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# Mutual Funds and Other Investment Companies

Chapter 4

# Investment Companies

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- financial intermediaries that collect funds from individual investors and invest in a portfolio of assets
- shares = claims to portfolio
- services
  - administration and record keeping
  - diversification and divisibility
  - professional management
  - reduced transaction costs

# Net Asset Value

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- used as a basis for the valuation of the shares issued by the investment company (the “value” of a share)
  - selling new shares
  - redeeming existing shares
- calculation

$$NAV = \frac{\text{Market value of assets} - \text{Liabilities}}{\text{Shares outstanding}}$$

# Types of Investment Organizations

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- Unit Investment Trusts
  - portfolio is fixed for the entire life of the fund (*unmanaged* fund)
  - lower management fees
  - shares called *redeemable trust certificates*, usually sold at a premium

# Types of Investment Organizations

## (cont.)

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- Managed Investment Companies
  - management company manages the portfolio for an annual fee
  - *open-end* = ready to redeem or issue shares
    - not traded on exchanges – investors buy or sell to the issuer → number of shares changes daily
    - shares price  $\geq$  NAV (if the fund carries a *load*)
  - *closed-end* = do not redeem or issue shares
    - traded on organized exchanges – investors trade with other investors
    - price  $\neq$  NAV (why? if price  $<$  NAV, i.e. *selling at a discount to NAV*, higher dividend yield!)

# Types of Investment Organizations (cont.)

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- Other investment organizations
  - *commingled funds* = partnerships of investors, similar to open-end funds
  - *real estate investment trusts (REITs)* = similar to closed-end funds investing in real estate, either directly (*equity trusts*) or indirectly (*mortgage trusts*)
  - *hedge funds* = “mutual funds” not registered with the SEC and open only to wealthy or institutional investors, speculating on valuation differences between assets

# Open-End and Closed-End Funds: Key Differences

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- Shares outstanding
  - *closed-end*: no change unless new stock is offered
  - *open-end*: changes when new shares are sold or old shares are redeemed
- Pricing
  - *open-end*: NAV
  - *closed-end*: Premium or discount to NAV

# Mutual Funds

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- open-end investment companies
- dominant for of investment company (around 90% of investment company assets)
- specific investment strategy outlined in its prospectus
- management companies usually manage a family of mutual funds (diversification)
- management companies: Vanguard, Fidelity, Putnam

# Investment Policies

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- Money Market
- Equity
  - income funds = high dividend yields
  - growth funds = capital gains (riskier)
- Fixed Income (bond)
- International
- Balanced and Income
- Asset Allocation
- Index
- Specialized Sector

# Costs of Investing in Mutual Funds

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## ■ Fee Structure

- *front-end load* = commission (sales charge) paid when buying the shares
- *back-end load* = exit fee when selling the shares
- *operating expenses* = costs incurred by the fund in operating the portfolio (expressed as percentage of total assets)
- *12b-1 charges* = distribution costs paid by the fund (advertising, annual reports, commissions paid to brokers)
- operating expenses and 12b-1 charges are deducted annually from the value of assets

# Costs of Investing in Mutual Funds (cont.)

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## ■ Fees and Returns

- the value of an investment after  $n$  years is

$$Value_n = (1 - f) \cdot I \cdot (1 + r - e - b)^n \cdot (1 - s)$$

where:

- $f$  = front-end load
- $I$  = sum initially invested in fund
- $r$  = (gross) rate of return on shares
- $e$  = operating expenses ratio
- $b$  = 12b-1 charges
- $s$  = back-end load

# Costs of Investing in Mutual Funds (cont.)

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## ■ Fees and Returns

- operating expenses and 12b-1 charges are deducted annually from the value of assets
- rate of return:

$$R = \frac{NAV_1 - NAV_0 + \text{Income and capital gain distributions}}{NAV_0}$$

- this measure does not take into account front- or back-end fees

# Exchange Traded Funds

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- allow investors to trade funds based on indexes like they would trade stock
- examples
  - “spiders” (SPDR = Standard & Poor’s Depository Receipt, based on S&P 500)
  - “qubes” (based on Nasdaq 100)
  - WEBS
- advantages
  - traded continuously during the day
  - price cannot depart too much from NAV
  - cheaper than mutual funds

# A First Look at Fund Performance

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- difficult comparison because of risk
- if benchmark is Wilshire 5000 Index (most comprehensive value-weighted index) – most funds underperform (even when adjusting for costs)
- do “good managers” continuously perform well (Goetzmann and Ibbotson, 1994)?
  - roughly 62% of “winners” tend to stay winners the following 2 years
  - seems to be a mix of luck and “skill”
  - changed over time (70s vs. 80s)
  - bad performance is more persistent

# Percentage of Funds Outperformed by the Index, 1972-2001

