CH. 13 INVESTING IN MUTUAL FUNDS, ETFS, AND REAL ESTATE

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MUTUAL FUNDS

- A mutual fund is a financial services organization that receives money from its shareholders and invests those funds on their behalf in a diversified portfolio of securities.
- When you buy a unit or share of a mutual fund, you are buying the performance of its portfolio or, more precisely, a part of the portfolio's value.
- Unlike stock, mutual fund shares do not give its holders any voting rights. A share of a mutual fund represents investments in many different stocks (or other securities) instead of just one holding.

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MUTUAL FUNDS

- The price of a mutual fund share is referred to as the net asset value (NAV) per share (NAVPS). A fund's NAV is derived by dividing the total value of the securities in the portfolio by the total amount of shares outstanding. Mutual fund shares can typically be purchased or redeemed as needed at the fund's current NAV, which is settled at the end of each trading day.

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ADVANTAGES OF MUTUAL FUNDS

- Pooled Diversification: A process whereby investors buy into a diversified portfolio of securities for the collective benefit of individual investors.
- Financial Returns: Investors hope the mutual fund will achieve higher returns than they can generate on their own.
- Convenience: Easy to purchase mutual funds and the fund handles all of the tax reporting and record keeping.
  - ✓ Investor has no control over buying or selling of securities.

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TYPES OF MUTUAL FUNDS

- Equity Funds
  - ✓ Value Fund: Investing high-quality, low-growth companies.
    - These companies are characterized by low price-to-earnings (P/E) ratios, low price-to-book (P/B) ratios, and high dividend yields.
  - ✓ Growth Fund: Investing in companies that have had (and are expected to have) strong growth in earnings, sales, and cash flows.
    - These companies typically have high P/E ratios and do not pay dividends. A compromise between strict value and growth investment is a "blend," which simply refers to companies that are neither value nor growth stocks and are classified as being somewhere in the middle.

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TYPES OF MUTUAL FUNDS

- Index Fund: Buys stocks that correspond with a major market index such as the S&P 500 or the Dow Jones Industrial Average (DJIA).
  - ✓ This strategy requires less research from analysts and advisors, so there are fewer expenses to eat up returns before they are passed on to shareholders.
- Fixed-Income Funds: Focus on investments that pay a set rate of return, such as government bonds, corporate bonds, or other debt instruments.

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EXCHANGE TRADED FUND

- Exchange traded fund (ETF): An investment company whose shares trade on stock exchanges.
  - ✓ Unlike mutual funds, ETF shares can be bought or sold (or sold short) throughout the day.
  - ✓ ETFs are usually structured as an index fund that's set up to match the performance of a certain market segment.
  - ✓ Like a mutual fund, allows investor to achieve diversification with professional management of funds.

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EXCHANGE TRADED FUND

- ETFs have narrow focus [a single sector, or index].
- ETFs trade less than the average actively managed mutual fund.
- ETFs have lower costs than mutual funds.
- ETFs are often the better for investors using discount brokers, for those investing a large sum of money, and for those with a long-term horizon.

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INVESTING IN REAL ESTATE

- Commercial property
  - ✓ Office buildings, industrial space, warehouses, retail space, hotels
  - ✓ Have long term leases
  - ✓ Rent may include a portion of revenue renter has
- Residential property
  - ✓ Homes, apartments, condos, small duplexes

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INVESTING IN REAL ESTATE

- Cash Flow and tax impact
  - ✓ Depreciation is a non-cash expense that is deductible for tax purposes.
  - ✓ Passive investment, thus passive losses limited to passive income.
  - ✓ Appreciation in value deferred until realized or sold
- Use leverage to increase return (i.e. borrow money to finance part of purchase), but it is very risky.
- Need to know market you are investing in.

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OTHER WAYS TO INVEST IN REAL ESTATE

- Real Estate Investment Trusts (REITs)
  - ✓ Closed-end investment companies hold real estate
  - ✓ Offer diverse, marketable way to invest in real estate
    - Equity REITs invest in properties
    - Mortgage REITs invest in mortgages
    - Hybrid REITs invest in both
- Real Estate Limited Partnerships (LLCs)
  - ✓ Limited liability partnerships tend to invest in local properties.

