

- Investment companies
 - Financial intermediaries that collect funds from individual investors and invest those funds in a potentially wide range of securities or other assets
- Pooling of assets is the key idea behind investment companies

Investment Companies

- -Collecting funds from individuals
- -Investing in a big portfolio
- -How it works
- Investment company forms portfolio
- Sells investors shares in the portfolio
- investors have claim to the portfolio, proportional to their number of shares

Investment Companies

- These companies perform several important functions for investors:
 - Administration & record keeping: capital gains, dividends and so on
 - Diversification & divisibility:i.e. by pooling of assets
 - Professional management: security analysts etc.
 - Reduced transaction costs

Net Asset Value

- Divide claims among investors
- Used as a basis for valuation of investment company shares for
 - Selling new shares
 - Redeeming existing shares(buying back)

Calculation: NAV=

Market Value of Assets - Liabilities

Shares Outstanding

Types of Investment Companies

- Investment Company Act 1940:
 - Unit trusts
 - Managed investment companies

Types of Investment Companies

- **Unit Investment Trusts:**

- pool of money invested in portfolio;
- its portfolio is fixed for the life,
- unmanaged.

-Brokerage firm buys and forms portfolio

-Sells shares in that trust called units or redeemable trust certificates

-Invest in relatively uniform types of assets:municipal bonds, corporate bonds

-All money from portfolio is distributed to share holders by trustee, i.e. company which manages portfolio

e.g.

-Trust bought portfolio for \$ 5 million

-Sells 5,000 shares at \$1,030 per share

-3% premium per share obtained by trustee

trustee – bank or trust company

-Liquidate holdings

sell back to trustee for NAV

Types of Investment Companies

- **Managed Investment Companies**; portfolio is managed
- Board of directors, elected by shareholders, hires management company for fee of 0.2 to 1.5% of assets value
 - Open-End (called mutual funds)
 - shares redeemed or
 - new shares issued at NAV;
 - shares outstanding change when new shares are issued or old shares are redeemed
 - Cash out shares – sell them back to fund

Types of Investment Companies

- Closed-End

Not redeemed, no new share issue

No change in shares outstanding

- Shares traded on organized exchanges and can be sold and bought at market price (unlike open-end mutual funds shares)
- Cash out shares – sell to another investor
- May be priced at Premium or discount to NAV

Figure 4.1 Closed-End Mutual Funds

FUND	NAV	MKT PRICE	PREM/ DISC %	52-WEEK RETURN %
Adams Express Company (ADX)	17.37	15.01	-13.59	20.80
Advent/Clay Enhcd G & I (LCM)	19.72	17.33	-12.12	3.94
BlackRock S&P 500 Pr Eq (PEFX)	10.35	10.22	-1.26	6.68
BlackRock Str Div Achvr (BDT)	15.50	13.66	-11.87	4.31
Blue Chip Value Fund (BLU)	5.98	6.09	1.84	13.18
Clay/Ray James SB-1 Eqty (RYJ)	22.04	19.79	-10.21	14.51
Cohen & Steers CE Oppty (FOF)	18.32	16.91	-7.70	NS
Dreman/Claymore Div&Inc (DCS)	23.12	20.01	-13.45	3.65
DWS Dreman Val Inc Edge (DHG)	17.75	15.01	-15.44	NS
Eaton Vance T-M D-E Inc (ETY)	19.24	17.63	-8.37	NS
Gabelli Div & Inc Tr (GDV)	25.00	21.69	-13.24	22.76
Gabelli Equity Trust (GAB)	9.68	9.64	-0.41	21.39
General Amer Investors (GAM)	45.90	40.87	-10.96	21.00

FIGURE 4.1 Closed-end mutual funds

Source: Data compiled from *The Wall Street Journal Online*, September 28, 2007.

Types of Investment Companies

- Puzzle of divergence of share price and NAV
- Puzzle of issue price of share above NAV
- Naturally, mutual fund share not traded on organized exchanges

Other Investment Organization

- Not organized or regulated as investment companies
 - Functions similar
 - Commingled Funds
 - Real Estate Investment Trusts
 - Hedge Funds

Types of Invest. Companies Continued

-Commingled funds:

- Partnerships of investors that pool their funds
- Management firm that organizes the partnership (bank, insurance company) for fee
- Partners – retirement accounts, trusts
 - Large portfolio but still can not be managed in separate basis
- units are issued (like shares).
- Like open-end, they're trades at NAV.

e.g. money market fund, bond fund, common stock fund often offered by Bank or insurance company

