

Securing a Comfortable Retirement

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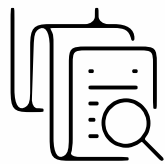
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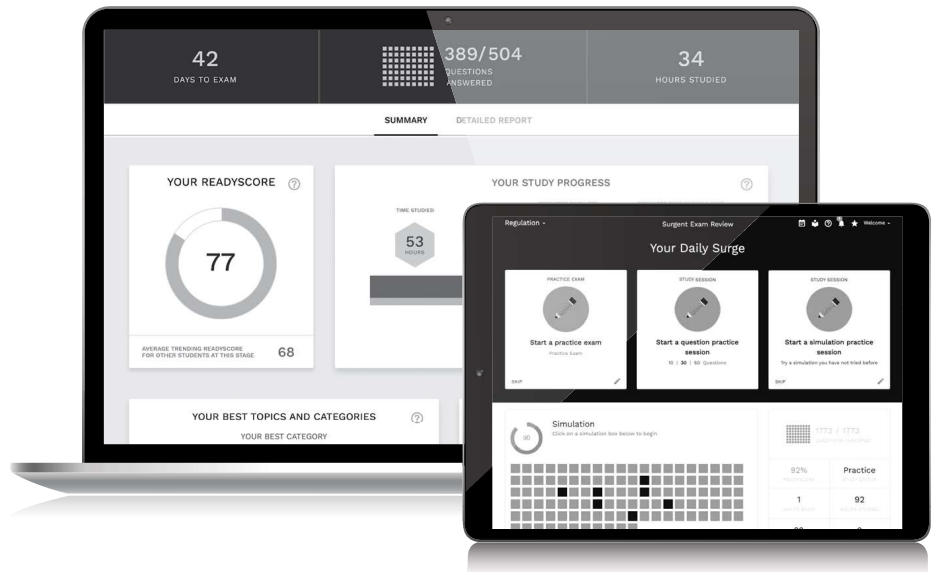
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Setting Realistic Retirement Goals

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Setting Realistic Retirement Goals

Learning objectives

After studying this chapter, the reader will be able to:

- Discuss the variables that must be considered when planning for retirement;
- Discuss the three-legged stool approach to retirement planning;
- Discuss the fourth leg of the three-legged stool – continued earnings;
- Identify the success factors in building a retirement nest egg and describe the key financial considerations affecting the amount one can accumulate over time; and
- Discuss the research studies suggesting that investors may be overly optimistic and overconfident in their ability to save for retirement.

Quotes on realism:

Being in control of your life and having realistic expectations about your day-to-day challenges are the keys to stress management, which is perhaps the most important ingredient to living a happy, healthy, and rewarding life. – *Marilu Henner*

Set realistic goals, keep reevaluating, and be consistent. – *Venus Williams*

I. The road from here to retirement

It is hard to get where you want to be if you don't know where you are. That is the definition of being lost. Once you know where you are, you must determine where you want to go. Then you can determine the best way to get there.

A. Where are they now?

The first step in retirement planning is to determine where the future retiree is now. This requires a detailed inventory of resources and liabilities, including current assets, income, other cash flows, short-term debt, and long-term debt. It will also include assessment of the future retiree's current lifestyle, health, and other factors.

Important reminder:

The following discussion includes the possible compilation of financial statements. The practitioner should always abide by all appropriate Audit and Accounting Standards when issuing financial statements.

1. Prepare a current balance sheet

A practitioner assisting a client with retirement planning should first compile a current balance sheet. It should include all assets and all liabilities. This usually involves an extensive interview with the client, and perhaps the use of a checklist to help cover all of the necessary topics. If the client is a beneficiary of a trust and has access to the corpus of the trust, include the value of the trust.

- a. The income tax return is a great place to start. Income reported on the return can often identify an underlying asset. Beware, not all assets generate income or expenses that are reported on the tax return.
- b. Liabilities are important to identify because they represent cash outflow that hopefully will diminish over time. Part of a retirement plan is to have less debt (hopefully zero) at retirement.

- c. Personal financial statements are usually prepared using fair market value. The fair market value can be compared to the basis in the property to determine the potential gain if liquidated. The tax liability associated with the built-in gain (or tax-benefit of a built-in loss) can then be calculated. Remember, all resources and income to be used currently or in retirement must be considered at value net of tax.
- d. In determining values of assets, remember that owners will place a sentimental value on items such as their homes, collectibles, automobiles, etc. Consider using a range, or a discount.
- e. Be sure that all liabilities are included. Consider contingent liabilities that could reduce net assets in the future.
- f. Review insurance policies to determine if the assets are underinsured.
- g. If the client is in an occupation that has a high frequency of tort claims, are assets adequately protected through a combination of entities (including trusts) and insurance?

2. Prepare an income statement

This is to capture current income to determine what must be replaced, project future increases, and determine potential income tax liabilities. Also, in preparing the income statement, the practitioner can determine Social Security earnings and potential for retirement plan contributions. Include tax exempt income in the income statement, and nondeductible expenses.

3. Cash flow statement

Some people would consider an “income statement.” However, cash flow and income flow are two different things. At this stage of planning, the cash flow statement is more important than the income statement because it can be used to identify sources of cash that can be redirected to retirement savings.

Examples of differences in cash flow and income

Item	Cash flow	Income Statement
Savings accounts	Considers deposits and withdrawals	Considers investment income only
Depreciation, depletion, and amortization	Disregarded	Reduces income
Wages	Considers net wages	Considers gross wages
Trusts and estate distributions	Cash received	Only distributed income
S corporations and partnerships	Distributions received	Only income or losses allocated to the owner
Equipment purchases	Cash outflow	Recognized over time through depreciation
Sale of assets	Cash inflow for proceeds	Only gain or loss is recognized
Debt payments	Reduced by total	Reduced by interest expense
And more.....		

4. Does the client like to travel?

Someone who travels frequently before they retire will likely travel more after they retire. Questions that the practitioner may consider are:

- a. **“How frequently do you travel?”** This can be an indicator of travel in retirement. If someone does not travel much, ask why. It could be that they simply don't have the time. Possible scenarios are:
 - (1) They travel frequently, which indicates they will likely desire to continue traveling in retirement.
 - (2) They stay close to home because they prefer being at home, which indicates they probably will not travel extensively in retirement.
 - (3) They currently don't travel because of work or other circumstances but dream of the day when the chains are broken, and they gain their freedom! These are the non-traveling people who will make up for lost time and see all the many places on their bucket lists when they retire. Look for them to burn up the highways, skyways, and waterways when they retire. Who knows, by then they may even be able to soar through outer space!
- b. **“How do you travel?”** Some people prefer driving for all but the longest trips. Others will fly even on short trips. Some might take the bus or a train. Different methods, different costs. Some retirees buy their own travel trailer or motorhome.

There are motor homes, and then there are motorhomes!

If your client says they intend to buy a travel trailer and see the country when they retire, a follow up question is immediately necessary. Some people prefer a pull-behind travel trailer that may cost from a few thousand dollars used to several thousand new. Then they may buy a truck that costs \$70,000 to pull it. Other people may prefer a self-propelled motorhome. There can be a wide variation in prices for motorhomes based on whether it is new or used, how old it is, the brand, how big it is, etc. Some can cost several hundred thousand dollars!

A cruiser by any other name:

Anyone who was a teenager in the 1950s, '60s, or '70s knows what a cruiser used to be. It was a person who cruised around town in a cool car looking for fun (that some people might consider trouble). To a military person, a cruiser is a type of ship. To bicycle enthusiasts, a cruiser is a type of bicycle with big tires and comfortable seat. Baby boomers have redefined the phrase. With their love for ocean cruise vacations, maybe they are the modern-day cruisers. Cruises, depending on when and where, are often much cheaper than traditional vacations.

- c. **“Where do you go when you travel?”** An air travel trip to Holland to see the tulips bloom is more expensive than a car trip to the beach. A trip to Vegas might be cheap on the hotel and meals but expensive on gambling money. Good questions are:
 - (1) Where did you go on your last three vacations?
 - (2) How did you get there?
 - (3) What did you do?
 - (4) Who went with you? (Sometimes retirees take the whole family on vacation, grandchildren and all.)
 - (5) About how much did it cost? (Don't be shy, ask!)
- d. **“Do you plan to travel more or less when you retire, and what places are on your bucket list?”**

Question to ponder:

Where did you go on your last three vacations? Is this indicative of what kind of travel budget you will need in retirement?

5. How is the client's personal and family health?

An individual that already has significant health issues will likely have more as they age. This causes unpleasant conversations that must be had in planning:

- a. **“What is your long-term prognosis?”** An individual with certain conditions and medical conditions in their history might likely have a shorter life expectancy than average and may experience a decline in health. This could cause changes to planning for:
 - (1) Target retirement age (may need to retire sooner).
 - (2) Increased medical costs.
 - (3) Disability contingent plan.
 - (4) Long-term health facility.
 - (5) Timing of drawing retirement distributions or Social Security.
 - (6) Housing costs (such as renovating to accommodate disabilities).
- b. **“Do you have a spouse or dependent with significant health issues or disabilities? If so, will this be a significant expense in retirement?”** Health issues and disabilities can cause a significant increase in the amount needed for retirement. This must be evaluated from several standpoints. If a disabled dependent qualifies for Medicare or Medicaid, benefits may be curtailed in the future to keep the system solvent. According to the Center for Medicaid and Medicare Services, U.S. health care spending increased 7.5 percent in 2023 to reach \$4.9 trillion or \$14,570 per person. For 2023 through 2032, total growth in National Health Expenditures (Medicare, Medicaid, private insurance, and out-of-pocket) is expected to reach \$7.7 trillion, and the health spending share of the GDP is expected to increase from 17.6 percent in 2023 to 19.7 percent in 2032.¹
- c. **“What is your family history?”** Longevity tends to run in families. So do diseases and disorders.

Foreseeing the future:

As with most planning, when it comes to healthcare costs, we must make our best estimate based on the data available. Unfortunately, we do not have a time machine. The future of healthcare in the United States is very uncertain. Even if healthcare costs, investment growth, net worth, and income increase at the same rate, an individual's healthcare costs generally increase over time as a natural part of the aging process.

Question to ponder:

Picture yourself asking your client the questions in quotes above. Do any of the questions make you uncomfortable?

¹ <https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/nhe-fact-sheet>.

B. Where will they be in the projectable future?

This includes potential career changes, increased or decreased earnings, increased liabilities, decreased liabilities, etc.

1. A building career

A person in the building stage of a career has potential for increasing income in future years. For instance, a senior accountant at a CPA firm will likely continue to increase in earnings for the foreseeable future at a rate greater than the inflation rate. In the assessment of how much they can save for retirement, this needs to be estimated.

Planning point:

A young person in the beginning of a career might tend to utilize all of his or her income, thinking that as income increases, they can prepare for retirement. Some people need to use all their income to survive, and savings is not an option. For the young successful person who has excess funds, he or she needs to learn early to never increase the car payment, house payment, etc. beyond an amount that allows for adequate savings. It is never too early to start saving for retirement. In fact, the sooner the better. Some people near retirement age and find themselves still working, not because they could not afford to save for retirement when they were younger, but because they chose to spend in on a few more square feet in the house and a few more horsepower under the hood.

2. A mature career

A mature career means this is as good as it gets. The person in a mature career has only what they have now and the current level of earnings as resources to prepare for retirement. If a couple with established, mature careers and a nice house close to the country club cannot carve retirement savings out of their current budget, they may need to consider downsizing to a smaller, cheaper house farther from the country club. They should look at every element of their budget to find excess that can be converted to retirement savings. Sacrifice now or suffer later.

3. Do they have a budget?

People who don't track the small expenses and don't utilize a budget are less likely to save for retirement. Why? If you don't know where the money is going, you cannot manage it, and you cannot reallocate it. If you don't know what is happening with your current resources, you have no roadmap to project where you will be in the future. Many people would be shocked at how much they spend for fast food and snacks in a year's time. Budgets can identify the small holes in the financial bucket through which, over time, large amounts can slip. Many people disregard small expenditures. A common thought is "don't sweat over nickels and dimes."

Question to ponder:

If someone told you that they dropped a dime in the post office parking lot and that you could have it if you go get it, you would likely laugh in their face. What if a dump truck breaks down in front of your house, and the driver says, "I have to unload my truck to fix it; if I can unload it in your yard, you can have the entire load. I just need to get my truck fixed." You look in the truck and it is full of nickels and dimes! Would you take it?

4. What are projected asset values?

Don't forget what their most valuable asset may be – their home.

5. Do they have a rich uncle?

Some people are in line for an inheritance from a parent, other relative, or a very close friend. Don't overlook inheritances and trust distributions that will be received in future years.

C. Where do they want to be?

1. Three approaches to retirement

Retire at a certain age. Planning may involve accumulating enough resources to maintain current levels of income adjusted for inflation by the target age. As an alternative, the client may be willing to cut back on the budget at the target age in order to retire. They may be willing to sell the house and use the equity. We discuss using the home as a source of retirement income later in the course. If a client wants to retire at a certain age, one approach may be to:

1. Determine current cash flow.
2. Determine the desired lifestyle in retirement, including travel, housing, etc.
3. Will they keep the home or downsize? Equity in the home can be a resource for retirement.

Note:

The decision on the home is sometimes driven by health issues. As people age, they sometimes need to swap the home with the high steps, staircases and narrow doors for a home that is more friendly to bad knees, bad hips, walkers, and wheelchairs. This could mean selling the house and having a smaller home built that is easier to maintain, is on one level, and wheelchair friendly.

4. Would that lifestyle today, in current dollars, cost more or less than their current living costs? Estimate what adjustments would have to be made to the current budget to pay for that lifestyle in current dollars. Do a pro forma budget in current dollars. Don't forget to adjust the budget for changes that are expected before retirement, such as the kids leaving, the house being paid off, etc.
5. Compare current income and resources to the current cost of the desired lifestyle. See if income would need to increase or if it could decrease. This will determine if retirement funds need to replace income as adjusted for inflation, exceed income, or can be less than income.
6. Once the budget for the desired lifestyle is determined in today's dollars, determine the future value of the budget based on projected inflation rates. It may be best to calculate a range.
7. Devise a financial plan to reach the target dollar amount to fund retirement at the desired budget level over the life expectancy of the client beginning at the desired retirement age.

Accumulate as much as possible; retire at a target amount. This method is a little simpler.

Accumulate as many resources as possible and retire when resources available for retirement maintain the desired lifestyle for the remaining life expectancy.

The line-in-the sand method. The client draws a line in the sand and declares that retirement will happen at a certain time. Often, this is Medicare age. The client then accumulates as many retirement resources as possible, retires at the target time, and adjusts the budget to the income and resources available.

2. Can they get there?

Sometimes, as a consultant, our job is to give our clients a reality check. If the numbers show that their goals cannot be met, we must be prepared to talk them down to reality. Not everyone can retire and treat the world as their backyard. If they can't get to where they want to be, where can they go?

Note:

It is difficult to shoot down someone's dreams. Many people would love to retire and travel the world, but not everyone can get there. Help them realize that being able to spend more time with the grandkids, making the occasional car trip to the lake or the mountains, and NOT going to the office every day is a good Plan B.

D. Case study: Jack and Diane

Jack and Diane grew up together on farms in Nebraska. Jack dreamed of being a football star, but he blew out his knee his first year at the university. They let him keep his scholarship, and now he and Diane are well into building their careers. In interviewing them, John, their consultant determined:

1. They have a child on the way and intend to buy a much bigger home close to the country club. Their little pink house is not big enough anymore.
2. Savings and retirement funds are insignificant. They will have equity from selling their old home for a down payment on a new home, and the excess in their budget, which is very little, has also been saved to put down on the house. Once they buy the house of their dreams, they think they will have enough income to pay the bills and have a small emergency fund, but not much extra.
3. Earnings are expected to increase for both Jack and Diane at a rate higher than inflation because of advancements in their careers.
4. They have no budget and have no idea where all of the money goes. That is why they called for an appointment. They need help in determining why they work all the time and have no money.

John asked the magic question: Are you putting away anything for retirement? The answer, typical of many younger couples, is, "We can't afford it right now. It doesn't fit our budget." The problem is, they don't know what their budget is.

John advised them to track every penny they spend for a month. It was eye opening to Jack and Diane. They did not realize how much they were spending on snacks at the service station, fast-food drive throughs, movies, etc. The amount they spent on gasoline was shocking. They had never thought about how much gas they used running back and forth to town buying a little bit at a time instead of consolidating trips.

After discussing these findings, the consultant helps them prepare a budget. They determine that they can buy a really nice home that is sufficient for their needs and a little farther from the country club and save \$300 per month on the payment. They will also save approximately \$200 per month on utilities and maintenance. They can save an additional \$300 per month by buying more generic grocery brands and cutting down on snacks at the service station and drive-through fast food. This gives them a start of \$800 per month that they can save for retirement.

The plan that is offered by the consultant:

1. Buy the cheaper house and put the recommendations in motion that result in a surplus of \$800 per month.
2. Increase the \$800 by a minimum of 3.5 percent each year as earnings increase based on projected inflation. They will adjust the budget each year as earnings increase and can hopefully do more than 3.5 percent.
3. Contribute the \$800 to a retirement plan.

Jack and Diane are concerned about putting the money into a retirement plan. Many younger couples are concerned about contributing to a retirement plan because they may have an emergency that requires them to withdraw the funds and be subjected to the 10 percent early withdrawal penalty.

John recommends a Roth IRA. Why? The annual contributions to a Roth IRA can be withdrawn at any time with no tax and no penalty. There is no tax or penalty until the earnings are withdrawn. When adjusted gross income exceeds the limit for a Roth, they can simply contribute to a regular IRA and convert it.

Assumptions:

1. Jack and Diane agree to the plan.
2. They will increase their contribution by a minimum of 3.5 percent.
3. Roth is projected to earn 6 percent.
4. Inflation is projected to average 3.5 percent.
5. They will start making deposits in January 2026.

Jack and Diane's minimum deposits into the Roth and returns are:

Compounding Period:	Monthly
Nominal Annual Rate:	6.000%

Date	Deposit	Withdrawal	Interest	Net Change	Balance
2026 Totals	9,600.00	0.00	268.45	9,868.45	9,868.45
2027 Totals	9,936.00	0.00	886.51	10,822.51	20,690.96
2028 Totals	10,284.00	0.00	1,563.74	11,847.74	32,538.70
2029 Totals	10,644.00	0.00	2,304.57	12,948.57	45,487.27
2030 Totals	11,016.00	0.00	3,113.58	14,129.58	59,616.85
2031 Totals	11,400.00	0.00	3,995.81	15,395.81	75,012.66
2032 Totals	11,796.00	0.00	4,956.47	16,752.47	91,765.13
2033 Totals	12,216.00	0.00	6,001.48	18,217.48	109,982.61
2034 Totals	12,636.00	0.00	7,136.83	19,772.83	129,755.44
2035 Totals	13,080.00	0.00	8,368.80	21,448.80	151,204.24
2036 Totals	13,536.00	0.00	9,704.46	23,240.46	174,444.70
2037 Totals	14,016.00	0.00	11,151.29	25,167.29	199,611.99
2038 Totals	14,508.00	0.00	12,717.33	27,225.33	226,837.32
2039 Totals	15,012.00	0.00	14,410.62	29,422.62	256,259.94
2040 Totals	15,540.00	0.00	16,240.09	31,780.09	288,040.03
2041 Totals	16,080.00	0.00	18,215.32	34,295.32	322,335.35
2042 Totals	16,644.00	0.00	20,346.37	36,990.37	359,325.72
2043 Totals	17,232.00	0.00	22,644.31	39,876.31	399,202.03
2044 Totals	17,832.00	0.00	25,120.54	42,952.54	442,154.57
2045 Totals	18,456.00	0.00	27,787.21	46,243.21	488,397.78
2046 Totals	19,104.00	0.00	30,657.52	49,761.52	538,159.30
2047 Totals	19,776.00	0.00	33,745.50	53,521.50	591,680.80
2048 Totals	20,460.00	0.00	37,065.70	57,525.70	649,206.50
2049 Totals	21,180.00	0.00	40,633.91	61,813.91	711,020.41
2050 Totals	21,924.00	0.00	44,467.25	66,391.25	777,411.66
2051 Totals	22,692.00	0.00	48,583.60	71,275.60	848,687.26
2052 Totals	23,484.00	0.00	53,001.89	76,485.89	925,173.15
2053 Totals	24,300.00	0.00	57,742.17	82,042.17	1,007,215.32
2054 Totals	25,152.00	0.00	62,826.18	87,978.18	1,095,193.50
2055 Totals	26,028.00	0.00	68,276.97	94,304.97	1,189,498.47
2056 Totals	0.00	1,195,445.96	5,947.49	-1,189,498.47	0.00
Grand Totals	495,564.00	1,195,445.96	699,881.96	0.00	0.00

Jack and Diane, under these assumptions, will accumulate \$1,195,445.96 in the Roth IRA by the end of 2056 if they implement the plan in 2026. However, they are surprised to find out that \$1,195,445.96 in future dollars is equivalent to approximately \$418,971.49 today (present value of \$1,195,445.96 discounted by the inflation rate of 3.5 percent).

Jack and Diane may be able to increase the deposit by more than three percent, or based on income tax rates, employer retirement availability, and other factors, they may add tax deferred retirement to the retirement plan. The amount that they are saving may eventually exceed the allowable Roth contribution amount. Keep in mind that the annual Roth limit will be increasing for inflation.

The goal is to plan with what you have and adjust over time for changes in income, income tax laws, the economy, and the individual's needs.

Questions to ponder:

Roths are great for a young couple because the annual contributions may be withdrawn with no penalty even though the taxpayer is under 59.5 years old. What is a disadvantage of the money being available with no penalty?

Jack and Diane should eventually consider funding an employer retirement plan. What are the advantages of an employer retirement plan over an individual retirement plan?

II. Building a retirement nest egg

A. Overview

Retirement is one of investors' biggest concerns. Yet surprisingly, few investors have a comprehensive road map to get them where they want to go. The right strategy and asset allocation plan can certainly help. But the best possible strategy is only talk without the discipline to make it happen.

Investors must actually make the deposits their plans require and stay the course during inevitable market downturns and economic changes.

Retirement plans have two equally important components: (i) building an adequate nest egg; and (ii) making it last forever.

Note:

This discussion is centered around the ideal situation. The clients have the means to accumulate enough retirement savings to maintain a high standard of living for their entire life expectancy with some left over. It is a good starting point. Adjust from there for the individual client's circumstances.

B. The three-legged stool of retirement planning

1. Plan around three cash flow sources

Many people go through life thinking that one day they will retire and draw Social Security. Social Security will not be enough for a good retirement. It is a good starting point. Through this course we will refer to three legs to the retirement plan stool. They are:

- **Leg 1 – Social Security.** Social Security is part of a retirement plan, but it is currently an unstable part. Latest projections show that by 2033 the Social Security reserve will run out, causing an across-the-board cut to benefits of around 21 percent. The projected cut will be 31 percent by 2098.²
- **Leg 2 – Employer retirement plans.** Two primary benefits of employer retirement plans are the employer match and the ability to accumulate earnings free of tax. Earnings that are not taxed accumulate faster than earnings that are subject to tax. The employer retirement plan is not necessarily funded with pretax dollars. Under current law, employer retirement plans may offer a Roth provision. Roths are funded with after tax dollars and are not taxable when withdrawn.
- **Leg 3 – Personal savings and other resources outside of the employer retirement plan.** This could be home equity, personal investments, trust fund money, etc. Also, this may be IRAs and Roths.

2. The other three-legged stool

Another variation of the three-legged stool must be considered. The legs of this stool are:

- **Leg 1 – Social Security.**
- **Leg 2 – Resources that will be taxable when used.** This includes taxable distributions from employer retirement plans and IRAs.
- **Leg 3 – Nontaxable resources.** Savings outside of retirement accounts, home equity, Roth distributions, etc.

C. Too much is never enough

A secure retirement requires lots of capital. With younger retirement and longer life expectancy, average retirees will spend almost as many years retired as they spent working. Most couples should plan for the survivor to reach at least the age of 95. Most people won't reach the age of 95, but there is a good chance with a couple that at least one of the two will exceed life expectancy. This builds in a cushion to ensure that they don't run out of retirement funds. The retirement period could easily be as much or more than one third of the longer survivor's life, but without much of a "paycheck," except for the amounts the survivor can draw on from the savings for retirement purposes.

How big does that nest egg need to be? Most people find that they will need at least 70 percent to 100 percent of their pre-retirement income to live comfortably. Few of today's retirees expect to stay home and watch TV all day. They are younger, healthier, and anticipate a longer life than any generation before.

Most expect that, after parachuting out of the working world, they will hit the ground running with the newfound freedom to travel, pursue hobbies, and participate in community activities. Many financial planners working with active retirees find that their clients actually spend more money during their 60s

² Social Security Administration Board of Trustees Report for 2024.

and 70s than they did during their working years. The pace of spending slows down a bit once they reach their 80s but increasing health expenses soon raise their total income needs again.

To figure out roughly how much capital retirees will need at retirement, some advisers use a rule of thumb that their clients should plan on withdrawing not more than 4.5 percent to, possibly, 5.5 percent from their retirement nest-eggs each year. Applying this 4.5 to 5.5 percent rule of thumb, history has shown that retirees have a reasonably high probability of having sustainable income and sufficient growth of income to hedge inflation, as well as growth of capital.

To put this in tangible terms, this means that for each \$1 dollar of retirement income clients anticipate they will need (above their expected Social Security and employer-provided pension income), they should plan to accumulate a nest egg of at least \$18 to \$22. (For instance, for each \$10,000 per year of retirement income retirees expect they will need to fund through their nest egg, they should accumulate about \$182,000 to \$222,000.)

D. Success factors

Success in the accumulation phase is directly related to three variables: starting early, systematically depositing an adequate amount, and attaining reasonable rates of return. The math is basically elementary. The relationship between **time**, **amount** invested, and **rate** of return with the probability of successfully accumulating the **target** amount desired is fairly well known. The dreary realities are that successful retirement planning requires strict discipline and that retirement plans be given high priority as early as possible in one's working career.

The "magic" of compounding rewards those who start early. Delays, over time, may make it almost impossible ever to attain a reasonable goal absent some very serendipitous monetary windfall.

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Investing for Retirement

Learning objectives

When readers have completed their review of this course, they will be able to:

- Explain the theory and practice of investing to reach one's retirement accumulation objectives, that is, to build the retirement nest egg;
- Apply benchmarks for rate-of-return assumptions and guidance as to the probabilities of earning various levels of returns over various investment horizons;
- Describe the relationship between risk, return, and the investment horizon;
- Properly account for the effects of inflation and taxation on investment returns and wealth accumulation; and
- Apply the theory and practice of asset allocation and modern portfolio theory.

Warning: Stay in your lane!

Most CPAs are not certified financial planners. A CPA is qualified to assist a client in retirement planning. Investment advice and retirement planning are two different things. Investment management is best left to the investment professionals. The typical CPA needs to be a part of the client's retirement planning as a member of an advisory team that includes someone who is qualified and licensed to design an investment strategy. Some CPAs are also qualified investment advisers. Most are not.

A knowledge of investment strategies is helpful in helping the client understand the strategy designed by the investment adviser.

Use of the information presented:

Much of the source data in this chapter is from studies referenced in the footnotes. These studies were done several years ago, but more recent articles, studies, and strategies show that the principals discussed in this chapter still seem to hold true today. As with any investment strategy, the eventual outcome depends upon factors beyond any adviser's control, and results cannot and are not guaranteed. Some of the data used, such as interest rates, may not appear reasonable based on today's rates, but the concepts haven't changed.

We do not represent that the strategies presented in this chapter or other chapters are the only strategies that may be used with good results. These materials are not a substitute for advice from a qualified financial adviser.

I. Portfolio theory and asset allocation

A. Overview

The goal of the investor is to navigate the risks and returns of various asset classes to accumulate the target amount of wealth for a given goal. Most financial advisers and market researchers have determined that asset allocation is the most important element of an investment plan to meet those goals.

Asset allocation, in its generic use, is simply the diversification among different asset classes to take advantage of less-than-perfect correlations among these classes and thereby to reduce the overall risk of an investment portfolio (variability of returns in various economic environments) without substantially reducing the total expected return. The investment adviser is trained to diversify the portfolio over various types and classes of assets to maximize return within an acceptable level of risk.

B. The goal of asset allocation

You could think of asset allocation as diversification among classes to utilize the differences between the classes to hedge one another. Allocation can be thought of in two steps:

- a. First, diversify among major asset classes, such as stocks, bonds, cash, and even annuities; and
- b. Second, diversify within the classes.

If one class goes down, another class will go up and hedge the loss in a good asset allocation. So, if one class goes down and another goes up, how do you make any money? All classes will likely increase over time. Each class rides its roller coaster of ups and downs while it meanders upwards. The key is to not panic over the “down” classes. They will come back.

Diversification and asset allocation are especially important during retirement, when the retiree is drawing the money down. The retiree might have the tendency to pull from the investments that aren't doing well and leave the winners alone to make more money. However, depending on the circumstances, this may be a backwards approach. Assume that the investor's equity investments are down. In fact, the whole market has taken a big hit. An old saying to remember is “it is not a loss until you sell it.” Until you recognize the loss, it is only a paper loss. The retiree can pull from cash, bond investments, etc., until the equities regain their value. If the retiree is invested too heavily in equities (not diversified among the asset classes) he or she may have to liquidate equity investments while the value is low.

When the economy crashed at the end of 2008, the impact on the market was dire. The DJIA hit bottom on March 6, 2009, posting a close of 6,469.95 having lost 54% of its value since October 9, 2007. It rebounded to 7,924.56 in just three weeks. The full recovery took about three years. A well-diversified investor that could ride out the crash didn't make money in those three years, but they did not lose prior gains. The investor too heavy in equities had to sell low and recognize losses from which they could not fully recover because the underlying securities were gone. If you own 1,000 shares and they drop, if you keep the 1,000 shares you will be made whole when the market returns. If you sell 500 shares, you can only recover from half of the loss.

II. Allocating assets for income and growth in retirement

A. Overview

It could be so simple. If average returns were real returns, retirees could assume they would make, say, 10 percent each year, spend six percent, and count on 4 percent growth. Alas, returns are highly variable, and the downside – having to sell equity assets in a down market – can be scary. So, as a rule of thumb, investors should keep enough liquid assets to meet all their anticipated needs for at least five and preferably seven years.

As an example, an investor who anticipates needing about five percent of his capital each year should place between 25 percent and 35 percent of his investment assets in short-term, high-quality bonds. Retirees with greater or lower cash-flow needs can adjust the minimum bond percentage necessary to meet short-term needs. The rest can, with reasonable safety, be invested for long-term growth in a global diversified equity portfolio.

Of course, some retirees will opt for an even more conservative portfolio. That is all right, up to a point. Sleeping well is a legitimate retirement investment objective. Risk reduction and peace of mind can be well worth the cost.

But the cost of moving from, say, 30 percent bonds to 40 percent bonds is a reduction of expected return of about one percent per year. I am constantly surprised at how many retired investors still are hung up on generating income from their investments. As previously discussed, the old retirement income prescription of bonds, convertible bonds, REITS, utilities, and preferred stocks will indeed generate high levels of income – but at a cost to total return, and with higher risk than is necessary.

The retiree's best solution is the same as any other investor's: invest to meet total-return objectives at the lowest possible risk level. As we have seen, a combination of stocks and bonds dampens volatility, and provides the highest possible probability of success at moderate withdrawal rates. But if bond interest and equity dividends alone are unlikely to meet reasonable income needs, how do you generate a reliable cash flow?

B. Generating a reliable cash flow

To get started, put enough cash in money-market funds to meet your income requirements for the next year. (This cash should be considered part of your bond-fund allocation.) Have all dividends and interest from other investments paid directly to the money-market account and set up an automatic monthly transfer from this account to your checking account to meet your everyday needs. That is it for now. Go sailing or play tennis for a year.

At the end of the first year, evaluate your account performance and asset allocation. You will need to rebalance your portfolio, while raising cash for the upcoming year. The strategy is simple: buy low and sell high. If stocks have done well, sell enough winners to meet your cash needs and then re-balance back to your initial tax allocation plan. If stocks have done poorly, then just sell enough bonds to meet next year's needs.

That is why you should keep five to seven years' worth of cash set aside in short-term bonds. Those short-term bonds can be a life raft during a storm in the equity markets. Imagine being several years into a bad market and having to start selling stocks. How are you going to feel then? Would you rather have a bit much in bonds rather than not enough? Stock market downturns are temporary, and every previous one, without exception, has been followed by recovery and new highs – but you will not fully enjoy a rebound if you had to sell out beforehand.

An annual rebalancing forces the sale of the previous year's winners and the purchase of the past year's losers. This may be tough to do, because we are naturally emotionally biased toward our current winners and disgusted with poor performers. The longer a specific market trend continues, the harder it is to remember that all equity asset classes (whether large-cap or small-cap, for example) have good return prospects. While some investments may be trailing, you presumably selected them in part for their low correlation with your other holdings. The temptation to keep winners and dump losers may be strongest just before the trend shifts.

