Cash Flows After Tax

And some investment metrics

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UCONN

1 Introduction

Today, we are going to show the implications of income tax on cash flows and investment valuation.

- Note that we are taking some basic American tax laws and apply them.
  - It is going to be different in other countries.
  - Tax laws change all the time.

2 General Effects of Tax and Debt

- The question on how tax affects cash flows seem easy enough, right?
- All profit is taxed at a certain rate and that is it?
- **No! It is important to understand that in the US, the owner's income tax obligation on CRE is based on accrual accounting, and income taxes are themselves, a cash flow item.**
- The starting point is Net-Operating-Income. After that, cash flow and accrual statements change. Most importantly;
  - Depreciation
  - Capital Expenditures
  - Debt Amortization

2 Overview of Income tax

PGI
– Vacancy
= EGI
– OEs
= NOI

Cash Flow

– Capital improvements expenditures

= PBTCF
– Debt service (interest & principal)
– Income tax

= EATCF

Taxes

– Interest (I)
– Depreciation expense (DE)

= Taxable income
x Investor's income tax rate

= Income tax due

- You pay federal, state and local taxes, or about 30 -- 40%.

2 Capital Expenditures

- CapEx is a cash expense, and is thus a cash flow item.
- The IRS ignores CapEx, other than determining the “gross book value” see later slides.
- As a result, CapEx hardly affects the tax obligation.
- This is important, because it means you might have to pay considerable income tax in a year, even though you did a large CapEx.
  - This means you could have a large negative after-tax cash flow in a year of CapEx.
  - Thus you need to time your CapEx and safe some money in the years before your CapEx.

2 Debt Amortization

- Typically, an owner uses debt to finance a property, by taking a mortgage.
- The cash flow for the investor is therefore affected.
  – You must subtract the **debt service payments** from the cash flow. Debt service is the **repayment and principle** payments together.
  – During resale, you obviously must repay the outstanding balance to the lender.

- So how is debt amortization treated in the IRS tax code?
  – You can only subtract the interest portion against the taxable income!
  – Reduction of debt service is not seen as an expense.

3 Depreciation Expense

- Depreciation is not a cash flow item.
- With depreciation we mean that the property loses value as it ages, starting at the purchase value (i.e. book value). How realistic is this?
- Depreciation is important to determine tax obligation by (I);
  - You can expense a **straight-line** depreciation on (taxable) **income** of;
    - 1/27.5 per annum for apartment.
    - 1/39 per annum for office/retail/industrial properties.
    - This only counts for the structure value of the property.
    - The idea is that land does not depreciate!
    - You can take about 80% for this.

