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Ronald A. Francisco

Finance for Academics

A Guide to Investment for Income

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A Guide to Investment for Income

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For Benjamin

Preface

I first learned about finance in 1975 when Professor Allan J. Cigler told me to buy utility stocks because for the next 2 years their dividends would be tax free. I did, and am forever thankful to him for getting me interested in finance and investment. Professor Cigler played another large role about 8 years ago when he came to my office and told me that our assistant professors thought they would be getting a pension from the university. "Oh, dear" said I, "what shall we do?" He suggested writing something that would correct the assistant professors' views on retirement finance. I asked whether he wanted to do it or if he wanted me to write this document. He was busy at the time, so I started writing Finance for Academics and distributing it to my colleagues. It was not long before the document grew in size and more academics sought it. These were academics from all over, not only from my university, but from many others as well.

Over the years Finance for Academics began to spread beyond the academic community. I found out this year that it surfaced in Florida in an investment class run by an economist from the International Monetary Fund. Finance for Academics was the text for this class. That alarmed me. I decided then that I would put the document on my website and thought perhaps I should expand it to provide better and more thorough explanations. The result is this book.

I have tried to render the arcane world of finance somewhat simpler to a sophisticated audience. Finance and investment have grown ever more complicated with new sorts of investments and derivatives of old ones. Some of the most successful investors are mathematicians who can understand more easily the high level of mathematics that is today applied to investments. I have attempted to tone down the mathematics, but still show how some of the more important formulae work.

TIAA–CREF is the principal retirement entity for most of us. I am somewhat hard on TIAA–CREF in several chapters, in part because the institution is more opaque than it needs to be and because performance sometimes suffer. Nonetheless, we are lucky to have TIAA–CREF as a retirement income source. We just have to deal with it more carefully to protect our interests.

I am grateful to my wife Deborah for putting up with this interest for many decades and to our son, Christopher, a mathematician, who has helped by explaining the mathematics behind many a financial equation or formula to me.

Lawrence, KS, USA Ronald A. Francisco

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Chapter 1
Introduction

Where will your income arise when you no longer teach, research, or perform service? This is a fundamental question and the answer will form most of this volume. In one way, academics are better off now than their corporate counterparts. You may have heard about private firms reducing their pension benefits. From 1983 to 2007, corporate pensions fell from 62% of the workforce to 17%. Since then pensions have almost disappeared or have been frozen. Of the forty-four million workers with retirement accounts, fewer than half still accrue benefits (Greenhouse 2008). Why has this occurred? Corporate leaders realized that they could replace pensions with 401(k)s and save a great deal of money.

The pensions that have been cut are "defined-benefit" pensions. Most academics have never enjoyed the luxury (yes, luxury) of a defined-benefit pension. We and 70% of the private workforce now have "defined-contribution" retirement benefits. This means that one relies almost entirely on one's own savings and investments. We are fortunate to have TIAA–CREF as a central retirement agency. But as we will see, TIAA–CREF should not be your only source of retirement funds. Our retirement rests on the foundation of capital that is contributed throughout an employee's working life. What many academics do not understand is that they must contribute capital themselves if they wish to secure a comfortable life in retirement. You will live on what you accumulate, albeit with a little help from your university and defined-benefit social security.

Professors have paved the way in this new world that private employees now face. Still, we have a severe disadvantage: many private sector employees have a higher salary than ours, and they sometimes (but less frequently) get more generous matching contributions from their employers. Many universities subsidize TIAA–CREF for professors, but it is still up to us to make sure that we have sufficient funds to retire.

So how much is enough capital? More than you probably think. Several years ago Charles Schwab was asked precisely this question. His response: given inflation, everyone should strive for a retirement income of at least $100,000. Therefore, the

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minimum retirement capital level you should attempt to achieve is $2 million in financial assets, i.e., not counting your house. Why $2 million? Because 5% of it equals $100,000. Pension actuaries say one must have ten times one's net salary for retirement, but that sum will not be appreciably less. William Bernstein maintains that $2.5 million is perfectly safe; $1.67 million is fairly secure; $1.25 million means that one is taking chances (Bernstein 2010).

It is not easy to get 5%, but cheer up. We will show you how to increase your capital and defeat inflation. Here is immediate cheer: assume a household with one earner. Social Security should provide about $24,000 and in a form indexed for inflation. So you only need $76,000 in income beyond Social Security. A little proportional algebra shows how much you might need.

$$\frac{2{,}000{,}000}{100{,}000} = \frac{x}{76{,}000}$$

x = $1,520,000. If you are in a two-person household and the Social Security sum for both is $44,000, then you need only to attempt to reach $1,120,000. Better already!

Our goal in this volume is to introduce finance and investment for income. We focus on individuals. Finance is an arcane subject; no one understands it fully. It is in this sense like the tax code. Finance can be highly mathematical, extremely complicated, and the variety of choices is dazzling. Yet on another level finance and investment are easy to comprehend and can be enjoyable. Our emphasis is on this second view. Because our subject is income, our boundaries are constricted to an extent. We will have to introduce some computation, we will have to sort through choices for investors, and we will navigate through laws and rules that limit investment. Investors wish there were more laws and rules that regulated Wall Street and the financial industry. Most of the rules we deal with in this volume are related to taxes.

1.1 The Organization of the Book

1.1.1 Risks

The book is organized into eight chapters beyond this introduction. We venture first into the minefield of risk. It is better to know the pitfalls that lurk in the world of finance and investment than to plunge ahead without hesitation. We will introduce economic, market, inflation, corruption, high fees, sector risks, and lethargy as factors that one needs to confront and control to the extent possible.

1.1.2 Forms of Investments

We venture next into instruments of investment. We will argue that most individuals are better off staying long, i.e., owning stocks, bond funds, and perhaps master limited partnerships (MLPs) rather than royalty trusts, real estate investment trusts, and commodities. Dangers hide in many other types of investment. Options are supposed to protect investors from risks, and they can serve as a form of insurance. But options are complicated as most are never exercised, so the money spent on them serves no purpose other than a form of insurance. Wall Street continuously innovates and creates new investment forms. These tend to be dangerous even though they look tempting. They are characterized by high fees and murky identification. Because this volume is written for academics, we will explore TIAA–CREF in this chapter as well as many other chapters.

1.1.3 Dividend-Growth Stocks

Our fourth chapter focuses on dividend-growth stocks. These investments have many advantages: (1) they mitigate the serious risk of inflation; (2) once purchased, they cost nothing to maintain or to achieve dividend reinvestment; (3) historically, when markets have fallen, they have not declined as much as non-dividend paying stocks; (4) Jeremy Siegel argues that the only way an investor can know if a firm actually increases earnings is to see dividend increases; thus, the measures of earnings are suspect unless you see increased dividends. We contrast dividend-growth stocks with mutual funds, index funds, and exchange-traded funds (ETFs). Our findings lead to a preference for dividend-growth stocks as cheaper and better than these alternatives if one's goal is income.

1.1.4 Bonds and Bond Funds

Although we favor individual stocks, we recommend bond funds. Why? Because of the difficulties of researching, owning, and managing individual bonds. It is much more difficult to find acceptable bonds than to find appropriate stocks. Other problems include "laddering" (making sure that income is generated each month and staggering each bond's maturity and call function; see Chap. 5). We especially like closed-end bonds. These can be purchased on an exchange just like stocks, and like stocks, they have a finite number of shares. Open-end bond funds (and in general mutual funds) generally have lower yields. Many closed-end bond funds pay special dividends at the end of the year, a welcome additional bonus. See Chap. 5 for a full exploration of these issues.

1.1.5 Master Limited Partnerships

MLPs are somewhat strange investments, but they can serve an important role in an income portfolio. Their advantage is the provision of tax-free income at both the federal and state levels. Income from MLPs is tax free because it is designated "return of capital." Thus, if one invested $10,000 in an MLP, one would receive tax-free distributions until the total of the payouts reaches $10,000. After that the distributions are taxable. We focus on how these investments arose and how they function differently from stocks and bonds. We also explain how they can complicate taxes despite the tax-free status that most investors are eligible to enjoy.

1.1.6 Build Your Own Portfolio

This chapter tackles modern portfolio theory or asset allocation. Economists have determined that over 90% of total investment return is related to the asset classes an investor chooses. Originally a highly mathematical item, asset allocation is now well understood and mostly involves the choice of a proportion of stocks and bonds as well as, in some cases, alternative investments. We recommend the classical pension fund allocation of 60% dividend-growth stocks and 40% bond funds. We present many model portfolios designed by experts in the field and I offer one of my own.

1.1.7 Retirement Income

We give retirement income its due as a wholly separate topic. It plays a crucial role in life-long investment decisions. In addition, the amount of capital one has upon retirement can have serious impact upon frugality, the ability to continue investing, and the potential for future sustained income. Pension income, like bond income, is fixed. As a consequence, retirement portfolios should have a large proportion of dividend-growth stocks in order to mitigate the effects of almost certain inflation. The chapter takes up the choices available to retirees who have various levels of capital at their disposal.

1.1.8 What Can Go Wrong? Troubleshooting Investments

Our final chapter reprises the risks discussed in Chap. 2. We have just completed a decade in which the stock market fell more per year than in all of history, i.e., since markets began in 1830. It is most certainly the worst period after the 1930s. The credit crisis that arose in 2008 has still not diminished in its effect. European debt crises, continuing erosion in real estate prices, and the worldwide decline in tax revenue at all levels of governments are three important legacies that challenge us today. We show how to react to these problems. One option is to preserve capital, but this choice limits income. The alternative is to try to maximize income and let capital levels vary substantially.

1.2 Principles

Four principles guide us on our tour of finance for income.

1.2.1 Maximize Income

Our first principle is to maximize income. Clearly, more is better, but we also stress accumulating income that is protected from erosion due to fees and/or taxes.

1.2.2 Minimize Fees

Fees can eat large chunks of your investment capital. Especially egregious are “loads” or sales charges that amount to as much as 5% of an investment. Avoid loads whenever possible by seeking other investments. Dividend-growth stocks have no fees after their initial purchase, although one must often pay commissions to buy or sell. Bond funds have fees, but we show you how to preserve yields on bond funds and how to make fees more or less irrelevant. We caution against many investments in which brokers and mutual funds capture unacceptably large investment capital for themselves.

1.2.3 Legally Minimize Taxes

This principle can be affected by legislation that is not within our power to control. Nonetheless, we favor Roth IRAs, municipal bond income, MLP tax-free distributions, and more specialized entities such as Roth 401(k)s and 403(b)s.

1.2.4 Reinvest Dividends

Reinvesting dividends unleashes the power of compounding. This is an easy way to increase capital levels that in turn generate more income in retirement. As the number of shares increases, income rises. When the shares are dividend-growth stocks, the effect is multiplied. The prudent strategy, then, is to reinvest all investment-generated income before one retires and to use the enhanced income after one retires.

1.3 How Do I Start?

No one should invest or substantially shift an existing portfolio without understanding the risks involved. So be sure to read Chap. 2 on risk before taking any action. Then, if you accept that stocks and bond funds are good for income, you can gain a preview of what is possible in investment by going to Yahoo! website, click on “finance,” and then put in the trade symbols of these closed-end bond funds: (1) PMX (a national municipal bond fund); (2) PKO (a global bond fund); (3) PCM (a mortgage bond fund) and (4) PTY and WEA (investment-grade bond funds). Then look at the following firms by putting in the trade symbols, then clicking “historical prices,” then “dividends only” and finally “get prices”: (1) McDonald’s (MCD); (2) Procter & Gamble (PG); (3) Raven Industries (RAVN); and (4) Yum! Brands (YUM). This will give you an idea of what is possible and what is yet to come in this volume. We provide information about brokerage firms and attempt to evaluate whether equity (or stock) mutual funds are worth the costs they impose.

1.4 Let’s Begin

Throughout the volume we weave in the above-mentioned principles. They play a role even in risk. Certainly they are major players in dividend-growth stocks, bond funds, and MLPs. We will combine the four principles as we explore the world of finance and investment for income.

Chapter 2
Risks

In finance and investment, risk is the likelihood of losing money. Warren Buffett, one of the most successful investors in history, claims he lives by two principles: (1) do not lose money; and (2) do not forget the first principle. Unfortunately, this is easier said than done. Many dangers confront investors. We will discuss the most serious of them so that everyone understands at the outset that investment is not a totally benign activity. We begin our tour of risk with economic risk.

2.1 Economic Risk

Investors are generally well served by an economy that simply hums along. During bad times, inflation and high interest rates cut bond prices. And depressed conditions can hurt stock prices, curtail company profits, and trigger a cascade of damage. A tragic example, the great depression of the 1930s, comes to mind. The cause: "margin debt" on stocks. Margin debt occurs when investors pay only a portion of a stock's price from their own pockets and borrow the rest from brokerages. In 1929 as stocks declined, this debt became unpayable.

More recently our current depressed economy began its downward slope in 2007. Investment banks securitized mortgage debt by aggregating thousands of mortgages into bonds. This period, too, has seen market price declines and high unemployment. Although firms have record amounts of available cash, they have refrained from investing in new equipment or new employees because they are wary of the economy. In a June 2011 survey by TD Ameritrade, 55% of baby boomers said they would retire later than they had originally planned and 17% said they needed to support their adult children or other relatives (*Enlightened Investor*, Fall 2011). As far as individual investors are concerned, during these challenging times, one must safeguard one's resources. Buy safe bond funds and buy stocks of firms that do well in difficult economies, e.g., Wal-Mart and McDonalds are two financially healthy choices.

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2.2 Market Risk

In the first 10 years of the twenty-first century, the stock market declined dramatically more than in any decade since equity and bond trading began in 1830 under the buttonwood tree in New York City. The market was down 0.5% per year. In contrast, during the great depression of the 1930s it was down only 0.33% per year. It declined 90% by 1932, and then the market collapsed again in the late–1930s. By late–1936, John Maynard Keynes had a total British nest egg of 506,222 British pounds invested; 2 years later that money was worth only 181,244 British pounds (Sidelsky 2000). Here at home in 2007–2008, almost all asset classes declined by at least 50%. The only sector that did not erode was Treasury bills, notes and bonds. The reason? Investors regard Treasury securities as a safe haven (Kansas 2009).

Market risk is the danger that the investment sectors, including stocks, bonds, and mortgage-linked bonds will fall precipitously. Simply the possibility of this occurring erodes net worth, resulting in less capital and therefore less flexibility in investment. No one, other than the strange breed of short sellers, likes market crashes. As one might assume, different assets have different risk levels. Following is a list of assets that William Bernstein ranked from least to highest risk: (1) Treasury bills; (2) 5-Year Treasury notes; (3) 20-Year Treasury Bonds; (4) Large capital stocks; and (5) small-capital stocks (Bernstein 2001).

Another way to judge market risk is the standard deviation, or volatility, of various asset classes. The standard deviation during the twentieth century of the Standard and Poor's 500 is 14.5; small caps are at 20.68; large caps deviate at 16.94; emerging markets are 24.29; and 5-Year Treasuries are lowest, at 4.16 (Bernstein 2010). TIAA–CREF matches the market closely. In the last 10 years, this has not been a happy trend, but perhaps it is all that we can expect in this market.

Jeremy Siegel, professor at the Wharton School at the University of Pennsylvania, warns against what he calls the "growth trap" (Siegel 2005). Growth sectors shift fairly frequently, and when this happens, growth stocks are less likely to pay dividends or to raise them. For an income investor, growth engenders dangers without much positive potential. Growth is especially perilous if a competitor develops a better, cheaper product. Take a look at research in motion (RIM). This company successfully developed hand-held electronic devices. Yet it has been eclipsed not by new electronics firms, but by those that market cell-phones.

Another, quite modern problem confounds us. Wall Street successfully uses mathematical models and has done so for decades. Unfortunately, the 2008 collapse resulted as much from the misuse of these models as from the toxic assets that investment banks generated. No one can predict the future, but there is hope that modelers and users of these models will be more cautious in the future (Freedman 2011, pp. 77–79). Related to the mathematical risk is the nagging worry of unscrupulous brokers and their jaded advice. Brokers are not required to have your interests paramount in the advice they give you (Ajamie 2010; Derman 2011).

What can one do about market risk? First one can refuse to play Wall Street games; money market funds are good, solid choices for the more cautious among us. However, today's low yields offer money market investors little income. But one has a second alternative: one can buy dividend-paying and dividend-growth stocks (see Chap. 4). It has been proven historically that dividend-paying and dividend-growth stocks do not decline as much as those stocks devoid of dividends. Another possible choice is bond funds. These are reasonable because their yields rise when their market prices decline, and usually they experience no diminution of income during price reductions (see Chaps. 5 and 7).

2.3 Inflation

Inflation has been a menace both in historical and in contemporary times. Inflation destroyed the German middle class in 1923–1924, and has had devastating effects on Latin America. With fiscal affairs in disarray and large public debts hounding most countries, inflation becomes highly probable. Let us hope we can elude hyperinflation; that erodes all capital and savings and it often wipes out the middle class. But what do we do if inflation persists at 4% or 5%? One obvious remedy to this problem is to find dividend growth that exceeds 5% (see Chap. 4). Investors could also search for bond funds paying more than 5% and providing special dividends each year (see Chap. 5). This is possible, especially absent recessionary conditions. Most central banks are adept at steering their economies away from severe recessions while experiencing moderate inflation. So we will show how to minimize the risk of inflation for income, even retirement income.

Here we apply one of the mathematical formulae investors often use. This handy device, called the Rule of 72, yields the time it takes for a growth rate to double the quantity it represents. Here we apply it to the inflation rate. Since we all have calculators available, we will use the more precise form, which we call the rule of 69.3.[1] One simply divides 69.3 by a rate of increase. This rule tells us that 4% inflation means that prices double in a bit over 17 years. Five percent inflation causes a doubling of prices in 13 years, and 7% inflation doubles prices in less than 10 years. At this point we can share an open secret. You may be aware that our federal government publishes all manner of facts and directives based on the consumer price index (CPI). But did you know that in calculating the CPI the government deliberately and routinely underestimates inflation. This helps the government, but where does it leave us? Most consumers suffer from a higher rate of price hikes. Think about recent food price rises and the volatility of gasoline prices.

Inflation is a constant, nagging risk. Recent tumultuous markets mean inflation is possible, but not for the reason you think. Inflation is especially likely because of seigniorage, which literally means "lord of the realm." In practice it implies that a government carrying a lot of debt will allow a certain amount of inflation in order to pay off its obligations more easily. Inflation helps long-term borrowers, such as mortgage holders, but it is dreadful for retirees living on fixed income.

[1] This is because it is based on the natural log of 2, $\ln 2 = 0.6931$ To find out how long it takes for something to triple, use 110, which is based on $\ln 3 = 1.0986$.

2.4 Corruption

We often blame governments for corrupt practices, and local governments receive a good share of the blame. They are easy scapegoats. But corruption also exists in companies. Usually it is kept quiet except when rogue traders working for banks or brokerages lose huge sums of money. Unpublicized corruption in the private sector should concern investors most. A corrupt vice-president can cause almost any firm to collapse. Unfortunately, most investors do not find out about this until it is too late (Cruver 2002).

What can one do about unseen dangers such as this? Invest in the stock of large, multinational firms with good leadership and management control. The smaller a company is, the more easily it can be brought down. Think about this if you consider investing in small capitalization firms.

2.5 High Fees

High fees are part of Wall Street. Brokers, certified financial planners, certified financial advisers, mutual funds, and even exchange-traded funds get away with setting egregious fees (Stewart 1992). Not all Wall Street firms do, but most charge high fees (Augar 2005; Lefevre 1984). In addition, investors should beware of and try to avoid loads (or initial-investment fees). A load of 5% means only 95% of one's capital is actually invested in the market. The remainder of the investor's capital transfers to whomever is "helping" you. If the load is 5%, then chances are good that one pays even more in a monthly or annual charge. But even a 2% fee represents substantial deviation of capital and income. That amount is always deducted not only from investment capital, but also from the income one receives!

The reasonable fees TIAA–CREF charges are still higher than Vanguard's. Be proactive about this. Approach one's governing board or board of regents and ask if the university can acquire institutional fees at TIAA–CREF. Although TIAA–CREF fees are not high by commercial standards, institutional fees are substantially lower. And the lower the fee, the more capital that works for the investor; and more capital, of course, translates to potentially more income. Normally TIAA–CREF will not agree to institutional fees in its mandatory plan; however, it will allow them in voluntary plans, i.e., 403(b)s.

How does one avoid high fees? Do not deal directly with Wall Street. Use an electronic, discount brokerage. If you invest in mutual funds, buy no-load funds only. Many electronic brokerages offer incentives in which new customers enjoy free trading for a period of time. Some banks, such as Wells Fargo, allow customers with at least $25,000 in deposits a generous number of free trades. Take advantage of these free trading opportunities. Just make sure you do not trade so frequently that you lose the long-term advantage of investing. Instead of churning your investments, you should choose good companies and build up your position over time.

2.6 The Next New Thing

We revel in new technology, and these days we find much to celebrate. But young technology firms usually need high infusions of capital. Therefore, they typically do not pay dividends until the business matures, e.g., Intel and Microsoft. Income investors should eschew embryonic firms or the indexes that include them, and instead, look for established, profit-making companies. And don't forget, bonds are an important component of any income portfolio.

2.7 Currency Risk

Currency risk used to be of concern only to the few investors who purchased foreign stocks or bonds. Consider the following example: An investor loaded up on Japanese stock in the late-1980s. Then a severe economic crisis descended causing the yen to decline by 40%. This unfortunate drop translated to a zero net gain for our beleaguered investor. The stocks purchased gained 40% in the first few years, but that matched the yen's decline. The difficulty is that as the economy has globalized, the currency problem has become universal. Now, when the US dollar rises, US stocks decline. Why? What is happening here? It's actually quite straightforward. If the US dollar climbs, so does the cost of US goods. This hurts US exports and ultimately companies' profits. Europe's debt problems, especially in the seventeen-country Euro zone, depressed equity prices for most of 2010 and 2011. So, why do their problems affect the USA? The European area has a large population of relatively affluent consumers who purchase great quantities of goods from the USA and Japan. When those customers feel financially pinched, they reduce purchases causing firms to falter.

The situation has now become a race to the bottom. Almost all finance ministers want their currencies to be low in order to foster exports. Switzerland, whose franc rose a great deal, became so frustrated by drooping sales that they linked the franc to the EU's Euro. This caused the franc to decline in value, thus enabling more exports at lower prices. In today's global market, no one wants an expensive currency. What can an investor do about this? Buy stock in large, multinational companies that have dealt with currency problems since 1971, when the USA left the gold standard and currencies "floated." The chief financial officers of these firms have experience handling currency fluctuations. You might look at Johnson & Johnson (JNJ), McDonald's (MCD), Procter & Gamble (PG), Walgreens (WAG), Wal-Mart (WMT), and Siemens (SI). Alternatively, US investors could turn to firms such as domestic utilities, because they are not affected as much by currency risks (see Chap. 4).

2.8 Lethargy

Could inertia and lethargy possibly present serious financial risks? Absolutely, because the earlier one begins to invest, and the more compounding works favorably. Generating $1,000 in retirement income requires investing $4,500 at age 45, $7,700 at age 50, and $37,200 at age 60. Fifty-six percent of those born between 1965 and 1976 have increased their spending while ceasing to save. The same is true of 48% of those adults born after 1976 (*Enlightened Investor*, Fall 2011). By virtue of lower capital infusions one would be much better off if investing began right away. In fact, the sooner, the better!

Chapter 3
Forms of Investment

We survey here the types of investment that are available to individuals. There are many, but by end of our tour, I hope to convince you that stocks and bonds are the optimal choices for income. Complicated investments tend to have high fees and much higher risk profiles. We'll start with stocks and bonds and then show you other, less wonderful options.

3.1 Stocks

Stocks come in two flavors: (1) common; and (2) preferred. Common stocks give an investor partial ownership of a firm. The more stock one has, the more of the company one owns. Preferred stock is safer than common stock because after bankruptcy it is higher in the court's pecking order, coming after bonds. In a bankruptcy proceeding, bond holders are paid first, then preferred stockholders, and only then common stockholders. Preferred stock is very much like a bond because it has a constant, fixed dividend. I generally like common stock for its dividend increases, but we can find closed-end preferred stock funds that serve well for fixed-income investors. Stocks also have a marvelous property in terms of the principles that guide this volume: once purchased, they are by far the cheapest investments to own or maintain. You must pay monthly fees to mutual funds, but stocks cost nothing on a continuous basis. If you hold a stock for 40 years, you pay nothing on the stock during those 40 years, whereas you pay monthly fees to mutual funds. Usually stock purchases are made through a brokerage; now most people use electronic brokerages where fees are low and investor services high.

Stocks, especially those that pay dividends, are good investments. Stocks whose dividends increase every year are even better investments. Why? First, they cost nothing to maintain, so they fit the low-fee rule. Second, they are an antidote to the risk of inflation. Third, increasing dividends signal increased profits. Unlike the "earnings" estimates that can easily be manipulated by company officials, rising dividends create one of the best measures to determine that a firm is healthy and

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doing well. How do we find these stocks? Lists of them are available (see websites in Chap. 4). Since few have raised dividends for, say, 25 years, the list of them is relatively small, but large enough to sample.

3.1.1 Direct Stock Purchase

It is possible to buy stocks directly from the firm, i.e., not at a brokerage. This is the absolutely cheapest way to make purchases. Now, almost all companies use transfer agents for direct stock purchases. Transfer agents are firms that specialize in shareholder services on behalf of many different companies. Kellogg (K) imposes a $10 fee to start accumulating shares. The company uses Shareholder Services, Inc. in Saint Paul, MN to run its direct stock purchase program. And while there are no fees for buying, shareholders must pay a commission to sell. Many corporations charge nothing to buy stock or to reinvest dividends. Only buy shares directly from the corporation if you know that the cost is zero, or least nominal. This is usually called a dividend-reinvestment program or its acronym, DRIP (Carlson 1996). Several direct stock purchases now impose fees. In this case, use an electronic brokerage.

3.1.2 Avoid Penny Stocks

Recently, Astor Investments in Austin, Texas, sent me an unsolicited DVD entitled “The End of the U.S. Dollar.” It favored buying not just gold, but a particular gold mine stock, Sagebrush. I looked up Sagebrush (SAGE) and found that I could buy it for 60 cents per share. I did not, because any stock below $1 (some say below $5) is called a penny stock. These are the least stable, most risky stocks on the market. They almost never pay dividends, are short of capital, and they frequently fail. I do not recommend investing in penny stocks.

3.1.3 Stock Purchase with a Brokerage

Before the mid-1970s all brokerage commissions were regulated and were identical. It did not matter where anyone bought stock. Investors had to pay high commissions and pay more to buy more shares of stock. These commissions were de-regulated, yet many people still pay egregious sums to full-service brokerages, e.g., Merrill-Lynch or Smith Barney. Trading at high-fee brokerages is completely unwarranted and in my opinion, fool hardy. Why not take advantage of the numerous discount electronic brokerages that provide a full array of necessary services? How to choose an electronic brokerage? Explore and investigate thoroughly. The key is to minimize fees and maximize benefits. The only way to do this is to work with online discount brokerages, such as E-Trade, Scottrade, and TD Ameritrade (see Chap. 4 for more on discount brokerages).

3.1.4 Equity Mutual Funds, Index and Exchange-Traded Equity Funds

Most people invest in actively managed mutual funds, in other words, funds in which professional managers choose stocks. These funds are costly and in every quarter almost all of them perform worse than index funds. It is well known in finance that actively managed stock mutual funds over time do not beat market averages (e.g., the Dow Jones Industrial Average or the Standard and Poor's 500 average (S&P 500)). It is important to note here that mutual funds gather fees based on their total assets, not their performance. In a typical year, 75% of managed mutual funds fail to do as well as the S&P 500 average. If the same 25% always performed better, we would buy those, but the 25% that beat the indexes shift every quarter. Five-star Morningstar-rated funds do much worse once they acquire the stellar rating. One is much better off buying mutual funds that match the market (e.g., Vanguard's Total Stock Market Fund) than trying to score gains with actively managed funds. Index funds are good investments, at least if you establish them at Vanguard or Fidelity. But as we have often pointed out, they are difficult entities from which to extract income. The challenge here as well is how to turn these funds into income at retirement.

Most index equity funds and exchange-traded equity funds (ETFs) pay dividends only twice a year, and the dividend payments are always of different amounts. In other words, dividends from these funds are seldom and various. Most people prefer income to be often and certain.

Very popular these days are exchange-traded funds (ETFs). Many brokerages offer these without charging fees. Still I am not fond of them. Sometimes fees are camouflaged; often investors are unaware of the charges and that the money goes directly into the pockets of the ETF provider and managers. A few ETFs, like MDY, the mid-cap index (neither small nor large firms), are good investments, but on the whole an income investor needs to view them with skepticism. They are mutual funds in a different form.