An annual review is greatly simplified for index-fund investors because they need not be concerned with style drift or management underperformance or changes. Further, investors can expect top-quartile performance relative to active managers, with a great deal more consistency. And index funds are great

for taxable accounts, because of their limited turnover relative to managed funds. (If you have both tax-deferred and taxable accounts, you should give serious attention to minimizing both income and estate taxes when setting your withdrawal strategy. Issues such as how to manage mandatory withdrawals at age 70½, whether to convert to a Roth IRA, and what order to draw down your various accounts will have a huge impact on the bottom line both for yourself and your heirs. These situations can be so convoluted that they are often best addressed on an individual basis by a competent tax attorney or CPA.)

If you keep your withdrawals at a “reasonable” level, your portfolio should grow and prosper (unless we have an economic disaster worse than any since the Depression). Periodically check in to see if you need to adjust your withdrawals. If all has gone well, you may even be able to give yourself a raise.

Resist the temptation to tinker endlessly with the account. It is not likely to do you any good. Of course, it is appropriate to alter your asset allocation if you have a major change in objectives or life situation. And very occasionally there is new academic research that reveals a more efficient tax allocation strategy. But the key phrase is “academic research,” which does not include a *Money Magazine* interview with this month’s hot small-cap manager.

Set your strategy in place, relax, and enjoy your retirement. You deserve it.

III. Overconfidence in asset allocation decisions¹

A. Overview

There is no doubt that people tend to be overly optimistic. For instance, most people believe deep down that they are less likely to get hit by a bus or to be mugged than their neighbors are. Such optimism is not necessarily bad; it lets people cope with life’s uncertainties. However, optimism can have an adverse effect on investment decisions if people set unrealistic expectations.

Most people are also overconfident in their own abilities. For instance, surveys show most people think that their driving skills and social skills are better than average. Similarly, 81 percent of new business owners believe their business has at least a 70 percent chance of succeeding, but only 39 percent think that any business like theirs is likely to succeed.

Overconfidence, like optimism, is not necessarily bad. For example, it helps soldiers cope with war. However, overconfidence can lead to substantial losses when investors overestimate their ability to identify the next Microsoft MSFT or Amazon AMZN.

B. How optimism and overconfidence affect investment behavior

Last, the study wanted to find out whether a combination of optimism and overconfidence affects the actual investment behavior of Morningstar.Net subscribers. To answer this question, the study compared individual estimates of the likelihood of stocks outperforming bonds with asset allocation information. The results of this analysis are presented in the next graph. In general, as the estimated likelihood of stocks outperforming bonds increases, so does the allocation of retirement contributions to stocks. For instance, those who are bearish (i.e., those who believe the likelihood of stocks outperforming bonds is 0-24 percent) allocate 57 percent of their retirement contributions to stocks, whereas those who are bullish

¹ This section adapted from an article by Shlomo Benartz, Daniel Kahneman, and Righard H. Thaler as reported on Morningstar’s Website, www.morningstar.net/Home.html.

(i.e., those who believe the likelihood of stocks outperforming bonds is 100 percent) allocate 84 percent to stocks.

In summary, it appears that individual investors tend to be overly optimistic. They tend to focus more on potential positive returns than possible losses, and roughly a third of the people we surveyed believe that stocks are definitely guaranteed to outperform bonds over the long run. We wonder whether those overly optimistic investors understand the risk and return profile of their portfolios.

Actively managed funds generate higher turnover than index funds, which can lead to bigger tax bills. A new generation of tax-managed index funds (including three from Vanguard) are somewhat actively managed in order to control taxes: Hold periods are increased so that most gains are long-term, highest-cost lots are always sold first, and losses are “harvested” occasionally to offset realized gains.

C. Defining asset classes

What is an asset class? An asset class is any defined portions of the world’s capital markets that share similar characteristics. Anybody can define an asset class. There is nothing mysterious about the process. But some asset classes will turn out to be more useful than others. Domestic large company stocks, foreign small company stocks, and emerging market debt are separate asset classes.

Once asset classes are defined, we must find an index to track the performance of the assets. There are already thousands of indexes out there that are used by investors to track portions of the world’s capital markets. Not all of them are necessarily very useful to individual investors. Very few of them have their own index funds.

Because capital markets work rather nicely to reward investors for the risks that they choose to bear, each asset class will have a fairly predictable long-term rate of return. That return can be obtained by investors in the asset class without any skill, and without relying on either a forecast or prediction. So, you do not have to have magic powers of market timing, or an extraordinary ability to select individual stocks. The rate of return is there for the taking. You just have to be there. (Now there is a revolutionary and genuinely useful idea!)

Of course, each asset class will carry risk. But, by properly combining the asset classes together to form portfolios, we can reduce this risk to its lowest practical level. This is the role of asset allocation and Modern Portfolio Theory.

In the real world, few investors buy all available asset classes. They pick and choose. Some asset classes are better than others. So, enlightened investors will be constantly on the lookout for new asset classes to help spread the risk or increase rates of return.

D. What makes a great asset class?

What makes a great asset class? A new asset class is valuable when it has both desirable risk and reward characteristics, and a low correlation to other asset classes already held in an investor's portfolio.

Of course, an asset-class investor will insist on selecting investments with the lowest possible tracking error to each of our desired asset classes. Because they can be designed to replicate almost any asset class of traded securities, mutual funds (especially no-load index funds) can be ideal building blocks for asset-class investing. Properly employed, mutual funds level the playing field for the retail investor. Using an appropriate combination, you can build a portfolio as effective and sophisticated as the largest institutions.

IV. Asset allocation in practice

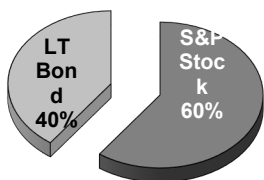
A. Overview

Financial theories are only useful to investors if they can be applied to real world problems. By using no-load mutual funds as building blocks, even investors of very modest means can ape the practices of our largest institutions. In the next few sections, we will use modern financial-theory insights to vastly improve a typical portfolio, lowering its risk level, and improving its expected returns at the same time. –

B. Starting point

Probably the best way to learn how asset allocation works is to actually do it. Balanced mutual funds, which invest in a combination of stocks and bonds, have been around for a long time and were the first step towards the asset allocation policies employed today. So, let us start with a portfolio that puts 60 percent of its assets in stocks and 40 percent in long-term bonds, the so-called “balanced” mixture used by many corporate pension plans and retiree investment accounts. The S&P 500 is a good index for stocks, representing very large domestic companies, and for bonds, the 20-Year Treasury Bond index is a good starting point. Investors can readily invest in any number of mutual funds that track these two asset classes.

Portfolio v.1.0



There is nothing terribly sophisticated about this. Anybody could do this. But it actually sets a very high benchmark. This approach does not employ any professional managers, does not make any projections, and does not benefit from any “inside knowledge” or trading skill. However, this portfolio did manage to beat all but three of the 66 balanced or asset allocation funds with a 10-year life in the Morningstar universe for the 10 years ended June 1997. This balanced portfolio gives us a good starting point, but there are better options.

C. Risk/reward line

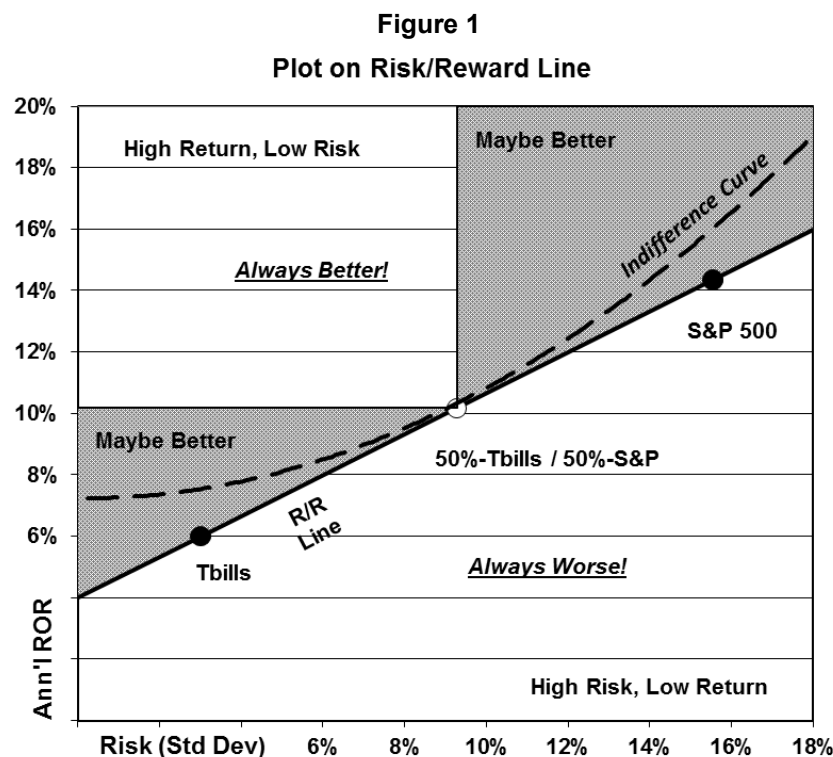
The portfolio will be plotted relative to a risk/reward line. The risk/reward line is plotted in two dimensions: expected (average compound) return is graphed on the vertical axis, and risk (standard deviation) on the horizontal axis. To create the risk/reward line one starts by plotting the “zero risk” asset, the Treasury bill, and the S&P 500 index. Many investment experts feel the S&P 500 is one of the best indexes of the “big” stock market and T-bills are generally perceived as being as close to tax free as anything comes in this life. However, they are not really risk free. Although the prospects of default are almost nonexistent,

investors cannot be sure they will not lose money after inflation. T-bills tend to track **expected** inflation very closely, but investors can get burned when inflation exceeds expectations.

The risk/reward line connecting T-bills and S&P stocks sets a minimum boundary or minimum benchmark of performance, since virtually anybody can earn at least the return shown on this line for a given level of risk. All they have to do is pick some mix between the S&P 500 and T-bills and they will fall somewhere on this line. Therefore, any point above (higher return) or to the left (lower risk) of another point is considered a superior investment.

To illustrate, **Figure 1** shows a portfolio plotted on the risk/reward line that is invested 50 percent in T-bills and 50 percent in the S&P 500. The expected return on this portfolio is 11.6 percent with a standard deviation of 7.7 percent. Any other portfolio that an investor could construct that plots anywhere within the **unshaded** region of the graph above the risk/reward line (R/R line) would be unambiguously better than the 50 percent T-bill/50 percent S&P portfolio. Within this range, a portfolio either has a higher return with no more risk, a lower risk with no less return, or both a higher return and less risk.

A portfolio that plots above the risk/reward line but within the “gray area” may or may not be considered a better investment by an investor. Any portfolio that plots in the gray area above the risk/reward line and to the right of their current portfolio (in the northeast direction) is more “efficient” than their current portfolio, in the sense that it provides relatively more return per unit of additional risk, but it requires the investor to assume that additional risk in order to obtain that portfolio. Whether investors are willing to assume that risk depends on their tolerance for additional risk. For some investors, it may not be worth it, even though they essentially could be obtaining the additional return at a “discount” price, relative to the additional risk they would have to bear.



Analogously, portfolios that plot above the risk/reward line but within the gray area to the left of their current portfolio (in a southwest direction) might not be acceptable to investors whose portfolios plot on the risk/reward line if they are more risk tolerant. They may not be willing to give up some of the return on their portfolio to reduce their risk, even though they will get a more than commensurate reduction in risk relative to the reduction in return. For them, the additional return they get on their portfolio is worth the relatively high price they must pay in terms of additional risk to get it.

This idea is represented in **Figure 1** by the dashed line, called an **indifference curve**, running through the investor's 50 percent T-bill/50 percent S&P 500 portfolio and through the shaded regions above the risk/reward line. The indifference curve represents all the risk and return combinations the investor feels are equivalent to his current portfolio. Of course, each investor is different, but for each there is such a curve. Any portfolio that they might be able to construct that falls above and to the left of this curve within the gray area is a portfolio to which they would be willing to shift. An investor would be unwilling to shift to a portfolio within the gray area that falls below and to the right of his indifference curve, even though it is technically a "more efficient" portfolio than his current portfolio, because the risk/return tradeoff is just not worth it to him.

If an investor can create a more desirable portfolio that plots above his indifference curve and then shifts his assets into that portfolio, all further portfolio comparisons are to that portfolio.

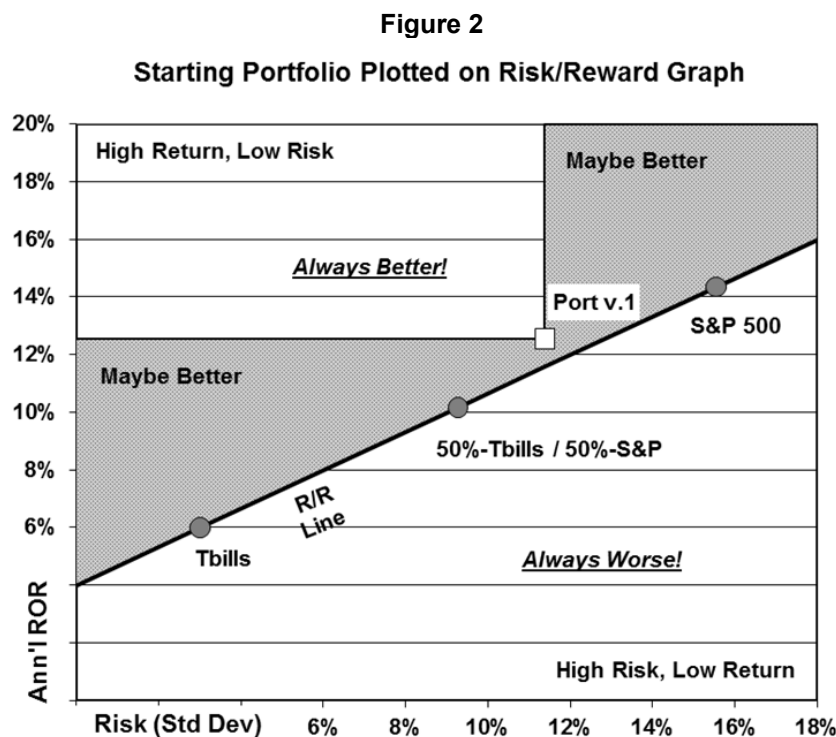


Figure 2 shows the plot of the starting 40 percent LT bond/60 percent stock balanced portfolio (Port v.1). The expected return of this portfolio is 13.1 percent with a standard deviation of 11.9 percent. As the graph shows, the starting portfolio's risk and reward does, just barely, plot out to the northwest of the risk/reward line. It is therefore a more efficient portfolio than the 50 percent T-bill/50 percent stock portfolio shown in **Figure 1**. However, an investor who is currently invested in the 50/50 T-bill/stock portfolio may not prefer this new starting portfolio. Although he could raise his return by just over two

percent, he would have to increase his risk as measured by the standard deviation by over four percentage points.

However, an investor who is currently invested 78.27 percent in the S&P 500 and 21.73 percent in T-bills has a standard deviation that matches the standard deviation of the starting portfolio, 11.9 percent, but has an expected return of only 12.5 percent, or about a half a percent less. So the starting portfolio would clearly dominate a portfolio on the risk/reward line closer to the starting portfolio.

When the author conducted this study for the first time in 2000, the balanced portfolio fell below the risk/reward line. In fact, upon inspection of a large number of different historic sub-periods, this portfolio very rarely plotted the line. Of course, recent history has been unusual, which just supports the point that one can never expect things to be the same. However, it is wise to recognize that this period may be an anomaly that is not likely to be repeated, at least not often. In general, long-term bonds are not good investments for individual investors.

D. Bonds

Long-term bonds are not efficient for most individual investors. Questions should spring to mind. How and why is it that this particular asset class, long-term bonds, could be priced by the market in such a way that it consistently underperforms alternative investments on a risk-adjusted basis?

But perhaps those are not the right questions at all or, at least, not the complete set of questions. Given the hundreds of billions of dollars flowing into and out of the long-term bond markets on a daily basis, it is absolutely inconceivable that they could be consistently mispriced on a risk-adjusted basis. The inescapable conclusion must be that they are not, at least for a large enough block of investors who are willing to pay more to get something other than return, in return.

As the detective inevitably concludes when stymied on a case ... follow the money!

Who are these investors and what are they getting? What they are getting is a type of insurance. Huge institutional investors such as pension funds and life insurance companies, as well as others, have long-term and predictable obligations or commitments. As long as they can match the duration of their assets with the duration of their obligations, and make a little on the spread, they are happy. To most of these investors, it matters little what happens to long-term bond prices in the intervening years. As long as they are paid the face amount at maturity, they are virtually certain to cover their long-term commitments and make a profit. So these immense institutional investors are willing to pay a premium for this kind of predictability or guarantee. In addition, long-term bonds, and especially U.S. Treasury bonds, serve as a secure store of value, almost a long-term currency, and a reserve asset for commercial and central banks, governments, large international corporations, drug traffickers, and arms merchants all around the world.

Of course, all U.S. government bonds of any term have essentially the same almost as good-as-gold (maybe even better) quality, which makes them desirable as a store of wealth, but it is the two ends of the spectrum where they get the most play.

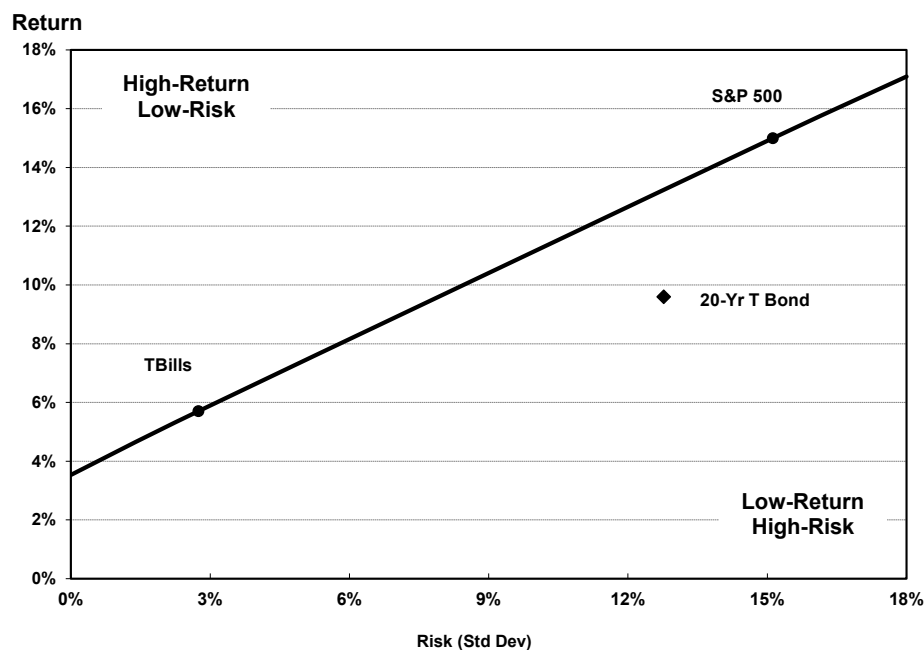
Very short-term Treasuries and T-bills are similarly typically “overpriced” on a traditional risk/return basis because they also serve as a ready liquid reserve for virtually everybody.

Investors usually think that bonds are “safe,” and that stocks are “risky.” But, in fact, the volatility of 20-year Treasury bonds (generally) has been higher than the S&P 500 for the past 25 years. Meanwhile, long-term bonds have only produced about half the total return of the S&P 500. In technical terms, bonds are not “efficient.” They do not provide a very big bang (of return) for each buck (of risk).

When the 20-year Long-Term Government Bond Index is plotted out on a risk-reward line, it appears to be an inferior portfolio.

Most investors are familiar with the concept of the yield curve: in normal times, the longer the duration of a bond, the higher its yield should be. However, most investors have not considered that although the yield moves up nicely from one day to about five or six years, there is not much more yield gain between the six-year and thirty-year points. Even a large change in interest rates will have no impact on the value of a 30-day Treasury bill, but a very small change in interest rates will send the value of a 20-year Treasury bond gyrating. So, risk increases dramatically as a bond’s duration increases.

Figure 3
Long-Term Bond Index



Another dimension to consider when one looks at an asset class is the likelihood that if another asset class changes in value, it will change in lockstep with it. If the two asset classes move together, there is not much diversification benefit in holding both in the portfolio. Unfortunately, domestic stocks and long-term domestic bonds have tended to be relatively highly correlated, at least compared to other fixed-income investments.

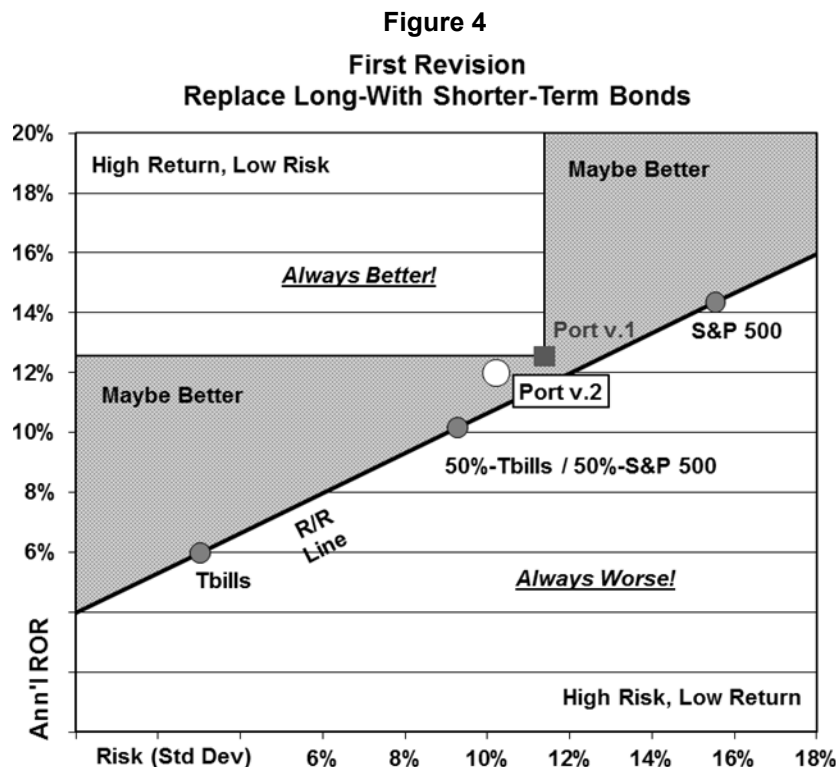
What should an investor choose instead of long-term bonds?

By shortening the duration of the bonds, an investor does not give up much in total return but does reduce the risk considerably. In addition, when interest rates rise, long-term bonds fall in value, but shorter-term bonds actually yield more. The shorter the duration of the bonds, the less their capital value

is affected by changes in interest rates, and the sooner they recover to par. Therefore, shorter-term bonds provide a greater diversification benefit to the portfolio. (In technical terms, shorter-term bonds have a positive correlation to inflation and rising interest rates, but a negative correlation to stocks and long-term bonds.)

E. Switching to shorter-term bonds

Moving the average duration of the bond portfolio from 20 years to about six years reduces the risk level considerably, but with some reduction in the total return. Port v.2 has an expected return of 12.3 percent with a standard deviation of 9.6 percent. **Figure 4** shows that Port v.2 plots further above the risk/reward line than Port v.1, and is therefore more efficient than Port v.1, but it does not plot within the range that would make Port v.2 a sure-bet winner over Port v.1. However, we have additional asset classes to add to our portfolio and the total effect will be shown to be positive.



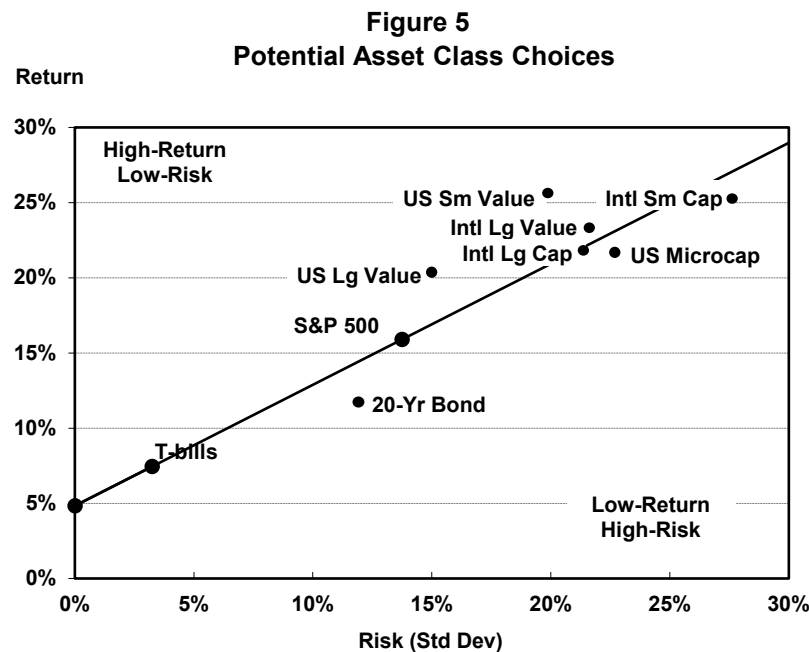
F. Adding international equities

The first step was to improve the bond side of the portfolio, at least based upon long-term history and the logic of pricing for long-term bonds. Next, let us see what can be done to improve the equity side of the portfolio. The risk-reward positions of various markets around the world are shown in **Figure 5**. Some of the risk numbers are fairly high. But, if the asset class is not perfectly correlated with the current portfolio, it is possible to add a riskier asset class to the portfolio and still **reduce** the risk of the portfolio. The objective is to increase the performance without increasing risk.

Optimally, adding an asset class that is negatively correlated with the portfolio or, better yet, perfectly negatively correlated with the portfolio would be best. Unfortunately, no two assets are perfectly negatively correlated. However, anything with less than perfect positive correlation can help reduce risk

when included in the portfolio, so the key to portfolio construction is to mix together assets with satisfactory risk-return characteristics and low correlations with the other assets.

Even with just two assets, one can devise an infinite number of portfolios, but only one of those portfolios will give the maximum rate of return at each risk level. If we connect all the points that have the maximum rate of return at each level of risk, we form a line that Markowitz called the Efficient Frontier. Each of these points falls above the old risk-reward line.



G. Adding foreign stocks

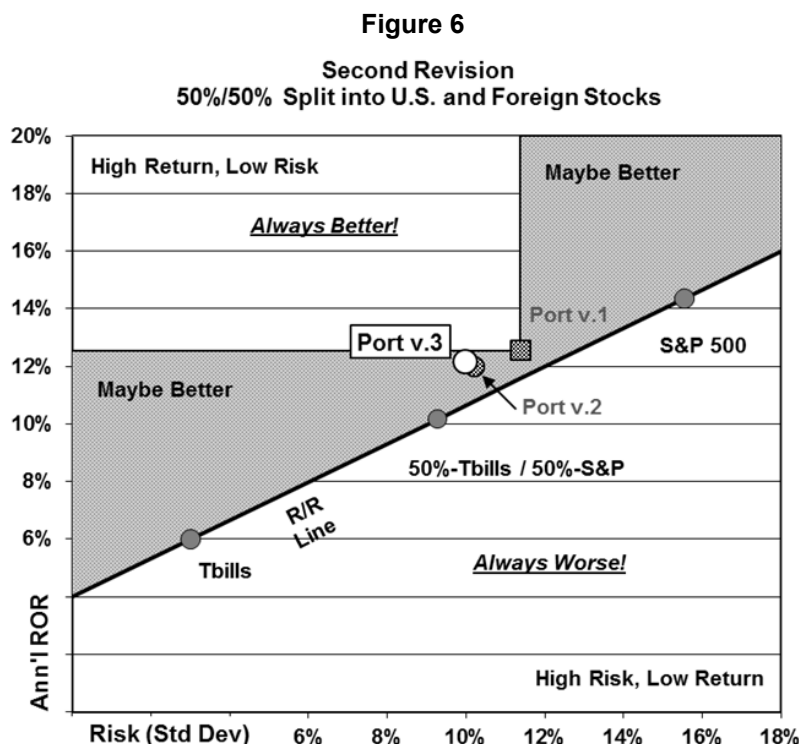
Here is an example of how Modern Portfolio Theory and asset allocation works based upon the actual relationship between foreign stocks and domestic stocks during the period between 1970 and 1989. This is an interesting period because it highlights the principle of not putting all your baskets in one cart. During the 1970s, when the U.S. equity markets were in the doldrums, foreign equity markets were bullish, but by the end of the 1980s, as the U.S. markets began to turn around, foreign markets faltered.

Figure 6 shows large U.S. stocks represented by the S&P 500 index and large foreign stocks of developed countries represented by Morgan Stanley Capital International's Europe, Africa, Far East Index (MSCI EAFE). Notice that EAFE has both a higher risk and rate of return than the S&P 500.

One might expect that if the two asset classes were mixed together in a portfolio, the resulting risk and return would fall on the line that connects them. However, because the two asset classes have relatively low correlation to one another (about 60 percent), that is not the case. Only if the assets are perfectly and positively correlated will a mix of the two asset classes fall on a straight line between one and the other, as is shown by the dotted line between the two on the chart.

If one starts with an all-U.S. portfolio (S&P 500) and gradually shifts a portion to foreign stocks (EAFE), the portfolio's rate of return rises, but its risk actually falls, at least at first. Somewhere around 20 percent EAFE weighting, the portfolio's risk reaches its lowest point. As more foreign stocks are added, the rate of return increases, but risk does too. About 35 percent in EAFE turns out to be the optimal mix if the

objective is to maximize the return while incurring no more risk than with S&P 500 stocks alone. In the real world, we have multiple asset classes, so the optimal percentage of foreign to domestic may shift considerably as additional asset classes are added to the portfolio.



The evidence is piling up. Foreign stocks are good for your financial health and most investors should diversify internationally. For now, let us split the model portfolio's stake in stocks equally between the S&P 500 and EAFE.

Figure 6 shows the result of splitting the equities equally between domestic and foreign large stocks. The results are less than scintillating. In fact, the portfolio with foreign stocks earns slightly less and is slightly riskier than with just domestic stocks. However, the differences are not significant, so it can be said that adding the foreign stocks did not really hurt, but they did not help either.

However, once again, the data used goes back to the early 1970s, and for long sub-periods since then, at times foreign stocks have dominated and at other times domestic stocks have dominated. The incredible surge in the U.S. market in the late 1990s has swamped the other periods. So, if you think the U.S. markets will continue to dominate in such a fashion, by all means, invest just in U.S. markets. But if you look at the history and conclude that the late 1990s was truly unusual, then in future periods, having foreign stocks in your portfolio will almost certainly improve your results.

H. Adding small-cap stocks

Diversifying internationally using the traditional foreign asset class, Morgan Stanley's Europe, Australia, and Far East index (EAFE), did not provide much improvement in the performance of the model portfolio for the period examined, but there are certainly reasons for believing that to be an unusual circumstance. In addition, the EAFE is an index of large companies, including many multinationals, in developed countries.

There is no good reason to think a European ought to expect far higher returns for investing in Volkswagen than an American should expect from investing in Ford. Both companies share numerous common factors and traits. It is reasonable to expect that such similar companies will over time have similar returns and costs of capital. Further, as both are large, multinational companies in developed countries with similar products competing in each other's backyards, one might expect them to be closely correlated, which they are. Like many large foreign international stocks, their stock performance is not entirely determined by local economic factors. It is also strongly affected by common international and automotive trends.

But there are other asset classes yet to consider, which may help to significantly improve the portfolio's performance. Investing internationally is a good idea, but the EAFE may not be the only or the best way to invest in foreign equities.

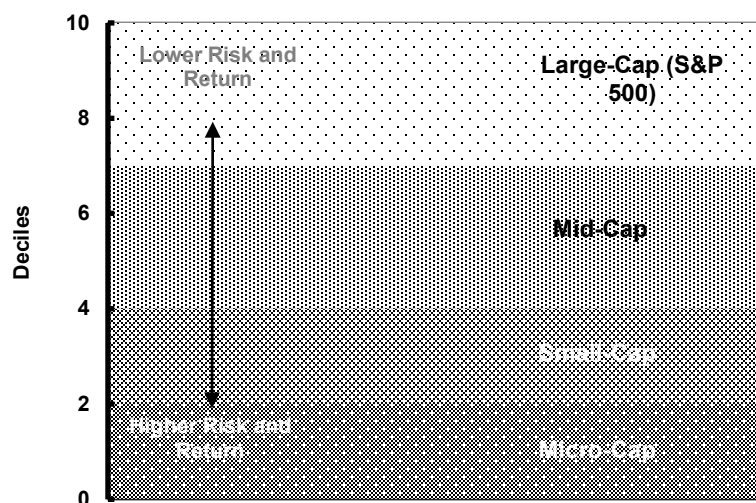
1. The effects of style on investment returns

A pioneering work by Eugene Fama and Kenneth French examined the effect of investment style on returns. Fama and French divided the U.S. market by size of company from the very largest publicly traded firms to the smallest. On a scale of one to 10, the S&P 500 might occupy the top three deciles, mid-caps and small companies would fall between deciles four and seven, and micro-caps would hold down the bottom two deciles, as shown in **Figure 7**.

What Fama and French found was that in a period from 1963 to 1991, micro-caps outperformed large stocks by about five percent per year. Not surprisingly, small companies also have higher risk. As one moves down the deciles, rates of return and risk increase rather smoothly.