3 Depreciation Expense

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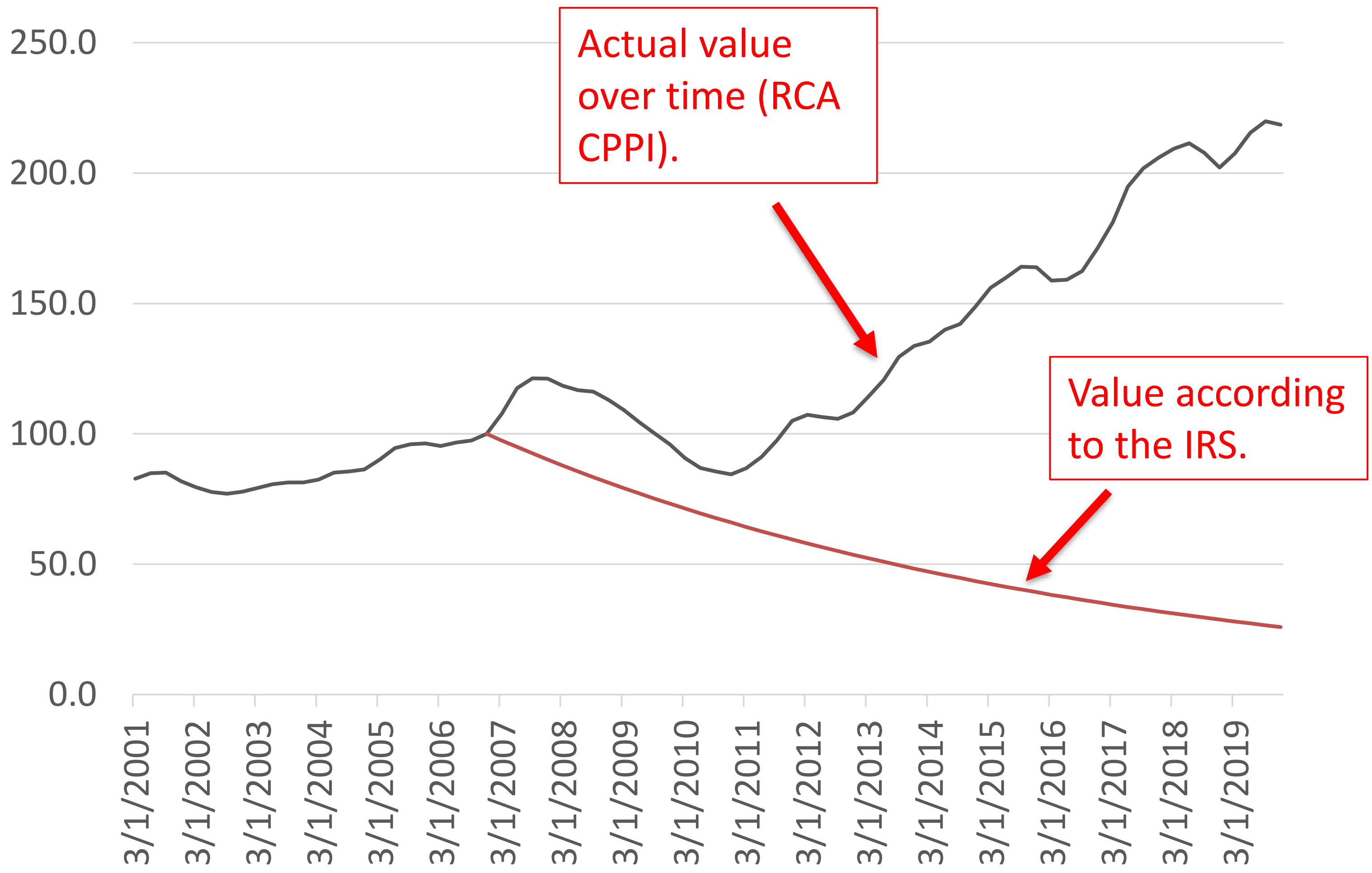

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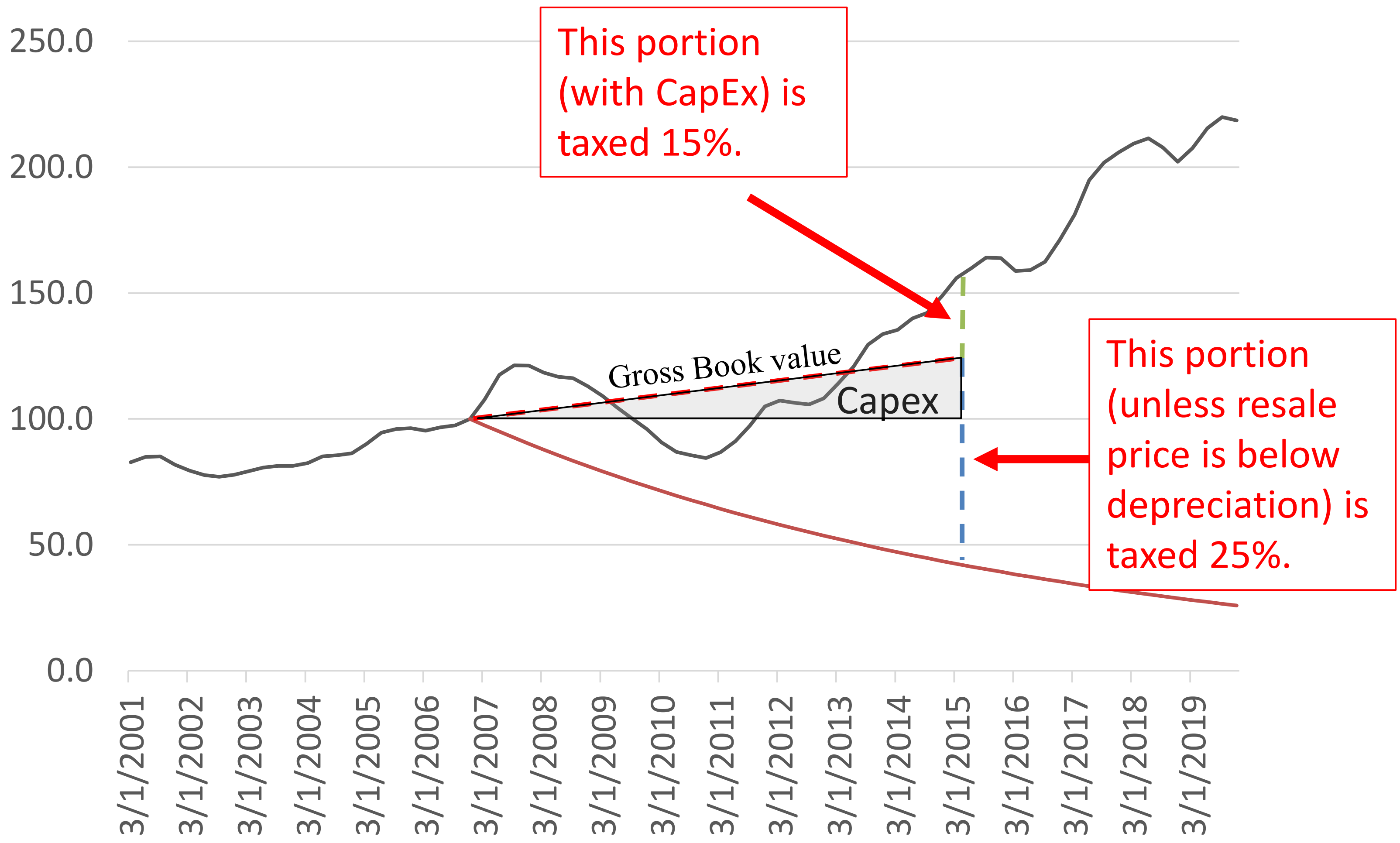
- With depreciation we mean that the property loses value as it ages, starting at the purchase value (i.e. book value). How realistic is this?
- Depreciation is important to determine tax obligation by (2);
  - During the property **resale** you are taxed twice (**capital gains tax**, CGT);
    - Difference between resale price and gross book value (= book value + all CapEx). Tax = 15%.
    - There is a “recapture tax” of 25%, on any accrued depreciation (of NOI, see previous slide) that is recovered by the resale price.

