23. Investing 6: Understanding Mutual Funds

Introduction

Mutual funds are collections of stocks, bonds, and other financial assets that are owned by a group of investors and managed by a professional investment management company. As an investor in a mutual fund, you own a share of the fund that is equal to the amount of your investment divided by the total value of the fund.

Mutual funds provide many important benefits to investors; these benefits particularly apply to investors who are just beginning to invest. Since a mutual fund can include hundreds of different securities, the performance of the fund is not dependent on any single security: the risk is spread among the various securities. In most cases, a portfolio manager is assigned to monitor the performance of securities in the fund. Well-chosen mutual funds can help you achieve your financial goals.

Objectives

When you have completed this chapter, you should be able to do the following:

A. Explain the advantages, disadvantages, types and classes of mutual fund shares.
B. Understand how to calculate mutual fund returns.
C. Understand the costs of investing in mutual funds and how to purchase a mutual fund.
D. Understand plans and strategies for mutual funds.

Explain the Advantages, Disadvantages, Types and Classes of Mutual Fund Shares

There are both advantages and disadvantages to investing in mutual funds. The following is a discussion of some of these advantages and disadvantages.

Advantages of Mutual Funds

One of the main reasons for the creation of mutual funds was to give investors who wanted to make smaller investments access to professional management. However, mutual funds offer many advantages to investors of all types, such as:

Diversification: Investing in a single stock or bond is very risky, but owning a mutual fund that holds numerous securities reduces risk significantly. Mutual funds provide diversification, which is crucial to a well-balanced portfolio. Diversification is particularly crucial in small accounts.

Professional management: It is difficult and time consuming to pick the best stocks and bonds for your portfolio and to try to beat the benchmarks on these stocks and bonds. Allowing a professional mutual fund manager to make decisions about stocks and bonds for you can save you time and frustration.

Minimal transaction costs: Buying individual stocks and bonds is expensive in terms of transaction costs. Mutual funds offer the advantage of economies of scale in purchases because mutual fund transactions are typically large. Economies of scale refers to the fact that mutual fund costs may decrease as the mutual fund's asset size increases, since brokers may charge lower fees to try to get more of the mutual fund's business.

Liquidity: Money invested in mutual funds is generally liquid. You can sell your shares and collect money from open-ended funds (funds that can create and redeem shares on demand), usually within two business days. If the open-end funds are no-load funds, investors are not required to pay transaction costs when they buy or redeem shares.

Flexibility: Owning individual stocks and bonds does not allow for much flexibility in terms of liquidity, or the ability to access your money. You cannot write checks on the value of individual stocks and bonds. However, many mutual funds allow for more flexibility by allowing you to write checks on your account.

Low up-front costs: Certain types of mutual funds have financial benefits that make them less expensive than individual stocks and bonds. For example, no-load mutual funds can be sold and redeemed without incurring any sales charges, and open-ended mutual funds can be purchased at the fund's net asset value (NAV). A fund's NAV is calculated daily by subtracting the fund's liabilities from its assets and dividing the resulting amount by the number of outstanding shares. The benefit of open-ended funds is that you do not need to pay a premium or a sales charge to purchase or sell the shares.

Service: Mutual fund companies generally have good customer service representatives who can answer your questions and help you open accounts, purchase funds, and transfer funds. Mutual fund companies may also offer other services, including automatic investment and withdrawal plans; automatic reinvestment of interest, dividends, and capital gains; wiring funds to and from your accounts; account access via phone; optional retirement plans; check-writing privileges; bookkeeping services; and help with taxes.

Disadvantages of Mutual Funds

Although there are many advantages to investing in mutual funds, there are also some disadvantages.

Below market performance: Generally, most actively managed mutual funds have not beaten their benchmarks over the long term. While in some years actively managed funds outperform their index fund counterparts, the support for actively managed funds for longer periods of time is low.

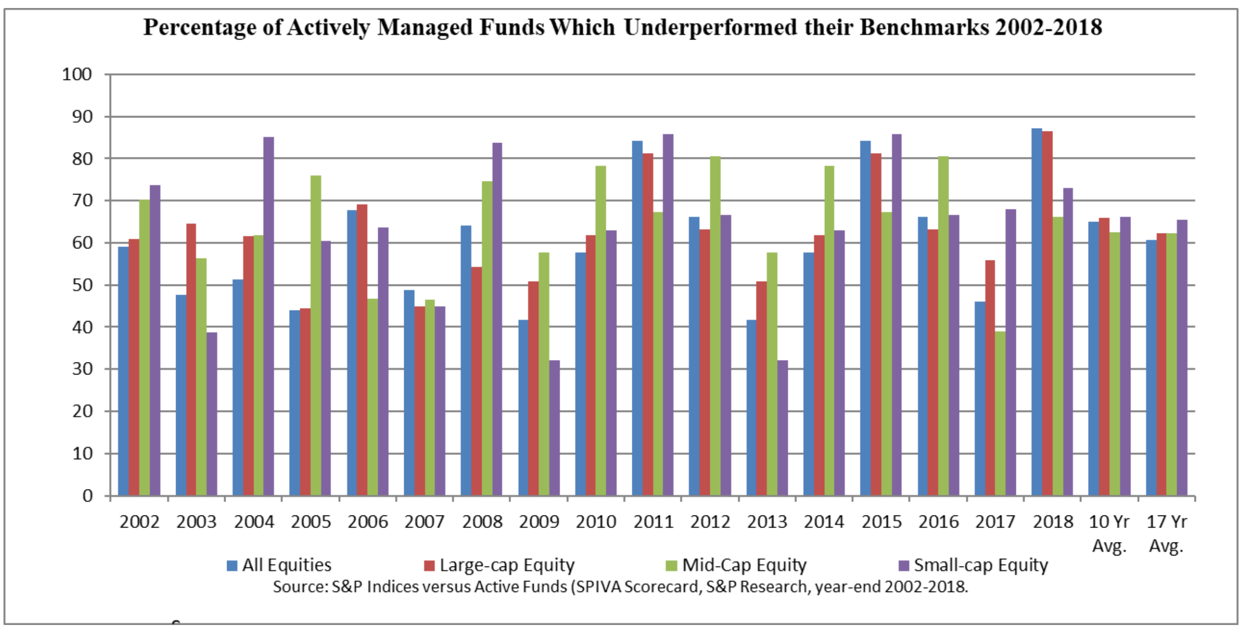
For the period from 1962 to 1997, the average actively managed fund, or a fund whose purpose is to outperform a specific index by the active buying and selling of securities, failed to outperform their benchmarks. In 22 of 35 years, less than half of all actively managed funds beat their benchmarks.[1]

Another paper that examined mutual fund performance on both a total return and after-tax basis reported:

> In general, we find that index funds outperform actively managed funds for most equity and all bond fund categories on both a total return and after-tax total return basis, with the exception of actively managed small company equity and international funds. These results should be viewed with caution, however, as there is evidence that actively managed funds outperform the index funds during periods when the economy is either going into or out of a recession.[2]

Recent experience is not much different. In the last 10 years, 60–65 percent of actively managed funds failed to beat their benchmarks, depending on asset class (see Chart 1).