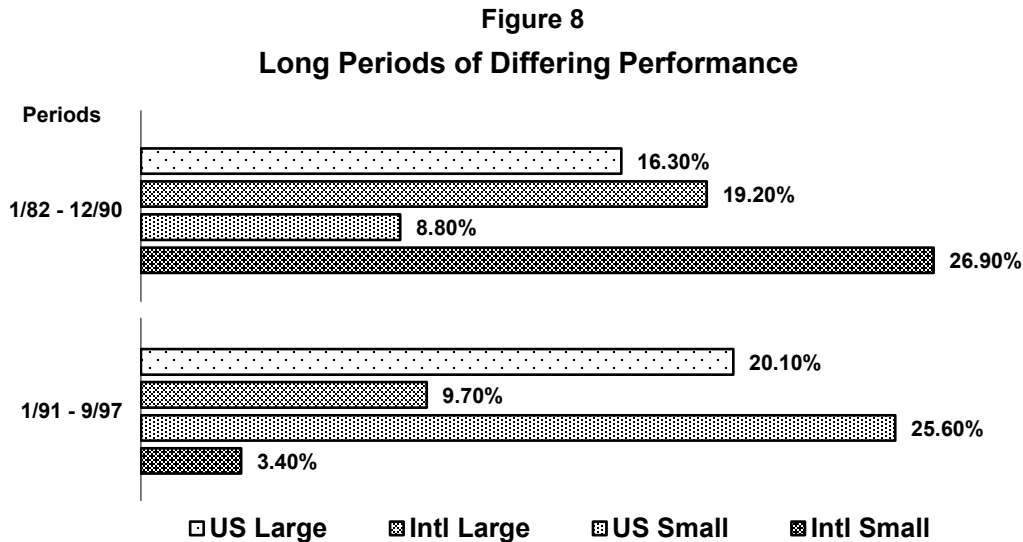
Their work reveals another nice feature, however. There is a low correlation between the performance of a market's largest companies and its smallest companies. These stock classes often perform well or poorly at different times.

Figure 7
US Stock Market
Divided into Size Deciles



2. Imperfect correlation with large stocks

Most small companies do not have the same level of international exposure and interest as the big companies. Typically, their stock performance and returns are much more affected by local economic, political, and emotional factors than are big multinational corporations. Small companies have low correlations not only with the largest companies within their own countries, but also with companies both large and small in other countries.



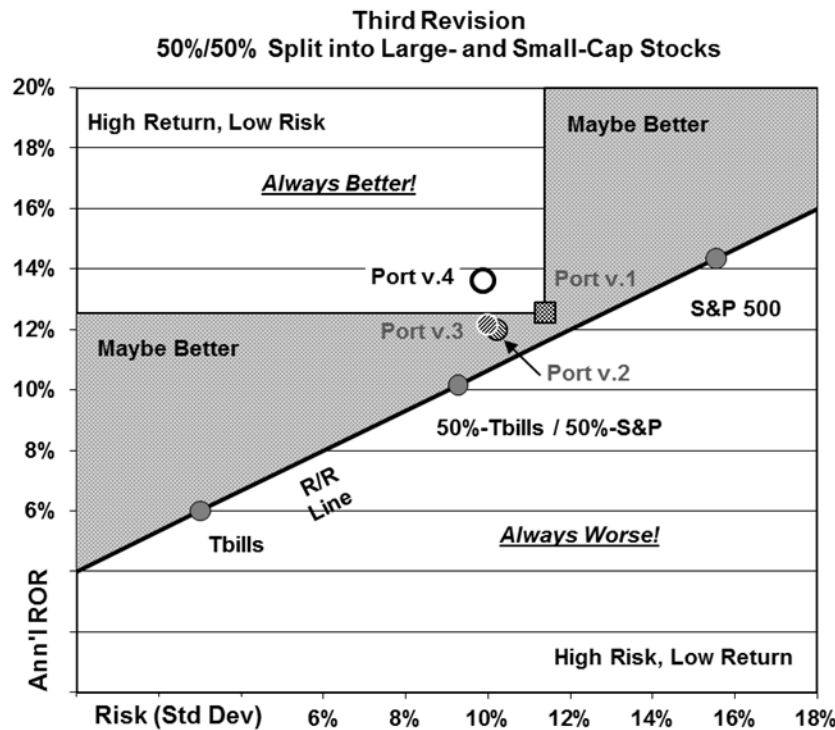
Remember, adding risky asset classes with low correlations together can increase returns while reducing risk below that of any of the individual asset classes themselves. But risk is risk and there may be long periods of over performance and underperformance for the various sectors. For instance, consider relatively recent returns of the U.S. markets against the foreign markets shown in **Figure 8**. From 1982 to 1990, large foreign stocks (EAFE) outperformed the large domestic stocks (S&P 500) by 2.95 percent per year, while small foreign stocks clobbered small domestic stocks by 17.46 percent.

In the 1980s, foreign stocks dominated U.S. stocks. In the 1990s, the situation had reversed. The entire foreign advantage vanished. Through September 1997, large-foreign trailed large-domestic by 10.36 percent and small by 22.17 percent. Investors exposed to all four segments fared well throughout the entire period, but their success was generated by different segments at different times.

3. Third portfolio revision

The next step is obvious. The overall portfolio performance is very likely to be enhanced by shifting a portion of the assets invested in large stocks, both domestically and internationally, into both domestic and foreign small stocks. The stock portion of the portfolio is split equally between large- and small-cap stocks.

Figure 9



The result shown in **Figure 9** is a substantial increase in the expected returns. In addition, as most readers probably have now come to expect the imperfect correlation of the new asset classes in relation to the ones already held, allows the expected returns to increase while the risk decreases.

The model portfolio has now entered the area where it is unambiguously better than the original balanced portfolio. It is also clearly within the northwest range of the plots of each of the other portfolios, so it also dominates each of the other revisions. The expected return on this portfolio is more than a half-percentage point higher than on the original balanced portfolio and the risk is about 2.75 percentage points lower. But, can we improve on this even yet?

I. Value investing

As discussed above, Fama and French found that small company stocks delivered higher returns accompanied by higher risk. They have also done further research leading to even more asset allocation opportunities.

Fama and French set out to find a better way to explain stock pricing and market returns than the then state-of-the-art Capital Asset Pricing Model (CAPM). The simplified explanation of CAPM is that the past volatility of an individual stock relative to the market as a whole – its beta – is the only thing an investor needs to know to predict the future performance of a security. If CAPM were true, then it followed that the one most-efficient portfolio would be one with a proportional ownership of all of the world's investable assets. This idea helped propel the growth of index funds.

The problem is, although it was a remarkably elegant and insightful theory, researchers kept finding pricing discrepancies that could not be explained adequately by the theory. One general market factor

can explain a lot about a broadly diversified asset class's systematic relationship to other asset classes, but not everything.

1. Book-to-market value

Like many other theorists at the time, such as Stephan Ross, who invented the multi-factor Arbitrage Pricing Model, Fama and French began to explore whether a multi-factor model might do a better job explaining asset prices than the single-factor CAPM model. They tested a number of common measurements in combination (e.g., size, P/E, cash flow, price/book ratio, and so on) to see which ones would provide the best fit for their real-world observations. One factor they discovered was the size effect, described above. However, they discovered yet another factor that, when combined with the market and size factors, seemed to explain most of the observed performance of stock prices and returns over a long period of time. This additional factor is the ratio of a stock's book value to market price (BTM).

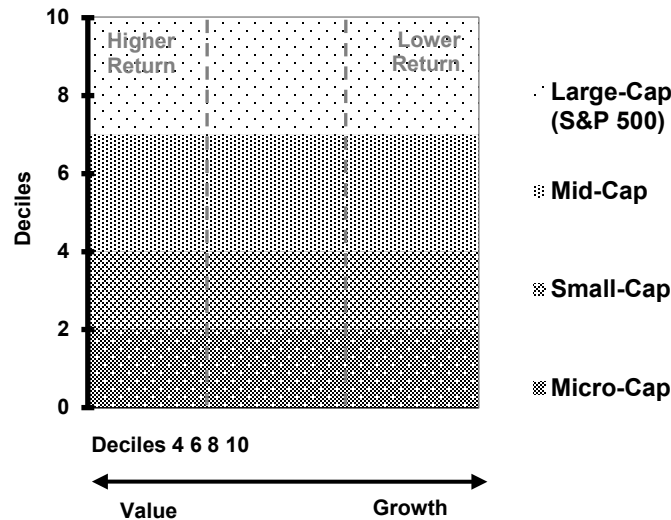
Stocks with a high BTM are often distressed companies that typically have low return on capital, low return on equity, stagnant or falling market share, and various other dismal performance measurements. They are out of favor – often for very good reason – and their stock prices have been beaten down relative to their company's book value.

By comparison, stocks with a low BTM are the high-flying growth stocks. They have all the signs of healthy, well-run, desirable companies. Investors want to own them, and they push the prices of these stocks to lofty levels.

The previous section described slicing the stock market into 10 size-based segments. Now consider slicing the market on the other axis into 10 segments based on BTM as shown in **Figure 10**. The result is 100 little market segments on a 10-by-10 grid. Each of these segments can be viewed as representing different investment styles. In their studies, Fama and French tracked the performance of each of these style segments on a year-by-year basis.

They found that the high BTM stocks, at every size level, often had far better performances than did the low BTM growth stocks. In addition, they achieved this superior performance without any additional risk. They concluded that moving from the three lowest deciles of BTM (growth) to the three highest (value) produces nearly five percent in additional compounded return over the period studied. The value investing style beat a growth approach by an astounding degree over a long period of time.

Figure 10
Value Versus Growth Stocks Size Deciles



2. Adding growth and value stocks

Figure 11 compares the entire U.S. large company market and the U. S. small-company market in terms of growth and value since 1975.

Figure 11

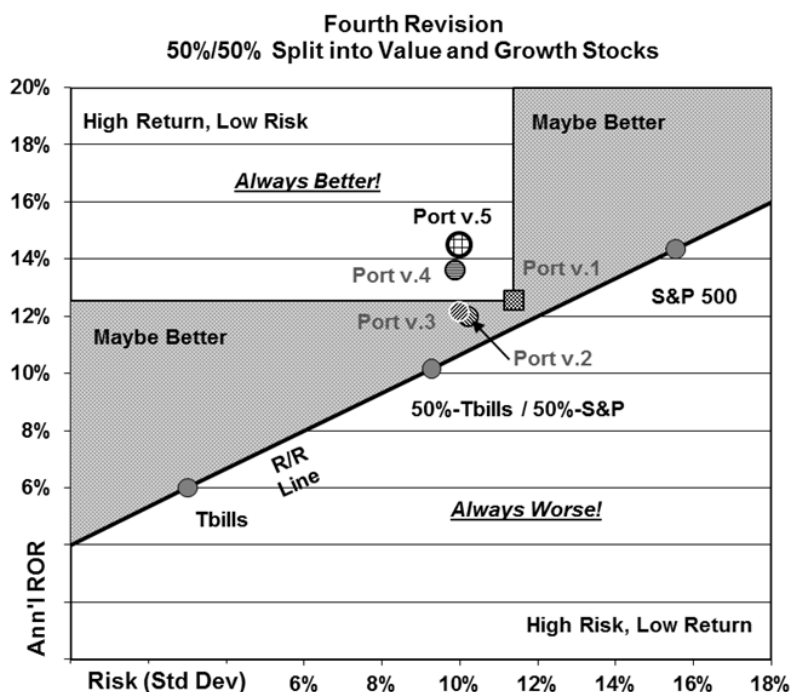
Small-Cap and Large-Cap Value and Growth Stocks Since 1975					
Small-Cap Stocks			Large-Cap Stocks		
Class	Return*	Std. Dev.	Class	Return*	Std. Dev.
Value	21.21%	20.33%	Value	15.99%	16.44%
All	17.68%	20.68%	All	13.26%	15.54%
Growth	11.76%	24.07%	Growth	12.45%	17.21%
*Average annual compound rate of return.					

Since their original work, many further studies have looked into this phenomenon and confirmed it, at least with respect to a unique and identifiable factor distinguishing the high BTM stocks from the low BTM stocks. Since their original study, growth stocks have at times outperformed value stocks, and vice versa. But that is good! These two segments of the equity market are not highly correlated. When growth stocks are up, value stocks tend to languish. When growth stocks are down, value stocks tend to rise, or at least hold their own. Hence, investors can have confidence that there is a basic economic principle at work, not just a random anomaly in a single set of data.

In addition to better rates of return with about the same level of risk, value stocks have a reasonably low correlation to the rest of the market. Therefore, it is appropriate to consider them as a separate asset class. Let us give our portfolio a strong value "tilt" by splitting each of the equity segments into a total-market portion and a value portion. (Morgan Stanley has begun to make an international small-cap stock index, but it only has a few years of data and so it is not yet a very useful measure for indexing. Consequently, the model portfolio doubles up on foreign small caps.)

Adding a value component to the holdings produces a considerable increase in the rate of return while only increasing the risk slightly as shown in **Figure 12**. The final portfolio has about the same risk as Port v.2 and Port v.3, slightly more than Port v.4, and very much less than the original balanced portfolio. The final result is an expected return of 14.6 percent with a risk of 9.7 percent, which is about 2 percent more return and just less than 2 percent less risk than the original balanced portfolio (Port v.1).

Figure 12



J. Performance of Port v.5 versus S&P 500

No attempt was made in the construction of this portfolio to make it the most “efficient” portfolio in the sense of fine-tuning the asset class weights to maximize the return for a given risk. Essentially, as each new asset class was introduced it took a proportionate share of the portfolio. The objective was to see if, by naively diversifying the portfolio away from its original mix, we could increase rates of return and/or decrease risk.

The result was quite significant! Even this naïve diversification into suitable asset classes demonstrates considerable success. The final composition of Port v.5 is shown in **Figure 13**.

Figure 14 shows how Port v.5 would have performed relative to the S&P 500 index since 1975.

Figure 13

Portfolio Composition of Port v.5		
Asset Class	%	%
Short-Term Bonds		40%
Equities		
Large U.S. Stocks	7.5%	
Large International Stocks	7.5%	
Small U.S. Stocks	7.5%	
Small International Stocks	7.5%	
Large Value U.S. Stocks	7.5%	
Large Value International Stocks	7.5%	
Small U.S. Value Stocks	7.5%	
Small International Value Stocks	7.5%	
Total Equities		60%
Total Investment		100%

Figure 14

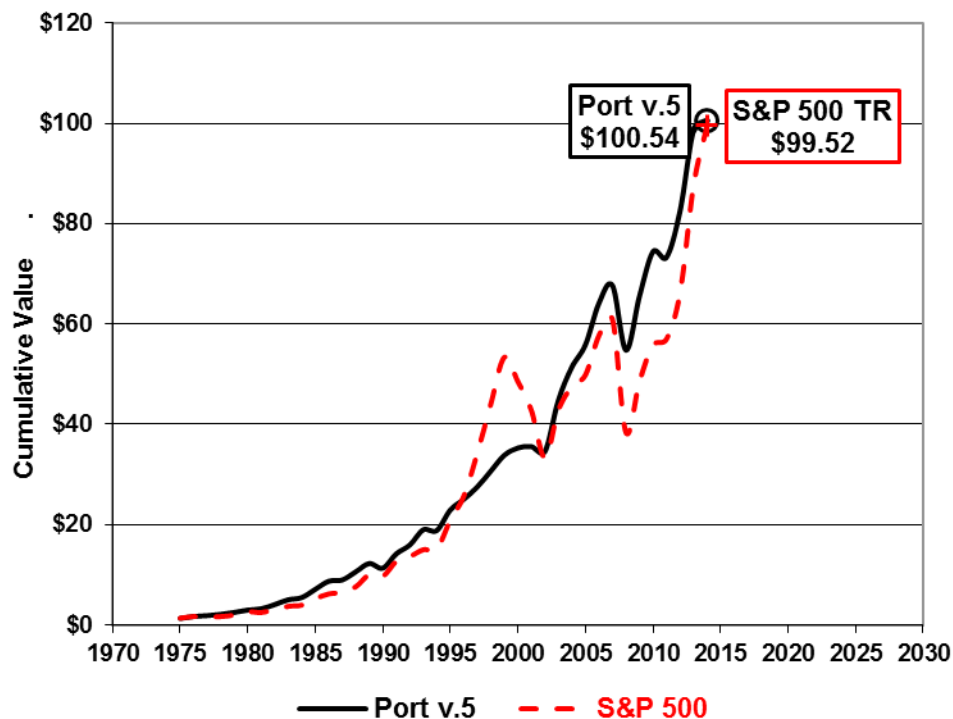
Year	Port v.5 (%)	S&P 500 (%)	+/- S&P 500 (%)
1975	32.20	37.20	-4.83
1976	28.46	23.85	4.72
1977	10.34	-7.18	17.87
1978	14.05	6.56	7.74
1979	17.94	18.44	-0.58
1980	18.07	32.42	-14.45
1981	9.03	-4.91	14.53
1982	25.52	21.41	4.23
1983	23.58	22.51	1.21
1984	8.76	6.27	2.11
1985	29.98	32.16	-1.70
1986	22.70	18.47	4.13
1987	2.94	5.23	-1.94
1988	18.04	16.81	1.31
1989	15.64	31.49	-15.67
1990	-7.56	-3.17	-4.30
1991	25.23	30.55	-5.48
1992	12.31	7.67	4.63
1993	19.05	9.99	9.66
1994	-0.71	1.31	-1.75
1995	21.76	37.43	-13.34
1996	9.24	23.07	-11.98
1997	9.84	33.36	-16.01
1998	11.48	28.58	-19.26
1999	10.27	21.04	-10.70
2000	4.23	-9.11	16.55
2001	0.84	-11.88	17.82
2002	-2.79	-22.10	18.04
2003	29.63	28.68	1.61
2004	14.69	10.88	2.12
2005	8.62	4.91	1.23
2006	14.86	15.79	-1.37
2007	5.44	5.49	-1.13
2008	-18.99	-37.00	18.01
2009	19.57	26.46	-6.89
2010	13.60	15.06	-1.46
2011	-1.52	2.11	-3.63
2012	12.52	16.00	-3.48
2013	19.50	32.39	-12.89
2014	2.00	13.69	-11.69
Simple Average Return	12.76	13.55	-0.79
Compound Annual Return	12.31	12.19	0.12
Standard Deviation	10.94	16.76	-5.83

Since 1975, the S&P 500 bested this portfolio in 22 years, sometimes by pretty wide margins, including one six-year period as well as one five-year period. In spite of that, the Port v.5 would have generated good rates of return at a comparatively very low risk level. On an annual basis, sometimes the portfolio would have beaten the S&P 500 TR, and sometimes it would have fallen short. Over the entire period since 1975, Port v.5 earned an average annual simple rate of return that was about three-quarters of a

percentage point lower than the S&P 500 TR Index (12.76 percent vs. 13.55 percent). However, on a compound annual rate of return basis, Port v.5 beat the S&P 500 TR Index by a slight margin (0.12 percent per year) with a volatility (as measured by the standard deviation of annual returns) that was almost 35 percent less than the volatility of the S&P 500 TR (10.94 percent for Port v.5 versus 16.76 percent for the S&P 500 TR Index, or 5.83 percentage points less volatility).

The objective of this illustration was to include asset classes with low correlation to the S&P 500 TR, so one should not be surprised that each of the other classes has had long periods of time during which it under-performed the S&P 500 TR. Value often falls out of favor for years at a time. Small companies can languish for extended periods. Foreign markets zoom, then sputter. Short-term underperformance by an asset class is not a reason to remove the asset class from the portfolio.

Figure 15
Growth of Dollar Investment



As **Figure 15** shows, for every year from 1975 until 1997, the amount investors would have accumulated in Port v.5 was more than they would have earned by investing in the S&P 500 TR Index alone. However, after five straight years of unprecedented advances (1995-1999), our domestic market became the wonder of the world. It was the best five-year period for the U.S. equity markets in history. The S&P 500 TR Index's annualized return for the five-year period ending December 31, 1999 was more than double its annualized return for the previous 10, 25, and 50 years. Every foreign market looked like trash by comparison.

The inclusion of foreign stocks caused Port v.5 to greatly under perform a domestic-only strategy for five straight years in the late 1990s. Should we dump them? If so, the same logic would have compelled us to dump domestic stocks in 1974 after a very bad two-year decline, and again in 1989 when Japan looked invincible. Of course, investors who actually did so missed some of the great market opportunities of the century. Despite these five unprecedented years of U.S. equity market performance, Port v.5 rebounded

relative to the S&P 500 TR to jump ahead once again since 2002. Over the long run, the portfolio created here would have beaten the S&P Index on a compound return basis while also lowering volatility by 35 percent. Although the S&P Index beat Port v.5 in more than half of the 40 years in the study, Port v.5 had negative returns in only 5 years of the study to the S&P Index's 7 years. Furthermore, the S&P Index's down years were, in general, much worse than Port v.5's down years. For instance, in 2008, the year of the dreadful market collapse, Portfolio v.5 lost 19 percent! But the S&P 500 TR index lost double that—37 percent!!

History, economic theory, and common-sense show that no single country or region will dominate the world indefinitely. What may now look to an American investor like a relatively disappointing performance by the portfolio since 2000 looks like a glorious result to a Japanese investor. A few years ago, the two viewpoints would have been completely reversed. But, had each held a diversified portfolio over the entire period, they would both be happy with the results today.

The portfolio was developed to meet the needs of a particular type of investor and to illustrate how investors can apply the concepts of asset allocation and modern portfolio theory in a relatively simple manner to capture significant overall gains in returns and reductions of risk. Of course, it will not be suitable for everybody. Some investors will want more risk, some less. How can investors adopt this strategy to meet their own needs?

K. Putting it into perspective

First, risk is risk. Even if someone makes the “correct” choice, in the sense of making the most informed choice with the highest likelihood of success, there are no guarantees. For instance, suppose someone were to offer you an even-up wager based upon the flip of a coin. Suppose also, however, that this person gave you the option of electing to roll a die instead of flipping the coin. But in this case, you would win the bet only if you rolled a one. Clearly, you would be foolish to roll the die with a one-in-six chance of winning when you could flip a coin with a one-in-two chance of winning. However, if you flip the coin you could lose. If you roll the die, you could win. That is why they call it risk. The best you can do is to be informed, play the better odds, and hope that you do not end up with the short end of the stick.

Second, past performance is no guarantee of future performance. No single investor could have received these returns or executed the strategy described above. Third, nothing works every day.

Portfolio v.5. is based on historical data. This approach makes pretty good sense, but tomorrow is not going to be exactly like yesterday. There are always going to be surprises we cannot anticipate today. That is why they call them surprises. And that is one of the reasons investing is risky. But, in particular, investors have to seriously wonder whether the last 20 years of market performance might be better than the long-term trend. Chances are that returns will regress back towards their long-term averages. Even so, the odds are still with investors who diversify across distinct asset classes with relatively low correlations, such as those that were included in Port v.5. Strong financial research suggests that there are distinct and systematic differences in the way these asset classes respond to changing economic and financial conditions, but these are not the only asset classes that may provide beneficial diversification effects. Commercial and rental real estate and/or equity and mortgage REITs, commodities, certain collectibles, home ownership, and further investment in your own human capital (more education!) are all investments that may provide a return kicker to your overall portfolio while reducing the overall risk because of low correlations with the other asset classes.

The data covering the time span studied here has only recently become available. The indexes and funds required to execute the strategy have only been available for a short period of years. The data assumes no transaction costs, management fees, or taxes, and assumes that every penny was invested every second.

A wise investor might wish to trim off a little from the projections, to be on the conservative side. If investors end up doing better than anticipated, all the better, but if they earn less, at least the whole investment plan will not fall apart.

Even a good strategy will have long periods of underperformance relative to some benchmarks or other strategies. A good strategy is no guarantee against losses, especially in the short term. Investor discipline is an important factor in long-term success, but investors must make decisions in an atmosphere of uncertainty. Modern financial theory and better data on how markets really work now give investors a much better framework for developing a strategy than they have ever had before. This is not the final solution, but it is a distinct improvement.

The reference portfolio has been diversified into eight equity segments. Seven of those segments have outperformed the S&P 500 on a historical basis and the other one is the S&P 500 itself. We have picked up significant additional returns from small-company stocks and value-priced stocks. Because the various world markets are not closely correlated with each other, we captured some of the higher performance of the riskier markets while significantly decreasing risk at the portfolio level. We have designed an investment plan with a higher expected compound rate of return than the S&P 500, yet our plan still contains a 40 percent stake in short-term bonds.

L. Generalizing the concepts

1. Overview

In the prior sections we have built a nice portfolio, but it will not be attractive to all investors. Some investors may want more return and are willing to live with more risk to get it. Other investors may wish to seek lower risk, with corresponding lower return. How can investors adapt what has been discussed in the previous sections to meet their diverse needs?

2. The solution

Financial theory comes to the rescue with a neat and elegant solution: Simply vary the proportion of risky assets to the local risk-free asset.

In this case, we can use our globally diversified equity portfolio (Portfolio v5.0) as the optimal risky asset. Our short-term bond portfolio will stand in for the local risk-free asset, the Treasury bill. If we mix portfolios beginning with 100 percent short-term bonds and nothing in Portfolio v5.0, all the way up to zero bonds and 100 percent Portfolio v5.0, we will approximate an efficient frontier. Each portfolio will fall comfortably above the risk-reward line, and each will give us the best possible rate of return for the amount of risk endured. The line that connects each of these portfolios will look very much like the efficient frontier of classic Modern Portfolio Theory. The additional reward that we earn above the risk-reward line is the “free lunch” that diversification brings us.

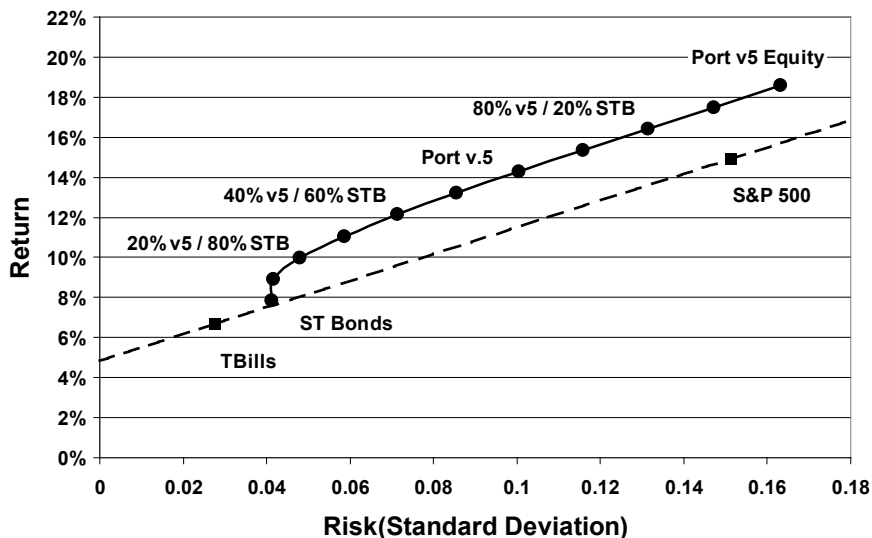
3. Tailored strategies

By mixing various proportions of our “optimal” portfolio (v5.0) and short-term bonds (STB), we can tailor strategies for different situations.

There will still be some investors who crave additional risk and reward. What should they do? There is a simple answer: Just take the optimal equity portfolio and leverage it. In other words, our risk-seeking investor can borrow money (on margin, as they say in the industry) and invest it in the optimal portfolio to extend the efficient frontier. Such investors need cast-iron stomachs, though, because the bad days will be very, very bad. In practice, there are not many investors willing to put up with that much risk.

Where on the efficient frontier should investors place themselves? Here, modern financial theory comes up with an answer so technical and impractical (for small investors) that we will ignore it. For those readers who are interested, the textbook solution is to plot your indifference curves (the lines showing for each level of risk, the return you would require to be indifferent from one point on the curve to another), find where they intersect the efficient frontier, and invest in that mix of risky and risk-free assets. Because most investors have no idea where their indifference curves are, or even how to find them, this is simply not very practical.

Figure 16
Targeting the Proper Mix



4. Rules of thumb

All is not lost, however. There are some sensible rules of thumb that can be applied. First, a portfolio should cover all of its known or reasonably predictable cash flows for the next five to seven years with a reasonably riskless and predictable asset. Once that is covered, the remaining may be invested in a risky portfolio. If that mix is still too volatile for the investor, he or she may increase the riskless-asset weighting until the resulting mixture matches his or her comfort level.

5. Case study – Real-life example

John and Mary, a young couple, have salted away a generous emergency fund. They wish to invest all additional savings to fund their daughters' college education and their own retirement. They do not

anticipate any large expenditures during the next 10 years. The daughters are ages one and three. Retirement is a distant dream. This couple should consider investing only in the “risky” equity portfolio. However, if the prospect of equity volatility is unnerving to them, they might consider adding a 20 percent to 30 percent short-term bond position to dampen market gyrations. John and Mary opt for all equities.

Now let us fast-forward 10 years. John and Mary are disciplined savers. Their equity fund has grown nicely, but education is looming. They do not want a temporary market decline to endanger their daughters’ education, so they decide to convert a portion of the equity fund to short-term bonds, and to invest all new savings into a short-term bond portfolio dedicated to funding college. With the college expenses covered, the remaining growth funds are left to fund retirement.

After the second daughter’s college graduation, John and Mary resume their equities-only investment plan, focusing on a carefree retirement down the road. At one point, John’s job was “downsized,” but the emergency fund got them through the rough times until his career was back on track. Because they had the foresight to establish a generous emergency fund, they never had to invade the growth portfolio.

A few years before retirement, John and Mary calculate that after the company pension plan and Social Security, they will need about six percent of their nest egg (adjusted for inflation) each year for after-retirement living expenses. They decide that at retirement they would like to have seven years’ worth of income needs already covered by the short-term bond fund. This reserve will allow them to wait out any temporary market declines without invading their equity portfolio. Because seven years’ worth of income is about 40 percent of the nest egg, they set a 60 percent equity/40 percent short-term bond portfolio as a target at retirement. They begin to convert a share of their equity portfolio to bonds each year until they achieve that retirement mix.

After retirement, John and Mary draw down 6 percent of their capital each year as planned. When the market is bad, that comes out of the short-term bonds. When the market is good, they take their income needs by converting some equity holdings and then rebalance the portfolio back to the 60 percent equity target. On average they expect to make a percent or two more than they take out. The balance is reinvested in the plan to provide for an inflation hedge. By taking a percentage of capital each year rather than a fixed amount, they will receive a varying income stream. However, over time they expect their income and capital balance to grow in real terms. Another advantage to this approach is that it automatically adjusts income to remaining capital, so in the event of a prolonged market downturn it eliminates the unpleasant possibility of depleting the account to zero.

If John and Mary’s company pension plans had been so liberal that they did not need any income from the nest egg, they might reasonably not convert any of the equity fund to bonds. The asset mix is determined by their unique needs, not some arbitrary formula based on age.

6. *Traditional wisdom*

By now, you may have noticed that this approach conflicts directly with the conventional wisdom that a retiree should invest for income. Retirees have long been advised to load up on long-term bonds, utilities, REITS, convertible bonds, preferred and other high-dividend stocks. However, this method leads to higher-risk, lower-return portfolios than necessary to meet the investor’s income goals. Investors should seek total return at the lowest risk position, and sell shares as required to meet their income needs.

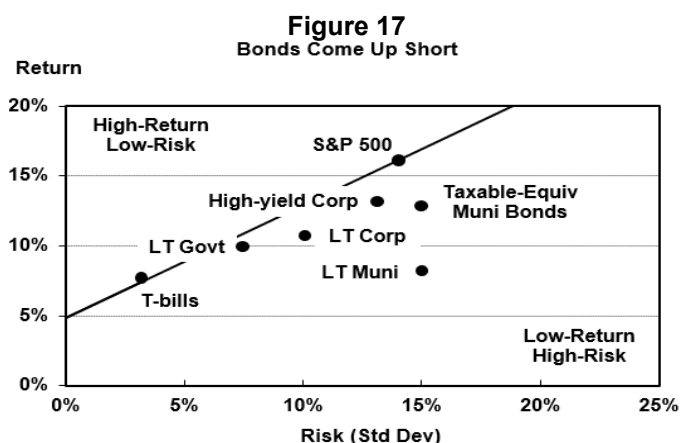
V. Bonds

A. Overview

Bonds are typically issued at par, redeemed at par, and along the way they fluctuate in value as prevailing interest rates change. Their total performance closely tracks inflation expectations. Thus, real growth – if any – is too small to be meaningful. Investors often view them as safe, but the volatility of long-term bonds may be as high as that of stocks, while their return per unit of risk is anemic in comparison. To add insult to injury, long-term bonds have a high correlation to other financial assets, and they perform abysmally during periods of high inflation.

All in all, the characteristics of bonds as an asset class are so dismal that you might wonder why any investor would want them at all. Of course, not all investors have similar needs. Many institutions are more interested in matching future liabilities with assets than maximizing total return. For instance, life insurance companies can estimate their future liabilities with some precision. Holding bonds that mature on schedule allows the companies to match their assets with their expected requirements. Statutory regulations require them to hold bonds to back up their obligations. To oversimplify, insurance companies mark up the cost of providing benefits to compute their premiums. Total return is not as important as the spread.

That is not the situation we face as individual investors, though. We want to maximize our return per unit of risk, and bonds do not fit in very well. If we plot the risk/reward points for several well-known long-term bond indexes from 1978 to 1997, we see that they all fall far below the standard risk-reward between T-bills and the S&P 500 index.



