

27. Retirement 1: Understanding Retirement Basics

Introduction

People are living longer in modern times than they did in the past. Experts project that as life spans continue to increase, the average individual will spend between 20 and 30 years in retirement. With fewer traditional pension plans available and smaller payouts from traditional government and private plans, retirement planning is an increasingly important part of personal investment planning.

Most people want to be financially secure during retirement. This chapter on retirement planning is divided into four parts that will help you achieve financial security during retirement: (1) retirement basics, (2) Social Security, (3) employer-sponsored retirement plans, and (4) individual and small-business retirement plans. The sooner you begin planning and saving for retirement, the more likely it is that you will be financially secure during retirement.

Ezra Taft Benson gave the following counsel, “*Plan for your financial future. As you move through life toward retirement and the decades which follow, we invite all . . . to plan frugally for the years following full-time employment.*”¹

Retirement planning includes answering three important questions:

1. How much money do I need to have available at retirement to allow me to reach my retirement goals?
2. How do I tell if I am on track to reach my retirement goals?
3. What are the major retirement vehicles available to me, and how can I use them to reach my retirement goals?

This first chapter gives general guidelines on answering the first two questions. The remaining chapters discuss the major retirement vehicles available to you. We have put together a document on the [30 Key Decisions for Retirement](#) that ties in what you have learned thus far with your Retirement Plan.

The purpose of this chapter is to help you lay the foundation for a successful retirement plan and encourage you to follow your plan. This chapter reviews and builds upon concepts discussed in earlier chapters. You should read this chapter before reading the succeeding chapters in this course.

Objectives

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

- A. Understand why retirement planning is critical and the principles of successful retirement planning
- B. Understand the steps, stages and payout options at retirement
- C. Understand one method of monitoring your retirement-planning progress
- D. Understand and create your Retirement Plan.

Understanding the basics of retirement planning is important to planning, constructing, and managing a portfolio to achieve your retirement-planning goals.

Understand Why Retirement Planning is critical and the Principles of Retirement Planning

You have the responsibility to take care of yourself and your family. No one will assume that responsibility for you. Building an adequate retirement fund will ensure that you will be able to fulfill this responsibility even after you stop working. By planning ahead, you will help to ensure a better future for you and your family.

Life Expectancy

The following are some interesting statistics on aging from *Kiplinger Magazine* (Feb. 2001):

- There are an estimated 67,000 Americans who are at least 100 years old. This is a 130 percent increase from 1990.
- The number of people over the age of 100 is expected to rise to 834,000 by 2050.
- Of these people over the age of 100, 82 percent are likely to be women.
- In 1900, the life expectancy at birth for men and women was 46 and 48, respectively. In 1997, the life expectancy at birth for men and women was 74 and 80, respectively, and rising

We do not know how long each of us will live. We can gain information from the lives of our parents and family. We can also get estimates from others. We recommend you get a few estimates from the below websites which may indicate how long, based on their algorithms, you may be expected to live.

- Social Security estimates you will live this long based only on date of birth and gender, see Social Security [Life Expectancy Calculator](#)
- Northwestern Mutual Life Insurance provides a [Longevity Quiz](#).
- Blueprint Income has their [How Long Will You Live](#).
- Bankrate.com gives a [Life Expectancy Calculators](#)

As the average life expectancy rises, the need to save for longer periods of retirement becomes more important. As we discussed earlier in the chapters on the time value of money, the sooner you invest your money and the more time your money has to compound, the larger your nest egg

will be when you retire.

Getting Started

You should begin planning for retirement today. Retirement may seem to be a long way off, but it isn't! You may think your employer or the government will provide the funds to help you through retirement, but this is typically not the case anymore. Employer-sponsored retirement benefits are changing, being reduced, or being eliminated altogether, and the future of government programs, particularly Social Security, is uncertain. Even if Social Security is still available when you retire, it will probably not provide enough money for you to live on exclusively. You need to be aware of these changes in employer-sponsored retirement benefits and government programs and plan accordingly.

Principles of Retirement Planning

There are generally six key principles to successful retirement planning:

1. Know Yourself, Your Vision, Goals and Plans. It is critical that you know yourself. You must have our vision of what your retirement will be like, and then develop your personal and family goals and your plans to achieve them. If you have not written your goals down, you should do so now. Know what you want out of life. Understand what kind of retirement you want. And most importantly, be willing to work toward the kind of retirement you want.

2. Seek, receive and act on the Spirit's guidance. This includes seeking diligently through study and prayer, living worthy of the Spirit's guidance, and then acting on it once it is received.

3. Understand the Retirement-Planning Vehicles Available to You. The government offers a number of retirement vehicles that have specific tax advantages to help you as you save for retirement. Understand them carefully and utilize them to your best advantage.

Understand the government retirement plan, which is Social Security. Social Security promises specific retirement benefits. It is up to you to understand what you are entitled to and the steps you must take to receive those benefits.

Understand the numerous employer-qualified retirement plans, including 401(k), Roth 401(k), 403(b), Roth 403(b), or 457 retirement plans for the employee. Understand these plans and use them to your best interest.

Understand individual and small-business retirement accounts. These include traditional IRAs, Roth IRAs, Keoghs, and SEPs and SIMPLEs for the self-employed.

Finally, once you understand these vehicles, use the highest priority money first, which will help you achieve your financial goals the fastest.

4. Choose Financial Assets Wisely. To help you reach your goals, choose the financial assets that will earn the highest after-tax returns. Follow the principles of successful investing discussed earlier and invest wisely.

5. Follow the Retirement Planning Steps. Follow the steps to successful retirement planning, which will be discussed next. Plan your retirement and live your plan.

6. Develop a Good Retirement Plan and Follow It Closely. Develop a good retirement plan and write it down. Follow it closely, and include ways to check your progress toward your goals. Check yourself regularly to make sure you are on track to meet your goals. Monitor your performance, and re-balance and re-evaluate as needed.

7. Start Now. The longer you wait to start, the more money you will need to invest for retirement. Start investing early so your money will be earning money to help you reach your retirement goals.

Finding Balance

As you work on creating your Retirement Plan, finding balance among doctrines, principles and application is important. We have shared some ideas for principles, and below are a few ideas for doctrines on which the principles are based. As you strive to increase your ability and effectiveness in preparing for retirement, I recommend you study and ponder the doctrines and principles supporting this.