Chart 1. Percentage of Actively Managed Funds That Failed to Beat Their Benchmarks[3]



High costs: Unless you analyze funds carefully before you buy them, you may inadvertently choose a mutual fund that charges significant management, custodial, and transfer fees. Each of these fees reduces your total amount of return. Moreover, many mutual funds charge loads (sales charges) and 12b-1 fees, which is are paid by shareholders to cover the cost of marketing the fund to other investors. These charges and fees also reduce your total amount of return.[4]

Risks: Mutual funds are subject to both market-related risks and asset-related risks, particularly in very concentrated portfolios, which are not as well diversified.

Inability to plan for taxes: Mutual funds are considered pass through vehicles for tax purposes and are required to distribute 95 percent of all capital gains and dividends to shareholders at the end of each year. Even if shareholders do not sell their mutual fund shares, if they are in taxable vehicles they may be required to pay a significant tax bill each year, particularly if the fund trades often and has a lot of short-term interest, dividends, or capital gains. It is difficult to plan for taxes because the decisions that affect the amount of taxes you will pay are made by the portfolio manager, not you.

Premiums or discounts: Closed-end mutual funds may be traded at a premium or discount to the fund's underlying net asset value. These premiums and discounts are based on investor demand more than they are based on actual share value; therefore, premiums and discounts are not constant over time.

New investor bias: Shares purchased by new investors dilute the value of the shares owned by current investors. When new money enters the mutual fund at net asset value, the money must be invested, which costs roughly 0.5 percent in an average U.S. stock fund. Thus, the funds of current investors are used to subsidize the purchase of the new investors' shares.

Describe the Different Types of Mutual Funds

There are three major types of mutual funds that parallel the major asset classes: money market, stock, and bond mutual funds.

Major Types of Mutual Funds

Money market mutual funds invest primarily in short-term, liquid financial assets, such as commercial paper and U.S. Treasury bills. The goal of these funds is to obtain a higher return than traditional savings or checking accounts.

Stock mutual funds invest primarily in common stocks listed on the major securities exchanges discussed in the previous section. Each type of stock mutual fund has a particular emphasis or objective, such as large-cap stocks, small-cap stocks, value stocks, growth stocks, and so on.

Bond mutual funds invest primarily in the bonds offered by companies or institutions. Each of these bond mutual funds has a particular emphasis or objective, such as corporate, government, municipal, and agency bonds. Most of these funds have specific maturity objectives, which relate to the average maturity of the bonds in the fund's portfolio. Bond mutual funds can either be taxable or tax-free, depending on the types of bonds the fund owns.

Specialty Mutual Funds

Index funds are mutual funds that are designed to match the returns of a specific benchmark.

Since these funds buy and sell securities infrequently (i.e., they have a low turnover), they are very tax-efficient investment vehicles. Index funds have the option of following many different benchmarks, including the S&P 500 (large-cap stocks), Russell 5000 (small-cap stocks), MSCI EAFE (international stocks), Barclays Aggregate (corporate bonds), and DJ REIT (real estate investment trusts). As of March 9, 2017, there were 1,185 different index funds listed in the Morningstar database (Morningstar is one of the largest and best private data providers of mutual fund information).

Exchange-traded funds (ETFs) are similar to mutual funds in that they comprise groups of stocks; however, ETFs are different because they are traded in an organized exchange. Because ETFs are purchased on an exchange, they incur all the transaction fees and custody costs that stocks do. They are also similar to stocks in that they are priced throughout the day rather than at the end of the day like mutual funds. ETFs can be both shorted and purchased on margin. ETFs can be structured as either unit investment trusts (UITs), whose money is invested in a portfolio where the composition is fixed for the life of the fund, or open-end mutual funds, where money is invested in a portfolio that can change over time. The UIT structure does not allow for immediate reinvestment of dividends. As of March 9, 2017, there were 1,750 different ETFs listed in the Morningstar database.

Balanced funds are mutual funds that purchase both stocks and bonds, usually in a set ratio (e.g., 60 percent stocks and 40 percent bonds). The benefit of these funds is that the fund manager makes both the asset-allocation decisions and the stock-selection decisions for the investor.

Asset-allocation funds are mutual funds that rotate investments among stocks, bonds, and cash, with the goal of beating the return of a specific benchmark after all expenses have been accounted for. These funds invest in the asset classes that the portfolio managers expect to perform the best during the coming quarter.

Life-cycle mutual funds change their allocations of stocks and bonds depending on the age of the investor. As an investor ages, life-cycle funds reduce their allocations in stocks and increase their allocations in bonds, which typically makes the fund more consistent with the goals of an older investor. These funds make asset-allocation decisions for the investor and aim to reduce transaction costs.

Hedge funds are mutual funds that assume much more risk than normal mutual funds in the expectation of higher returns. Sometimes the managers of these funds take long positions, in which they buy and hold assets; sometimes the fund managers take short positions, in which they borrow assets and sell them. The managers of hedge funds hope they will later be able to buy back the assets at a lower price before they must return them to the lender.

Describe the Different Classes of Mutual Fund Shares

Mutual funds may be divided into classes depending on the loads, or sales charges. There are two types of loads, front-end and back-end. Front-end loads are commissions charged at purchase of the fund; they directly reduce the amount of money invested by the amount of the load. Back end loads are sales charges to compensate the sales force for selling the fund.

While there are differences of opinion as to the choice of load versus no-load funds, research has found that the performance of load funds and no-load funds is generally identical over the periods analyzed. However, when the sales charges are included in the calculation of returns, no-load funds significantly outperform load funds.[5]

While there are differences in classes of shares among investment management companies which charge loads, they generally include the following.

Class A shares commonly have a front-end or back-end load to compensate for the sales person's commissions. Because of the high loads, they usually have lower management fees.