B. Useful roles for bonds in asset allocation

Bonds have only two useful roles to play in our asset allocation plans: (i) they can reduce risk to tolerable levels in a portfolio; and (ii) they can provide a repository of value to fund future expected cash-flow needs. Of course, we do not expect the bond portion of the portfolio to be a dead drag on its overall performance. It makes sense to take prudent steps to enhance returns in every portion of the portfolio. Let us take a look at some of the common methods employed by fixed-income investors to see if any might advance that goal.

1. Junk bonds

Investors take on more risk when they invest in lower-quality bonds. While they can increase total return as they move from government bonds to corporate to high yield (junk), investors simply do not get paid enough to justify the risk. They remain hopelessly mired below the risk-reward line.

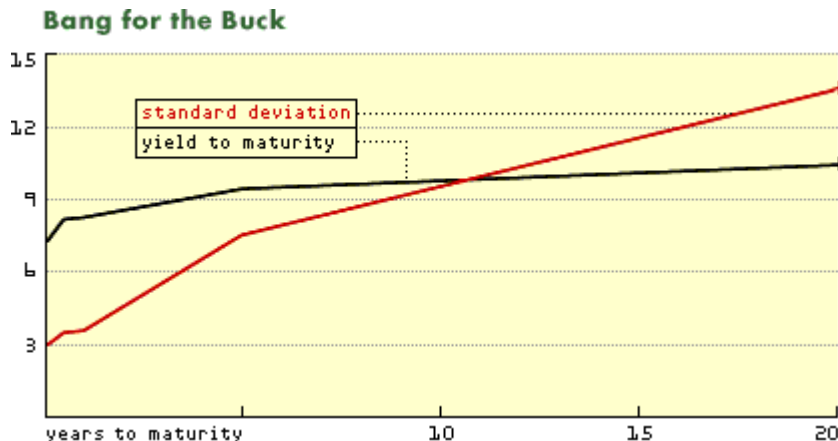
2. Active trading

We all know that the capital value of a bond whipsaws as interest rates in the economy change, so if we had an accurate interest-rate forecast, we could develop a trading strategy to reap capital gains. Buying long-term bonds before interest-rate declines will produce gratifying profits. This sounds simple, but the trouble is, accurate interest-rate forecasts are elusive. Seventy percent of professional economists routinely fail to predict the correct direction of rate movements, let alone their magnitude.

Individual bond selection suffers from the same problems as equity selection. The market is efficient and finding enough mispriced bonds to make the effort worthwhile is problematic. It should not surprise us that traditional active management of bond portfolios fails every bit as profoundly as does active equity management.

3. Riding down the yield curve

Borrowers generally demand additional return for holding longer-maturity bonds. The relationship between maturity and return is expressed as the yield curve. When longer-maturity bonds have higher yields, which is most of the time, the yield curve is said to be positive. As you can see in the graph below, yield typically rises very gradually, while risk takes off sharply beyond a one-year maturity. On a risk/reward basis, bonds with maturities of more than five years are generally not attractive at all. Hence, investors are well advised to confine themselves to the short end of the spectrum.



As a bond's maturity increases, the slope of the risk line is much steeper than the slope of the return line.

However, a simple passive technique that is sometimes called "riding down the yield curve" can improve yields at the short end of the curve. If the yield curve is positive, simply purchase bonds at an optimum point where interest rates are high, hold them until an optimum point to sell at a lower rate. This captures both the yield on the bond while it is held, and a capital gain on the difference in price. During the few times when the yield curve is not positive, simply hold short-term bonds. Nothing is lost because the rates are higher here anyway. While the procedure involves trading, it does not require any type of forecast to be effective. The yield curve is simply examined daily to determine optimum buying and selling points. To

be effective on an after-trading-costs basis, only the most liquid bonds (U.S. Treasury and high-quality corporate bonds) can be used. Over time, a bond portfolio with an average duration of only two years might be enhanced by 1.25 percent by using this technique.

4. Foreign bonds

In theory, at least, the biggest reason for yield differences between foreign and domestic bonds is currency risk. If you were to fully hedge currency risk, you should theoretically be right back at the T-bill rate. But in real life, opportunities exist to buy short-term foreign-government bonds, hedge away the currency risk, and still have a higher yield. Taking advantage of these “targets of opportunity” can further enhance a short-term bond portfolio, perhaps by a percentage point or two. Of course, if there are no such opportunities during a particular period, just buy domestic bonds.

5. Municipal bonds

Municipal bonds hold a special fascination for many investors. However, their tax-free status obscures what is perhaps the worst risk-adjusted performance of any class of bonds. Equivalent returns for municipal bonds can be calculated by simply dividing the municipal bond rate by one minus the taxpayer’s marginal tax rate. For instance, a 20-year annualized return of 4.36 percent for long-term municipal bonds is equivalent to a fully taxable rate of 6.92 percent for a taxpayer in the 37 percent tax bracket, calculated as follows: $4.36 \div (1 - 0.37) = 6.92$.

We have slightly exaggerated the tax-free rate of return, as only the income portion of the bonds’ total return is exempt from taxes, but even when we plot this “grossed up” equivalent rate we still get a point that is the furthest from the risk-reward line of any bond type.

Short-term municipal money market instruments can be a good or poor deal, depending on one’s tax rate and prevailing short-term rates. For instance, for the year prior to April 1, 2006, the average compound yield on tax-free municipal money market funds was 2.03 percent which translates, approximately, into a 3.12 percent equivalent taxable yield for a 35 percent taxpayer. During this particular year, the average return on short-term taxable funds was only 2.51 percent, so 35 percent bracket taxpayers who invested in taxable rather than tax free short-term money market funds lost money. Anyone having a marginal tax bracket greater than about 21 percent would have been better off investing in the tax-free funds.

Additional investment risk should only be taken when there is a strong expectation you will be rewarded for the added risk. As we have seen, bond investors are generally poorly compensated when they take on additional risk. So, it makes sense for us to keep the bond portion of our portfolio restricted to short-term, high-quality issues.

VI. Virtual currency

A. What is virtual currency?

Webster’s defines virtual as “being on a computer or computer network.” Webster’s defines currency as “a medium of exchange.” Therefore, virtual currency is a medium of exchange that exists on a computer or computer network. Webster’s defines cryptocurrency as “any form of currency that only exists digitally, that usually has no central issuing or regulating authority but instead uses a decentralized system to record transactions and manage the issuance of new units, and that relies on cryptography to prevent counterfeiting and fraudulent transactions.” Convertible virtual currency is virtual currency that can be converted to tangible currency such as U.S. dollars.

Virtual currency is an investment world of its own. You can (and should) diversify among different types of virtual currency. Virtual currency is influenced by different factors than the factors that influence traditional investments. Anyone considering virtual currency investments should seek the advice of a qualified adviser well versed in the pros and cons of virtual currency and the risks versus the rewards.

The IRS has issued frequently asked questions (FAQs) regarding the tax treatment of virtual currency transactions.² In the guidance they state that virtual currency should be treated as property. This means that using virtual currency to purchase goods and services is that same as selling the virtual currency for a gain or loss and using the proceeds to purchase the goods and services. The IRS has also been studying ways to improve the reporting requirements for virtual currency transactions to capture and tax virtual currency transactions that have been escaping the tax system.

Caution:

A potential virtual currency investor should seek professional advice from a qualified adviser and educate themselves on the various types of cryptocurrencies and the types and tax consequences of transactions. Investors have made millions of dollars from cryptocurrency investments, but, as with any investments, high return investments can come with high risks. Cryptocurrency cannot be evaluated by the methods used to evaluate stock and other traditional investments.

VII. Conclusion

A. Diversification is key

Diversification across multiple asset classes is the key to portfolio management. Diversification is more than equities versus bonds. There are different classes of equities, foreign and domestic investments, taxable and tax-exempt bonds, etc. Diversification decreases the risk of an overall portfolio crash and increases the probability of consistent returns.

B. Asset allocation is dynamic

As the investor grows closer to retirement, the investment horizon shortens. When the investment horizon is very long, such as with a young person 35 years from retirement, the optimal asset allocation is probably very heavy, almost all equities, depending upon the investor's risk tolerance and the ability to leave the investments alone and let them grow. As the investor progresses towards retirement, the investor should allocate more to other classes. When they reach retirement age and start to draw down their investments, they should have a good asset allocation so that they don't get caught selling in a down market. When an asset allocation mix is set, rebalancing is necessary to keep the desired allocation ratios.

C. Tax considerations

For high-income taxpayers, after-tax returns are much less than before-tax returns. Retirement planning should be done considering after-tax returns. Tax on the income from tax-deferred accounts should also be considered. This is discussed in Chapter 5.

² IRS Notice 2014-21.

D. The role of the investment adviser

The concepts in this chapter are the realm of the investment adviser. To the non-investment adviser, this realm can be like an alien planet. A working knowledge of investment concepts is essential to the CPA in retirement planning but should be left to the investment adviser unless the CPA is qualified to give investment advice. Again, stay in your lane. The individual should also understand the concepts in play in the investment portfolio.

E. Don't diversify investment managers!

Some people split up their portfolio among different investment advisers. The theory is that giving different people chunks of the portfolio between multiple advisers brings in new ideas and reduces the chances of loss due to an adviser missing something. This may work for the super wealthy that each chunk can operate like a separate portfolio. However, the average investor will probably do better with one good investment adviser. A team can only have one quarterback. How can he lead if he cannot see the whole picture? Find a qualified reputable investor and let them work their magic.

F. Investment planning versus retirement planning

This chapter is on investment planning, not retirement planning. Retirement planning considers resources other than the investment portfolio, such as:

- a. Life insurance;
- b. The family business;
- c. The house and other real estate;
- d. Part-time work; and
- e. Other resources.

These are discussed in the remainder of the course.

G. Case study

Jim and Susan just walked in for their appointment, and you are their financial adviser. Their current portfolio is invested in the following classes:

- 30 percent in five large-cap domestic stocks;
- 10 percent in three large-cap foreign stocks;
- 10 percent in four small-cap domestic stocks;
- 20 percent in six large-cap foreign stocks; and
- 30 percent in long-term tax-exempt bonds.

Answer the following questions:

1. What are the questions you would ask Jim and Susan?
2. What factors should be considered in reallocating their portfolio?

Home Equity and Other Real Estate

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Home Equity and Other Real Estate

Learning objectives

After studying this chapter, the reader will be able to:

- Discuss the importance of the home in retirement planning;
- Understand why real estate is sometimes called the last great tax shelter;
- Discuss the pros and cons of reverse mortgages;
- Summarize the income tax exclusion rules for gains on sales of homes and, given facts and circumstances, compute the home sale exclusion amount;
- Discuss the use of qualified personal residence trusts including, generally, how they operate, the qualification criteria, and the income, gift, and estate tax consequences of these instruments;
- Describe how split-purchase trusts can avoid some of the problems associated with house GRITs for achieving retirement, tax, gift, and estate objectives; and
- Discuss why direct and indirect real estate investments can be an important part of an investment portfolio with an eye on retirement income.

I. Overview – In this chapter

Hopefully, the home will not be the largest available resource for retirement, but for many people it is. The home may be paid for and have equity (possibly a large amount) that can be utilized for retirement. But how can they tap this equity without selling their homes? Where and how would they live if they did so? For other more affluent people, the equity in their homes may represent a significant part of what they would like to pass to their heirs. For others, it may be desirable or necessary to sell the home.

This chapter also discusses both utilizing equity while keeping the home and the advantages of selling the home. Also, this chapter discusses indirect benefits of selling the home. For those who desire to keep the home and pass it on to other family members, this chapter discusses various vehicles for accomplishing that and the income tax, gift, and estate tax consequences.

The later sections of the chapter discuss real estate as a direct or indirect investment.

II. Stay or leave?

Before a discussion about what can be done with the home even matters, the consultant must have a conversation about wants and needs. Don't waste time with a big proposal for how to use the equity in the house while keeping the house until you know if they want to stay in the house.

A. Reasons to keep the house

1. It's THEIR house

The number one reason that people desire to keep their home when they retire is simply that they like the house and the neighborhood. For many people, their home has been a lifetime of work and development. They started small, bought a bigger home when their first child was born, and at some point in their life's timeline, they bought the house of their dreams. They possibly had it constructed and maybe did some of the work themselves. After it was bought or built, they started improving. 30 years ago, they planted a seedling in the back yard that now is a huge shade tree with a bench under it and flowers around it. The point is, it is not sticks and bricks. It is blood, sweat, tears, and love. They can't imagine living anywhere else, and they can't imagine anyone else living in it.

2. The family connection

The house is important to them and possibly to the rest of the family for one or more reasons.

- a. The house, or at least the land, has been in the family for multiple generations. Some people live in their childhood home. The house was possibly built by their grandparents. Other people live in a house that they built on land that has been in the family for multiple generations. To sell the house is to sell the family heritage. The plan is to leave the house and land to future generations.
- b. The client bought the land and house, or bought the land and built the house, so “a.” above doesn’t apply. However, one or more of the children or grandchildren have built houses on the property. Mom and Dad gifted an acre to Sue when she married Bob, and they built a house on it. Now, if they sell the family home, they will be forcing Sue and Bob into accepting new neighbors. Also, it is so convenient to be near the best (and probably most spoiled) grandchildren in the world!
- c. They live near the family members who assist them as they age and decline in health and there are no more suitable places to relocate in the area.

Planning point:

Has the client asked the children what they will do with the house if they inherit it? The client may be planning on keeping it in the family, only to have a realtor’s sign put in the front yard a few days after the funeral.

3. The friend connection

Their neighbors are their best friends. As they get older, it will be more convenient to simply walk across the street to play bridge, rook, or poker with friends than to drive across town. The neighborhood is great and full of people their age with similar interests. They are growing older and experiencing life together.

4. The convenience connection

In addition to access to family and friends, they have developed their entire life experience around the community. They buy groceries at the grocer that is two miles from the house. The pharmacy is next to the grocery store. The golf course is so close they can get there on the golf cart, etc. If they move, they will want to move to another location in the same neighborhood, and the house they buy won’t be any cheaper than the house they sell.

5. They just don’t want to move

Some people when they move into their dream home say something similar to, “The next time I move, it will be to the old folks’ home!” Some people mean it when they say it. The thought of packing up everything they own in boxes, loading it up or having it loaded up, transporting it to another location, and unloading it and unpacking it there is followed by a slow head shake and a one-word response: “NOPE.”

B. Reasons to sell the house

1. The house payment

Suppose the house will not be paid for by retirement. It happens! Hopefully, there will be substantial equity in the house. Consideration should be given to selling the house, using the equity to buy a smaller, less expensive (don’t say cheaper!) home and eliminate the house payment. Eliminating a \$2,000 house payment can be an important retirement planning tool! Also, smaller homes sometimes have less upkeep and lower utilities, freeing up more money for retirement.

2. The family connection

In contrast to A.2. above, suppose they live away from family. Either they moved away from family for their career years ago, or the children moved away from the family home for their careers. Sometimes, when a child grows up and attends a university in another state or even region of the country, they receive job offers local to the university and develop other relationships, and due to these circumstances, they permanently relocate to the locale of the university. Perhaps because of a job cutback they had to move to keep a job. For any of these reasons, the client may be separated from family and have a desire to “move back home” when they retire. Don’t assume that they will, though. For some people, a little distance is a good thing!

3. The friend connection

Connections with friends can be as strong as connections with family. Someone who moved away from the old neighborhood for whatever reason may want to return to their hometown when they retire. A neighborhood can be like the bar in *Cheers*, the place where “everybody knows your name.”

4. The house is not suitable for aging

A couple in the prime of life often buys a home without looking decades down the road. They are buying a home to raise children, cook out in the back yard, relax at night, etc. They are not viewing the choices of homes through elderly eyes! How is this part of retirement planning? Chapter 1 touches on this subject.

The aging process makes it more difficult for some people to climb that huge set of steps at the front door, much less the spiral staircase that must be ascended to reach the bedrooms. An assessment should be done of the house based on all criteria, but a major consideration must be given to accessibility and convenience as the owner ages and their health begins to decline. The stairs that a young person climbs two at a time in their youth may be a life-or-death endeavor in elderly years.

If the client already has health issues, such as early onset arthritis, or has a bad family history regarding disabling or crippling diseases, part of the retirement plan can be to sell the big house at some point and build a smaller, more handicapped accessible house with features such as:

- One level (no stairs).
- Built low to the ground, possibly on a slab, with a level entrance or a short disability access ramp.
- Wide doors to accommodate wheelchairs and walkers. The average interior door of most homes is just wide enough to scrape the skin off of your knuckles when you use a walker!
- Handicapped accessible fixtures in the bathrooms and kitchen.

Questions to ponder:

How wide are the interior doors in your house? How wide are the exterior doors? How wide is the average-sized wheelchair? Does everyone fit in an average-sized wheelchair?

5. The location is not suitable for aging

What if the house is great but the location is not? As a person ages, access to health care providers such as doctors, pharmacies, etc. becomes more important. Some people may be perfectly happy living forty miles from the nearest hospital when they are young and healthy, but what happens if they are no longer young and healthy? In some rural areas of this great nation, a couple may live several miles from their nearest neighbors, and even farther from a doctor, medical clinic, pharmacy, or hospital. They may

choose to relocate as they grow older because they are concerned about the quality of health care where they live.

Some people prefer to leave colder climates for warmer climates. Also, they may desire to leave areas where the cost of living is high for areas where the cost of living is lower.

Unfortunately, in multiple surveys, the states with the best health care are cold-weather states. Many of the warm, southern states to which retirees from the cold weather states desire to relocate do not rank well in health care surveys. However, surveys can be deceptive. The retiree who desires to relocate for health reasons should review hospitals and providers, not statewide data. Arizona usually ranks somewhere in the middle as a state in most health care surveys, but the Mayo Clinic in Phoenix ranks high on most lists of the best hospitals. The weather in Phoenix is usually quite warm!

6. Other convenience considerations

A.5 discussed the convenience connection as a reason to keep a house. What if the house is in an inconvenient location? Health care is not the only convenience that should be considered. Access to grocery stores, entertainment, and other wants and needs of life should be considered also.

7. Upkeep of a home

A home can be a financial drain and a time consumer as it ages. The new home that a couple bought when they were thirty years old will be 35 years old when the couple reaches age 65. The point is that the house ages too. The time and money needed to upkeep the home increases as the home ages.

What if part of the plan is to sell the home and move into a nice apartment or retirement community? The sale of the home generates a large cash flow with little or no tax consequences. Of course, if the house was paid for, the former owners will have to cover a rent payment in their budget. What savings can be expected when switching to apartment living?

- Maintenance costs such as lawncare, painting the house, replacing the carpet, etc.;
- Repairs, such as the broken air conditioner;
- Pest control is often provided by the landlord;
- Property tax; and
- Insurance can be reduced to cover contents only.

Questions to ponder:

What pros and cons can you think of regarding apartment living? Can you name major items of maintenance and repairs that can be avoided by renting?

Example: Johnny and June plan to travel a lot when they retire, so they decide there will be no need to keep the house. It will be something to worry about while they are away. They are considering switching to apartment living when they retire in ten years to avoid the cares of taking care of a house. They have adequate resources for retirement apart from the house, but the house is paid for, and they are concerned about taking on a payment for a rental. Their house is currently worth \$500,000 and they expect it to be worth about \$650,000 when they retire, and they have a cost basis of \$250,000. They have owned the house for several years and it has always been the primary residence, so all of the gain will be excluded from tax.¹ The type of apartment that they want and the type of complex in a desirable location currently costs around \$2,000 per month. Based on

¹ IRC §121.

historical increases in rent for the location where they desire to live, they expect the rent to increase to about \$2,500 per month by the time they retire.

If they receive \$600,000 for the house after costs of the sale, they can invest the money for future rental costs of the apartment. Assume the following:

1. They project that they can invest the proceeds from the sale of the house and receive after-tax earnings of 3.5 percent.
2. They expect to lease the apartment for five years at a time. With each renewal, based on historical data from their locale, they expect rent to increase at an annual inflation rate of about 2.5 percent rounded to the nearest \$50.
3. Assume that projected savings on monthly utilities, maintenance, and repairs are projected to be \$300 per month starting when they retire.
4. Insurance costs are predicted to decrease by \$1,800 per year, again adjusted annually for inflation to retirement date. Savings in property tax are expected to be \$3,000 annually. This equates to a monthly amount of 400 $[(\$1,800 + \$3,000) \div 12]$.
5. If they keep the house, it will need paint and a new roof approximately five years into retirement. Estimated cost in current dollars indexed for inflation to the projected retirement date is \$15,000.
6. They plan to deposit \$595,000 when they sell the house. This is the \$600,000 estimated proceeds reduced by the initial deposit anticipated on the house plus the first month's rent. This is expected to be around \$5,000. Rental payments will be made afterwards from the investment account.
7. The initial deposit of \$595,000 will be made as soon as they sell the house and retire, which will be as close as possible to July 1, 2030. The couple will be 65 years old around that time.
8. In their locale, apartments are usually leased for five years at a time and the average rent increase at renewal equates to an annual inflation adjustment of 2.5 percent. In our projection, we anticipate rent to be about \$2,500. After five years, the lease will be renewed at the inflation adjusted amount rounded to the nearest \$50. This is calculated as $\$2,500 \times 1.025^5$, or \$2,828.52, rounded up to \$2,850. Every five years the lease will be renewed at $X \times (1.025)^5$, where X = prior lease's monthly rental amount.
9. The amounts from item 3 and 4 above, totaling \$700 a month, will be freed up for other retirement expenses, as will the \$15,000 anticipated cost of paint and roofing.

As evidenced in the amortization schedule below, Johnny and June can anticipate living in the apartment cost free for about 23.5 years, until they are over 88 years old. Meanwhile, they free up an additional \$8,400 a year ($\700×12) for other retirement costs. They also save the \$15,000 for a roof and paint and any other amounts for broken plumbing, air conditioners, etc. that might occur if they keep the house.

	Event	Date	Amount	Number	Period	End Date
1	Deposit	07/01/2031	595,000.00	1		
2	Withdrawal	08/01/2031	2,500.00	59	Monthly	06/01/2036
3	Withdrawal	07/01/2036	2,850.00	60	Monthly	06/01/2041
4	Withdrawal	07/01/2041	3,200.00	60	Monthly	06/01/2046
5	Withdrawal	07/01/2046	3,600.00	60	Monthly	06/01/2051
6	Withdrawal	07/01/2051	4,100.00	44	Monthly	02/01/2055
7	Withdrawal	03/01/2055	3,604.88	1		

Planning point: The family connection

Sometimes the retiring couple will need to downsize, but the family wants to keep the home in the family. It is possible that a family member, perhaps who needs a larger home for a growing family, may wish to buy the house. Mom and dad can sell the house to a child (or grandchild) and finance the house with a seller-finance note. Mom and dad get a steady income stream for retirement and can purchase a smaller home or rent an apartment. The note could be self-canceling so that when the last of mom or dad dies, the note is forgiven. The value of the note at that time could be considered part of the purchasing child's inheritance, and equal value could be distributed to the other heirs to make up for the value of the house that was never paid by the child who purchased the home.

A variation would be a swap. Child trades a smaller home to mom and dad for the bigger home with a note for the difference.

III. Home equity conversion

A. Overview

1. In general

Many elderly homeowners living on fixed incomes in homes that have appreciated enormously in value over the years are literally house rich, but cash poor. They do not wish to sell their houses, as Johnny and June did in the example above, but yet they cannot afford taxes and maintenance along with the other expenses of daily living. Home equity conversion plans may offer an opportunity to capture that equity without having to move and will provide a steady stream of new income over a period of years.

2. Types

All conversions use the equity in the home but cost the homeowner something in the form of interest, transaction costs, foregone appreciation, or ownership. The larger the homeowner's equity, the larger the income created.

B. Sale-leaseback

1. In general

In a residential sale-leaseback, the homeowner sells the home to buyer-investors who, as part of the transaction, agree to lease it back to the person for life or until the homeowner moves.

- a. The buyer pays a portion of the purchase price in cash (at least 10 percent of the purchase price) and a portion by means of a note payable to the seller secured by a deed of trust on the property. The monthly note payments from the buyer-landlord will be greater than the monthly rental payments from the seller-lessee. The difference between the two provides regular income to the seller.
- b. In one transaction, the person is able to increase income, relinquish obligations for taxes, property insurance and maintenance, and remain in the home. At the outset, the buyer may also purchase an annuity, which takes effect following the final note payment, thereby allowing the seller-lessee to continue to live at the same economic level at which the seller-lessee lived during the loan term.

2. Purchase price

The purchase price of the home under a sale-leaseback is discounted to compensate for the encumbrance of the lease agreement and the conditions of the lease. The primary condition of the lease gives occupancy rights to the tenant. The seller-lessee should negotiate a protective cap on rental increases to safeguard the seller-lessee from inflationary rental increases over the term of the lease. Without such security, a homeowner would be ill-advised to participate in a transaction that in the near future could result in the loss of both the income that had been bargained for and the occupancy of the home.

3. Tax aspects

Both parties must consider the tax aspects of residential sale-leaseback transactions. For example, tax advisers should consider availability of the §121 exclusion for the seller, as well as the investor's ability to depreciate the home and to take deductions for renting the property. The seller must also take into account the capital gains tax liability created by the sale, especially if the home is greatly appreciated in value. In addition, the home may have a high fair market rental value, which will reduce the seller's net profit.

4. Nontax factors

The seller-lessee should also weigh following factors in evaluating the transaction:

- The impact of inflation upon the purchasing power of the cash flow from the installment sale note may be difficult to predict accurately;
- The future appreciation on the property is shifted to the buyer;
- The sale price of the property will likely be less than the value the seller-lessee could obtain in an outright sale because in order to attract a buyer who is giving up the rights of property occupancy of the premises, and acceptance of contractual obligations on the amount of rental income; and
- The interest rate on the outstanding balance will probably be less than current market rates.

C. Reverse mortgages

1. In general

A reverse mortgage plan provides income for a specific period of time. In a short-term reverse mortgage plan, the lending institution pays the homeowner a monthly advance based on a percent of the appraised value of the home (usually 80 percent) for a predetermined period (e.g., 12 years). The homeowner retains title to the property. The monthly advance varies according to the amount of equity in the home, the interest rate, and the term of the loan. The longer the term, the smaller the monthly payment. The full amount of the loan plus interest is due the month following the final advances.

2. Sale

Unless the lender agrees to refinance another reverse mortgage loan, the home must be sold to repay the obligation. A significant portion of equity is consumed in interest payments on the loan.

- a. This type of plan may benefit the elderly in poor health whose life expectancy is considerably shorter than the life of the loan.
- b. The elderly person who survives the loan period must repay principal and interest at the end of the period. The debt may force the house to be sold and the person to live elsewhere.

3. Long-term loans

A long-term reverse mortgage loan is sometimes offered to elderly homeowners for up to a 40-year term or for life.

- a. The lender receives not only the fixed interest on the amount of principal borrowed, but also shares in the future appreciation of the property. The mortgagor may select a shared-appreciation option ranging from 30 to 100 percent. The lender receives the agreed-on percentage of the appreciation from the date the loan is executed until the sale of the property. In return for this share, the lender increases the monthly advances to the homeowner.
- b. Lenders who make reverse equity loans depend on continued appreciation of their collateral to generate profits as homes are sold. In a flat market, profit dries up and the lender might be unable to make the monthly payments to the homeowner. The homeowner should be advised to carefully check the lender's financial health before signing up for this type of mortgage. The loan contract should also provide that, if the lender defaults in making payments, the loan will not mature at that time, but the lender will forfeit some of the funds otherwise owed to the lender.

4. Who can get one?

Qualifying persons include those persons who own their home and, generally, all of the owners must be at least 62 years old. The home generally must be the "principal residence," which means the owner must live in it more than half the year.

For the federally insured home equity conversion mortgage (HECM), the home must be a single-family property, a two- to four-unit building, or a federally approved condominium or planned unit development (HUD). For Fannie Mae's Homekeeper mortgage, the dwelling must be a single-family home or condominium.

Reverse mortgage programs generally do not lend on cooperative apartments or mobile homes, although some manufactured homes may qualify if they are built on a permanent foundation, classed and taxed as real estate, and meet other requirements.

If the owner has any debt against the home, the owner generally must either pay it off before getting a reverse mortgage or – as most borrowers do – use an immediate cash advance from the reverse mortgage to pay it off. If the owner does not pay off the debt or does not qualify for a large enough immediate cash advance to do so, the owner generally cannot get a reverse mortgage.

5. How much cash can an owner get?

The amount of cash owners can get from a reverse mortgage depends on the program selected and, within each program, on owner's age, home value, and interest rates. It can vary a lot from one program to another. A typical consumer might get \$30,000 more from one program than from another. But no single program works best for everyone. For all but the most expensive homes, the federally insured home equity conversion mortgage (HECM) or Fannie Mae's Homekeeper mortgage generally provide the most cash. They are also the most widely available reverse mortgage programs.

Within each program, the amount of cash the owner can get depends on the age(s) of the owner(s), the value (and in some cases the location) of the home, and current interest rates. In general, the most cash goes to the oldest borrowers living in the homes of greatest value at a time when interest rates are low.

On the other hand, the least cash generally goes to the youngest borrowers living in the homes of lowest value at a time when interest rates are high.

But remember, the total amount of cash an owner will actually end up getting from a reverse mortgage will depend on how it is paid to the owner, in addition to other factors.

6. How is the money paid?

That is up to the borrower. The borrower could take it:

- As an immediate cash advance at closing (i.e., a lump sum of cash paid to the owner on the first day of the loan);
- As a credit line account that lets owners take cash advances whenever they choose during the life of the loan until it is all used up; or
- In some form of a monthly cash advance (i.e., as an annuity).

If the owner takes the annuity option, the payments can be arranged for:

- A specific number of years;
- As long as the owner lives in the home; or
- The rest of the owner's life or the rest of owner's life and the spouse's life until the second death, no matter where the couple lives.

Finally, the borrower can usually arrange to take payments as any combination of immediate cash advance, credit line account, and monthly cash advances.

Note:

According to a report to the U.S. Congress by the Consumer Financial Protection Bureau dated June 28, 2012, 70 percent of reverse mortgages at that time were fixed-rate loans with an immediate lump-sum payout.

7. How much total cash?

If borrowers take a credit line account, the total amount of cash they actually get will depend on two things: how much of their credit line they use, and whether the credit line is "flat" or "growing."

With a flat credit line, the amount of remaining available credit at any time only changes if they take a cash advance, at which point it decreases by the amount of the advance. For example, if a borrower has a flat \$50,000 credit line and takes out \$10,000, there would be \$40,000 left whenever the borrower decided to take more.

With a growing credit line, the remaining available credit grows larger at a given rate. For example, if a borrower took \$10,000 from a \$50,000 credit line that grows by eight percent each year, and then came back for more three years later, there would then be over \$50,000 left to use because the remaining \$40,000 growing at eight percent per year would become \$50,388 after three years.

Therefore, a growing credit line can give the borrower a lot more cash over time than a flat one. That is why borrowers need to look at more than the size of a credit line when a reverse mortgage starts. They also should consider how much available credit would be left in the future. The amounts remaining in future years will also depend, of course, on how much money they take out over time and when they take it.

The credit line in the Home Equity Conversion Mortgage (HECM) program grows larger each month at the same rate as the rate being charged on the loan balance. It keeps growing for as long as there is any credit left, that is, until all of the remaining credit is withdrawn.

Fannie Mae's Homekeeper credit line is flat. The remaining available credit does not increase.

One might wonder why anyone would opt for the flat plan when they could get a growing plan. The plans with growing credit lines inevitably start with a lower initial balance than flat plans. If borrowers need or want to use the money right away for some large expenditure, the flat plan will give them a much larger initial balance to draw upon. If they plan to withdraw the cash in relatively small amounts over time, the growing plan will start with a smaller balance than the flat plan but still permit greater total withdrawals over the years.

If borrowers elect to take monthly loan advances, the total amount of cash they actually get will depend on whether they select a plan that sends the payments to them for a specific number of years, or for as long as they live in their homes. It will also depend how long they actually live in their homes.

If borrowers elect to use a reverse mortgage to buy an annuity, the total amount of cash they actually get will depend on how long they live, no matter where they live. The net value of the cash they will receive over time, however, may depend on other factors.

8. What happens to the debt?

The debt grows larger and larger as the borrower keeps getting cash advances, makes no repayments, and interest is added to the amount owed (the loan balance).

That is why reverse mortgages are called rising debt, falling equity loans. As the amount owed grows larger, the owner's equity in the home declines.

9. When is the debt repaid?

The reverse mortgage debt is repaid when the last surviving borrower dies, sells the home, or permanently moves away. "Permanently" generally means the borrower has lived in a new (different) home for at least 12 months in a row.

Borrowers might also have to pay it back if they fail to pay property taxes, fail to keep up their homeowner's insurance, or fail to maintain the home. But if borrowers fail to do any of these things, the lender may be able to make extra cash advances to cover these expenses.

Just remember, reverse mortgage borrowers are still homeowners and therefore are still responsible for taxes, insurance, and upkeep.

10. How much will the borrower owe?

The total amount borrowers will owe at the end of the loan (the loan balance) equals all the cash advances they have received (including any that were used to pay loan fees or costs) plus all the interest on the loan up to the loan's nonrecourse limit (described below).