A recent entry in the mutual fund mix is age-based retirement funds. The idea here is that one buys the fund when young; this is when the fund has more stock than bonds. Over time the mix changes. This sounds wonderful, but it can be expensive, and as a group, age-based funds have not done well since 2000.

3.1.5 Closed-End Equity Funds and Preferred Stock

Almost unknown beyond Wall Street are closed-end equity funds. Available for purchase only at a brokerage, these funds have a finite number of shares, much like a stock. Check a weekly copy of *Barron's* or the Monday *Wall Street Journal* for lists of these funds. They tend to be highly specialized, e.g., in utilities or health care. I do not buy these, but they can be better than ETFs. Research and become knowledgeable about what you are buying. Because these are mutual funds, they assess fees on a regular basis.

You might investigate and consider preferred stock funds. These contain preferred stock, instruments that are more like bonds. In cases of bankruptcy courts rank preferred stock just after bonds, but above common stock. Preferred stock dividends do not change, i.e., they remain static, and again like a bond, inflation is always a clear and present danger. Dividend growth is an antidote to inflation.

3.1.6 The Efficient Market Theory

The dominant theory in quantitative finance is the efficient market hypothesis, most closely associated with economists Eugene Fama and Kenneth French. This theory holds that most information about stocks is known by sufficient numbers of investors and that stock prices are always at the level of knowledge. New information can change stock prices, but they are generally at the right level. A direct consequence of this view is that people should purchase low-cost index funds. Why? Because these funds hold not only numerous stocks, but also a great variety of them. This allows for diversification that spreads risk widely. Usually, this makes sense. However, consider the period from 2007 to April 2009, when almost all asset classes declined markedly. Nothing, not even diversification, helped stem the fall.

What should an individual investor do? We find a clue from a mutual fund company, Dimensional Fund Advisers, set up by Eugene Fama, Kenneth French, and Robert Merton (Bernstein 2002). An individual can access this fund only though a financial planner or certified adviser. Such carefully controlled access automatically translates to high fees. Dimensional Fund Advisers creates indexes by purchasing individual stocks, but not just any stock. These economists are highly selective, and the stocks that make the grade are almost always profitable and feature increasing earnings. We can infer from this that it is possible to find good stocks if one focuses on certain characteristics. Many of us are interested in corporations that raise their dividends each year. Known as dividend-growth stocks, these are a wholly different class of investment. They are easily and well identified, and, as we have noted, once purchased they are cheap to maintain.

3.1.7 *Value Beats Growth*

There are two main avenues to successful investment. The first is growth, which tries to generate capital gain through highly profitable firms. Growth investors historically cared little about dividends, although this has changed since the late-1990s (Miller 1999). The second means to investment is through what we call value. Value investors try to find bargains in the stock market; these investors care a great deal about dividends (Graham 1934, 2003; Browne 2007). Academic research has found that value has beaten growth in almost all eras and stock sectors (Bernstein 2001). Our recommendations in this volume are in the value mode. Income investors, seeing little advantage in capital gains, are after rent. Indeed, economists dub income investors “rent seekers.” Doesn’t it make sense that someone who uses your capital should pay for the privilege of using it? You are entitled to receive rent for your invested property.

3.2 Bonds and Bond Funds

Bonds are designed to be an income source, so we will introduce them here and go into greater depth in Chap. 5. Bonds generally pay interest every six months with the principal returned at the term’s end. It is certainly possible to buy individual bonds, but I do not recommend this. You will pay expensive commissions while trying to build sufficient income. Furthermore, you will be doing so without the technical expertise of professional bond managers.

3.2.1 *Individual Bonds or Bond Funds?*

The problem with buying individual bonds is multifaceted, but essentially it boils down to spreading out income. In order to secure a relatively evenly distributed monthly income, one must “ladder” bonds for both monthly income and maturity diversity. This means that an investor must structure bond purchases such that payouts occur at desired short-term intervals, usually monthly and continuing as an income stream in the future. In theory this means acquiring a minimum of six individual bonds; in practice, however, it translates to purchasing many more if maturity goals are to be realized. The cost and trouble of this intricate management has led me to recommend buying bond funds, either at a mutual fund (watch out for fees) or a closed-end bond fund, preferably investment grade. Tax-free bond funds for specific states are also available. Some investors find “high yield” bond funds attractive. But since these offer mostly risky bonds (rated by agencies in New York at below investment grade, below BBB), so I do not recommend them.

Why bond funds but not stock funds? The reason I favor bond funds is twofold: (1) the difficulty of researching individual bonds; and (2) the challenges of dealing with the problems of laddering and "calls" (see Chap. 5). Because bonds are fixed-income investments and easy for bond managers to evaluate, bond funds make sense. Stocks are more difficult to choose. But I advise only dividend-growth stocks; the universe of them is smaller and they are accessible to the individual investor.

3.2.2 *Forms of Bonds and Bond Funds*

Bonds come in many guises. Corporate bonds stem from companies that borrow money for capital improvements. Government bonds issue from every level of a state or country, at least those that are federal in structure. Bonds offered by states and cities are tax-exempt federally as well as within the state if the investor resides in the state. Bonds from US possessions, e.g., Puerto Rico or Guam are tax-exempt in all states. At the national or federal level governments issue bonds for fiscal coverage or for special projects. We also find fixed-income investment firms offer mortgage bonds as do governments, e.g., Ginnie Mae, or by fixed-income investment firms. In addition "convertible" bonds, as their name suggests, one can exchange for common stock when they reach the "strike" price, or predesignated price. These bonds attract investors because of their unique convertible characteristic: after they pay interest, albeit a lower rate than normal, they become shares that pay dividends. If you were determined to purchase convertible bonds, you might look into investing in a fund. It is tremendously difficult to crack the code of creditworthiness with respect to convertible bonds. Finally, one can now purchase almost all bonds be purchased as zero-coupon bonds. These are unusual investments. One purchases them at a discount that represents the interest to be paid. During the life of the bond no interest accrues. On the bond's maturity date, the owner receives the entire face value of the bond; this reflects both interest and return of capital. One disadvantage is that owners of zero-coupon bonds pay taxes every year on the nonexistent interest. For more on bonds and bond funds, see Chap. 5.

3.3 Options

We will not cover options in much detail, because the vast majority of them are never used. Options are derivatives, that is, they are based on the value or price of another asset or stock. They actually represent contracts on stocks and are used to mitigate risk or "hedge" one's investments. As such, they are almost like insurance. But they can be a risky business, so let the buyer beware. Below are two examples of the ways individuals can use options.

Mary Martin has 500 shares of General Electric (GE) that she bought in 2008 at $13 per share. She likes the firm and wants to buy more, but the price of the stock has risen. So, Mary buys 100 "call" options on the Chicago Board Options Exchange. These options specify that under certain conditions, Mary can buy more GE stock at $15 per share. Mary pays $1.50 per option, so she pays $150 for this chance.

Barbara Bund hates the 200 shares of Johnson & Johnson (JNJ) she inherited, even though she likes the dividends it pays. But she would prefer a bond fund. So she buys 200 "put" options on the Chicago Board Options Exchange. These options allow her, under certain conditions, to sell 200 shares of JNJ for a "strike price" of $65 per share.

Buying uses call options; put options are used for selling. These terms are easy to remember if one thinks of them in alphabetical order: buy, call, put, sell.

The reason I dislike these and discourage their use is that about 95% are never used or "exercised." Investors purchase these with real money, but the conditions that activate them almost never occur. Thus, unless you perceive options as insurance, you are likely spending your money needlessly. Of course some Wall Street professionals trade options for a living. Never fall into a price war with one of those. You are destined to lose. This is not a game for amateurs.

3.4 Shorting Stocks

Understanding selling stocks short involves learning some finance language. Purchasing a stock means one is "long" on the stock. I am always long, although investors have another choice (Cagan 2009): "short selling." If you feel certain that a stock is overvalued, or worth too much, then you can short it. The process is as follows: (1) borrow the stock from someone who owns it; (2) sell the borrowed shares. Wait until the stock falls sufficiently, then (3) buy it at a cheaper price; and (4) give the shares back to the person who originally lent them to you.

Until 2007, this was a regulated process. It was impossible to "short" or sell a stock unless it had at least one uptick, i.e., before the decimal age it went up about one-sixteenth or in the decimal age at least once cent. But Congress repealed the uptick rule in 2007, and it has been a dangerous, high-stakes game since then.

This is a dangerous activity. If you buy a common stock for $10, the most you can lose is $10 per share. But if you short a stock and the price rises, there is no limit to the losses you can incur. The risk is not infinite, but it can be extremely painful. An extension of this scenario is fairly common. Sometimes struggling firms are acquired by stronger companies for a premium price. This process is called a short squeeze because those who hold short positions are forced to pay a great deal of money to repurchase the shares at an increased price.

This also is not a game for amateurs. In this instance you are up against hedge funds and financial institutions that can devastate you with capital and leverage.

3.5 Master Limited Partnerships

Chapter 6 covers these investment choices, therefore we will only introduce them here. With the 1986 tax reform bill saw Congress acknowledge that US infrastructure was deteriorating. The challenge before Congress became one of attracting private financing to public projects. Officials tried to think of funding avenues that would be attractive to investors. A unique and clever solution emerged: over time investors would finance projects and then recoup their capital that would be sent to them in quarterly distributions by a new entity called a MLP. This icing on the cake was the fact that these distributions would be tax free at the federal and state level until all invested funds were recovered. Consider this example, Mr. Pipe buys 1,000 units ("units" is the name for an MLF's "shares") of Oneok Partners (OKS). These units pay Mr. Pipe $585 per quarter, or $2,340 per year. For 19.23 years Mr. Pipe is entitled to tax-free income until his original $45,000 is returned. Then Mr. Pipe must either buy more units or pay taxes at his marginal rate, not the 15% level.

This might seem to be an easy way to set up a lucrative new earnings machine. However, it is not. By law, MLPs must be created by a general partner, an already extant energy firm. This was conceived in 1986 as an individual-only investment opportunity. Previous to this century, only individual investors, not institutions, could engage in these investment opportunities. Then in 2003 Congress sanctioned participation by institutions; this has raised prices. One note of caution: These investments provide K-1 forms, and these make tax liability computation quite complicated for taxes, even though they are tax free. Use a CPA to compute your taxes or leave these MLPs alone.

3.6 Real Estate and Real Estate Investment Trusts

3.6.1 Real Estate Investment Trusts

Let us first explain and then largely dispense with Real Estate Investment Trusts; lately they have become troubled assets. Once upon a time, these were a good investment. Then the crash of 2007–2008 hit and the real estate bubble burst. Since that time most of these trusts have suffered badly. A few of them are still profitable, but as a class, you would do well to ignore them until the real estate front is healthier. These collections of real estate investments pay 95% of their revenue to shareholders, who in turn must pay marginal rate taxes on the income. This is not qualified dividend income taxed at 15%. If you contemplate owning these, think about assigning them to a tax-deferred vehicle such as a traditional IRA or, even better, a tax-free entity such as a Roth IRA.

3.6.2 Real Estate

Recognize that investment in real estate demands constant work. One buys an apartment building, amortizes it, recruits tenants, makes repairs, purchases insurance, controls pests, and looks after general maintenance. Despite these nagging burdens, real estate's tax advantages attract sizable numbers of investors. Many people buy apartment buildings and then depreciate (i.e., successively reduce the value of the property) the structures over 28 or so years. Owners accept rent as they absorb their buildings' tax losses according to an Internal Revenue Service schedule. This is a vicious circle; as investors depreciate buildings, they must purchase more property to depreciate for tax purposes. Many people enjoy playing this game, but it seems needlessly complicated and endless. Unless you love to putter and fix, have excellent carpentry and mechanical skills as well as the knowledge and ability to deal with depreciation law, steer clear of literal rent seeking.

3.7 Derivative Investments: Buyer Beware

Invented on Wall Street, derivative investments are popularly known as the infamous "toxic assets," and we can justifiably blame them for the financial catastrophe of 2008. The main derivatives are structured investment vehicles (SIVs), credit default swaps (CDS'S), and collateralized debt obligations (CDOs). All of these bind together bonds or mortgage bonds of various maturities and slice them up, from the best to the worst. Investors usually ended up with the worst; hedge funds and former investment banks always got the best. If anyone ever tries to sell you an SIV or a CDO, don't just walk away; run as fast as you can and as far as you can.

Now in addition to Exchange Traded Funds, we have exchange traded notes (ETNs). These can be a seriously flawed means of investment. Issued by banks, these dangerous notes lack a secure financial base, and they are only as strong as the bank that issues them. We have no way to investigate the underlying debt instruments, the securities are hard to sell, on can redeem large blocks of them only once a week. Their advantage is tax efficiency, but the IRS is addressing that problem right now. I would investigate any ETN carefully, and especially the look into the health of the sponsoring agent.

3.8 Annuities

Annuities are income investments appearing in a variety of shapes and sizes, many accompanied by egregious fees. Investors can find a number of good quality annuities; those worth considering are simple and straightforward. For example, immediate annuities charge the lowest fees. Go to http://www.immediateannuities.com and enter any amount of money. The site will calculate an estimated monthly income from that capital.

Annuities can be reasonable investments except for one major difficulty. Once you purchase any kind of annuity from any company, you can never reclaim any part of the principal underlying the annuity. In other words, when you perish, whether it is 2 years or 20 years after buying an immediate annuity, the insurance company keeps all of your money. None is available for heirs. All annuities operate this way, even TIAA–CREF's. In fact, TIAA–CREF reduces capital to zero the minute you sign an annuity. If this is not a problem for you, then consider either an immediate annuity or a fixed annuity. Some annuities now have special provisions to set aside a portion of the funds for heirs or to receive a specific number of years of payments. But check thoroughly before you commit. Under no circumstances should you buy an equity-indexed annuity or a variable annuity. Both equity-indexed and variable annuities impose harsh restrictions, e.g., no income for 5 years in an equity indexed annuity, and both carry high fees.

3.9 Commodities

Commodities are items that people use in real life. Gold and silver are commodities as are coal, diamonds, fertilizer, agricultural crops and seeds, oil, natural gas, copper, and other valuable metals. Commodities use their own trading exchanges. The New York Nymex brokers precious metals and oil, and agricultural commodities trade in Chicago and Kansas City.

J. Paul Getty admonished us: "The meek shall inherit the earth, but not the mineral rights" (Price 2006). Let's see how we can accomplish this. The simplest and safest method of investing in commodities is to purchase the stock that best represents the commodity. Remember, be a rent seeker. For example, if you favor coal, two of the best firms are Arch Coal (ACI) paying a 44 cent dividend and raising its payout a remarkable 16.5% per year, and Peabody Energy (BTU) that pays 34 cents per share and raises its dividend 5.89% per year.

Do you prefer oil? Consider Exxon-Mobil (XOM), the largest oil company. It pays $1.88 per share and raises its dividends 7.17% per year. Chevron (CVX) pays a dividend of $3.12 and raises it 8.15% per year. You might also check Marathon Oil (MRO); it actually divided itself recently into separate refining and exploration companies. Other good firms are Conoco-Phillips (COP) and Occidental Petroleum (OXY). But be careful with these stocks; the amount of available oil is decreasing, and finding more is becoming increasingly difficult and expensive. If you simply want to bet that oil prices will rise, you might want to investigate an exchange-traded note, symbol OIL. Sponsored by Barclay Bank, it is one of the more solid ETNs. Remember, buying means you are betting on higher oil prices.

Interested in gold? One of the best gold stocks is Barrick Gold (ABX), currently paying a dividend of 49 cents. Gold is popular now because of currency weakness as well as the naive hope that someone somewhere will adopt a gold standard again. But don't buy gold just for bragging rights. It pays you nothing, and in fact, by purchasing insurance on it, you are forced to spend more money simply to keep it locked away in a safe. Buy a gold stock instead.

Then we have agricultural support commodities, such as fertilizer. Potash Corporation (POT) pays 28 cents to shareholders and the company is growing. Agrian (AGU) pays 11 cents, and CF Industries (CF) manufactures fertilizer and pays $1.60 per share.

Rising food expenses cause some investors to regard food stocks as strong commodities. Tyson (TSN) is a respected name here; it pays 16 cents to shareholders. Also interesting are General Mills (GIS) and Kellogg (K).

I have included in this section only stocks that pay dividends. Don't invest in anything that does not pay you something, even just a small amount. Commodity stocks tend to be more volatile than other sectors; they can rise and fall precipitously. This may be entertaining for some, but the markets have been in turmoil for too long for me to deal much with these fickle equities. I would rather be distanced from volatility, and that is difficult with commodity stocks.

One can find many other types of alternative investments that we do not cover here. For a full accounting of them, see Swedroe (2008) and Gardiner (1999).

3.10 Stocks and Bonds Redux

We have now examined the most basic forms of investment. We have ignored certificates of deposit mainly because of their current minuscule interest rates. Money market funds share that problem. Now I return to stocks and bonds as the mainstay of an income portfolio. Stocks pay dividends (at least those you should be purchasing do). These dividends are income that the IRS taxes at 15% or zero percent at the 15% tax level. If you buy dividend-growth stocks, you have an increasing stream of income that is taxed at a low rate. It may not be taxed at all you put the stocks in a Roth IRA or if you are in the 15% tax bracket. Few things are easier than buying stock and taking the income in retirement. One need not buy insurance, repair faucets, or lose capital upon death. Furthermore, over time, stocks have proven to be the cheapest investments one can own that have a chance of beating inflation.

From an investor's perspective bonds are a good source of income. Bond funds, especially closed-end bond funds, are particularly helpful. Why? The managers of these funds handle all costly and time-consuming bond-ladder and callable chores on behalf of the shareholder. Bond funds usually pay monthly, but some pay quarterly. Be aware that monthly compounding is better than quarterly, but it only makes a difference when large amounts of capital are involved. Bond interest does not enjoy the 15% tax rate, so make sure to place your bond funds in a tax-deferred vehicle or ideally in a never taxable Roth IRA.

Chapter 4
Dividend-Growth Stocks

4.1 Inflation as a Persistent Problem

Inflation is the enemy of most households. It is insidious and hugely underestimated by the CPI. Regardless, the CPI, a composite number of retail prices, is the official measure of inflation. In 1970, the CPI was 38.8. In 1980, it climbed to 82.4; in 1990 it was 130.7 and in 2000 it rose to 172.2. This means that in 30 years prices more than quadrupled; in fact, in 2000 the CPI was 4.4381 times higher than it was in 1970.

The danger of inflation should become apparent if you consider senior citizens living on fixed incomes. Let's say Mrs. Long, a new, healthy retiree in 1970 is now over 100 years old. Prices more than quadrupled since her retirement, but Mrs. Long's fixed income now buys 4.4381 times less. Even recent inflation has been problematic. Health-care premiums alone doubled between 2001 and 2011. This scenario should convince you that completely fixed incomes don't work. As we saw with Mrs. Long's example, inflation crushes real earning power.

Does inflation occur in all economic climates? It did in the 1930s; instead there was deflation, the lowering of prices. We worried from 2008 to 2010 about deflation. Yet inflation will likely to continue to be an obstacle, particularly to adequate retirement income.

Why does inflation occur? The short answer is if demand exceeds supply, prices rise. But, another reason is more salient. Governments deliberately create inflation. Making the currency less valuable allows a certain amount of control over fiscal deficit and debt problems. Technically called seigniorage, this policy is intentional, but never openly acknowledged. Most developed countries carry serious debt burdens. Japan's public debt, for example, is 2.28 times its gross domestic product (GDP). Inflation turns out to be the easiest way to handle these issues, just as it helps paying off mortgages over long periods of time.

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4.2 Dividend-Growth Stocks as a Solution

Is there a way to deal with inflation as well as the challenges of a fixed income? Yes, and unless we re-enter a depressed economy, it works well. Dividend-growth stocks go a long way toward providing an ideal solution.

Let's start with the fact that many firms pay dividends to their stockholders. A subset of these firms increases its dividend every year. So the task is to identify these helpful companies, then further focus our search on those that raise their dividends at least as fast as inflation. Since inflation in the USA has grown an average of 5.06% per year, we must look for firms that raise their dividends more than 5.06%.

This turns out to be relatively easy. And far from being unusual and unheard of companies, these are some of the largest and most well known. Surely, you recognize McDonald's, Procter & Gamble, and Johnson & Johnson. McDonald's raises its dividend 22.72% per year. That is 4.5 times the rate of inflation. Procter & Gamble raises its dividend 11.5% per year, twice as fast as inflation growth. Even the old established health-care firm Johnson & Johnson raises its dividend at a rate that betters inflation.

It is interesting to note that in the early part of the twentieth century wealthy families held a large number of shares, about 10,000 shares each, of large, dividend-growth firms. These were companies such as General Motors, General Electric, Johnson & Johnson & Procter & Gamble as well as quite a few pharmaceutical firms, such as Merck and Pfizer. Old monied families built legacies on the income from these corporations. In 2011, 10,000 shares of today's Procter & Gamble paid $21,000. What would it pay in 2017? About $40,352.32, a hefty increase. But note the capital necessary to follow this pattern of legacy building. Ten thousand shares of Procter & Gamble alone cost about $610,000. So, do we need millions of dollars to pursue this investment strategy? Not at all. But planning can be much more complex given today's volatile equity markets.

Jeremy Siegel, a finance professor at the Wharton School of the University of Pennsylvania, says that the only way one can tell if a firm is doing well is if it raises its dividends.

Many catastrophes have occurred during our current economic downturn. General Motors filed for bankruptcy, General Electric slashed its dividend (although it is now on the upswing) and many other firms had troubles galore in 2008, 2009, and 2010. Historically, though, dividends, not just stock prices, form the major component of total investment return: a $100 stake in the S&P 500 on December 31, 1929 grew on price alone to $4,989 in 2010. But if one had reinvested the dividends, one would have amassed $117,774, or 95.8%, of the total return. Dividends made up 84% of total return from 2002 to 2010.

Alas, it is no longer possible to prosper in a simple, straightforward manner as the wealthy once did. Today's investments require much more attention and nurturing than in previous eras. This does not mean you have to sit glued to the price crawl on CNBC or Bloomberg television. But you certainly must schedule time on a regular basis to check your investments. Given that, let's turn our attention to the power of dividend-growth firms to enhance your financial future.

Congress is seeking ways to lower corporate taxes. One way to do that would be to make dividends deductible. Wages are, but dividends are not. If they were, more firms would pay them and those that raise them would raise them higher.

4.3 The Wonder of Compounding

Albert Einstein once said that compounding is the "eighth wonder of the world." Perhaps the example below will help you understand his comment.

> Let's assume you had a choice of working thirty-five days with a pay of $1,000 per day or working for a penny on the first day and doubling the amount each day for thirty-five days. Which job offer would you take?
>
> If you took the first choice, at the end of the thirty-fifth day you would have received $35,000. What would you have received if you had made the second choice? You would have received $339,456,652.80. As you can see, one penny compounded at 100 percent per day produces over a third of a billion dollars by the thirty-fifth day (Van Caspel 1980).

It is not possible in the vast investment world to get 100% return per day. However, it is possible to compound income at a lesser, but still impressive rate.

4.3.1 Compounding Examples

The more years you can put compounding to use, the better off you will be. Young people need to expend much less financial effort than do their superannuated colleagues. As you can imagine, this is simply because they have many more years in which to enjoy the increases of compounding. When you decide to put your money to work, pay special attention to "payout ratios," i.e., the ratio of the dividend per shares to current earnings per share (Yahoo! finance has this under "key statistics"). Look for firms with payouts 50% or below their earnings. We have prepared a section below that includes such equities.

How does one compute a dividend's annual rate of growth? The Internet is very helpful with finance, and especially in the case of dividend growth.

Go to: http://finance.yahoo.com and type in any of the trade symbols listed below. Click on "historical prices," then on "dividends only" and finally on "get prices." Scroll down to find the dividend 5 years previously and then the dividend in the current year. We'll call the earlier dividend d_0 and the current dividend d_{f}. Now filling in the following formula will allow you to compute the annual rate of growth. We use the geometric mean; it is different, a little conservative, and far more accurate than the percentage change divided by years (Teebagy 1998); for more on investor calculations see Thomsett 2007:

annual dividend-growth rate $= \left(\frac{d_{\mathrm{f}}}{d_0}\right)^{1/n} - 1$, where $n =$ the number of years elapsed. Let us do some examples:

Procter & Gamble (PG):

$(0.525/0.31)^{0.2} - 1 = 1.1111 - 1 = 0.1111$, or 11.11% growth per year; by the rule of 69.3, the dividend doubles in 6.24 years.

Johnson & Johnson (JNJ):

$(0.57/0.375)^{0.2} - 1 = 1.0873 - 1 = 0.0873$, or 8.73% growth per year; dividend doubles in 7.94 years.

Raven Industries (RAVN):

$(0.18/0.09)^{0.2} - 1 = 1.1478 = 0.1478 - 1$, or 14.78% growth per year; dividend doubles every 4.69 years.

Walgreens (WAG)

$(0.225/0.078)^{0.2} - 1 = 1.236 = 0.236 - 1$ or 23.6% growth per year; the dividend doubles in under 3 years.

It is clear that many firms raise dividends at a rate above inflation. This is the reason that these investments should work well in any context.

4.3.2 The Gordon Equation

Now we introduce another of the fundamental concepts in finance, the *Gordon equation, or the dividend discount model* (see "Gordon model" in Wikipedia).[1] It is powerfully simple: market value = dividend yield + annual dividend growth rate.

I urge you to (1) always compute the Gordon value for a stock; and (2) never to buy a stock that has a Gordon equation score lower than ten. Below are Gordon equation values for the previously mentioned companies:

$$\mathrm{PPG} = 3.3 + 11.74 = 15.04$$

$$\mathrm{JNJ} = 2.5 + 0.8.73 = 11.23$$

$$\mathrm{RAVN} = 2.1 + 14.78 = 16.88$$

$$\mathrm{WAG} = 2.7 + 23.6 = 26.3$$

[1] Wall Street's favorite model is the capital asset pricing model (CAPM); it requires one to estimate future cash flows and growth. The Gordon model is based by design on future cash flows. CAPM stresses a parameter called beta, a measure of a firm' risk. The entire stock market has a beta of 1. CAPM seeks a high beta, because that leads to higher growth. But risk also implies a greater chance of loss. Most dividend growth stocks have a beta under 1. You can find beta in Yahoo! finance if you click on "key statistics." It is the upper right number. If you are interested in CAPM, an Internet search will tell you all that you might want to know except how to estimate the values in the model.

4.4 Dividend-Growth Stocks and Exchange-Traded Funds

Now let's look at some other dividend-growth choices displayed in a series of tables based on total market capitalization, i.e., company size. We determined these values by multiplying the number of shares times the price per share. We include only corporations with a payout ratio (dividends per share divided by earnings per share) of less than or equal to 50%. Firms in this category have a greater opportunity to raise their dividends than do corporations that already pay out almost all of their earnings. We also add the dividend schedule for you to see. Most firms pay quarterly on one of the following three schedules: *January*, April, July, October; or *February*, May, August, November; or *March*, June, September, December. As equity accumulates, one could spread income throughout the year simply by diversifying around dividend schedules.

Two exchange-traded funds (ETFs) stress dividend growth: (1) Vanguard dividend appreciation (VIG). This fund yields only 2.16% and its payouts fluctuate a good deal. It owns 200 firms that do have a history of dividend raises. (2) Wisdom tree global equity income (DEW); DEW yields 4.09%, but has highly variable dividends. Exchange-traded funds are transparent on a daily basis. i.e., one can view their holdings on any given day. Now, however, BlackRock has asked the Securities and Exchange Commission for permission to reveal holdings only every three months, the same schedule as mutual funds. One wonders why BlackRock prefers to shield its holdings. This would not be a good change.

We proceed from the largest to the smallest firms. Larger firms tend to be more stable, but do not grow as fast as smaller companies. Therefore, when designing a long-term portfolio, try not to purchase stocks lower than middle capitalization. Table 4.1 shows the largest firms. As you can see, many increase their dividends at a high percentage rate. Note that Visa has paid dividends only for 3 years.

Table 4.2 displays firms that are still large, but only have market capitalizations between $25 billion and $50 billion.

We continue with somewhat smaller, but still large firms with between $10 billion and $25 billion. More of these appear in the dividend-growth sector (Table 4.3).

Next in line are the smallest of the large capitalization companies. Table 4.4 shows firms with between $5 billion and $10 billion in market capitalization.

We now move down in size to the MidCap group. These firms have between $1 billion and $4 billion in market capitalization (Table 4.5).

As corporation size reduces, risk rises. We profile several small capitalization firms, but these are not usually high income generators, and again, risk is clearly higher. These firms, with under $1 billion in market capitalization, have been hit hard since 2007. However, we found three to consider in Table 4.6.

As we have stressed, always look for companies that have low payout ratios, i.e., their dividend payments are a low proportion of their earnings. These firms have more flexibility in raising dividends.