Types of Invest. Companies Continued

- Real estate investment trusts (REITs):
- Similar to closed-end fund
- Invest in real estate or loans secured by real estate
- Beside issuing shares
 - Raise capital by borrowing from banks and issuing bonds or mortgages
 - Highly leveraged
 - Debt ratio of 70%
- Equity trust – directly in real estates
- Mortgages trust – mortgages and construction loans
- Established
 - Banks, insurance companies, mortgage companies for fee

Types of Invest. Companies Continued

-Hedge funds

-Like mutual funds but private partnership

- pool assets to be invested by hedge manager

- under minimal SEC regulation

- For wealthy and institutional investors

- Lock-ups

- Allows: invest in illiquid assets

- Strategies

- Use of derivatives, short sales, leveraged

Mutual Funds—Investment Policies

- Common name for open-end investment companies
- Dominant investment company
 - 90% of invested assets
- Each mutual fund
 - Specified investment policy
 - Fund prospectus
- Management companies manage a family or complex of mutual funds
- They organize an entire collection of funds and then collect a management fees for operating them
 - Make it easy for investor to allocate assets across market sectors and to switch assets across funds

Mutual Funds—Investment Policies

- Money Market Funds
 - Commercial papers, certificates of deposits, etc.
 - Maturity a bit more than 1 month
- Equity Funds
 - Primary in stocks, fixed-income securities or other types of securities
 - About 4% to 5% of total assets in money market securities
 - Income or Growth Fund
 - Emphasis on capital appreciation or current income
 - Income funds – dividend yields
 - Growth funds – capital gains
 - Growth stocks are riskier and respond dramatically to changes in economic conditions
- Sector Funds
 - Concentrated on a particular industry
 - Biotechnology, utilities, metals, telecommunications...

- Bond Funds,
 - often specializing by fixed income sector
 - Specialization:
 - Corporate bonds, Treasury bonds, etc.
 - Maturity of securities
 - » Short-term
 - » Intermediate
 - » Long-term
 - Credit risk
 - » Very safe to junk bonds
- Balanced Funds, across all securities
 - Equities or fixed income securities
 - Life-cycle funds
 - Mixed from aggressive (primarily marketed by younger investors) to conservative
 - Stable mix across stocks and bonds
 - Targeted-maturity funds
 - Become more conservative as the investor ages

- International (global, regional, emerging market)
- Asset Allocation and Flexible;
 - like balanced but vary much in portfolios
 - According to manager forecast of the performance of each sector
 - Market timing
 - Not for low-risk investors
- Index
 - forms portfolio of index
 - Kind and proportion of securities in index
 - Low-cost way for investors to pursue a passive investment strategy

Table 4.1 U.S. Mutual Funds by Investment Classification

TABLE 4.1

U.S. mutual funds by investment classification

	Assets (\$ billion)	% of Total Assets	Number of Funds
Equity funds			
Capital appreciation focus	\$ 2,701.0	25.9%	3,070
World/international	1,314.1	12.6	915
Total return	1,896.5	18.2	785
<i>Total equity funds</i>	\$ 5,911.6	56.8%	4,770
Bond funds			
Corporate	\$ 272.2	2.6%	289
High yield	156.2	1.5	207
World	59.4	0.6	113
Government	193.0	1.9	309
Strategic income	448.6	4.3	364
Single-state municipal	154.9	1.5	481
National municipal	210.0	2.0	230
<i>Total bond funds</i>	\$ 1,494.4	14.4%	1,993
Hybrid (bond/stock) funds	\$ 653.1	6.3%	508
Money market funds			
Taxable	\$ 1,988.1	19.1%	576
Tax-exempt	366.4	3.5	273
<i>Total money market funds</i>	\$ 2,354.5	22.6%	849
Total	\$10,413.6	100.0%	8,120

Note: Column sums subject to rounding error.

Source: Investment Company Institute, 2007 *Mutual Fund Fact Book*.