Interest rates can change based on changes in published indexes similar to regular adjustable-rate mortgages. But the more adjustable the rates are, the lower they are to start with. Therefore, if the rates

are more adjustable, initially borrowers can receive larger cash advances. More adjustable rates will always continue to be lower than less adjustable rates until such time as index rate changes push the rates up to and over the caps on the less adjustable rates. For example, a borrower might be able to choose between an initial adjustable rate of 6 percent with a cap of 10 percent, or an initial adjustable rate of 7 percent with a cap of 9 percent. As long as the underlying index used to compute the adjustable rates remains under 9 percent, the rate the borrower will pay on the 6 percent/10 percent reverse mortgage will always be less than the rate they would pay on the 7 percent/9 percent reverse mortgage.

11. What is the most a borrower can owe?

Borrowers can never owe more than the value of their homes at the time the loan is repaid. Reverse mortgages are nonrecourse loans, which means that in seeking repayment the lender does not have recourse to anything other than the value of the home. If the value of the home is insufficient to repay the loan entirely, the lender may not go after the borrower's income or other assets, or the borrower's heirs' income or assets.

So even if a borrower receives monthly loan advances until age 115, and/or the home declines in value between now and the time the loan comes due, and the total of monthly advances becomes greater than the home's value, the borrower can still never owe more than the value of the home. If the home is sold in order to pay off the loan, the debt is generally limited by the net proceeds from the sale of the home.

12. How is the loan repaid?

If a borrower sells the home and moves, the borrower will most likely pay back the loan from the money he gets from selling the home. Borrowers may repay the loan from other funds if they have them.

If the loan ends due to the death of the last surviving borrower, the loan must be repaid before the home's title can be transferred to the borrower's heirs. The heirs could repay the loan by selling the home, using other funds from the borrower's estate or their own funds, or by taking out a new forward mortgage against the home.

Not all reverse mortgage borrowers end up living in their homes for the rest of their lives. Some who expect to remain living there change their minds. Others sometimes face later health problems that require a move.

It therefore makes sense to plan for borrowers to consider the possibility that they may sell and move some day. If, at the end of the loan, the loan balance is less than the value of the home (or the net sale proceeds if the house is sold), then the borrower or the heirs get to keep the difference. The lender does not "get" the house. The lender gets paid the amount owed and the borrower or the heirs keep the rest.

Note:

If a borrower takes the loan as a credit-line account, the borrower should be sure to withdraw all remaining available credit before the loan ends. The borrower will have the money sooner that way, and it could be more than otherwise might be left. For example, a growing credit line could become greater than the leftover equity in some cases.

If a borrower has purchased an annuity and then sold the home, the borrower could continue receiving monthly annuity advances for the rest of the borrower's life. If the loan ends due to the death of the last surviving borrower, and if the annuity purchased by the borrower includes a death benefit or period certain payments, then the annuity's beneficiaries would receive additional cash.

13. What is the out-of-pocket cost?

The out-of-pocket cash cost is most often limited to an application fee that covers a property appraisal (to see how much the home is worth) and a minimal credit check (to see if the borrower is delinquent on any federally insured loans).

Most of the other costs can be financed with the loan. This means that borrowers can use reverse mortgage funds advanced to them at closing to pay the costs due at that time, and later advances to pay any ongoing costs. The advances are added to the loan balance and become part of what they owe and pay interest on.

If a lender charges an origination fee that is greater than the amount that can be financed with the loan, borrowers have to pay the difference in cash at closing.

14. What are the other costs?

The specific cost items vary from one program to another. Many of them are of the same type found on forward mortgages: interest charges, origination fees, and whatever third-party closing costs (title search and insurance, surveys, inspections, recording fees, mortgage taxes) are required in the borrower's area. Other types of costs can be more exotic, and unique to reverse mortgages: monthly servicing fees, equity-sharing fees, shared appreciation fees, and maturity fees.

Although total loan costs between the HECM and Homekeeper programs can vary enormously, many of the individual cost items within each program do not vary from one lender to another. Within each program, the costs that may be different from one lender to another are generally the origination fee and the servicing fee.

The largest total cost differences one will find are those between different programs, for example, between the HECM and Homekeeper programs. But it is virtually impossible to evaluate or compare the true, total cost of reverse mortgages unless the borrower considers their total annual loan cost (TALC) rates.

15. What is the total annual loan cost?

The federal Truth in Lending Act requires reverse mortgage lenders to disclose the projected annual average cost of these loans in a way that includes ALL of the costs and benefits, and also takes into account the nonrecourse limits.

This total annual loan cost (TALC) disclosure shows borrowers what the single all-inclusive interest rate would be if the lender could only charge interest and not charge any other fees. Specifically, it tells borrowers the annual average rate that would produce the total amount owed at various future points if only that rate were charged on all the cash advances they get that are not used to pay loan costs. In other words, it shows them what they are paying in total for the money they get to spend.

16. How does the total annual loan cost (TALC) vary?

On any given loan, TALC rates depend on two major factors: time and appreciation.

TALC rates are generally greatest in the early years of the loan and decrease over time, for two reasons. First, the initial fees and costs become a smaller part of the total amount owed. Second, over time it

becomes increasingly likely that the rising loan balance will catch up to, and then be limited by, the nonrecourse limit.

A major exception to this general rule is the cost bubble created by Fannie Mae's equity-sharing fee on Homekeeper loans. In this arrangement, the equity-sharing provision kicks in two years after the loan is in place with the effect that the TALC jumps drastically at that time.

The less the home appreciates, the greater is the possibility that a rising loan balance will equal or exceed the home's value. On the other hand, when a home appreciates at a robust rate, the loan balance may never catch up to (and be limited by) the home's value.

Consequently, if a borrower ends up living in the home well past life expectancy or the home appreciates at a low rate, the borrower might get a true bargain. But if the borrower dies, sells, or moves within just a few years or the home appreciates a lot, the true cost could be very high.

There is no way of avoiding this fundamental risk. Borrowers just have to understand it in general, assess the potential range of TALC rates on a specific loan, and decide if it is worth the benefits they expect they will get from the loan.

Just remember, TALC rates are not really comparable to the annual percentage rates (APRs) quoted on forward mortgages. Unlike APRs, TALC rates include all the costs. Also, unlike APRs, TALC rates do not assume the borrower will take the entire loan on the first day (if they did, TALC rates would be much closer to APRs).

It is also important to remember that borrowers get benefits from reverse mortgages that they do not get from forward mortgages. Borrowers make no monthly repayments, and no repayments of any kind for as long as they live in their home. They get an open-ended monthly income guarantee, or a guaranteed credit line (which may grow larger until they use it all). The total debt limit cannot exceed the net value of the home, the nonrecourse limit. This limit applies even if it is less than what the loan balance would otherwise have been based on the amounts the borrower has received, no matter how long the borrower lives, and no matter what happens to the value of the home.

So borrowers may pay more for a reverse mortgage than they would with a traditional mortgage. But the benefits are not available on any other type of debt. And if the borrowers live long, or if the property value does not grow much, they can end up with a lower-than-expected cost.

If borrowers are considering a credit line, however, the official TALC disclosures do not account for the added value of growing credit lines. Also, the official TALC disclosures are all based on the life expectancy of single owners. Therefore, if the reverse mortgage is based upon the joint lives of a husband and wife, for instance, the TALC figures will not entirely reflect the costs over the joint life expectancy.

17. What is it worth?

Only borrowers can decide what a reverse mortgage is worth to them. It probably depends mostly on what they plan to use the proceeds for. Reverse mortgages are typically used to:

- Increase monthly income;
- Create a cash reserve (credit line account) for irregular or unexpected expenses;
- Pay off debt that currently requires monthly repayments;
- Repair or improve a home;
- Pay for the personal services a person or couple needs to remain independent; or
- Generally improve the quality of one's life.

It may be helpful in evaluating the worth of a reverse mortgage to consider the principal alternative – selling the home and moving. Does the borrower have any idea how much money could be made by selling the home or what it would cost to buy and maintain or rent a new one?

If borrowers look into purchasing new homes, they may find a different home, neighborhood, or community with an array of services or amenities that is much more attractive than they had expected to find. Otherwise, they may simply confirm that where they live now is the best place for them to be. Either way, looking carefully at the possibility of selling and moving will give borrowers a much better idea of the overall costs and benefits of staying versus moving.

Also, potential borrowers should take a look at other financial and services options that they may prefer to or wish to combine with a reverse mortgage.

18. How do reverse mortgages affect public benefits?

Social Security and Medicare benefits are not affected by reverse mortgages. But Supplemental Security Income (SSI) and Medicaid are different. In general, these programs count loan advances differently than annuity advances.

Loan advances generally do not affect benefits if they are spent during the calendar month in which they are received. But if a borrower keeps an advance past the end of the calendar month (in a checking or savings account, for example), then it will count as a liquid asset. If total liquid assets at the end of any month are greater than \$2,000 for a single person or \$3,000 for a couple, borrowers could lose their eligibility.

Annuity advances reduce SSI benefits dollar-for-dollar and can make a borrower ineligible for Medicaid. Therefore, if borrowers are considering an annuity, and if they are now receiving, or expect someday they may qualify for, SSI or Medicaid, check with the SSI, Medicaid, and other program offices in the community. Get specific details on how annuity income would affect these benefits.

19. Cautions regarding reverse mortgages

The Congress of the United States requested a study be done by the Consumer Financial Protection Bureau (CFPB). The CFPB reported its findings to Congress in a report dated June 28, 2012. The key findings of the study were:

- a. Reverse mortgages are complex products and difficult for consumers to understand.
- b. Reverse mortgage products now offer more choices including products with lower up-front cost.
- c. Reverse mortgage borrowers are using the loans in different ways than in the past, which increases risk to the consumers.
 - People are borrowing at younger ages. Borrowing at a younger age and tapping out home equity early limits future choices regarding housing. They may not be able to finance a future move.
 - Borrowers are withdrawing more money up front. During fiscal year 2011, 73 percent of borrowers took all or almost all of their available funds upfront at closing.
 - More borrowers seem to be refinancing first mortgages instead of using the proceeds for retirement.
- d. Product features, market dynamics, and industry practices create risks for consumers.
 - As of February 2012, 9.4 percent of reverse mortgage borrowers were at risk of foreclosure because of unpaid insurance and taxes.
 - Advertising is sometimes misleading.
- e. Counseling needs improvement to help consumers understand the risks.
- f. Regulations as of 2012 had improved the industry, but more regulation was needed.

Note:

Since the 2012 CFPB report, additional regulations have been passed to protect consumers. However, even under the current regulations, borrowers need adequate counseling regarding reverse mortgages. Planning for the timing and use of funds is extremely important. Reverse mortgages are not for everyone, but in some circumstances can be a viable source of additional retirement funds.

Additional information on reverse mortgages can be found at <https://www.consumer.ftc.gov/articles/0192-reverse-mortgages>. The guidance includes a warning to be wary of reverse mortgage sales pitches.

IV. Income tax exclusion for home sales

A. Overview

The Taxpayer Relief Act of 1997 radically changed the income tax treatment of the sale or exchange of a personal residence. The gain rollover provision under the prior §1034 has been repealed. The once-in-a-lifetime exclusion for taxpayers aged 55 and older was replaced with a so-called “universal” exclusion that is available to taxpayers of any age who sell their homes. Effective May 7, 1997, up to \$250,000 of realized gain (\$500,000 for married taxpayers filing jointly) can be excluded from gross income when a home is sold.² The exclusion applies automatically for tax-reporting purposes unless the taxpayer elects out of it, unlike the old rollover rule.

² IRC §121.

B. Ownership and use requirements

The subject property must have been owned and used by the taxpayer as a principal residence for an aggregate of at least two out of the five years ending on the date of the sale.

- a. For married taxpayers, the \$500,000 maximum exclusion is available only if both spouses meet the two out of five-year use requirement. Otherwise, the maximum exclusion is \$250,000. However, the \$500,000 amount is still available even if only one spouse meets the ownership requirement. In other words, couples who both occupy the principal residence are eligible for the \$500,000 maximum even if only one of them owns the home. Therefore, the ownership arrangement will not affect the exclusion for married couples.³ The 1998 Act clarifies that the exclusion is equal to the sum of the exclusion available to each taxpayer individually.
- b. In certain situations, periods of ownership or occupancy can be tacked on under the ownership and use requirements. First, a taxpayer whose spouse has died before the sale date can tack on the deceased spouse's period of ownership and use to meet those requirements. Second, if a taxpayer receives a home pursuant to a divorce settlement under §1041, the taxpayer can tack on the ownership and use periods of the transferor. Third, if one spouse is granted use of a home under a divorce or separation agreement while the other spouse still has an ownership interest in the home, the other spouse can tack on that period of use if the home is later sold. Fourth, if the rollover provision under the old §1034 has been used by the taxpayer within the five years before the sale date of the current home, the ownership and use periods of the old home can also be tacked on for purposes of the new exclusion.⁴
- c. Taxpayers who reside or have resided in nursing homes or similar institutions at any time during the five years prior to the sale of their homes may count up to one year of their nursing home stays toward the two-year use requirement. However, to be eligible for this treatment the taxpayer must have been physically or mentally incapable of self-care during the nursing home stay.⁵

C. Once-every-two-years rule

The exclusion may generally be used only once every two years. For the purposes of this rule, sales before May 7, 1997, are not taken into account. If a single taxpayer marries someone who has used the exclusion within the past two years, that individual is allowed a maximum exclusion of \$250,000 (rather than \$500,000) until two years have passed because the exclusion was used by either spouse.

D. Reduced exclusion

In cases where taxpayers fail to meet the ownership and use requirements or the once-every-two-years requirement, they may still be able to take an exclusion if the sale of the home is due to a change of employment, change of health, or other “unforeseen” (to be defined in Treasury Regulations) circumstance. The statutory exclusion limit is based on the ratio of the amount that the period of ownership and use (or, if applicable, the period between the current sale and the last previous home sale) bears to two years. The ratio **was** then applied to the amount of gain from the sale that would have been excludable subject to the statutory limits if the requirements from the exclusion were fully met.

³ IRC §121(b)(2).

⁴ IRC §§121(d)(1), (2), and (3).

⁵ IRC §121(d)(7).

Note:

The ratio was not applied to the statutory limits of the exclusion (\$250,000 or \$500,000) under the language of the statute, but rather to the actual gain realized from the sale. This results in a portion of the gain being taxable. However, this computation is contrary to what apparently was congressional intent to apply the ratio to the statutory limits, not the actual realized gain in a given transaction. The 1998 Act changed this provision to apply the ratio to the statutory limits. This enables taxpayers to exclude the entire gain from the sale of their homes under the reduced exclusion ratio if their realized gain is equal to or less than the statutory limit as reduced.

E. Effective date

The exclusion is generally effective for sales after May 6, 1997. Any depreciation claimed for the home for periods after May 6, 1997, will reduce the amount of gain eligible for the exclusion. This rule will apply in cases where the property or any portion of it has been used for rental or business purposes after May 6, 1997.

F. Investment

The availability of an exclusion on the sale of a residence at any time during the taxpayer's life cycle and no lifetime limit on the utilization of the exclusion should prompt persons to look to the personal residence as a tax-favored investment. Although one of the policies of the change in the law is to free the taxpayer from the requirement of "buying up" to obtain the tax advantage of deferral, the impact is to encourage the investment in higher-priced homes, because a similar rate of appreciation results in a larger gross tax-excluded yield.

It seems obvious that, looking at the tax considerations only, the principal home should be sold as soon as, subject to the two-year minimum holding period to maximize the available exclusion,⁶ the realized gain equals the maximum exclusion. Each such sale puts tax-free cash in the taxpayer's pocket that can be reinvested in tax-favored investments, while permitting the taxpayer to purchase a new home.

Still relevant to the adviser is the identification of the factors that determine whether a dwelling is a principal residence and to what extent a dwelling or land is part of that principal residence.⁷ Many taxpayers have no reason to buy too much house, but they may be able to minimize the time for the property to grow by the maximum available exclusion by acquiring more in the amount of land on which the improvements sit. In a recent rollover case, the issue was raised concerning the use of a portion of the property for business purposes. Of the 51 acres, the Tax Court determined that only seven and one-half acres (as opposed to the 43½ acres argued by the Service) was used for the taxpayer's horse boarding and breeding business. Consequently, only the portion of the gain representing the sale of the business portion of the property did not qualify for the excluded or deferred gain, and presumably would present a similar result under the new exclusion law.

Planning point:

Practitioners may expect this will be one of the most commonly litigated issues under the new law. While the old regulations require allocation of realized gain on a sale between a residential use and a nonresidential use, the appropriateness is determined by all the facts and circumstances. There is no safe harbor.

⁶ As a practical matter, one would enjoy having a \$500,000 or \$250,000 run up in value in less than two years, but it is unrealistic to presume this is a problem.

⁷ *Schlischer v. Commissioner*, T.C. Memo 1997-37.

The taxpayer established that he had moved to the rural location because he appreciated nature, admired unobstructed views of the countryside, enjoyed living in open spaces where he could hike and ride horseback, and wanted to live the rest of his life there. The taxpayer and his companion used the upper, steeply hilled portion of the property for horseback riding, hiking, walking, and simply to enjoy the unobstructed view of the countryside and a mountain. In addition, the taxpayer's personal as opposed to business horses grazed there. This established a wide area of personal as opposed to business use. The court noted that residential purposes may include appreciating nature, living in open spaces, hiking, horseback riding, and enjoying unobstructed views of the countryside.

V. Other real estate

A. Direct investment in real estate

1. The last tax shelter

Many financial advisers consider real estate to be the last great tax shelter. Why?

- a. Depreciable real estate is one of the few assets that a taxpayer can depreciate while the underlying asset increases in value. If the property is rented out, the depreciation offsets some or all of the rental income.
- b. Financed rental real estate builds equity as debt is paid down and fair market value increases. Meanwhile, the lessee is paying for the building through rent. Interest on the note and depreciation expense are usually more than enough to offset the rent in the early years of the note, creating deductible losses or passive loss carryforwards to offset future income or part of the gain when the property is sold.
- c. The gain on the eventual sale of the property generates §1231 gains that may qualify for long-term capital gains rates. Assuming the gains are not recaptured as ordinary income under the five-year look-back rule, the gain will be taxed at a maximum rate of 25 percent to the extent of prior §1250 depreciation, and the remaining gain will be taxed at 20 percent. An additional 3.8 percent may be added if the gain is subject to the net investment income tax.

2. Commercial or residential?

It depends on who you ask. Some investors prefer commercial real estate, as the tenant is usually more stable. Some advantages of commercial real estate, in addition to the advantages above, are:

- a. Commercial real estate in the right areas can generate high revenues.
- b. Commercial real estate in a growing area of town can increase in value quickly.
- c. Commercial real estate can often be leased under a triple net lease. A triple net lease is a lease where the tenant is responsible for taxes, insurance, and maintenance on the building. There are many variations to lease arrangements. Sometimes the lessor is responsible for major repairs, such as a new roof, but the tenant is responsible for routine maintenance.
- d. Leases are usually long-term, so they generate long-term, steady income.

Some disadvantages of commercial real estate are:

- a. Buildings may stay vacant longer if a tenant leaves.
- b. Commercial real estate usually increases in value over time, but if it goes bad it goes bad quickly. A new shopping center in a better location, a new industrial park, or a new highway that takes away traffic can cause the building to decrease in value. Increased crime in the neighborhood can cause a major decline in value.
- c. Commercial property is expensive. Direct ownership takes a larger outlay up front than residential properties.

3. Residential real estate

Residential real estate investments can vary from high-end homes and apartments to low-end, even government subsidized housing. Residential real estate can be single family housing or apartment complexes.

Some advantages of rental residential real estate are:

- a. High-end residential real estate attracts good tenants.
- b. Low-end residential real estate is usually easy to rent. It doesn't stay vacant for long.
- c. Low-end residential real estate is affordable. Often people buy foreclosure property, tax sale property, etc. and have significant equity as soon as the house is purchased.
- d. Federal and state income tax credits may be available to help pay for the property and improvements.
- e. Low-end housing may qualify for subsidies under Section 8 to help tenants pay the rent. This means the majority of the rent payment comes from the government, providing dependable, consistent income.

Some disadvantages of residential real estate are:

- a. The owner is usually responsible for repairs and repairs can be high.
- b. It is difficult to evict someone who is not paying rent. This varies based on state and local laws.
- c. If the neighborhood declines, so does the value.
- d. The owner may be harassed continually by problem tenants or by good tenants with legitimate problems. This can be mitigated by using a property manager, but at a cost.

Example: This is based on a true story; the name has been changed but the facts are similar. Ted, during an appointment during tax season, asks his CPA for advice on investments other than stocks and bonds. He doesn't trust them. His CPA suggests real estate and suggests that Ted might want to start with low-end residential rentals because they are affordable and easy to rent.

Ted buys a low-end rental house out of foreclosure for \$50,000. The house is worth \$75,000. He finances the purchase with a 20-year mortgage with a 5 percent interest rate. He spends \$10,000 out of pocket for repairs that are capitalized for an initial cost of \$60,000. For depreciation, \$10,000 is allocated to the lot and \$50,000 to the house. He rents the house for \$800. Over the 20-year period of the loan, the house is rented for an average of \$800 and was rented 90 percent of the time. Ted's taxable income and actual cash flow for the 20 years are as follows.

Description	Income tax	Cash flow
Rent ($\$800 \times 240 \times 0.9$)	\$172,800	\$172,800
Management fees (10%)	(17,280)	(17,280)
Repairs (avg. \$1,000 per yr.)	(20,000)	(20,000)
Roof (once during 20 years)	(6,000)	(6,000)
Insurance (avg. \$1,000 per yr.)	(20,000)	(20,000)
Property tax (avg. \$1,000 per yr.)	(20,000)	(20,000)
Interest exp.	(29,195)	
Depreciation ($\$50,000 \div 27.5 \times 20$)	(36,364)	
Taxable income from rents	23,961	
Income tax (37% combined rate)	8,866	(8,866)
Total loan payments		(79,195)
Capitalized repairs		(10,000)
Cash flow from operations		\$(8,541)

What? Taxable income with negative cash flow? Who wants that?

Ted sells the house at the end of the 20 years. It has increased in value at a rate of 1 percent per year and is worth \$91,514. The adjusted basis is \$23,636 (\$60,000 cost less \$36,364 A/D). Closing costs are \$5,000. The combined federal and state tax rate on §1250 gain is 30 percent, and the remaining gain has a combined rate of 25 percent. The taxable income and cash flow from the sale are:

Description	Income tax	Cash flow
Sales proceeds	\$91,514	\$91,514
Closing costs	(5,000)	(5,000)
Basis	(23,636)	
Total gain	62,878	
§1250 gain	36,364	
§1231 gain ($62,878 - 36,364$)	26,514	
Tax on §1250 gain (30% F&S)	10,909	
Tax on §1231 gain (25% F&S)	6,629	
Total tax	17,538	(17,538)
Cash flow from the sale		\$68,976

Over the 20-year life of the rental property, Ted had negative cashflow from the rental operation of \$8,541. However, he had positive cash flow from the sale of \$68,976, for net positive cashflow of \$60,435. You can't retire with \$60,435, right? Over a period of five years, Ted purchased 35 rental houses. Assuming the results of this house to be an average of the 35 houses, $\$60,435 \times 35$ houses = \$2,115,225.

B. Indirect real estate investments – REITs

Real estate investment trusts (REITs) came into favor after the real estate crash in 2008 and are still a viable alternative to the stock market or direct real estate ownership. Investors confused equity REITs that actually owned properties with the disastrous mortgage REITs are equity REITs, not mortgage REITs. Mortgage REITs were part of the problem.

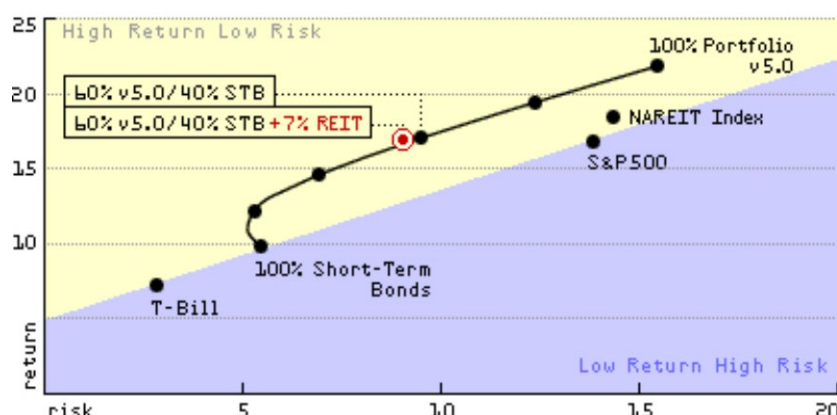
Real estate has always been attractive to investors because it does not act much like stocks. There are several reasons for this lack of correlation. Many lease agreements are entered into for years at a time, so rentals continue without regard to short-term economic swings. As a result, real estate values appear

to “lag” the market cycle. Because sales are infrequent, many institutional investors rely on appraisals. These appraisals appear to smooth the market value of the properties, understating volatility.

In theory, today’s REITs should offer investors many of real estate’s advantages without its aggravations. REITs are entirely liquid, provide for diversification, are marked to market daily, are tradable in convenient quantities, and make a convenient passive investment.

But what happens when we take real estate and turn it into stock? Does the REIT act like real estate or not? Early REIT management whined that stock investors did not understand their companies, that the market could not properly evaluate them, and that their prices did not accurately reflect the value of their underlying properties. In fact, the opposite may be true. A paper by Joseph Gyourko and Donald Keim at Wharton showed that REIT prices more quickly reflected real estate fundamentals than appraisals and current sale prices. REIT prices accurately predicted actual property sale prices one year later.

Adding Real Estate: Not Much Difference



In any event, REIT prices have had a very low correlation to the S&P 500 (0.49), and at first blush seem to be a potent diversifier. But REIT prices have a fairly high correlation to small-cap value stocks (0.78) that we already hold in our model portfolio, which reduces their value as a diversifier.

Because REITs, as do utilities, tend to pay very high dividends, many investors use them as a bond substitute. This would lead us to predict that REITs should be interest-rate sensitive. However, you might be surprised to see such low correlation to both long-term (0.16) and intermediate-term (0.16) bonds.

When REITs are added to the existing asset allocation (Portfolio v5.0), there is only a very tiny benefit. To make room in the portfolio, one percent was subtracted from each existing equity asset class. The resulting mix showed lower return and risk but landed just a few basis points above the “efficient frontier.” Given concerns about the NAREIT index mentioned earlier, the plotting may not be statistically significant.

In the end, using REITs basically comes down to personal preference. There is not an overwhelming case to be made either way. Some investors may prefer to add an additional asset class, while others may opt for portfolio simplicity and lower transaction costs.

Other Retirement Resources

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Other Retirement Resources

Learning objectives

After completing this chapter, the reader will be able to:

- Discuss the family business as a resource for retirement;
- Discuss pension plan options for the family business; and
- Discuss the sale of the family business to family members for an annuity.

I. The family business as a resource

A. The three-legged stool

The family business touches all three legs of both variations of the retirement stool.

1. Retirement stool variation 1

Leg 1, Social Security – When an individual is the decision maker of the company, they can change the distribution and amount of Social Security earnings based on projected Social Security benefits and get the most bang for their buck.

Leg 2, employer retirement plans – A small business owner has a variety of options to help maximize retirement plan contributions. A spouse that is self-employed or controls a partnership or S corporation may hire the other spouse for the purpose of increasing retirement plan contributions.

The sale of the business generates a leg 3 resource.

2. Retirement stool variation 2

Leg 1, Social Security – Same as variation 1.

The retirement plan of a small business can be funded with pretax dollars and be a leg 2 resource in retirement. The withdrawals will be fully taxable, and current tax savings can be invested as a leg 3 resource.

The sale of the business may be a leg 2 resource or a leg 3 resource. If the owner has very little basis, the sale will generate a lot of taxable income in the year of sale. Then, the proceeds would be invested and be a leg 3 resource. If the owner has very little basis in the company and sells the business for an annuity or with an installment sale, the annual receipts will be mostly taxable and be a leg 3 resource. If the owner has a high basis, such as is possible if the business is an S corporation or a partnership, the sale of the business will generate a leg 3 resource, especially if the sale is an installment sale.

B. Social Security planning with a small business

Social Security is an unstable part of the retirement stool as it exists today. Reserves are projected to be depleted by 2033, resulting in an across-the-board cut to benefits of about 21 percent.¹ That cut will grow over time. Also, because of the formula to calculate Social Security benefits, the more money one makes during a lifetime of earnings, the less percentage benefit one receives. This is due to the bend point formula.

¹ Social Security Administration Board of Trustees Report for 2024.

1. Social Security benefit calculation

The steps used to calculate a retiree's Social Security benefits are:

- a. Adjust the worker's wages or self-employment income for inflation for their entire work history prior to turning 60 years old to the year that they turn 60 years old by comparing the national wage index for each year to the national wage index for the year that they turn 60.
- b. Take the highest 35 years, add them together, and divide by 420 (35 years converted to months). This is their average indexed monthly earnings (AIME).
- c. Multiply the AIME by a formula of bend points. This is the primary insurance amount (PIA). The PIA is the amount that the worker draws at full retirement age.
- d. Adjust the PIA for early retirement or delayed retirement.
- e. Calculate any benefits for other individuals that are eligible to draw based on the eligible worker's account based on the kind of relationship that exists.

The bend points for 2025 are:

- 90 percent of the first \$1,226 of AIME.
- 32 percent of the amount over \$1,226 through \$7,391.
- 15 percent of the amount over \$7,391.

The point is, if someone already has substantial earnings during their lifetime, chances are they will already be in the 32 percent or 15 percent breakpoint. This means they don't get much bang in benefits for the buck in tax costs on the Social Security earnings.

2. Bend point planning – Income tax is a factor

Suppose someone has average indexed monthly earnings of \$7,500, resulting in a PIA of \$3,092.55. They are in the 15 percent bend point bracket. The worker would have to raise AIME by \$7 to increase the PIA by at least \$1. Why? Because the AIME is rounded down to the nearest dollar, so we know it has to be a whole dollar amount. A \$7 increase in AIME results in an increase to the PIA of \$1.05 ($\$7 \times 15\%$), which will increase the PIA to \$3,093.60. The PIA is rounded down to the nearest dollar, but not until after Medicare premium deductions, decreases for early retirement, and increases for deferred retirement are applied. Once you get past the initial increase in AIME needed to increase the PIA by \$1, each subsequent increase to PIA will require a \$7 increase in AIME. Generating \$7 of AIME requires \$2,940 of income ($\$7 \times 420$). Note that the amount needed to raise the PIA is less if the worker's AIME falls into the second bend point of 32 percent. Then, AIME would need to increase by only \$4 to gain an additional \$1 in benefits ($\$4 \times 32\%$). Again, the PIA is rounded down after adjustments and Medicare premiums, so the first \$1 increase may not require a \$4 increase in AIME, but subsequent increases will.

Because of the rounding issue, at whatever level the PIA is, a \$1 increase in PIA will definitely result in a \$1.00 increase to benefits at full retirement age. A \$1.00 increase in PIA requires an increase to AIME of \$7.00 in the 15 percent bend point bracket ($\$1.00 \div 0.15 = \6.67 rounded up to \$7.00), \$4.00 in the 32 percent bend point bracket ($\$1.00 \div 0.32 = 3.125$ round up to \$4.00), and \$2.00 in the 90 percent bend point bracket ($\$1.00 \div 0.9 = 1.11$ round up to \$2.00). You must round up because AIME and PIA will round down. Therefore, an increase of \$1.11 in AIME will round down to an increase of \$1.00. $\$1.00 \times 90\% = \0.90 , which will round down and not increase the PIA.

The next step in determining how to raise the benefit of a worker with AIME of \$7,500 is to determine how much income is required to increase AIME by the amount needed to increase the PIA by \$1. Remember

that AIME is 35 years of earnings divided by 420. Therefore, to increase AIME by \$4, increased earnings can be calculated as \$4 multiplied by 420, or \$1,680. This assumes that AIME is \$7,500 exactly without rounding. If the AIME before rounding is more, then the amount of income needed to increase it will be less. AIME is rounded down. Therefore, if the AIME is \$7,500.15 before rounding, you only need a \$3.85 increase (\$4.00 – \$0.15). Then, you need \$1,617 ($\$3.85 \times 420$) to raise AIME by \$4 after rounding.

A worker named Beverly schedules an appointment with her tax adviser to discuss increasing Social Security benefits at retirement. After crunching numbers, you have determined that her AIME establishes her in the 15 percent bend point bracket at exactly \$7,500 with no rounding needed. This produces a PIA of \$3,092.55. She is in the 24 percent income tax bracket. She is married and files a joint return with her husband. Consider the following scenarios:

Example 1: Facts

Beverly has semiretired. Her projected income for 2025 is about \$30,000 from wages. She is considering increasing her income to pay more to Social Security. Her employer will allow her to work more if she so desires. Should she?

Answer

Beverly's AIME is \$7,500. This equates to an average annual salary of \$90,000. It is likely that the increase needed for her 2025 income to replace one of her high 35 years of earnings is significant. The first step is not to determine how much to raise income to raise the AIME enough to raise the PIA, but to see how much current year income must be raised to replace a lower inflation-adjusted prior year. If the current year earnings will not be in the high 35, then all Social Security tax paid is wasted. If her only motivation to increase her income is to increase Social Security benefits, she should not do it.

