

# Chapter Four

## Mutual Funds and Other Investment Companies

INVESTMENTS | BODIE, KANE, MARCUS

# Chapter Overview

- Investment companies
  - Mutual funds
  - Unit investment trusts
  - Hedge funds
  - Closed-end funds
- Mutual funds
  - Functions
  - Investment styles and policies
  - Costs of investing
  - Performance
  - Sources of information

# Investment Companies

- An **investment company** pools and invests the funds of individual investors in securities or other assets
  - Record keeping and administration
  - Diversification and divisibility
  - Professional management
  - Lower transaction costs

# Net Asset Value (NAV)

## Example 4.1 Net Asset Value

Consider a mutual fund that manages a portfolio of securities worth \$120 million. Suppose the fund owes \$4 million to its investment advisers and another \$1 million for rent, wages due, and miscellaneous expenses. The fund has 5 million shares outstanding.

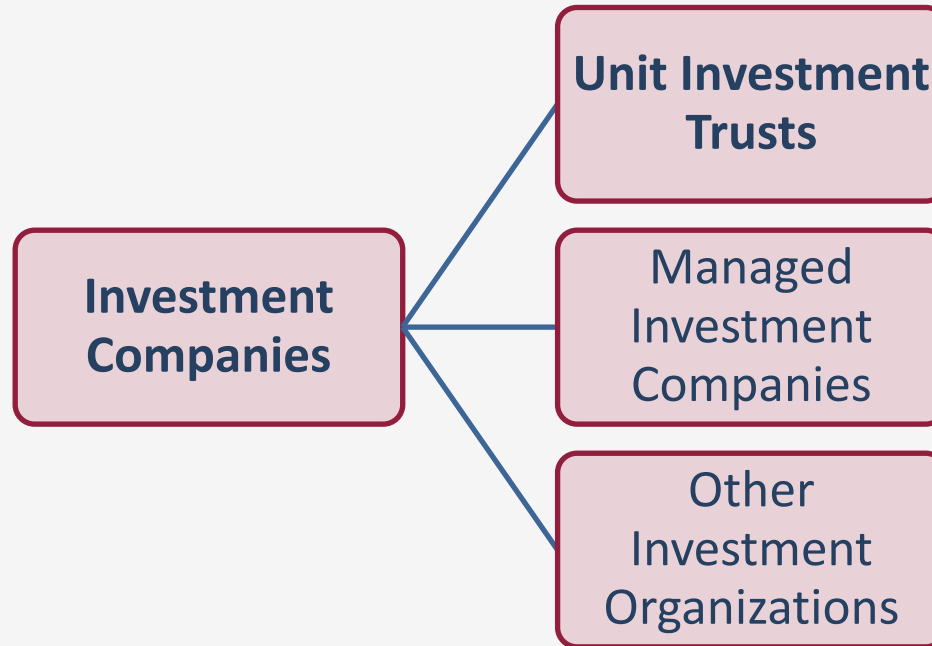
$$\text{Net asset value} = \frac{\$120 \text{ million} - \$5 \text{ million}}{5 \text{ million shares}} = \$23 \text{ per share}$$

# Net Asset Value (NAV)

- Investment companies pool assets of individual investors, but also need to divide claims to those assets among investors
- Calculation of **NAV**