If you prefer additional choices, go to http://fniviz.com, where you can request filtered classes of stocks. Alas, there is no dividend-growth filter. There are many

Table 4.1 Dividend-growth firms over $50 billion

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Bank of Nova Scotia	BNS	Banking	7.75	44	January
Coca-Cola	KO	Beverages	8.68	34	January
Disney	DIS	Entertainment	14.12	16	Annual
IBM	IBM	Computers	20.11	22	March
McDonald's	MCD	Food	19.53	48	March
Occidental Petroleum	OXY	Oil	20.69	24	January
Siemens	SI	Electronics	18.87	34	February
Toronto Dominion	TD	Banking	8.75	34	January
Wal-Mart	WMT	Retail	16.79	28	March
Visa	V	Credit	53.47	10	March
Yum! Brands	YUM	Food	30.6	38	February

Table 4.2 Dividend-growth firms from $25 billion $49 billion

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Colgate-Palmolive	CL	Household products	12.63	45	February
CVS Caremark	CVS	Health care	26.23	17	January
Deere	DE	Farm machines	16.02	23	January
General Mills	GIS	Food	11.75	44	January
Honeywell	HON	Electronics	7.97	37	March
Lockheed Martin	LMT	Defense	16.47	36	March
Medtronic	MDT	Health care	17.18	32	January
Nike	NKE	Athletic clothes	14.25	26	January
Target	TGT	Retail	20.11	24	March
Texas Instruments	TXN	Electronics	34.08	20	February
Union Pacific	UNP	Railroad	31.95	26	March
Sysco	SYY	Food delivery	9.69	50	January
Walgreens	WAG	Retail	23.6	28	March

books that deal with dividend investing and somewhat fewer cover dividend growth (for example, Walden 2005; Tigue 1997; Schreiber 2005). The original book on dividend-growth investing by Roxann Klugman makes interesting reading (Klugman 2001).

4.5 The Float and Treasury Shares

In addition to looking for a payout ratio below 50%, let's consider another way to judge a dividend-growth stock: check the proportion of the "float," or the number of shares traded on the stock market. We have two kinds of shares: (1) float shares that can be traded any time markets are open; and (2) treasury shares. These are shares

Table 4.3 Dividend-growth firms from $10 billion to $24 billion

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Archer-Daniels-Midland	ADM	Food	9.86	20	March
Becton Dickinson	BDX	Medical	13.78	27	March
Campbell Soup	CPB	Food	7.71	47	January
CME Group	CME	Finance	17.32	29	February
CSX Railroad	CSX	Railroad	29.2	19	March
Eaton	ETN	Aviation	11.76	37	February
Ecolab	ECL	Cleaning	11.84	31	January
Edison International	EIX	Utility	5.06	40	January
Grainger	GWW	Maintenance	17.88	27	February
Kellogg	K	Food	9.12	48	March
Kroger	KR	Retail	10.07	21	February
McCormick	MKC	Spices	9.24	39	January
Murphy Oil	MUR	Oil	12.89	22	March
Nordstrom	JWN	Retail	16.98	28	March
Parker Hanniflan	PH	Fluid systems	16.38	20	March
Raytheon	RTN	Defense	12.37	28	January
Williams	WMB	Natural gas	22.67	39	March
Wisconsin Energy	WEC	Utility	17.72	42	February

Table 4.4 Dividend-growth firms with from $5 billion to $9 billion

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Darden	DRI	Food	16.54	41	February
Dr. Pepper Snapple	DPS	Beverages	46.06	45	January
Expediters Intl.	EXPD	Shipping	17.84	26	March
ITT	ITT	Telephone	17.84	26	March
Hormel	HRL	Food	12.83	28	February
JB Hunt	JBHT	Trucking	10.82	28	February
L3 Communications	LLL	Communication	19.07	20	March
Perrigo	PRGO	Generic drugs	9.24	8	March
Ross Stores	ROST	Retail	29.67	15	March
Seagate Technology	STX	Disk drives	17.61	33	February
Sherwin Williams	SHW	Paint	7.86	32	March

that the corporation holds moribund in its vaults as future float shares. They do not trade and they are not accorded dividends. A firm with a payout ratio below 50% and a float of less than 80% has a payout ratio of 40% or less. This is an extremely favorable situation; consider purchasing it.

Table 4.5 Dividend-growth mid-capitalization stocks (under $5 billion)

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Amtrust	AFSI	Finance	35.1	11	January
Atargroup	ATR	Personal care	17.08	27	February
Buckle	BKE	Retail	21.5	26.76	January
Broad Ridge	BR	Finance	27.79	45	March
Chemed	CHE	Hospice/drains	21.67	15	March
Corn Products	CPO	Corn syrup	14.87	14	January
Donaldson	DCI	Filters	10.76	19	March
Hasbro	HAS	Toys	20.11	40	February
Holly Frontier	HFC	Oil	17.08	9	January
Prosperity Bank	PRSP	Banking	11.84	24	January
Raven	RAVN	Manufacturing	14.87	26.82	January
Rollins	ROL	Pest control	20.11	40	March
Reliance Steel	RS	Metals	14.87	12	March
Thor	THO	RVs	16.47	21	January
Toro	TTC	Lawn care	17.32	21	January
UMB	UMBF	Banking	8.45	31	January
Valmont	VMI	Irrigation	16.19	14	January

Table 4.6 Small capitalization dividend-growth stocks (under $1 billion)

Firm	Symbol	Activity	Dividend-growth rate (%)	Payout ratio (%)	Dividend paid
Badger Meter	BMI	Meters	14.87	32	March
First Financial	FFBC	Banking	11.03	41	January
Weyco Group	WEYS	Shoes	12.2	49	March

4.6 The Power of Compounding

As we have seen, many firms raise payouts at a rate that easily exceeds inflation. This provides a hedge against inflation, i.e., it counteracts inflation by providing increasing income. We do not even assume dividend reinvestment in these calculations.

Let us now look at compounding and dividend growth. After all, dividend growth is a fine example of compounding at work. For the purposes of the following computations we assume a continuous rate of growth as well as continuous dividend reinvestment:

One hundred shares of Johnson & Johnson provides $216 per year. At this same pace what will it be in 20 years, 25 years or 30 years? Let's find out!

$$\text{JNJ future income}_{2031} = 216 \times (1+0.0873)^{20} = \$1{,}151.97$$

$$\text{JNJ future income}_{2036} = 216 \times (1+0.0873)^{25} = \$1{,}750.61$$

$$\text{JNJ future income}_{2041} = 216 \times (1+0.0873)^{30} = \$2{,}660.33$$

Johnson & Johnson raised its dividend 20 cents in 2010. Let's check Raven Industries. Again, we assume the same rate of growth and show that a higher rate of dividend growth matters:

300 shares of Raven Industries now pays \$216 per year.

$$\text{RAVN future income}_{2031} = 216 \times (1+0.1478)^{20} = \$3{,}402$$

$$\text{RAVN future income}_{2036} = 216 \times (1+0.1478)^{25} = \$6{,}778$$

$$\text{RAVN future income}_{2041} = 216 \times (1+0.1478)^{30} = \$13{,}503$$

Now another example. Walgreens raises dividends 26.99% per year; 200 shares currently pay \$140. We assume the rate of growth will continue.

$$\text{WAG future income}_{2031} = 140 \times (1+0.2699)^{20} = \$16{,}654$$

$$\text{WAG future income}_{2036} = 140 \times (1+0.2699)^{25} = \$55{,}000$$

$$\text{WAG future income}_{2041} = 140 \times (1+0.2699)^{30} = \$181{,}641$$

It is not difficult to find firms that perform similarly. Standard and Poor's publishes a list of dividend aristocrats that have raised dividends for 25 consecutive years. Unfortunately, Standard and Poor's has halved the list due to the credit crisis; those remaining firms still raise their dividends each year.

You might be impressed by the effect of higher dividend growth rates. Johnson & Johnson is good, Raven Industries is better, and Walgreens is great. Again keep in mind that once dividends reach high levels, raising them at the same rate becomes more difficult. For example, in 2011 McDonald's increased its dividend by 36 cents, from \$2.44 to \$2.80. This was an enormous jump that delighted shareholders. But McDonald's dividend was already so high that it amounted to a rise of only 14.98%. Firms that split their shares often can continue a high rate of increase. But most other companies are constrained by their high dividend levels. Nonetheless, if you have a Roth IRA, you can buy and sell at will and without penalty. So, look for companies that continue to raise high dividends, and swap them for any in your Roth IRA that have become static. For more on Roth IRAs, see the section below.

Remember the wealthy barons and their 10,000 shares of several firms? You, too, can amass shares if you start early and participate in a free dividend-reinvestment plan. If you shift to faster dividend raisers, your capital should keep growing.

I hope you now can see how to beat inflation. If the CPI is artificially low, then the effective inflation rate might be as high as 8% per year. But if you have stocks like those we discussed, you have solved the problem. You actually gain against inflation.

Are there any risks? Of course! We cannot insure that all of these firms will continue to raise their dividends at the same rate for 30 years. My examples are more likely to, but even they face two problems.

First, competition is inherent in capitalism. Johnson & Johnson competes against an array of pharmaceutical firms including micro and genetic entities. Walgreens battles CVS, grocery stores, and even Wal-Mart. The Bank of Nova Scotia (see above) competes against other Canadian banks and currently does so successfully. Yum! Brands is pitted against McDonald's and continues to innovate and do well. A word of caution: in a volatile market sales can plummet with new health information or a sudden change in public demand.

Second, let's go over our basic arithmetic problem again. If a dividend is 10 cents, the company can raise it to 20 cents and double the payout. But that increase costs the firm 10 cents more per share. The number of shares in a young firm is low, around hundred million. Consider the impact of this additional financial burden upon a young company. It amounts to $10 million more, a sum many larger companies can handle easily. Now if your dividend is $4, doubling it would cost $4 more per share, a $3.90 increase over the 10 to 20 cent cost. Older, more established firms often have over one billion shares. A doubling of the dividend means that the older corporation would have to absorb an extra $4 billion. This is the reason many of these mature companies have a difficult time maintaining such a large percentage increase. In this instance, I would be content with an 8 cents per year dividend hike because at minimum that would usually cover inflation.

The firms cited above perform better than the average dividend-growth stock. Actually, they are quite competitive. What makes these companies exemplary in their fields? Raven Industries is a small firm that holds a monopoly contract for Air Force parachutes, and one for NOAA weather balloons; it also makes plastic sheeting for placement under basement floors to prevent Radon gas from infiltrating a home. The company has no debt and about every other year it pays $1.25 per share in special dividends. What a good boost to one's income! The Bank of Nova Scotia is one of the most innovative and popular banks I have found. Walgreens, at the forefront of its industry, was among the first to offer groceries and in-store health care. McDonald's competes fiercely in numerous world markets. Domestically, its new speciality coffee drinks perform favorably against Starbucks, and its introduction of oatmeal-with-fruit breakfasts wins kudos from critics and fans alike.

But McDonald's ranks a mere twelfth in the Mergent *Dividend Achievers* manual. Eleven firms raise their dividends even faster than McDonald's. We list them here along with their annual dividend growth-rate in percentage terms.

1. Hudson City Bancorp, 54.13%
2. Fastenal, 53.37%
3. Expeditors International, 31.28%
4. C.H. Robinson Worldwide, 29.93%
5. Stancorp Financial Group, 29.57%
6. Stryker Corp., 29.57%
7. Factset Research Systems, 27.89%
8. Centurytel Inc., 27.85%
9. Lowes, 27.85%
10. Linear Technology Corp., 27.5%
11. Nucor Corp., 27.08%

Many of these large firms enjoy widespread recognition, especially Fastenal, C.H. Robinson, Lowe's and Nucor, the steel firm. Unfortunately, a number of them experienced difficulty in the 2008–2009 period.

So what should you do? It is to your advantage to buy stocks that not only pay dividend, but also steadily increase these payouts by a large amount. Put them in a Roth IRA and you'll never pay tax on them.

Another great feature of dividend growth is that over a long period of time, and based upon your original purchase price (controlled for stock splits), you will achieve a terrific yield. I have friends who boast 40% yields on stocks like Wal-Mart and McDonald's. These financially aware people were insightful and bought early.

Finally, dividend-growth stocks are the cheapest investments to maintain. Why? If you buy them at an electronic brokerage, you'll pay low commissions or as a new client, perhaps even trade for free. Work with a brokerage that charges no maintenance fees and has free dividend reinvestment. Your investments will the have the distinction of being one of the few that cost nothing to own beyond the initial trade commission—if any. No mutual fund fees, no loads, no 12b–1 fees, no attachments of any kind, simply free and clear and constantly increasing your investment income.

4.7 Why the Bother? What About Mutual Funds?

4.7.1 Which Mutual Fund? At What Cost?

Why should anyone work so hard to identify and select dividend-growth stocks? Most people are too busy to conduct such extensive research; this is one of the reasons most people invest in mutual funds. However, this is not an easy way out; choosing mutual funds is very much like choosing stocks. The market offers more mutual funds than there are equities. Approximately 9,000 open-end mutual funds vie for your attention. Granted, many of them are bond or balanced funds, but equity funds predominate. Thus, the challenge of choosing the best mutual fund in which to invest is similar to choosing which stock you should buy.

Mutual funds acquire money from their shareholders as people invest with the fund. All shareholders pay fees and some pay loads or sales charges. But all mutual funds are not equal. Most, about 85%, of mutual equity funds do not perform as well as the market or the index funds that track the market. In an average year, only 25% do better; over 20 years, only 15% perform better. Unfortunately for the investor, the best mutual funds are not the same funds every year. A recent study by DAL Investments verified these findings (Sullivan 2011, 10 October 2011).

But don't mutual funds provide diversification? Yes, in a way, they do. However, most hold only about 100 or fewer stocks, and in any case, asset class, not necessarily the number of firms owned renders diversification. Caveat emptor! Certain mutual funds specialize in a particular industrial sector, e.g., energy or health care, and these actually constrain diversification.

We have, then, a convenient investment category in mutual funds. However, these funds are not as successful as the market. So, why would you choose to invest in them? Certainly in some instances it is necessary to have mutual funds, especially in TIAA–CREF and 403(b) accounts. In these circumstances the best advice I can offer is to choose index funds and try to rein in fees. Some index funds, e.g., Vanguard's S&P 500 Fund and Total Stock Market Fund, pay four times per year, but they pay a different amount each time.

Hedge funds are not usually a possibility for academics, but some of us have sufficient capital to qualify. Most of these funds demand a 2% fee plus 20% of the profits; in other words, they charge egregious fees. How well do they do? About as well as mutual funds. I would not recommend investing in most hedge funds.

4.7.2 Finding Dividend-Growth Stocks

If you are not convinced, we actually find it much easier to locate dividend-growth firms than good, solid mutual funds. You can find a list of dividend champions at http://dripinvesting.org/Tools/Tools.asp. Another interesting website is: http://dynamicdividend.com/dividend-dynamics. Two additional avenues offer valuable information: (1) the dividend-growth sections of the *Wall Street Journal* or *Barron's*; or (2) the spring edition of Mergent's *Dividend Achievers*, a periodical that highlights all firms that have raised dividends for the past consecutive 10 years. It also provides the rate of increase as well as other important data. Since all of this information is so accessible, it is relatively easy to find out which firms raise payouts and which have done so for a decade or more.

You will be able to quickly narrow your search for dividend-growth offerings when you realize that many businesses do not pay dividends at all. These tend to be young companies and technology firms. Dividend-growth investing eludes the wickedly dangerous arenas such as penny stocks and many initial public offerings, often referred to as IPOs.

4.7.3 The Income Advantage

Equity mutual funds pay only once per year, generally in December. This is disadvantageous in many ways: (1) it makes tax planning almost impossible; (2) it reallocates all income to one month, the last month of the year; and (3) it compounds annually, thus, losing the advantage of compounding quarterly. In contrast, stocks generally pay dividends four times per year. One can "ladder" dividend-growth stocks as one would bonds and schedule relatively equal payments each month. Fortunately, laddering stocks for dividend payouts is less costly than laddering bonds and it is generally easy to arrange. One must only buy one-half (3) of the stocks that pay quarterly in contrast to bonds that pay semi-annually (6) (see Chap. 5, Sect. 5.5 for more information).

Another income advantage concerns the yield achieved over time. Let's say you buy a stock like McDonald's, currently at a yield of 3.2%. If the firm continues to raise its dividends by about 20% per year, before long you will have an effective yield of 10% or even more. Consider Raven Industries. If purchased in 2003, and held for 7 years, it would have an effective yield of 11.23%. This does not include three special dividends of $1.25 per share during that period. If we were to integrate these with the regular dividend increases, the effective yield would be 33.88%. Some of my friends now have 20% effective yields on dividend-growth stocks, such as Johnson & Johnson and Procter & Gamble. These are stocks they have held for approximately 15 years.

4.8 Sector Diversification

Investment diversification is a hallmark of portfolio development. But diversification failed in 2008, when almost all asset classes declined by approximately 50%. Although the market has yet to normalize, we are likely to enter a more typical period in the next few years. Then, diversification should provide some insurance for investors. Think of it as a form of protection from loss of capital. The idea is to construct a portfolio using investments from different sectors of the economy; if one category of stocks declines, a different type might remain strong and increase income. Banks were once a great dividend-growth investment; lately, they have faced hard times. Airline stocks also have experienced difficulties, so we eschew those as well. Let us look at how we might implement a sector diversification strategy.

4.8.1 Banks

Although American banks are still in financial trouble, Canadian financial institutions are thriving. Reasonable investment choices are the Bank of Nova Scotia (BNS), Toronto Dominion Bank (TD), the Bank of Montreal (BMO), and the Royal Bank of Canada (RY).

4.8.2 Consumer Products

Watch for consumer product companies that offer reasonably priced items garnering widespread popular appeal. Some classics to investigate: Procter & Gamble (PG), Colgate-Palmolive (CL), Corn Products International (CPO), Hasbro (HAS), 3M (MMM), Coca Cola (KO), McCormick (MCK), Molson Coors Brewing (TAP), and the Dr. Pepper Snapple Group (DPS).

4.8.3 Energy

Coal and oil figure prominently in the energy sector. Presently these are the only energy sources, aside from hydro-electric, that do not require a subsidy. The strongest coal companies are Arch Coal (ACI) and Peabody (BTU). You can choose from among many more oil and natural gas firms, such as Exxon-Mobil (XOM), Conoco-Phillips (COP), Marathon (MRO), and Occidental (OXY).

4.8.4 Food and Restaurants

Even in good times, expensive restaurants offer poor choices on our investment menu. Going with the cheap and popular gives you a better chance to increase your investment income. McDonald's (MCD) is the star of this group, but Yum! Brands (YUM) is prospering too and it now has a strong presence in China. As far as food is concerned, you can go with raw, Archer-Daniels-Midland (ADM) or processed, such as Campbell's Soup (CPB), Kellogg (K), General Mills (GIS), or Heinz (HNZ).

4.8.5 Manufacturing

Since 2008, this field has seen increasing interest as the USA works to restore its former robust economy. Firms worth consideration are Honeywell (HON), Deere (DE), Lockheed Martin (LMT), Caterpillar (CAT), Becton Dickinson (BDX), and Raven Industries (RAVN).

4.8.6 Rails

After numerous twentieth-century mergers, only four large railroad firms survived. That is, until Nebraska billionaire Warren Buffett added all of Burlington Northern Sante Fe to his Berkshire Hathaway holdings. So now just three remain for investment. CSX, Norfolk Southern, and Union Pacific are good choices for diversification.

4.8.7 Retail

Once again, go with the most popular and low-priced. Walgreens (WAG) has become ever more ubiquitous and innovative, as it expands its in-store health care clinics and groceries. You cannot beat Wal-Mart (WMT) for large-scale retailing; it has dominated the US market and now the international retail sectors for decades. Target (TGT) maintains the same employment policies as Wal-Mart, but enjoys a better reputation. CVS Caremark (CVS) is a highly profitable, expanded pharmacy and retail competitor. A teen-speciality retailer to watch is the Buckle (BKE); look for special-dividend payouts. Family Dollar (FDO) does well generally and appeals to consumers in search of low prices. A lesser-known name, Ross Stores (ROST), also prospers by attracting bargain hunters.

4.8.8 Services

We can find many dividend-growth stocks in the service sector. Believe it or not, IBM belongs here since most of its revenue now comes from services. Other respected businesses are international logistics and shipping firms C.H. Robinson Worldwide (CHRW) and Expediters International (EXPD), and service providers Grainger (GWW) and Jack Henry (JHKY).

4.8.9 Technology

The technology realm is mostly devoid of dividends and dividend growth. Look for older companies that still flourish such as Microsoft (MSFT) or Intel (INTL). Since most firms in this sector do not pay dividends, diversification is extremely difficult here.

4.8.10 Utilities

Income seekers flock to the power sector. It beckons because utilities have once again stabilized; they are now paying and even raising dividends. Some of the best names to look at are Edison International (EIX), Excelon (EXC), Teco Energy (TE), Integrys Energy (TEG), Oneok (OKE), Westar Energy (WR), and Wisconsin Energy (WEC), it raises dividends 21.14% per year. Utilities offer a trade-off that demands careful thought: high yields and security, but lower dividend-growth rates than other sectors.

4.9 Stock Splits

Sometimes a company will declare a stock split when the price of its stocks rises to high levels. Typically, a firm will split two-for-one, thereby doubling its total number of shares and float. If the firm does not pay a dividend, this effectively

Table 4.7 Annual percentage dividend growth rates before and after 2-for-1 stock splits

Firm	Before	After
C.H. Robinson Worldwide	16.5	10.76
Exelon	14.04	11.38
Fastenal	61.89	19.01
Johnson & Johnson	23.8	14.94
McDonald's	6.99	54.64
Pitney Bowes	10.06	8.15
Procter & Gamble	6.12	9.88
Raven Industries	9.16	16.85
Sysco	13.89	19.12
Wal-Mart	15.56	17.26
Weyco	3.09	16.47

means no action at all: one has twice as many shares at half the previous value. But what about dividend-growth stocks? Do dividends grow faster or more slowly after a stock split? I investigated several firms and report the results in Table 4.7.

The arithmetic mean of the Before column is 19.845 and the After column is 17.4642. A paired two-sample t-test between the two columns was statistically insignificant. So Wall Street can laugh, but dividend-growth firms do continue to raise dividends after stock splits. Whether the pace is faster than earlier, depends, as always, on the individual firm.

4.10 Roth IRAs

A Roth IRA is your golden opportunity to build retirement capital without taxation. These IRAs are funded by after-tax capital and for that reason do not afford a current-year tax deduction. But this is more than compensated for by the fact that neither the capital nor the gains can ever be taxed. In other words, anything you put in a Roth IRA during your working years grows tax-free and comes to you in retirement tax-free. How about another reason to love Roth IRAs: they have no minimum distribution requirement. Traditional IRAs force investors to take increasing minimum distributions beginning at age 70.5. Not so Roth IRAs. Anyone with less than $105,000 per year in adjusted gross income is eligible for a Roth IRA. Couples can invest in two Roth IRAs as long as joint income is less than $167,000. But be careful. Higher incomes trigger decreases in benefits, and the reductions are quite large. So, if possible, it is best to maintain your adjusted gross income below the threshold levels. What if you earn too much money? There is a legal way to fund a Roth IRA: (1) late in the year, start a nondeductible IRA; (2) then roll it over to a Roth IRA. Congress now allows this.

Starting in 2008 any employer-sponsored retirement program can be rolled over to a Roth IRA. Think carefully about converting a 403(b) to a Roth 403(b), however, because taxes are due at the time of the rollover. Therefore, this works best at low levels of capital and at younger ages. The 2011 limit for a Roth IRA contribution is $5,000, or about $416.66 per month; those over 50 can invest $6,000. Only 19% of Americans have Roth IRAs. And although this makes Congress very happy because the government does not lose as much revenue, it saddens financial planners. More people should take advantage of this tax-free opportunity to save. Knowledge, in this case knowledge of the investment world, is power. Don't be afraid to use it.

But what to put in the Roth IRA? If the objective is retirement income, the danger is inflation, if the advantage is no taxation, then dividend-growth stocks and investment-grade bond funds optimize retirement capital. As should be clear from this chapter, dividend growth is effective against inflation. For retirement income, I prefer Roth IRAs to index funds.

All of these actions invoke another financial principle: *dollar-cost averaging.* This involves spending the same amount of money at designated intervals over a long period of time. Strictly followed, the strategy should even out the market's peaks and valleys. Making the same contribution each month or quarter (or even year for a Roth IRA) gives you more shares when prices are low and fewer shares when prices rise. Over time, this works well in all contexts except in a secular rise (a steady increase with no intermediate declines). But that is rare in the investment world. One easy way to invoke dollar-cost averaging is through free, fractional-share quarterly dividend reinvestment. A fractional share is a part of a share, e.g., 0.25, and over time, these fractions add up to whole shares, providing even more income. Fractional-share dividend reinvestment bolsters compounding and uses every penny of every dividend.

4.11 Choosing a Brokerage

If you decide to include dividend-growth stocks in your Roth IRA, how do you select a brokerage? Recall that the key is to minimize fees and maximize benefits. The easiest way to do this is to work with online discount brokerages, such as E-Trade, Scottrade, and TD Ameritrade. I prefer TD Ameritrade because it has a uniform trading fee of $9.99 and it offers full, free, fractional-share dividend reinvestment. In the last few years, E-Trade has experienced difficulties due to subprime mortgage bonds; it also has assessed a $40 fee on any account that is inactive for three months or more. A new entry to the online discount brokerage ranks is just2trade.com. It markets to "experienced investors" and charges only $2.50 per trade. Look into these and other brokerages to see what they offer. Most allow you free trading when you invest in an account for the first time. Competition is heating up in the online sector. Charles Schwab advertises $8.98 trades and Fidelity undercuts that price by $1.03. Zecco gives you ten free trades per year if you deposit $25,000 with them. That same amount in Bank of America or Wells Fargo gets you 100 free trades per year, but no free, fractional-share dividend reinvestment. Vanguard has surprisingly high commission levels. Nonetheless, at least $50,000 with them nets you $7 trades; and $500,000 reduces that to $2. A nice bonus is that Vanguard offers free, fractional-share dividend reinvestment. See David Swenson for a discussion of full service brokerages versus their discount electronic counterparts (Swenson 2005).

Watch out for financial firms' "wrap accounts." These are integrated money market and brokerage accounts, and they have high fees (typically 3% per year). Even pension funds are fighting wrap account fee battles now. The best advice I can offer is to choose a brokerage that does not offer wrap accounts.

4.11.1 Limit and Market Orders

Investors can purchase stock and closed-end funds in two different ways. The better method is a limit order. This directive places a floor on the sale price and a ceiling on the purchase price. These protect you from the vagaries of the market. The second way to purchase equities is via a market order. These orders fill instantly at whatever price the stock or closed-end fund is at the time of the transaction. Essentially, a market order is a free-for-all and a truly dangerous game to play. Consider the chaotic trading that occurred recently with Procter & Gamble stock. For about 2 min, during the flash crash of May 6, 2010, Procter & Gamble traded at $12 per share (normally $65). An investor surely would have appreciated having a market order at that time, but such opportunities are rare. Use limit orders, and do not trade with a brokerage that charges extra for them.

4.11.2 Ex-dividend and Record Dates

In order to receive a dividend the stock must be in your account by the ex-dividend date, a date determined and published by corporations that pay dividends. You will find that stock prices usually rise on ex-dividend days. This is because many investors purchase stocks on that day so they can obtain legal right to dividend; otherwise they must wait until the next quarter. Record dates are almost always three business days after ex-dividend days. That is because it takes 3 days to "clear" a trade, i.e., transfer from one owner to another. The record date is the date by which you must legally own the equity or closed-end bond fund in order to get the dividend. Incidentally, if you buy on the actual ex-dividend date, you generally do not really own it until the record date. Keep these dates in mind; they allow you to capture dividend income.

4.12 Build Your Own Personal Mutual Fund

We have made a case for dividend-growth stocks as an effective antidote to inflation. Young people have a great advantage in being able to develop their own personal mutual fund early, ideally in a Roth IRA. Regular contributions over the duration of a career allow the accumulation of many dividend-growth stocks. Coupled with free dividend reinvestment, this is an excellent way to build a portfolio that will continue to generate ever more income, even in retirement. Older people can do this as well, but lacking the running start of early career investment, amassing large numbers of shares is more challenging. Still, your goal should be your own free personal mutual fund that provides increasing income (O'Connell 2004).

Seeking Alpha is a website and e-mail service that offers investment information focusing especially on dividends and dividend growth. We share here a summary of its "ten commandments" for dividend-growth investors: (1) seek and identify firms that are committed to paying dividends and have done so for long periods of time; (2) invest in firms that raise their dividends annually and consistently; (3) choose firms with a low payout ratio; (4) choose firms with consistent earning growth or consistently increasing revenue per share; (5) do not go after high yields on stocks without verifying that the company has the revenue to sustain or increase its dividends; (6) invest in firms with great fundamentals, i.e., companies with low debt levels and increasing earnings; (7) be patient; (8) do not be a buy-and-hold investor, but rather a buy-and-monitor investor: be ready to sell if earnings decline; (9) build into your portfolio a core group of firms; and (10) create a steady stream of income from solid dividend-growth companies that will allow you to retire comfortably.