Example 2: Facts

Beverly is comfortable with her income and amount of work that she performs for her employer. However, she is willing to work more to increase Social Security, and her employer would like her to work more. 2025 will be a high 35 year without the additional income, so the additional income will increase her AIME. Should she work more?

Answer

Her AIME is \$7,500, so, per the calculations above, she is in the 15 percent bend point bracket. She needs an additional \$2,940 to increase her AIME by \$7 for each \$1.05 increase she would get to Social Security. She is in a 24 percent income tax bracket, so, disregarding state income tax, the increase in earnings will cost her \$705.60 ($\$2,940 \times 24\%$) in income tax and \$224.91 ($\$2,940 \times 7.65\%$) in combined Social Security and Medicare tax. This is a total tax burden of \$930.51 to increase Social Security benefits by \$1! Disregarding the time value of money and COLA increases, if Beverly retires at full retirement age, it will take 931 months to recover the taxes paid. She won't live that long! If her only reason to increase earnings is to increase Social Security benefits, she should not do it.

Example 3: Facts

Assume the same facts as Example 2 except Beverly's AIME is \$3,000 and her PIA calculates to \$1,671.08. This puts Beverly in the 32 percent bend point. She would like to increase her benefit by \$60 per month. How much should she increase earnings to increase her benefits by \$60 per month?

Answer

To increase her benefit by \$60, she will need to increase her AIME by \$78,750 ($\$60 \div 32\% \times 420$). The income tax will be \$18,900 ($\$78,750 \times 24\%$) and the payroll tax will be \$6,024.38 ($\$78,750 \times 7.65\%$). The total tax cost is \$24,924.38. She would have to draw Social Security for 34 years to break even.

Planning point:

Beverly probably has no idea how much income and taxes it takes to accomplish a significant increase in benefits. Taxpayers in income tax brackets above 12 percent and in the 32 percent or 15 percent bend point brackets should consider retirement planning through tax-deferred retirement plans or ROTHs in lieu of paying the high cost to increase Social Security benefits. If Beverly wants more retirement, she should work more and invest in a retirement plan.

3. Bend point planning – Income tax is not a factor (or is it)?

What if a taxpayer can increase Social Security without an increase in income tax? This is often the case with S corporations.

Example 1: Facts

John is the sole owner of an S corporation, Enterprise, Inc. Currently, John is receiving a salary from the S corporation of \$80,000 and pass-through income of \$120,000, which is all distributed to John. John is eligible for a full 20 percent §199A deduction. He is not limited by the wage limitation or the taxable income limitation. John is married. John is looking ahead to retirement and is concerned about Social Security because in the past, he has minimized his salary to save payroll tax. Without the increase, his AIME will be \$4,500 and his PIA will be \$2,151.08. Should he increase his salary?

Answer

What if John increases his salary to the Social Security limit of \$176,100? This will increase his 2025 earnings by \$96,100 ($\$176,100 - \$80,000 = \$96,100$). This will increase his AIME to \$4,728 ($\$4,500 + 96,100 \div 420$) rounded down to the nearest dollar. John's new PIA will be \$2,224.04. This is an increase in benefits of \$72.96 per month before rounding, but at what cost?

1. The payroll tax cost: Employee payroll tax will increase by \$7,351.65 ($\$96,100 \times 7.65\%$). The employer will be required to match the amount, so the total payroll tax cost is \$14,703.30.
2. The income tax cost: Prior to the addition of §199A by the Tax Cuts and Jobs Act of 2017, the only income tax impact of the increase in salary would be a decrease in income tax due to the increased payroll tax to the company. However, under §199A, the pass-through deduction is decreased by the shift of income from pass-through income to wages. Assuming that John's wife retired from her job and draws retirement of \$20,000, their income tax for 2025 without the increase in salary would be as follows.

Pension income	\$20,000
S corp. wages	80,000
S corp. pass-through	120,000
SE health	-24,000
AGI	\$196,000
Standard deduction	-\$30,000
§199A deduction ²	-\$19,200
Taxable income	\$146,800
Income tax ³	\$24,317

What will the income tax cost be if the salary increases by \$96,100? See the following table.

Pension income	\$20,000
S corp. wages	176,100
S corp. pass-through	16,548 ⁴
SE health	-24,000
AGI	\$188,648
Standard deduction	-\$30,000
§199A deduction ⁵	-\$0
Taxable income	\$158,648
Income tax ⁶	\$26,924

The increase to income tax is \$2,607.

The total tax cost of raising the salary from \$80,000 to \$176,100 is \$17,310.30 (\$14,703.30 payroll tax plus \$2,607 income tax). With an increase of \$72.96 per month in benefits, disregarding COLAs and the time value of money, it would take 238 months to recoup the cost of the benefit.

Planning point:

Even though in the S corporation environment, the income tax impact is lessened, the loss of a portion of the §199A deduction has changed the playing field. If not for the §199A deduction, John would recover the payroll tax in about 18 years, which is still a long time. Again, taxpayers with income above the 12 percent bracket may consider increasing other sources of retirement income instead of paying the high price of increasing Social Security.

4. Shifting income between spouses

Suppose Joan is self-employed and averages around \$120,000 per year in self-employment income. Joan's husband Benny works on a part time basis for Joan, and she pays him around \$30,000 a year. Due to Joan's lifetime of earnings, she is in the 15 percent bend point bracket. Benny, however, is in the 32 percent bend point bracket. Benny's benefits based on his own earnings would be equal to or more than a spousal benefit. Joan could increase Benny's salary and be increasing Social Security benefits at a higher rate. \$20,000 earnings for Joan for a year increases Social Security benefits by approximately \$7.00 per month ($\$20,000 \div 420 \times 15\%$). A \$20,000 increase for Benny increases his Social Security benefits by \$15.00 per month ($\$20,000 \div 420 \times 32\%$). As a couple, they gain \$8.00 a month in benefits by shifting income to Benny. The Tax Cuts and Jobs Act complicated this planning scenario. Before the §199A deduction, there was very little tax impact for shifting Social Security earnings between spouses in

² $(\$120,000 - \$24,000 \text{ SE health}) \times 20\%$.

³ Using 2025 income tax brackets for married filing joint. Top bracket is 22 percent.

⁴ $\$120,000 - \$96,100 - \text{employer payroll tax}$.

⁵ $(\$16,548 - \$24,000 \text{ SE health}) \times 20\%$.

⁶ Using 2025 income tax brackets for married filing joint. Top bracket is 22 percent.

this scenario. The only impact would be: (i) Joan's self-employment tax would decrease, offset by an increase in John's payroll tax liability and Joan's employer payroll tax liability; and (ii) Joan's taxable income on Schedule C would decrease by \$1,530 for the employer payroll tax, offset by a decrease in Joan's adjustment to income for 50 percent of self-employment tax. However, now, with the enactment of §199A, Joan's §199A deduction would be reduced because of the shift in income. The reduction in the §199A deduction would be \$4,000 (20 percent, or a 21,530 reduction in Schedule C income salary and employer payroll tax net of a decrease in deductible SE tax of 1,530 = 20,000). In the 22 percent marginal tax bracket, this results in an increase in tax of \$880. It would take 110 months to recoup the cost of increasing the benefit.

Planning point:

Joan could add Benny to her business and operate the company as a husband-and-wife joint venture. Then, Benny's \$30,000 existing salary convert to self-employment income and increase the §199A deduction. Income could then be shifted between Joan and Benny to maximize Social Security benefits by utilizing the highest available bend point brackets.

Planning point:

The most viable Social Security planning for a small business is shifting income to utilize the highest bend points. Increasing Social Security earnings in a pass-through where income tax is already paid on the earnings does not generate enough future benefit to justify the Social Security tax.

Note:

The examples in this section are simplified calculations that are adequate for basic planning. To fine-tune a Social Security plan, other factors must be considered, such as inflation adjustments to income and bend point brackets, the time value of money, possible changes to income tax rates, possible changes in the way Social Security benefits are determined, and retirement alternatives other than Social Security. For more complex Social Security planning, specialized software is beneficial.

C. Small business retirement plans

There are more choices than ever for small business retirement plans. For the purpose of this course, and for time's sake, we will not discuss in detail the types of small business retirement plans. We will discuss instead the amount that can be funded into the retirement plan and the decision-making process between traditional plans and Roth plans.

1. Annual limits⁷

The maximum elective deferral that can be contributed to employer retirement plan increases to \$23,500 for 2025. An individual over age 50 may defer an additional \$7,500 for most plans. The total amount (combined employer and employee contributions) that may be contributed to most plans for one employee is \$70,000 (\$77,500 with catch-up). The SECURE Act 2.0 changed the catch-up contribution limit to \$11,250 for 2025 for employees ages 60, 61, 62, and 63.

⁷ IRS Notice 2024-285.

2. Which plan?

For the small business owner, a goal may be to maximize their own retirement at the least possible cost in amounts contributed to employees and in taxes and fees. We will discuss the most popular plans generally.

The SEP plan:⁸ The owner can contribute up to 25 percent of compensation with a maximum funding limit of \$70,000 for 2025.

- Advantages:
 - No required contribution;
 - Can be funded by the due date of the tax return including extensions;
 - Easy;
 - No Form 5500; and
 - Tax deductible.
- Disadvantages:
 - Based on a percentage, so in a low-income year, the funding will be low;
 - No Roth feature allowed;
 - Threshold for employee participation is low (age 21, performed services during at least three of the preceding five years, and received at least \$750 in compensation for the year);
 - Nondiscrimination rules apply;
 - Contributions must be uniform (owner gets 25 percent; employee gets 25 percent); and
 - Maximum compensation that can be considered is \$350,000 for 2025.

Safe harbor 401(k): Elective deferral up to \$23,500 with a \$7,500 catch-up for individuals over 50 years old for 2025. The SECURE Act 2.0 changed the catch-up contribution to \$11,250 for 2025 for employees ages 60, 61, 62, and 63.

- Advantages:
 - Not based on a percentage, so compensation can be contributed up to the deferral limit;
 - Avoids nondiscrimination testing;
 - Easier for the small employer to max out the annual contribution limit;
 - Loans available;
 - Not as expensive to administer as a regular 401(k); and
 - Roth provision available.
- Disadvantages:
 - Techniques to reduce amounts contributed for employees compared to amounts contributed for owners are not available as they are with regular §401(k) plans;
 - Required to contribute for employees either: (i) employer match of 100 percent up to 3 percent of elective deferrals of employee's compensation plus 50 percent of the next 2 percent, or a flat rate of 4 percent of elective deferrals; or (ii) a contribution of 3 percent of the compensation of all eligible employees, even those who do not contribute to the plan;
 - 100 percent vesting in safe harbor contributions;
 - More expensive than a SEP; and
 - Must be established no later than three months prior to the plan year-end.

⁸ IRC §408(k)(13).

Regular 401(k): Elective deferral up to \$23,500 with a \$7,500 catch-up for individuals over 50 years old for 2025. The SECURE Act 2.0 changed the catch-up contribution to \$11,250 for 2025 for employees ages 60, 61, 62, and 63.

- Advantages:
 - Not based on a percentage, so compensation can be contributed up to the deferral limit;
 - Allows for age-weighting and cross-testing to maximize amounts to the owners, especially with a profit-sharing feature (profit-sharing feature with age-weighting and cross-testing can allow up to a 25 percent-of-compensation amount to be contributed for the owner not to exceed \$70,000, \$77,500 if eligible for the catch-up provision);
 - Allows for a vesting schedule,⁹ so short-term employees forfeit employer contributed amounts (the forfeitures can be used to pay plan expenses, or they can be reallocated to plan participants based on account balances; this means a large percentage of forfeitures may be allocated to the owners);
 - Loans available;
 - Roth provision available;
 - Employer match is not required (however, most plans have a matching provision); and
 - Section 401(b)(2) as amended by the SECURE Act of 2019 provides that the plan can be established by the due date of the tax return for the plan year including extensions.
- Disadvantages:
 - More expensive to administer;
 - Subject to discrimination rules; and
 - Must be established by the end of the plan year.

Which plan to use depends on a variety of circumstances, including:

- a. What can the client afford? A SEP is cheap and easy. A safe harbor 401(k) is cheaper than a regular 401(k).
- b. What is the employee population? If the plan has a lot of employees that will contribute to the plan, what will be the mix of highly compensated employees to other employees? If the discrimination problems cannot be overcome, then a safe harbor plan may be required.
- c. What are the ages of the employees? If the owners are several years (or decades) older than the majority of the employees, a traditional 401(k) using age-weighted testing may allow the owners to overcome the discrimination rules and contribute maximum amounts to the plan for the owners while minimizing the amounts for the employees.

⁹ IRC §411(a)(2)(b).

3. Roth vs. regular

Back to the second and third legs of the second variation of the retirement stool. We will assume that the client is adopting a retirement plan that allows for the maximum contribution amount of \$70,000. The client is an S corporation 100 percent by Marge. Marge is married to Homer who works part-time for the company and spends the rest of his time chasing after an unruly child. Marge is maxing out the retirement plan and is receiving a contribution of \$70,000. Homer is paid a low salary and does not participate in the plan. Two questions that should immediately come to mind are: (i) should Homer be paid more and maximize his retirement contribution; and (ii) should the contributions be made with pre-tax or after-tax dollars (Roth or traditional)? Roth 401(k) contributions are part of leg 3 of the second variation of the stool. When they are withdrawn during retirement, they don't do undesirable things, like increase the taxable amount of Social Security, increase the floor for medical deductions causing more deductions to be disallowed, and increase income causing an increase in Medicare premiums. However, with the Roth provision, you pay a cost in current income tax.

Regarding Homer participating in the plan, the answer is yes. Most financial advisers agree that the most effective way to accumulate funds for retirement is to contribute to an employer retirement plan because of the tax-free compounding of income. It is a simple concept. If you invest \$1,000 and earn \$50 interest that is taxable, and you are in the 24 percent tax bracket, you pay \$12 income tax and have \$1,038 remaining at the start of the second year. The second year, you will receive interest on the second year's deposit plus interest on \$1,038 carried over from the first year. If the interest is compounding tax free, you have \$1,050 from the prior year, or \$12 more, thus more interest at whatever the interest rate is times \$12. If you don't pay the tax from the \$1,050, you will accrue the same amount with taxable and nontaxable compounding, but you lose the opportunity cost of the \$12. It must come from somewhere!

So, which is best, Roth or traditional? It depends on a number of variables:

- a. How do current tax rates compare to expected future tax rates?
- b. What tax bracket is the taxpayer currently in compared to their projected tax bracket when they retire?
- c. What bracket are they in now? The higher the bracket, the higher the tax savings of a traditional plan. The savings can be invested and generate income.
- d. What return can they get on the saved taxes?

D. Roth versus traditional – Case study

This case study is done from a simplified approach. A financial planner or CPA may use software to fine-tune. We will do the assumption based on a steady contribution of \$23,500 into a retirement plan each year for 20 years. The contribution will not increase, although in a real-world situation, it probably would. We will calculate the results based on a return of 5 percent and compounded monthly and a 29 percent combined federal and state income tax bracket at consistent through the years including during retirement.

Each year, if the contribution is before tax, there will be income tax savings of \$6,815 income tax. This will be invested with an anticipated return of 3.5 percent annually after tax. This approximates the amount that 5 percent would yield after tax. First, the calculations.

The future value of \$23,500 compounded monthly at 5 percent with annual contributions at beginning of the year for 20 years is as follows:

Compounding Period:	Annual
Nominal Annual Rate:	5.000%

Cash Flow Data - Deposits and Withdrawals

	Event	Date	Amount	Number	Period	End Date
1	Deposit	06/01/2025	23,500	20	Annual	06/01/2045
2	Withdrawal	06/01/2045	816,238.03	1		

Amortization Schedule - Normal, 365 Day Year

	Date	Deposit	Withdrawal	Interest	Net Change	Balance
2025 Totals		23,500.00	0.00	0.00	23,500.00	23,500.00
2026 Totals		23,500.00	0.00	1,175.00	24,675.00	48,175.00
2027 Totals		23,500.00	0.00	2,408.75	25,908.75	74,083.75
2028 Totals		23,500.00	0.00	3,714.34	27,214.34	101,298.09
2029 Totals		23,500.00	0.00	5,064.90	28,564.90	129,862.99
2030 Totals		23,500.00	0.00	6,493.15	29,993.15	159,856.14
2031 Totals		23,500.00	0.00	7,992.81	31,492.81	191,348.95
2032 Totals		23,500.00	0.00	9,593.66	33,093.66	224,442.61
2033 Totals		23,500.00	0.00	11,222.13	34,722.13	259,164.74
2034 Totals		23,500.00	0.00	12,958.24	36,458.24	295,622.98
2035 Totals		23,500.00	0.00	14,781.15	38,281.15	333,904.13
2036 Totals		23,500.00	0.00	16,740.95	40,240.95	374,145.08
2037 Totals		23,500.00	0.00	18,707.25	42,207.25	416,352.33
2038 Totals		23,500.00	0.00	20,817.62	44,317.62	460,669.95
2039 Totals		23,500.00	0.00	23,033.50	46,533.50	507,203.45
2040 Totals		23,500.00	0.00	25,429.65	48,929.65	556,133.10
2041 Totals		23,500.00	0.00	27,806.66	51,306.66	607,439.76
2042 Totals		23,500.00	0.00	30,371.99	53,871.99	661,311.75
2043 Totals		23,500.00	0.00	33,065.59	56,565.59	717,877.34
2044 Totals		23,500.00	0.00	35,992.21	59,492.21	777,369.55
2045 Totals		0.00	816,238.03	38,868.48	-777,369.55	0.00
Grand Totals		470,000.00	816,238.03	346,238.03	0.00	0.00

Since the same amount is deposited each year with the same return, the result inside of the account is the same, \$816,238.03. If we assume that the after-tax rate would be 3.5 percent, the result would be \$688,026.04. That is \$128,211.99 less! The difference between the traditional and the Roth plans is that the traditional saves taxes that can be invested each year up front, the Roth saves taxes on the back end.

We are assuming tax savings each year of \$6,525. This will be invested each year with an after-tax return of 3.5 percent, resulting in the following:

Compounding Period:	Monthly
Nominal Annual Rate:	3.500%

Cash Flow Data - Deposits and Withdrawals						
	Event	Date	Amount	Number	Period	End Date
1	Deposit	06/01/2025	6,815.00	20	Annual	06/01/2043
2	Withdrawal	06/01/2045	200,747.47	1		

Amortization Schedule - Normal, 365 Day Year

	Date	Deposit	Withdrawal	Interest	Net Change	Balance
2025 Totals		6,815.00	0.00	0.00	6,815.00	6,815.00
2026 Totals		6,815.00	0.00	242.39	7,057.39	13,872.39
2027 Totals		6,815.00	0.00	493.40	7,308.40	21,180.79
2028 Totals		6,815.00	0.00	753.34	7,568.34	28,749.13
2029 Totals		6,815.00	0.00	1,022.52	7,837.52	36,586.65
2030 Totals		6,815.00	0.00	1,301.28	8,116.28	44,702.93
2031 Totals		6,815.00	0.00	1,589.95	8,404.95	53,107.88
2032 Totals		6,815.00	0.00	1,888.89	8,703.89	61,811.77
2033 Totals		6,815.00	0.00	2,198.46	9,013.46	70,825.23
2034 Totals		6,815.00	0.00	2,519.04	9,334.04	80,159.27
2035 Totals		6,815.00	0.00	2,851.02	9,666.02	89,825.29
2036 Totals		6,815.00	0.00	3,194.81	10,009.81	99,835.10
2037 Totals		6,815.00	0.00	3,550.83	10,365.83	110,200.93
2038 Totals		6,815.00	0.00	3,919.51	10,734.51	120,935.44
2039 Totals		6,815.00	0.00	4,301.31	11,116.31	132,051.75
2040 Totals		6,815.00	0.00	4,696.68	11,511.68	143,563.43
2041 Totals		6,815.00	0.00	5,106.11	11,921.11	155,484.54
2042 Totals		6,815.00	0.00	5,530.11	12,345.11	167,829.65
2043 Totals		6,815.00	0.00	5,969.19	12,784.19	180,613.84
2044 Totals		6,815.00	0.00	6,423.88	13,238.88	193,852.72
2045 Totals		0.00	200,747.47	6,894.75	-193,852.72	0.00
Grand Totals		136,300.00	200,747.47	64,447.47	0.00	0.00

The total at the end of 20 years equals \$200,747.47. So how do our traditional and Roth amounts under these assumptions compare?

Item	Traditional	Roth
Withdrawal of balance over time	\$816,238.03	\$816,238.03
Income tax (29%)	-236,709.03	0
Future value of annual tax savings	200,747.47	0
Totals	\$780,276.47	\$816,238.03

This example is extremely simplified. The contributions will likely increase over the years. Both accounts may be allocated forfeitures and assessed fees. The cost of other plan participants would need to be considered. The income tax rates are likely to change. But it serves as a rough guide. The difference is not that great.

The amount of wealth and other income of the taxpayer plays a significant role. We have used a 29 percent combined rate. Obviously, if the taxpayer will be in a higher tax bracket when making the deposits

than when taking the withdrawals, the results differ. If, for instance, the effective tax bracket making the deposits is 35 percent, the annual tax savings become \$8,225. Investing this amount at 3.5 percent yields \$242,281.38. The withdrawal tax rate remains 29 percent. Now our results are:

Item	Traditional	Roth
Withdrawal of balance over time	\$816,238.03	\$816,238.03
Income tax	-236,709.03	0
Future value of annual tax savings	242,281.38	0
Totals	\$821,810.38	\$816,238.03

Taxpayers in high tax brackets that can plan to take withdrawals and draw Social Security in a way that the withdrawals are taxed at a lower tax rate should still take advantage of the tax-deductible IRA contribution. Also, some of the distributions will not be taxable in retirement because of the standard deduction or itemized deductions. In such cases, it may be more advantageous to take the tax savings up front with a traditional IRA.

Other considerations:

- Suppose the plan is to pull a large sum of money out of the plan at retirement to pay off debt. This could push the marginal tax rate up and cost significantly more in tax at retirement.
- If the retirement plan and Social Security are the chief sources of income at retirement, and the taxpayer expects to have minimal other income, the traditional plan may cause additional income tax on Social Security that would need consideration.
- The Roth would generate lower income in retirement that could result in lower Medicare premiums.

Planning point:

If part of the retirement plan is to take a large distribution to pay off debt, consider doing traditional to Roth conversions over a period of years to stay in lower tax brackets.

II. Value of a business as a retirement source

A business may be the most valuable asset that a retiree has. How can the retiree translate that value to a retirement resource?

A. Keep an investor ownership

1. Nothing is sometimes a good option

Consider this scenario. Howard has been very successful in his business, an S corporation. It generates adequate income to distribute to Howard to maintain his desired standard of living, especially with other resources he has accumulated over the years. Over the years, he has gifted stock to his daughter and son. They each own 24 percent of the company and Howard owns 52 percent.

Howard is ready to retire. He schedules an appointment with his CPA, Slick, and the conversation goes something like this:

Howard: "I am ready to retire. How can I put the business in the kid's names?"
Slick: "Why are you putting the business in the kid's names?"
Howard: "I've always been told to get everything out of my name as I get older so that the government won't get it if I go into a nursing home."
Slick: "We have that covered in your long-term care planning. There is no way you will ever gift enough away to qualify for Medicaid. Plus, the taxes your family will pay for forgoing the step-up in basis at death would pay a lot of nursing home bills."
Howard: "What if I sell it to them? Then I'll pay the tax, not them."
Slick: "Exactly. You will pay tax. A lot of it. Howard, you don't need the money. You can keep your 52 percent ownership, giving you control of the company. Retire, or slow down, and take distributions like you always have. Redistribute your wages to Richie and Joanie to give them a significant increase in income and let them patiently wait for you to die. You have enough other retirement resources to cover the lost wages for the rest of your life with money left over."
Howard: "Why didn't I think of that?"
Slick: "Because you sell hardware and I sell knowledge!"

The point is some people want to fix something that isn't broken. All they need to do to retire from the family business is to go home.

2. *Don't make assumptions*

Talk to the kids. They may not be planning on staying in the business for as long as the parent thinks they will. Sometimes, the children see working in the family business as a temporary job that will do until what they want comes along.

B. Sell to an outsider

1. *Freedom for the family*

Back to Howard. Sometimes an owner will assume they want to pass the business down to the kids without asking the kids! Even if the kids work at the store, Richie and Joanie might jump at the chance to move on and do something else. Selling to an outsider, especially a strategic buyer who will pay a premium, might be the solution for the whole family to a business that has begun to feel like a ball and chain.

Also, if the owner has put everything into the business through the years and the value of the business and the house are the main resources for retirement, the children may be willing to cash in on an exceptional offer for Dad's sake, especially if the sale comes with an employment agreement for them.

2. The strategic buyer

If the business is the kind of business that a strategic buyer would be interested in, it can be sold for premium. A financial buyer is simply evaluating cost, risk, and return to decide if they will buy a business. A strategic buyer has other motives that can cause them to up the ante significantly, such as:

- a. The business is in a market that the buyer has had trouble entering. Buying an existing company is sometimes the best way to establish the business in a new market.
- b. The buyer wants to eliminate competition. Howard may be the reason they can't break into the Milwaukee market.
- c. The buyer is looking for trade secrets, existing contracts, economies of scale, etc.

These reasons and more motivate a strategic buyer to pay more than a financial investor.

3. Sell to an outsider, keep the real estate

Hopefully, the real estate is in an entity separate from the operations, or the company can be split in a tax-free reorganization. Whether the plan is to keep the business as an investor owner, sell to outsiders, or sell to family, if the real estate is owned individually or in a separate entity and rented to the business, the owner has more options. Howard can sell the hardware operations, keep the building, and rent it to the new owner for a steady income stream. If this seems to be the best long-range plan, plan for it early. Don't wait until Howard is ready to retire. If the building is in an S corporation with the operations, consider this:

- a. Was the S corporation ever a C corporation? If so, rental income can be subject to the tax on excess net passive income.¹⁰ Plan for it early. If the amount of C corporation earnings and profits is not too overwhelming, consider making the election to distribute C corporation accumulated earnings and profits before the accumulated adjustments account, pay the tax on them as qualified dividends, and the problem is solved.
- b. If the S corporation has significant accumulated earnings and profits, evaluate the impact of splitting the company. If you split the company in a divisive reorganization, you also allocate the prior C corporation accumulated earnings and profits. This means the building will be in an S corporation with less accumulated earnings and profit than before the reorganization. The accumulated earnings and profits can then be distributed from the S corporation that owns the building while retaining the earnings and profits in the operations S corporation and lessen the tax impact of avoiding the passive income tax.
- c. If the location is good, sell the operations and keep the building. The buyer should be willing to sign a long-term lease. Try to get at least 10 years. Consider a triple-net lease. After all, if Howard is retiring from the hassle of running a business, he probably doesn't want the hassle of managing the real property. Howard has a steady income stream from rents to subsidize retirement.

C. Sell to the family

Howard may wish to sell his share of the business because he needs to utilize that resource to afford retirement. Richie and Joanie may want to keep the company. Sometimes, it is best for Dad to sell his interest, but how? Richie and Joanie want to buy it, but they don't want to borrow money. They want Dad to finance it. This can provide Howard with a stream of income, and interest income on top of the sale price. However, Howard won't charge Richie and Joanie as much as a strategic buyer would pay. How should the deal be structured?

¹⁰ IRC §1375 and associated regulations.

1. Sell the stock

In a family transaction, the best option is usually a stock transaction. The question is, who will buy the stock? Be careful with family business stock redemptions. What appears to be a sale or exchange may be a distribution.

A stock redemption must meet the requirements of §302 to be afforded sale or exchange treatment. Otherwise, it is a distribution. This can be devastating to an S corporation because it will be a disproportionate distribution. The primary way to qualify this type of transaction is to have a complete termination of the ownership interest.¹¹

So, what is the problem? Indirect ownership through family attributions can kill sale or exchange treatment under §302. The solution can be to waive the family attribution rules.¹² If Howard waives the family attribution rules, he cannot have any relationship with the company except as a creditor. He cannot be an office, director, or employee. He also cannot own stock in the company for 10 years. Howard may not want to walk completely away, and his family may not want him completely out of the business. He has too much wisdom to offer, and they would prefer he still help manage the business. The other solution? Sell the business to the children instead of using a redemption. Section 302 only applies to a distribution from the company.

2. Installment sale or not?

If the business is an S or C corporation, the sale of stock will generate capital gains. If Howard finances the sale, he can recognize the gain on the installment basis, and pay tax when he receives the money, but should he?

Consider the implications of spreading the capital gain over several years. If the basis is low, so that much of the proceeds are taxable, they have the nature of leg 2 of the second variation of the retirement stool. Leg 2 income is primarily taxable when it is received in retirement. This can cause Social Security to be taxable and can cause Medicare premiums to increase. Based on projections, without the capital gains, the interest on the note and other income will cause some of Howard's and his wife Marion's Social Security to be taxable, but not over 50 percent. If the gain is recognized over the retirement years, 85 percent of Social Security will be taxed. How is this problem solved?

Consider electing out of the installment method. This is done by reporting all of the gain on the return on the year of the sale and paying the tax. The gain is long-term capital gain, so it is taxed at favorable capital gains rates. It will increase income in the year of the sale, which could impact one year of Medicare and Social Security. Medicare increases are delayed two years, so if the sale takes place when Howard turns 65, it will cause an increase to his Medicare premium two years after that, and in the third year, the premium will be adjusted back down. Howard could sell the company the year before he starts drawing Social Security and the sale will have no impact on taxable Social Security except for the interest income.

3. Partnerships and the hot asset problem

Remember that the rules are different for partnerships. Even if Howard sells his partnership interest to Richie and Joanie, there will be ordinary income due to Howard's share of the hot assets.¹³ If the business is cash basis, the accounts receivables alone can cause significant tax.

¹¹ IRC §302(b)(3).

¹² IRC §302(c)(2).

¹³ IRC §751(a).

D. Conclusion

From a retirement planning standpoint, in considering the fate of the family business, make sure to consider the following.

1. *Sell it or keep it?*

This can come down to want versus need. Even if Howard wants to keep the hardware store, his only vehicle for retirement may be to sell the company to a strategic buyer. If this is determined early in the planning process, the family has more time to prepare.

2. *Sell it to whom?*

If Howard sells it to family, he will likely sell it for less. This means the resources it provides for retirement will be less and this should be considered during the retirement planning process. Also, if he sells it to family, it will likely be an installment sale instead of an immediate inflow of cash.

3. *How will the sale be structured and what is the entity type?*

Most sales to an outside party are asset sales. This means part of the income will be ordinary. In evaluating how much money will be generated by the sale of the business, ordinary versus capital makes a difference. If the company operates as a C corporation, part of the plan may be to elect S status in time for the five-year waiting period for built-in gains to expire and avoid the double tax as much as possible.

4. *Personal goodwill for a C corporation*

If the business is a C corporation, part of planning could be to ensure that personal goodwill can be sold. The sale of personal goodwill takes the gain for the goodwill out of the C corporation and reports it directly to the owner, where it is subject to favorable capital gains rates and is not subject to the double-taxed C corporation regime. This strategy goes back to the *Marin Ice Cream Company* case.¹⁴ Make sure there is no document already in existence where Howard has transferred goodwill to the company through a noncompete agreement. In a 2010 case, the taxpayer's claim of personal goodwill because he had an employment agreement with the company that included a noncompete clause. The Tax Court determined that the noncompete transferred the goodwill to the company prior to the sale to a third party.¹⁵

5. *Math for range of values*

If there is uncertainty as to what will happen to the business and how much of a resource it will be for retirement, consider the different scenarios and estimate the after-tax proceeds for each one. Consider what the retirement plan will be under each scenario. An honest evaluation of different scenarios may lead the client to a decision.

6. *The sentimental value trap*

What do a family business and an old pickup truck have in common? The owner thinks it is worth more than it is. The CPA sometimes has to bring the client's feet back down to the ground. You can sell real value. You can't sell sentimental value.

¹⁴ *Martin Ice Cream Co v. Commissioner*, 110 TC 189 (1988).

¹⁵ *Howard v. U.S.*, 106 AFTR 2d 2010-5533.

Resource Management After Retirement

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Resource Management After Retirement

Learning objectives

After completing this chapter, the reader will be able to:

- Explain survival probabilities and why simple life expectancies alone are inadequate for retirement planning purposes;
- Describe how first-to-die and last-to-die survival probabilities are used in retirement planning for married couples;
- Discuss how starting with the target income at retirement optimized for income tax through the retirement period can be a starting point to work backwards to the ideal mix of taxable versus nontaxable retirement income;
- Discuss how the right mix of taxable versus nontaxable income can utilize the standard deduction and lower tax brackets to minimize the impact of income taxes;
- Explain why health care expenses are the BIG question in retirement planning and describe how probability models reveal the potentially catastrophic expense associated with health care in retirement; and
- Discuss the possibility of working part-time during retirement.

I. Review and looking ahead

A. Setting realistic retirement goals – Chapter 1 review

In Chapter 1 we discussed the need for setting realistic retirement goals. We discussed how evaluating the lifestyle desired in retirement, estimating the cost in current dollars, and projecting a future value for inflation can be a starting point. Adjustments can be made for anticipated increased health care costs that most people experience with aging. The goal must be reevaluated from time to time. If you don't know your destination, you can plot the course to get there.

