* Determinants of value (NIB)
  + **Utility:** usefulness
  + **Relative scarcity** – more scarce, more valuable
  + **Effective demand**
  + **Transferability**

Selected principles of valuation

* + Highest/best use
  + Principles of change/anticipation
  + Contribution
  + Substitution
* Market value – most probable selling price; value in exchange
* Investment value = value to an individual; value in use
* **Value estimation** – Fair market value = most probable selling price
* Appraisal process estimate w/ 3 approaches then use these to get the best estimate
* Highest and best use issues
* -legally permissible, physically possible, financially feasible, maximally productive
  + vacant –
  + improved
  + helps evaluate if the property should be retained, modified, or demolished
* **sales (market data approach)**
  + Best approach if info is available – used with houses, condos, and land
  + Process: compare comps, adjust prices and compare, estimate value – adj fr bedrooms etc
* Cost approach – worst
  + Estimates cost of new property then deducts for depreciation – very subjective
  + Infrequently traded properties – works best
  + Process: estimate land value (vacant ) using market data then estimate the cost of new improvements
    - Reproduction cost 0 cost of building an exact replica at todays prices - EXTRODINARY
    - Replacement cost – cost of building equally functional item with current prices etc. - GENERIC
  + The subtract economic depreciation
* **Income approach – most common**
* Gross income multiplier – find coms, find multiplier (GIM OR GRM) value = **subjects gross income x multiplier**
  + Doesn’t consider operating expenses
* **Value – NOI (subject) / R (Market) \*\*\*\* review\*\*\*\***
  + **Increasing cap rate = better return**
* Capitalization rate
* IRV 0 how we educate prospective real estate brokers
* **Cap rate = NOI / V – next years expected net operating income / current value**
* Direct capitalization – preferred method by appraisers
* **Value = NOI / R**
* Pros: simpler, easier to defend in court
* Cons: overestimates values in declining markets
* Capitalization of an income stream – discounted cash flow analysis
* Forecast NOIs over a specified holding period and a future selling price at the end of the holding period
* Use an appropriate rate, discount to a present value
* For appraisal: expensive and time consuming
* Offers greater detail; more analytical but harder to defend in court
* **Complications:** for example, leases
* Leases can prevent the receipt of “market” rents (cash flow effect)
* Lease clauses can affect value because they affect risk (discount rate effect)

**Math on final comes from lecture notes / practice problems**

Investment analysis – handout

Rent and rent growth

* + use effective market rent unless space is tied up by a lease – then examine market terms
  + rent growth mimics inflation – must be careful not to overstate expected rent growth

measuring operating expenses

method 1: itemize individual expenses

method 2: use expenses as a % of income from similar properties

operating expense ratio (OER) – operating expenses as a % of effective gross income (EGI)

property expenses:

* + **property insurance** - 9/11 unsure if landlords or tenants should pay
  + **CAM** – common area maintenance – tenants maintain their rented premises

Other expenses:

