Chapter 4 - Mutual Funds and Other Investment Companies

Richard Herron

D'Amore-McKim School of Business, Northeastern University

Investment companies are financial intermediaries that collect funds from individual investors

- Investment companies perform several important functions
  1. Record keeping and administration
  2. Diversification and divisibility
  3. Professional management
  4. Lower transaction costs
- The value of each share in an investment company is called the *net asset value* (NAV) where:

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

Unit investment trusts are pools of money invested in a portfolio that is fixed for the life of the fund

- Sponsor buys securities, deposits them into a trust, then sells shares in the trust called *redeemable trust certificates*
- The fund pays out all income to shareholders
- Portfolio composition is fixed, so there is little active management, and these trusts are often called *unmanaged*
- Sponsors earn profits by selling shares at a premium to NAV
- Investors may sell their shares back to the trust at NAV
- Unmanaged funds have steadily lost market share to managed funds over the past few decades

There are two types of managed funds: Closed-end and open-end

- Shareholders elect a board of directors, who hire a management company
- Management fees range from 0.2% to 1.25% of assets
- For example, Fidelity Management and Research Corporation sponsors many Fidelity mutual funds and is responsible for managing the portfolios

Open-end and closed-end funds have different structures

- Open-end funds
  - Ready to redeem or issue shares at NAV
- Closed-end funds
  - Do not redeem or issue shares
  - Instead, shares trade on stock exchanges like other stocks

Closed-end fund prices may trade at a premium or discount to NAV

FUND (TICKER)	MARKET PRICE	NAV	PREM/ DISC %	52-WEEK RETURN ON NAV
Gabelli Equity Trust (GAB)	6.63	6.45	2.79	60.20
Nuveen Real Estate Income (JRS)	10.98	11.81	–7.03	44.80
First Trust Energy (FEN)	13.65	14.16	–3.60	26.53
General American Investors (GAM)	42.21	50.00	–15.58	40.14
Sprott Physical Gold Trust (PHYS)	14.30	14.49	–1.31	–1.26
BlackRock Enhanced Equity Div (BOE)	12.29	13.03	–5.68	32.24
Aberdeen Credit Strategies (ACP)	11.06	11.06	0.00	26.62

Figure 1: Closed-end mutual funds (BKM 2023, Figure 4.1)

Exchange-traded funds (ETFs) combine features of open-end and closed-end funds

- Like open-end funds, ETFs issue and redeem shares NAV
- Like closed-end funds, ETFs trade on stock exchanges and may trade at a premium or discount to NAV
- Since 1993, unmanaged ETFs have tracked indexes, providing exposure to particular markets or sectors
- Since 2008, managed ETFs have been available
- ETFs have gained popularity due to their low costs and flexibility for investors

Other investment companies include commingled funds, real estate investment trusts (REITs), and hedge funds

- Commingled funds are partnerships of investors that pool funds, similar to open-end funds
- REITs
  - Similar to closed-end funds and invest in real estate or loans secured by real estate
  - Most are highly levered, with debt-to-assets ratios of $\approx 70\%$
  - *Equity trusts* invest in real estate directly
  - *Mortgage trusts* invest in mortgages and construction loans
- Hedge funds
  - Private investment partnerships that are typically open only to accredited investors
  - Hedge funds have more flexibility in investment strategies and can use leverage and derivatives
  - Hedge funds often charge returns-based performance fees

Mutual funds are the common name for open-end funds and account for about 80% of investment company assets

- Each mutual fund has a specified investment policy
- Management companies often manage a family of mutual funds, making it easy for investors to allocate assets across market sectors and move assets across funds while benefiting from centralized record keeping

Mutual funds are commonly classified by investment policy

- Money market funds
- Equity funds
- Sector funds
- Bond funds
- International funds
- Balanced funds,
- Asset allocation and flexible funds
- Index funds

Money market funds invest in money market securities, such as Treasury bills, commercial paper, repurchase agreements, and CDs

- Average maturity of these investments is about one month
- These funds usually offer check-writing features and fix NAV at one dollar per share, removing tax implications of redemptions
- Money market funds are classified as *prime* versus *government*
    - Prime funds hold commercial paper or bank CDs
    - Government funds hold short-term U.S. Treasury or agency securities

Equity funds invest primarily in stock but may also hold fixed-income or other types of securities

- For example, equity funds typically hold a small fraction of assets in money market securities to provide liquidity to meet share redemptions
- Stock funds are traditionally classified by their emphasis on *capital appreciation* versus *current income*
  - *Income funds* hold shares of firms with consistently high dividend yields
  - *Growth funds* focus on capital gains and are typically riskier than income funds

Sector funds focus on an industry or country

For example, Fidelity has many “select funds” that invest in a specific industry, such as biotechnology, utilities, energy, or telecommunications

Bonds funds specialize in the fixed-income sector

- Specialization includes corporate bonds, Treasury bonds, mortgage-backed securities, and (tax-free) municipal bonds
- Some municipal bond funds invest only in bonds of a particular state or city!
- Other funds specialize by maturity or credit risk

International funds invest outside the U.S.