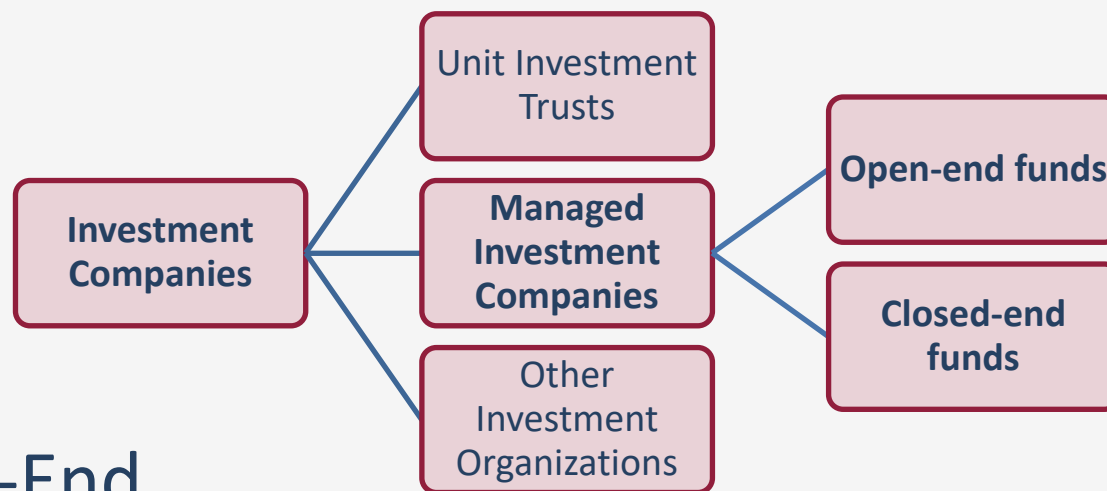
$$\frac{\text{Market Value of Assets} - \text{Liabilities}}{\text{Shares Outstanding}}$$

# Investment Companies: Unit Investment Trusts



- **Unit investment trusts** are pools of money invested in a portfolio that is fixed for the life of the fund
- Unmanaged
- Declined from \$105 billion (1990) to \$85 billion (2017)

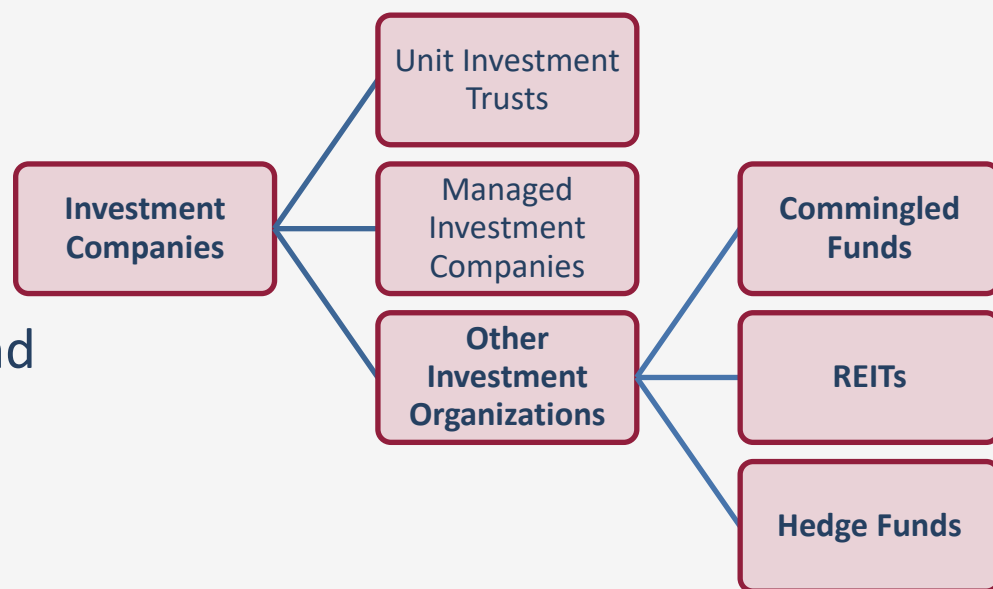
# Investment Companies: Managed Investment Companies



- **Open-End**
  - Stand ready to redeem or issue shares at the NAV
  - Priced at Net Asset Value (NAV)
- **Closed-End**
  - Do not redeem or issue shares
  - Shares outstanding constant; investors cash out by selling to new investors
  - Priced at premium or discount to NAV

# Investment Companies: Other Investment Organizations

- **Commingled funds**
  - Partnerships of investors that pool funds
- **REITs**
  - Similar to a closed-end fund
  - Equity versus mortgage trusts
- **Hedge funds**
  - Vehicles that allow private investors to pool assets to be invested by a fund manager