Later, in Chap. 7, we will focus on modern portfolio theory or asset allocation. For now, remember that dividend-growth stocks should form a major part of your total portfolio. This is especially important for academics, since we mainly have TIAA–CREF as a retirement vehicle, and, unfortunately for us, TIAA–CREF is essentially fixed income.

Chapter 5
Bonds and Bond Funds

Bonds can play an important role in your quest for retirement income. As in many other financial decisions, however, they may force you to compromise between certainty and risk. Quite simply, bonds are IOUs. They represent debt obligations or sums of money owed to the purchaser, and they act as vehicles for companies or governments to raise capital rapidly. But they come with a price for the borrower: interest. Customers receive “rent” or interest on those bonds as a price for loaning their money. Despite bonds’ utility as income generators, they should not constitute the majority of one’ holdings. Although inflation makes bonds problematic, they do have significant advantages: (1) they are not as volatile as stocks; (2) they pay income as a matter of course; and (3) bond holders are the first to be paid when a bankruptcy occurs.

Let us look at how the bond market works, how bonds are affected by interest rates, what forms bonds take, and then proceed to a more general explanation of bond funds as income sources. Along the way we will explore different types of bonds, including government, municipal, mortgage, and corporate bonds.

5.1 Why Bonds?

Bonds are the classic income-producing investments. An institution that needs money sells a bond. But it is difficult to sell bonds by oneself, so financial services facilitate this transaction. Usually brokerages and what used to be investment banks sell corporate bonds. Investors, insurance companies, banks, and other financial institutions buy the bonds which accrue interest payments every six months. The bonds have a finite life span and this “maturity” date is always clearly specified. Let’s say the date is a hypothetical 5 years. The purchaser then would get ten interest payments (remember, one interest payment every six months) plus all capital returned in the fifth year.

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Unfortunately, most bonds are callable. This means that if interest rates decline, the deal can be stopped. That is, the issuer can call back the bonds and pay purchasers the bond's face value or the amount of the original capital invested. The issuer does not pay interest not yet accrued. We cover this problem below.

Recently the real interest rate on the 10-year US Treasury bond was set at almost zero interest. This is highly unusual, even rare. Never accept zero return for your capital; always be a rent seeker. For more on how the bond market works, see Zipf (1997). Finance, even fixed-income planning, can be quite mathematical. We will minimize the mathematics here, but (Wise 2010) if you would like to see mathematics applied to bonds.

5.2 Forms of Bonds

5.2.1 General Considerations

Commonly issued by governments and corporations, bonds are available in almost any country in the world. In the current environment global bonds generally offer higher interest rates than do US domestic bonds. Elsewhere in the world foreign government bonds are not constrained by the US Federal Reserve's campaign of lowering long-term interest rates. Still, investors must be careful to find financially healthy governments and corporations before committing to foreign bonds. There is some currency risk associated with foreign bonds, but fund managers are certainly aware of these issues. US Treasury bills, notes, and bonds are considered to be the safest investments in the world, but the trade-off for that security is low interest rates.

5.2.2 Changing U.S. Savings Bonds

The familiar US EE savings bonds are available for purchase at a one-half of their final face value. Years ago the $100 US Government savings bond sold for $50, accruing enough interest that they achieved full value in 30 years. But times change. Now EE bonds are complicated: (1) for the first 5 years, they earn 85% of the 6-Month Treasury Bill rate, which is updated every six months; and (2) after 5 years they earn 85% of the 5-Year Treasury Bonds rate, also updated every six months. The Federal Reserve Board is deliberately depressing long-term interest rates in order to generate economic growth. Unfortunately, the current diminutive rate is subjecting bondholders to a severe disadvantage. Today savings bonds still pay interest for 30 years, but the bonds are not guaranteed to achieve their face value within that time period. As a result savings bonds are no longer the definite bargain they used to be throughout most of the twentieth century.

See: http://www.bondsonline.com/Search_Quote_Center/Treasury_Bonds

5.2.3 Bills, Notes, and Bonds

How many different kinds of bonds are there? Many! Let's take a look. In the world of many corporations and US Treasury securities, short-term obligations are called "bills" (most last less than 1 year), while "notes" are somewhat longer (10 or fewer years) and "bonds" are the longest (from 5 to 30 years). Almost all corporate bonds have terms of at least 5 years, and usually they have a higher rate of interest, but this is governed by the creditworthiness of the firm. The number of bonds floating around the world is extremely large.

5.2.4 The I-Bonds or TIPS Program

Treasury inflation-protected securities (TIPS) have been available for many years now. These are bonds that have an underlying interest rate plus an added rate for the consumer price inflation index (CPI). I am concerned about these bonds for two reasons. First, the underlying interest rate has been zero or near zero for several years. Second, the CPI, according to most economists, understates inflation. TIPS are certainly acceptable investments, but wouldn't you rather invest in bond funds that pay 8% to 10% and stocks that raise dividends more than the real inflation rate? TIPS bonds contrast with I-Bonds, or inflation bonds. I-bonds are not available in secondary markets; they must be purchased electronically through Treasury Direct. I-bonds function like savings bonds, so income-tax reporting can be deferred for 30 years, the period for which these bonds pay interest.

See: http://www.treasurydirect.gov/indiv/products/prod_tipsvsibonds.htm

5.2.5 Zero-Coupon Bonds

Increasingly, we find zero-coupon bonds. This is a bond that one buys at discount on the total, final face value, this discount is exactly the amount of interest one would receive on a regular bond. Let's consider an example: In a normal $1,000 corporate 5-year bond, interest at 6% generates a payment of $60 per year. One buys the bond at $1,000, receives interest for 5 years and then gets $1,000 back. Five years of $60 per year multiplies to $300. The bondholder receives a total of $1,300. In contrast, a zero-coupon version of the same bond sells for $1,000. At the end of the 5-year period, one receives $1,300, $300 in interest and $1,000 in return of capital. Hence, the interest is paid when the original investment is returned at the bond's maturity date. For the duration of the zero-bond, the secondary market (brokers who resell bonds) will price the bond higher if interest rates and inflation are down; brokers will sell it lower if either or both interest rates or inflation have increased (see below for an explanation of interest rates, inflation, and bond prices). Watch out for brokerage-stripped bonds. These are born when brokerages take regular, interest-bearing bonds, and strip the interest from them, and sell them as zero-coupon bonds (Littauer 1998). If you buy a zero-coupon bond, make sure it started life as a zero-coupon bond.

Alas, the tax implications of zero-coupon bonds are unpleasant. Most zero-coupon bonds are taxed every year for the compound interest that the bondholder will not get until maturity. There are municipal zero-coupon bonds available. Use those for college or retirement savings, because at least they avoid yearly taxation.

5.2.6 Mortgage Bonds: Make a Date with Ginnie Mae

Another type of bond has you making friends with Ginnie Mae and thereby choosing mortgage bonds. Ginnie Mae stands for the Government National Mortgage Association. This group does not offer Treasury bonds; those are offered by other parts of the government. Unlike her unruly siblings, Fannie Mae and Freddie Mac, Ginnie is well behaved and better than Treasury obligations. Why? Because she has two salutary qualities: (1) the federal government guarantees her interest rate; and (2) she pays a higher interest rate than do Treasury obligations. Caution: Ginnie Mae is taxable, so put her into a tax-free entity.

5.2.7 Municipal (Tax-Free) Bonds

We have a federal system of government, and that is significant with respect to the taxation of bond interest. If states issue bonds, the federal government may not tax the interest paid, just as states may not tax the interest on federal bonds. Most state and local bonds carry the label “municipal,” which actually means “city.” But when it comes to municipal bonds, it refers to their federal tax-free status. This is a real bonus for the investor. So, remember, one way to elude federal taxes legally is to buy one’s own state or city municipal bonds. Purchased from one’s own state of residence, these bonds are totally tax-free—no one can tax them, ever.

Something else to keep in mind is that all bonds from US possessions, e.g., Puerto Rico, Guam, and the Mariana Islands, are tax-free in all states just as if one had purchased a state municipal bond.

Investors can also find many national municipal bond funds. If you purchase one of these (one that has municipal bonds from many states), look for bonds from your state and from these possessions. If it has bonds from your state, that fraction of the income qualifies as tax-free. For example, if 5% of its bond income is from Vermont, interest income from that 5% is tax free in Vermont to residents of Vermont. Residents of states that have no income tax enjoy a special bonus. National municipal bond funds are completely tax free in such states.

Be aware that not all state bonds are tax free. Only so-called municipal bonds bear this desirable label. Many states now sell pension bonds to finance their public employee pensions. If you buy those, you face tax liabilities.

5.3 How Is a Bond Different from a Stock?

Bonds are better than stocks in the legal pecking order. We always hope we buy the securities of a strong firm. Nonetheless, corruption, changing markets, or other events may cause companies difficulties. If a firm finds itself in financial trouble, it is obligated by law to pay its bondholders before it pays anyone else. Second in line are its preferred shareholders (those who receive fixed dividends); its common shareholders are paid last (see Chap. 3).

From the court's perspective, bonds are safer than stocks, but most people are not aware of this. Older people, by virtue of their years of experience, have seen bond prices fluctuate repeatedly.

5.4 How Do Interest Rates and Inflation Affect Bond Prices?

Bond prices vary inversely with interest rates. That is, when interest rates go up, bond prices go down. Conversely, when interest rates go down, bond prices go up. Why? Because higher interest rates lead to higher yields. Existing bonds must fall in price to match contemporary interest yields. Inflation has the same effect because bonds are fixed-income investments. Bond prices go down when inflation rises because a higher yield is necessary for sufficient income. For investors the attraction here is a bond's interest rate. In order to secure capital, bond interest rates usually must be higher than the current interest rate. If they are not, why bother purchasing bonds? Buyers could simply deposit money in an FDIC-insured bank that offers the prevailing interest rate. Let's say General Electric (GE) wants to issue a 3% bond (or a bond with 3% interest) when the prevailing interest rate is 4%. GE would have to lower the bond's price proportionally so that the yield on its bond is slightly higher than 4%. This would make it more competitive and therefore more attractive in the market. The key concept here is that bond prices vary inversely with interest rates and inflation.

5.5 Bond Ladders

Experts do not recommend buying individual bonds unless the investor has at least $100,000 to invest at one time. However, if you wish to do so, the following information may be of interest.

As we pointed out earlier, most bonds pay twice a year. Some pay in January and July, others pay in February and August, and still others in March and September. When buying individual bonds, most financial experts suggest creating a bond ladder, a system of payments constructed so that one receives interest every month. This would require at least six different bonds, and sometimes it is hard to find good bonds that pay according to one's desired schedule. But ladders apply to more than monthly payments; they also cover the length of bond's life. Ideally, you should have short-term bonds (duration of 6 months to 3 years), intermediate-term bonds (4 to 6 years) and long-term bonds (7 or more years) in the fixed-income portion of your investment portfolio. Remember, if interest rates rise and/or inflation rises, bond prices will decline. Longer-term bond prices decrease the most, so begin purchasing short-term bonds when interest rates or inflation rises.

5.6 Callable Bonds

Most corporations and many governments issue bonds that can be terminated at designated times or after the passage of a specified amount of time. These are known as "callable bonds" because they bear a special section of text, namely, the call section. This wording states that whoever offers the bond retains the right to stop the bond issue early, that is, before the end date. Upon termination the sponsor can issue a new bond, but the new issue almost invariably carries a lower interest rate. In the final decades of the twentieth century investors frequently suffered the frustration of watching their successful bond ladders crumble when at least one of their bonds was called. The only way to avoid this is to purchase federal bonds; unfortunately, these carry a lower interest rate, and therefore, they provide less income.

Does laddering and dealing with calls sound like a lot of work and a lot of money? It is. But there is an easier and better way: buy bond funds.

5.7 Buy Bond Funds

Investors can circumvent ladder and callable problems with the purchase of a bond fund. Why bond funds and not stock funds? Managing a bond fund is relatively easy: (1) find bond ratings; (2) find a desired interest rate; and (3) find maturity. There is certainty in these decisions. On the one hand, stock funds must select companies that will succeed best in the coming year: impossible events to predict. On the other hand, fixed-income or bond fund managers take care of ladder and call concerns. Most set up a shareholder's fund to insure that the client receives the same payment in every month. For example, the PCM Fund pays 8 cents per month per share; the Pimco Income Opportunity Fund pays 19 cents per month per share. Incidentally, both funds pay special dividends in January. They also vary the duration or purchase short-term bonds when interest rates rise.

Those who are especially concerned about preserving capital should move to short-term bonds. However, if the goal is to maximize income, one can simply maintain the fixed-income share of the investment portfolio. Two counterintuitive reasons explain this: (1) price declines are advantageous in dividend reinvestment because it results in more shares, and this increases income; and (2) yields increase as prices decline. The second reason will not affect shareholders only if they buy more shares of a bond fund.

5.7.1 Forms of Bond Funds

Thousands of bond funds are available, but how do you find the right funds to satisfy your goals as well as our principles? How about a bond index fund such as Vanguard's Total Bond Market Fund? Although inexpensive, its disadvantages may outweigh its attraction: a low yield and taxable income may disqualify it. You could buy open-ended mutual bond funds. Consider William Gross's Total Return Fund. This fund carries a 5% load (sales charge), but it is still very popular because it has been so profitable. However, it too is taxable, and there is that high load. All mutual fund families, like Gross's Pimco, have bond funds. If you choose one of these, at least make sure it is a no-load (no-sales charge upfront) fund.

But you might think about another kind of bond fund that is relatively unknown, but worthy of your attention. This is the set of closed-end bond funds. Quietly earning dividends since the 1920s, most financial publications ignore them. Indeed most people are unaware that they exist despite the fact that they are not hidden; in fact a Google search results in 2.3 million websites.

Closed-end bond funds are a great buy. Purchased like a stock at a brokerage, one pays a commission, but free dividend reinvestment minimizes the costs. These funds never have loads or upfront fees. Best of all, most, although not all, have much higher yields than open-ended bond funds. Choose from among many published in the Monday *Wall Street Journal* or the weekly *Barron's* publication. Check them in Yahoo! finance. The Google finance website has not been very helpful. One must access lists of these things, and Internet searches might uncover them. But look for one with a good yield and one in which the fund brings in more money than the dividend it pays out, then consider buying it.

With current market conditions be certain to weigh two main factors when thinking about purchases. First, given today's low interest rates, high bond prices are the norm. But remember, as this relationship reverses and interest rates rise, bond prices decline in lockstep. Therefore, do not load up on bonds at this time; they will be cheaper later. Also, closed-end bond funds trade at either a premium or a discount to their basic net asset value (the value of all the bonds in the portfolio divided by the number of shares). Second, since most bond funds pay monthly, they compound monthly. This actually does not make a significant difference when dealing with relatively small amounts of money. Consider this: Ms. Compounding pays $2,000 plus transaction costs. She buys 100 shares of a bond fund for $10 per share. She also owns a $10 stock that pays quarterly, and she reinvests her 7% yield dividends on both the stock and bond fund. After 5 years the bond fund has $1,417.63, while the stock (which has remained at $10) is worth $1,414.78. Ms. Compounding is startled to find less than a $3 difference. The lesson here: at low levels of capital, compounding periods are not important. But do not be discouraged, read the bond compounding section below.

5.7.2 General Choices

Recent market turmoil following the worst 10 years in stock market history has caused me to reassess my investment strategy. Consequently, I have begun to focus more on fixed-income (bonds) as a supplement to equities. Choices abound here. One option is the CREF bond fund (do not confuse this with the Bond Plus Fund). Another, perhaps the best TIAA–CREF bond fund is the TIAA–CREF bond index fund, boasting the highest yield. Following are others one might consider: Vanguard's Total Bond Market mutual fund and exchange-traded fund (ETF), as well as many closed-end funds (remember, one buys these like stocks). Consider four bond funds especially one that buys investment-grade corporate bonds (PTY) and one that buys mortgage bonds (PCM):

1. Pimco Corporate and Opportunity (PTY) currently yields 8.3%
2. Pimco Corporate and Income (PCN) yields 8.4%
3. PCM Fund (PCM) mostly buys government mortgage bonds and yields 9.59%
4. Pimco Income Opportunity Fund (PKO), a global bond fund, currently yields 9.26%

Global bond funds are now good choices since yields in the rest of the world are higher than they are in the US. Pimco is the acronym for Pacific Investment Management, Inc., owned by Allianz (AZ), a German financial firm.

Income from these vehicles comes via interest and does not enjoy the tax advantages now provided to dividends. The exception, of course, is that in a Roth IRA they are tax free. One important principle in finance stresses acquiring more fixed income as one ages because bonds offer less chance of loss. But be careful: the most critical factor is dividend versus revenue per share in "key statistics" on Yahoo! finance. Avoid any fund whose revenue per share is less than or equal to the dividend.

Another kind of fund combines international stocks and investment-grade bonds. Again, it is a Pimco fund, Global Stocksplus & Income Fund (PGP). This fund uses global stock index derivatives (in the financial, not the mathematical sense) and limited-term investment-grade debt as income generators. A similar fund is the Madison Strategic Sector Fund (MSP); it has dividend stocks and call (buy) options. Still another is the Gabelli Global Gold, Natural Resources & Income Trust (GGN). I took a random sample of six of the closed-end bond funds shown in Table 5.1 and

Table 5.1 General closed-end bond funds

Fund	Symbol	Pays
Alliance Bernstein Income	ACG	Monthly
Alpine Global Premier Properties	AWF	Monthly
BlackRock Credit Allocation	BTZ	Monthly
First Trust Fidac Mortgage	FMY	Monthly
First Trust/Aberdeen Global Opportunity	FAM	Monthly
Helios Strategic Income	HSA	Monthly
Helios Strategic Mortgage	HSM	Monthly
John Hancock Income Securities	JHS	Quarterly
John Hancock Investors' Trust	JHI	Quarterly
PCM Fund	PCM	Monthly
Pimco Corporate Opportunity	PTY	Monthly
Pimco Corporate Income	PCN	Monthly
Pimco Income Opportunity	PKO	Monthly
Wells Fargo Advantage Multi-Sector	ERC	Monthly
Wells Fargo Utilities & High Income	ERH	Monthly
Western Asset Premier Bond Fund	WEA	Monthly
Western Asset Global Partners Income	GDF	Monthly
Western Asset Worldwide Income	SBW	Monthly

found that the average yield (annual dividend/price) was 9.0833%. If one invested $5,000 in a bond fund with that yield even with no additional infusion of capital the principal would double to $10,000 in just over 7.6 years.

5.7.3 *Closed-End Municipal Bond Funds*

One can several closed-end national municipal bond funds that can be purchased like stocks. These are federally tax exempt and totally tax exempt for those who live in states without income taxes. If you live in a densely populated state with high taxes, there are closed-end state municipal bond funds. It is worth the price of an issue of *Barron's* to see the lists of these state funds. Alternatively, Google "single state municipal bond funds." Table 5.2 lists selections and trade symbols for good funds for residents of high-tax, high-population states. Table 5.3 lists national closed-end municipal bond funds. These are federally tax free, totally tax free for residents of states with no income tax. To the extent that the fund holds your state's bonds, Puerto Rico, Guam, or Mariana Islands municipal bonds, you might even get a state tax break. Vanguard's High-Yield Tax Exempt Fund has only 27% of its bonds below investment-grade. I have always found Vanguard to be a careful firm with respect to bonds and other fixed-income instruments.

Table 5.2 State-level closed-end municipal bond funds

Fund	Symbol	Pays
Pimco California Municipal Income II	PCK	Monthly
Nuveen Connecticut Premium Income Municipal Fund	NTC	Monthly
Nuveen Massachusetts Premium Income Municipal Fund	NMT	Monthly
BlackRock New Jersey Municipal Bond Trust	BLJ	Monthly
Pimco New York Municipal Income	PNI	Monthly
Eaton Vance Pennsylvania Municipal Bond Fund	EIP	Monthly

Table 5.3 National closed-end municipal bond funds

Fund	Symbol	Pays
BlackRock Muni Quality	MQY	Monthly
Eaton Vance Municipal Income	EVN	Monthly
Nuveen Premium Income Municipal	NPM	Monthly
Pimco Municipal Income	PMF	Monthly
Pimco Municipal Income II	PML	Monthly
Pimco Municipal Income III	PMX	Monthly

5.7.4 Dipping Cautiously into High-Yield Bond Funds

In an environment of low interest rates as well as low general bond yields, we find increasing interest in high-yield bond funds. These bonds carry a rating below BBB, the rating low point for "investment grade." Following are four funds that generate more income per share than the amount of their dividend. Think carefully before purchasing these: (1) Dreyfus High Yield Strategies (DHF); (2) Invesco Van Kampen High Income (VLT); this one has the best revenue differential; (3) Wells Fargo Advantage Income Opportunities Fund (EAD); and (4) Western Asset High Income Fund (HIX). Absent another crash, these should work out well. But adverse conditions would be hard on these funds and trouble for shareholders. Caution is strongly advised!

5.7.5 Preferred Stock Closed-End Funds

Preferred stocks maintain a constant, high dividend. In this sense, they perform almost completely like bond funds. We can find several good closed-end funds that contain preferred stocks: Flahety & Crummine/Claymore (FFC); John Hancock Preferred Income II (HPF); finally, John Hancock Preferred Income (HPI). An alternative is an ETF, iShares Preferred Stock (PFF). These funds work best in a tax-deferred entity like a traditional IRA or better yet in a Roth IRA.

Table 5.4 Number of closed-end bond funds

Category	Number
U.S. mortgage	11
Investment grade	27
Global bonds	22
National municipal bond funds	119
Preferred stocks	27

5.7.6 How Many Available for Choice?

One advantage of focusing on closed-end bond funds is that we don't find many of them. Table 5.4 reports the category of closed-end bond funds and their number from a count derived from *Barron's*.

Researching this small number of funds is so much easier than checking the market's thousands of open-ended bond funds. Working with a discount brokerage makes acquisition easy, and as a bonus, these funds generally perform better than their open-ended cousins. Still another advantage is that one can see their revenue on Yahoo! finance, something impossible to do with open-ended bond funds.

5.7.7 What About Fees?

One of our principles is to minimize fees. Purchasing only Vanguard bond funds could accomplish this, but those funds have low yields. Some closed-end funds have exorbitant expenses, as high as 2%. Nonetheless, the fee is inherent in the price you pay. Therefore, the yield you get is the effective yield; you will have it as long as you own the fund. Your effective yield is the annual dividend divided by the total purchase prices plus a commission. If the yield is the highest available, and the fund is financially sound, then buy it. Many, especially Pimco funds, have lower fees. But, you can counteract high charges by purchasing a fund at a discount on its real price (net asset value). *Barron*'s and Monday's issue of the *Wall Street Journal* list these funds and their prices compared to net asset value. Most readers pay no attention, but the effort is worthwhile. Use that information before you buy any closed-end fund.

This small sample should convince you of success with these little-known bond funds. Purchased at a brokerage that offers free dividend reinvestment, shares constantly accumulate and they do so at no cost each month. Except for municipal bond funds, these are ideal inclusions in tax-free entities such as a Roth IRA.

5.8 Compounding Bond Interest

We return now to compounding, this time with respect to bond interest. Let's examine three bond funds, one open-ended and two-closed-ended. Our open-ended choice is Vanguard's total bond index fund. Its current yield is 3.12%. The two closed-end funds are Pimco's Corporate Opportunity (PTY), an investment-grade bond fund with a yield of 8.3%, and Pimco's Income Opportunity (PKO), a global bond fund whose yield is 9.26%. We assume that we have three individuals, 30, 40, and 50 years old, all of whom invest to the maximum amount every year in a Roth IRA ($5,000 under 50 and $6,000 over 50). We penalize the closed-end purchases with $10 per year in commission costs. See Table 5.5 and note that the compounding shown is annual because the contribution is annual. But since all of these bond funds pay monthly, the actual amounts would be somewhat higher than as is shown in the table.

Are bond funds with such high yields safe? Pay no attention to ratings; look only at the revenue generated. All of these funds have excess revenue with which to pay the dividend and even to pay special dividends in the case of the closed-end funds. Financial writer Michael Lewis calls the Pacific Investment Management Co., the next thing after putting money in a mattress. It is conservative and safe. In fact, the firm's reputation is so strong, it now serves in an advisory capacity to President Obama's administration. I have held these funds for years and have watched them perform optimally during that time.

Now let's find out how to compound bond interest. We can calculate this in either of two ways. First you could use a website to do it. The URL is:

http://www.moneychimp.com/calculator/compound_interest_calculator.htm

Second, use the formulae below. We start with one capital investment instead of incremental or regular investments. This is a fairly straightforward, if advanced, computation. We show expressions for quarterly compounding (e.g., the John Hancock funds) and monthly compounding for most other funds for a period of 5 years (note: $i =$ interest rate):

$$C_0\left(1+\frac{i}{4}\right)^{20};\ C_0\left(1+\frac{i}{12}\right)^{60}.$$

Now, we show the more complicated compounding formula for constant investment. Let us say that Ms. Prompt invests $500 per month in a bond fund. Here is

Table 5.5 Compounding to age 67 with three bond funds

Age	Capital per year	Vanguard	PTY	PKO
30	$5,464	$436,728	$1,348,869	$1,504,873
40	$5,633	$279,471	$601,757	$671,358
50	$6,000	$162,066	$251,788	$290,900

the general formula: $(\left[\frac{1+i}{12}\right]^{12\times\text{Years}}-1)/\frac{i}{12}$. Now, we plug in an 8% interest rate for 5 years, or 60 months: $(\$500)\,1+\frac{0.08}{12}^{60}=\$36,738.43$. This is approximately the amount resulting from 5 years of investment at $500 per month.

5.9 Make Bond Funds Part of Your Portfolio

We have emphasized that bonds and bond funds should be one of the principal income generators in investment. They should therefore be prominent in your investment portfolio. However, they should not constitute more than 50% of your holdings, even in retirement. The reason for this is, of course, inflation. Dynamic income growth in your investments is a must to counteract the devastating effects of inflation. Bond funds that pay even 8.5% require a great deal of capital if they are destined to replace income. It would take $14,177 invested in such a bond fund to generate just $100 per month, or $1,200 per year.

As you have seen, closed-end bond funds perform generally much better than open-ended funds. One can achieve higher yields and free monthly dividend reinvestment with them. As capital grows, the monthly addition of shares should make an important contribution to retirement income. And placed in a Roth IRA, these funds are completely tax free.

Chapter 6
Master Limited Partnerships

How would you like to get completely tax-free income both at the federal and state levels? It sounds good, but there is a catch. What if I were to tell you that the income is tax free because it is the return of the money you originally invested? That puts a different spin on things. And that, in a nutshell, is how MLPs work.

In this chapter, we cover a kind of investment that you might think is simply crazy. But prepare to be converted. These can be terrific investments and the best thing about them is that they pay you a great deal of tax-free income.

How is this possible? In order to explain it, you need to know about the origin and operation as well as other details about MLPs.

6.1 Origin of Master Limited Partnerships

The 1986 Tax Reform Act recognized that the USA faced severe infrastructure problems. Our interstate highway system worked well, as did our airports. But we had a real shortage of pipelines to transport energy and water.

So, Congress took up this complex problem. Their challenge? How can we fund construction of an enlarged pipeline system, and do this without using massive amounts of taxpayer dollars or reducing the current stream of revenue? A congressional staff member devised a unique solution: develop an entity called MLP. This process is fairly simple. An existing energy firm would be designated "general partner." This company would create a business entity, mostly specializing in pipelines, that would bear the title MLP. The general partner would arrange financing by selling units of the limited partnership. In return unit holders would receive an extra bonus; they would be paid money, in this context called distributions, in the form of tax-free return of capital.

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6.2 The Operation of Master Limited Partnerships

The general partner creates, controls, and administers the legal entity MLP. In turn, the MLP controls and administers pipelines as well as amusement parks and a few other types of enterprises. Most MLPs are pipelines. These businesses gain revenue by charging tolls for transporting fluids through their pipes. In this sense, their revenue stream is wholly different from that of a corporation. The general partner controls at least 2% of the MLP's "units" and investors buy the remainder. On the surface units seem similar to corporations' shares, but they differ enormously. Shares confer partial ownership in a firm. Units do not. They simply give the purchaser the right to distributions; they do not confer ownership in the MLP. The general partner, not the unit holder, retains sole liability.

Here is the attractive part of the plan. The MLP would not be subject to federal taxes if it returned all of its revenue (beyond costs) to its limited partners, the unit holders. And because the MLP is simply returning money that was paid into the partnership, unit holders would not have to pay tax; they are getting their money back, not receiving new income. This is similar to laws governing bond income. Holders are taxed on earned interest, but not on the return of their capital, the principal. In MLPs one pays a minor amount of tax on interest or dividends the partnership received, but no tax on the return of capital, the original investment.