Class B shares commonly have a back-end load that is paid when the shares are sold. The amount of this back-end load traditionally declines over time. Class B shares generally have higher expense ratios when compared to Class A shares.

Class C shares generally have lower front- and back-end load fees but higher management fees.

Class R shares are generally for retirement purposes. Check the loads and management fees, which may be substantial.

No-load shares are sold without a commission or sales charge. Generally, this type of mutual fund share is distributed directly by the investment management company instead of through a sales channel. These shares may have higher management fees to compensate for the lack of a front- or back-end load.

Class Y shares have very high minimum investments (i.e., $500,000) but have lower management fees and waived or limited load charges. These are generally for institutional investors.

Class Z shares are only available for employees of the fund management company.

Understand How to Calculate Mutual Fund Returns

There are two ways to make money on mutual fund holdings: capital appreciation and distributions.

Capital Gains

One way to earn money on mutual fund shares is to purchase shares and hold them for an extended period of time. Then, when the market value of the shares increases, you can sell the shares and collect capital gains. Capital gains are generally the preferred type of earnings because they are not taxed until you sell your mutual fund shares and you get to decide when to sell those shares. In addition, capital gains are taxed at a preferential rate by the federal government whereas ordinary income may be taxed at a rate of up to 38.6 percent.

Distributions

Distributions are the second way you can make money on mutual funds. They are a less attractive type of earnings than capital gains because you do not have control over the taxes associated with distributions. Even if you do not sell any mutual fund shares, you must still pay taxes on your mutual fund's annual distributions. There are five main types of distributions: short-term capital gains, long-term capital gains, qualified stock dividends, ordinary (non-qualified) dividends, and bond interest and bond fund distributions.

Short-term capital gains: Short-term capital gains are earnings on assets you owned for less than 366 days. Short-term capital gains are taxed at your marginal tax rate, which can be up to 39.6 percent for federal taxes and 10 percent for state taxes.

Long-term capital gains: Long-term capital gains are earnings on assets the fund has owned for 366 days or more. In 2018, long-term capital gains are taxed at a federal rate depending on your taxable income and AGI. There is also an added Medicare tax on long term capital gains of 3.8 percent if your adjusted gross income (AGI) is $250,000 or higher (Married Filing Jointly).

Qualified stock dividends: A qualified dividend is a dividend paid by a U.S. corporation whose stock you held for more than 60 days during the 121-day period that begins 60 days before the ex-dividend date (see Taxes on Securities Earnings Including Qualified Dividends (LT32)). In 2018, qualified stock dividends are taxed at the same rate as capital gains.

Ordinary (or non-qualified) stock dividends: Ordinary stock dividends are cash earnings paid to investors that have not held the stocks for the necessary amount of time. These dividends are taxed as ordinary income at both the federal and state levels.

Bond dividends and interest: Bond dividends and interest are distributions from bonds and bond mutual funds. These earnings are taxed at your marginal tax rate, which may be as high as 39.6 percent for federal taxes and 10 percent for state taxes.

The key to making money on mutual fund holdings is to invest in funds with high after-tax returns. The higher the after-tax returns on a fund, the more quickly you will be able to achieve your personal and financial goals.

Calculating Mutual Fund Returns

Calculating mutual fund returns is not as easy as it sounds. Too often investors only account for the explicit costs of trading and they forget about the implicit tax costs. These costs can significantly reduce the amount of a fund's return. Remember to invest wisely and to account for after-tax returns.

Calculating total returns: Mutual fund returns include dividends and distributions as well as any net asset value (NAV) appreciation. The basic equation for total return is as follows:

([ending NAV – beginning NAV] + distributions) / beginning NAV

Before using this equation, be sure to adjust your beginning and ending net asset values to account for the costs of both front-end and back-end loads. These costs will significantly decrease your return.

Calculating before-tax returns: Before-tax returns are the same as total returns if all distributions are reinvested. The before-taxes total return includes the increase in the net asset value and the increase in the number of shares. The total return before taxes is calculated as follows:

([#ES * EP] – [#BS * BP] + distributions) / (#BS * BP)

In the before-tax returns equation, the variables are defined as follows:

#BS = number of beginning shares owned
BP = beginning price of the shares
#ES = number of ending shares owned
EP = ending price of the shares

Calculating after-tax returns is more difficult because you must know your marginal tax rate at the federal, state, and local levels and the tax rate for the different types of distributions. If all distributions are reinvested, the after-tax total return includes the increase in the net asset value, the increase in the number of shares, and the after-tax impact of distributions. The after-tax (AT) total return is calculated as follows:

([#ES * EP] – [#BS * BP] + ATSD + ATLCG + ATSCG + ATBDI) / (#BS * BP)

In this equation, the variables are defined as follows:

#BS = number of beginning shares owned
BP = beginning price of the shares
#ES = number of ending shares owned
EP = ending price of the shares
ATSD = after tax stock distributions, or stock dividend distributions * (1 – the tax rate on stock dividends)
ATLCG = after tax long-term capital gains distributions, or long-term capital gains distributions * (1 – tax rate on long-term capital gains)
ATSCG = after tax short-term capital gains distributions, or short-term capital gains distributions * (1 – tax rate on short-term capital gains)

ATBDI = after tax bond dividends and interest distributions, or bond dividends and interest distributions * (1 – the tax rate on bond dividends and interest)

Remember that the tax rate on short-term capital gains, bond dividends, and bond interest is your marginal tax rate, which includes your federal, state (if applicable), and local (if applicable) tax rates.

Understand How to Purchase a Mutual Fund and the Costs of Investing in Mutual Funds

There are five steps to buying a mutual fund:

1. Determine your investment objectives, goals and key principles.
2. Select your risk level, asset classes, asset allocation and your investment benchmarks
3. Identify funds that meet your objectives subject to your investment principles.
4. Evaluate the funds and choose wisely
5. Make the purchase and monitor performance versus benchmarks.

Step 1: Determine Your Investment Objectives, Goals and Principles of Successful Investing

The first step is to determine your investment objectives and goals. What is the ultimate purpose of the funds you will be investing? Before you can decide on the funds you will invest in, you must know your budget and your financial goals. Understand where you are currently in your investment program and determine which key principles of investing will help you reach your financial goals.

Step 2: Select your Risk Level, Asset Classes, Asset Allocation and your Investment Benchmarks

The second step is to determine your risk level. How much risk are you willing to take? Your risk is determined by your asset allocation, your percentage of investments in each asset class. Find your risk tolerance by taking a risk tolerance test (see A Risk Tolerance Test (LT16) as an example). From that, determine your asset classes you will invest in and set your asset allocation, your percentage of your portfolio in each asset class.