# Mutual Funds

- Common name for open-end investment companies
  - Dominant investment company today
    - Accounts for 87% of investment company assets
  - Assets under management (early 2018)
    - U.S. – \$18.7t
    - Non-U.S. – \$25t

# Mutual Funds: Investment Policies

(1 of 2)

- Money market
  - Invest in money market securities such as commercial paper, repurchase agreements, or CDs
- Equity
  - Invest primarily in stock
- Sector
  - Concentrate on a particular industry or country
- Bond
  - Specialize in the fixed-income sector

# Mutual Funds: Investment Policies

(2 of 2)

- International
  - Global, international, regional, and emerging market
- Balanced
  - Designed to be candidates for an individual's entire investment portfolio; hold both equities and fixed-income securities in relatively stable proportions
- Asset allocation and flexible funds
  - Hold both stocks and bonds
  - Engaged in market timing; not designed to be low-risk
- Index
  - Tries to match the performance of a broad market index

# U.S. Mutual Funds by Investment Classification

	Assets (\$ billion)	% of Total Assets	Number of Funds
<b>Equity funds</b>			
Capital appreciation focus	\$ 2,093	11.2%	1,301
World/international	2,824	15.1	1,505
Total return	5,389	28.7	1,900
<i>Total equity funds</i>	\$10,306	55.0%	4,706
<b>Bond funds</b>			
Investment grade	\$ 1,840	9.8%	607
High yield	375	2.0	242
World	491	2.6	354
Government	290	1.5	187
Multisector	405	2.2	179
Single-state municipal	165	0.9	312
National municipal	500	2.7	261
<i>Total bond funds</i>	\$ 4,067	21.7%	2,142
<b>Hybrid (bond/stock) funds</b>	\$ 1,526	8.1%	726
<b>Money market funds</b>			
Taxable	\$ 2,716	14.5%	299
Tax-exempt	131	0.7	83
<i>Total money market funds</i>	\$ 2,847	15.2%	382
<i>Total</i>	\$18,746	100.0%	7,956

Note: Column sums subject to rounding error.

Source: 2018 Investment Company Fact Book, Investment Company Institute.

# Mutual Funds: How Funds Are Sold

- How Funds Are Sold
  - Directly by the fund underwriter (i.e., direct-marketed funds)
    - Sold through the mail, various offices of the fund, over the phone, or over the Internet
  - Indirectly through brokers acting on behalf of the underwriter (i.e., sales-force distributed)
    - Broker or financial advisers receive a commission for selling shares
    - Potential conflict of interest
  - Financial supermarkets
    - Sell shares in funds of many complexes
    - Broker splits management fees with the mutual fund company

# Costs of Investing in Mutual Funds

- Fee structure
  1. Operating expenses
  2. Front-end load
  3. Back-end load
  4. 12 b-1 charges
- Fees must be disclosed in the prospectus
  - Share classes with different fee combinations

# Fees for Various Classes

The table below lists fees for different classes of the Dreyfus High Yield Fund in 2018. Notice the trade-off between the front-end loads versus 12b-1 charges in the choice between Class A and Class C shares. Class I shares are sold only to institutional investors and carry lower fees.

	Class A	Class C	Class I
Front-end load	0–4.5% <sup>a</sup>	0	0
Back-end load	0	0–1% <sup>b</sup>	0%
12b-1 fees <sup>c</sup>	0.25%	1.0%	0%
Expense ratio	0.7%	0.7%	0.7%

<sup>a</sup>Depending on size of investment. Starts at 4.5% for investments less than \$50,000 and tapers to zero for investments more than \$1 million.

<sup>b</sup>Depending on years until holdings are sold. Exit fee is 1% for shares redeemed within one year of purchase.

<sup>c</sup>Including annual service fee.