This is puzzling. You spend capital to buy an MLP. The MLP returns your money. What have you gained? Nothing. This seems utterly insane! But it is really not so crazy after all. Let's look at the following scenario for an explanation.

Brenda and Billy Billings, both 49 years old, are aware of the need to save and invest for retirement. Since they have little knowledge about finance, they go to a fee-only financial planner, Jessica Jensen.

Ms. Jensen looks over their finances and concludes they need something tax free. Because they really cannot afford more federal and state income taxes, they should look into municipal bonds or Roth IRAs. But Billy and Brenda live in Illinois, where municipal bond funds are scarce, and the couple's income is too high to qualify for a Roth IRA.

In this instance, the planner recommends a MLP. When Brenda asks why, Ms. Jensen responds "Because you need tax protection. These investments will not be taxed, as long as you do not receive more from them than you invested."

Now Billy is confused. "What difference does it make how much we invest if the dividends are tax free?" inquires Billy.

Ms Jenson responds: "These are distributions—not dividends. Distributions are tax free, but only up to the amount that you invested."

Billy and Brenda do not understand. "OK," says Brenda, "why are these, uh, distributions tax free?"

"They are tax free," says Ms. Jensen, "because they are giving you your money back."

"Why this complicated investment just to get our money refunded?' asks Billy.

"Good question" says Ms. Jensen. "You could get a Certificate of Deposit, but you would pay tax on the interest. You could buy a bond, but you would pay tax on the interest there as well. You could buy an annuity and lose all of your capital upon death. An MLP is the only investment that costs you no taxes. If you buy a lot of an MLP, you can retire with tax-free income and never run out of capital. Since you will be 50 soon, it is a perfect time to start investing in these."

The Billings are intrigued, but still confused. "We have to buy a lot of units of an MLP so it will pay us when we no longer work?" Brenda wonders.

"In part," answers Ms Jensen, "but the other part is that you owe no tax while you are working either. Now is the time to build a large position, i.e., a lot of units both in distribution reinvestment and open-market buying, so that you can coast into retirement without paying a lot of taxes along the way."

Billy has one more question, "What happens if we get back all the capital we invested, and then get more distributions?"

Ms. Jenson replies, "Then you would pay tax on the distributions, not the 15% dividend tax, but tax on distributions as ordinary income."

That is the logic of MLPs. They work beautifully if you are attentive to your capital level and invest wisely.

6.3 How Do MLPs Differ from Corporations?

The first major difference is that MLPs cannot stand alone; a general partner must find them and subsequently administer them. This is critical. In the 1990s, Enron created Northern Border Partners as a MLP. When corruption caused Enron to collapse on December 2, 2001, Northern Border Partners was in trouble. As a MLP, it was one of the only entities left in Enron that earned cash (hundreds of millions of dollars) for the bankrupt company, and these were really large amounts of money. The directors of Northern Border Partners cast about for a new general partner and found one in the natural gas firm Oneok in Oklahoma. It took 6 years for the bankruptcy court to release Northern Border Partners from Enron. Now known as Oneok Partners (OKS), the MLP enjoys a healthy stream of revenue in its revitalized life with its new general partner.

Typically, the general partner has a 2% stake in the MLP and receives a graduated amount of money from it. Usually, this is governed by the level of distribution the MLP provides to its limited partners, i.e., unit holders. When the distribution is large, as it is with most MLPs, the general partner gets 25–50% of the distributions. This is a good return for a 2% ownership of a business. Would that individual investors could arrange a deal like this!

The second characteristic that distinguishes MLPs from corporations is a big one: MLPs do not pay taxes. These are the responsibilities of the general partner and limited partners. But remember, limited partners enjoy tax-free return of capital and pay only a meager amount of tax based on interest or dividends that the MLP may have received. Thus, the way the law was written, the general partner pays some, but not much tax, the MLP pays nothing, and the limited partners pay very little, almost nothing. So, who loses? The tax collector. But the original plan in 1986 acknowledged this would happen. Who wins? Most of the players do quite well. The government ends up with strengthened infrastructure without directly footing the bill, although clearly it sacrifices some tax revenue. The general partner enriches itself from the MLP's revenue stream. And the unit holder gets regular, even increasing distributions, on an almost completely tax-free basis.

6.4 Institutions and MLPs and Inheriting Master Limited Partnerships

But that is not all you need to know about MLPs. Until 2004, only individuals could own these. Although the law frowned upon placing them in an IRA or other tax-deferred or tax-free entity, it was a great time for individual ownership. Before 2004, MLPs were affordable, high-yield, tax-free investments with relatively stable prices. Older people who needed retirement income bought them and then passed them on to their heirs. This maneuver was attractive because of an MLP feature called "step up." Step-up resets the MLP's (and also all stocks') value at current prices on the day the MLPs are received after the probate court approves a will. Another great provision is that the amount of capital the deceased already received is immaterial. Anyone with inherited MLP units is accorded the right to a new beginning with respect to return of capital.

Let's consider an example of an MLP legacy. Alicia and Albert Brown owned units in three MLPs. When they died, they willed all their possessions to their daughter Anna. After successful probate court proceedings, Anna took control of the three MLPs. Officials then calculated the total amount of her capital by multiplying all of the MLP units by their closing price (determined on the day Anna took possession of the units). At that point, Anna began afresh with zero return of capital. She could then receive distributions tax free until she used up all the capital in each of the MLPs.

Congress finally succumbed to pressure and allowed corporations and institutions to buy MLPs beginning in 2004. Now, one can even find mutual funds that own only MLPs. Never, ever, buy such a mutual fund—they are too expensive and do not provide good dividends. Their main disadvantage? The distributions are taxable; in this case, the fund absorbs the MLP benefit.

Today we see tremendous competition to own MLPs. Since corporations and institutions have snapped up so many units, the field of MLPs is not the investor's delight it once was. But it is still worth your while to invest in them.

6.5 Tax Returns and Master Limited Partnerships

Consider another intriguing aspect of the MLP story. During your working years, you should opt for free distribution reinvestment through a brokerage. That will build units while not affecting the amount of return of capital. How? You receive distributions, but you turn these around to buy more units. This process allows you to maintain a steady state, neither losing nor building capital. You simply accumulate more units with no additional financial commitment or risk—a great arrangement during working years.

So far, so good. MLPs may be starting to look attractive. You invest in them at one time, during a later period they pay you back and all of this is tax free. Aside from receiving only your initial capital investment back, are there no disadvantages?

6.5.1 K-1 Forms

Yes, one disadvantage looms large: Taxes are quite difficult to compute. The K-1 forms that MLPs distribute in late February or March are abstruse documents that can try your patience. Consequently, you are likely to trigger an Internal Revenue Service audit if you file your own taxes when you hold MLP units. I strongly recommend hiring a certified public account to calculate your taxes.

Perhaps the following story will illustrate the complexities associated with MLPs. Years ago I worked with an older couple in Washington state. The father and mother were active investors and owned many units of MLPs. These people had one daughter who married and eventually moved to California. The mother passed away in 2002, leaving a living trust filled with, you guessed it, MLPs.

Meanwhile, the surviving father continued to invest, again mostly in MLPs. When he died in 2006, he left an estate of $3 million; $2 million was in those MLPs he loved.

Once the daughter took care of estate taxes, her inheritance amounted to $2.5 million, the bulk of which was in the form of 38 different MLPs. She got a step-up in value, i.e., the prices of all the MLPs were valued at the current price on the day she received the units. This increase in capital to be returned was accompanied by a fresh status (as a new owner) of zero capital returned. The daughter began to receive a tremendous amount of tax-free income, all of which she joyously spent. She was not interested in reinvesting at all.

In fact, the daughter never became an active investor. So, I contacted her to warn her about running out of capital. She grew alarmed, checked her K-1 forms, and found out that she was indeed “in the hole.” Now she owed taxes at her marginal rate on two MLPs. At that point that she declared that she detested MLPs and wanted to get rid of them. I helped her shift out of several and replaced them with closed-end California municipal bond funds.

The daughter, her CPA and I have conferred many times about her investment plan. She remains determined to divest her holdings of all MLPs.

The moral here is that one should avoid MLPs if one does not want to actively invest. Since MLPs raise their distributions fairly often, it takes a relatively short period of time for a noninvestor to run out of capital, especially if the owner is not vigilant.

As long as one's holding in an MLP is small, no other disadvantages arise. Aside from daunting tax computations, you need only check your return of capital on the K-1 forms. This will help you know when to reinvest so you keep the tax man from your door.

6.5.2 Taxes Due in Several States for Large Holders

Perhaps you are familiar with the old adage, "too much of a good thing is not good." That sentiment applies here as well, particularly with respect to MLPs and taxes. You will sail into dangerous waters if you have a substantial portion of a MLP. In this case your tax liability grows, not at the federal level, but rather with the state, or rather the states. MLPs are mostly pipelines that cross many state lines, and predictably, each state wants its share of the pie. This is one of the reasons the Washington family I helped had 38 MLPs. The father recognized the potential for a huge state tax liability. So, rather than sinking more than $2,500,000 into one MLP, he invested smaller amounts in many MLPs. Most people never become entangled in this kind of investment problem, but everyone should be aware of it.

As with all investments, you must find good firms, in this case, MLPs. Hopefully my information will help you in this search. MLPs can be purchased just like stocks. But because MLPs do not pay taxes, they can acquire capital much more readily and more cheaply than can corporations.

6.6 Solid MLPs

Most MLPs raise their distributions, so they account well for inflation. How do they increase their payout? By acquiring more pipelines and securing more rent for their pipeline services. Consider this example: Richard Kinder of Kinder Morgan Energy Partners recently bought El Paso Energy for $38 billion plus assumption of El Paso's debt. Since tolls are the revenue source for MLPs, this acquisition will significantly augment Kinder Morgan Energy's toll-taking revenue.

Experts usually consider pipelines the best in MLP investments. You can also find amusement parks, water parks, and other such entertainments; however, these are much riskier enterprises than are pipelines. Table 6.1 shows a list of MLPs that are solid and had demonstrated good performance at the time of writing. Note that TC Pipelines does not manage, but only finances pipelines. It does not get its hands oily. Its general partner is the strong firm Trans Canada.

Table 6.1 Master limited partnerships' and distribution increase rate per year

Name	Symbol	Distribution increase rate (%)
Boardwalk Pipeline Partners	BWP	8.2
Buckeye Partners	BPL	7.84
Enbridge Energy Partners	EEP	6.2
Enterprise Product Partners	EPD	6.34
Energy Transfer Partners	ETP	16.99
Inergy LP	NRGY	4.9
Kinder Morgan Energy Partners	KMP	7.26
Magellan Midstream Partners	MMP	6.8
Markwest Energy Partners	MWE	8.76
Natural Resource Partners	NRP	5.66
Oneok Partners	OKS	6
Plains All American	PAA	6.2
Sunoco Logistics	SXL	9.41
TC Pipelines	TCP	5.12

6.7 Do Not Put MLPs into an IRA

Previously, we heartily recommended Roth IRAs. But in this case, it is unnecessary as well as foolish to put a tax-free entity into a Roth or any other IRA. It also may run you afoul of the law. The problem arises because of an Internal Revenue Service rule on "unrelated business taxable income." When one has run out of capital to be returned, then MLPs' distributions become taxable as ordinary income. Unrelated business income and ordinary taxable income do not mix well in any tax-deferred or tax-free legal entity.

In fact, the law prohibits tax-exempt institutional organizations, such as pension funds and university endowments, from owning units of MLPs. Again, this is attributable to the rule governing unrelated business income.

6.8 Asset Allocation and MLPs

We focus on asset allocation in Chap. 7, but this is one area in which MLPs shine. They correlate with almost no other asset class, and that is the hallmark of asset allocation safety. Modern portfolio theory stresses investing in uncorrelated businesses in order to protect oneself in times of economic trouble. Thus, from an asset allocation perspective, it makes sense to own at least some units of one or more MLPs. And as we noted in the Washington family's investments, MLPs also work well in estate transfers. Remember, the heir is allowed a step-up in the value of the units and the return of capital scale is reset to zero. Not only that, but heirs also may choose either to sell the MLP units or to maintain them as sources of income.

6.9 Beware of Congress

Congressional committees attempting to cut fiscal deficits often consider revoking the tax-free status of MLP distributions. We see renewed interest in this solution now. One reason is that the USA faces a chronic, severe national debt problem as well as an acute fiscal deficit that must be resolved. Another reason is that since institutions now can own MLPs, the revenue shortage has become more serious. Nonetheless, do not worry about an attack on MLPs. Every time our legislators consider revoking the tax-free status of MLPs, they stop for the same reason they first created the partnerships in 1986: the need for private investment in infrastructure. This is a public good that benefits everyone who uses water, natural gas, and oil or gasoline. Congress is well aware that if they were to tax MLPs, we would see a fire sale of units. We would also find very few new investors to support this unique partnership.

6.10 Should You Become a Unit Holder?

The characteristics of MLPs make them good choices for many investors, but not all. Please understand that this is not a one-time investment. If one enters this limited partnership world, it must be with the understanding that continuous investment in the MLP is necessary in order to reap the benefit of constant tax-free income. Immediately after investing in an MLP, the next step should take one to a CPA's door.

How much money must you commit to MLPs? As usual, the answer depends. Consider OKS. This MLP recently split its units two-for one, and it now pays a $2.38 distribution per year. Let us say that you paid $92,000 for 2,000 units. If you receive a distribution of $4,760 per year, you would reap 20 years of tax-free income.

This is when things get dicey. Distributions become taxable at this point because you have received a total return that is equal to your initial investment of $92,000. If, however, you sold the MLP at this point, you would incur a capital gains tax on your initial investment, or $92,000. In the 25% bracket your tax would be $13,800, or almost 2 years of distributions. But it could amount to much more. The reason for this lies in the way the cost basis of your MLP is calculated. Look at Table 6.2. Each year you receive distributions, your cost basis (your entire investment minus the total amount of the distributions) declines. When you begin to receive more money in distributions than you originally invested, the game changes. Just like the daughter in our story, you are "in the hole" and you face a large tax liability. Your annual distribution amounts continue to be subtracted from your initial investment. This is the reason that investors who purchase large chunks of an MLP rarely sell when they exhaust their capital to be returned. They simply pay taxes on the distributions. In doing so, they avoid the capital gains tax on an amount that would supercede their MLP investment. Table 6.2 starts in year 15.

Table 6.2 Cost basis declines in a master limited partnership based on 2,000 units of Oneok partners

Year	Cost basis
15	$25,360
16	$20,600
17	$15,840
18	$11,080
19	$6,302
20	$1,560
21	−$3,200
22	−$7,960
23	−$12,720
24	−$17,480
25	−$22,240
26	−$27,000
27	−$31,760
28	−$36,520
29	−$41,280

Hopefully, Table 6.2 will cause investors to think deeply before committing to MLPs. In year 29, the capital gains tax bill would be $19,992 for anyone above the 15% tax level. Remember, if you run out of capital to be returned, you pay tax on the distributions as ordinary income, not dividends. Now let us recount the advantages: (1) tax-free income at the federal and state levels; (2) uncorrelated with other investments, so excellent for asset allocation; (3) raise their distributions regularly so they fight inflation in retirement just as dividend-growth stocks do; and (4) provide step-up value in estate and the (heir-) owners get a reset to zero capital returned.

Now we consider the disadvantages: (1) you receive tax-free income only up to the amount of money you invested; (2) if you buy too much of an MLP, you might be liable for taxes in several states that the pipelines transit; (3) the K-1 forms make tax preparation difficult and require the help of a certified public accountant.

If you are interested in MLPs and would like more information, see these websites:

http://www.investopedia.com/articles/basics/07/ml_partnerships.asp; and
http://www.dividendyieldhunter.com/Master_Limited_Partnerships.

Chapter 7
Build Your Own Portfolio

Asset allocation involves the most important decisions investors can make. So, why is it buried in this chapter? Because first you must know the array of choices available for investment. We have covered dividend-growth stocks, bonds, and bond funds as well as MLPs. This places you in position to decide how much of each category is appropriate for your interests and goals. In this chapter, we look at all of the common sources of income, then we recommend stocks and bonds as the core of any investment portfolio. Table 7.1 indicates the importance of portfolio construction (from Gibson 2000, p. 13).

Remember that retirement accounts such as TIAA–CREF should be included in asset allocation. Decades ago when I began as an assistant professor the choices at TIAA–CREF were simple: TIAA Traditional or the CREF stock account. Now the choices number too many to allow reasoned consideration. But it is vital that you try because your asset allocation represents your total investment holdings. This includes IRAs, 401(k)s, 403(b)s, Keogh plans and all of the separate investments you hold.

We start this chapter's investigation with modern portfolio theory, the origin of asset allocation. This theory started its life in mathematical form, but we can readily understand most applications of it. Harry Markowitz, the developer of modern portfolio theory, writes that "a good portfolio is more than a long list of good stocks and bonds. It is a balanced whole, providing the investor with protections and opportunities with respect to a wide range of contingencies" (Markowitz 1959, p. 3).

7.1 Modern Portfolio Theory or Asset Allocation

The revolutionary theory for which Harry Markowitz won a Nobel prize in 1990 says that to determine asset allocation one should work with the efficient frontier[1] curve (Markowitz 1959). This is complicated, especially when it is based on

[1] An Internet search will tell you what this means.

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Table 7.1 Determinants of portfolio performance

Category	Importance (%)
Asset allocation	91.5
Security selection	4.6
Market timing	1.8
Other factors	2.1

Table 7.2 Portfolio composition, simplified (5-year returns)

Portfolio composition	Average (%)	Best (%)	Worst (%)
100% stocks	10	29	−12
90% stocks, 10% bonds	9	27	−10
70% stocks, 30% bonds	9	23	−6
50% stocks, 50% bonds	8	21	−3
30% stocks, 70% bonds	7	21	0

Table 7.3 Asset allocation and results of the credit crunch era (from Morningstar)

U.S. stocks (%)	Foreign stocks (%)	Bonds (%)	Cash (%)	Results (9/1/08–3/9/09)
50	30	15	5	−38%
45	25	20	10	−33%
25	25	25	25	−24%
23	17	40	20	−18%

predicted, i.e., not actual, data. A tangent line is drawn near the apex of the efficient frontier curve. Then one moves left for less risk in a portfolio or right for more risk. But not even Harry Markowitz actually uses this. Most applications are similar to the one I present in Table 7.2 from data provided by Roger Ibbotson:

Most pension funds use an asset allocation formula of 60% stocks and 40% bonds, a distribution that has only one-half the standard deviation of a 100% stock portfolio. That is, it has much less volatility than a portfolio containing only stocks. Increasingly these days, we need to provide our own pensions. The sixty–forty stock–bond allocation makes sense even for younger people. If you want to analyze your portfolio allocation, go to Morningstar.com and use its "Instant X-Ray" feature. This is for mutual funds. For stocks, go to troweprice.com. In the case of Table 7.2, the bond-dominant portfolio proved better, but that is not always the case, especially in times of high inflation.

7.1.1 What Happened in the Credit Crunch?

Table 7.3 shows the results of portfolio allocations in the recent crash. The portfolio showing the lowest costs had the most bonds and fewest stocks. This did not emanate from a set of normal market conditions. We explore more normal conditions below.

Table 7.4 Level of stocks as a percentage of a portfolio given risk tolerance

Heavily risk-averse	Moderately risk-averse	Average investor	Moderately risk-tolerant	Heavily risk-tolerant
30	42	56	70	83

Table 7.5 Correlations of asset classes with large-cap domestic stocks

Asset classes	2/28/2000	2/28/2006
Treasury bills	0.34	−0.58
Treasury bonds	0.37	−0.54
Commodities	−0.14	0.33
Small-cap stocks	0.62	0.94
Hedge funds	0.35	0.96
Non-US stocks	0.32	0.96

The credit crunch forced reconsideration of asset allocation. In Table 7.4 you will find FinaMetrica's new parameters in a portfolio with stocks (versus bonds) according to risk tolerance.

It may come as a surprise that a heavily risk-averse investor should allot 30% to equities. But, remember that bonds are fixed-income instruments. They do not perform well under inflation or increasing interest rates. Conversely, stocks do, but at a far higher level of risk. Conservative investors can turn to other opportunities such as balanced funds. For example, Vanguard Wellesley Income (VWINX) put 60% of its assets in high-quality bonds and the rest in dividend-paying stocks. This fund lost just 10% in 2008, and has recorded only three down years in the last 15. You won't get rich quickly with such a choice, but neither are you likely to wind up broke. The truly risk-averse can turn to the Vanguard Short-Term Federal fund, it buys Treasury bills. Although it yields just 1.5%, it does not lose money.

7.1.2 Asset Correlations

For the most part, asset allocation strategies emphasize buying uncorrelated assets. This is integral to diversifying for safety. Yet, as we have pointed out, diversification was of almost no use in 2008. Everything declined markedly. Confusing as it may be, sometimes assets correlate positively, but at other times they vary inversely. Consider Table 7.5 from Kaye (2008) that displays asset correlations from 2000 and 2006:

We must emphasize once more that asset allocation decisions are the most consequential any investor can make. One must always balance risk and return. Risk averse investors can still do well with large capitalized dividend-growth stocks and solid, investment-grade closed-end bond funds. But some experts advocate mutual funds to achieve a productive balance (Bernstein 2001; Gibson 2000). David Swenson, Yale University's investment director, wrote one of the best books on the

Table 7.6 Performance of stocks and bonds from 1960 to 2005

% Stocks	% Bonds	Average annual return	Real average return	Worst annual loss
0	100	7.1	2.8	−8.1
20	80	8	3.6	−8.2
30	70	8.4	4	−8.4
40	60	8.7	4.3	−11.3
50	50	9.1	4.7	−14.1
60	40	9.4	5	−17
70	30	9.7	5.3	−19.8
80	20	10	5.5	−22.7
100	0	10.5	6	−28.4

subject; it is well worth your reading (Swenson 2005). You can also read a textbook on asset allocation: Elton (1984). If you would like Wall Street's perspective, one that focuses on capital gains in stocks, see Stovall (2009).

7.1.3 *What a Normal Market Looks Like*

Table 7.6 shows information 1960 to 2005. Vanguard computed the data in 2006, and the table appeared in Kaye (2008). These numbers reflect more typical stock and bond market behavior.

7.2 Keeping Costs Low

We have stressed purchasing individual stocks and bond funds. Why not stock funds, too? Because they are too costly for the benefit they provide. Let us look at the real costs of mutual funds, and then we will examine a set of model portfolio allocations. Table 7.7 analyzes the *Money* magazine 70 mutual funds list as well as its list of largest mutual funds. Vanguard charges the lowest fees, so we separate it to compare the price investors pay. We have included 114 funds in the combined list (labeled "All funds" and 85 in the non-Vanguard list). You may also want to see the cost difference between load and no-load funds in (Kaye 2008, p. 97).

As you can see, buying a mutual equity fund removes a portion of your working capital every year, actually every month, by charging fees. Vanguard captures less than all others, but it still has fees. Wouldn't you rather buy dividend-growth stocks and pay no fees whatsoever, no matter how many years you own them? We tried to convince you in Chap. 4 that dividend-growth stocks were easy to find and buy. I strongly advocate this on the stock or equity side of investing. I also encourage purchasing closed-end bond funds. Although they have fees, buying them at a given price locks in a yield irrespective of fee.

Table 7.7 Annual costs of mutual funds at various capital levels

Category	$1,000	$5,000	$10,000
All funds	$68.08	$340.08	$680.77
Non-vanguard funds	$82.24	$411.12	$822.35
Vanguard funds	$26.04	$130.21	$260.41
Dividend-growth stocks	$0	$0	$0

7.3 Income Sources

Let us now consider a range of income sources and vehicles that can generate income for you.

7.3.1 Bonds

Bonds are a good source of revenue. But as fixed-income sources, they are vulnerable to inflation and changing interest rates. So, although you should have a good quantity of bond funds, limit them to no more than half of your portfolio. This is important even in retirement because inflation could slash your income severely.

7.3.2 Dividend-Growth Stocks

As we discussed in Chap. 4, dividend-producing and especially dividend-growth stocks make good sense. They defeat inflation by increasing income, and they are the best value for generating revenue. You might, for example, buy Wal-Mart (WMT) with a 1% yield. But if you hold it long enough, eventually it will yield more than any good bond fund. Dividend-growth stocks are dynamic sources of income; they should be a major component of any income portfolio.

7.3.3 Master Limited Partnerships

Master Limited Partnerships or MLPs are great income producers as long as you closely monitor your capital level (see Chap. 6). They give you income called "return of capital". This means that they give you back your money and lower your investment cost in some cases to below zero. Typically pipeline firms, these companies move oil, natural gas, and water. Some of them have great yields; most at least raise their distributions annually.

So we have bonds, dividend-growth stocks, and MLPs. Hold on, more income sources are on the way.

7.3.4 Real-Estate Investment Trusts

Real Estate Investment Trusts, or REITs, took it hard during the 2008–2009 credit crunch. Some of them have recovered, but caution is the word here. Most REITs are still shaky and do not constitute a sound investment at this time.

7.3.5 Royalty Trusts

Royalty trusts: avoid them! These oil and natural gas trusts begin life by paying relatively high dividends or royalties. But instead of increasing payouts over time, the amount of the dividend or royalty shrinks. Why? Because of the nature of the operation. The trusts invest in oil and gas fields, and as the oil and gas are removed, resource reserves decline; consequently, so do royalties. My elderly uncle liked these, and they were reasonable for him because of their large initial dividends. But trusts do not make sense for anyone except the elderly. Younger people need increasing, not decreasing income.

7.3.6 Annuities

Annuities range from truly horrible high-cost investments to some of the best low-cost income producers. You must know what you are doing before you dabble in these. It is true that annuities pay you monthly for life. But you may not know that after you die, the insurance company holding your annuity keeps all of your money. It is not part of your estate. That includes TIAA–CREF. Consider immediate annuities only if (1) you do not have a great deal of retirement capital; (2) you do not have heirs to whom you would like to leave invested resources; and (3) if your health is not good. A few companies now offer some options to leave capital to heirs, but watch carefully for restrictions. Under no circumstances consider an equity-indexed annuity. These are heavily restrictive and carry the highest fees of all.

7.3.7 Preferred Stock

We learned in Chap. 5 that preferred stock is a hybrid of stocks and bonds. Just like a bond, the dividend is fixed, i.e., it never changes. In bankruptcy, payouts go to bondholders before anyone else. Preferred stockholders receive payment next. Be alert to this payoff hierarchy. In a company nearing bankruptcy, investors are safer and better off holding the company's bonds.

7.3.8 Certificates of Deposit

You might already be aware of certificates of deposit or CDs. These conservative income investments are taxable and they have low interest rates. Without intending to be morbid, I recommend them only for the elderly because of an inherent clause called a death put. A death put requires the bank holding the CD to immediately give the heir or the estate all the money the CD would have compiled at full maturity. This is true even if more time remains on the CD when the owner passes away. For example, if the CD were slated to mature in 5 years, but the owner dies in 3 years, the bank must pay the estate the entire 5-year maturation amount. This is a thoughtful and comforting provision for the heir. If you ever become executor of an estate, be sure to look for CDs. You can tap these for readily available funds rather than use your own personal money to cover expenses.

7.3.9 Beware Structured Investments

Be extremely wary of brokers or financial advisers who want to sell you "structured" investments. Created by financial institutions, these are derivatives (the financial kind, not the mathematical kind) of regular stocks and bonds. An example is a "principal-protected note." Sounds great, doesn't it? Even better than a bond. But contrary to its name, many principals have not been protected; in fact many have gone bankrupt. These investments usually carry high fees and are opaque to the investor. Stay away from these unless you can establish the financial stability of the note. Stick to stocks and bond funds, and you should be all right.

7.4 Model Portfolios

Most financial planners design model portfolios based on their clients' personal profiles. Many respected financial publications offer their own plans. Let's examine three age-based modern portfolios that *Smart Money* published in its November 2011 issue. Table 7.8 displays these suggestions.

Table 7.8 Asset allocation by age-group

Age	Situation	Stocks (%)	Alternative assets (%)	Bonds (%)	Guaranteed assets (%)	Cash (%)
35	Couple with child	55	10	28	0	7
42	Couple, one works	50	15	20	0	15
75	Widow	20	0	20	50	10

Table 7.9 Asset allocation by risk tolerance

Investment	Conservative	Conservative-moderate	Moderate	Moderate aggressive	Aggressive
Cash	20	20	15	10	5
Bonds	60	50	35	20	5
Stock	20	30	50	70	90

7.4.1 Age-Based Asset Allocation

Published by Dow Jones, Inc., *Smart Money* is less risk averse than other publications. Note the large allocation to alternative assets, the names of which the magazine did not specify. As I made clear in Chap. 3, always look upon "alternative assets" with healthy skepticism. Still, if you want to see more of this, go to http://www.smartmoney.com/perfectportfolio.