<u>Principles</u>	<u>Doctrines</u>
Know yourself, your vision, goals and plans	Identity
Seek, receive and act on the Spirit's guidance	Obedience
Understand retirement vehicles	Stewardship
Choose assets wisely	Accountability
Know the steps for retirement planning	Agency
Develop and follow your plan	Agency
Start today	Stewardship

From Obedience to Consecration

From the principles and doctrines, we can see that we are not just preparing for retirement, which is an application. From a higher perspective, or with increased vision,

We are children of God (identity), living worthy of the Spirit (obedience), learning about key areas, steps and strategies of retirement (stewardship) so we can make wise decisions

about our future (agency) which will allow us to save and invest appropriately (accountability) to accomplish our personal and family vision and goals.

Understand the Steps, Stages and Payout Options at Retirement

There are a number of factors that determine how much you will need to save for retirement, including your anticipated retirement age, your desired retirement income (be realistic), your other sources of retirement income (for example, Social Security, investment accounts, real estate, your home), and your tax rate before and during retirement. Other factors include the expected rate of inflation both before and during retirement and the expected return on your retirement savings accounts both before and during retirement. Each of these factors will help you decide how much you must save in order to have sufficient financial resources during retirement. There are seven steps to successful retirement planning:

1. Catch your vision and set retirement goals and estimate how much money you will need at retirement.
2. Estimate how much income you will receive annually during retirement based on your current investments.
3. Estimate your total retirement needs after accounting for inflation.
4. Determine how much you have already saved for retirement.
5. Estimate the value of your home.
6. Determine how much money you still need to save at an expected rate of return to meet your total retirement needs.
7. Determine your optimal investment vehicles and begin saving.

Each of these steps is described in detail below. This process of successful retirement planning mirrors [Retirement Planning Needs Spreadsheet](#) (LT06) in the Learning Tools section of the website.

Before you begin the retirement process, you must make five critical estimates.

1. Estimate how many years you have left until you want to retire. While many people retire at age 65, others retire earlier or later. A possible key to successful retirement planning is to achieve your personal financial goals so you can retire with no change in lifestyle.
2. Estimate how long you will be in retirement. Although it is challenging to estimate how long you will live, take the challenge seriously. This estimate has a major bearing on how much money you will need for retirement. You may be able to call your life insurance broker and ask him or her what the actuarial tables predict your lifespan will be.
3. Estimate the average rate of return you will receive on your investment portfolio before retirement and the rate of return you will receive on your investment portfolio

during retirement. Be conservative in making these estimates. As you enter retirement, you will most likely reduce the amount of risk in your portfolio, phasing out higher-risk, higher-return financial assets for lower-risk, lower-return financial assets. These estimates should come from Section 1 of your Investment Plan developed in the investments chapters. I strongly recommend you use conservative estimates (which are generally significantly less than 8 percent).

4. Estimate what the rate of inflation will be both before you retire and while you are in retirement. Inflation will have a major impact on the amount you will need to save for your retirement needs, especially if you have many years left until you retire. See [Expected Return Simulation and Benchmarks](#) (LT27) for 1-, 5-, 10-, 25-, 50-, 75-, and 85-year inflation data.

5. Estimate the average tax rate you will likely pay during retirement. While some retirement assets are tax-eliminated (you pay taxes on the asset before you invest) and you eliminate all future taxes on earnings and principal, most individuals have a large percentage of their assets in tax-deferred accounts; these individuals must pay taxes on the funds when they are withdrawn for retirement. When making this estimate, assume that most of your retirement assets are tax-deferred assets rather than tax-eliminated assets.

Step 1: Catch Your Vision and Set Retirement Goals for What you Want

The most important question you must ask yourself is how you want to live when you retire. Will you need more or less money than you are earning now? Be realistic in answering this question. Examine your own situation, estimate how much retirement income you will need, and then work toward achieving that goal.

To make your estimation, start with the amount of money you currently earn on an after-tax basis. Then multiply this amount by the percentage of your income you expect to need for basic living expenses annually during retirement; these are your mandatory costs in retirement and include housing, food, health-care, transportation, etc. This amount is usually between 70 and 90 percent of your current income. Some of your retirement goals may require you to save an annual amount in addition to this base amount—these goals may include visiting your grandchildren, going on vacations, and so on. Add this additional amount to your base amount to estimate your after-tax annual living expense.

Next, use the estimation of what your tax rate will be during retirement to calculate your before-tax annual living expense. For most of the funds in your retirement accounts, you will need to pay taxes when you make withdrawals. Estimate conservatively. To calculate the amount you will need for your before-tax annual living expenses during retirement, divide your annual living expense estimate by the result of one minus your estimated tax rate. This calculation will give you an estimate of your before-tax annual living expense in today's dollars. From the Tax Planning section of your Personal Financial Plan, you know your current average tax rate. This is

a good starting point for estimating your tax rate in the future.

Finally, adjust this before-tax estimation to account for inflation both before retirement and during retirement. Using a financial calculator, solve for the amount you will need to save after inflation has been accounted for. Set the present value equal to the amount of before-tax annual income you will need during retirement, set N equal to the number of years before you retire, and set I equal to the estimated inflation rate. Then solve for the future value; the result will be the amount of money (in future dollars) you will need in the first year of retirement.

Step 2: Estimate Your Current Annual Income Available at Retirement

Once you know how much money you will need for retirement, you should decide which sources of retirement income are already available to you. Start with government resources (in most cases, Social Security). The amount of your Social Security benefit is determined mainly by two factors: (1) your average salary during the years you work and (2) when you begin receiving benefits. Most individuals become eligible to receive Social Security at age 67; however, if you defer receiving benefits until age 70, the amount of your monthly benefit will increase. Estimate how much money you will receive from Social Security each month and multiply that amount by 12. I recommend that you go to www.socialsecurity.gov and request information regarding your Social Security benefits.

Next, work with your company's benefits coordinator to determine how much you can expect to receive from any defined-benefit pension plans, which will be covered later. Estimate a payout amount based on your current age and earnings. Be conservative in this estimate.

Finally, using a financial calculator or spreadsheet program, solve for how much your retirement assets will be worth at retirement. This estimate will likely be different from your estimate of growth on your personal investments because you do not have control over your retirement assets. Set your present value equal to the current value of these assets, set N equal to the number of years before you retire, and set the interest rate equal to the estimated growth rate of these assets. Then solve for the future value. This calculation will reveal the amount of retirement money (in future dollars) that is available to you from your retirement assets.

Step 3: Estimate Your Total Retirement Needs after Inflation

Next, determine the inflation-adjusted shortfall, or how much additional money you will need for retirement after the effects of inflation have been accounted for. To calculate the annual inflation-adjusted shortfall, subtract the amount you expect to receive from Social Security, qualified retirement plans, individual retirement plans, and small-business retirement plans from the total annual amount you will need for retirement. Once you know your inflation-adjusted shortfall, the next step is to figure out how much money you will need to fund that shortfall each year.