Next, choose an appropriate investment benchmark. The benchmark you choose is very important because it will help you determine how well your mutual fund is performing over time. Before choosing a benchmark, you must decide which asset class you want to invest in and the way you want your fund to perform. Choose the benchmark that most closely matches the performance you are seeking. Do you want your benchmark to be broadly based (i.e., have more constituents) or narrowly based (i.e., have fewer constituents)? Generally, a more broadly based benchmark is better because it is more diversified, and the returns will be less influenced by the poor performance of a single security. I recommend choosing a benchmark with as many constituents as possible.

Step 3: Identify Funds That Meet Your Objectives

The third step is to identify funds that meet your objectives. One of the easiest ways to identify mutual funds that will meet your needs is to use resources such as financial publications or financial services. Another resource you can use to identify mutual funds that meet your needs is online databases. After you have input your objectives, a database will generate a list of funds that fit your criteria. Examples of these databases include Morningstar Mutual Funds (see Using Morningstar to Select Funds (LT07)) and Schwab One Source. These databases can help you learn about a mutual fund's performance, size, fees, investment style, and objectives.

Step 4: Evaluate the Funds

The fourth step is to evaluate the funds. To effectively evaluate a mutual fund, you must understand a number of characteristics that differ among funds. The following tips will help you evaluate mutual funds:

Compare funds with the same objectives. It makes no sense to compare funds with different objectives. Funds that are trying to accomplish different goals will have different return and risk characteristics. Make sure you are comparing funds with similar objectives.

Evaluate the fund's long-term performance versus the long-term performance of its corresponding benchmark. The difference between the fund's return and the benchmark's return is known as the fund's tracking error. Research the reasons a particular fund has done well. If the fund has performed well because it has made good security selections, this is a good sign; however, make sure the fund has not inflated its returns by buying outside of its asset class, such as a large-cap U.S. mutual fund buying securities from Mexico or Brazil. Try to determine whether the fund has a record of good performance over many years or if the fund has only performed well during a single year. Examine the history of returns during both up markets and down markets. If the fund has historically underperformed as compared with its benchmark and similar funds, avoid the fund. It is easier to spot funds that are performing badly than funds that are performing well.

Look at portfolio managers. How long has the manager been managing the fund? Was he or she managing the fund during periods of good performance? After a fund has performed well, good managers will sometimes leave a company to start their own mutual fund company, and new managers will be assigned to manage the fund. Look at how long the managers have been managing the fund. If they have not been managing the fund for very long, you may want to consider other funds.

Examine the size of the fund. How much has the fund grown or shrunk in the last month, quarter, or year? If a fund is shrinking, it generally sells its liquid assets first. After this liquidation, investors who still have investments in the fund are stuck with illiquid stocks, which cannot be sold or must be sold at a substantial discount.

Research the fund's history. How long has the fund existed? Has it changed its style? How did it perform under previous names and managers? Mutual fund companies sometimes rename a poorly performing fund and change the fund's investment objectives to mask poor performance. Be on the lookout for these changes.

Identify the fund's fee structure. Sometimes funds will add additional fees or impose back-end loads on investors to reduce the mutual fund company's costs. One example of an additional fee is the 12-b1 fee, which is a marketing fee paid by shareholders to cover the cost of marketing the fund to other investors. Avoid funds that charge 12b-1 fees. Generally, I recommend purchasing only no-load mutual funds. Although you cannot control returns, you can control costs.

Once you have selected a few funds you are interested in, read each fund's prospectus carefully. The prospectus should explain the fund's goals, the fund's investment strategy, any investment limitations the fund has (asset class constraints), any tax considerations that will be of importance to investors, the minimum account size, the investment and redemption process for buying and selling shares in the fund, fees the investor is responsible for paying, and the fund's annual turnover ratio. Turnover is particularly important, as it is an indication of how tax-efficient the mutual fund is. Funds with high turnover ratios generally cause investors to pay more taxes than funds with low turnover ratios, as each sell generates a taxable event.

Consult other sources of information. There are many different sources of financial information that can help you choose a good mutual fund. Printed sources (many of which have online sources as well) include *The Wall Street Journal*, *Morningstar Mutual Funds* (see Using Morningstar to Select Funds (LT07)), *Forbes*, *Business Week*, *Kiplinger's Personal Finance*, *Smart Money*, and *Consumer Reports.* A good electronic source is the Motley Fool website at www.fool.com.

Step 5: Make the Purchase and Monitor Performance

Once you have selected the fund that is right for you, you are ready to make the purchase. There are three ways to purchase a mutual fund: (1) you can make the purchase directly through the mutual fund company, (2) you can work through a financial professional, or (3) you can use a mutual fund supermarket.

Buying through the mutual fund company: If you do this, the mutual fund will likely be a no-load fund without annual custody fees. You will have access to many or all of the mutual fund company's services, including a toll-free number and Internet account access. Some mutual fund companies' systems are also compatible with major money-management software, such as Intuit Quicken or Microsoft Money.

Buying through a financial professional: If do this, you will likely be charged a load on the sale (a load is similar to a sales commission). The financial professional will likely sell you a class of shares (called R shares), which will rebate the financial professional a commission, or the financial professional will charge you an annual custody fee. Many mutual funds have multiple classes of shares, each with different loads and management fees. Research has shown that, on average, individuals who invest in load funds do not gain higher returns than individuals who invest in no-load funds.

If you decide to purchase your mutual fund through a financial professional, you will still have access to all the services offered by the mutual fund company. Whether you buy directly from the mutual fund company or through a financial professional, you should check to make sure you will be able to access your account through Intuit Quicken, Microsoft Money, or other software programs. Keep in mind that not all mutual funds can be accessed through software programs. Also, be sure that the amount you are willing to invest is larger than the minimum account size.

Buying through a mutual fund supermarket: If you do this, you will still receive all the benefits offered by the mutual fund company. If you work with one of these companies, you will have access to a wide range of mutual fund companies. Mutual fund companies "give back" a portion of their management fees to the mutual fund supermarkets, such as Fidelity Funds Network or Charles Schwab, each month to compensate the supermarkets for bringing in new customers; therefore, mutual fund supermarkets usually charge you less for their services. Minimum account balances and management fees vary from fund to fund, but a custody fee is not generally charged on funds purchased through a mutual fund supermarket.