7.4.2 Some Additional Asset Allocations

7.4.2.1 Risk Tolerance

The Wealth Equation by Peter Tanous gives us our next set of asset distributions (Tanous 1999). Tanous based these not on age, but rather on risk tolerance. Table 7.9 comes from the modal category of investors.

7.4.2.2 Combining Age and Risk Tolerance

We have examined portfolios based on age and on risk tolerance. Now we will combine the two factors in a portfolio allocation for a period when the market trades within a narrow range of prices. A technical analyst, a person who attempts to predict stock prices based on previous patterns, developed Table 7.10 (Pistolese 2008).

Note that the strategies above use preferred stock as a substitute for bonds. In the retired category we find both preferred stocks and bonds. One should understand that this is also a growth-oriented portfolio, whereas we advocate being rent seekers and value investors.

Table 7.10 Asset allocation by age and risk tolerance

Age	Objectives	Investments	Risk level
20–32	High income with capital gains	Small growth stocks; REIT fund	Elevated/low
35–50	High income with capital gains	Medium growth stocks; REIT fund; preferred stocks	Elevated/low/very low
50–66	Preserve capital & high income	Preferred stocks; REIT fund; utility stocks	Very low/low/low
Retired	Preserve capital & high income	Preferred stock; bonds; world equity; TIPs	Low/low/none

7.4.2.3 Model Portfolio

Is there a portfolio that could work for everyone? Here we will try our hand at it. We will plan a reasonable portfolio for people with a variety of life, family, and financial circumstances. We will try to be specific and we will certainly stress dividend-growth stocks and bond funds. Note that financial professionals add bonds even to young investors' portfolios. Let's stay with the tried and true pension allocation of 60% stocks and 40% bonds. This ratio uses stocks to protect against inflation and fixed-income bond funds to provide certain income as well as special dividends. We present only one portfolio. Why just one? Given the equity and bond markets' recent volatility and their worst performance decade in history, even the young needs to be cautious.

Since this volume is dedicated to income, it is income that we stress. However, that is not the approach that most finance professionals take. Far more typical is this philosophy (Pistolese 2008, p. 45):

> In the time between the ages of 20 and 35 the objective is to achieve maximum capital appreciation by taking elevated, but reasonable risks.

This quotation comes from a book published in 2008. Considering the cataclysmic economic and financial events of that year, subsequent optimism about capital appreciation in growth stocks is unwarranted. In my view, investors should be cautious about asset allocation. Picture the world's current depressed labor markets. Europe has only begun to address its severe deficit and debt problems, and it has no guarantee of a total solution. Japan carries the largest debt burden in the democratic world, and the US government is still grappling with fiscal deficits and national debt. America's companies are sitting on mountains of cash, but they are reluctant to invest during the current unsettled political and economic environment.

The portfolio depicted in Table 7.11 deliberately emphasizes dividend-growth stocks that are (1) sector diversified (railroad (CSX), food delivery (SYY), medical retail (WAG), and a utility (WR)); and (2) relatively inexpensive. Low prices are best

Table 7.11 Model income portfolio

Dividend-growth stocks	Bond funds
60%	40%
CSX Railroad (CSX)	PCM Fund (PCM)
Sysco (SYY)	Pimco Corporate Opportunity (PTY)
Walgreens (WAG)	Pimco Income Opportunity (PKO)
Westar Energy (WR)	Western Asset Premier Bond Fund (WEA)

when starting an investment program simply because one can afford more shares to begin the compounding process. The most expensive stock here is Walgreens, currently priced around $34. The bond funds are all solid closed-end funds that provide reliable income month in and month out as well as special dividends once per year. For under $17,000, one could purchase 100 shares of each of the dividend-growth stocks and bond funds.

But what if you do not have $17,000 to invest? Just pick them off one at a time. First buy one, then another and keep going until you have built a portfolio that satisfies your goals. What would 100 shares of each of these pay?

1. CSX: $48
2. SYY: $108
3. WAG $90
4. WR: $128
5. PCM: $96
6. PKO: $228
7. PTY $138
8. WEA: $132

This amounts to a grand total of $968 per year, a yield of 5.69%. The mean dividend growth rate of the stocks is 16.89%. This tells us that the $374 from the stock portion of the portfolio compounds at almost 17%, far above current inflation.

The bond funds pay $594 per year and compound at a mean level of 8.82%. So, the bond money would double in 7.86 years and triple in 12.47 years. For a starter portfolio these are good growth numbers. What would happen in 10 years? The bond portion of the portfolio would increase from $6,800 to $16,185.77. The income from stocks would increase from $374 per year to $1,703.45. These figures result from dividend reinvestment, but they assume no further purchase of stocks or bond funds. Now let us examine Tables 7.12 and 7.13, one for bond funds and one for stocks. We show how this model portfolio would develop over time. We assume only savings of $100 per month or $1,200 per year.

Table 7.12 Acquiring bond funds

Year	Funds	PCM	PKO	PTY	WEA
1	$1,200	100	0	0	0
2	$1,329	108.9636	0	0	0
3	$2,529	118.7339	0	100	0
4	$2,045	129.4006	0	108.1948	0
5	$3,245	140.995	0	117.0611	0
6	$1,511	153.6336	0	126.654	0
7	$2,711	167.4047	100	137.033	0
8	$1,332	182.3739	108.8406	148.2625	0
9	$2,532	198.7211	118.1628	160.3823	0
10	$3,732	216.6336	128.6091	173.5253	0
11	$1,526	236.0428	139.979	187.7423	0
12	$2,726	257.2007	152.354	203.1274	100
13	$2,347	280.2551	165.8231	219.7732	108.3597
14	$3,547	305.367	180.4829	237.7831	117.4183
15	$2,674	332.7396	196.4687	257.2689	127.2341

Table 7.13 Acquiring stocks

Year	Funds	CSX	SYY	WR	WAG
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	$3,245	0	100	0	0
6	$1,511	0	103.681	0	0
7	$2,711	0	107.6388	0	0
8	$1,332	0	111.8945	0	0
9	$2,532	0	116.471	0	0
10	$3,732	0	118.3934	0	100
11	$1,526	0	123.3971	0	102.424
12	$2,726	0	128.76	0	105.3773
13	$2,347	0	134.3774	0	108.595
14	$3,547	100	140.423	0	112.1659
15	$2,674	107.14	146.932	100	116.12

7.4.3 Acquiring Bond Funds Incrementally

You can see the accumulation that bond funds produce. These bond funds, in the fifteenth year alone, generate $1,288.86. Actually, the sum would be much larger, because all of these bond funds pay special, additional dividends at the end of the year. Pimco Income Opportunity (PKO), a global bond fund, is the most expensive bond fund at $25. The PCM Fund is a mortgage bond fund; Pimco Corporate Opportunity (PTY) and Western Asset Premier Bond Fund (WEA) are investment-grade funds. Finally, William Gross, who is widely regarded to be the most knowledgeable person in the world about fixed-income investments, directs

PTY. These are not high-yield funds per se; nonetheless, they have relatively high yields. Now let us purchase some stocks. We bought bond funds first, largely because they are cheaper. But we must acquire some dividend-growth stocks as well, if only to combat inflation.

7.4.4 *Acquiring Stocks Incrementally*

We cannot predict the level of income that stocks will produce, because we do not know what their dividends will be. Yet this is the inflation protection part of the portfolio.

The selections are diversified well considering that our sample has only four stocks and four bond funds. They are also affordable. With a great deal of capital investors could buy one or more of McDonald's, Yum! Brands, Honeywell, or Deere.

But I have attempted to design a starter portfolio with a goal of steadily accumulating stocks and bond funds as years go by. Note that we did not include any MLPs for the reasons we discussed in the previous chapter: (1) the necessity of hiring a professional to insure tax compliance; and (2) the demand for continuing investment. However, if you do work with a CPA, you could easily substitute a pipeline MLP (see Chap. 6) for Westar Energy, since most MLPs are in the energy sector. Westar Energy raises its dividend 5.72% per year. You might be able to find an MLP that does better.

If you seek even more income, look at the closed-end bond fund or balanced fund sector. For example, BlackRock's International Growth and Income Trust (BGY) currently has a yield of over 17%. This trust is a global fund that can invest up to 80% of its capital in equities, i.e, stocks. Even so, it has a remarkably high income level. Don't be afraid to keep tabs on the list of closed-end funds; sometimes you can find other attractive opportunities like BGY. If one invested in BlackRock's trust, the yield you get at the time of purchase is your net yield. This is because the fee is embedded in and drawn from additional revenue that the fund receives. That is always the case with closed-end bond funds, but equity funds have variable dividends depending on the stocks they own. Carefully watch the performance of these special funds before investing in them.

7.5 Asset Allocation: Stocks and Bond Funds

Now that we know more about dividend-growth stocks, bond funds and modern portfolio theory, what should be your approach to asset allocation? This is an individual decision. It depends upon your: (1) tolerance for risk; (2) estimate of inflation and the level of interest rates; (3) overall level of capital; and finally (4) how much you hold in retirement accounts.

If you are risk tolerant, you should own more dividend-growth stocks than bond funds. If you are risk-averse, you should still make sure that at least 40% of your portfolio is in dividend-growth stocks, or MLPs (see Chap. 6). If you predict a rise in inflation and interest rates, you should allocate a higher proportion of your investment holdings to dividend-growth stocks, for dividend growth is the best way to counteract inflation. If you have a great deal of money to invest, then a 60% dividend-growth stock and a 40% bond fund distribution are wise. This is the classic pension fund design as well as an excellent antidote to inflation and high interest rates. If most of your capital is in retirement vehicles such as TIAA–CREF, then you should try to reduce your tax liabilities. This is especially important if you annuitize with TIAA–CREF and thereby get twice the income your capital normally would produce (see Chap. 8). Purchase municipal bond funds and MLPs; then open a Roth IRA. Always remember the four principles we have stressed: (1) maximize income; (2) minimize fees; (3) minimize taxes; and (4) reinvest dividends. We can now add one more: make sure your portfolio is diversified and safe.

Chapter 8
Retirement Income

Retirement income is a three-legged stool. Sounds strange, but it is an apt metaphor that will help you remember the three crucial pillars of retirement support: (1) Social Security; (2) the increasingly rare pension; and (3) personal savings and investments. For academics, two of the legs are the same: (1) Social Security; and (2) personal savings and investments. But we substitute TIAA–CREF for the pension leg. Three-legged stools do not stand up well if one leg is shorter than the others. If all are of different length, it becomes a most unstable stool. Some may ridicule this metaphor with respect to retirement income, but others swear by it.

The median net worth of those 65 or older is $170,494, most of which is probably the value of a house. This net worth is 42% higher than in 1984, but it is inadequate to generate a comfortable retirement (Yahoo! News, survey by Pew Research Center, November 7, 2011). If at all possible, you should amass a higher level of financial capital for retirement.

Let's try a different scenario with a new metaphor: a thermometer scale. Our goal of total yearly retirement income is at the apex; various income sources accumulate to push you toward the top. Academics should think about increasing gradations of retirement capital to complement other sources of income, such as Social Security. We start with TIAA–CREF and personal savings and investments. Few choices exist for cold temperatures (low levels of capital), better arrays are available for moderate temperatures (medium levels of capital), and a panoply of alternatives exists at the highest temperatures (large amounts of capital, i.e., over $2 million)

The American Association of Retired People (AARP) lists three critical questions for retirement income: (1) How long will you live? (2) How much will you earn on your investments? and (3) How much income will you need? We cannot help with the first question, but we will address how much you can earn on your retirement investments and we will show you how to increase income levels. With respect to the third question, We have learned that a good beginning retirement income is $100,000 (see Chap. 1). The focus of the present chapter is how to go about generating that considerable sum.

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How did the special world of retirement funding for college professors develop? At the outset of the twentieth century few people invested, and Social Security had not yet been born. At that time the ivory towers harbored poorly paid scholars who often found it difficult to meet daily needs, let alone save for the future. Professors, in retirement, were abjectly poor. In stepped Andrew Carnegie, who recognized an opportunity to help these impoverished individuals. Using his own money, Carnegie established the Teachers Insurance and Annuity Association. This served the professorship well, because it started a defined-contribution retirement program in the form of an annuity. In the 1950s, other forward-looking entrepreneurs set up the College Retirement and Equity Fund, yielding TIAA–CREF. CREF was allowed to buy equities or stocks, and for many years TIAA was a bond unit. Today, the majority of professors find most of their capital tied up in TIAA–CREF. Unfortunately, TIAA–CREF still assumes that members want to annuitize, but more on that later. Our first foray into retirement income focuses on where most of the money resides.

8.1 Dealing with TIAA–CREF

If your retirement benefits are with TIAA–CREF and you have TIAA Traditional, in reality is a bond fund, you might think about getting out of it. But read on so that you understand why. TIAA Traditional's intensely restrictive rules severely limit your choices in retirement. It is not easy to leave TIAA Traditional: to begin the process one must, in accounting jargon, "journal out" over 10 years. In other words, one is allowed to remove 10% of TIAA Traditional money every year for 10 years. I have heard so many horror stories from estate lawyers, financial planners, and bank trust officers about TIAA Traditional that I recommend considering the journaling out process. Note that this only applies to TIAA Traditional in a university's mandatory retirement system. If one's TIAA Traditional is in a 403(b) or supplemental account, the money is completely unrestricted.

Here is a new and contradictory wrinkle: TIAA Traditional is the only TIAA–CREF vehicle that will allow one to retain principal and take only interest payments. If you decide to keep TIAA Traditional for your retirement, upon your death, all the restrictions vanish for those heirs who will receive the money. In turn, they should roll the funds over to a traditional IRA. They could legally put it in a Roth IRA, but exorbitant taxes would make that prohibitive.

The other difficulty TIAA–CREF presents is restrictions on converting retirement capital to income. If you would like an annuity (and they are intensely eager for you to want an annuity), then conversion is easy. But remember, the instant you sign the annuity papers, you surrender to TIAA–CREF every penny in your TIAA–CREF accounts. Thus, none of your capital is available to your heirs because you have no more capital. Except for the highly limiting TIAA Traditional, TIAA–CREF makes no provision for those who ask for dividends and interest payments as well as the preservation of capital. Remember, TIAA–CREF is essentially an insurance firm. Thus, all TIAA–CREF funds are mutual funds, and all TIAA or CREF funds are variable annuities. If your goal is to preserve principal, you should invest in the TIAA–CREF mutual funds; then, the officers must tell you how much money the mutual funds will provide. TIAA–CREF suggests investing in bond funds from which you could withdraw 5% per year. It is possible this would be successful. However, given that none of their bond funds yields over 2.52%, taking 5% would deplete capital rather quickly (see also the 4% takeout rule below). I personally plan to take no more than 3% from bond funds.

TIAA–CREF would like to see everyone annuitize, and it is not difficult to understand their motive: they absorb all of the money in your account the moment you annuitize. Your capital level goes to zero and your money adds to their growing amount of proprietary capital. This is the way an annuity works at any insurance company. TIAA–CREF is no different, except that they pay twice as much on your annuity as your capital would earn normally. They are also legally required to compute mandatory distributions after age 70.5.

TIAA–CREF employs "wealth advisers" to work with professors who have accumulated at least $500,000 in TIAA–CREF. These consultants, who according to the Internet earn about $120,000 per year, plus lucrative bonuses, can be useful. But understandably they remain steadfast in their loyalty to the company. In addition they do not like to hear that other financial institutions do better than they do. But it is a fact that at TIAA–CREF one needs more capital to generate the same level of income one would receive at other financial institutions, unless of course one annuitizes.

TIAA–CREF provides what is known as a defined-contribution retirement account. Translation: you and your employer are responsible for building sufficient retirement savings for your goals. You will rely solely on your own (and perhaps your spouse's) contributions and capital gains. Therefore, you should develop and execute your own retirement funding road map. Professors have pioneered this system just as Andrew Carnegie envisioned. Private businesses used to fund pensions, but their employees are now in worse shape than academics are (Schulz 2011). So if you are unhappy with TIAA–CREF, consider the alternative. Most company retirement plans, if they have one at all, are in the form of a 401(k). These vary by employer, and they are widely viewed as not conducive to a comfortable retirement (Wolman 2003).

Therefore, we are lucky to have TIAA–CREF, but we can wish that it served us better. It pioneered the now ubiquitous defined-contribution retirement income plan. Yet, as we point out above and below, TIAA–CREF does not provide as much income as do other sources. It has lower level immediate annuities, and its bond funds pay less than Vanguard bond funds. Currently, TIAA Traditional is at its lowest level of payment possible, just 3% under its charter. In addition, TIAA Traditional is the only fund that pays monthly income without reducing principal (Enteman 1992).

8.2 Social Security

Social Security is a large part of any retirement income, and it is absolutely vital to most Americans. Seventy-five percent of our seniors begin taking Social Security at age 62. This early withdrawal cuts their monthly benefit by 25% for the rest of their lives. Furthermore, if they work during the ages 62–66, they can be liable for hefty income taxes. In 2005, people from 65 to 69 had a median income of $17,934, almost all of which came from Social Security. Most academics presumably take Social Security later, and therefore receive higher payments.

Social Security is a pay-as-you-go defined-benefit system. Essentially this means that other people pay for your Social Security benefits. Anyone accepting this income for more than 5 years is actually getting free money. Could this defined-benefit plan be converted to defined-contribution? Yes and quite easily too. Most workers and their employers pay a sum of 12.4% of the total salary (although that is curtailed in 2011), and that money is generally exhausted in 5 years.

But a relatively simple program could remedy this shortfall. The federal government could invest all the contributions from workers 30 years old and younger in corporate bonds. At a rate of 5% the sum would grow to $780,000 by the time those people reached age 66. A second part of this plan would have the government taking bids from insurance companies. In today's low interest rate environment, this would provide a monthly annuity of $4,885—4.25 times the current median Social Security payment. And a system such as this would remove forever the burden of Social Security from the US taxpayer.

These days when one mentions Social Security, the air resounds with "It won't be there for me!" Well, maybe, maybe not. When Roosevelt created Social Security in 1935, life expectancy was the early sixties. No one anticipated the pool of octogenarians currently receiving monthly benefits. Now, life expectancy of both men and women approaches 80 years, and we see massive dependence upon this money. We also find widespread alarm about its sustainability in its present state. Yet, as we suggested above, Social Security is actually the easiest entitlement system to fix. Medicare, by the way, is a much larger obstacle to repair. The challenge facing Social Security is a diminution of its tax base. By the middle of the twenty-first century only 2.5 people will be in the workforce supporting each retired person. This presents a serious problem.

A little history might illustrate how we got into this fix. In the latter part of the twentieth century Congress expropriated $6 trillion from the Social Security trust fund. Our legislators kindly left an IOU, and this was incorporated into our national debt. At present the trust fund controls only $2.6 trillion, and without reforms it is projected to be able to pay about 75% of its obligations throughout this century. We can hope that Congress will address this issue in a nonelection year.

I believe that we can count on at least something from Social Security. However, the wise person should definitely supplement it with TIAA–CREF as well as with personal savings and investments.

Table 8.1 Reduction in capital requirements through social security

Income	Means you need
$50,000	$1 million
$45,000	$1.1 million
$40,000	$1.2 million
$35,000	$1.3 million
$30,000	$1.4 million
$25,000	$1.5 million

Now let us turn to a happier prospect. Any amount that Social Security or a supplemented by a pension pays will reduce the amount of capital you need. Table 8.1 shows reduced capital requirements (assuming a base amount of $2 million) for various levels of income:

Let's now take a look at those personal financial commitments, starting with fees.

8.3 Minimize Costs

As wonderful as is compounding of dividends, compounded costs are terrible. Remember, our relevant costs are fees, taxes, and inflation. We want to minimize the first two and elude inflation altogether. Think about this sobering, imaginary tale fashioned from data provided by Vanguard founder John Bogle, stalwart champion of the individual investor (Bogle 2009). A baby is born on January 1, 1960. Her grandmother is so enthralled that she gives the infant $1,000 in cash. The baby's mother prudently sends the money to a mutual fund that holds a representative sample of common stocks. Fast forward to January 1, 2010. Our baby is now a successful professional woman. Has her investment matured as well? The stock market gained 11% per year during the latter half of the twentieth century and one into the first decade of the present one (5% of that 11% was from dividends). So her investment is now worth $184,600. Terrific!

But let's look a little more closely at this scenario. The woman's money was invested in a mutual fund, so knock 2% per year off for management fees. That lowers the total to $74,400. And don't forget that this was a taxable mutual fund, so we must cut another 1.5% off the total for a yield of $37,000. So far, we have lost $147,600 due to fees and taxes. But don't forget inflation! The mean inflation rate for this period was 4.1%, which brings the investment total for 50 years down to $5,300. This is a fivefold increase in real dollars, i.e., controlled for inflation, but not much of value after all these years. So, watch those expenses! Calculate the geometric mean of TIAA–CREF costs, and see where you will stand at the end of your investment period.

Fees are the bane of an investor's income-generating ability. TIAA–CREF's Equity Index has increased fees 9.56% per year since 2003. The CREF bond market has increased fees over 8% per year. If our retirement funds were at Vanguard rather than TIAA–CREF, we would have amassed more money, simply because

Vanguard’s fees are lower. But be careful; even Vanguard assesses high fees simply for advice on portfolio allocation ($40–$60 per $10,000 invested).

Vanguard’s S&P 500 and Total Stock Market index funds pay quarterly, but they pay a different amount each time. Other index funds pay semi-annually or annually, so, they are not the optimum choice for income.

If you don’t care to investigate equities or their individual pitfalls, you can minimize fees by purchasing exchange-traded funds (ETFs). But you must be selective. These tend to be index funds, perfectly good vehicles for the long term, but harder to convert into income. To invest in the Standard & Poor’s (S&P) 500, you might select SPY; it charges only 9 cents per $100. Vanguard’s All World ETF uses the FTSE All World ex-US Index (the world minus the USA), and charges 25 cents per $100. Young investors might like the growth potential (and possible risk) of a small-capital index. The better one is the S&P SmallCap600 (IJR). It performs twice as well as the Russell 200 (IWM) index because the S&P firms are very carefully selected. Also check PFM, an ETF based on the Mergent’s Dividend Achievers index. Recently, it has posted a low yield and has issued highly variant dividends. A better choice for income might be the iShares IBoxx High Yield Bond (HGY); its yield is 9.81%, and it costs about $90 per share. These indexes tend to be cheaper than their respective mutual fund counterparts. However, one must buy them at a brokerage. This might incur a one-time fee, but electronic brokerages allow many to be acquired without commission. An advantage of these ETFs outside a Roth IRA is that they are tax efficient. They do not distribute capital gains because they do not buy and sell stock. Dividends carry taxes, but at a lower rate.

Nonetheless, most ETFs that represent equities make it difficult to generate income. They are very much like index funds, great as low-cost investments. But like index funds, they are frustrating because they typically pay dividends only once or twice a year, whereas a retiree generally needs constant infusions of income. ETFs and index funds usually provide highly varied dividends, so these investment vehicles may not be right for everyone.

8.4 Personal Savings and Investments

The third leg of the proverbial retirement stool rests on personal initiative, i.e., activities each individual can undertake to brighten prospects for a comfortable retirement. This category presents the greatest possibilities and differences among choices. Most seasoned professors enjoy a substantial sum at TIAA–CREF and can count on Social Security as well. From that point onward individual choices vary widely.

We began this volume with the expectation that everyone needs $100,000 in income, and due to the pressures of inflation, that amount should increase over time. Social Security growth once kept pace, but not anymore. Despite significant inflation, Social Security has remained stagnant. The government promises to make cost-of-living adjustments in 2012.

Table 8.2 Ideal vs. reality in retirement accounts

Topic	Ideal	Reality
Contributions	10% by age 35	10% by age 55
Loans	No loans	20% take loans from retirement accounts
Early withdrawals	None	15% take early withdrawals
Retirement	Take less than 4%	Many take 20% from retirement accounts per year

Unless bond interest rates rise in the future, we can regard TIAA–CREF as low fixed income. But even higher interest rates will not change income very much. The personal level, then, must do double duty: it must nudge the thermometer reading discussed above the rest of way toward $100,000. It must also find a way to increase that money even during retirement. This is a vital component of retirement income. The larger you can make your income, the more comfortable your life. Dividend-growth, special dividends, and dividend reinvestment combine into a powerful force driving both capital and income growth. The more years this process plays out, the better your retirement years will be.

To make this point more salient, we now investigate the 4% take-out rule, an inherently dangerous principle for retirement income.

8.4.1 The Dangerous Four Percent Take-Out Rule

For decades, financial planners have advised retirees that they could withdraw or use 4% of their retirement capital each year without fear of running out of money. Don't listen to them: this is dangerous! Here's why: Let's say Mr. Blue retired in 2007 with $1 million. He takes 4% in 2007, leaving him with $960,000. Then, after the market crash in 2008–2009, Mr. Brown finds he has only $480,000 left. Now what? He has less than one-half $1 million after only 2 years of retirement. Both his finances and his future now are in jeopardy. The worst-case scenario is that he could burn through all of his capital and become a ward of the state. This story is fiction, but the circumstances are not, and unfortunately, it does happen these days. Here is William Bernstein's take on the problem. In his most recent book he reasons this way (Bernstein 2010):

> At a 2 percent withdrawal rate, your nest egg will survive all but catastrophic institutional and military collapse; at 3 percent you are probably safe; at 4 percent you are taking real chances; and at 5 percent and beyond, you should consider annuitizing most, if not all, of your nest egg.

Most people are unaware of the severity of this problem. The results of a recent poll are sobering: 31% of respondents think that a 4% rate is good; 26% think that a 7% withdrawal rate will work; and 43% seek to withdraw 10–15% per year! Table 8.2 shows the retirement ideal versus the reality of withdrawal.

A Yahoo! poll in late 2011 asked retirees if they had to dip into their savings in order to meet financial obligations. Results show tremendous unanticipated need: 57% of the sample answered yes, they did tap their savings; 10% predicted they would have to soon; and only 33% answered no.

Ideally your goal should be a zero take-out rate. In other words, you should try to live on dividends, bond interest, Social Security and TIAA–CREF funds that you receive. Note that this is difficult at TIAA–CREF; except for TIAA Traditional because no ready mechanism exists for investors to receive income without annuitizing. One can realize some benefits by not annuitizing: (1) it preserves one's capital in case one has either an opportunity or a pressing need for money; (2) it protects retirement capital for heirs. Ignoring the temptation to annuitize may seem impossible, but it is worth your best effort. The financial empires of most wealthy barons of the past (e.g., Vanderbilts or Goulds) exhausted all of their resources and collapsed within three generations of descendants. But the families whose wealth stayed intact (e.g., Rockefellers, Waltons and Mellons) vigorously defended their heritage. These benefactors passed down actual plans to preserve family wealth. Take a lesson from this and think about doing something similar for your own family or for a worthy philanthropic cause.

8.4.2 What to Do About Market Problems

History shows us that firms paying dividends do not fall as far as those companies that do not offer dividends. So it is important to select firms that can continue to pay and even increase dividends during difficult times. This is the reason for the section in Chap. 4 on low payout ratios. Research and use that knowledge about each economic downturn. What firms are doing well now? Firms that cater to people's needs. Companies succeeding despite this recession are (1) Wal-Mart; (2) McDonalds; (3) C.H. Robinson Worldwide; (4) Johnson & Johnson, and (5) Sysco. Look at utilities; stable in this downturn are: (1) Westar Energy, (2) Wisconsin Energy, and (3) Excelon. These three even raised their dividends. MLPs also have ridden out the market collapse in good shape. Especially pipeline MLPs ((1) Energy Products; (2) Energy Transfer; (3) Kinder Morgan; (4) Oneok; (5) Plains All American, and (6) TC Pipelines [see Chap. 6]) have done well. Community banks have stayed strong, although one must be careful. Check bank safety at bankrate.com, and seriously consider Canadian banks. A good fixed-income alternative might be the closed-end bond funds mentioned in Chap. 5. Bonds are boring, but if you can lock in a yield of 9% or 10%, why not? If you want US government interest guarantees, GNMA could be the place for you. You could also look at Vanguard's Managed Payout Funds. These are vehicles that generate income for people who have at least $25,000 in capital. Vanguard offers three funds based on takeout levels: 3%, 5%, or 7% of assets per year. These are not annuities; like endowments, any remaining capital goes to heirs.

Recognize that the more capital you have, the more income you will capture. In other words, capital growth is proportional to capital. Of course, losses are greater as well.