- International funds invest in securities of firms located outside the U.S.
- Global funds invest in securities worldwide, including the U.S.
- Regional funds invest in a particular part of the world
- Emerging market funds invest in companies of developing nations

Balanced funds are designed to be a complete investment portfolio

- Balanced funds hold equities and fixed-income securities in stable proportions
- Life-cycle funds are balanced funds in which the asset mix can range from conservative to aggressive
  - Static allocation life-cycle funds maintain a stable mix across stocks and bonds
  - Targeted-maturity funds gradually become more conservative as the investor ages
- Many balanced funds are *funds of funds* that invest in shares of other mutual funds

Asset allocation and flexible funds hold stocks and bonds but may vary their proportions

- The proportions vary based on forecasts of relative performance
- Therefore, these funds are engaged in market timing and are not designed to be low-risk (or low-fee) investments

Index funds try to match the performance of a broad market index

- An index fund buys securities in an index in proportion to each security's representation in that index
- For example, the Vanguard 500 Index Fund replicates the composition of the Standard & Poor's 500 Index
- Index funds provide a low-cost way for small investors to pursue a passive investment strategy
- Index funds can be tied to non-equity indexes, too

U.S. mutual funds by investment classification

	Assets ($ billion)	% of Total Assets	Number of Funds
Equity funds			
Capital appreciation focus	$ 3,021	12.6%	1,234
World/international	3,205	13.4%	1,459
Total return	6,503	27.2%	1,763
Total equity funds	12,728	53.3%	4,456
Bond funds			
Investment grade	2,518	10.5%	579
High yield	355	1.5%	250
World	541	2.3%	329
Government	394	1.6%	188
Multisector	530	2.2%	221
Single-state municipal	191	0.8%	279
National municipal	686	2.9%	271
Total bond funds	5,214	21.8%	2,117
Hybrid (bond/stock) funds	1,620	6.8%	723
Money market funds			
Taxable	4,228	17.7%	265
Tax-exempt	105	0.4%	75
Total money market funds	4,333	18.1%	340
Total	23,896	100.0%	7,636

Note: Column sums subject to rounding error.

Source: *2021 Investment Company Fact Book*, Investment Company Institute.

Figure 2: U.S. mutual funds by investment classification (BKM 2023, Table 4.1)

Mutual fund investors should consider fund investment policy and past performance, as well as management fees and other expenses

- Operating expenses are costs incurred by the mutual fund
- Commission expenses are typically paid to brokers
  - Front-end loads are commissions paid when you purchase shares
  - Back-end loads are redemption fees paid when you sell shares
  - 12b-1 charges are fees on 12b-1 funds that cover advertising, reports, and broker commissions
  - Alternatively, investors may hire fee-only financial managers who charge directly for services instead of collecting commissions

The mutual fund rate of return is the change in NAV plus income and capital gains distributions, expressed as a fraction of the beginning NAV

$$\text{Rate of return} = \frac{\text{NAV}_1 - \text{NAV}_0 + \text{Inc. and cap. gain dist.}}{\text{NAV}_0}$$

Fees can have a big effect on performance!

	Cumulative Proceeds (All Dividends Reinvested)		
	Fund A	**Fund B**	**Fund C**
Initial investment*	$10,000	$10,000	$ 9,400
5 years	15,923	15,211	14,596
10 years	25,354	23,136	22,665
15 years	40,371	35,192	35,194
20 years	64,282	53,529	54,649

*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.