# Fees and Mutual Fund Returns

$$\text{Rate of return} = \frac{\text{NAV}_1 - \text{NAV}_0 + \text{Income and capital gain distributions}}{\text{NAV}_0}$$

- **Example**

- Initial NAV = \$20
- Income distributions of \$0.15
- Capital gain distributions of \$0.05
- Ending NAV = \$20.10

$$\text{Rate of return} = \frac{\$20.10 - \$20.00 + \$0.15 + \$0.05}{\$20.00} = .015, \text{ or } 1.5\%$$



# Impacts of Costs on Investment Performance

	Cumulative Proceeds (All Dividends Reinvested)		
	Fund A	Fund B	Fund C
Initial Investment*	\$10,000.00	\$10,000.00	\$ 9,400.00
5 years	15,922.92	15,210.60	14,596.24
10 years	25,353.93	23,136.23	22,664.92
15 years	40,370.85	35,191.60	35,193.90
20 years	64,282.18	53,528.53	54,648.80

\*After front-end load, if any.

Notes:

1. Fund A is no-load with .25% expense ratio.
2. Fund B is no-load with 1.25% expense ratio.
3. Fund C has a 6% load on purchases and a .8% expense ratio.
4. Gross return on all funds is 10% per year before expenses.

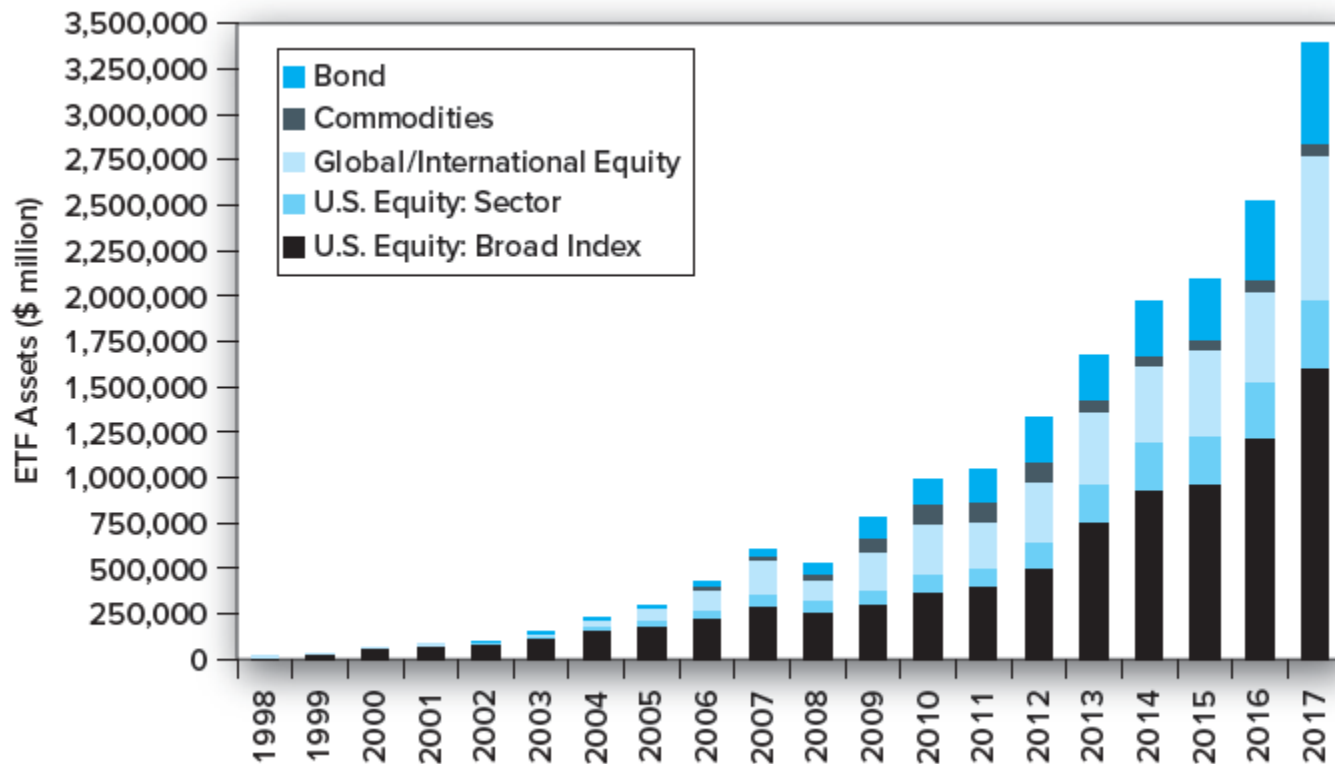
# Taxation of Mutual Fund Income

- “Pass-through status” under the U.S. tax code
  - Taxes are paid only by the investor, not by the fund itself
  - Disadvantage is that fund investors do not control the timing of the sales of securities from the portfolio, reducing their ability to engage in tax management
- High portfolio **turnover** rate can be particularly “tax inefficient”
  - Average turnover dropped to 30% in 2017

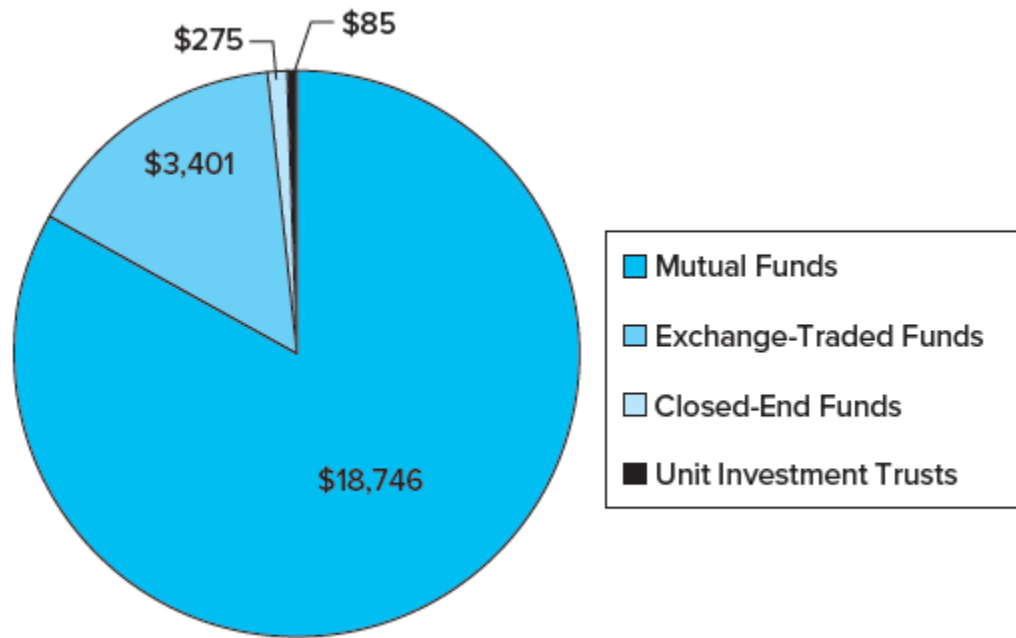
# Exchange Traded Funds (ETFs)

- **ETFs** are offshoots of mutual funds that allow investors to trade index portfolios just as they do shares of stock
  - Examples: “spiders,” “diamonds,” “cubes,” and “WEBS”
- Potential advantages
  - Trade continuously like stocks
  - Can be sold short or purchased on margin
  - Cheaper than mutual funds
  - Tax efficient
- Potential disadvantages
  - Prices can depart from NAV
  - Must be purchased from a broker (for a fee)