* + Personal/admin/mgmt.
  + Leasing costs : commissions etc
  + Cap ex
* Property taxation
  + **Ad valorem tax –** based on value
  + **Collectable tax** – property is taxed , up to owner to pay tax
    - Local jurisdiction
    - **Lien attachment** – if owner doesn’t pay government can attach lien to pay
  + Mil (.001), millage rate, assessed value
  + **Tax rate x millage rate** -> tax per $1000 of value
* **Homeowners insurance** – package of hazard/liability coverage
  + Hazard- property or casualty insurance
  + Liability – third party insurance
  + DOES NOT COVER: war, earth movement, floods, termites, physical wear/team
* Deductions from income for real estate investors
  + Operating expenses
  + Property taxes
  + Mortgage interest
  + Depreciation
  + Operating losses
  + Capital losses
* Deduction from income for homeowners
  + Property taxes
  + Mortgage interest
* Tax credits
  + **Low income housing** – to encourage development of affordable housing
  + LIHTC
    - Low income housing tax credit applies for a tax credit (1,000,000)
    - If credit granted, LIHTC then sells it for cash
    - The cash funds the LIHTC
    - Corporations are financing it
  + Historical preservation
  + Energy tax credits
* **Pro forma – estimate of terminal selling price (3 approaches)**
* **Method 1:** The purchase price grows by a specified appreciation (see the practice problems)
* **Method 2:** Capitalize an estimated terminal NOI with a specified terminal cap rate (see the example on the investment handout)
* **Method 3:** Expert opinion!
* - review
* Investment
  + Direct – name on deed, owner/co-owner, estate, joint tenancies
  + Indirect – part owner of entity that owns the real estate, joint ventures, gen partnership etc
* Active vs passive – matters for taxes
  + Active- active participation in mgmt.
  + Passive-no management role
* Investment in equity (ownership)
* **Equity Investments** – properties; primary commercial property types: Office, residential, retail, industrial. Others: hospitality, healthcare, specialty real estate
* Investment in debt (active or passive, direct or indirect)
* **Debt Investments** – first mortgages, second mortgages, mezzanine debt, leases
* Triple net leased properties – rented pays all expenses – you only get income
* Who invests in real estate?
* Advantages
  + Tangible
  + Lucrative –potential
  + Income generation
  + Leverage – magnify returns
  + Appreciation- gains faster than inflation (inflation hedge)
* Disadvantages
  + Risky
  + Illiquid
  + Management intensive –hands on
  + Leverage – magnify losses
* **Q1: As an individual, do you hold any part of title to the property?**
  + **Yes** **->** individual ownership, cotenancies (joint ownership, example, TICs); **direct investment**
  + **No ->** real estate operatiing corporations (REOCs), partnerships (general and limited), limited liability corporations (LLCs), real estate investment trusts (REITs). Title to the real estate is held by the ownership entity; **indirect investment**
* **Q2: Is the ownership entity taxed?** The issue of **double taxation** (entity is taxed, then individual is taxed)
  + **Yes** **->** standard corporations
  + **No** -> **pass-through entities** (aka. **tax conduits**) and **direct ownership**; anything but corporations!!
* **Q3: Are tax losses passed through?** If the real estate generates a tax loss, can the individual investor deduct some or all of this loss.
  + **No** **->** standard corporations, REITs. Dividends **>** 0.
  + **Yes** -> other pass-through entities
* **Q4: What is the level of control over investment and management decisions?**
  + **Low or little** **->** Corporations (including REITs), Limited Partnerships
  + **Shared** -> general partnerships, cotenancies, LLCs
  + **Most** **->** individual ownership
* **Q5: What is the investor’s exposure to liability?**
  + **General** **->** losses from the investment extend to other wealth; individuals, co-tenancies, general partners
  + **Limited ->** losses are limited to the amount invested (100% loss); limited partners, corporations (including REITs), LLCs
* **Q6: What is the degree of liquidity?**
  + **Most** **->** corporations and REITs (if publicly traded)
  + **Least** -> partnerships, LLCs
* REIT – 90% of RE as dividends
* deREIT’ing – becoming regular organizatoin
* 1. Pages 2-4 Craig Hall rags to riches unethical property flip fueled by inflation
* strategy : borrow as much as possible for as long as possible, rely on inflation to repay debt with cheaper dollars
* flipL lender buys property, hall buys at higher price, takes out higher than market loan, receives commission
* new occupation
* borrow as much as possible and count on inflation to enable him to repay with cheaper dollars – privde tax deductions for depreciation and interest
* investors backed off 90% of personal assets in real estate – restructuring only delay inevitable
* 2. Mills Corporation – came up with innovative concept then grew too fast
* pushed markets too small or too competitive – focused on developing rather than managing
* lifestyle centers , entertainment
* little margin for error

3. Harry Macklowe – heavy leverage and faced consequences. Recourse loan/personal guarantee amount – Fortress business model- mezzanine financing

4. How 1 property sank savings of 35 investors – TIC to facilitate 1031 tax free exchange

everyone has to agree and no not being made etc

* appraisal
* unbiased written estimate of market value of a property
* 
* subject property
* project in question
* 
* appraisal report
* document the appraiser submits to client contains the appraisers final estimate of value, data for it, and reasoning and calculation used
* 
* market value
* most probable selling price
* 
* investment value
* the value a PARTICULAR investor places on a property
* 
* uniform standards of professional appraisal practices
* process   
  1. identifying the appraisal problem  
  2. determining the required scope of work  
  3. collect data and describe property  
  - market area data  
  - subject property data  
  - comps  
  4. perform data analysis  
  - market analysis  
  - best and highest use analysis  
  5. determine value of land  
  6. apply three approaches of valuation  
  - sales comparison approach  
  - cost approach  
  - income approach
* 
* highest and best use
* legally permissable, physically possible, financially feasible, maximally productive  
    
  if vacant: always valued if vacant/avail. for development to highest/best use total estimated value - estimated value of improvements to value land  
    