Figure 3: Impact of costs on investment performance (BKM 2023, Table 4.2)

Mutual funds have “pass-through status,” so investors pay taxes instead funds

- Capital gains and dividends pass through to investors
- This pass-through is a disadvantage
  - If you manage your portfolio, you can time sales to manage taxes
  - However, when you invest through mutual funds, you cannot time individual security sales to manage taxes
- Therefore, mutual funds with high turnover can be “tax inefficient”
  - Turnover is the ratio of the trading activity to assets
  - Capital gains and losses are constantly realized in high-turnover funds
  - Index funds may have turnover as low as 2%, which is tax-efficient and has low trading costs

ETFs let investors trade portfolios as they would shares of stock

- The first ETF was the Standard & Poor's Depository Receipt (SPDR), which mimics the S&P 500
- ETFs trade throughout the day at market prices, while mutual funds only trade at the end of the day at NAVs
- Starting in 2008, the SEC approved actively managed ETFs, often called *smart beta* funds
- Exchange-traded notes (ETNs) and exchange-traded vehicles (ETVs) provide payoffs linked to indexes but invest in "total return swaps" instead of the underlying assets, providing liquidity to thinly traded asset classes

ETFs offer advantages and disadvantages relative to mutual funds

- Advantages
  - Trade continuously at a market prices
  - Tax efficient because redemptions do not trigger capital gains or losses for all investors
- Disadvantages
  - Prices may depart from NAVs
  - Purchases may involve a broker commission

The asset-weighted average return on U.S. equity mutual funds was below the Wilshire 5000 index fund in 30 of 50 years between 1971 and 2020

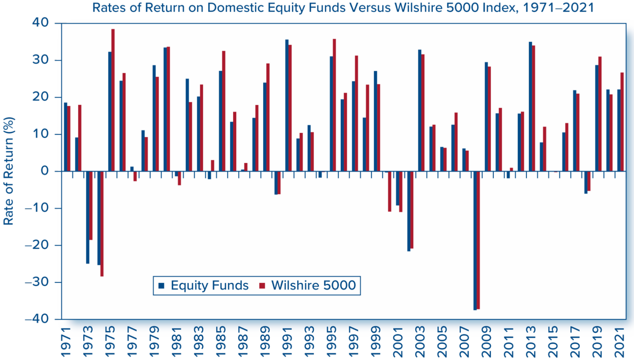

Figure 4: Rates of return on actively managed U.S. equity funds versus Wilshire 5000 index, 1971-2020 (BKM 2023, Figure 4.4)

Morningstar and Yahoo! Finance provide information on mutual funds

Figure 5: Morningstar report (BKM 2023, Figure 4.5)

Summary from BKM (2023)

1. Unit investment trusts, closed-end management companies, and open-end management companies are all classified and regulated as investment companies. Unit investment trusts are essentially unmanaged in the sense that the portfolio, once established, is fixed. Managed investment companies, in contrast, may change the composition of the portfolio as deemed fit by the portfolio manager. Closed-end funds are traded like other securities; they do not redeem shares for their investors. Open-end funds, more commonly known as mutual funds, will redeem shares for net asset value at the request of the investor.
2. Net asset value equals the market value of assets held by a fund minus the liabilities of the fund divided by the shares outstanding.
3. Mutual funds free the individual from many of the administrative burdens of owning individual securities and offer professional management of the portfolio. They also offer advantages that are available only to large-scale investors, such as lower trading costs and easier diversification. On the other hand, funds are assessed management fees and incur other expenses, which reduce the investor's rate of return. Funds also eliminate some of the individual's control over the timing of capital gains realizations.
4. Mutual funds are often categorized by investment policy. Major policy groups include money market funds; equity funds, which are further grouped according to emphasis on income versus growth or specialization by sector; bond funds; international funds; balanced funds; asset allocation funds; and index funds.
5. Costs of investing in mutual funds include front-end loads, which are sales charges; back-end loads, which are redemption fees or, more formally, contingent-deferred sales charges; operating expenses; and 12b-1 charges, which are recurring fees used to pay for the expenses of marketing the fund to the public.
6. Income earned on mutual fund portfolios is not taxed at the level of the fund. Instead, as long as the fund meets certain requirements for pass-through status, the income is treated as being earned by the investors in the fund.
7. The average rate of return of the average equity mutual fund in the last 50 years has been below that of a passive index fund holding a portfolio to replicate a broad-based index like the S&P 500 or Wilshire 5000. Some of the reasons for this disappointing record are the costs incurred by actively managed funds, such as the expense of conducting the research to guide stock-picking activities, and trading costs due to higher portfolio turnover.

References I

Bodie, Zvi, Alex Kane, and Allan J. Marcus (2023). *Investments*. 13th ed. New York: McGraw Hill.