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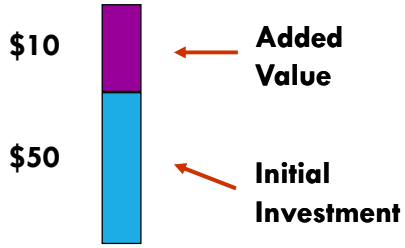
VALUING INVESTMENTS: NET PRESENT VALUE

Example

Q: Suppose we can invest $50 today & receive $60 later today. What is our increase in value?

A: Profit = - $50 + $60 = $10



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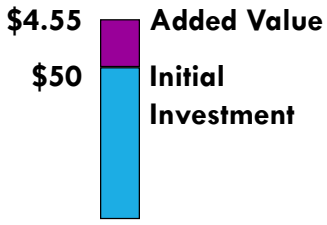
NET PRESENT VALUE

Example

Suppose we can invest $50 today and receive $60 in one year. What is our increase in value given a 10% expected return?

$$\text{Profit} = -50 + \frac{60}{1.10} = \$4.55$$

This is the definition of NPV



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NET PRESENT VALUE

NPV = - Initial Costs + PV of Future Cash Flows

- Increase your wealth by accepting all projects that are worth more than they cost.
- Therefore, they should accept all projects with a positive net present value.
- The cash flow could be positive or negative at any time period.

$$NPV = C_0 + \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \ldots + \frac{C_t}{(1+r)^t}$$

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NET PRESENT VALUE

Example

You have the opportunity to purchase an office building. You have a tenant lined up that will generate $16,000 per year in cash flows for three years. At the end of three years, you anticipate selling the building for $450,000. How much would you be willing to pay for the building? Assume that the opportunity cost of capital is 7%.

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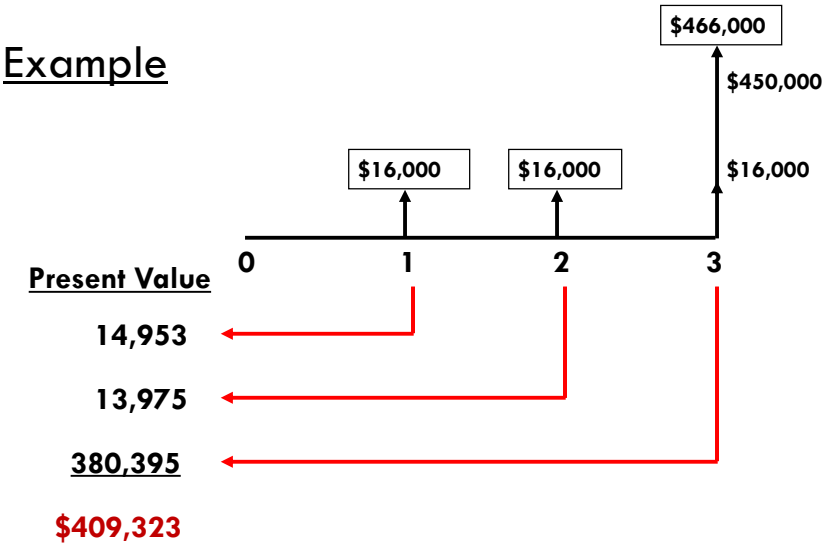
NET PRESENT VALUE

Example



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NET PRESENT VALUE

Example - continued

If the building is being offered for sale at a price of $350,000, would you buy the building and what is the added value generated by your purchase and management of the building?

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NET PRESENT VALUE (NPV) RULE

- Estimating NPV:
  1. Estimate future cash flows: how much? and when?
  2. Estimate discount rate.
  3. Estimate initial costs.

- Minimum Acceptance Criteria:
  Accept if NPV > 0.
- Ranking Criteria:
  Choose the highest NPV.

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GOOD ATTRIBUTES OF THE NPV RULE

1. Uses cash flows
2. Uses ALL cash flows of the project
3. Discounts ALL cash flows properly

- Reinvestment assumption: the NPV rule assumes that all cash flows can be reinvested at the discount rate.

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OTHER INVESTMENT CRITERIA

- Payback Period
- Internal Rate of Return (IRR)

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PAYBACK PERIOD RULE

- How long does it take the project to "pay back" its initial investment?
- Payback Period = number of years to recover initial costs

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PAYBACK PERIOD METHOD

Example

The three projects below are available. The company accepts all projects with a 2 year or less payback period. Show how this decision will impact our decision.