You are now ready to calculate the total amount you will need to have invested by retirement in

order to receive your desired annual payment.

Use a financial calculator or spreadsheet to solve this problem. Set your payment (PMT) equal to your desired annual payment, set N equal to the number of years you will be in retirement, and set the interest rate equal to your real return rate. Then solve for the present value. The result of this equation will be the amount of money (in today's dollars) you will need to have invested by the time you retire in order to receive your needed annual payments. Once you retire, you will either live off the returns generated by your investments or use the money you have invested to purchase an annuity from a financial institution to receive your needed monthly amount.

Step 4: Determine How Much You Have Already Saved on a before-tax Basis

Now that you know how much money you will need to fund your retirement, you must determine how much you have already saved for this purpose. First, list the current value of all of your retirement accounts and taxable accounts. This list should include the value of 401(k) plans, IRAs, Keogh plans, and any other savings and retirement vehicles you own. Your next challenge is to determine how much these assets will be worth when you retire, assuming you do not make any withdrawals from these accounts.

Using your estimate of the number of years until you retire, your estimate of the average rate of return you will receive on your investment portfolio before you retire, and your estimate of the rate of inflation before you retire, calculate the real return on your investments. Now, solve for the future value of your investments using a financial calculator. Set the present value equal to the current value of your investments, set N equal to the number of years until you retire, and set the interest rate equal to your real rate of return. Then solve for the future value; the result will be an estimation of the future value of your current investments.

Step 5: Estimate the Contribution or Reduction to your Retirement Plans from Your Home

Your home may or may not be an important part of your retirement plan. In this step, you must decide whether your home will be an expense or an asset during retirement. If your home is not paid off when you retire, you will still need funds to pay the mortgage, and you will need an increased amount of income to pay off your loan. If your home is paid off, and it is larger than your needs require when your kids are gone, you may want to sell your home and downsize when you retire.

There are two ways you can sell your home. You can simply sell your home for cash (usually to another family), or you can sell your home through a reverse mortgage. With a reverse mortgage, the buyer (usually a bank or investor) pays for the home, and you, the owner, can stay in the home until your death.

If you want your home to be a part of your retirement plan, begin by determining the current value of the home. Current appraisals are good starting points. Next, estimate how much your home's value will increase by the time you retire. Again, be conservative in making your

forecast. For example, I usually forecast housing growth rates at below forecasted inflation rates. Finally, determine how much you will owe on the home when you retire. Many people have a goal to have their mortgages paid off before retirement. However, if you expect to still have a mortgage when you retire, allow for mortgage payments when calculating your retirement expenses. Some people plan to buy another home after they retire; this is an additional expense to consider.

To calculate how much money your home will contribute to your retirement plan, subtract the amount you still owe on your mortgage as well as the cost of a new home from the estimated value of your home at retirement.

Step 6: Determine How Much You Still Need to Save at an Expected Rate of Return to Meet Your Total Retirement Needs

This step brings all the calculations together. Begin with the total investment needed (see Step 3). Subtract the future value of your current investments (see Step 4) from the total investment needed. Then subtract the amount your home will contribute to your retirement plan (see Step 5). This will give you the final amount (in future dollars) you must invest, or the total investment shortfall.

Since you have already accounted for the impact of inflation both before retirement and during retirement, you can use a financial calculator to find out how much you will need to save each month. Set the future value equal to the total investment shortfall, set N equal to the number of years until you retire, and set the interest rate equal to the amount of your expected portfolio return before you retire. Then solve for the payment (PMT). This calculation will give you the amount of money you must save every month or year to achieve your retirement goals.

Step 7: Determine Your Preferred Investment Vehicles and Begin Saving Today

Finally, using the priorities of money and the investment hourglass, determine which investment vehicles and financial assets will help you achieve your retirement goals most efficiently. Then begin saving!

Stages and Strategies of Retirement Planning

There are three general stages in retirement planning: accumulation, retirement/annuitization, and distribution. It is important to develop goals and plans in each of these areas as you prepare for retirement.

Stage 1: Accumulation: This is your plan for how you will save money for your retirement before you retire. An example of accumulation might include saving 20 percent of every dollar you make after college. Of that 20 percent, 10 percent will go into your company 401(k) for retirement, 3 percent into a taxable account for missions, 2 percent into education funds for your children's education, and 5 percent into a taxable savings account to pay off your home early or

for other long-term family goals. Another strategy might be to convert funds from tax-deferred accounts into Roth accounts with minimum tax impact if doing so makes financial sense.

Accumulation strategies could include:

- Live on a budget and save 20%, always get the company match
- Save 20% of every dollar, 15% into your Roth 401k, 3% for other goals, and 2% for children's mission and education
- Save 15% of every dollar, with 10% into the Roth IRA for both you and your spouse, 3% for education and 2% mission
- Invest in Roth accounts while young and when rates are low. Use these to target your tax rate in retirement (to a low level)
- Even though you don't know tax rates, maximize investments in Roth vehicles as you are actually saving more for retirement
- Plan to have your house paid off before retirement. Do not go into retirement with a house payment
- Plan, if desired, to not take social security until 3 years past full retirement age to maximize benefits
- Have your house paid off, and live like a retiree before you retire.

Stage 2: Retirement/Annuitization: This is your plan for how your assets will be distributed at retirement (i.e., immediate annuity versus lump sum distribution that you invest) so you will have sufficient assets for your lifetime. An example might include the expectation of receiving \$25,000 each year between Social Security and a defined benefit plan and the realization that you will need \$40,000 each year to meet your minimum acceptable level of retirement income. When you retire, you will plan to purchase an immediate annuity to provide that \$15,000 each year to bring you up to that minimum acceptable level of retirement income.

Retirement strategies might include:

- Calculate a minimum level of retirement income, and annuitize that amount (if you have sufficient assets). The process is:
 - Calculate your amounts from Social Security and any defined benefit plan(s)
 - Determine your minimum amount needed to live comfortably, and
 - Take a percentage of your assets at retirement (if sufficient) to purchase an immediate annuity to give you the minimum amount needed (b-a) to receive your minimum acceptable level of income
- If you can, retire at 3 years beyond Full Retirement Age to get the maximum you can from Social Security
- Have your house and all debts paid off before you retire
- Have both Roth and traditional retirement assets so you can target your tax rates in retirement

Stage 3: Distribution/Disposition/Decumulation: This is your plan for how best to take distributions from your remaining retirement and taxable accounts to minimize taxes and maximize the availability of your assets after you retire. An example might include taking a maximum distribution of 3.6 percent of your total retirement assets based on the asset value as of the previous December, or to only take out earnings from investments for the previous year.