  if improved
* 
* reconcilation
* looking at 3 different approaches and reaching a single estimate
* 
* self-contained appraisal report
* detail/info relevant to the decision
* 
* summary appraisal report
* summarizes conclusuin of the appraisal
* 
* restricted appraisal report
* provides minimal discussion of the appraisal with large numbers of reference
* 
* comparable properties
* comparing sub. property with similar properties that have sold lately
* 
* indicated value
* value reached
* 
* arms length transaction
* fairly negotiated transaction occurring under typical market conditions
* 
* adjustments
* transactional adjustments  
  1. property rights conveyed, financing terms, conditions of sale, expenditures made after purchase, market conditions  
    
  property adjustments  
  location, physical characteristics, economic characteristics, use, nonrealty items
* 
* market conditions
* market conditions
* 
* repeat-sale analysis
* tracking individual properties selling over time
* 
* nonrealty items
* personal property
* 
* reproduction cost
* exactly replicate a building
* 
* replaceement cost
* cost to build a similar building
* 
* accrued depreciation
* difference between the current market value of a building and total cost to construct it new
* 
* physical deterioration
* represents the loss in value of a building over time associated with the aging and decay of its physical conditions
* 
* functional obsolesce
* loss in value w/in a structure due to changes in tastes, pref, market standards etc
* 
* external obsolesce
* reflects the loss in value due to influences external to the site that affect value
* 
* net operating income (NOI)
* expected annual rental income - vacancies - annual operating and capital expenses
* 
* income capitalization
* direct capitalization vs. discounted cash flowsq
* 
* reconstructed operating statement
* shows appraisers estimate of stabilized income and expenses
* 
* potential gross income
* total annual rental income if 100 percent occupancy and no collection losses
* 
* market rent
* rental income the property would most probably command if placed for lease on open market
* 
* contract rent
* refers to the actual rent being paid under contractual commitments between owners and tenants
* 
* natural vacancy rate
* proportion of potential gross income not collected
* 
* effective gross income
* potential gross income - vacancy and collection losses
* 
* operating expenses
* typical expenses incurred in maintaining + operating rental properties
* 
* capital expenditures
* replacements/alterations to building to prolong its life and increase its value
* 
* direct capitalization
* process of estimating a properties market value by dividing a single year NOI by a cap rate
* 
* direct market extraction
* estimating the approx cap rate
* 
* overall cap rate / going in rate
* Ro = NOI / sale price of comps
* 
* IRR
* total rate of return
* 
* effective gross income multiplier
* comparable property defined as the ratio of the propertys selling price to its effective gross income
* 
* pro forma
* five year cash flow forecast
* 
* reversion
* proceeds from the sale are reverted
* 
* terminal value
* estimating the sale price at the end of the expected holding period
* 
* terminal cap rate
* rate at the end of the period
* 
* net sales proceeds
* sales price - selling expenses
* 
* selling expenses
* include brokerage fees, lawyers fees, and other expenses
* 
* fee simple estate
* complete ownership w/o regard to leases
* 
* leased fee estate
* ownership subject to leases on the property
* 
* general partnership
* simplest form of pooled ownership
* 
* limited partnership
* must have one partner of each type - limits ones level of control
* 
* C corporation
* constitutes legal/taxable entitiy which seperates fmor owner
* 
* subchapter C corporation
* not a taxably separate legal entity
* 
* limited liability company
* hybrid ownership structure that combines the corporate characteristics of limited liability
* 
* intermediaries
* entity that invests in real estate and sells those claims to investors
* 
* syndicate
* group of persons or legal entities who come together to carry out an activity
* 
* seperate account
* has dedicated real estate investment managers
* 
* net operating income formula
* potential gross income  
  - vacancy and collection losses  
  = effective gross income  
  -operating expenses  
  -capital expenditures  
  =net operating income
* 
* before tax flow formula
* net operating income  
  -debt service  
  = before tax cash flow
* 
* pro rata share
* % invested = % return
* 
* after tax flow formula
* BTCF  
  -tax liability  
  = after tax cash flow
* 
* equity dividend rate
* before tax cash flow/ equity investment
* 
* net income multiplier
* acquisition price / NOI
* 
* effective gross income multiplier
* acquisition price / effective gross income
* 
* four classes of real property
* personal residence  
  dealer property  
  trade/business property  
  investment property
* 
* section 1231 property
* trade/business real estate tax code
* 
* active income
* income from salaries, wages, and bonuseses
* 
* portfolio income
* income from securities and investments
* 
* passive activity income
* income generated from rental properties
* 
* up front financing cost
* ex discount points, appraisal fees are not fully deductible in the year that they are paid - amortized over the life of the loan
* 
* cost segregation method
* separating personal from real property
* 
* midmonth convention
* applying the matter at 50% regardless of when it was purchased during the month
* 
* low income housing
* 1986 tax reform act new incentives
* 
* excess deduction
* lala
* 
* adjusted basis
* starting point of tax calculations
* 
* after tax equity reversion
* selling price  
  -selling expenses  
  = net sale proceeds  
  -remaining mortgage balance  
  =before tax equity reversion  
  -taxes due on sale  
  = after tax equity reversion
* 
* taxes due on sale
* net sale proceeds  
  -adjustable basis  
  =taxable gain  
  -depreciation recapture  
  =capital gain  
  -capital gain tax  
  + deprec. recapture tax  
  = taxes due on sale
* 

