	500,000		500,000		480,000	F	550,000	J	525,000	L	525,000	L	PGI (1 yr on new leases)
- V&C	100,000	A	120,000	D	96,000	D	95,000	J	100,000	A, J	100000	J	- V&C
V&C %	20%		24%	D	24%	D	17%		19%		19%		V&C %
+ Other income													+ Other income
NET laundry, vending, (from PP)	~~20,000~~	B	20,000	C	15,000	G	20,000	C	22,000	K	29,500	M	NET laundry, vending
= EGI	400,000		400,000		399,000		475,000		447,000		454,500		= EGI
- EXP excluding re.tax	300,000	C	330,000	E	360,000	H	300,000	C	310,000	K	310,000	K	- EXP incl re.tax
NOI	100,000		70,000		39,000		175,000		137,000		144,500		NOI

A V&C from subject average past 2 years
B excluded 'other income since "it came from personal property"
C average of past 3 years, form 300
D V&C based on % from area market survey
E expenses were weighted past 3 years, emphasis on most recent (20% , 30%, 50%)
F most leases have less than 1 year remaining, so income est based on published survey
G lower amount since this 'other' income trending downward past 2 years
H expenses were for most recent year and included reserves for replacements

I assessor used market survey based estimate of PGI rather than actual quoted advertised rents. Most leases under 1 year remaining (pursuing of the lower reasoning)
J assessor used reported form 300 most recent year reported actual vacancy %
K actual other income reported form 300 last year
L average of subject actual and a market survey
M included charges for covered parking per market standard, common owner non charging

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