8.4.3 Immediate Annuities

Still another alternative is an immediate annuity. Insurance firms do not publicize these annuities in part because they carry low fees. Yet, if you are looking for guaranteed monthly income, they are hard to beat. In this case the insurance company bears the risk, and you can sleep more soundly. Immediate annuities require a large chunk of capital in order to unleash large income. In today's market $350,000 will typically buy a $2,083 income per month for life (more for males, less for females, who have a higher average life span). For help in determining whether this investment is right for you, go to http://www.immediateannuities.com; fill in your state, age, and how much money you would like per month; it will tell you the amount you must invest. Be aware of three factors that affect immediate annuities: (1) your age (the older you are, the more you get); (2) the prevailing interest rate; and (3) the insurance company offering the annuity. Shop around. Presently TIAA–CREF pays only 2.85% on its fixed annuities, but other firms quote higher interest rates. Some suggest laddering annuities, i.e., deploying $100,000 at age 65, $100,000 at 70, and another $100,000 at 75, to take advantage of higher interest rates and to generate more income on the age variable. Be sure to check the quality of insurance firms on ambest.com. Also never forget that if you annuitize, you yield all your capital to the insurance company; nothing remains for your heirs.

8.5 Start Retirement Savings as Early as Possible

The more years you can make the power of compounding work for you, the better off your retirement income will be. Vanguard has posted an online animation video that shows how this compounding works. Dawn and Dave invest; Dawn starts before Dave, but quits, then wins. The URL:

https://personal.vanguard.com/us/content/sitewide/FlashPgs/SWFlshPowerof CompConent.jsp.

Dawn and Dave invest $2,000 per year. What would happen if they invested $5,000 per year and Dawn invested 10 years longer than Dave? Then Dawn, at an 8% compounding rate, would have $1.3 million, while Dave would have only $566,000. Ten years make a huge difference in the amount that one can accumulate for retirement. Start this process as early as possible, and if you can, shelter it from taxation. If you are interested in learning more about compounding, see Teebagy (1998).

David Bach published an investment book called *Start Late, Finish Rich: A No-Fail Plan for Achieving Financial Freedom at Any Age* (Bach 2006). Who knows what "financial freedom" means? I do know, however, that when one is older, the financial effort needed to accumulate wealth is formidable. It is so much easier to start earlier. Shortcuts don't exist, unless one inherits a substantial amount of money. Lucky are those who inherit, for an inheritance provides a good, safe way to start late and still achieve sufficient retirement income.

8.6 The Stages of Retirement

Early retirement from ages 66 to 74 is not a static environment. In the late twentieth century, it became a dynamic period of free time and travel. It is also likely to be the time of greatest health, so medical concerns are usually not as salient. Of course, leisure time activities require money; hopefully, savings and investments are up to the job. The IRS requires seniors to tap tax-deferred retirement plans such as traditional IRAs and 403(b)s at age 70.5. Roth IRAs never have to be tapped; one can use them when the need arises.

Middle retirement, ages 75–84, often finds expenditures changing from travel and entertainment to health care. A good Medigap policy to supplement Medicare should ease health-care worries. Research shows that during this period, seniors convert almost all retirement accounts to income.

Late retirement, ages 85 and beyond, ushers in greater health problems. This is also the time to make last adjustments to wills and trusts that you, hopefully, created earlier (Malaspina 1999).

8.7 Gradations of Capital

Solid retirement income rests on a platform of many sources, especially TIAA–CREF and personal savings. Social Security plays its part by offsetting a part of retirement capital that you need to assemble (Table 8.1). We turn now to making the most of your retirement income.

8.7.1 Under $500,000

Those with capital under $500,000 have fewer options. Whether or not a retiree in this category has heirs, a good option would be to convert capital into an immediate annuity. $500,000 in such a financial instrument would provide $3,092 per month, or $37,104 per year. An immediate annuity with TIAA–CREF would provide $2,552.33, or $30,627.96 per year. Combined with, perhaps, $22,000 in

Social Security this sums to $59,104 or to $52,627.96 at TIAA–CREF. You must understand that any annuity, immediate annuities included, transfers the entire amount committed (in this case $500,000) to the sponsoring company; none is left for heirs.

What else can be done to augment income? A reverse mortgage, distasteful to be sure, is an option for those who own a dwelling. This is a sad state of affairs because it involves selling one's home to a bank.

A brief summary will give you an insight into this process. If an American is at least 62 years old and is living in a house, either paid off or being paid off, then the owner can sell the house back to the bank by setting up a reverse mortgage. In this legal action the bank makes monthly payments to the homeowner. That payment represents the bank's repurchasing of the house. The transaction is smoother if the house is paid for, i.e., the mortgage is paid off completely. But it can be arranged even if there is, let's say, $20,000 of equity or value in the house and mortgage payments are still being made. This grim situation reflects real desperation on the part of the beleaguered, resource-poor owner.

One significant benefit of this contract is that the bank cannot take over one's house as long as the person lives on the premises. This holds true even when compensation for the house is paid in full. In that case, remuneration ceases, but the resident cannot be evicted unless the insurance and property taxes are allowed to lapse. Then the bank may exercise its right to sell the home and remove the resident.

People generally arrange these things only when they cannot live from Social Security and TIAA–CREF alone and they have debts they cannot pay. The result is that they sell their house back to the bank on a monthly basis and slowly lose ownership control.

To make matters worse, reverse mortgage fees are still very high, despite the Housing and Urban Development's effort to moderate them. The smaller the amount of the reverse mortgage you arrange, the lower your fees.

Obviously, it is best if you are not forced to resort to this process. If you would like to read more about a reverse mortgage, see:

http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/sfh/hecm/rmtoption

If one rents, then this option is not available. Aspire to something better, something that you have within your power to control. See Howells (2000).

8.7.2 Up to $1 Million in Capital

Life improves with every category we explore. A commercial immediate annuity for an investment of $1 million generates $6,184 per month, or $74,208 per year. A TIAA–CREF immediate annuity provides $5,104.65 per month, or $61,255.80 per year. The non-TIAA–CREF immediate annuity summed with Social Security would likely return $100,000 in income; the TIAA–CREF immediate annuity would leave a retiree short of that amount. Either way, one would have a good fixed income, but nothing would left from the annuity for heirs. Is there a better choice? Yes, in fact we can find several better alternatives.

The commercial immediate annuity pays $74,208 per year. Can we do better than that with investments that might be preserved for heirs? Let's start our search with closed-end bond funds. The average yield of these funds: (1) PCM Fund (PCM); (2) Pimco Income Opportunity (PKO): (3) Western Asset Premier Bond Fund (WEA); and (4) Pimco Corporate Opportunity (PTY), is 9.03%. If $1 million were committed equally to these four bond funds, the annual income from dividends alone would be $90,300. This is $16,092 per year greater than the immediate annuity; even better, it is preserved for your descendants. These companies even offer a bonus beyond that sum. Each of these bond funds pays special dividends nearly every year. Western Asset pays in December; Pimco pays in January. The special dividends in 2011 amounted to: PCM: $0.335; PKO: $1.17; PTY: $0.69; and WEA: $0.15. Note that these are per share amounts beyond the normal dividend. What about risk? Bond funds are safe, but somewhat riskier than the failure of an insurance agency providing an annuity. Both risks are remote.

However, even if these funds pay special dividends, bond funds are fixed income. So, we ought to add a handful of dividend-growth stocks to our retirement recipe. How about dividing $1 million into two equal parts of $500,000? With one portion invested in bond funds, we now get $46,500 per year. We will divide the other $500,000 equally, i.e., $125,000 among each of four dividend-growth stocks, Johnson & Johnson, Walgreens, Bank of Nova Scotia, and Yum! Brands. These investments generate $17,365.80 per year with a total of $63,865.80. This is smaller than the bond-only sum, but now we receive more income from the equity side because these companies raise their payouts each year. Combined with a $25,000 Social Security payment, this yields a total income per year of $88,865.80, which brings us closer to our goal. We based our calculations on $1 million. If you have, perhaps, $750,000 then you would need to scale down these sums down by one-quarter. If you have available or have invested $600,000, you should further reduce the sums. If one has less than $750,000, it might be best to invest most of it in closed-end bond funds such as those mentioned above.

8.7.3 Up to $1.5 Million in Capital

As we move up the capital ladder, things become easier. Challenges still threaten up to $1.5 million; however, we can resolve them much more easily and we can identify many more alternatives. Let us repeat our computations from the last section, this time using $750.000 for closed-end bond funds and dividend-growth stocks. Three-quarters of $1 million generate $67,725 in bond funds; the four dividend-growth stocks provide $23,111.86, producing a total of $90,836.86, just $9,163.14 shy of $100,000. If we assume that Social Security will provide $25,000, then our total is

$15,836.86 above $100,000. This obviously surpasses the income generated in our previous stages of capital. Here you have no need for an annuity unless you have no heirs and you would prefer to avoid bond funds and dividend-growth stocks.

A discretionary fund of $1 million mitigates another critical issue. Most financial planners tell us that at this level of wealth long-term care insurance is no longer necessary; your $1 million should comfortably finance nursing home care.

8.7.4 Up to $2 Million in Capital

Most of us will never reach above $1.5 million, but with TIAA–CREF and personal investments, it is feasible to do so near the end of a career. William Bernstein notes that if one has a reserve of less than $1.667 million, one should consider annuitizing most assets (Bernstein 2010). This seems extreme to me. Bernstein mostly uses open-ended mutual funds; these tend to have high fees (except at Vanguard, Fidelity and T. Rowe Price) and lower returns, at least on bond funds. With $1.67 million one could generate $150,530.10 per year, or $12,552 per month in the four closed-end bond funds listed above. That amount of money should be sufficient for most retirees, especially when added to Social Security. This would be, however, fixed income again.

If we reprise the same exercise as above, dividing equally between closed-end bond funds and dividend-growth stocks, what amount could we generate? The closed-end bond half would bring in $75,265.05; the dividend-growth stock portion would provide $28,885.20, for a total of $104,150.25. This is above our goal of $100,000 with “only” $1.667 million committed to closed-end bond funds and dividend-growth stocks. Social Security would add a goodly sum to raise the amount even more.

8.7.5 Over $2 Million in Capital

At this level, unless the amount is inherited, my advice is likely to be superfluous. If the capital is indeed an inheritance, then heed some of the suggestions above, and enjoy a happy retirement living on a very comfortable income.

8.8 Hierarchical Order of Withdrawal of Retirement Income

Especially for tax reasons, it is imperative to think about how to approach your retirement funds. Ideally, we withdraw no retirement capital. This section pertains to those who must. The order in which you seek to withdraw or draw upon retirement capital can set the stage for your tax liabilities. Taxable savings should be first on your withdrawal list. These investments, on which you are assessed an annual tax, will not change once you have drawn income from them in retirement. And think about this; when you have stopped working and no longer have a salary, your tax rate will be lower.

The next category is tax-deferred savings, such as TIAA–CREF, traditional IRAs, 403(b)s, Keogh plans, and SEP–IRAs. If you can refrain from withdrawing these until the required age of 70.5, then you are preserving capital for several additional year and gaining even more income through dividend reinvestment. Remember, you can fund an IRA or a Roth IRA until age 70.5. One caveat here: federal law requires that the Roth IRA must be funded from earned income.

The final level of capital to be withdrawn would be totally tax-free income, such as a Roth IRA or a MLP. These are great additions to retirement income because they are almost totally tax free (sometimes MLPs generate taxable interest).

8.9 Sustainable Retirement Income

Most crucial of all you should seek to generate a retirement income that can be sustained or even enhanced throughout your nonworking life. One vehicle that provides this is bonds (Van Mourick 2003). Although a portfolio containing only bonds is inadvisable, they could reasonably represent up to one-half of your holdings. Sustainability is paramount and most easily accomplished if you do not dip into your generating capacity. If this is impossible, then look to other measures such as: (1) finding other sources of capital; and (2) cutting costs in the family budget.

8.9.1 Additional Sources of Capital

Many people who purchased savings bonds (EE bonds) in the twentieth century have by this time forgotten all about them. But after their 30-year maturation date, they become a good source of capital. If you think you might have EE bonds, contact Treasury Direct on the web and transfer your bonds to their site. You must monitor the bonds expiration dates. Then have Treasury Direct cash them in and deposit the proceeds directly into your bank account. It is a good idea to keep track of each of your bond purchase dates also. This will allow you to determine the maturity date so that you will know when interest payments cease.

Early in retirement, people often find another source of capital: inheritance. This can come in all sizes. If you receive a substantial amount, then you could “roll it over” (from one financial institution to another) to a traditional IRA (not a Roth IRA, since it is not earned income) or into a taxable brokerage account. Once that transaction is complete, you can invest in any income-producing bond or equity you wish.

If you inherit acreage or a house, you might rent the land to a farmer or a home to a tenant. Since you can depreciate a house quite a bit each year, it might be worthwhile to keep it for rental income. If you prefer not to become a landlord, sell the property immediately to avoid capital gains tax; then convert it to stocks and bonds.

8.9.2 Saving in Retirement

In an ideal world, we would all live below our means so we could set money aside for emergencies and opportunities. The same discipline would be beneficial in retirement. Investing that extra money is not only possible in the retirement years, especially if you have a high level of retirement capital available, but it is also wise. It is a relatively painless method of enhancing income and assuring a continuing stream of revenue into your coffers.

8.9.3 Capital Constraint at TIAA–CREF

Most academics have the majority of their capital at TIAA–CREF. But we have seen that TIAA–CREF's immediate annuity is substantially less than those of commercial insurance firms. In addition, their bond funds have extremely low yields. If this is frustrating, you can take action. If you wish, after you retire you may take your accounts out of TIAA–CREF. You could then roll your accounts over to a traditional IRA (if you roll it to a Roth IRA you have to pay taxes on the entire amount). Once you establish the funds in an IRA, all of the available investment choices we previously outlined are open to you. Thus, you might be able to generate a greater income than TIAA–CREF can provide. Alas, you can change nothing in a mandatory TIAA–CREF account. This is generally the account that the university subsidizes. That money must be kept intact for retirement income; however, it can be transferred wherever you wish after you separate from your employer. You can at any time rollover a voluntary (i.e., 403(b)) account.

8.10 Putting It All Together

Given the increase in longevity, we have good reason to predict that most of us will spend at least 25 years in retirement. In other words, retirement will last almost as long as did our careers. This sort of long-range thinking is useful, particularly in terms of capital takeout-rates, consumption patterns, and decisions made in the early retirement phase.

The best way to fund your retirement is to cobble together a broad-range of income sources that ideally are sustainable, regular, and reliable. Once again, bond funds and dividend-growth stocks fit all of these criteria. Don't be fooled; alternative investments do not necessarily work the same way. Although some people purchase real estate as a vehicle for retirement income, these landlords must plan for a very active role in taking care of buildings, recruiting tenants, and in acquiring new property. Often, as these entrepreneurs age, they grow weary of the constant demands associated with real estate, and they turn to more quiescent and less-demanding stocks and bonds. So, think carefully about your goals, the effort required to push you there, and the most appropriate vehicles for your money's transit. Whatever strategy you employ, I wish you good fortune and sufficient income to finance a comfortable and fulfilling retirement.

Chapter 9
What Can Go Wrong? Troubleshooting Investments

Often we professors are so preoccupied with the pressures of teaching, researching, and publishing that we neglect our financial health. But we must discipline ourselves to plan for our financial future, for the simple reason that no one else will. Whether we house our money in TIAA–CREF or elsewhere, it is important to monitor at least periodically what is going on with your money. Remember, institutions of higher learning will not intervene on our behalf and of course, they pay no pension. Above all else, academics are skilled researchers and learners. It behooves us to harness those talents to protect ourselves from the whims of Wall Street and the financial markets. Economic conditions can deteriorate quickly or go awry. But the more we understand the arcane world of finance and investment, the better off we will be and the more secure we can make our future. In this chapter, we reprise most of the risks we covered in Chap. 2. But our focus is on avoiding pitfalls and distractions as we move toward our goals of preserving capital and increasing income in retirement.

9.1 Economic Depression or Recession

The world economy as I write is not in good shape. Debt problems arise almost everywhere, particularly in Europe, Japan, and the USA, and unfortunately, these crises usually signal the issues that cause recessions and depressions.

9.1.1 Depression

In the USA we called upon Federal Reserve Chair Benjamin Bernanke to heal the credit crisis. A learned student of the great depression of the 1930s, Bernanke used all the power he could muster within the structure of the Federal Reserve, he struggled to minimize the effects of the downturn and avoid the mistakes of the 1930s. Nonetheless, since 2007, unemployment has remained at historically high levels.

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What happens in a depression? Recent history serves as an excellent guide. At the same time that Bear Stearns and Lehman Brothers collapsed. General Motors declared bankruptcy. AIG along with Fannie Mae and Freddie Mac teetered on bankruptcy, and all came under the arm of the federal government. The International Monetary Fund estimates that from 2007 through 2011, the USA lost $2.7 trillion in mortgage bonds and $7 trillion in lower home prices. We experienced depression-level fiscal problems and unemployment. Consumption shrank, government revenues plummeted, unemployment skyrocketed, and corporations went into defensive mode. It was a difficult environment for the individual investor as well as Wall Street. At several points in 2008, panelists on CNBC's "Fast Money" program stared wide-eyed at the camera as if in shell shock; they could offer few suggestions for investors. When roused, the panelists stressed defensive strategies, and we will relate many of those in this chapter.

9.1.2 Recession

Recessions are dangerous especially, when it comes to investment and retirement funding, but even more so when linked to severe market crashes. Unemployment rises and earnings decline as do tax revenues. All sectors face some kind of difficulty. The usual prescription for these problems is investment diversification, i.e., purchasing a set of uncorrelated asset classes. This is a noble idea, but in 2008, 14 of 15 asset classes were down approximately 50%, so much for diversification as a perfect solution. We are likely to see both persistently high unemployment and too little money in state and local government accounts. This is a depression, not a recession! And when our entire economy fares badly, an individual investor can do only so much. One possibility is to consider switching to closed-end investment-grade bond funds and stocks such as Wal-Mart (WMT), McDonald's (MCD), and Family Dollar (FDO), companies that continue to prosper in tough times.

9.2 Market Crashes

The stock market has crashed often: 1869, 1874, 1893–1896, 1929, 1932, 1973–1974, 1987, 2000–2001, 2008–2009 and 2011. Don't look for a pattern here; in most of these crashes a catastrophic debt issue was the culprit. In 1929, margin debt on stock triggered the collapse; in 2008–2009 it was mortgage debt that was magnified by being "securitized." Market crashes usually create another problem: recession. Yale University and the Wall Street Journal have reported that considering the markets from 1830 through 2009, the absolute worst decade in finance is the one that just passed. From 2000 through 2009 all stocks lost 0.5%. A recent report shows that one-half of the US population is now moving from the middle class into poverty. So, we have just experienced the most devastating period ever in stock market and, aside from the 1930s, in employment history. Using data from the 1930s forward, we calculated the following revealing statistics: the mean of all stocks was 8.68% growth per year, the standard deviation 1.351, the median decade 7.9% growth, the minimum 0.5% and the maximum 18.2% (all this was during the 1950s when many unsuspecting professors became “instant” millionaires at TIAA–CREF).

9.3 Firms Fail to Adapt

One difficulty that can trap buy-and-hold investors is owning older firms that lag behind new technologies. The classic example of this fall from grace is Eastman Kodak. This company prospered for nearly a century making film for old-fashioned chemical print cameras. Then digital cameras and digital image printing appeared, and before Eastman Kodak could grasp fully what was happening, its stock began a precipitous free fall to below $1.50 per share. Even innovative technology firms are not immune to such a fate. RIM, fabricator of the BlackBerry, is at present fighting to stay current with technology that it pioneered. Another example: Sprint thought a merger with Nextel would give it a competitive advantage. This turned out to be a bad bet when Sprint became less competitive. These difficulties do not occur suddenly; they play out over years. And that gives you an advantage if you make time to regularly check your investments. At least a few times per week go to Yahoo! finance for a few minutes, scan the news, and check on your investments.

One can appreciate the firms that are most at risk by looking back at 2008. Although most blue-chip companies weathered the crisis well, General Electric (GE) foundered when its GE Capital division became bloated and too independent. GE Capital delivered a large percentage of GE profits through 2007, but in 2008 GE Capital and almost every other financial institution ran aground. Other manufacturing firms also experienced difficulties, but almost none as severe as GE.

Johnson & Johnson, Procter & Gamble, McDonald’s and other large, multinational companies managed not only to maintain dividends but also to increase them during this period. In fact, in the middle of 2008, the most difficult months of all, Procter & Gamble raised its dividend 20 cents per year, and Johnson & Johnson raised its payout in early 2009. It seems that McDonald’s was unaffected and made ever greater profits during these difficult conditions. Regardless of the economic climate, it has raised its dividend markedly, as has Wal-Mart. What lesson can we learn? When the economy falters and things get tough, people look to cheaper alternatives. McDonald’s and Wal-Mart stepped up to satisfy consumer demands and take advantage of market opportunities. As investors, we attempt to maximize income from investments. Consequently, we seek and support companies that address consumers’ needs as ours as well. Conversely, we jettison those that do not.

9.4 Firms Fail to Raise Their Dividend

In the world of value investors, there is little worse than a dividend-growth stock with a flat or static dividend. We find this mainly during economic hard times, but it can happen to any firm at any time, particularly if the business runs into difficulty. When troubles arise, regard it as an early warning that the company may be experiencing problems. The way to combat this is, yet again, to watch your investments so that you immediately recognize signs of deterioration. Again, this means doing a quick weekly survey of your stocks and bond funds at Yahoo! finance. If a stock starts to run afoul, determine if the company can deal effectively with the challenging circumstances. If it can, then the firm is worth keeping. But if you decide the business is not meeting your expectations, you can find plenty of dividend-growth stocks to replace it (see the websites mentioned in Chap. 4). Academics can also subscribe to the *Wall Street Journal* for less than $100 per year through the university subscription service. This is much cheaper than you would pay for the *New York Times*, and it offers much more hard news and fewer soft features. If you subscribe, you can easily follow dividend growth from Tuesday through Saturday. Moreover, Saturday's *Wall Street Journal* features a very helpful investor's section. A less expensive alternative is the weekly *Barron's*. Charging academics just $52 per year or $1 per issue. *Barron's* offers a page on dividend changes as well as a column on dividend growth. It is not crucial to subscribe to any of these publications, but they do provide a supplement to Internet sites.

9.5 Inflation

Inflation is a constant source of concern throughout this volume. You will sense its nagging presence, because it almost always with us. And it will likely remain at least at moderate levels given the debt that most countries, even the USA face. Our principal cure for inflation is dividend-growth stocks. Aim for a number of them. The more you own and the more their dividends continue to rise, the better control you have over inflation's ill effects. This is precisely the reason that a fully fixed-income portfolio is undesirable; it is vulnerable to the ravages of inflation. Remember too, that TIAA–CREF provides fixed-income in retirement. Thus, you need damage control, something to counteract the decline in the value of money that inflation causes.

Be cautious also of personal needs. Sometimes the prices of certain products rise; think about gasoline or certain commodities such as sugar. Although the prevailing inflation rate might not be terribly troublesome, you still could have difficulty dealing with general costs. We prescribe dividend-growth stocks for those problems as well.

9.6 Corruption

9.6.1 Corruption in Investment Corporations

Corruption can emerge in any business, but it is more likely to infect smaller, domestic companies. We witnessed it at Enron and Worldcom, and we often hear of large banks brought to their knees by one or two rogue traders. But this is more remote in huge, multinational firms that employ many levels of management. It is unlikely that several of those layers would be corrupt and in cahoots in one grand scheme. When these larger companies discover corruption, officials usually deal with it swiftly, and they do not hesitate to bring in the police. What does this mean for investors? Those interested in minimizing the risk of scams could look to the bigger, multinational corporations. These usually are much safer than small-capitalized companies, i.e., the relatively smaller firms.

9.6.2 Be Highly Skeptical of Investment Analysts

Investors have long suspected that investment analysts, men and women who evaluated stocks for what used to be investment banks, were corrupt. In 2008, we learned how corrupt they really were. Analysts who publicly praised stocks in their statements, privately detested them. Everyone must understand that each analyst worked for an investment firm. As employees, they promulgated their superiors' ideas. For the most part this was to purchase and/or hold stocks. Almost never did they encourage investors to sell, not even when it came to Enron. Table 9.1 gives the numerical frequency and percentage distribution of analyst opinions on all U.S.-listed companies (*Wall Street Journal,* November 5, 2011). Here "overweight" and "underweight" simply refer to have larger and smaller positions of the stock under review.

In this volatile equity market analysts recommended selling stocks in only 3% of all judgements. Many firms that are losing money are designated as "dd" in stock tables. But analysts are as keen as ever on buying even these companies that do not make profits. Pay no attention to analysts and you will be a better investor.

Table 9.1 Analyst ratings for U.S.-listed companies

Recommendation	Number	Percentage of total
Buy	13,339	45
Overweight	2,606	9
Hold	12,312	42
Underweight	398	1
Sell	814	3

9.7 High Fees

The farther one gets from Wall Street, the more the high fee problem resolves. That does not mean that no one else charges huge sums. As we pointed out in Chap. 1, planners and advisers can be costly, so look for fee-only based professionals. These "experts" develop a personal profile from information you provide them. Then, they should offer at least two tailor-made investment portfolios from which you may choose; all of this for a previously negotiated fee. Remember, all mutual funds assess fees; TIAA–CREF's are below the industry average, but Vanguard's and Fidelity's (for index funds) are the lowest. Avoid purchasing anything with a "load" or sales charges. No investment is so special that it cannot be replaced by a low-fee alternative, one that performs at least as well and usually better.

Never forget that fees swallow huge chunks of your usable investment capital. They diminish the magnitude of your money, and therefore, deprive you of income.

9.8 TIAA–CREF

We have learned that investing with TIAA–CREF leaves you vulnerable to several disadvantages: (1) it has lower yields on its bond funds than Vanguard and the closed-end funds we profiled in Chap. 5; (2) it offers lower payouts on immediate annuities than do other insurance companies that we saw in Chap. 8; and (3) it is difficult to receive income from TIAA–CREF if one does not annuitize. TIAA–CREF has only one fund that pays retirement income: TIAA Traditional. This is the fund with the most restrictions, but it is the only one that pays a constant interest rate on a monthly basis. Currently, it pays 3% to those who do not annuitize. According to TIAA–CREF, the "vast majority of clients" choose an annuity. Why? The main reason is that TIAA–CREF pays twice as much as your capital would normally allow on an annuity. Twice as much? How? Since 1918 the "vast majority" of professors have annuitized, or surrendered their money instantly to TIAA–CREF. This becomes TIAA–CREF proprietary capital (TIAA–CREF will not disclose this amount); it must now be at least in the tens of billions of dollars, since this has been going on for nearly a century. TIAA–CREF uses this capital to pay salaries as well as to enhance annuities by 100%. It is difficult to conceive of a better incentive for annuitizing than a 100% increase in monthly income. In fact, currently annuities earn about 7.1%, more than the lowly 3% given to nonannuity takers. The reason for such a tempting incentive? TIAA–CREF is fully aware that it will be the sole owner of your money once you annuitize. This is a powerfully motivating reason to sweeten the deal for you. Don't annuitize unless you are willing to kiss your money good-bye.

9.8.1 Not Annuitizing Is Difficult

As we have pointed out, TIAA–CREF, earnestly, hopes you will annuitize, and although most academics I know prefer not to have annuities, TIAA–CREF makes that choice difficult. One of their wealth advisers suggested that customers could increase their income simply by taking 5% from bond funds. But TIAA–CREF does not have a bond fund with a yield above 2.52%. Taking 5% would, therefore, erode at least 2.48% per year of the highest yielding TIAA–CREF bond funds. Even a 3% bond fund withdrawal would erode capital, but less of it, namely 0.48%. In other words, clients would not be preserving capital; quite the contrary, they would be decreasing it. The company has no incentive to work toward a nonannuity resolution. As a TIAA–CREF wealth adviser told me, "Once you annuitize your money at TIAA–CREF, your capital goes to zero." TIAA–CREF takes over your money; it does not go to heirs. This same wealth adviser told me that this money helps pay other annuitants, and while this is true, the money still belongs only to TIAA–CREF.

It is possible to annuitize only a portion of your holdings at TIAA–CREF? Yes, and the remainder would stay intact, but again, the amount involved in the annuity is lost to your personal estate. In my experience, TIAA–CREF has been exceedingly unhelpful when one seeks a partial or no annuity. The fewer clients who annuitize, the less capital flows to TIAA–CREF. Is it any wonder that the company has such an aggressive posture toward annuities?

9.8.2 Lower Rates of Return

The irony attached to TIAA–CREF is that despite its unique status as a retirement income source for professors and hospital personnel, as well as other nonprofit workers, we receive a lower income from it than other institutions would grant us. In other words, clients must generate more capital at TIAA–CREF for the equivalent income at Vanguard or at a brokerage. Company representatives admit this, but they have no alternatives to offer.