3 Depreciation Expense



3 Depreciation Expense

- However, it is important to know that investors hardly pay Capital Gains Tax!
- See section 1031 of the IRS code.
- If you purchase a “like kind” investment (i.e. another property) using gains from a resale, you can carry forward the tax obligation.
- Which everyone does… (Exceptions are usually inheritances.)
- You have 6 months to do the reinvestment, but you need to notify it to the IRS within 45 days.

6 Example

- Only first-year cash flow analysis (we will complete a 10-year pro forma later in class)
- Purchase an **apartment** property for $1M.
- Depreciable cost basis (i.e., structure value) = $0.8M.
- NOI is $60K in this first year.
- We take out a $750,000 loan (LTV is 75%) with a 5.5% interest rate, and we pay $2,000 per annum to pay back the principal balance.
  - Note that as you pay off the principal (the $750,000), the interest payments go down.
- We do not have any CapEx in this first year!
- Again, only first-year cash flow, no resale or IRR yet.
- What is the free cash flow after tax?

6 Example (Accounting)

Comments

- Ouch… Why would we invest in this property?
- We make a loss of over $8K.
- Perhaps the resale value will recuperate some of the loses?
- Note that you do not literately get tax back.
- Rather, the loss ($10K) can be deducted from other taxable income.
- This is also called a **tax shield**.
- You can also carry losses forward.

Year 1 analysis

Item	Year 1
NOI	$ 60,000
Depreciation Expense	$ (29,091)
Interest Expense	$ (41,250)
Net Income (before tax)	$ (10,341)
Income tax	$ (2,068)
Net Income (after tax)	**$ (8,273)**

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- **However, this is not your actual cash flow!**

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6 Example (Cash flow)

Comments

- Starting with NOI we;
  - Subtract CAPEX (is zero in this case)
  - Subtract debt service (interest + principle).
  - Subtract our tax bill.
- This looks a lot better.
- Our Equity After Tax Cash Flow (EATCF) is positive now and almost $19K.

Year 1 analysis

Item	Year 1	
NOI	$	60,000
Capital Expense	$	-
Interest Payment	$	(29,091)
Principle Payment	$	(2,000)
Income Tax	$	(2,068)
EATCF	**$**	**18,818**