Distribution strategies might include:

- Set up a framework where you will not outlive your assets. Recommendations include:
- Take out a max distribution of 3.6% of assets each year
- Take out earnings from investments of previous year
- Have taxable (tax now), Roth (rarely taxed) and traditional (taxes later) vehicles to target your tax rate in retirement
- Set a target tax rate, then pull traditional assets up to that specific amount, then Roth assets afterwards to reduce taxes
- Make sure to pay your Required Minimum Distributions
- During your later years which your income is less, i.e., during missions, transfer money from your tax-deferred to tax-eliminated accounts
- Use this time to move assets into Roth accounts with as little tax consequences as possible

Realize that these are general but important stages to think about in retirement planning. It is important to develop plans and strategies for each of these areas.

Payout Options Available at Retirement

Before deciding on the manner in which you want to receive your retirement payouts, make sure you understand the tax consequences of your decision. Look at all of your investment payouts and retirement payouts together. Consider the pros and cons of an annuity versus a lump-sum payout. Plan your payouts to minimize your taxes.

Types of Retirement Payouts

There are several types of retirement payouts available to you when you retire. A single life annuity provides equal payments for as long as you live.

A life annuity with certain period provides payments as long as you live; however, with this option, when you die, your heirs receive payments until the end of the specified or guaranteed period.

A joint and survivor annuity means that payments will continue as long as you or your spouse is alive. In some cases, the benefits may be reduced when you die, so review your options carefully.

A lump-sum payout is a single payment of all principal and accumulated interest that is paid to you when you retire.

Deciding how you want to receive your payout is critical, and once the decision is made it usually cannot be changed. Do not make the decision until you have done as much research as possible. When making this decision, you should account for your goals, budget, family situation, and current health.

Tax Treatment of Payouts

Different types of payouts are taxed differently. Annuity payments are taxed as normal income—annuity payments are the most expensive payout option. A lump-sum payout is normally taxed as ordinary income; however, the payout is taxed as if you had received the money over a 10-year span, which reduces taxes slightly. You are still liable for all taxes on a lump-sum payout immediately. One advantage of a lump-sum payout is that it can be rolled over into a traditional IRA if you want to avoid immediate taxes and continue tax-deferred growth. You can then pull the money out of the IRA as needed and pay taxes on these withdrawals. It is important that you understand the tax implications of whatever payout choice you make.

Understand One Method of Monitoring Your Retirement-Planning Progress

Retirement planning is not easy, but it is an important and worthwhile objective. There are a few key points you should remember when planning for retirement. First, remember to plan for inflation. Changes in inflation can have a drastic effect on the amount of money you need to save for retirement. Watch inflation carefully and plan accordingly.

Second, recognize that once you retire, you may still live for a long time. Plan accordingly, and be prudent in your estimation of how long you will live after you retire.

Third, do not neglect your insurance coverage. Health-care costs can quickly reduce a good retirement plan to nothing if you do not have sufficient insurance.

Fourth, monitor the progress you are making toward your goals, and make changes to your plans and goals as necessary. Review and evaluate performance annually.

Monitoring Progress

Evaluating how well you are doing in preparing for retirement is a major challenge. One method of monitoring your progress is to review your progress every year using [Retirement Planning Needs Spreadsheet](#) (LT06). This method is useful, but keep in mind that it does not account for large-ticket expenses, such as a home, nor does it allow you to see where you should be in the retirement-planning process based on your age. In addition to these disadvantages, this Learning Tool does not allow you to see the impact changes in interest rates can have on your available savings at retirement.

An article by Jonathan Clements entitled “Ugly Math: How Soaring Housing Costs Are Jeopardizing Retirement Savings”² proposes an interesting idea. Using guidelines put together by Charles Farrell, Clements proposes that individuals and families can determine how close they are to achieving their retirement goals by looking at three specific factors: (1) the amount saved in their taxable and retirement vehicles, (2) the amount of their overall debt, and (3) the amount of their annual earnings. By looking at the ratios of year-end savings-to-annual income and year-end debt-to-annual income, you can see whether or not you are on track to achieve your retirement goals based on a table shown in Clements’s article (see Table 1).

These guidelines are a reality check in today’s spending frenzy because they show the relationship between savings and debt—you must manage both variables, not just one. The article also encourages you to reduce debt while at the same time increasing savings. Clements’ article has three main assumptions:

1. Investors will earn 5 percent more than inflation. While I think this assumption is reasonable, 5 percent might be on the high side for older investors who are primarily invested in fixed-income assets.
2. Investors ages 30 to 65 will save about 12 percent of their pre-tax income every year. Currently, the average individual in the United States is saving significantly less than this amount—between 0 and 8 percent (some are even negative). Individuals need to increase the amount they save.
3. Investors will withdraw 5 percent of their portfolio’s value each year in retirement. This is probably an acceptable assumption.

While these assumptions are fairly reasonable, the targets proposed in Table 1 are likely too soft. Both Clements and Farrell state that these targets should probably be made more stringent. Overall, this is a great article and a good resource to help you understand where you are and where you want to be in terms of retirement planning.

Table 1. Key Ratios

Age	Savings-to-Income	Debt-to-Income
30	0.1	1.70
35	0.9	1.50
40	1.8	1.25
45	3.0	1.00
50	4.5	0.75
55	6.5	0.50
60	8.9	0.20
65	12.0	0.00

Are there tools that can help you figure out where you are now and where you want to be as you work toward retirement? One suggestion is). In this spreadsheet, I took the framework proposed by Jonathan Clements and Charles Farrell and developed a chart to help you plan and chart your progress. This chart [Retirement Planning Ratio Forecasts](#) (LT25) assumes basic information that can be changed depending on your current situation and age. It can help reveal weaknesses in your current plan and help you monitor your progress. The major disadvantage of this spreadsheet is that it assumes earnings and other factors increase each year at a specific rate, and it is only as accurate as the respective inputs. I make five assumptions in this spreadsheet:

1. Housing payments are expenses, and investors can handle housing payments in amounts up to the “back-end ratio” used by many banks: 36 percent of gross salary. Inputs include not only the interest rate and the number of years left on the loan but also annual property costs and insurance costs. If your housing costs are greater than 36 percent, you will get an error message telling you to reduce the cost of the mortgage.
2. Additional payments for housing expenses, such as pre-payments, come out of money earmarked for savings. If you decide to pre-pay your housing loan, the money you have put in savings is diverted to pay off your mortgage. There is a relationship between mortgage payments and savings. The more you pay in mortgage payments, the less you will be able save for your other goals.
3. Individual inputs are consistent and achievable. Any program is only as good as an individual’s forecasts. I encourage you to be conservative with your forecasts.
4. Tax savings on interest payments are considered part of expenses. While this spreadsheet accounts for tax rates in retirement, it does not account for a tax shield on interest payments before retirement.
5. The amount of retirement savings desired is a multiple of income. I have included an input for your estimated market interest rate at retirement. You may decide to use your savings to purchase an annuity when you retire. This spreadsheet will estimate the amount of the annual payment you will receive during retirement based on that estimated market rate.