9.8.3 Academics with Children Who Are Academics

We have uncovered yet one more difficulty with TIAA–CREF; this one affects those whose children also have become academics. You might wish to arrange a merger of your TIAA–CREF account with that of your offspring. However logical this seems, it is impossible. Your child can inherit your TIAA–CREF shares, but only in a totally separate account. We can blame the law on retirement accounts here. Not only that but, if TIAA–CREF did accept the separate account (something it is extremely reluctant to do), your child would be forced to take required minimum distributions based on your life expectancy! In other words, the child must take required minimum distributions from the time the shares are inherited. The better alternative is for offspring simply to “rollover” (to transfer from one institution to another) the account to a traditional IRA. The optimum choice is, in legal terms, a “rollover Traditional IRA,” preferably at another custodial institution (through any mutual fund or brokerage). If the child chooses the minimum distributions are then based on the offspring’s own life expectancy.

9.9 Bond Funds: What, Me Worry?

We expect bonds and bond funds to be a safe haven in troubled markets. Although they declined as much as stocks in 2008, the general advice in finance is to move to short-term bond funds when three characteristics converge: (1) an increase in market volatility; (2) a rise in interest rates; and (3) an economy moving toward recession. As we pointed out in Chap. 5, bond prices fall during inflation, interest rates rise, and the stock and bond markets begin to crash. Note that whereas prices fall at this time, dividends and bond interest usually do not. Below we present two perspectives on bond funds in a difficult economy.

9.9.1 Capital Preservation

Those in the know usually recommend bonds for capital preservation during a rough economy. Why? Because bonds are generally less volatile than stocks and because they rank first in the payout pecking order during bankruptcy. Advisers especially favor short-term bond funds. Examples include: (1) an ETF, the Pimco Enhanced Short Maturity Strategy (MINT), yielding 0.86%; (2) the Vanguard Short-Term Bond EFT (BSV), with a yield of 2.01%; and (3) iShares Standard & Poors Conservative Allocation (AOK) that yields 2.36%. The idea here is that short-term bond funds have the most stable prices because they are not buffeted by long-term exposure to rising interest rates and inflation. So, if capital preservation is your primary objective, go after these funds. But if income is most important to you, read on to find out how longer-term bond funds can be good when times are bad.

9.9.2 Longer-Term Bond Funds in Crashes

During the crash of 2008, almost all bond funds fell fast and far, often losing over half of their price. At that time, Pimco Corporate Opportunity (PTY) was trading at $6.93 per share with a yield of 20.81%. As soon as I saw that price, I bought shares for my Roth IRA. Wasn’t that a risk? Actually no, not at all. Yahoo! finance showed that Pimco Corporate Opportunity had a large supply of revenue, more than enough to cover the dividend as well as pay a special dividend. Consequently, I felt comfortable buying those shares at fire-sale prices, about 60% off the regular price. I provide this example to argue that if income is your principal goal, look for longer-term bond funds in a crashing market. As long as the company has sufficient income to cover the stated dividend and then some, I would not hesitate to buy it using all the capital at my disposal.

In fact, I am comfortable riding these kinds of funds into retirement; they are reliable monthly providers. If the price goes down, the yield goes up. Wouldn't you prefer to get a high, safe yield rather than a high price. Essentially, income over bond price drives this perspective. Personally, I do not worry if the total amount of my capital decreases for the short term as long as my income does not decrease. Remember that this perspective values not capital gains, but a high level of income, i.e., dividends and interest on bond funds.

Do not at any time buy any bond fund that does not have sufficient revenue to pay its dividend. Return of capital is the name of the game in MLPs, but it is deadly in bond funds. A bond fund returning capital means that it does not have enough money to pay its promised dividend. Consider selling immediately any bond fund that returns capital longer than consecutive two months. Get thee to a better, more stable, and safer bond fund. The best way to determine this is to go to (1) Chap. 5 and check trade symbols; (2) then go to Yahoo! finance, put in a trade symbol, and click on "key statistics." This will give you revenue per share and diluted revenue per share. Now compare the revenue per share to the regular annual dividend. If the revenue per share is insufficient to cover the dividend, or is just barely sufficient, do not buy the fund. Find funds that can easily pay their regular dividends as well as a special dividend. During 2008 and 2009, many funds resorted to return of capital. But since then, things have improved. Here are two examples: (1) Credit Suisse Asset Management Income Fund pays an annual dividend of 32 cents. Its revenue per share, though, is only 34 cents. This is too close a margin to risk purchasing. (2) Pimco Corporate Opportunity has an annual dividend of $1.38. Its revenue per share is $2.05, and its diluted earnings per share (a more conservative number) is $4.81. This level of revenue should satisfy any prospective shareholder.

9.10 Stay Invested

Looking at the volatile markets of the last 5 years, it is no wonder that 52% of 20-year olds want no part of stocks. Nonetheless, if you boycott the markets completely, you can never generate income outside your academic position and TIAA–CREF. The markets are stochastic. They go up and down, and recently they have been down. Consider this research from American Century Investments (Browne 2007, 128).

> If you had ridden out all the bumps and grinds of the market from 1990 to 2005 (through the go-go 1990s into the severe sell-off from 2000 to 2002), $10,000 invested would have

> grown to $51,354. If you had missed the best ten days over that 15-year period, your return would have dropped to $31,994. If you had missed the thirty best days, i.e., one month out of 180 months, you would have made $15,730. Had you missed the 50 best days you would have come out a loser, and your $10,000 would now be worth only $9,030.

It is difficult watching the market oscillate, but missing the great days is even harder on income and capital preservation. The best idea is to stay invested, always keep perhaps 5% of your money in cash so that you can take advantage of opportunities.

9.11 Currency Risk Redux

We discussed the burgeoning currency problems in Chap. 2. Now we attempt to show how investors can deal with these increasingly ubiquitous difficulties. First, let us review the problem. Since the European Union (EU) is a customs union, it cannot control the fiscal affairs of its members. The EU reluctance to become the United States of Europe almost guarantees that it will have debt and currency problems in the foreseeable future. On the other side of the planet, Japan has the largest debt to GDP ratio in the world, 2.28. Back in the USA we see both a deficit and a national debt that has grown into a severe management problem. Over $6 trillion of the US national debt is in the form of Congressional IOUs to the Social Security Trust Fund. This obligation will likely never be paid; it remains, making our debt more than $15 trillion instead of $9 trillion. In the current weak economic climate, no political candidate can propose higher taxes and win an election. And so, the problems will continue to grow.

How do we deal with these challenges? First, since 1971, large, multinational corporations have battled currency issues and have prospered. Procter & Gamble's (PG) chief financial officer knows how to protect the company by minimizing taxes and insuring that its investments are placed where they are most productive. The larger the firm, the more likely its experienced officers understand how to deal with currency and government debt.

Second, investment-grade bond funds and global bond funds are good bets. Investment grade bonds are trustworthy; they are most likely to pay interest during the bond's term as well as repay in full at when the bond matures. Global bond funds can scout the world's bonds to find safe, reliable instruments that pay high interest. Finally, MLPs are desirable because they avoid currency issues almost completely. These companies charge fees based only on "toll road" usage, traffic that pays to use their pipelines is the only way most MLPs earn income. For the most part they remain unaffected by oil and natural gas prices or by what is happening on the global fiscal scene.

9.12 Where to Go from Here?

The US government, universities, and almost all companies created an environment in which we must be responsible for our own finances and retirement savings. Almost 40 years ago, TIAA–CREF offered TIAA Traditional and the CREF Stock Account, but not much more. Now, the array of choices can be confusing and distressing. US citizens welcome Social Security, but that amount of money by itself was never designed to fully support a comfortable retirement. Most of us have no other option than to look after our own resources. Unfortunately, few public schools offer classes in money matters and the world of investment. Usually, that is the province of business schools in most universities. It is dismaying that our system tacitly assumes all of its citizens are knowledgeable about finance, when it is abstruse, mathematical, and a broad field.

In most of Europe, this is not the case. Individuals need not feel compelled to invest to insure a comfortable retirement. A state pension, often supplemented by an employer pension, takes care of Europeans and most Canadians. The British system offers a good example of the harm that arises from financial ignorance. Most UK citizens do not accept their country's second-level pension. They "opt out" and independently turn to private financial firms. Ultimately, most of these clients do not fare well with commercial enterprises. They usually lose quite a bit of money to high fees and poor investment performance; almost all of them would be better off taking the second-level pension.

We have attempted to demonstrate in this volume how individuals can increase their capital and income through investment. Our focus has been on risk because financial markets are stochastic and individuals face ruin if a company slides due to corruption or if it outright fails. Understanding risk tames a major component of the investment challenge. Recognize that market timing does not work; most experts have acknowledged this for many years. In the early twentieth century, an interviewer asked J.P. Morgan what he thought the markets were going to do. He responded, "They will fluctuate." But no one knows exactly how they will behave at any given time. Believe in the efficient market hypothesis: stock and bond prices reflect known information. Increase your capital footprint slowly. This means that you get proportional growth to your invested capital almost all the time. Do not play lottery games in hopes of winning a get-rich-quick jackpot. If you can learn to work with a brokerage, you can invest in stocks, closed-end bond funds, or exchange-traded funds. Otherwise, you must purchase mutual funds that continuously assess fees, and are generally less successful than the market. Make sure your investments can be computed by one plus some dividend or interest rate; the one here represents your infusion of capital. Recognize that as your capital grows larger, you will experience more gains when the markets are kind and conversely, more losses when they are angry. Try some of the tactics we have explained to minimize your losses.

We have tried to give you an introduction to finance as well as a few ideas about how to proceed. If you seek updates on this material, check my website for Finance for Academics. This is the original 24-page pdf file that developed into the present volume; I update it often. The URL is: http://web.ku.edu/ronfran.

As an independent investor, you are now more empowered than ever before. You will find a tremendous amount of information on the Internet. Yahoo! finance is the most complete site, but Bloomberg, CNN, and Google finance are very good as well (see the Appendix). Trading fees have been deregulated, so shop around. Pay the least amount possible for the value gained. One can buy many ETFs without commission at almost any electronic brokerage. My recommendation is to buy bond funds if possible, but first find out what they pay. You might be able to do much better with the closed-end bond funds we recommend. Most electronic brokerages will allow several free trades to new customers for a limited amount of time. So take advantage of these opportunities to minimize fees. Investigate any potential investment thoroughly before you commit capital to it, and beware: do not assume that firms or bond funds mentioned in this book are static. Change is constant, so examine choices completely.

Knowledge is power; use it. Above all, remember: objectively analyze your circumstances; keep clearly articulated goals in mind; carefully identify and investigate your options; and endeavor to maximize investment returns. This recipe for a successful business should help you succeed in the world of investment as well.

Appendix

We attempt here to provide information on more sources of investment information. The focus is on books, financial magazines, and websites.

Further Reading

The books listed here are some of my favorites. Use these to find others that might help you.

Bernstein PL (2008) Economist on Wall Street. Wiley, New York

Bernstein W (2001) The intelligent asset allocator. McGraw-Hill, New York

Bernstein W (2002) The four pillars of investment. McGraw-Hill, New York

Bernstein W (2010) The investor's manifesto. Wiley, New York

Cagan M, Shank PT (2009) Financial words you should know. Adams Media, Avon, MA

Gough L (1998) 25 investment classics. Financial Times Management, London

Graham B (2003) In: Zweig J (ed) The intelligent Investor. Harper Collins, New York

Malkiel B A random walk down Wall Street, any edition. W.W. Norton, New York

Malkiel B, Ellis C (2010) The elements of investing. Wiley, New York

Shiller R (2003) The new financial order: Risk in the 21st century. Princeton University Press, Princeton, NJ

Siegel JJ (2005) The future for investors. Crown Business, New York

Swenson D (2005) Unconventional success. The Free Press, New York

Walden G (2005) The 100 best dividend-paying stocks to own in America. Marathon International Book Co., Madison, IN

Zipf R (1997) How the bond market works. New York Institute of Finance, New York

R. Francisco, *Finance for Academics: A Guide to Investment for Income*, SpringerBriefs in Finance, DOI 10.1007/978-1-4614-3244-9, © Ronald A. Francisco 2012

Financial Publications

Here are some periodicals that you may want to seek out. All of these are cheap for academics through the university subscription service. I order these according to my view of their value.

Kiplinger's Personal Finance. This is a continuously useful publication aimed at the middle-level investor.

Forbes's. A business magazine that always has columnists on investment.

Smart Money. A publication of Dow Jones, Inc. Tends to write for a more sophisticated investor.

Money. This is the masses' financial magazine from Time-Life. It covers finance, but also cars and mortgages.

Fortune. Time-Life here caters to the business community, not so much the investor.

Useful Websites

The following are the most useful general websites for investment.

Yahoo! Finance: http://finance.yahoo.com.
This is the most useful site. It has dividend history, lots of information in key statistics and also goes back very far in terms of dividends and prices.

Bloomberg: http://www.bloomberg.com.
Michael Bloomberg is mayor of New York city, but also in finance. Bloomberg has every stock and bond fund in the world. There are so many choices for each trade symbol that it offers multiple choices.

Seeking Alpha: http://seekingalpha.com.
This site keeps up with the market and offers news. You can sign up there with all of your stocks and bond funds and get e-mail about the news of each one.

Glossary of Terms

Here are definitions of terms used in this book.

12b-1 fees: Fees extracted by mutual funds to pay for their marketing costs.

Adjusted gross income: Your taxable income before itemized or standard deductions and personal exemptions; if this number exceeds $179,000, a couple loses eligibility for Roth IRAs. An individual loses eligibility at $125,000. Also affects the deductibility of traditional IRAs.

After-tax capital: Capital on which income taxes have been paid; this is how a Roth IRA is funded.

Alternative investments: Almost all investments beyond stocks and bonds; e.g., MLPs, REITs, and on the morbid side, buying life insurance policies of elderly people.

Annuity: An investment instrument that pays an individual monthly either for life or for a specified number of years; most annuities require loss of capital from one's estate.

Asset allocation: Choosing components of a portfolio that do not covary or correlate highly.

Assets: All forms of investment, including stocks and bonds as well as alternative investments.

Bills: Short-term bonds, usually under one year.

Blue-chip companies: Large capitalization firms that usually are reliable multinational corporations.

Bond fund: A mutual fund for bonds that takes care of laddering and calls for investors.

Bond index fund: A mutual fund for bonds that includes all of a class of bonds, or at least a representative sample of them.

Bonds: Fixed income, fixed-term instruments from corporations, governments, and cities in order from firms and governments to raise capital.

Buy and hold investor: Someone who buys a portfolio and then simply holds it, neglecting to monitor the investments.

R. Francisco, *Finance for Academics: A Guide to Investment for Income*, SpringerBriefs in Finance, DOI 10.1007/978-1-4614-3244-9, © Ronald A. Francisco 2012

Buy and monitor investor: Someone who builds a portfolio and checks regularly on the performance of its assets.

Call: Stipulated when bonds are issued, a call allows a firm or a government to terminate the bond issue and stop paying interest; this occurs typically when interest rates fall.

Capital: Money available for investment and invested funds.

Capital asset pricing model: Wall Street's favorite model; requires estimating unknown quantities.

Capital footprint: The amount of money represented by one's portfolio (or invested in one's portfolio).

Capital gain: A rise in the price of a stock or mutual fund; taxed if you sell a stock or fund held for a year or more by long-term gains tax, and by short-term capital gains tax for assets held less than one year.

Cash account: Type of account at a brokerage that requires an investor to supply all of the capital for purchases; this type of account does not permit the investor to borrow purchasing capital from the brokerage.

Churning: When a broker constantly trades in your account; drives up fees quickly; stick to electronic brokerages.

Closed-end fund: A fund with a finite number of shares; to acquire shares, one must work with a brokerage to purchase shares from other investors.

Common shareholders: Partial owners of a firm; these shareholders retain the right to receive dividends and to vote on company policies and boards of directors.

Compounding: Dividends and interest generated from previous dividends and interest reinvestment accelerated by dividend growth. This is computed with an exponent over time.

Corporate bonds: Bonds issued by private corporations and companies.

Cost basis: The original price of an investment plus any transaction costs. In inheritance this is the "step up" price. MLPs reduce this cost with every distribution.

Customs union: An international organization with no tariffs for members, but with a tariff wall for non-members, e.g., the European Union.

Death put: A provision in certificates of deposit (CDs) invoked upon the owner's death that mandates full payment of the CD, irrespective of the CD's maturity date.

Defined-benefit: A specified and constant pension payment that continues after the total amount contributed by the retiree is surpassed.

Defined-contribution: You and your employer contribute jointly to your retirement, but no one else does. One must live on these contributions.

Deflation: Prices decrease while the purchasing power of the currency rises.

Depression: A severe economic downturn characterized by high unemployment and a severe drop in consumption.

Derivatives: Structured investments derived from actual stocks and bonds.

Diluted earnings per share: A conservative measure of earnings that is divided by all of a given firm's shares, both on the market and acquired as options by executives.

Distributions: Payments by MLPs that amount to return of capital. These are not dividends.

Diversification: Allocating uncorrelated assets to protect an investor from market crashes and to increase return.

Dividend: A payment made from corporation profits to stockholders.

Dividend-discount model: See Gordon equation.

Dividend growth: Increase in the amount of a dividend, usually on an annual basis.

Dividend-growth stocks: Firms that raise dividend payouts every year.

Dividend payout: See payout ratio.

Dividend reinvestment: Reinvesting dividend payouts to buy more shares of a stock or mutual fund.

Dollar-cost averaging: A process that balances low-cost and high-cost investment purchases. One invests the same amount of money every interval of time. This results in more shares at a low price and fewer at a high price.

Earnings: A company's profits; can be manipulated adversely by accepted accounting rules.

Efficient market hypothesis: Given available information, all stock and bond prices are correct at any time.

EE savings bonds: US government bonds that pay interest for 30 years, but no longer. Should be cashed in at 30 years of age.

Electronic discount brokerage: An online brokerage that gives minimal advice but charges low fees.

Equity: Stocks or stock funds, not bonds.

Ex-dividend date: The date by which an investor must buy a stock or bond fund to secure the dividend.

Exchange-traded funds (ETFs): almost identical to index funds, but can be purchased, often for no commission, at brokerages.

Exchange-traded notes (ETNs): like index funds, but here one must investigate the note thoroughly to minimize risk.

Fannie Mae: A US government-sponsored mortgage bond firm; buys mortgages and bundles them as bonds.

Federal Reserve Board: Regulates interest rates at private banks; lower them in economic challenges and raise them when the economy does well.

Fee-only investment advisers: For a flat-fee these certified professionals create portfolios for clients.

Fees: Charges to investors assessed by mutual funds; sometimes called "management fees".

Fixed-income: Income that remains a constant amount; dangerous during inflation.

Flat or static dividend: A dividend in amount that does not change.

Float: The shares of a corporation or closed-end fund that trade on the stock market; see treasury shares.

Fractional share dividend reinvestment: Dividend reinvestment that allows accumulation of partial shares.

Freddie Mac: A US government-sponsored enterprise in the mortgage bond business; very much like Fannie Mae, but not Ginnie Mae.

Full-service brokerages: A financial business that charges fees (usually high) for a variety of services including advice on buying and selling stocks.

Fully invested: Always maintaining a portfolio in the markets, usually with cash available for opportunities.

Fundamentals: Earnings, revenue per share, inventory levels, charges receivable and other such investment choice relevant factors.

General partner: A MLP's sponsoring business as required by law.

Ginnie Mae: Government National Mortgage Association; it acquires FHA mortgages and converts them into bonds; rates higher than other government bonds and guaranteed by the US government.

Global bond fund: A fund that may scour the world in search for quality bonds; can seek safe higher yields.

Gordon equation: Current dividend yield plus dividend-growth rate = market value.

Government bonds: Bonds issued by all levels of government in the world.

Gross domestic product (GDP): The value of everything a country produces in a year.

Growth investing: Investing in firms with increasing earnings, often regardless of share price; less successful than value investing in tests that have been conducted.

Hedge: A strategy in which buyers purchase options or countervailing stocks to reduce the adverse effects of market uncertainty.

Hedge fund: Mutual funds for the wealthy that charge very high fees of 2% of invested capital and 20% of all profits.

High-yield bond funds: Hold risky bonds that are rated BBB and below by the rating agencies.

Immediate annuities: The lowest fee annuity; pay a lump sum and get monthly income for life; beware, as with most annuities, as soon as you accept you sign over all of your capital to the insurance agency.

Income: In this book, income refers to dividends, bond interest, and pensions.

Index fund: A fund that has shares of stock in a specified index, e.g., the S&P 500 Index.

Indexed to inflation: An income level that increases by the level of the CPI; e.g., social security.

Inflation: A rise in prices and consequent fall in the value of money.

Intermediate-term bond fund: A fund with bond maturities limited to three to five years.

Investment analysts: Professionals who specialize in evaluating stocks for investment firms; most are biased toward the interests of their company.

Investment capital: Money used to buy stocks, bond funds and alternative investments.

Investment-grade: At a rating level of BBB and above; pertains to bonds and preferred stock, but not common stock.

Investment-grade bond fund: A fund with highly rated bonds, above BBB, a safe fund.

IRA: Individual Retirement Account, a tax-deferred account that becomes taxable in retirement.

K-1 forms: Complicated tax forms issued by master limited partnerships.

Keogh plans: Retirement plans for self-employed people; academics use these for royalties.

Laddering annuities: Buying successive immediate annuities in retirement to take advantage of higher payments with advancing age.

Ladders: The purchase of bonds with staggered payout or maturity dates in order to receive interest every month and to vary time limits of bonds.

Large-capitalized companies: Firms with at least $5 billion in total stock value.

Limit order: Sets transaction prices: the lowest purchasing price when buying or a the highest price when selling; allows selling above the floor and buying below the ceiling.

Load: A sales charge or transaction fee; fruitlessly consumes investment capital.

Long stocks: Actually owning stocks and holding the right to a dividend.

Long-term bond funds: Mutual funds that hold bonds with a maturity of 5 or more years.

Long-term capital gain: The rise in the price of an investment held for at least one year.

Margin account: A brokerage account that allows an investor to borrow purchasing capital from the brokerage, usually at high rates of interest.

Margin debt: Borrowing money to buy stocks at a brokerage.

Market order: An order to buy or sell immediately or at that moment's market price.

Market timing: Weighing market conditions to determine when to get out of stocks and into bonds; since the market is stochastic, this is futile in general.

Master limited partnership: A special entity that pays return of an investor's capital and is therefore tax free until one has received distributions that represent all capital paid.

Maturity date: The duration of a bond or the date by which the bond issuer must repay the full value of the bond.

Modern portfolio theory: Harry Markowitz's method of efficient asset allocation that emphasizes maximizing returns based on chosen levels of risk..

Mortgage bond funds: Funds that purchase bundled mortgages that are transformed into bonds; GNMA is the safest choice here.

Municipal bonds: Bonds issued by cities and states that are exempt from federal taxes; a state's bonds, if purchased by a resident of that state, are totally tax free.

Mutual funds: Pool the capital of many individuals and institutions to relieve the burdens of investing; shareholders pay fees to join in profits or suffer losses.

No-load mutual fund: A fund that does not charge a sales fee, called a load.

Notes: Longer-term bonds, bearing maturity dates of one year to five years.

Open-end fund: A mutual fund with no limit on the number of shares; when new capital arrives, more shares are created.

Options: Paying for the right to buy or sell a stock at a certain future price; they are a costly form of investment insurance.

Payout pecking order: The order in bankruptcy in which investors are paid: bond holders, preferred stockholders, and then common stockholders.

Payout ratio: The annual dividend payout of a firm divided by its earnings; try to maintain a ratio of 50% or less.

Penny stocks: New or risky stocks priced below $1; they are priced low for a reason; I advise avoiding them.

Pension: An employer's defined-benefit payment that is paid to a retiree for the duration of that person's life.

Portfolio: Allocated investment assets; a collective for all of your financial investments.

Position: How many shares of a particular stock one owns.

Preferred shareholders: Owners who receive a fixed dividend; in bankruptcy are paid after bond holders but before common stockholders.

Preservation of capital: The attempt to maintain a much of one's capital as is possible or practical; this is a form of market timing and sometimes limits income.

Real dollars: The value of money controlled for inflation.

Real Estate Investment Trust: A firm that buys or develops buildings and other real estate such as shopping malls; REITs funnel 95% of their revenue to shareholders; although REITs don't pay taxes, shareholders do.

Real return: Investment return controlled for inflation.

Record date: The official date when a company determines which shareholders are eligible to receive the dividend (note: it is always the person who holds title to the stock on that date; see the x-dividend date.

Recession: A mild economic downturn, where unemployment rises slightly and economic activity slows.

Required minimum distributions: Money that the IRS requires people to take out of traditional IRAs and retirement accounts in increasing amounts beginning at age 70.5.

Retirement portfolio: Investments that provide retirement income.

Return of capital: MLPs pay your investment back to you; it is tax free; it is a danger signal in bond funds, because it means that the fund does not have sufficient income to pay dividends.

Revenue per share: Income received divided by the number of shares in the float (see float).

Rollover: A transfer of an investment; the investment changes hands as it moves from one financial custodian or firm to another and it changes form; e.g., an estate to a traditional IRA a traditional IRA to a 403(b) or a Roth IRA.

Roth 401(k)s and 403(b)s: Workplace Roth accounts; these are not deductible in the current year, but are tax free in retirement.

Roth IRA: An individual retirement account to which one makes after-tax contributions; Roth IRAs do not receive a current tax deduction, but all distributions in retirement are tax free; moreover, there is no required minimum distribution at 70.5.

Rule of 72 or 69.3: Divide 69.3 by any rate of increase (e.g., dividend increase rate or a bond fund interest rate) in percentage terms and you will see how many years it will take to double your reinvested money.

Rule of 110: Divide 110 by a rate of percentage increase and you will see how many years it will take to triple your reinvested money.

Sector diversification: Buying stocks of different kinds of companies as a protection against capital loss.

Sector risks: Challenges that affect one or more types of companies, e.g., banks, real estate, or technology.

Securitized: Converted from mortgages or "toxic assets" into bonds that are sold to investors.

SEP-IRAs: Simplified Employee Pension IRA; set up for small business, academics use them for royalties and honoraria.

Shareholder: Someone who owns shares of a stock in a corporation and there-by becomes a partial owner of that firm; one could also buy into a bond fund or equity mutual fund and become shareholders of those entities.

Short stocks: The risky practice of borrowing shares of stock in order to sell them and then and buy them back at a lower price.

Seigniorage: In this book, the unannounced but deliberate inflationary policy of a government with a high debt level.

Small capitalized companies: Firms with less than $1 billion in total stock value.

Social Security Trust Fund: Maintained by the US government for retirees; it has $2.6 trillion.

Special dividend: A one-time payment beyond the normal dividend to shareholders.

Splits: The creation of more shares, e.g., two for one; this is done when the price of a share rises beyond the reach of most investors; also there are reverse splits, e.g., 5 for 1.

Step up: After a death, the heir gets the prices of assets on the day the assets are received; this becomes the heir's cost basis for taxes.

Stock dividend: The payment of a special dividend that is given in the form of more shares.

Stock screens: These filter your Internet searches to identify only those stocks with certain desired characteristics, e.g., low payout ratio and high yield.

Structured investments: Derivatives that Wall Street uses to create new investment products; the toxic assets that caused the credit crisis.

Subprime mortgage bonds: Mortgages of people with low credit ratings converted into bonds; this is one of the causes of the credit crisis.

Tax deferred: Investments one does not have to pay tax upon until income is received in retirement.

Tax free: Free from federal and state taxes, e.g., a Roth IRA.

Technical analyst: Someone who attempts to predict where stocks will be from the shapes of charts.

TIAA–CREF: Teacher's Insurance and Annuity Association and College Retirement Equity Fund; a retirement vehicle for nonprofit institutions.

Toll-taking revenue: The fees MLPs receive for sending liquids, such as water, oil, or gas, through pipelines.

Total investment return: The sum of dividends or interest plus capital gain.

Trade symbols: Letters that represent a stock or a closed-end fund. One uses them to buy and sell, e.g., CSX for CSX Railroad, or WMT for Wal-mart.

Traditional IRA a tax-deferred IRA on which some people can deduct from federal income taxes in the current year of investment.

Treasury Inflation-Protected Securities (TIPS): Safe, inflation-indexed Treasury bonds that carry a low interest rate; a TIPs interest rate is a combination of the rate set by the Treasury and the CPI.

Treasury shares: Shares that are neither traded on the market nor receive dividends; they are held for the future by the company.

Uncorrelated asset classes: Investments that do not vary together; examples: MLPs and some commodities.

Unit: A part of a MLP; distributions are multiplied by the number of units held.

Unit holder: Someone who owns a portion of a limited partnership in terms of units.

Unit splits: A MLP divides its units, e.g., 2 for 1, in order to lower the price.

Unrelated business income: An IRS terms referring to an entity that (1) is a trade or business; (2) is carried on regularly; and (3) is not related to the exempt purpose an individual or organization; essentially, one should not put tax-exempt entities such as MLPs in IRAs; this causes difficulties if this form of income is in a tax-deferred account.

Value investing: Purchasing a stock that the buyer believes is cheaper than its actual worth; always beats growth investing in tests that have been conducted.

Yield: The dividend divided by the price of a stock, mutual fund, or bond fund.

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