CALCULATING NOI

Potential Gross income , 500 (rent) x 8 units x 12 months = 48,000

-Vacancy and Bad Debt Allowance 10% of PGI (48000 x .10) = 4800

= Effective gross income (48,000 – 4800) = 43200

-Operating expenses 30% of EGI (.30 x 43200) = 12960

=Net Operating Income (NOI) (EGI – Op exp) 43200 – 12960, 30240

CALCULATING ATCF

ATFC = NOI – [ Estimated income taxes + Annual Debt Service)

* + BTCF = NOI - ADS

Income taxes = NOI – Interest – Depreciation

Annual Debt Service = from amortization schedule (full amount)

Depreciation = Dep. Base / # years allowed by law

(Purchase price – land value) / # years

* Interest paid = see loan table (one year)
* Taxable income = NOI – dep. – int. paid
* Tax = Taxable income x Rate
* Depreciation Add Back Method:
* Taxable income = NOI – Interest – Depreciation
* After Tax Earnings = Taxable – Tax = Taxable Income x (1-MTR)
* ATCF = After tax earnings – principal paid + depreciation
* Do this for all years of holding periods
* Growth of PGI measured by (1 + g) ^ g

Sale of property at end of holding period – ATER

Parties that must be paid before investor can receive cash flow

* + Real estate broker (commission + other selling costs)
  + Lender (balance remaining on mortgage loan)
  + Government (taxes on sale)
* Net result = ATER
* 1. Calculate selling price at end of the period (selling costs 9%)
* NOI year 6 = PGI year 5 (1 + g) x (1 – vac. rate) x (1 – op. expense %)

Ex. [54,024.42 x 1.03] x .90 x .70

2. Expected Selling price = NOI year 6 / R year 6

Calculating Taxes on sale and ATER

Tax basis

Purchase Price

Plus Capital Improvements

Less Acccum. Deprec.

= Adjusted (tax basis)

After tax equity reversion

Gross selling price

-selling cost

= net selling price

-mortgage balance

=BTER

-taxes due on sale

= after tax equity reversion

Tax calculation

Net selling price

-tax basis

= taxable gain

-depre. Recapture

= capital gain

capital gain

x CG tax

= cap gain tax

depre recapture

x depr recapture TR

= depr recapture tax

gain on sale taxed at (25% depreciation recapture tax rate up to total amt of depreciation

anything higher than that is taxed (15% cap gain tax)

Investment Decision Rules

Calculate NPV and IRR

Initial equity invested – amount investor puts into the investment [purchase price – loan amount ] aka down payment

Final cash flow is fifth year ATCF + ATER

Discount factor is (1 + k) –t

K is discount rate (required rate of return), t is year

NPV > O and IRR > required rate of return

NPV – ATCF1 / (1 + k)1 + ATCF2 / (1 + k)2+ ATCF3 / (1 + k)23+ ATCF4 / (1 + k)4+ (ATCF5 + ATER) / (1 + k)5 – initial outlay (downpayment)

NPV = 1973/1.12 + 2465/1.12^2 + 2964/1.12^3 + 3467/1.12^4 +69264/1.12^5 – 30,000

NPV = 17,342

IRR = solving for k

Financial Ratios

* Debt coverage ratio - DCR of 1 indicates net income from property exactly covers annual loan payments (recommended 1.15 to 1.25

NOI / ANNUAL DEBT SERVICE

Break even vacancy

* Indicates vacancy level below which potential gross income will not cover expenses/debt service

1 - [ (Operating expenses + annual debt service) / PGI ]

Cash on cash – varies with leverage

For exam: calculate first year ATCF, ATER (including selling price), and IRR and NPV

And first two formulas