# Growth of U.S. ETFs Over Time



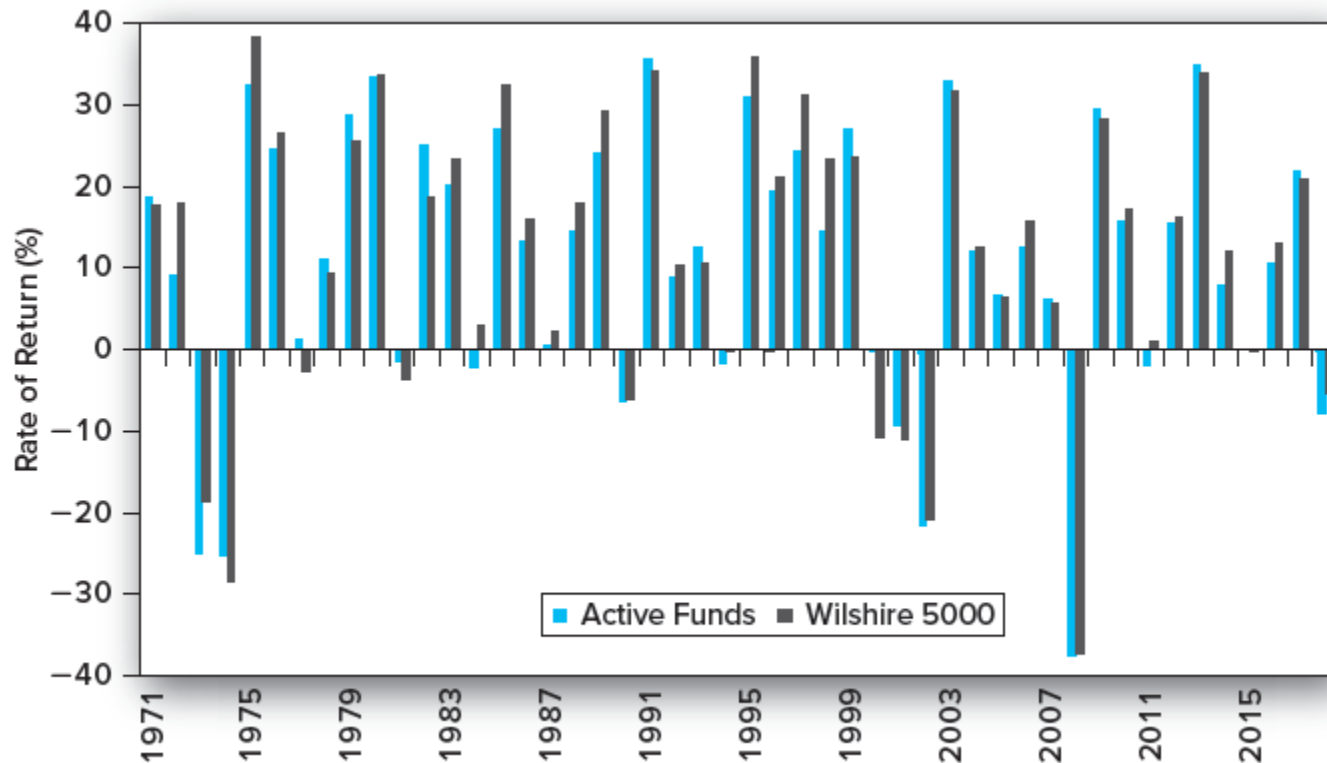
# Investment Company Assets Under Management, 2018 (\$ billion)



# Mutual Fund Investment Performance

- Performance of actively managed funds
  - Wilshire 5000 index used as a benchmark for the performance of equity fund managers
  - Wilshire 5000 outperformed average return on diversified equity funds in 29 of the 48 years from 1971 to 2018

# Actively Managed Equity Funds versus Wilshire 5000 Index



# Information on Mutual Funds

(1 of 2)

- Prospectus
  - Statement of Investment Objectives
    - Describes investment objectives and policies
  - Description of fund's investment adviser and portfolio manager
  - Presents fees and costs
- Statement of Additional Information (SAI)
- Fund's annual report



# Information on Mutual Funds

(2 of 2)

- “Encyclopedias” of mutual fund information
  - [www.morningstar.com](http://www.morningstar.com)
  - [www.finance.yahoo.com/funds](http://www.finance.yahoo.com/funds)
  - [www.ici.org](http://www.ici.org)
  - Directory of Mutual Funds