If used correctly, this spreadsheet can help you represent your current situation.

Example

Suppose you are 26 years old and have an annual income of \$50,000. You expect to retire at age 65, and you forecast market interest rates to be 4 percent at that time. You estimate you will be in retirement for 30 years, you will save 5 percent of your salary every year until retirement, you will earn 8 percent on your investments, and inflation will be 3 percent each year. You do not anticipate any real growth in income. You estimate that you will buy a home in 4 years, and you will pay \$270,000 for the home with a \$20,000 down payment. You will finance \$250,000 of the home at 7 percent for 30 years, and you will pay \$250 per month in property taxes and insurance.

You will pay off the home in 30 years, and the home's value will grow at 3 percent, consistent with inflation.

Age at beginning of employment	26
Starting income	\$50,000
Average annual increase in income	3.0%
Age at retirement	65
Estimated market rates at retirement	4%
Years in retirement	30
Annual percent of salary saved	10.0%
Return on investment	8.0%
Assumed inflation rate	3.0%
Age when you will purchase a home	30
Cost of the home	\$270,000
Down payment	\$20,000
Mortgage amount	\$250,000
Taxes and insurance (\$250 per month)	\$3,000
Mortgage interest rate	7.0%
Mortgage term	30
Years to pay off loan	30
Assumed growth in home prices	3.0%

Based on the above information, the Learning Tool gives the following information: the first column shows your age, the second and third columns show the savings and debt ratios (.59 = 59 percent) recommended by this Learning Tool, and columns four and five show the savings and debt ratios recommended by the *Wall Street Journal* article.

Age	Estimated Savings and Debt-to-Income Ratios		Article-Recommended Ratios	
	Savings-to-income	Debt-to-income	Savings-to-income	Debt-to-income
30	0.59		0.10	1.70
35	1.34	3.79	0.90	1.50
40	2.29	3.06	1.80	1.25
45	3.50	2.37	3.00	1.00
50	5.03	1.73	4.50	0.75
55	6.97	1.11	6.50	0.50
60	9.43	0.50	8.90	0.20
65	12.54		12.00	

	Retirement	Annuity Payment	5% Payout
Total savings	\$1,985,902	\$114,845	\$99,295
Savings to income / % of salary	12.5%	73%	63%
Total inflation adjusted savings	\$959,082	\$37,005	\$47,954
Savings to income / % of salary	6.06%	76%	99%

The benefit of this spreadsheet is that it gives you an idea of where you are in your retirement-planning process. If you had input the information in the previous chart and noticed that the 5 percent payout was only 64 percent of your desired annual income stream, you might have decided you needed a higher percentage. By changing the amount saved, you can see how increasing your savings will lead to an increase in the annual amount available for retirement. For example, by increasing your savings from 10 percent to 15 percent, the 5 percent payout amount increases from 64 percent of your income at retirement to 94 percent of your income at retirement. If you want to receive a payout of 100 percent of income, you can adjust the savings percentage to give you 100 percent of salary at retirement by increasing your savings percentage to 16 percent.

Monitoring your progress toward retirement is an important but challenging responsibility. Nevertheless, this responsibility must be assumed if you are to achieve your financial goals and retire in a manner you desire.

Understand and Create Your Retirement Plan

It is not easy to come up with a retirement vision. It is very difficult because we all have different visions, goals, and plans. While it is difficult to develop, it is something that we should think about to give us motivation to prepare for retirement. Following are a few ideas that may be helpful.

Vision

- From your Plan for Life. It may also include:
 - As children of God, our time on earth is limited. As such, retirement will be a good time for my wife and I to give back.
 - We will serve 5 missions, the first at age 65.
 - We will visit the grandkids every year and will serve where needed.
 - We will likely stay where we are, and eventually downsizing our home (no new debt).
 - With our goal to save, we will have a sufficient retirement portfolio to meet our needs for the rest of our lives and will not be a burden on our children.
 - I will plan well so my spouse has sufficient to live on if I pass first.

Goals

- Upon retirement, we will take a portion of our taxable assets and purchase an immediate annuity, which with Social Security and our defined benefit plan will be sufficient to give us a minimum level of income each year.
- That portfolio will include Social Security, a defined benefit plan, and additional investment vehicles including traditional, Roth, and taxable accounts.
- I will take social Security at 3 years beyond full retirement age, and my spouse at full retirement age.

- Our defined benefit payments will be for joint and survivor 75%, so that when I die my spouse will still have sufficient.
- Our home is paid for and we will have no debt as we will pay cash for all vehicles and keep them 10 years.
- Our retirement portfolios will be 40% tax-deferred, 30% Roth, and 30% in taxable accounts to allow us to target our tax rates in retirement.

Plans and Strategies:

Accumulation Stage: Age 23-65

- We will continue to live on a budget and save and invest 20% of all earnings, with 15% going into retirement consistent with our risk tolerance and according to our Investment Plan.
- We will invest in Roth accounts when we are young and tax rates are low.
- We will try to maximize investments in Roth accounts as we are saving more for retirement (we are paying the taxes outside the retirement vehicles)
- 2% will go into our children's education and mission accounts consistent with our Mission and Education Plans.
- The final 3% we will use to pay down the mortgage on our home with a goal is to have it paid off by the time I turn 45.
- We will pay all tithes and offerings and rebalance our investment portfolio to asset allocation targets with appreciated securities.
- We plan to have our house paid off before retirement. We will not go into retirement with debt.

Retirement Stage Age 65 – 70.

- We will strive to live like a retiree before we retire, so we have fewer fixed expenses
- Upon retirement, we will take a portion of our assets and purchase an immediate annuity, which with Social Security and defined benefit payments, be sufficient to give our minimum required level of retirement income each year.
- I will take Social Security at 3 years beyond Full Retirement Age (FRA), and my spouse at FRA.
- We will strive to save 5% during this period, although overall resources will be diminished due to helping to pay for our children's education and missions.
- We will go on our first mission at age 65, and will use this as a time to convert traditional retirement accounts into Roth accounts.
- We will likely come back to teaching until age 70, then go on four other missions, subject to our health.
- We will not have mortgage debt when we retire so we have fewer fixed assets
- We will have a balance among taxable, tax-deferred and tax-eliminated accounts to target our taxes during retirement.