Explain the Costs of Investing in Mutual Funds

There are a number of explicit, implicit, and hidden costs associated with investing in mutual funds:

Explicit Costs

Loads are a sales charge an investor must pay to purchase certain types of mutual fund shares. Front-end loads are charged when a fund is purchased and are essentially sales charges to pay the broker for selling the fund. Back-end loads are charged when an investor sells certain types of shares. Some funds use back-end loads to discourage investors from switching funds too often. Back-end loads are often given a sliding scale, which means that the longer you hold the shares, the smaller the back-end load. No-load funds do not charge a commission when funds are purchased or sold.

Management fees are assessed to compensate the portfolio manager; these fees are generally based on a percentage of annual average assets (e.g., 75 basis points, or 0.75 percent per year of assets under management). These fees are assessed annually but are taken out of the net asset value on a daily basis (i.e., the fund managers are paid daily).

Annual custody fees are charged to hold mutual funds or ETFs in your account. The custody fee may be a fixed amount for small accounts. For large accounts, the custody fee may be either a specific charge per holding or a percentage of assets held.

Other fees: There are a number of other fees that may be assessed to your mutual fund, including 12b-1 fees, distribution fees, and transfer agent fees. A mutual fund charges investors 12b-1 fees to cover some of the costs of advertising and marketing the fund to new investors. The fund also charges distribution fees to cover the costs of selling the fund. The transfer agent fee is charged to compensate the transfer agent, or the company or institution responsible for ensuring shares are transferred correctly, for maintaining the investor's records.

Overall expense ratio is the overall cost of all management fees, custodial fees, trustee fees, and other fees. It represents the most important explicit cost you should consider when evaluating mutual funds. An overall expense ratio of 2.25 percent means the mutual fund must earn 2.25 percent before you will break even on your investment.

Implicit Costs

Implicit costs are expenses that must be accounted for to calculate the true return of your portfolio; these costs do not appear on your monthly mutual fund report. The implicit cost of investing in a mutual fund is taxes. You must pay taxes on the four main types of distributions: bond dividends and interest, stock dividends, short-term capital gains, and long-term capital gains.

Hidden Costs

Transaction costs cover the expenses of buying and selling securities and the expenses that are not covered by any other fees. These expenses include commission costs, bid-ask spreads, and soft-dollar arrangements. Mutual funds that have high turnover—funds that buy and sell a lot of securities—will have much higher transaction costs than mutual funds that use a buy-and-hold investment strategy. Recent research has shown that in some high-turnover funds, the hidden costs of trading are more than double the explicit overall expense ratio. Such costs significantly reduce the amount of return on the fund.

Commission costs are the costs incurred by the mutual fund buying and selling the securities in the fund. Mutual fund companies are not required by law to disclose the amount of commission costs in the prospectus, although this information should be included in the firm's statement of additional information. A good way to evaluate commission costs is to look at the mutual fund's turnover ratio. The turnover ratio is a measure of trading activity during the current period. The turnover ratio is calculated by dividing the average number of net assets in the fund by the amount of securities that have been bought and sold. A turnover ratio of 50 percent means that half of the value of the mutual fund has been bought or sold during the period. Not only does turnover raise commission costs but it also results in short-term capital gains, which are taxed at a higher percentage rate than long-term capital gains.

Bid-ask spread: Contrary to popular belief, investors may be charged different prices for buying a security and for selling a security. The difference between these two prices is the bid-ask spread. This spread can vary depending on the liquidity of the security and the supply and demand for the security.

Soft-dollar arrangements: Many mutual funds have soft-dollar arrangements with brokerage houses whereby the brokerage house charges commissions for services in addition to charges for order execution. These commissions may be charged for research, access to information sources, computer equipment, and even personal services.

Other hidden costs: In addition to transaction costs, mutual funds may charge several other hidden costs, such as account transfer fees, account maintenance fees, inactivity fees, and minimum balance fees.

Understand Plans and Strategies for Mutual Funds

Following are a few ideas for your plans and strategies for mutual funds. The numbers refer to specific parts of your Investment Plan (LT05A).

Plans and Strategies
General Investing

- Due to the many different types of stocks and bond mutual funds, investors can invest at differing risk levels with mutual funds
- Index funds and Exchange Traded Funds (ETFs) are great alternatives to actively managed mutual funds, and offer cost, tax, and other advantages
- While risk of individual stocks and bonds can be high, buying mutual/index funds can reduce that risk considerably, and is recommended
- If you are choosing to put in a small amount of savings each week or month, choose no-load mutual/index funds due to no transaction fee.
- If you are making one large purchase and holding it long-term, choose the ETF due to its slightly lower annual costs.
- Remember that most actively managed funds fail to beat their benchmarks after all costs and fees, and most index funds return close to their benchmarks.
- Moreover, the costs of investing in individual stocks and bonds can be high, and low-cost, no-load and tax-efficient index funds are generally very cheap.

Summary

Mutual funds are collections of stocks, bonds, and other financial assets that are owned by a group of investors and managed by a professional investment company. As an investor in a mutual fund, you own a share of the fund that is equal to the amount of your investment divided by the total value of the fund.

One of the main reasons for the creation of mutual funds was to give investors who wanted to make smaller investments access to professional management. However, mutual funds offer many advantages to investors of all types. These advantages include diversification, professional management, low transaction costs, liquidity, flexibility, low up-front costs, and services. The disadvantages of mutual funds include the risks of below market performance, inability to plan for taxes, and new investor bias.

There are three major types of mutual funds that parallel the major asset classes: money market mutual funds, stock mutual funds, and bond mutual funds. Within the main asset class that each of the mutual funds comprises, there are many smaller asset classes that investors should consider when selecting a mutual fund. There are also several specialty mutual funds you should know about: index funds, exchange traded funds (ETFs), balanced funds, asset-allocation funds, life-cycle mutual funds, and hedge funds.

Calculating mutual fund returns is not as easy as it sounds. Too often, investors account for only the explicit costs of trading and forget about the implicit tax costs; these costs can significantly reduce the amount of a fund's return.

There are five steps to buying a mutual fund: (1) determine your investment objectives, (2) choose an appropriate investment benchmark, (3) identify funds that meet your objectives, (4) evaluate the funds, and (5) make the purchase.

Assignments

Financial Plan Assignment

Continue to work on your Investment Plan. As you do, it your assignment is to gain an understanding of how mutual funds can give you exposure to the major asset classes. How have mutual funds performed versus the individual securities that mutual funds comprise? What do mutual funds add to a portfolio? What disadvantages do mutual funds have? How can you minimize the disadvantages of mutual funds while at the same time maximizing their advantages?