How Funds Are Sold

- Underwriters
 - Distribute shares to investors
 - Directly by underwriter
 - Indirectly by brokers actions on behalf of the underwriter
 - Sales force distributed: brokers, advisers on commission
- Revenue sharing on sales force
- Potential conflicts of interest
 - Fund companies pay the brokerage firm for potential treatment when making investment recommendation
 - Financial Supermarkets; sell shares of many funds
 - Instead of charging customers a sales commission, the broker splits management fees with the mutual fund company

Costs of Investing in Mutual Funds

- Fee Structure
 - Operating expenses; cost of operating portfolio, inc. administration and advisory cost
 - Front-end load:when you buy a share
 - Back-end load:when you redeem a share

Operating expenses

- Expressed as a percentage of total assets under management
 - 0,2% to 2%
- No an explicit bill for these expenses
- Deducted from the assets of the fund
 - Reduced value of the portfolio
- Marketing and distribution costs
 - Pay to brokers and financial advisors who sell the funds to the public
 - Avoid by buying directly from the fund sponsor

Front-End Load

- Commission or sales charged paid when you purchase the shares
- May exceed 8,5% but usually about 6%
- Reduces money invested
 - Each \$1.000 paid for fund with a 6% load resulted in a sale charge of \$60 and fund invested only \$940

Back-End Load

- A redemption or exit
- Fee for selling shares
- Between 5% to 6%

12b-1 Charge

- For managers of so called 12b-1 funds
 - For paying distributional costs such as advertising, promotional literature, annual reports, prospectuses, etc.
 - Limited to 1% of fund's average net asset value

Fees and Mutual Fund Returns:

- Measured by increase or decrease in NAV plus income distributions (dividends, capital gains) expressed as a fraction of NAV at the beginning of the investment period
- Ignore any commissions

Fees and Mutual Fund Returns: An Example

Initial NAV = \$20

Income distributions of \$.15

Capital gain distributions of \$.05

Ending NAV = \$20.10:

$$\text{Rate of Return} = \frac{\$20.10 - \$20.00 + \$0.15 + \$0.05}{\$20.00} = 1.5\%$$

Fees and Mutual Fund Returns

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

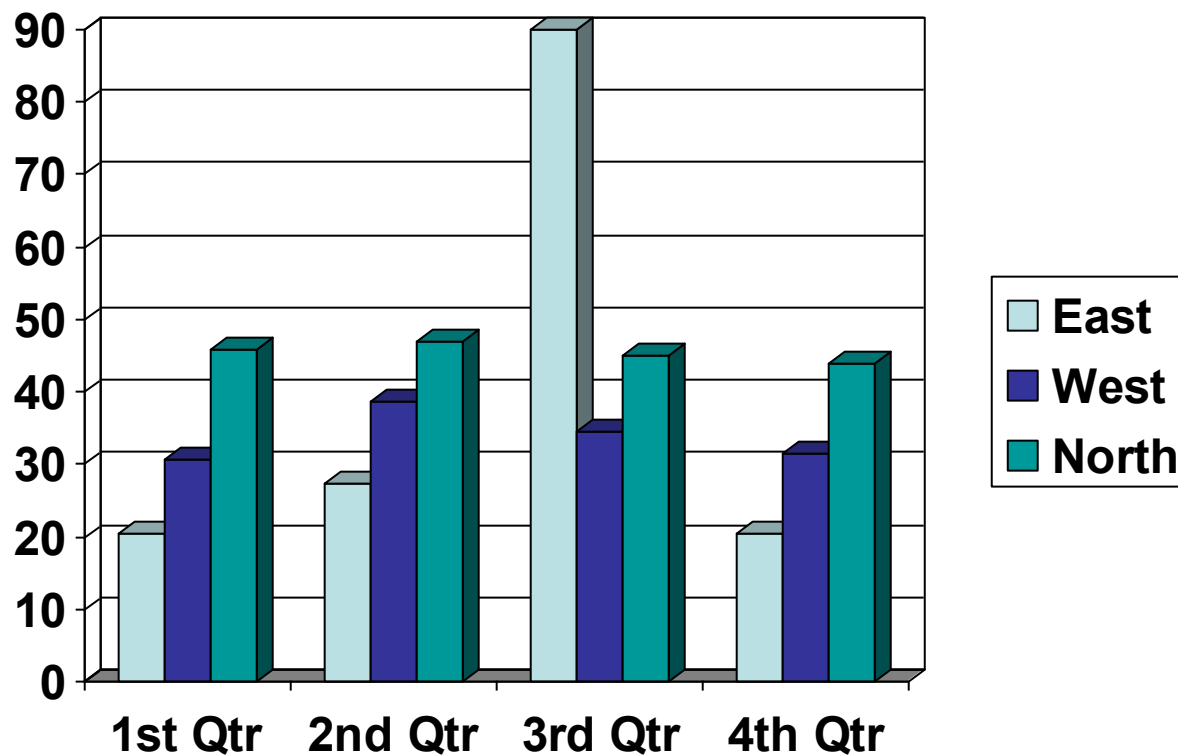


Table 4.2 Impacts of Costs on Investment Performance

TABLE 4.2

Impact of costs on investment performance

	Cumulative Proceeds (All Dividends Reinvested)		
	Fund A	Fund B	Fund C
Initial investment*	\$10,000	\$10,000	\$ 9,200
5 years	17,234	16,474	15,502
10 years	29,699	27,141	26,123
15 years	51,183	44,713	44,018
20 years	88,206	73,662	74,173

*After front-end load, if any.