Distribution Stage: Age 70 - 97

- I will take social Security at 3 years beyond full retirement age, and my wife at full retirement age.
- Our work defined benefit payments will start at age 70, and will be for joint and survivor 75%.
- Our home is paid for and we will have no debt as we will pay cash for all vehicles and keep them a minimum of 10 years.
- We will continue to pay tithes and offerings with appreciated securities and will enjoy life to the fullest.
- We will set up a framework to not outlive our assets. We will take a maximum of 3.6% of our total assets each year for retirement
- We will use our tax-deferred accounts and pay our tithes and offerings with appreciated securities, which will also account for our Required Minimum Distributions (RMDs)

Constraints

- The following are the key risks to our retirement plans:
 - Budget. We will continue to live on a budget and save for our individual and family vision and goals
 - Saving. We will continue to save 20% of gross income per year, with 15% going into retirement vehicles
 - Health. We will always have sufficient health coverage, through both government and private coverage
 - Sin. We will guard against loss of the Spirit, testimony and eternal lives. We will continue serving in the church, reading our scriptures, attending the temple each week, spending time with our extended family and friends, and doing our home and visiting teaching, all to help us become more like the Savior

Accountability

- We will share our vision with these partners:
 - Heavenly Father. We will share with Heavenly Father our plans daily and weekly in our weekly companionship stewardship prayer
 - Spouse. We have worked together to put our vision, goals, and plans together and have completed our spiritual creation. Our goal is now the physical creations, to see this retirement plan come to pass
 - Children. We will let our children know our retirement plans. We will help them with missions and education as planned. They know we will not sacrifice our retirement to help our children financially. They will know that our first priority is to my spouse and then children

Summary

You have the responsibility to take care of yourself and your family. No one will assume that responsibility for you. Building an adequate retirement fund will ensure that you will be able to

fulfill this responsibility even after you stop working. By planning for the future, you will ensure a better future.

Before you plan for retirement, you should know your budget, your personal goals, and your needs. You must also ask yourself two questions: What kind of retirement are you planning for? How much money will you need each year?

You should be aware of which investment vehicles are available to you; they may include Social Security, employer-sponsored plans, small-business plans, and individual plans. Once you know which investment vehicles are available to you, you must decide which financial assets should be included in these investment vehicles to most effectively help you achieve your goals. As you make your retirement plan, select the investment vehicles and financial assets that will give you the highest after-tax returns and therefore allow you to reach your personal and retirement goals.

There are seven steps of successful retirement planning:

1. Set retirement goals and estimate how much money you will need at retirement.
2. Estimate how much income you will have annually at retirement based on your current investments.
3. Estimate your total retirement needs after accounting for inflation.
4. Determine how much you have already saved for retirement.
5. Estimate the value of your home.
6. Determine how much money you still need to save at an expected rate of return to meet your total retirement needs.
7. Determine your optimal investment vehicles and begin saving.

Before deciding on the manner in which you want to receive your retirement payouts, make sure you understand the tax consequences of your decision. Look at all of your investment payouts and retirement payouts together. Consider the pros and cons of an annuity versus a lump-sum payout. Plan your payouts to minimize your taxes.

Retirement planning is not easy, but it is an important and worthwhile objective. Finally, we gave an examples of a Retirement Plan.

Assignments

Financial Plan Assignments

One of the most challenging aspects of retirement planning is deciding what kind of retirement you would like. This is where your vision of your retirement comes in. What would you like your retirement to be? What are you spending this year for basic needs? How much money will you need each year in retirement to maintain your lifestyle? Is this amount more or less than what you are currently spending? These are not easy questions, but they are important questions.

Your assignment is to make a first pass at answering these questions. Using [Retirement Planning Needs Spreadsheet](#) (LT06), determine how much you must save each month to achieve your specific lifestyle at retirement based on your estimates of years until retirement, expected return, inflation, and tax rates.

To see the impact of inflation on the amount you must save, increase your forecast for inflation by just one percent both before and during retirement and see how much this affects the amount you must save each month. Likewise, decrease your forecast for inflation by one percent both before and during retirement and see how much this affects the amount you must save each month.

Learning Tools

The following Learning Tools may be helpful for this chapter:

[Retirement Planning Needs Spreadsheet](#) (LT06)

This Excel spreadsheet helps you determine how much you must save each month to achieve a specific lifestyle at retirement based on your estimates of years until retirement, expected return, inflation, and tax rates.

[Retirement Planning Ratio Forecasts](#) (LT25)

This spreadsheet is an Excel template that will help you determine where you are in your progress toward achieving your retirement goals. By inputting the relevant information, you can estimate whether you are on track for reaching your retirement goals, based on your age and income.

[Expected Return Simulation and Benchmarks](#) (LT27)

This spreadsheet helps you see the impact of various investment strategies as well as the volatility of different asset classes including inflation. It also shows you the historical impact of different asset-allocation decisions.

Review Materials

Terminology Review

Accumulation Stage (of retirement). This first stage of retirement begins when you first begin to work and is the time where you accumulate assets which you will later use for retirement needs.

Accumulation strategies. These are possible strategies to use while you are in the accumulation stage of retirement.

Annuities. These are financial products developed and sold by insurance companies designed to accept and grow funds, and then, upon annuitization, pay out a stream of payments for a specified length of time.

Annuitization. The process of determining what percent of retirement assets should be annuitized to ensure sufficient funds for the recipients life.

Annuity types. These are the different types of annuities.

- **Deferred.** Payments are deferred until the specified time the investor elects to begin receiving the payments.
- **Fixed.** Payments are a fixed amount, and are made to the investor until the end of the contract, usually till the investor dies.
- **Immediate.** Payments begin immediately upon receiving the funds.
- **Life.** Payments are fixed and are made each period until the end of the investor's life.
- **Period Certain.** Payments are made for a specific period, regardless of the investor's life span
- **Variable.** Payments are variable based on a specific asset's performance as specified in the contract. Variable payments are made to the investor until the end of the contract.

Distribution Options. This is the decision as to how a distribution or payout is to be received. Make sure you understand the tax consequences of any payout or distribution option chosen.

Distribution/disposition/decumulation Stage (of retirement). This stage begins after you have retired. This is your plan as to how best take distributions from your remaining retirement and taxable accounts to minimize taxes and maximize the availability of your assets.

Distribution/disposition/decumulation strategies. These strategies help you set up a framework where you will not outlive your assets.

Retirement/Annuitization Stage (of retirement). This stage begins when you retire. It is your plan on how your assets will be distributed at retirement. Your goal should be to have sufficient assets for your lifetime to enable you and your spouse to live like you want in retirement.