Mutual funds have their own separate benchmarks, which are noted in the *Wall Street Journal* each week and each month.

Learning Tools

The following Learning Tools may also be helpful as you prepare your Personal Financial Plan.

Possible Benchmarks for Investment Plans (LT15)
This document shows possible benchmarks for most of the major asset classes.

After-Tax, ETY, and Other After-Inflation Returns (LT26)
This spreadsheet calculates the after-tax return, equivalent taxable yield, and after-inflation return on various assets.

Using Morningstar to Select Funds (LT07)

This tool gives instructions on how to use Morningstar, a company that tracks mutual fund and financial asset performance. Using this tool and your criteria that you determined as to what makes a good fund, you can find mutual funds that match your criteria.

Mutual Fund Selection Worksheet (LT7B)
This worksheet lists the criteria for what makes a good mutual fund so you can compare various mutual fund within specific asset classes. If filled out correctly, it is a good tool to determine which mutual better meets your criteria and needs.

Review Materials

Terminology Review

12-b1 fees. These are fees paid by the shareholders to market the fund to other possible shareholders. These are just marketing fees. Avoid them.
Account Transfer Fees. These are charges for moving assets either into our out of an account.
Asset allocation funds. These are mutual funds which rotate asset classes among stocks, bonds, and cash for the best return. Asset allocation funds invest the fund's assets in the asset classes expected to perform the best over the coming period of time.
Balanced funds. These are mutual funds which purchases both stocks and bonds generally in a specific percentage or relationship, i.e. 60% stocks and 40% bonds. Their benefit is that they perform the asset allocation, stock selection, and rebalancing decision for the investor.
Bond mutual funds. Bond mutual funds are funds which invest a majority of their assets in bonds of specific types of companies or institutions. These funds generally have a specific objective, i.e. "corporate," "government", "municipals," "growth,", etc. which relates to the types of bonds the mutual fund invests in. In addition, most have a specific maturity objective as well, which relates to the average maturity of the bonds in the mutual fund's portfolio.
Capital gains. Capital gains are the best type of earnings as capital gains at the share level are not taxed until you sell your mutual fund shares. You decide when to taxed.
Closed-end mutual funds. These are mutual funds with a specific number of shares outstanding. Individuals must purchase shares from existing shareholders, and shares may trade at a premium to (more than) or discount (less than) the underlying Net Asset Value (NAV). These premiums or discounts may be based more on investor demand than the underlying share value.
Custody (or annual) fees. These are fees the brokerage house charges to hold the mutual funds or ETFs in your account. May be a minimum amount for small accounts ($15 per year), a specific charge per holding (8 basis points per security), or a percentage of assets for large accounts (25 basis points on assets under management).
Distributions (i.e., interest, dividends, realized capital gains, etc.). Distributions is a less attractive type of earnings. Even though you do not sell any mutual fund shares and most investors reinvest earnings, you are still liable to pay taxes on all distributions that your mutual fund makes during the year. Distributions are divided into 5 main types:

- **Short-term capital gains**. These are capital gains where the Fund has owned the assets for less than 366 days. These are taxed at your Federal and state "ordinary" or "Marginal Tax Rate (MTR)"
- **Long-term capital gains**. These are capital gains where the Fund has owned the assets for more than a year (366 days). These are taxed at rate dependent on your taxable

income.

- **Qualified stock dividends**. These are payment of cash to the Fund by the companies owned where the company owned the shares for a specific length of time. These are taxed at a preferential rate depending on your taxable income.
- **Ordinary (not-qualified) stock dividends**. These are payment of cash to the Fund by the companies who did not hold the stock for the required length of time. Taxes on ordinary or non-qualified stock dividends are at your Federal and state Marginal Tax Rate.
- **Bond interest and bond fund distributions**. These are taxed at your Federal and state Marginal Tax Rate.

Diversification. The process of risk reduction due to holding numerous securities that are diversified across sectors, asset classes and market capitalization.

Exchange traded funds (ETFs). These are portfolios of stocks similar to mutual funds which trade on organized exchanges. ETF's trade like stocks, are purchased with all the transaction/custody costs, are priced throughout the day (rather than at day's end like mutual funds), and can be sold short and purchased on margin. ETFs can be either in a unit investment trust (UIT) format or an open-end mutual fund structure. The UIT structure does not allow for reinvestment of dividends.

Hedge funds. Hedge funds are less-regulated mutual funds which take much more risk than normal with the expectation of much higher returns. Generally they can take both long positions (where they buy assets) and short positions (where they short-sell assets, i.e., borrow assets and sell them). They hope to later buy back the assets at a lower price before they must return them to the borrower.

Inactivity/Minimum balance fees. These are fees because you did not have account activity during the period or because you failed to keep a minimum balance in your account.

Index funds. Index funds are mutual funds designed to match the returns of a specific index or benchmark. Different Index funds may track many different benchmarks, including the S&P500 (Large-cap stocks), Russell 5000 (small-cap stocks), MSCI EAFE (international stocks), Barclay Aggregate (corporate bonds), DJ REIT (Real estate investment trusts), etc. Index funds are tax efficient since they do little in buying and selling of securities, and their goal is to match the return of their relative benchmarks.

Life-cycle funds. These are funds which change their allocation between stocks and bonds depending on investor age. As an investor ages, life cycle funds reduce their allocation to stocks and increase their allocation to bonds, more consistent with the goals and objectives of an older investor.

Loads. Loads are sales charges to compensate the sales force for selling the fund. Loads directly reduce the amount of money invested by the amount of the load. Loads can either be front-end or back-end, depending on when the mutual fund company takes out the load or sales charge. Generally, research has found that the performance of load funds and no-load funds is identical. When the sales charges are included, no-load funds significantly outperform load funds. (Matthew R. Morley, "Should You Carry a Load? A Comprehensive Analysis of Load and No-Load Mutual Fund Out-of-Sample Performance," Journal of Banking and Finance, vol. 27, nu. 7 (2003), pp. 1245-71.)

Management fees. These are fee charged by the advisor to a fund generally on the basis of a percentage of average assets under management, i.e. 75 basis points or .75% a year.

Minimum purchase amount. This is the minimum amount the mutual fund company will allow you to purchase in their funds to begin investing.

