Chapter 12.
Mutual Funds and Other Pooling Arrangements

Chapter Objectives
- To understand why pooling instruments are important alternatives to direct investing
- To identify the important characteristics of open-end and close-end mutual funds
- To be able to evaluate a mutual fund with a risk and return framework
- To recognize the characteristics of unit investment trusts and real estate instrument trusts and how each differs from mutual funds
- To learn the basics of portfolio construction and maintenance and appreciate why mutual funds simplify the process

What are the major types of pooling instruments?
- Mutual Funds:
  - Open-end
  - Closed-end
- Investment Trusts:
  - Unit Investment Trusts (UITs)
  - Real Estate Investment Trusts (REITs)

What Is A Mutual Fund?
- An investment company that pools the funds of many individuals to invest in stocks, bonds, and other types of assets

What is a mutual fund’s NAV?
- A Mutual Fund’s Net Asset Value (NAV) = Total Value of All the Assets the Fund Owns / Number of Shares
- Example - a mutual fund with three stocks

<table>
<thead>
<tr>
<th>Company</th>
<th># of Shares</th>
<th>Price per Share</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM</td>
<td>100</td>
<td>$120</td>
<td>$12,000</td>
</tr>
<tr>
<td>Xerox</td>
<td>100</td>
<td>80</td>
<td>8,000</td>
</tr>
<tr>
<td>GM</td>
<td>100</td>
<td>70</td>
<td>7,000</td>
</tr>
</tbody>
</table>

Value of the fund’s portfolio $27,000
Number of shares issued 1,000
Fund’s NAV $27.00

What load funds vs. no-load funds?
- A Load is a commission paid to buy or sell fund shares
  - Load range: 1% - 9% of NAV
  - front-end load (load paid for buying) and rear-end load (load paid for selling)
- No-load funds have no commission to buy shares, but some may charge a rear-end load
- There is no evidence showing that load funds do better than no-load funds. Thus everything else equal, no-load funds are better.
What are open-end mutual funds?
- This type of mutual fund allows investors to buy or sell mutual fund shares directly from the Fund at NAV.
- This is the most popular type of fund.
- Large funds include Fidelity, Vanguard.
- Typically, a company offers many different types of funds for different investment objectives.

What are closed-end mutual funds?
- A fund that is traded in the securities markets just like stocks, except the fund owns more than one stock.
- Selling prices can be above or below NAV.
- No direct purchase from the mutual fund company. Buy through brokers.
- Visit http://www.investools.com/cgi-bin/library/mscf.pl for more information on closed-end funds.

What are the different types of funds?

<table>
<thead>
<tr>
<th>Type of Fund</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>Price Appreciation over Time</td>
</tr>
<tr>
<td>Income</td>
<td>High Current Return</td>
</tr>
<tr>
<td>Balanced</td>
<td>Good Current Return with some Growth</td>
</tr>
<tr>
<td>Money Mkt.</td>
<td>High Liquidity and Returns Better than Bank Returns</td>
</tr>
<tr>
<td>Maximum</td>
<td>Exploit Opportunities to Earn Very High Returns</td>
</tr>
</tbody>
</table>

Where do I find information about fund objectives and historical performance?
- Prospectus
- Each mutual fund has this document that describes a fund in considerable detail.
- Visit Vanguard fund types at http://flagship5.vanguard.com/VGApp/hnw/FundsByObjective.
- Click under “Domestic-General” under “Stock Funds.” Find Vanguard 500 index fund. This will lead you to a whole array of information that would normally be included in a fund’s prospectus. At the bottom of the page, you can click “prospectus/reports” print an electronic copy of the prospectus. The document is usually long.

Do mutual fund companies use the same terms for fund types they offer?
- Different companies often use different terms. See Vanguard’s classification below.
- See a list of funds offered by Vanguard at http://flagship5.vanguard.com/VGApp/hnw/FundsBy Objective.
- See if you can figure out fund objectives by looking at its type and category.
What services do mutual fund companies typically offer?
- Automatic draft from your bank for regular investments
- Reinvestment plans
- Transactions by telephone and the Internet
- Fund switching within the company
- Adaptability to Individual Retirement Accounts (IRAs)

How to measure mutual fund performance?
- Growth of $1,000 over Time
  - Example: a cumulative 10-year return of 259.45% means $1,000 invested 10 years ago is now worth $3,594.50
  - Assumes that all dividends are reinvested
- Average Annual Total Return (AATR)
  - Expresses the cumulative return as a yearly average: 13.65% for the above
  - Note the way to compute AATR in the above example is to solve for r in $1,000*(1+r)^10=3594.50$. It is not (259.45%/10) because of compounding.

