The following is adapted from Mutual Fund Classifications You Should Know by Justin Kuepper, Mar 23, 2016.

1. Introduction

Most investors know that diversification helps increase risk-adjusted returns, but single-handedly building and maintaining a diversified portfolio can be challenging to say the least. The first mutual fund was launched in 1924 to help average investors gain access to a diversified portfolio that was automatically maintained over time. Since then, a number of other investment companies have been introduced to meet specific kinds of needs.

2. Open-End vs. Closed-End

Most investment companies are structured as open-ended mutual funds in terms of both sheer number and assets under management. When an investor wants to buy shares of a mutual fund, the mutual fund issues and sells them shares at net asset value. Similarly, investors selling shares sell them at net asset value back to the fund. These types of funds are known as open-end funds since they don't restrict the number of shares issued.

Closed-end funds (CEFs) are investment companies that issue a fixed number of shares that trade intraday on stock exchanges at market prices. Since the market price is determined by investors, the price does not necessarily reflect the underlying value of the assets. CEFs trading below their net asset value (NAV) are said to be trading at a discount, while those trading above their NAV are considered to be trading at a premium.

Exchange-traded funds (ETFs) are a hybrid between open-end mutual funds and closed-end investment companies. While they are legally structured and classified as mutual funds, they trade on intraday stock exchanges like CEFs. ETFs may buy and sell shares in their fund like a mutual fund but they only trade in large block sizes with authorized participants.

There are many benefits and drawbacks to both open-end and closed-end investment companies. For most investors, open-end mutual funds provide the safest bet because mutual funds are obligated to repurchase shares at the NAV, so there is less liquidity risk. ETFs have become increasingly popular because they can trade throughout the day with different tax implications. CEFs remain popular in some circles because they may provide great value.
3. Active vs. Passive

Actively managed funds have a professional investment advisor that creates a unique mix of investments to meet specific investment objectives. For example, the Fidelity Contrafund (FCNTX) is a popular actively managed mutual fund focused on companies that the fund’s managers believe are undervalued by the wider marketplace. Investors purchasing actively managed funds are betting that the investment managers are capable of beating the market long term.

Passively managed funds seek to track the performance of a specific benchmark index. While investors can choose which index to focus on, the fund manager does not engage in any stock picking and simply seeks to mimic the index’s performance. A great example of a passively managed mutual fund is the Vanguard Total Stock Market Index Fund (VTSMX), which provides investors with broad exposure to small-, mid-, and large-cap growth and value stocks in the U.S.

Most academic research supports passively managed mutual funds as a superior option given their lower expense ratios. According to the Efficient Market Hypothesis (EMH), it is impossible for a fund manager to beat the market over the long run because market efficiency causes share prices to always incorporate and reflect current information. There are very few funds and investors, such as Warren Buffett, that have a consistent track record of beating the market.

4. Taxable vs. Tax-Exempt

Mutual funds are treated differently from a tax perspective based on the types of securities that they hold on behalf of shareholders.

Mutual funds make two types of taxable distributions to their shareholders: ordinary dividends and capital gains. Ordinary dividends are generated from interest and dividends earned by securities in the portfolio and any net short-term capital gains realized after the fund’s expenses are covered. Capital gains arise from a fund’s sale of securities held in their portfolio for over a year and are taxed at a different rate in some cases.

Some mutual funds—such as municipal bond funds—are tax-exempt, which means that investors may not owe any tax on dividends. Even though the dividend is tax-exempt, investors must report the amounts on their income tax returns. Some of the income earned from these funds may also be subject to the federal alternative minimum tax (AMT), which is an important tax consideration for individuals that might be at risk.
5. The Bottom Line

There are many different classifications for mutual funds and other investment companies that investors should know. In most cases, there is no clear right or wrong choice—it is simply a matter of choosing the type of fund that best fits the investor’s investment requirements. Keeping these considerations in mind can help avoid headaches down the road in terms of liquidity, investment fees, and taxes owed to the government.

6. First Task to Do—Data Preparation

You are to read the articles on MutualFunds.com to gain a deeper understanding of the mutual fund industry.

Then, you are to systematically to extract all the mutual funds’s in the category to an excel spreadsheet.

The assignment of a fund category to each team (T) is as follows:

T 1. Large-Cap Growth Equity Funds
T 2. Mid-Cap Growth Equity Funds
T 3. Small-Cap Growth Equity Funds
T 4. Large-Cap Blend Equity Funds
T 5. Mid-Cap Blend Equity Funds
T 6. Small-Cap Blend Equity Funds
T 7. Large-Cap Value Equity Funds
T 8. Mid-Cap Value Equity Funds
T 9. Small-Cap Value Equity Funds
T 10. Alternative Funds

Likewise, you are to get all the ETFs of the same category assigned to you from ETFdb.com. You upload the spreadsheets to elearn as soon as possible. With the excel spreadsheets, I can then download the daily data of all the funds for your.

I am still thinking hard about what are the interesting things for you to do as a project. Note that time is not on our side as the semester is short in calendar time. Broadly, for the first part of the project, you are to
(1) Construct a mutual index for your category of mutual funds.

(2) Construct an ETF index for your category of ETFs.

(3) Construct a composite index for your category.

(4) Use the constructed composite index as the category’s market portfolio. For each fund, estimate the parameters in the multi-factor framework by utilizing the French data library.

(5) Run the variance ratio tests for all the funds.

(6) Rank the funds for forecasting their future ranking. You are to design a set of criteria and the weights for ranking the funds.

(7) Construct a portfolio from these funds in such a way that it outperforms your composite index up to December 31, 2016.

Obviously, it is interesting to compare the performance of mutual funds versus the ETFs of the same category.

The second part of the project is to

(8) Find out the underlying stocks of each fund in the assigned category and consolidate them into a list.

(8) Run the stock-event study of the effect of earnings announcements with SPY (ETF based on S&P 500 index) for constructing the benchmark.

(8) Design an investment/trading strategy.