B. Investing for retirement – Chapter 2 review

Investment planning is not the equivalent of retirement planning, but it is a big part of retirement planning. The key element to investment for retirement is that investments that normally have higher rewards have higher risks, but the risks decrease over a long investment horizon. Investing for retirement requires a long-term mentality and patience.

C. The home and other real estate – Chapter 3 review

In Chapter 3 we discussed ways that the home can be a resource for retirement, either through a sale or an equity conversion. We also discussed other real estate investments as an alternative to relying solely on traditional investments in stocks and bonds.

D. Other retirement resources – Chapter 4 review

In Chapter 4 we discussed other resources for retirement, including life insurance with a cash value and the family business.

E. What now?

In this chapter, we will discuss the utilization of resources in retirement. The retirement scenario varies from person to person. Some people are happy to just go home and not have to report to the office every day, while others want to travel the world. The mix of resources will be different for different people. Some people will be utilizing the family business while others won't.

In this chapter, we will look at the end result and how to make it last. To tie all the chapters together, we will:

- Start with a typical scenario of a couple projecting their needs in retirement (as discussed in Chapter 1);
- Move that scenario through retirement until the first to die plus one year;
- Use that data to extrapolate the life expectancy of the second to die;
- Analyze by optimizing taxable versus nontaxable resources (legs 2 and 3 of the second variation of the three-legged stool);
- Based on the optimized tax plan and projection for retirement, discuss how much needs to be accumulated in each type of resource; and
- Discuss variations on the projection.

II. *Survival probabilities*

A. Overview

Certainly, one of the most important retirement-funding planning considerations is the length of the period of need. How long can a retiree and the spouse, if married, expect to need retirement income? What is the probability that they will live longer than they expect? In our case study for this chapter, we must first determine the life expectancy of our couple.

Let us take a look at a fairly typical profile to get some idea of the numbers and relationships involved.

Table 1 shows individual and joint mortality statistics for a retiring couple. The husband is age 65 and the wife is age 62. The mortality factors are based upon Table 2000CM mortality factors. These factors are used by the IRS for valuing interests in trusts (such as annuities, life estates, and remainders) for gift and estate tax purposes.

Table 1

Table 2000CM Life Expectancies					
		Person 1		Person 2	
If age at end of calendar year is...		65		62	
And the sex is...		Male		Female	
Individual Statistics					
		Person 1		Person 2	
Additional LIFE EXPECTANCY (years) is		15.6		21.5	
Age at LIFE EXPECTANCY is		80.6		83.5	
The probability of living to LIFE EXPECTANCY is		52.3%		54.4%	
The probability of surviving the partner is		32.3%		67.7%	
The MEDIAN age of death for the current age is		81.1		84.7	
Probability of living to MEDIAN age of death		50.0%		50.0%	
MEDIAN age of death <i>less</i> LIFE EXPECTANCY is		0.5		1.2	
Joint and Survivor Statistics					
				Joint	
EXPECTED number of years until the second death				24.3	
Probability BOTH will LIVE 24.3 more years				7.7%	
Probability BOTH will DIE before 24.3 more years				46.3%	
Probability AT LEAST ONE will LIVE 24.3 more years				53.7%	
Probability AT LEAST ONE will DIE before 24.3 more years				92.3%	
MEDIAN years to second death (50% probability)				25.0	
		Person 1		Person 2	
Age if person lives 24.3 more years		89.3		86.3	
Probability of living 24.3 more years		17.5%		44.0%	
Probability of living and partner dying in 24.3 years		9.8%		36.3%	
Probability of dying and partner living 24.3 years		36.3%		9.8%	
Age at MEDIAN years to second death (25.0 years)		90.0		87.0	
MEDIAN years <i>less</i> EXPECTED years to second death		0.7		0.7	
First Death Statistics					
				Joint	
EXPECTED number of years until first death				12.9	
Probability BOTH will LIVE 12.9 more years				51.4%	
Probability BOTH will DIE before 12.9 more years				7.1%	
Probability AT LEAST ONE will LIVE 12.9 more years				92.9%	
Probability AT LEAST ONE will DIE before 12.9 more years				48.6%	
MEDIAN years to first death (50% probability)				13.1	
		Person 1		Person 2	
Age if person lives 12.9 more years		77.9		74.9	
Probability of living 12.9 more years		63.9%		80.5%	
Probability of living and partner dying in 12.9 years		12.5%		29.0%	
Probability of dying and partner living 12.9 years		29.0%		12.5%	
Age at MEDIAN years to first death (13.1 years)		78.1		75.1	
MEDIAN years <i>minus</i> EXPECTED years to first death		0.2		0.2	
Survival Probabilities					
With a probability of:	75%	50%	25%	10%	5%
Person 1 will live to age:	74.8	81.1	87.2	92.0	94.6
Person 2 will live to age:	77.0	84.7	91.4	96.5	99.2
The number of years until the...					
First death will be at least:	7.5	13.1	18.7	23.2	25.6
Second death will be at least:	19.5	25.0	30.2	34.7	37.3

This data is actuarially neutral. This means the mortality statistics are weighted neither towards longevity, which is typical of life insurance company annuity valuation tables, nor towards early death, which is typical of life insurance company life insurance valuation tables. These data represent fair and unbiased estimates of longevity and survival probabilities for the general public.¹

B. Individual life expectancies

Assuming this couple represents two people with normal health for their age, we can make the following observations. Their individual life expectancies are about 15½ and 21½ years for the husband and wife, respectively. However, although life expectancy reflects the average number of additional years a person can expect to live, in general a person has MORE than a 50 percent chance of living beyond that life expectancy. The median age of death is the age where a person has exactly a 50/50 chance of surviving that long or longer. At their ages, the median numbers of years until death are 16.1 and 22.7 years, respectively.

Of course, half the people can expect to survive beyond their median ages of death, so it would be unwise to base one's retirement funding plans on median ages of death. As is shown in the survival probabilities section of the table, the 65-year-old husband has a 25 percent probability (or one chance in four) of surviving over 22 years to age 87.2 and a 10 percent chance of surviving 27 years to age 92. His wife has a 25 percent chance of surviving over 28 years to age 91.4 and a 10 percent chance of surviving about 34 years to age 96.5.

When planning for retirement funding, the critical question is: what risk are you willing to bear that you will outlive your income? For planning guidance, **Table 2** presents single male and single female life expectancies and survival terms with survival probabilities of 50 percent, 25 percent, 10 percent, and 5 percent for ages ranging from 50 to 75.

Table 2

Single Male and Single Female Life Expectancies and Survival Terms										
Age	Male					Female				
	LE*	50%	25%	10%	5%	LE	50%	25%	10%	5%
50	27.2	29.0	36.0	41.2	44.0	31.6	33.7	40.8	46.1	49.0
55	23.1	24.5	31.2	36.4	39.2	27.2	29.0	36.0	41.2	44.0
60	19.2	20.2	26.6	31.6	34.3	23.1	24.5	31.2	36.4	39.2
65	15.6	16.1	22.2	27.0	29.6	19.2	20.2	26.6	31.6	34.3
70	12.3	12.5	17.9	22.5	25.0	15.6	16.1	22.2	27.0	29.6
75	9.4	9.3	14.1	18.3	20.6	12.3	12.5	17.9	22.5	25.0
*LE = life expectancy. Life expectancies and survival terms are computed based upon the 2000CM Mortality Table factors. These are the mortality factors specified by the federal tax code for valuing life estate, annuity, and remainder interests for estate, gift, and generation-skipping transfer tax purposes.										

C. Second-to-die probabilities

A common planning fallacy is to assume that using the longer of the individual life expectancies is a good starting point for estimating the period of need during retirement. Certainly, the longer life expectancy sets

¹ The data in **Table 1** is unisex data, which means the mortality factors reflect a composite of both male and female mortality factors at each age. Despite some lessening of the difference, females still enjoy longer life expectancies than men (about five years on average at all ages). The male- and female-specific statistics presented here were derived by the standard practice of using an offset age. Male statistics are generated by using an age three years older than the actual age and female statistics are generated by using an age two years younger than the actual age. Although these offset factors do not exactly match the gender-specific mortality data age-for-age, they provide very close estimates of the gender-specific factors for most ages.

a lower minimum boundary for planning because there is at least a 50 percent chance that that one partner will survive at least that long, but it completely ignores the joint-life probabilities. Therefore, it will greatly underestimate the likely period of need.

The joint and survivor statistics are more revealing. The average number of years until the second death of a husband and wife, who are ages 65 and 62, respectively, is over 24 years. This is about three years, or about 13 percent, longer than the 21.5-year life expectancy of the wife alone. And, once again, this is just the average value, which is less than the median value (50 percent probability value) of 25 years. In other words, out of every 100 couples this age you can expect that 50 of these couples will have at least one partner who survives longer than another 25 years. Many of these couples can expect at least one partner to survive considerably beyond even this period.

The survival probabilities at the bottom of the table show that a husband and wife, ages 65 and 62, respectively, have a 25 percent probability, or a one chance in four, that at least one of them will survive another 30.2 years. Out of every 10 couples, we would expect at least one of these couples to have at least one partner who survives almost 35 more years. One in every 20 couples will have one partner who survives over 37 years.

These probabilities will vary as the ages of a retiring couple varies, getting somewhat longer for younger retirement ages and somewhat shorter for older retirement ages. However, for the normal range of retirement ages between about 60 and 70, these probabilities are instructive. In general, it is pretty risky to assume that the retirement income need will not last for at least 30 years beyond retirement, unless specific health conditions or the family's historical longevity patterns clearly indicate otherwise.

D. First-to-die probabilities

Although a typical retiring couple should plan their retirement income need to last for at least 30 years, in at least 25 percent of the cases, their real inflation-adjusted income need is not likely to remain level for that entire period. Many factors affect the income need. As people grow older, they generally become less mobile, travel less, and spend less on entertainment. However, their medical expenses and costs for personal help and care generally increase. The factors that will predominate are anybody's guess.

In our scenario, we will assume that decreased travel and entertainment needs will be offset by increased health care needs as they advance through retirement.

However, one very significant factor is the fact that it is extremely unlikely that *both* partners will survive for 30 years beyond retirement. It is a general rule of thumb that one surviving partner can generally maintain the same standard of living with about two-thirds to three-fourths of the income necessary to support the lifestyle of both partners. We will assume two-thirds in our scenario.

Interestingly, the expected number of years until the first death of two people is *shorter* than the shorter of the two individual life expectancies. In the case of this 65-year-old husband and 62-year-old wife, the expected number of years until the first death is 12.9 years, or about three years shorter than the husband's 15.6-year remaining life expectancy. So, the retirement period that a couple can expect to need full income for each partner is shorter than the period they would expect to need the income for each of them separately.

The planning implications of these statistics are as follows. The period of time you need to plan to have sufficient retirement income for two people considered together is *less* than the period of time you would need to plan to have that same total income for two people considered separately. However, the period of time beyond the first death you need to plan to have the lesser required survivor income is longer than the greater of the two people's life expectancies.

Even though the median number of years until the first death is less than the shorter of the two life expectancies, there remains a significant probability that the first death will occur substantially later than the median number of years. In other words, it would be extremely risky to base a couple's retirement funding on the assumption that they will need their joint income only for the median number of years until the first death for people their ages.

The survival probabilities section of the table is once again informative. Although there is a 50 percent probability that the couple will require the joint income for only about 13 years, there remains a 25 percent probability (or one chance in four) that they will need the joint income for almost 19 years. There is a one chance in 10 that they will require joint income for over 23 years.

Once again, the probabilities vary by the ages of the couple. However, within the normal 60- to 70-year-old range of retirement ages these probabilities are reasonably close to those for the other ages. For younger retirement ages, the number of years until the first death can be expected to occur increases slightly for each probability level. For older retirement ages, the number of years until the first death can be expected to occur decrease slightly.

E. Plan for two separate income streams

The basic retirement planning concept is this: When planning for a couple's retirement funding, you can break the planning into two separate income periods or income streams. The first income stream is the amount necessary to meet the survivor-income requirement with the period of need based upon second-death probabilities. The second income stream is the additional income (in addition to the survivor-income provided in the first income stream) required to meet the joint-income need with the period of need based upon first-death probabilities.

Table 2 presents first-to-die and last-to-die statistics based upon the 2000CM Table mortality factors for male ages ranging from 50 to 75 and female ages five years less, equal to, and five years greater than the male ages as guidance for planning. The table shows first-to-die and last-to-die terms with survival probabilities of 50 percent, 25 percent, 10 percent, and 5 percent.

F. Case study introduction

John and Mary Dooley are aged 45 and 42 and are hoping to retire when John reaches age 65. If they have average health and average family mortality histories, based upon Table 2000CM, they can expect to live for 15.6 and 21.5 years after retirement. However, the expected number of years until they can expect the first of them to die, is only 12.9 years, or almost three years *less* than the life expectancy of 15.6 years. Conversely, the term of years they can expect until the second of them dies is 24.3 years, or almost three years *more* than Mary's 21.5-year life expectancy. Furthermore, they have about a 10 percent chance that the first death will not occur for at least 23.2 years, longer than Mary's own life expectancy of 21.5 years. Similarly, with a 10 percent chance, the second death may not occur for over 34.7 years. They decide to plan for a joint life of 21.5 years and an additional 11.5 years beyond that for survivor benefits. Plus overshooting the mark leaves a remainder for the children. John's birthday is

March 7. Mary's is February 15. They will not work after December 2044 and will use leftover income from working to live during January through April of 2045 and start using retirement funds in May 2045.

Two income streams:

John and Mary need two income streams. The first is a joint stream until the first to die, and the second is from the first to die until the second death. We will combine the two streams together in the following example.

III. Using the three-legged stool

A. The steps

1. Inflation-adjusted need

Based on the approach discussed in Chapter 1, John and Mary have estimated their retirement income needs to be \$100,000 in current year dollars. They anticipate inflation to average 2.5 percent over the next 20 years until retirement. Inflation has been higher, but they believe it is slowing down and 2.5 percent is a good average. If inflation continues to remain consistent, they will adjust the projections. They also expect inflation to remain at about 2.5 percent throughout retirement. Rolling that forward using a future value calculation until John reaches age 65, they will need \$180,600 the first year of retirement (rounded up to the nearest \$100). They will need \$180,600 adjusted for inflation for 21.5 years and two-thirds of the inflation-adjusted amount for the 11.5 years after that. A flow of the need, beginning with 2044, the anticipated retirement year, is:

Table 3

Year	Need	Year	Need	Year	Need
2045	120,400	2056	236,964	2067	207,279
2046	185,115	2057	242,888	2068	212,460
2047	189,743	2058	248,960	2069	217,772
2048	194,487	2059	255,184	2070	223,216
2049	199,349	2060	261,564	2071	228,796
2050	204,333	2061	268,103	2072	234,516
2051	209,441	2062	274,806	2073	240,379
2052	214,677	2063	281,676	2074	246,388
2053	220,044	2064	288,718	2075	252,548
2054	225,545	2065	295,936	2076	258,862
2055	231,184	2066	252,779	2077	265,334

Year 2045 is $\$180,600 \div 12 \times 8$. They will only use retirement funds for eight months.

Year 2046 is $\$180,600 \times 1.025$.

Years 2047 through 2065 are the prior year $\times 1.025$.

Year 2066 is the prior year $\times 0.833333$ (100% for 6 months, 66.66667 for 6 months) $\times 1.025$.

Year 2067 is the prior year $\div 0.833333 \times 0.666667 \times 1.025$.

Years 2068 through 2077 are the prior year $\times 1.025$.

Wow! That's eye-opening for John and Mary. They will need \$7,689,446 in retirement! Their CPA reminds them, that is in future dollars, not current dollars, and their resources will continue to have a return throughout retirement. Hopefully, investments and retirement funds will increase at a rate greater than inflation. Also, unless it completely crashes, Social Security will cover part of the costs.

2. Leg 1 – Social Security

Next, John and Mary estimate that Social Security will increase at a rate of 2 percent per year. The average Social Security interest over the years is 2.8 percent, but they don't think that will sustain. In fact, they are concerned that Social Security will be available when they retire. However, they have a cushion built into their plan, so they stay with the growth rate of 2 percent. Also, as is typical, each year that they work, they are replacing lower year with higher earnings and increasing Social Security. They project that John, at age 67, will draw \$3,556 in Social Security. He will receive his first check in April 2047. He will turn 67 in March and checks are delayed one month. Mary will draw \$4,102 at age 67 and will draw her first check in March of 2050. They are skeptical about Social Security being that much at age 67 due to projections by Social Security Board of Trustees that Social Security will be insolvent by 2033. They decide to reduce the projected benefit by 10 percent in the planning. Therefore, they project benefits at full retirement age of \$3,200 for John and \$3,700 for Mary. They predict benefits to increase during retirement at a rate of 2 percent per year. Their projected benefits through retirement are in Table 4.

Table 4

2045			–
2046			–
2047	28,800		28,800
2048	39,168		39,168
2049	39,951		39,951
2050	40,750	37,000	77,750
2051	41,565	45,288	86,853
2052	42,396	46,194	88,590
2053	43,244	47,118	90,362
2054	44,109	48,060	92,169
2055	44,991	49,021	94,012
2056	45,891	50,001	95,892
2057	46,809	51,001	97,810
2058	47,745	52,021	99,766
2059	48,700	53,061	101,761
2060	49,674	54,122	103,796
2061	50,667	55,204	105,871
2062	51,680	56,308	107,988
2063	52,714	57,434	110,148
2064	53,768	58,583	112,351
2065	54,843	59,755	114,598
2066	30,624	60,950	91,574
2067		62,169	62,169
2068	–	63,412	63,412
2069	–	64,680	64,680
2070	–	65,974	65,974
2071	–	67,293	67,293
2072	–	68,639	68,639
2073	–	70,012	70,012
2074	–	71,412	71,412
2075	–	72,840	72,840
2076	–	74,297	74,297
2077	–	75,783	75,783

In 2047, John will draw \$3,200 for nine months.
In 2048, John will draw $\$3,200 \times 12 \text{ months} \times 1.02$ for inflation adjustment.
In 2049 through 2065, the amount is prior year $\times 1.02$.
In 2066 the amount is prior year $\times 1.02 \times \text{half year}$.
In 2050, Mary will draw \$3,700 for 10 months.
In 2051, Mary will draw $\$3,700 \times 12 \text{ months} \times 1.02$ for inflation adjustment.
For 2052 through 2077, Mary will draw prior year $\times 1.02$.

We have calculated the benefit, but they will actually draw the benefit less the Medicare premium. They will both be on Medicare before they start drawing Social Security. Since they already have health insurance built into their budget and will be simply switching from other insurance to Medicare, the only difference is it will be withheld from their Social Security checks instead of paid out of pocket. Therefore, John and Mary decide to disregard the Medicare cost as a wash and use the gross Social Security amount in planning.

3. Leg 2 (second variation) – Taxable income

As part of their retirement plan, they have decided it is not realistic to avoid paying any income tax on Social Security. However, they do wish to avoid paying tax at the 85 percent tier. They already have funds accumulated in a retirement plan that will be taxable. The CPA recommends:

- a. Project tax using current standard deduction amount, tax brackets, etc. rolled forward for projected changes in the chained consumer price index for all urban consumers (C-CPI-U) that is now used for inflation indexing for income tax purposes. The code calls for adjusting most tax items that are subject to inflation by using the increase in the C-CPI-U for the prior year over the 2017 C-CPI-U multiplied by the 2016 C-CPI-U divided by the 2016 CPU. This calculation came to an index increase of about 1.6 percent for 2020, 1.2 percent for 2021, 3.2 percent for 2022, 7.1 percent for 2023, 5.4 percent for 2024, and 2.5 percent for 2025. The average of these increases is 3.35 percent. However, John and Mary are erring on the side of caution in their calculations and have decided to use 2.5 percent. The single and head of household amounts are calculated. The married filing jointly standard deduction is set by the code at twice the amount for single. John and Mary will calculate single and double it to get married filing jointly.
- b. For years prior to drawing Social Security, utilize enough taxable income to utilize the 10 percent and 12 percent tax brackets. The brackets will be indexed for inflation using the C-CPI-U.
- c. Determine how much taxable income can be used in the years drawing Social Security without making more than 50 percent of Social Security taxable (leg 2 on the second variation of the stool).

Taxable Social Security is best explained using the taxable Social Security worksheet from the IRS instructions (see the following page). The worksheet and the thresholds haven't changed in years. The thresholds are not indexed for inflation.

**Before you begin:**

- If you are married filing separately and you **lived apart** from your spouse for all of 2024, enter "D" to the right of the word "benefits" on Form 1040 or 1040-SR, line 6a.
- Don't use this worksheet if you repaid benefits in 2024 and your total repayments (box 4 of Forms SSA-1099 and RRB-1099) were more than your gross benefits for 2024 (box 3 of Forms SSA-1099 and RRB-1099). None of your benefits are taxable for 2024. For more information, see [Repayments More Than Gross Benefits](#).
- If you are filing Form 8815, Exclusion of Interest From Series EE and I U.S. Savings Bonds Issued After 1989, don't include the amount from line 2b of Form 1040 or 1040-SR on line 3 of this worksheet. Instead, include the amount from Schedule B (Form 1040), line 2.

1. Enter the total amount from box 5 of ALL your Forms SSA-1099 and RRB-1099 . Also enter this amount on Form 1040 or 1040-SR, line 6a	1. _____
2. Multiply line 1 by 50% (0.50)	2. _____
3. Combine the amounts from Form 1040 or 1040-SR, lines 1z, 2b, 3b, 4b, 5b, 7, and 8	3. _____
4. Enter the amount, if any, from Form 1040 or 1040-SR, line 2a	4. _____
5. Enter the total of any exclusions/adjustments for: • Adoption benefits (Form 8839, line 28), • Foreign earned income or housing (Form 2555, lines 45 and 50), and • Certain income of bona fide residents of American Samoa (Form 4563, line 15) or Puerto Rico	5. _____
6. Combine lines 2, 3, 4, and 5 above	6. _____
7. Enter the total of the amounts from Schedule 1 (Form 1040), lines 11 through 20, and 23 and 25	7. _____
8. Is the amount on line 7 less than the amount on line 6?	
No. None of your social security benefits are taxable. Enter -0- on Form 1040 or 1040-SR, line 6b.	
Yes. Subtract line 7 from line 6	8. _____
9. If you are: • Married filing jointly, enter \$32,000; or • Single, head of household, qualifying surviving spouse, or married filing separately and you lived apart from your spouse for all of 2024, enter \$25,000	9. _____
Note. If you are married filing separately and you lived with your spouse at any time in 2024, skip lines 9 through 16, multiply line 8 by 85% (0.85), and enter the result on line 17. Then, go to line 18.	
10. Is the amount on line 9 less than the amount on line 8?	
No. None of your benefits are taxable. Enter -0- on Form 1040 or 1040-SR, line 6b. If you are married filing separately and you lived apart from your spouse for all of 2024, be sure you entered "D" to the right of the word "benefits" on Form 1040 or 1040-SR, line 6a.	
Yes. Subtract line 9 from line 8	10. _____
11. Enter \$12,000 if married filing jointly; or \$9,000 if single, head of household, qualifying surviving spouse, or married filing separately and you lived apart from your spouse for all of 2024	11. _____
12. Subtract line 11 from line 10. If zero or less, enter -0-	12. _____
13. Enter the smaller of line 10 or line 11	13. _____
14. Multiply line 13 by 50% (0.50)	14. _____
15. Enter the smaller of line 2 or line 14	15. _____
16. Multiply line 12 by 85% (0.85). If line 12 is zero, enter -0-	16. _____
17. Add lines 15 and 16	17. _____
18. Multiply line 1 by 85% (0.85)	18. _____
19. Taxable benefits. Enter the smaller of line 17 or line 18. Also enter this amount on Form 1040 or 1040-SR, line 6b	19. _____



If you received a lump-sum payment in 2024 that was for an earlier year, also complete Worksheet 2 or 3 and Worksheet 4 to see if you can report a lower taxable benefit.

In a spreadsheet, we can utilize the calculation to determine the amount of taxable income that can be recognized before more than 50 percent of Social Security is taxable:

Table 5

Social Security Worksheet	2047	2048	2049	2050	2051	2052	2053
Line 1, total social security	28,800	39,168	39,951	77,750	86,853	88,590	90,362
Line 2, 50% of line 1	14,400	19,584	19,976	38,875	43,427	44,295	45,181
Line 3, other income	39,482	40,397	40,467	43,801	44,605	44,758	44,914
Line 4, tax-exempt int.	—	—	—	—	—	—	—
Line 5, add 2,3, & 4	53,882	59,981	60,442	82,676	88,031	89,053	90,095
Line 6, adjustments to income	—	—	—	—	—	—	—
Line 7, subtract line 6 from 5	53,882	59,981	60,442	82,676	88,031	89,053	90,095
Line 8, exclusion tier 1	32,000	32,000	32,000	32,000	32,000	32,000	32,000
Line 9, subtract 8 from 7	21,882	27,981	28,442	50,676	56,031	57,053	58,095
Line 10, exclusion tier 2	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Line 11, subtract line 10 from 9	9,882	15,981	16,442	38,676	44,031	45,053	46,095
Line 12, smaller of 9 or 10	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Line 13, 50% of 12	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Line 14, smaller of 2 or 13	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Line 15, line 11 × 0.85	8,400	13,584	13,976	32,875	37,427	38,295	39,181
Line 16, add 14 and 15	14,400	19,584	19,976	38,875	43,427	44,295	45,181
Line 17, line 1 × 0.85	24,480	33,293	33,958	66,088	73,825	75,302	76,808
Line 18, smaller of 16 or 17	14,400	19,584	19,976	38,875	43,427	44,295	45,181

Social Security Worksheet	2054	2055	2056	2057	2058	2059	2060
Line 1, total social security	92,169	94,012	95,892	97,810	99,766	101,761	103,796
Line 2, 50% of line 1	46,085	47,006	47,946	48,905	49,883	50,881	51,898
Line 3, other income	45,074	45,236	45,402	45,571	45,744	45,921	46,100
Line 4, tax-exempt int.	—	—	—	—	—	—	—
Line 5, add 2,3, & 4	91,158	92,242	93,348	94,476	95,627	96,801	97,998
Line 6, adjustments to income	—	—	—	—	—	—	—
Line 7, subtract line 6 from 5	91,158	92,242	93,348	94,476	95,627	96,801	97,998
Line 8, exclusion tier 1	32,000	32,000	32,000	32,000	32,000	32,000	32,000
Line 9, subtract 8 from 7	59,158	60,242	61,348	62,476	63,627	64,801	65,998
Line 10, exclusion tier 2	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Line 11, subtract line 10 from 9	47,158	48,242	49,348	50,476	51,627	52,801	53,998
Line 12, smaller of 9 or 10	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Line 13, 50% of 12	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Line 14, smaller of 2 or 13	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Line 15, line 11 × 0.85	40,085	41,006	41,946	42,905	43,883	44,881	45,898
Line 16, add 14 and 15	46,085	47,006	47,946	48,905	49,883	50,881	51,898
Line 17, line 1 × 0.85	78,344	79,910	81,508	83,139	84,801	86,497	88,227
Line 18, smaller of 16 or 17	46,085	47,006	47,946	48,905	49,883	50,881	51,898

Social Security Worksheet	2061	2062	2063	2064	2065	2066
Line 1, total social security	105,871	107,988	110,148	112,351	114,598	91,574
Line 2, 50% of line 1	52,936	53,994	55,074	56,176	57,299	45,787
Line 3, other income	46,283	46,470	46,660	46,855	47,053	45,021
Line 4, tax-exempt int.	—	—	—	—	—	—
Line 5, add 2,3, & 4	99,218	100,464	101,734	103,030	104,352	90,808
Line 6, adjustments to income	—	—	—	—	—	—
Line 7, subtract line 6 from 5	99,218	100,464	101,734	103,030	104,352	90,808
Line 8, exclusion tier 1	32,000	32,000	32,000	32,000	32,000	32,000
Line 9, subtract 8 from 7	67,218	68,464	69,734	71,030	72,352	58,808
Line 10, exclusion tier 2	12,000	12,000	12,000	12,000	12,000	12,000
Line 11, subtract line 10 from 9	55,218	56,464	57,734	59,030	60,352	46,808
Line 12, smaller of 9 or 10	12,000	12,000	12,000	12,000	12,000	12,000
Line 13, 50% of 12	6,000	6,000	6,000	6,000	6,000	6,000
Line 14, smaller of 2 or 13	6,000	6,000	6,000	6,000	6,000	6,000
Line 15, line 11 × 0.85	46,936	47,994	49,074	50,176	51,299	39,787
Line 16, add 14 and 15	52,936	53,994	55,074	56,176	57,299	45,787
Line 17, line 1 × 0.85	89,990	91,790	93,626	95,498	97,408	77,838
Line 18, smaller of 16 or 17	52,936	53,994	55,074	56,176	57,299	45,787

Social Security Worksheet	2067	2068	2069	2070	2071	2072
Line 1, total social security	62,169	63,412	64,680	65,974	67,293	68,639
Line 2, 50% of line 1	31,085	31,706	32,340	32,987	33,647	34,320
Line 3, other income	34,192	34,301	34,413	34,527	34,644	34,763
Line 4, tax-exempt int.	—	—	—	—	—	—
Line 5, add 2,3, & 4	65,227	66,007	66,753	67,514	68,291	69,083
Line 6, adjustments to income	—	—	—	—	—	—
Line 7, subtract line 6 from 5	65,227	66,007	66,753	67,514	68,291	69,083
Line 8, exclusion tier 1	25,000	25,000	25,000	25,000	25,000	25,000
Line 9, subtract 8 from 7	40,227	41,007	41,753	42,514	43,291	44,083
Line 10, exclusion tier 2	9,000	9,000	9,000	9,000	9,000	9,000
Line 11, subtract line 10 from 9	31,227	32,007	32,753	33,514	34,291	35,083
Line 12, smaller of 9 or 10	9,000	9,000	9,000	9,000	9,000	9,000
Line 13, 50% of 12	4,500	4,500	4,500	4,500	4,500	4,500
Line 14, smaller of 2 or 13	4,500	4,500	4,500	4,500	4,500	4,500
Line 15, line 11 × 0.85	26,585	27,206	27,840	28,487	29,147	29,820
Line 16, add 14 and 15	31,085	31,706	32,340	32,987	33,647	34,320
Line 17, line 1 × 0.85	52,844	53,900	54,978	56,078	57,199	58,343
Line 18, smaller of 16 or 17	31,085	31,706	32,340	32,987	33,647	34,320

Social Security Worksheet	2073	2074	2075	2076	2077
Line 1, total social security	70,012	71,412	72,840	74,297	75,783
Line 2, 50% of line 1	35,006	35,706	36,420	37,149	37,892
Line 3, other income	34,883	35,007	35,133	35,262	35,393
Line 4, tax-exempt int.	—	—	—	—	—
Line 5, add 2,3, & 4	69,889	70,713	71,553	72,411	73,285
Line 6, adjustments to income	—	—	—	—	—
Line 7, subtract line 6 from 5	69,889	70,713	71,553	72,411	73,285
Line 8, exclusion tier 1	25,000	25,000	25,000	25,000	25,000
Line 9, subtract 8 from 7	44,889	45,713	46,553	47,411	48,285
Line 10, exclusion tier 2	9,000	9,000	9,000	9,000	9,000
Line 11, subtract line 10 from 9	35,889	36,713	37,553	38,411	39,285
Line 12, smaller of 9 or 10	9,000	9,000	9,000	9,000	9,000
Line 13, 50% of 12	4,500	4,500	4,500	4,500	4,500
Line 14, smaller of 2 or 13	4,500	4,500	4,500	4,500	4,500
Line 15, line 11 × 0.85	30,506	31,206	31,920	32,649	33,392
Line 16, add 14 and 15	35,006	35,706	36,420	37,149	37,892
Line 17, line 1 × 0.85	59,510	60,700	61,914	63,152	64,416
Line 18, smaller of 16 or 17	35,006	35,706	36,420	37,149	37,892

Note that the exclusions are \$32,000 and \$25,000 for the first tier for married filing jointly and single, respectively, with an additional \$12,000 and \$9,000 for the second tier.

We know how much taxable income we can have now and not pay tax on more than 50 percent of Social Security. However, the first two years of retirement, they won't draw Social Security. The goal for those two years is to draw down from taxable income, but not exceed the 12 percent bracket. As discussed earlier, the tax brackets and standard deductions are indexed for inflation at 2.5 for a conservative amount. The standard deduction for single is calculated first and then rounded to the nearest \$50. They qualify for the MFJ standard deduction in 2025. The MFJ status is double the single status. Calculating the taxable income using the amount of taxable resources and the taxable Social Security in the table above, the resulting effective tax rates are surprising, as shown in the following table.