Operating Expenses and fees
- Usually expressed as a % of Net Assets
  - Go to http://flagship.vanguard.com/VGApp/hnw/FundsSnapshot?FundId=0040&FundIntExt=INT for Vanguard 500 index fund. Click cost to see expense ratio and fee structure.
  - Example of expense ratios:
    - The average annual return on S&P 500 index fund is about 10.48% from 1963-2002.
    - Expense ratio for such funds from different companies:
      - Vanguard 500 index = 0.18%
      - Fidelity 500 index = 0.41%
      - Average for S&P500 index funds = 0.66%
    - Actual return investors get after expense ratio is taken into consideration
      - Vanguard 500 index = 10.46%
      - Fidelity 500 index = 10.44%
      - Average for S&P500 index funds = 10.41%
    - In the long run, your account can worth thousands of dollars less if you pick a fund with a high expense ratio

Portfolio Turnover %
- Turnover % Measures the Trading Frequency: High Numbers = Much Trading
- Low numbers are desirable

Where do I find information on experts’ fund evaluations?
- The Popular Press
  - Wall Street Journal—Each Friday Issue
  - Money Magazine
  - Business Week
  - Forbes
  - Consumer Reports (once in a while)
- Professional Evaluations
  - Morningstar - see a review of Fidelity Funds

Risk-adjusted rate of return (RAROR)
- To take risk into consideration, one can use the Risk-Adjusted Rate of Return (RAROR)
  - RAROR = (AATR/Beta) - S&P 500 Return
  - Example: AATR = 13.65%, Beta = 0.86,
    - S&P 500 Return = 14.39%
    - RAROR = (13.65%/0.86) - 14.39%
      = 15.87% - 14.39%
      = + 1.48%

Interpretation:
- A Positive RAROR ->Good Fund Management
- A Negative RAROR ->Poor Fund Management
- One needs to look at RAROR over time
What is an unit investment trust (UIT)?
- Similar to an Open-End Fund
  - Trust Units (Shares) Are Purchased from and Redeemed by the Fund Originator
  - Redemption at near NAV
- Major Difference
  - Portfolio is Unmanaged
  - Low Operating Costs
  - Have Loads
- For more information about UITs, visit SEC site at http://www.sec.gov/answers/uit.htm

How is a UIT created?
- Trust Originator
  - Buys a Portfolio of Bonds
  - and Sells Trust Units to Individual Investors
  - Investor A
  - Investor B
  - Investor C
  - Who May Hold Their Units to Maturity or May Sell Back to Originator—at Current Market Value

What are exchange-traded funds (ETFs)?
- These are a type of UITs that are similar to closed-ended mutual funds, except that they usually are not traded at a discount like closed-ended mutual funds.
- Usually based on broad market (QQQs, Viper Spiders, Diamonds, others)
- Some based on market segments (Industry ETFs, Holders, others)
- For more information, visit http://news.morningstar.com/doc/article/0,1,3503,00.html

What are the advantages and disadvantages of ETFs?
- Advantages
  - Positions can be taken quickly because they are traded on the market like stocks
  - Shares can be purchased on margin
  - Very low expense ratios
  - Tax advantage
    - Investors can avoid capital gains by simply not selling
- Disadvantages
  - Commissions charged so frequent trading (such as using Dollar Cost Averaging to invest in your retirement fund) is not a good idea.

What are real estate investment trusts (REITs)?
- Similar to a Closed-End Fund
  - Equity per Share (EqPS) of a REIT is Similar to NAV and Calculated as Follows:
    - (Assets - Liabilities)/REIT Shares Outstanding
- Types of REITs
  - Equity Trust: Invest in Rental Properties
  - Mortgage Trust: Invests in Mortgages
- Investment Appeal: Easy Way to Include Real Estate in a Portfolio If not a Homeowner
- For more information, visit http://www.nareit.com/

How to allocation your portfolio?
- Depend on your risk tolerance level and your needs
  - Aggressive Investor
    - 100% Stocks: 1/3 Large Company, 1/3 Small Company, 1/3 International
  - Cautious Investor
    - 30% Large Company Growth Stocks, the Balance in Bonds, including Zero-Coupon
  - Investor Who Needs Income
    - 50% High-Quality Corporate Bonds, 25% Medium-Quality Corporate Bonds, and 25% Income Stocks
How to maintaining a portfolio? - The value averaging approach

<table>
<thead>
<tr>
<th>(1) Amount Invested</th>
<th>Stocks</th>
<th>Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initially</td>
<td>$10,000</td>
<td>$10,000</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Current Market</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(3) Adjustment with Constant Ratio Plan *</th>
<th>- 3,000</th>
<th>+ 3,000</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>(4) Adjusted Balances</th>
<th>12,000</th>
<th>12,000</th>
</tr>
</thead>
</table>

Are there easier ways to rebalance than doing it yourself every once in a while?

- Some companies offer assets management funds to do the balance for you.

Assignments for Chapter 12

- A useful site for mutual fund investors is Brill's Mutual Funds Interactive. Click on “Experts” to get some insights and advice from mutual fund professionals.
- Look for the 5-year performance history of the stocks you picked for the previous chapter assignment. Now compare those with the performance of an index fund, such as the Vanguard 500 index. Did your stocks do better or worse during the past 5 years? If you longer history is available, take a look at that too.