Money market mutual funds. Money market mutual funds are funds which invest the majority of their assets in short-term liquid financial instruments such as commercial paper and government treasury bills. Their goal is to obtain a higher return, after fees and expenses, than traditional bank savings or checking accounts.

Mutual fund returns. Mutual fund returns include distributions of dividends, capital gains, and interest, and any NAV appreciation. Your total return: (ending NAV–beginning NAV)+ distributions / beginning NAV. Mutual Fund after-tax returns is your return after all taxes are taken out. Mutual fund before-tax returns is your return before taxes.

Mutual fund supermarkets. Mutual fund supermarkets i.e., Fidelity Funds Network, Charles Schwab, or Jack White, allows you the benefits of the mutual fund company while you get access to a whole range of mutual fund companies (but not all of them). Mutual fund companies rebate part of their management fees back each month to the "mutual fund supermarkets" to have them included in their list of funds.

Mutual fund. It is a way of holding financial and real investments. It is an Investment company that pools money from investors to buy stocks, bonds, and other financial investments. Investors own a share of the fund proportionate to the amount of their investment divided by the total value of the fund.

Mutual fund share classes. These classes of shares vary depending on the loads and management fees paid. While there are differences in classes of shares among investment management companies which charge loads, they generally are:

- **Class A Shares**: These shares commonly have a front-end or back-end load to compensate for the sales person's commissions. Because of the front-end loads, they usually have lower management fees.
- **Class B Shares**: These shares commonly only have a back-end load that is paid only when the shares are sold. This load traditionally declines over time. Class B shares generally have higher expense ratios when compared to Class A shares.
- **Class C Shares**: These shares generally have a lower front- and back-end load fees, but higher management fees.
- **Class R Shares**: These shares are generally for retirement purposes. Check the loads and management fees which may be substantial.
- **No-Load Shares**: These are shares sold without a commission or sales charge. Generally, these shares are distributed directly by the investment management company, instead of going through a sales channel. They may have higher management fees to compensate for the lack of a front- or back-end load.
- **Class Y Shares**: These are shares with very high minimum investments, i.e., $500,000, but which have lower management fees and waived or limited load charges. These are generally for institutional investors.
- **Class Z Shares**: These are shares only available for employees of the fund management company.

New investor bias. New investors dilute the value of existing investor's shares. Since new money comes into the fund at Net Asset Value, and since this money must be invested (at roughly 0.5% on average in the U.S.), existing investors are subsidizing new investors coming into the fund

No-load mutual funds. Mutual funds that are sold without a sales charge and are redeemed without a charge as well.

Open-end mutual funds. These are mutual funds that can be purchased and sold each day at the fund's Net Asset Value, which is the fund's assets less liabilities, divided by the number of shares outstanding.

Stock mutual funds. These are stock mutual funds are funds which invest a majority of their

assets in common stocks of listed companies. These funds generally have a specific objective, i.e. "large-cap," "small-cap", "value," "growth,", etc. which relates to the types of stocks the mutual fund invests in.
Taxes on Distributions. These are taxes on your distributions which must be taken into account to get the true return of your portfolio but which are not noted on your monthly reports.
Total expense ratio. This is the total percentage of assets that are spent each year to manage the fund including management fee, overhead costs, and 12b-1 fees.
Transaction costs. These are costs of the fund buying and selling securities, which are not included in other costs. Mutual funds which turn over the portfolio often, i.e. buy and sell a lot, will have higher transactions costs. A good proxy for this is the turnover ratio.
Turnover ratio. This is a measure of trading activity during the period divided by the fund's average net assets. A turnover ratio of 50% means half the fund was bought and sold during the period. Turnover costs money and incurs taxes.
Types of Mutual funds. The types of mutual funds generally follow the major asset classes, i.e., money market, stock, and bond mutual funds.

Review Questions

1. What are mutual funds? Why are they suitable for the novice investor?
2. What are seven advantages of investing in mutual funds?
3. What are six disadvantages to investing in mutual funds?
4. What are the three major types of mutual funds?
5. What are the three different ways in which you can purchase a mutual fund?

Case Studies

Case Study 1

Data

Bill and Sally invested in five mutual funds. They are in the 25-percent federal and 7-percent state marginal tax brackets, and made $40,000 in taxable income. Based on taxable income, 2019 qualified stock dividends and long-term capital gains are taxed federally at 15 percent if your marginal tax rate is 25 percent). They are concerned to calculate their returns.

Calculations

A. Calculate the before-tax and after-tax returns on each of the funds in their portfolio for 2016 (from 12/31/15 – 12/31/16.
B. Calculate their overall portfolio before-tax and after-tax returns. Note that the first three funds are all taxable, the municipal bond fund is federal tax-free for interest only, and the Treasury bond fund is state tax-free for interest only.

Fund Name	Ending NAV	Beginning NAV	Short-term stributions	LT CGain & Qual. Div.	Short-term Cap. Gain	Weight in Portfolio
FIDELITY MAGELLAN FUND (FMAGX)	91.36	89.43	0.546	2.119	-	50%
SCHWAB SMALL-CAP INDEX-SEL (SWSS	28.1	24.1	0.391	0.762	-	10%
VANGUARD S/T BND INDX-INV (VBISX	10.43	10.43	0.146	0.001	0.001	20%
WFA MUNICIPAL BOND FUND-INV (SX	10.34	10.45	-	-	-	10%
VANGUARD SHRT TRM TREAS-INV (VFI	10.64	10.65	0.094	0.002	0.030	10%
For the period beginning 20151231 and ending 20161231						

Notes: ST = short-term distributions. For bond funds, these are interest and short-term capital gains; for stock funds, they are non-qualified dividends, interest, and short-term capital gains. LTCG Distr. = Long-term capital gains distributions. Qual. Stock Distr. = qualified stock dividend distributions. % Portfolio is the beginning weight of the assets in your portfolio. Remember, your overall portfolio return is your return of each asset multiplied by your beginning period weight. Bloomberg put LTCG and Qualified Dividends together.

To calculate the after-tax return from each asset, determine the amount of taxes you will pay on each type of earning. Since you have not sold the assets, the only taxes you will pay will be on the distributions you have received. Subtract out the taxes on distributions to give you the distributions you get to keep, and calculate your return.

$(NAV_{Ending} - NAV_{Beginning} + (Distributions * 1- tax rate)) / NAV_{Beginning}$

Remember that the tax benefits on municipal and Treasury bonds are only on the interest distributions. You still must pay all taxes on the capital gains distributions.