Notes:

1. Fund A is no-load with .5% expense ratio.
2. Fund B is no-load with 1.5% expense ratio.
3. Fund C has an 8% load on purchases and a 1% expense ratio.
4. Gross return on all funds is 12% per year before expenses.

Late Trading and Market Timing

- NAV calculated at the end of each trading day
- All sell and buy orders are executed at the NAV following the market close at 4:00 p.m.
- Allowing some favored investor to buy shares in the fund below NAV or redeem their shares for more than NAV
 - Benefit those investors but at the expense of the remaining shareholders

Late trading

- Accepting sell or buy orders after the market closes and NAV is determined
- Based on the market closing prices at 4:00, a fund's NAV equals \$100
- At 4:30 some positive information is announced
- While NAV already has been fixed, it is clear that the fair market value of each share exceeds \$100
- If they are able to submit a later order, investors can buy shares at the now-stale NAV and redeem them the next day after price and NAV have adjusted to reflect the information

Market timing

- Based on time-zone differences
 - National market closes several hours before trading end other national market
 - NAV is set based on the closing price of the first national market
 - If second national market jump significantly while first market is closed, it is likely that first national market prices will be rise when the market open next day
 - A market timer will buy fund in the second national market and at NAV and redeem those shares the next day for a profit

- While late trading clearly violates securities law, market timing does not
- Management fees
 - Impact in profit of shareholders not fund sponsor
- By mid-2004 more \$1.64 billion in penalties to settle allegations of improper trading

Potential Reforms

- Strict 4:00 PM hard cutoff with late orders executed the following trading day
- Fair value pricing: in NAV, adjust prices of securities of closed markets to reflect impact of prices of securities in still open markets
- Imposition of redemption fees of more than 2% for shares sold within a week of buy, paid directly to funds not to management company

Exchange Traded Funds

- First introduced in 1993
- Mutual funds that allow investor to trade index portfolio as a share of stocks
- Spider SPDR – S&P's depository receipt
 - Can be traded throughout the day
 - Diamonds
 - Cubes
 - WEBS

Exchange Traded Funds

- Potential advantages
 - Trade continuously
 - Short or traded in margin
 - Lower taxes; redeem many → fund sells securities → capital gain tax
 - Lower costs; for fund doesn't market to investors, who buy from brokers. So low management fees
- Potential disadvantages
 - Prices can depart by small amounts from NAV

Table 4.3 EFT Sponsors and Products

A. ETF Sponsors		
Sponsor	Product Name	
Barclays Global Investors	i-Shares	
Merrill Lynch	HOLDRS (Holding Company Depository Receipts: "Holders")	
StateStreet/Merrill Lynch	Select Sector SPDRs (S&P Depository Receipts: "Spiders")	
Vanguard	VIPER (Vanguard Index Participation Equity Receipts: "Vipers")	
B. Sample of ETF Products		
Name	Ticker	Index Tracked
Broad U.S. indexes		
Spiders	SPY	S&P 500
Diamonds	DIA	Dow Jones Industrials
Cubes	QQQQ	NASDAQ 100
iShares Russell 2000	IWM	Russell 2000
Total Stock Market VIPERS	VTI	Wilshire 5000
Industry indexes		
Energy Select Spider	XLE	S&P 500 energy companies
iShares Energy Sector	IYE	Dow Jones energy companies
Financial Sector Spider	XLF	S&P 500 financial companies
iShares Financial Sector	IYF	Dow Jones financial companies
International indexes		
WEBS United Kingdom	EWU	MCSI U.K. Index
WEBS France	EWQ	MCSI France Index
WEBS Japan	EWJ	MCSI Japan Index

TABLE 4.3

ETF sponsors and products

Mutual Fund Investment Performance: A First Look

- Evidence shows that average mutual fund performance is generally less than broad market performance

But there are good managers and bad managers. Then, do the former perform consistently well? Hence the following test.