Table 6

	2045	2046	2047	2048	2049	2050
Standard deduction: Single	24,550	25,150	25,800	26,450	27,100	27,800
Standard deduction: MFJ	49,100	50,300	51,600	52,900	54,200	55,600
Over 65 (each)	2,600	2,650	2,700	2,750	2,800	2,850
Taxable income not SS (Table 5)	210,650	215,850	39,482	40,397	40,467	43,801
Taxable SS (Table 5)			14,400	19,584	19,976	38,875
Standard deduction	(51,700)	(52,950)	(54,300)	(58,400)	(59,800)	(61,300)
Taxable income	158,950	162,900	(418)	1,581	643	21,376
Tax brackets:						
Top of the 10% bracket	39,100	40,100	41,100	42,150	43,200	44,300
Top of the 12% bracket	158,950	162,900	166,950	171,100	175,400	179,800
Tax at 10%	3,910	4,010		158	64	2,138
Tax at 12%	14,382	14,736				
Total tax	18,292	18,746	-	158	64	2,138
Effective tax rate	8.68%	8.68%	0.00%	0.39%	0.16%	4.88%

	2051	2052	2053	2054	2055	2056
Standard deduction: Single	28,500	29,200	29,950	30,700	31,450	32,250
Standard deduction: MFJ	57,000	58,400	59,900	61,400	62,900	64,500
Over 65 (each)	2,900	2,950	3,000	3,050	3,150	3,250
Taxable income not SS (Table 5)	44,605	44,758	44,914	45,074	45,236	45,402
Taxable SS (Table 5)	43,427	44,295	45,181	46,085	47,006	47,946
Standard deduction	(62,800)	(64,300)	(65,900)	(67,500)	(69,200)	(71,000)
Taxable income	25,232	24,753	24,195	23,659	23,042	22,348
Tax brackets:						
Top of the 10% bracket	45,400	46,550	47,700	48,900	50,100	51,350
Top of the 12% bracket	184,300	188,900	193,600	198,450	203,400	208,500
Tax at 10%	2,523	2,475	2,420	2,366	2,304	2,235
Tax at 12%						
Total tax	2,523	2,475	2,420	2,366	2,304	2,235
Effective tax rate	5.66%	5.53%	5.39%	5.25%	5.09%	4.92%

	2057	2058	2059	2060	2061	2062
Standard deduction: Single	33,050	33,900	34,750	35,600	36,500	37,400
Standard deduction: MFJ	66,100	67,800	69,500	71,200	73,000	74,800
Over 65 (each)	3,350	3,450	3,550	3,650	3,750	3,850
Taxable income not SS (Table 5)	45,571	45,744	45,921	46,100	46,283	46,470
Taxable SS (Table 5)	48,905	49,883	50,881	51,898	52,936	53,994
Standard deduction	(72,800)	(74,700)	(76,600)	(78,500)	(80,500)	(82,500)
Taxable income	21,676	20,927	20,202	19,498	18,719	17,964
Tax brackets:						
Top of the 10% bracket	52,650	53,950	55,300	56,700	58,100	59,550
Top of the 12% bracket	213,700	219,050	224,550	230,150	235,900	241,800
Tax at 10%	2,168	2,093	2,020	1,950	1,872	1,796
Tax at 12%						
Total tax	2,168	2,093	2,020	1,950	1,872	1,796
Effective tax rate	4.76%	4.57%	4.40%	4.23%	4.04%	3.87%

	2063	2064	2065	2066	2067	2068
Standard deduction: Single	38,350	39,300	40,300	41,300	42,350	43,400
Standard deduction: MFJ	76,700	78,600	80,600	82,600	84,700	86,800
Over 65 (each) till 2067	3,950	4,050	4,150	4,250	5,200	5,350
Taxable income not SS (Table 5)	46,660	46,855	47,053	45,021	34,192	34,301
Taxable SS (Table 5)	55,074	56,176	57,299	45,787	31,085	31,706
Standard deduction	(84,600)	(86,700)	(88,900)	(91,100)	(47,550)	(48,750)
Taxable income	17,134	16,331	15,452	(292)	17,727	17,257
Tax brackets:						
Top of the 10% bracket	61,050	62,600	64,150	65,750	41,100	42,150
Top of the 12% bracket	247,850	254,050	260,400	266,900	166,950	171,100
Tax at 10%	1,713	1,633	1,545		1,773	1,726
Tax at 12%						
Total tax	1,713	1,633	1,545	-	1,773	1,726
Effective tax rate	3.67%	3.49%	3.28%	0.00%	5.18%	5.03%

	2069	2070	2071	2072	2073	2074
Standard deduction: Single	44,500	45,600	46,750	47,900	49,100	50,350
Over 65 (single)	5,500	5,650	5,800	5,950	6,100	6,250
Taxable income not SS (Table 5)	34,413	34,527	34,644	34,763	34,883	35,007
Taxable SS (Table 5)	32,340	32,987	33,647	34,320	35,006	35,706
Standard deduction	(50,000)	(51,250)	(52,550)	(53,850)	(55,200)	(56,600)
Taxable income	16,753	16,264	15,741	15,233	14,689	14,113
Tax brackets:						
Top of the 10% bracket	43,200	44,300	45,400	46,550	47,700	48,900
Top of the 12% bracket	175,400	179,800	184,300	188,900	193,600	198,450
Tax at 10%	1,675	1,626	1,574	1,523	1,469	1,411
Tax at 12%						
Total tax	1,675	1,626	1,574	1,523	1,469	1,411
Effective tax rate	4.87%	4.71%	4.54%	4.38%	4.21%	4.03%

	2075	2076	2077
Standard deduction: Single	6,400	6,550	6,700
Over 65 (single)	35,133	35,262	35,393
Taxable income not SS (Table 5)	36,420	37,149	37,892
Taxable SS (Table 5)	(58,000)	(59,450)	(60,900)
Standard deduction	13,553	12,961	12,385
Taxable income			
Tax brackets:	50,100	51,350	52,650
Top of the 10% bracket	203,400	208,500	213,700
Top of the 12% bracket	1,355	1,296	1,239
Tax at 10%			
Tax at 12%	1,355	1,296	1,239
Total tax	3.86%	3.68%	3.50%
Effective tax rate	6,400	6,550	6,700

They qualify for the standard deduction for married filing jointly plus one additional amount for 2045 through 2047 because John will be 65 years old, but Mary will not. They will qualify for the married filing jointly amount plus two additional amounts for being at least 65 years old by the end of the year for years 2048 through 2066. The first to die is date is during 2066, so beginning in 2067, Mary will qualify for the single standard deduction plus one additional amount for being at least 65 years old at the end of the year. The tax brackets are also adjusted to the single amount beginning in 2067.

Note that the federal income tax rate on the taxable other than Social Security (income tax/taxable income other than Social Security) increases through the years. From this point, John and Mary, with advice from their CPA and investment adviser, can fine-tune the utilization of taxable resources for several variables:

- a. Is the effective tax rate on the income acceptable to them? If not, the taxable income in the spread sheet can be adjusted to achieve the desired rate. This is an important decision, because it is part of the decision of whether to contribute to tax deductible retirement or to a non-deductible Roth plan.
- b. How much taxable income do John and Mary expect to have from sources outside of retirement plans, such as investment income? This will be subtracted from the target taxable income to determine target taxable retirement distributions.
- c. John and Mary may have more than enough in retirement plans that will generate taxable distributions to satisfy the target. However, the decision to shift from regular retirement funds to Roth funds involves more than determining the projected taxable distribution target. Projections should be done based on current versus future rates. Just remember that the effective tax rate that they will pay in retirement is applied to all distributions including earnings. The current tax savings are derived from the current marginal rate times the contribution only.
- d. If John and Mary have large amounts in traditional retirement plans that they will have to utilized at some point during retirement and that will cause more Social Security to be taxed, they may consider converting traditional retirement funds to Roth IRAs and recognize the income prior to drawing Social Security.
- e. If John and Mary have large amounts that will be leg 2 taxable income, they may consider deferring Social Security retirement until age 70 and using more of the taxable funds before drawing from Social Security.
- f. Will John and Mary have the equivalent of a taxable annuity during retirement, such as rental income or income from a seller-financed note for the sale of the family business? The projected taxable resources will need to be reduced by these amounts to determine the target taxable retirement funds.
- g. What about the house? If John and Mary plan to sell the house, the investment of the proceeds will generate taxable income that will have to be considered in how much of the projected taxable income will be from retirement funds.

4. Leg 3 (second variation) – Nontaxable resources

Three-legged stool: 1 versus 2

As a general rule, whether the resource is taxable (leg 2 variation 2) or nontaxable (leg 3 variation 2), it accumulates faster in a retirement plan (leg 2 variation 1) than outside of a retirement plan (leg 3 variation 1). The employer match and tax-free compounding are the two primary reasons that most advisers would advise John and Mary to max out retirement plans. The decision then is traditional versus Roth.

To determine how much John and Mary will need in nontaxable resources, simply subtract projected Social Security and taxable income from the projected budget. The amount will also need to be net of tax. The nontaxable resources will be from two sources: (i) nontaxable retirement distributions; and (ii) principal from investment accounts and other nontaxable sources outside of retirement plans. To determine the total leg 3 variation 2 amount, we can use the following spreadsheet.

Table 7

	2045	2046	2047	2048	2049	2050
Total projected need	120,400	185,115	189,743	194,487	199,349	204,333
Total Social Security	–	–	(28,800)	(39,168)	(39,951)	(77,750)
Total taxable resources	(210,650)	215,850)	(39,482)	(40,397)	(40,467)	(43,801)
Projected tax	18,292	18,746	–	158	64	2,138
Subtotal	(71,958)	(11,989)	121,461	115,080	118,995	84,920
Carryover		(71,958)	(83,947)	–	–	–
Total nontaxable resources	–		37,514	115,080	118,995	84,920

	2051	2052	2053	2054	2055	2056
Total projected need	209,441	214,677	220,044	225,545	231,184	236,964
Total Social Security	(86,853)	(88,590)	(90,362)	(92,169)	(94,012)	(95,892)
Total taxable resources	(44,605)	(44,758)	(44,914)	(45,074)	(45,236)	(45,402)
Projected tax	2,523	2,475	2,420	2,366	2,304	2,235
Subtotal	80,506	83,804	87,188	90,668	94,240	97,905
Carryover	–	–	–	–	–	–
Total nontaxable resources	80,506	83,804	87,188	90,668	94,240	97,905

	2057	2058	2059	2060	2061	2062
Total projected need	242,888	248,960	255,184	261,564	268,103	274,806
Total Social Security	(97,810)	(99,766)	(101,761)	(103,796)	(105,871)	(107,988)
Total taxable resources	(45,571)	(45,744)	(45,921)	(46,100)	(46,283)	(46,470)
Projected tax	2,168	2,093	2,020	1,950	1,872	1,796
Subtotal	101,675	105,543	109,522	113,618	117,821	122,144
Carryover	–	–	–	–	–	–
Total nontaxable resources	101,675	105,543	109,522	113,618	117,821	122,144

	2063	2064	2065	2066	2067	2068
Total projected need	281,676	288,718	295,936	252,779	207,279	212,460
Total Social Security	(110,148)	(112,351)	114,598)	(91,574)	(62,169)	(63,412)
Total taxable resources	(46,660)	(46,855)	(47,053)	(45,021)	(34,192)	(34,301)
Projected tax	1,713	1,633	1,545	–	1,773	1,726
Subtotal	126,581	131,145	135,830	116,184	112,691	116,473
Carryover	–	–	–	–	–	–
Total nontaxable resources	126,581	131,145	135,830	116,184	112,691	116,473

	2069	2070	2071	2072	2073	2074
Total projected need	217,772	223,216	228,796	234,516	240,379	246,388
Total Social Security	(64,680)	(65,974)	(67,293)	(68,639)	(70,012)	(71,412)
Total taxable resources	(34,413)	(34,527)	(34,644)	(34,763)	(34,883)	(35,007)
Projected tax	1,675	1,626	1,574	1,523	1,469	1,411
Subtotal	120,354	124,341	128,433	132,637	136,953	141,380
Carryover	–	–	–	–	–	–
Total nontaxable resources	120,354	124,341	128,433	132,637	136,953	141,380

	2075	2076	2077
Total projected need	217,772	223,216	228,796
Total Social Security	(64,680)	(65,974)	(67,293)
Total taxable resources	(34,413)	(34,527)	(34,644)
Projected tax	1,500	1,446	1,389
Subtotal	146,075	150,749	155,547
Carryover	–	–	–
Total nontaxable resources	146,075	150,749	155,547

5. This is a rough estimate only!

The serious retirement planner usually uses software to generate these projections. This is a rough estimate that can be fine-tuned in many ways. Using software can generate a range of possibilities and options easily by changing variables.

Group study:

If taking the course in a group setting, divide into smaller groups and discuss the steps detailed thus far in this chapter. This example is how to develop a rough estimate. In your groups, make two lists:

1. What ways can you think of to fine-tune the estimate?
2. What variables are most likely to blow up the plan?

B. Working backward from the target

1. The starting point

In Chapter 1, we discussed assessing the current financial status of the client, and preparing three financial statements:

1. A personal financial statement will help discover assets that will be future sources of retirement funds. The process of preparing a personal financial statement requires discovering real estate, personal savings, and retirement funds.
2. An income statement helps determine sources of income and the client's current tax situation and income tax brackets. This is important in determining whether to defer tax or pay current tax. An estimate of current and future taxable income is necessary to plan for retirement plan contributions. Future expected increases in earnings are also important.
3. A cash flow statement gives a starting point on actual money in and out that can be a starting point for cash needs in the future.

We also discussed the necessity of a budget. A budget gives the client a tool for better managing cash flow and finding resources that can be saved for retirement. This gives us a starting point for planning.

2. The destination

In this chapter, we have discussed projecting the need for retirement and estimating (a rough estimate) amounts that will be available from Social Security, taxable resources, and nontaxable resources. This gives us a destination. It is hard to plot a course without knowing where you are going.

The destination should be considered a neighborhood, not a specific address. We would be foolish to think that we can plan an exact retirement scenario 20 years ahead of time. There are too many variables. The destination must be flexible and will change over the years based on changes in laws, economic conditions, etc. It may be that the client that thought the desired destination would be easily attained will have to settle for a different destination due to the circumstances of life.

3. The journey

With a starting point and a destination, the client's team of advisers can work together to plot the best course. Consideration should be given to all resources discussed in the previous chapters. Plotting the course will also help the team to determine if the destination is reality or fantasy.

4. Plan B

If the desired destination is not attainable, how close can they get? At what sacrifice? Considerations for Plan B include:

- a. If the original plan called for keeping the home, consider downsizing as discussed in Chapter 3. Also, consider an equity conversion plan.
- b. Consider working longer. What if they delay retirement until age 68 and accumulate more resources?
- c. Consider easing into retirement instead of jumping off the retirement cliff. What if they plan to work part-time in retirement?
- d. Examine the projected budget. What can be cut? Perhaps the travel budget can be reduced.
- e. Is the client willing to downsize and cut back now to have a better retirement later?

C. Plotting the course

1. Determining the required annual investment

Of course, the required retirement fund will not magically appear at retirement. Some kind of systematic investment will be required over a number of years to accumulate the amount required to fund this retirement income objective. The question is: How much and for how long?

The answer to this question is interrelated. How much one needs to save each year depends on how long one has to save it. How long one needs to continue saving depends on how much one can afford to save each year.

Our couple's ages are currently 45 and 42, and they are planning to retire at the ages of 65 and 62. This means they have 20 years to accumulate the necessary funds. But what are the necessary funds? The target is the amount of funds they need at ages 65 and 62 to fund the period of retirement without any additional contributions in. This can be calculated as the present value of the use of resources during retirement.

2. Calculating the target taxable retirement fund at retirement

If we assume earnings at a rate of 3.5 percent during retirement and assume that 90 percent of taxable amounts will be from retirement distributions, the following table gives us a target for taxable retirement funds at retirement. We are using annual amounts for simplicity (since this is a neighborhood estimate, not an exact destination). The annual withdrawals are 90 percent of taxable income other than Social Security.

3.5% Annual Compounding Cash Flow Data			
	Event	Date	Amount
1	Deposit	05/01/2045	1,060,925.62
2	Withdrawal	05/01/2045	189,585.00
3	Withdrawal	05/01/2046	194,265.00
4	Withdrawal	05/01/2047	35,534.00
5	Withdrawal	05/01/2048	36,357.00
6	Withdrawal	05/01/2049	36,420.00
7	Withdrawal	05/01/2050	36,921.00
8	Withdrawal	05/01/2051	40,145.00
9	Withdrawal	05/01/2052	40,282.00
10	Withdrawal	05/01/2053	40,423.00
11	Withdrawal	05/01/2054	40,567.00
12	Withdrawal	05/01/2055	40,712.00
13	Withdrawal	05/01/2056	40,862.00
14	Withdrawal	05/01/2057	41,014.00
15	Withdrawal	05/01/2058	41,170.00
16	Withdrawal	05/01/2059	41,329.00
17	Withdrawal	05/01/2060	41,490.00
18	Withdrawal	05/01/2061	41,655.00
19	Withdrawal	05/01/2062	41,823.00
20	Withdrawal	05/01/2063	41,994.00
21	Withdrawal	05/01/2064	42,170.00
22	Withdrawal	05/01/2065	42,348.00
23	Withdrawal	05/01/2066	40,519.00
24	Withdrawal	05/01/2067	30,773.00
25	Withdrawal	05/01/2068	30,871.00
26	Withdrawal	05/01/2069	30,972.00
27	Withdrawal	05/01/2070	31,074.00
28	Withdrawal	05/01/2071	31,180.00
29	Withdrawal	05/01/2072	31,287.00
30	Withdrawal	05/01/2073	31,395.00
31	Withdrawal	05/01/2074	31,506.00
32	Withdrawal	05/01/2075	31,620.00
33	Withdrawal	05/01/2076	31,736.00
34	Withdrawal	05/01/2077	31,854.00

The target for taxable retirement funds is approximately \$1,000,000.

3. The rest of the picture – Nontaxable resources

We will estimate this as a present value calculation, again using 3.5 percent, of the amount of nontaxable resources required other than Social Security plus the other 10 percent of taxable resources, as they will be generated from the nontaxable resources.

3.5% Annual Compounding Cash Flow Date			
	Event	Date	Amount
1	Deposit	05/01/2045	2,042,626.62
2	Withdrawal	05/01/2045	0.00
3	Withdrawal	05/01/2046	0.00
4	Withdrawal	05/01/2047	51,390.00
5	Withdrawal	05/01/2048	119,270.00
6	Withdrawal	05/01/2049	123,192.00
7	Withdrawal	05/01/2050	89,460.00
8	Withdrawal	05/01/2051	85,127.00
9	Withdrawal	05/01/2052	1,926,996.49
10	Withdrawal	05/01/2053	0.00
11	Withdrawal	05/01/2054	0.00
12	Withdrawal	05/01/2055	37,514.00
13	Withdrawal	05/01/2056	115,080.00
14	Withdrawal	05/01/2057	118,995.00
15	Withdrawal	05/01/2058	84,920.00
16	Withdrawal	05/01/2059	80,506.00
17	Withdrawal	05/01/2060	83,804.00
18	Withdrawal	05/01/2061	87,188.00
19	Withdrawal	05/01/2062	90,668.00
20	Withdrawal	05/01/2063	94,240.00
21	Withdrawal	05/01/2064	97,905.00
22	Withdrawal	05/01/2065	101,675.00
23	Withdrawal	05/01/2066	105,543.00
24	Withdrawal	05/01/2067	109,522.00
25	Withdrawal	05/01/2068	113,618.00
26	Withdrawal	05/01/2069	117,821.00
27	Withdrawal	05/01/2070	122,144.00
28	Withdrawal	05/01/2071	126,581.00
29	Withdrawal	05/01/2072	131,145.00
30	Withdrawal	05/01/2073	135,830.00
31	Withdrawal	05/01/2074	116,184.00
32	Withdrawal	05/01/2075	112,691.00
33	Withdrawal	05/01/2076	116,473.00
34	Withdrawal	05/01/2077	120,354.00

This needs to be refined based on the amount of nontaxable resources that will be from nontaxable retirement funds versus investments outside of retirement funds. For our purposes, we will consider John and Mary needing \$900,000 to \$1,100,000 taxable resources and \$2,000,000 to \$2,200,000 in nontaxable resources.

4. Flexibility in planning

From this point, the balance between taxable and nontaxable resources must be evaluated based on available investments. If John and Mary are in upper income tax brackets, they may shift from nontaxable to taxable for the benefit in current tax savings.

Questions to ponder:

What are your thoughts on traditional retirement plans versus Roth plans? What are some of the reasons you've heard from people who do not trust Roth plans?

Planning point:

The calculations in this chapter are a rough estimate, and not a "one plan fits all" approach. It is intended to show the dynamics between taxable income, nontaxable income, and Social Security in retirement. The individual investor, based on income levels and other variables, may be able to accumulate more wealth for retirement by investing more heavily in tax-deferred funds. This example shows that taxable Social Security and effective tax rates during retirement are variables that must be considered. Also, this example shows the enormous impact of inflation.

5. Converting IRAs to Roths

A planning technique that is becoming more popular is to convert traditional retirement funds to Roths before retirement. The end goal is to eliminate or reduce tax on Social Security. While this is valid for some lower to middle income taxpayers, people who have accumulated substantial wealth will find it difficult to avoid tax on Social Security benefits. Avoiding the 85 percent tier may be difficult for some retirees. Remember when using this strategy that the retiree will have the benefit of standard or itemized deductions and all of the lower tax brackets. As you see from this example, the effective income tax rate can be low in retirement, even with taxable Social Security. Roth conversions are taxed at the taxpayer's highest marginal bracket in the year of conversion.

IV. Layering to make income last a lifetime

A. What is layering?

An approach to making income last a lifetime is to layer or tier investment assets and income horizontally. With this approach, retirees begin by investing just enough of their retirement assets in a conservative manner that is virtually guaranteed to provide the first layer of what they consider their minimum required retirement income. This first layer is the absolute minimum annual income with which they feel they could get by, if necessary. The second layer is the amount that they desire, but which they would be willing to forgo in some periods if investment results did not meet expectations. Because the first tier or layer of their portfolio satisfies their minimum requirement, they can afford to invest more aggressively in the second tier to generate their desired total income level.

B. How does it work?

For instance, a couple may desire, say, \$70,000 of annual income for 30 years. However, if pressed, they feel they could manage with \$40,000 at the absolute minimum.

The first step is to determine the portion of their retirement investment portfolio necessary to achieve their \$40,000 objective with virtual certainty. Assume the objective is to be satisfied with assets invested outside of qualified plans. Assume a 50 percent stock/50 percent intermediate bond portfolio (a portfolio invested 25 percent in S&P 500 stocks, 25 percent in small-cap stocks, and 50 percent in intermediate-

term bonds) has virtually a 100 percent probability of sustaining a 4 percent real (inflation-adjusted) withdrawal rate for 30 years. 4 percent is the highest virtually certain sustainable withdrawal rate among all the portfolios. This means that if the couple wishes to be virtually certain to maintain a real \$40,000 minimum retirement income, they need to allocate \$1 million ($\$40,000 \div 4$ percent) of their retirement portfolio to this investment mix.

This now permits them to invest their remaining retirement investment portfolio much more aggressively. If they invest the rest of their portfolio in a more aggressive portfolio of small-cap stocks, they could sustain an 8 percent withdrawal rate on this portion of their portfolio with about a 50 percent chance of sustaining the withdrawals for 30 years. The couple could pick up the additional \$30,000 of their desired annual income with an additional \$375,000 invested aggressively in small-cap stocks.

This concept allows the investor to be confident in meeting the minimum amount required while aiming higher with a more aggressive portfolio.

C. What is the distribution of lifetime health care costs from age 65?²

1. Introduction

Medical and long-term care costs represent a substantial uninsured risk for most retired households. In 2007, spending on Medicare premiums and copayments averaged \$7,600 among married couples age 65 and over. However, households care not only about average costs, but also about the risk of incurring unusually high costs.

The article outlines the findings of new research that calculates the distribution of lifetime health care costs. The research shows that the expected present value of lifetime uninsured health care costs for a typical married couple age 65 is about \$197,000 – including insurance premiums, out-of-pocket costs, and home health costs, but excluding nursing home care.³ A typical household has a 5 percent risk that the present value of its lifetime uninsured health care costs will exceed \$311,000. And when nursing home costs are included, the amount for a typical couple increases from \$197,000 to \$260,000, with a 5 percent risk of exceeding \$570,000. Even at the peak of the stock market in 2007, less than 15 percent of households approaching retirement had accumulated that much in total financial assets, much less financial assets available for health care costs.

2. What we already know about health care cost risk

The main sources of retired households' health care cost risk are copayments for Medicare-covered services and payments for noncovered services. Long-term care costs – for nursing home care in particular – can be quite significant. About one-third of individuals who turned 65 in 2010 will need at least three months of nursing home care; 24 percent of individuals will need more than a year of nursing home care; and 9 percent of individuals will need more than five years of nursing home care.

Paid long-term care is very expensive. In 2008, the annual cost of a nursing home was about \$71,000 for a semi-private room and \$79,000 for a private room. Alternatively, employing a home health aide for four hours a day, five days a week, costs about \$22,000 a year. Medicare pays for a maximum of only 100 days of nursing home care. Medicaid support for long-term care is subject to strict income and asset tests

² Anthony Webb and Natalia Zhivan, "What is the distribution of lifetime health care costs from age 65," Center for Retirement Research at Boston College (March 2010, Number 10-4). Anthony Webb is associate director of research at the Center for Retirement Research (CRR) at Boston College. Natalia Zhivan is a consultant to the CRR.

³ For the purposes of this analysis, home health care costs were included with other general health care costs, nursing home costs were treated separately, and the costs of assisted living facilities were excluded.

that vary by state. Therefore, the cost of long-term care represents a substantial financial risk for all but the poorest households.

3. Calculating the distribution of lifetime health care costs

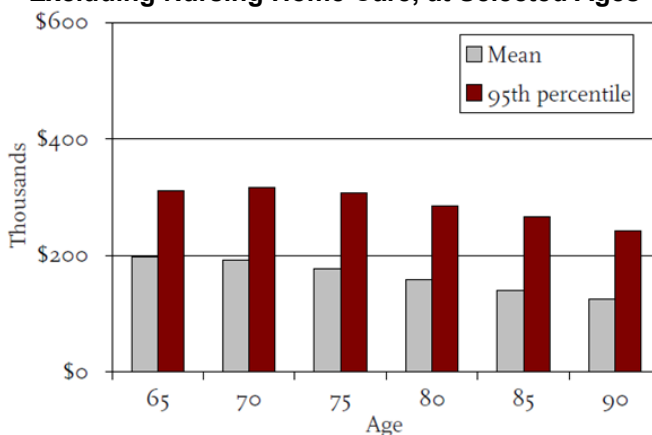
Over the period 1960-2007, per capita health expenditure has increased at an average rate of 4.2 percent a year, adjusted for inflation.⁴ This rate is higher than the 3.2 to 3.5 percent rate projected by the Centers for Medicare and Medicaid Services (2007) for the 2007 to 2027 period under the alternative assumptions that the physician payment schedule stays constant in real terms or increases at 2 percent a year. But the Congressional Budget Office considers it more reasonable to assume that the growth in health care expenditure for the next decade will continue at the average for the past three decades. Moreover, individuals face the additional risk that health care expenditure will grow even faster than projected.

The objectives of these analyses were not to calculate how much households spend on health care in practice – or even how much households should optimally choose to set aside to cover health care costs – but to quantify the magnitude and distribution of the potential lifetime expenditure.

4. Results

Figure 1B shows the mean and 95th percentile of remaining lifetime health care costs at selected ages, excluding nursing home costs, for a typical high school-educated married couple free of chronic diseases at age 65, under the assumption that the couple never becomes eligible for Medicaid. The first two bars show the mean and 95th percentile of lifetime health care costs from age 65 for such a household in 2009. The subsequent bars show what happens to the costs for this type of household as it ages. Over a large number of simulations, the average expenditure amounts to \$197,000 for the 65-year-old household. But in 5 percent of the simulations, the expenditure exceeds \$311,000.

Figure 1B. Mean and 95th Percentile of Remaining Lifetime Health Care Costs Excluding Nursing Home Care, at Selected Ages



Note:

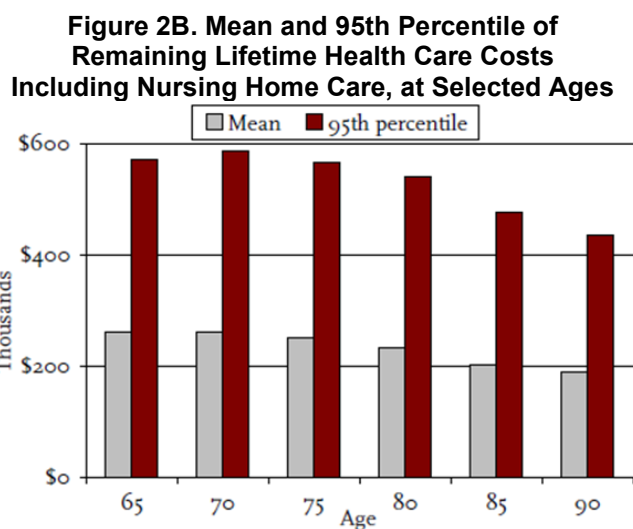
The above costs are in 2009 dollars and are projected for households turning 65 in that year. Increases in medical costs are projected to place subsequent birth cohorts at greater risk, according to Webb and Zhivan.

⁴ Data is from the Centers for Medicare and Medicaid Services, Office of the Actuary. Expenditure growth is largely the result of the introduction of new and expensive medical technologies (Congressional Budget Office, 2008). The 4.2 percent rate of growth in inflation-adjusted out-of-pocket health care costs is consistent with estimates of Hagist and Kotlikoff (2005).

The third and fourth bars show the mean and 95th percentile of remaining lifetime health care costs from age 70, discounted back to age 70, for a household in which both husband and wife survive to age 70. As this household is now five years older, it no longer has to worry about health care expenditures between age 65 and 70, but rather faces the costs of health care services starting at age 70 in 2014. The mean at age 70 is \$192,000, and the 95th percentile is \$317,000.²⁰ Corresponding amounts for ages 75, 80, 85, and 90 are shown in subsequent bars. Interestingly, the gap between the mean and 95th percentile – while significant – is not enormous.

Figure 2B shows corresponding results when nursing home care is included in health care costs. Growth in nursing home costs is driven more by wage growth than by advances in health care technology. Therefore, this analysis adopts an assumption of 1.1 percent real annual growth, which matches the assumption of the Social Security Administration for long-run wages. At age 65, including nursing home costs, the mean and 95th percentile of remaining lifetime nursing home costs increase to \$260,000 and \$570,000, respectively. This gap is much larger than that shown in **Figure 1B**, as nursing home costs substantially raise the risk associated with lifetime health care costs for older households. This finding is not surprising given that few households have insurance for nursing home costs, while most of those over 65 are insured for general health care costs under Medicare.

Remaining lifetime health care costs decline with age. But households face substantial health care cost risk even at advanced ages, which may explain why many wealthy retired households decumulate their wealth more slowly than would be predicted by a simple life cycle model of savings behavior.



Note: See note for Figure 1.

Source: Webb and Zhivan (2010).

5. Conclusions

Estimates of the average amount a household can expect to spend on health care costs do not provide any information about the risk of incurring exceptionally large expenses.

At age 65, a typical married couple free of chronic disease can expect to spend \$197,000 on remaining lifetime health care costs – excluding nursing home care – while facing a 5 percent probability that these costs will exceed \$311,000. Including nursing home care, the mean cost is \$260,000, with a 5 percent probability of costs exceeding \$570,000. Less than 15 percent of households approaching retirement have accumulated that much in total financial assets.

6. Bottom line

The main risk involved in assessing potential health care costs is nursing home (long-term) care. Incorporating these costs, households face a significant risk that could threaten their retirement security. When deciding how much to save for retirement, and how rapidly to draw down their wealth during retirement, households need to consider what risk they are prepared to accept of having their assets substantially depleted by health care costs, whether they are above or below the average risk of incurring exceptionally high costs, and whether they should insure against health care costs by purchasing long-term care insurance.

D. Conclusions

Most Americans have always been on their own when it comes to savings and the ability to retire well. Since 1937, Social Security has provided a base level of income for those workers who reached retirement age or became disabled, or for the survivors of those workers. With an average income replacement rate around 40 percent, Social Security was never designed to be the sole source of income in retirement.

The internet age for the first time made savings planning tools readily available to all individuals. All workers can now open an individual retirement account, and savings tools can help them determine how much they need to save. The same is true for workers who have a §401(k) or similar savings plan at work.

It has always been important for most employees or their advisers to be able to construct a savings plan for retirement that will allow them to determine, inter alia, the appropriate savings rates at an early age. Various financial programs and calculators are available to assist employees with this process, but many of them require the user to input a desired replacement rate or its equivalent. Although there have been many studies that provide readily available rules of thumb, often these are based on methodologies limited to replacement of preretirement cash flow after adjustment for taxes, savings, and age and/or work-related expenses.

One of the most problematic aspects of using the results of these models is that one or more of the most important retirement risks is ignored: investment risk, longevity risk, and risk of potentially catastrophic health care costs.

E. Retirement tool for the public

As a result of this research, EBRI and its American Savings Education Council and Choose to Save® programs have made available to the public, at www.choosetosave.org, free online software that specifically addresses each of these risks and allows the user to determine what replacement rate (or initial retirement wealth expressed in either dollar values or a multiple of earnings approach) will generate a 50, 75, or 90 percent chance of successfully providing a specified amount of nonhealth retirement expenditures as well as simulated health care expenses. Users can construct individualized what-if scenarios that will provide instant feedback on the changes in replacement rates, dollar values, or multiples of earnings required as a result of changing retirement age, asset allocation, and/or percentage of initial retirement wealth annuitized.