Retirement/Annuitization strategies. These are strategies to use while you are in the retirement stage.

Retirement vehicles. These are a specific type of investment vehicles which are related to retirement. These include qualified retirement plans such as both traditional and Roth 401k, 403b, and 457 plans; Individual retirement plans such as Roth and traditional IRAs; and small business plans such as SEPs, Simple, and Keogh plans.

Shortfall. This is the difference between what you have now saved for retirement and what you think you need for retirement.

Retirement Payout Options. These are the types of annuity distribution payouts available at retirement. Investors and spouses jointly determine the types of payments at retirement.

- **Joint and Survivor.** You receive payments for as long as both you and your spouse live. Benefits may be reduced for your spouse when you die, depending on the contract specifics.
- **Life with "certain period".** You receive payments for as long as you live; however, if you die before the certain period, payments continue until the end of the certain period.
- **Lump-sum.** You receive a single payment of all principal and interest at retirement that you are responsible to manage.
- **Single life.** You receive payments for the rest of your life only—not including your spouse's life.

Shortfall. This is the difference between what you have and what you need for retirement.

Social Security. Social security is a government funded investment plan where individuals pay into the system for a specific number of years and then are promised benefits according to a specific formula set by the government.

Review Questions

1. Before you begin the retirement-planning process, what are the five critical estimates you must make?
2. What is the first of seven steps to retirement planning as mentioned in this chapter?
3. Why is it important to include inflation when calculating how much money you will need to save for retirement?
4. What are the two ways in which you can sell your home in retirement?
5. What is your investment shortfall?

Case Studies

Case Study 1

Data

Clint and Abby, both age 30, recently reviewed their future retirement income and expense projection. They hope to retire in 35 years at age 65. They determined they would have a retirement income of \$15,000 each year in today's dollars before tax (\$10,000 from Social Security and \$5,000 from their savings), but they would actually need \$60,000 before tax in retirement income to retire comfortably.

Calculations

How much must Clint and Abby save annually for 30 years of retirement if they wish to meet their income projection, assuming a 2 percent inflation rate both before and after retirement, a 7 percent return on investments before retirement and 6 percent during retirement?

Case Study 1 Answers

First, draw the diagram discussed earlier in the chapter.

1. Calculate the shortfall.
2. Inflation-adjust the shortfall.
3. Calculate the real return and the annuity.
4. Calculate the period payment.

Time	35 years	30 years
Now	Retirement	Death
	Return 7%	Return 6%
	Inflation 2%	Inflation 2%

1. Calculate the shortfall (all on a before-tax basis as stated):
The shortfall is $\$60,000 - \$15,000 = ?$
Clint and Abby's shortfall is \$45,000 before-tax.
2. Calculate the inflation-adjusted shortfall (end mode):
The adjustment is $PV = \$45,000, I = 2\%, N = 35, FV = ?$
Clint and Abby need \$89,995 each year (you can round to the closest dollar).
3. Calculate the real return and annuity in retirement:
The real return is $(1 + \text{nominal return}) / (1 + \text{inflation}) - 1$, or $(1.06)/(1.02) - 1 = ?$
The real return is 3.92%.

To calculate an annuity (remember you will want the payments at the beginning of the period, use the begin mode on your calculator)

To get an annuity of \$89,995 for 30 years at a 3.92% return, set PMT = \$89,995, N = 30, I = 3.92%, and solve for PV.

Clint and Abby need \$1,632,737 to be available in 35 years to give them the annuity for 30 years.

4. Calculate the period payment (use end mode):

To get this future amount, set the FV = \$1,632,737, N = 35, I = 7%, and calculate the PMT = ?

Clint and Abby need to save \$11,811 each year (\$907 per month) to meet their retirement goal.

From [Retirement Needs Worksheet \(LT06\)](#)

Determining Your Retirement Needs Worksheet (LT06)	
Before Tax Analysis	
Personal Finance: Another Perspective	
Directions: Fill the green cells with your data. Be careful not to modify the blue cells. Percentages must be converted to decimal form. Be careful with before- and after-tax amounts.	
Key Data:	
Amount Needed and Expected Annually	
a. Desired before-tax Amount of Money Needed at Retirement	60,000
b. Before-tax Money expected at retirement (SS, DBP, earnings)	15,000
Before Retirement	
c. Number of Years Till Retirement that Investments Will Grow	35
d. Estimated Average Growth Rate of Investments Until Retirement	7.0%
e. Estimated Average Annual Rate of Inflation Until Retirement	2.0%
Retirement	
f. Number of Years In Retirement	30
g. Estimate Growth Rate of Investments During Retirement	6.0%
h. Estimated Annual Rate of Inflation During Retirement	2.0%
i. Estimated tax rate in retirement	20.0%

Step 1: Calculate Your Shortfall	
A. Desired before-tax Amount of Money Needed at Retirement	60,000
B. Before-tax money expected at retirement (includes Social Security, D)	15,000
C. Calculate your Shortfall in today's dollars	45,000
Step 2: Inflation Adjust Your Shortfall	
A. Number of Years Till Retirement	35
B. Inflation Rate until retirement	2.00%
C. The Inflation Adjusted shortfall?	89,995
The calculation is $PV = \$45,000$, $I = 2.00\%$, $N = 35$. Solve for FV	
Step 3: Calculate Your Real Return and Annuity	
A. Nominal return during retirement	6.0%
B. Inflation during retirement	2.00%
C. Real return $[(1 + \text{nominal return}) / (1 + \text{inflation})] - 1$	3.92%
D. Amount needed each year in retirement	\$89,995
E. Number of Years In Retirement	30
F. Annuity needed to provide this benefit?	\$ 1,632,737
The calculation is $PMT = \$89,995$, $I = 3.92\%$, $N = 30$ (begin mode). Solve for FV	
Step 4: Calculate your Amount Needed to Save Each Month	
A. Target amount needed at retirement	\$ 1,632,737
B. Number of Years Until Retirement	35
C. Estimate Growth Rate of Investments Before Retirement	7.0%
D. Total Investment Amount needed each month in today's dollars	\$907
The calculation is $FV = \$1,632,737$, $N = 35 \times 12$, $I = 7.00\% / 12$. Solve for PMT	
E. Total Investment Amount needed annually in today's dollars	\$11,811
The calculation is $FV = \$1,632,737$, $N = 35$, $I = 7.00\%$. Solve for PMT	
Step 5. Start saving now!!!!!!!	

Case Study 2

Data

Kevin and Whitney, both age 35, recently reviewed their future retirement income and expense projection. They hope to retire in 25 years. They determined they would have a retirement income of \$25,000 each year in today's dollars before tax (\$10,000 from Social Security and \$15,000 from their savings), but they would actually need \$67,500 before tax in retirement income to retire comfortably.