	Cash Flows					
Proj.	C_0	C_1	C_2	C_3	Payback	NPV@10%
A	-2000	+1000	+1000	+10000	2	+7,249
B	-2000	+1000	+1000	0	2	- 264
C	-2000	0	+2000	0	2	- 347

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PAYBACK PERIOD RULE

- Advantages:
  - ✓ Easy to understand.
  - ✓ Biased toward liquidity.
- Disadvantages:
  - ✓ Ignores the time value of money.
  - ✓ Ignores cash flows after the payback period.
  - ✓ Biased against long-term projects.
  - ✓ Requires an arbitrary acceptance criteria.
  - ✓ A project accepted based on the payback criteria may not have a positive NPV.

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INTERNAL RATE OF RETURN (IRR)

- **Internal Rate of Return**: Discount rate at which NPV = 0.
- IRR Rule: Invest in any project offering a rate of return that is higher than the opportunity cost of capital.
- Caution
  - ✓ Mutually exclusive projects
  - ✓ Unconventional cash flows

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INTERNAL RATE OF RETURN

Example

You can purchase a building for $350,000. The investment will generate $16,000 in cash flows (i.e. rent) during the first three years. At the end of three years, you will sell the building for $450,000. What is the IRR on this investment?

$$0 = -350{,}000 + \frac{16{,}000}{(1+\text{IRR})^1} + \frac{16{,}000}{(1+\text{IRR})^2} + \frac{466{,}000}{(1+\text{IRR})^3}$$

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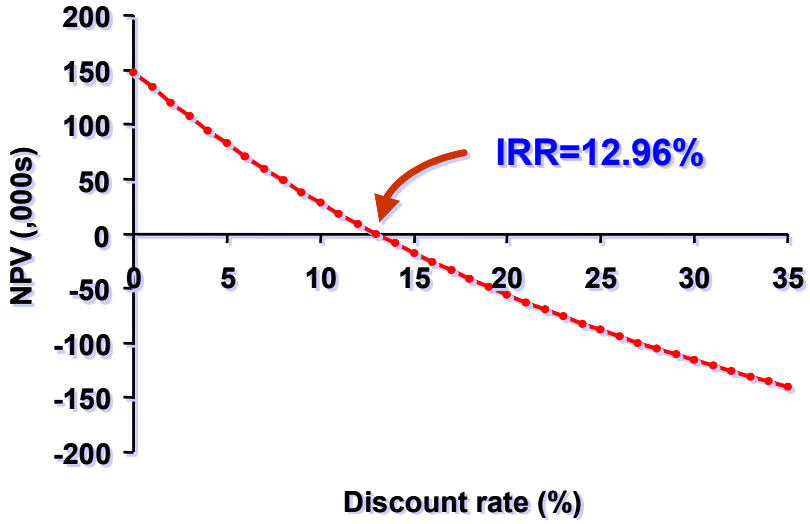
INTERNAL RATE OF RETURN



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MUTUALLY EXCLUSIVE PROJECTS

Example

Select one of the two following real estate investment projects using NPV and IRR. Assume: Cost of Capital = 7%

	Project	
Period	A	B
0	$ (350.00)	$(350.00)
1	$ 400.00	$ 16.00
2		$ 16.00
3		$ 16.00
4		$ 466.00
IRR		
NPV		

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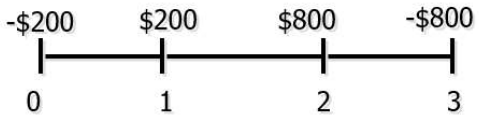
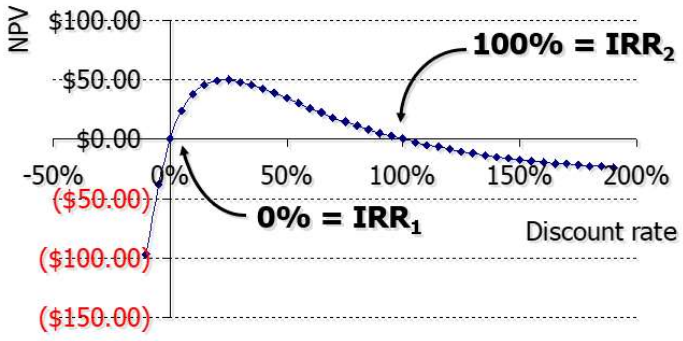
MULTIPLE IRRS





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IRR PITFALLS

- IRR may provide false information in the case of
  - ✓ Mutually exclusive projects
  - ✓ Unconventional cash flows

➔ Decision rule: Use **NPV!**

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