- Evidence that performance is consistent from one period to the next is suggestive but inconclusive. Table 4.4

Figure 4.2 Diversified Equity Funds versus Wilshire 5000 Index

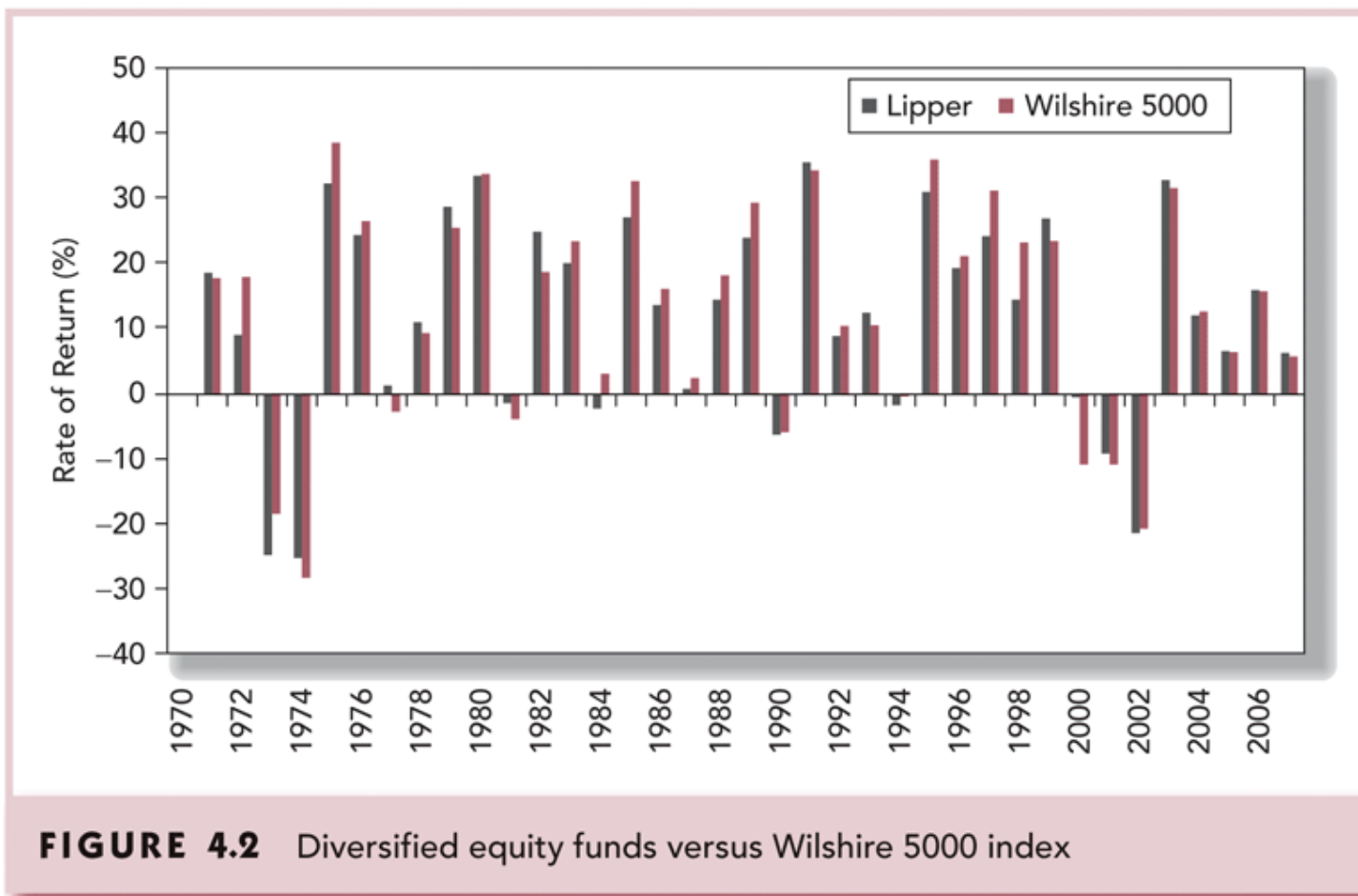


FIGURE 4.2 Diversified equity funds versus Wilshire 5000 index

Table 4.4 Consistency of Investment Results

TABLE 4.4

Consistency of investment results

Initial Period Performance	Successive Period Performance	
	Top Half	Bottom Half
A. Malkiel study, 1970s		
Top half	65.1%	34.9%
Bottom half	35.5	64.5
B. Malkiel study, 1980s		
Top half	51.7	48.3
Bottom half	47.5	52.5

Source: Burton G. Malkiel, "Returns from Investing in Equity Mutual Funds 1971–1991," *Journal of Finance* 50 (June 1995), pp. 549–72. Reprinted by permission of the publisher, Blackwell Publishing, Inc.

Thank you for your attention