Calculations

How much must Kevin and Whitney save annually for 30 years of retirement if they wish to meet their income projection, assuming a two percent inflation rate both before and after retirement, and an 6.5 percent return on investments before retirement and 5.5 percent during retirement?

Case Study 1 Answers

First, draw the diagram discussed earlier in the chapter.

1. Calculate the shortfall.
2. Inflation-adjust the shortfall.
3. Calculate the real return and the annuity.
4. Calculate the period payment.

Time	25 years	30 years
Now	Retirement	Death
	Return 6.5%	Return 5.5%
	Inflation 2%	Inflation 2%

1. Calculate the shortfall (all on a before-tax basis as stated):

The shortfall is $\$67,500 - \$25,000 = ?$

Kevin and Whitney's shortfall is \$42,500 before-tax.

2. Calculate the inflation-adjusted shortfall (end mode):

The adjustment is $PV = \$42,500, I = 2\%, N = 25, FV = ?$

Kevin and Whitney need \$69,726 each year (you can round to the closest dollar).

3. Calculate the real return and annuity:

The real return is $(1 + \text{nominal return}) / (1 + \text{inflation}) - 1$, or $(1.055)/(1.02) - 1 = ?$

The real return is 3.43%.

To calculate an annuity (remember you will want the payments at the beginning of the period, use the begin mode on your calculator)

To get an annuity of \$69,726 for 30 years at a 3.43% return, set $PMT = \$69,726, N = 30, I = 3.43\%$, and solve for PV.

Kevin and Whitney need \$1,337,882 to be available in 25 years to give them the annuity for 30 years.

4. Calculate the period payment (use end mode):

To get this future amount, set the $FV = 1,337,882, N = 25, I = 6.5\%$, and calculate the $PMT = ?$

Kevin and Whitney need to save \$22,719 each year (\$1,787 per month) to meet their retirement goal.

From [Retirement Needs Worksheet](#) (LT06)

Determining Your Retirement Needs Worksheet (LT06)	
Before Tax Analysis	
Personal Finance: Another Perspective	
Directions: Fill the green cells with your data. Be careful not to modify the blue cells. Percentages must be converted to decimal form. Be careful with before- and after-tax amounts.	
Key Data:	
Amount Needed and Expected Annually	
a. Desired before-tax Amount of Money Needed at Retirement	67,500
b. Before-tax Money expected at retirement (SS, DBP, earnings)	25,000
Before Retirement	
c. Number of Years Till Retirement that Investments Will Grow	25
d. Estimated Average Growth Rate of Investments Until Retirement	6.5%
e. Estimated Average Annual Rate of Inflation Until Retirement	2.0%
Retirement	
f. Number of Years In Retirement	30
g. Estimate Growth Rate of Investments During Retirement	5.5%
h. Estimated Annual Rate of Inflation During Retirement	2.0%
i. Estimated tax rate in retirement	20.0%

Step 1: Calculate Your Shortfall	
A. Desired before-tax Amount of Money Needed at Retirement	67,500
B. Before-tax money expected at retirement (includes Social Security)	25,000
C. Calculate your Shortfall in today's dollars	42,500
Step 2: Inflation Adjust Your Shortfall	
A. Number of Years Till Retirement	25
B. Inflation Rate until retirement	2.00%
C. The Inflation Adjusted shortfall?	69,726
The calculation is $PV = \$42,500$ $I = 2.00%$, $N = 25$, Solve for FV	
Step 3: Calculate Your Real Return and Annuity	
A. Nominal return during retirement	5.5%
B. Inflation during retirement	2.00%
C. Real return $[(1 + \text{nominal return}) / (1 + \text{inflation})] - 1$	3.43%
D. Amount needed each year in retirement	569,726
E. Number of Years In Retirement	30
F. Annuity needed to provide this benefit?	\$ 1,337,882
The calculation is $PMT = 569,726$, $I = 3.43%$, $N = 30$ (begin mode), Solve for FV	
Step 4: Calculate your Amount Needed to Save Each Month	
A. Target amount needed at retirement	\$ 1,337,882
B. Number of Years Until Retirement	25
C. Estimate Growth Rate of Investments Before Retirement	6.5%
D. Total Investment Amount needed each month in today's dollars	\$ 1,787
The calculation is $FV = \$1,337,882$, $N = 25 * 12$, $I = 6.50\% / 12$, Solve for PMT	
E. Total Investment Amount needed annually in today's dollars	\$22,719
The calculation is $FV = \$1,337,882$, $N = 25$, $I = 6.50\%$, Solve for PMT	
Step 5. Start saving now!!!!!!!	

AGE	SAVINGS-TO-INCOME	DEBT-TO-INCOME
30	0.1	1.70
35	0.9	1.50
40	1.8	1.25
45	3.0	1.00
50	4.5	0.75
55	6.5	0.50
60	8.9	0.20
65	12.0	0.00

Source: Dorman Farrell LLC

Case Study 3

Data

Kevin and Whitney are now 45 years old and have six kids. They are 20 years into their retirement plan and are making \$82,000 per year. They have \$115,000 in savings, and their remaining balance on their home mortgage and credit card debt is \$150,000. They have saved only five percent per year and have earned seven percent on their savings, which they felt was sufficient.

Calculations

- Are they on track for retirement or not?
- Calculate their income/debt ratios based on the information in the *Wall Street Journal* article (this chart is from Dorman Farrell, LLC as quoted in: Jonathan Clements, "Ugly Math: How Soaring Housing Costs are Jeopardizing Retirement Savings," *Wall Street Journal*, 23 March 2005, p. D1.

Application

How are they doing, and what more should they be doing?

Case Study 3 Answers

Calculations

Are they on track? You can't tell until you calculate their ratios.

Current	Salary	Savings	Debt
Age 45	\$82,000	\$115,000	\$150,000
Ratios	Current	Recommended	
Savings Ratio	1.40	(\$115/82)	> 3.0
Debt Ratio	1.83	(\$150/82)	< 1.0

They are way behind on their savings and debt goals for retirement. They need to increase their savings to a minimum of 20 percent.

Application

They have too little savings and too much debt.

They need to save an even bigger percentage of their salary (20 percent).

They need to work harder if retirement is really a goal.

They may need to sell assets to reduce debt.

They may need to downsize.

[Retirement Planning Forecasts Ratio](#) (LT25) may be a useful tool for different financial situations and goals.

¹ "To the Elderly in the Church," *Ensign*, Nov. 1989, 4

² March 25, 2005 issue of the *Wall Street Journal*, D1