Federal Marginal Tax Rate	25.0%
State marginal Tax Rate	7.0%
Federal Tax on Qualified Dividends	15.0%
Federal LT Capital Gains Rate:	15.0%

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	Ending Net Asset Value (NAV)	Beginning Net Asset Value	Short-term Distr. (1)	Long-term Capital Gains Distr.(2)	Qualified Stock Distr. (3)	Short-term Capital Gains Distr. (4)	Percent of Portfolio (5)	Fund Return
Stock Funds (all taxable):								
Fidelity 500 Index	91.36	89.43	0.546	2.119			50%	5.14%
Tax Rate (all taxable)			0.320	0.220	0.220	0.320		
AT Return		1.93	0.371	1.653	-	-		4.42%
Schwab Small Cap	28.10	24.10	0.391	0.762			10%	21.38%
Tax Rate (all taxable)			0.320	0.220	0.220	0.320		
AT Return		4.00	0.266	0.594	-	-		20.17%
Bond Funds:								
Corporate Bond Funds (all taxable):								
Vanguard ST Bond	10.43	10.43	0.146	0.001	-	0.001	20%	1.42%
Tax Rate (all taxable)			0.320	0.220		0.320		
AT Return		-	0.099	0.001	-	0.001		0.97%
Muni Bond Funds (Federal Tax Free for Interest only (5)):								
WFA Muni Bond	10.34	10.45			-		10%	-1.05%
Tax Rate (Fed tax free)			0.070	0.220		0.070		
AT Return		(0.11)	-	-	-	-		-1.05%
Treasury Bond Funds (State Tax Free for Interest Only(5)):								
Vanguard ST T- Bond	10.64	10.65	0.094	0.002	-	0.030	10%	1.09%
Tax Rate (state tax free)			0.250	0.220		0.250		
AT Return		(0.01)	0.071	0.002	-	0.023		0.79%
Overall Portfolio Weight:								100.00%
Overall Portfolio Before Tax:								4.99%
Overall Portfolio After Tax:								4.39%
Notes:								

Case Study 1 Answers

To calculate the after-tax return on each asset, determine the amount of taxes you will pay on each type of earning. Since you have not sold the assets, the only taxes you will pay will be on distributions you have received. Subtract the amount of distribution taxes you must pay to find the amount of distributions you will get to keep, and calculate the amount of return you will get to keep after taxes.

Case Study 2

Data

Bill is concerned about turnover. He knows that the turnover rate for financial assets is a measure of the amount of trading activity completed during a year; the turnover rate is expressed as a percentage of the average amount of total assets in the fund. A turnover rate of 10 percent means that 10 percent of the average amount of total assets in the fund were bought and sold during the year. He also knows that a mutual fund investor must pay taxes on any distributions received during the year, including distributions the investor reinvests in additional shares. While high turnover may lead to higher returns, high turnover always leads to higher transaction costs as well as increased taxes if assets are held in taxable accounts. Bill's marginal tax rate is 35 percent, and he lives in a state that does not have a state income tax, so his short-term distributions will be taxed at 35 percent.

- The following information is for two of Bill's bond mutual funds:

Mutual Funds	Fund A	Fund B
Beginning NAV	$100.00	$10.00
Short-Term Distributions	$1.00	$0.90
Ending NAV	$109.00	$10.10

Calculations
- Calculate Bill's before-tax and after-tax returns on Fund A and Fund B.
- What would have changed had the mutual funds been stock mutual funds and the distributions been qualified stock dividend distributions instead of bond distributions?

Case Study 2 Answer

A. Bill's before tax and after-tax returns are:

	Fund A	Fund B
YTD Nominal Returns	10% (note 1)	10%
Estimated Turnover	10%	90%
Taxes on Short-Term Distributions	35%	35%
Taxes Paid (on Short-Term Distributions)	$.035	$0.315
After-Tax Return	9.65%	6.85%
Loss from Nominal Return Due to Taxes	0.35%	3.15%

To calculate Bill's before-tax return, the formula is (ending NAV + distributions – beginning NAV) / beginning NAV.

- Fund A: (109.00 + 1.00 – 100.00) / 100.00 = 10 percent
- Fund B: (10.10 + 0.90 – 10.00) / 10.00 = 10 percent

The formula for finding the after-tax return is:

(ending NAV + [(distributions – taxes paid) – beginning NAV]) / beginning NAV, or:

- Fund A: (109 + [(10 – 3.50) – 100]) / 100 = 9.65%
  - Bill pays $0.10 * .35 in taxes and keeps $0.10 * (1-.35).
- Fund B: (10.10 + [(0.90 – 0.315) – 10.00]) / 10.00 = 6.85%
  - Bill pays .90 * .35 in taxes and keeps .90 * (1-.35).

Regarding Fund A, Bill must pay 35 percent,, or $3.50, in taxes on a $10 distribution. Thus, his nominal return is 10 percent, his after-tax return is 9.65 percent, and he loses 0.35 percent to taxes.

Regarding Fund B, Bill must pay 35 percent, or 31.5 cents in taxes on a 90-cent distribution. Thus, his nominal return is 10 percent, but his after-tax return is 6.85 percent, and he loses 3.15 percent to taxes.

Although both funds have the same nominal return and the same tax rate, Fund B's return is 29-percent lower because of taxes related to higher turnover. Clearly, understanding taxes is very important. Know your tax-rate on each type of earnings.

B. If the distributions would have been qualified stock dividend distributions instead of short-term distributions, instead of paying taxes at 35 percent, which is Bill's ordinary income rate, he would pay a preferential tax rate of only 15 percent for both Fund A and Fund B.

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[1] John Bogle, *Common Sense on Mutual Funds: New Imperative for the Intelligent Investor*, John Wiley & Sons, USA, 1999, p. 119.

[2] Rich Fortin and Stuart Michelson, "Indexing Versus Active Mutual Fund Management," *Journal of Financial Planning*, vol. 15, no. 9, 2002, 82.

[3] S&P SPIVA Scorecard Year-end 2018, *S&P Research*, 2019.

[4] Matthew R. Morey, "Should You Carry the Load? A Comprehensive Analysis of Load and No-Load Mutual Fund Out-of-Sample Performance," *Journal of Banking & Finance*, vol. 27, no. 7, 2003, 1245–7.

[5] Matthew R. Morley, "Should You Carry the Load? A Comprehensive Analysis of Load and No-Load Mutual Fund Out-of-Sample Performance," *Journal of Banking and Finance*, vol. 27, no. 7 2003, 1245–71.