

Recalibrating Retirement Spending and Saving

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Chapter 7

Rethinking Social Security Claiming in a 401 (k) World

James I. Mahaney and Peter C. Carlson

Much has been written about the value of taking Social Security at an early age versus delaying the initial start date to a later age. This chapter explores the premise that the full value of delaying Social Security has not been properly measured due to a lack of inclusion of the tax benefits, survivor benefits, projected Cost-of-Living-Adjustments (COLA) benefits, and spousal benefits available under the Social Security provisions and the Senior Citizens' Freedom to Work Act of 2000. Additionally, the lack of expenses charged to an individual during retirement when higher Social Security benefits are chosen should be factored into the evaluation, as the private sector has moved to a 'Do-It-Yourself' retirement structure. Longevity risk, inflation risk, investment risk, and the financial risk caused by the death of a spouse are all now more widely borne by the individual. In addition, two emerging risks have been created in the new 'Do-It-Yourself' retirement model; expense risk and tax risk. We will discuss these emerging risks in this chapter and how these emerging risks should be incorporated into the discussion of the Social Security take-up debate.

As the risks of providing retirement income security have shifted from the employer to the individual, Social Security take-up decisions should be more closely analyzed. Fewer individuals are retiring with a traditional defined benefit pension, and as more retirees choose lump sum options from defined benefit and defined contribution plans, the importance of Social Security as part of a retiree's financial security has greatly increased. The challenge for US retirees is that they themselves are responsible for making decisions about how and when to tap their primary retirement income sources to ensure a secure retirement. Importantly, they appear to receive incomplete or inaccurate information about how to make a decision about when to begin Social Security benefits. Intermediate and long-term interest rates remain below historical averages and many financial experts are predicting lower returns than historical averages in the near future in equity and fixed income markets. Accordingly, Social Security should be more widely recognized as providing valuable financial security

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to the majority of retirees. Traditional 'break-even' points should be revisited in light of higher Full Retirement Ages (FRAs), increased longevity, and the additional risks to retirement security that are now borne more heavily by individual retirees.

In the future, Social Security benefits will become increasingly valuable due to their tax-favored status, inflation protection, survivor protection, and longevity protection. Conversely, IRA income faces investment risk, expenses, and purchasing power erosion and involves self-insuring at a high cost. Income from an IRA (or similar individual account products) may also run out and leave surviving spouses more vulnerable to financial risk. Essentially, when an individual chooses to delay Social Security versus taking Social Security early, that individual will be trading higher IRA income for higher Social Security income over the course of his or her retirement. This is even more salient with the changes brought on by the Senior Citizens' Freedom to Work Act of 2000, permitting spouses to initiate spousal benefits even when the primary worker is delaying Social Security benefits. Thus far this development has not been well understood, appreciated, utilized, or brought into the traditional break-even analysis.

For simplicity, we will assume in what follows that the primary worker is male and the spouse is female, although Social Security is not sex specific. While reading on, one can assume that the spouse with the higher Social Security benefit is the 'worker' and is married to the 'spouse.' Benefits that the spouse collects on her own benefit will be referred to as the spouse's 'worker benefit.' Benefits she collects on the primary's record will be referred to as the 'spousal benefit.'

Related Literature

The Social Security Administration (SSA) (2005) notes that most individuals still take Social Security retirement benefits early; 72 percent of current Social Security retirement income recipients receive reduced benefits because they started their benefits prior to their FRA. A number of studies have been completed in recent years regarding Social Security take-up decisions, including Coile and Gruber (2000). Gustman and Steinmeier (2002) note that many individuals have a strong time preference for receiving Social Security benefits earlier rather than later, even when lifetime benefits may be higher if claiming of Social Security is delayed. Jennings and Reichenstein (2001) present a way to estimate the present value of Social Security benefits both before taxes and after taxes. Their work argues that after-tax income is what really matters to a retiree and therefore taxation of retirement income is a critical part of the equation on how to structure a financial plan to take retirement income.

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We build on the Jennings/Reichenstein approach to show that the taxation of Social Security benefits is largely misunderstood, such that the after-tax present value of Social Security wealth is in general higher than what has previously been discussed. In addition, we point out that a new option to take spousal benefits resulting from the Senior Citizens' Freedom to Work Act of 2000 greatly increases the value of delaying Social Security benefits for a married couple. Changes in the FRA and the value of COLA benefits to a retiree and worker are presented by Muksian (2004). We extend this research by incorporating tax considerations and expenses into the equation of whether a financial planner should recommend that clients should take Social Security earlier rather than delaying the start of benefits.

Postretirement Risks in a 'Do-It-Yourself' Retirement World

Much heard in recent circles is the phrase of an 'ownership society.' What this means is that individuals should decide how and where they should invest their assets for retirement, including Social Security wealth. Arguably, in the retirement income world of the private sector, an ownership society already exists outside of Social Security. That is, the shift from defined benefit to defined contribution plans allows the retiring individual to retire with a lump sum that he or she must manage to provide income for as long as it is needed. Additionally, many employers have switched to cash balance plans where the majority of workers choose a lump sum distribution. Finally, many individuals are choosing to retire from traditional defined benefit plans with a lump sum.

Retirees who leave a qualified retirement plan with a lump sum must now make sure that needed income flows continue to be generated for the life of the retiree (and the spouse, if married). Of course, these periods are unknown and longevity risk may be misunderstood and frequently underestimated by retiring individuals. With the lack of annuitization occurring, many more individuals will likely run out of money due to their longevity and lack of appropriate planning. McKinsey & Company (2005) reports that a 65-year-old couple has a greater than 50 percent chance that one partner will live into their 90s.

Individuals who elect a lump sum option under their retirement plans also bear investment risk. A majority of individuals retiring from defined contribution and cash balance plans roll their lump sums into IRAs and take on investment risk. According to the United States General Accounting Office (GAO) (2003), increasing number of individuals are doing the same under the lump sum option of traditional defined benefit plans. In such cases, three actions must occur to have a positive outcome.

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First, financial markets must cooperate and provide adequate investment returns, especially in the critical years immediately preceding and after retirement. Second, individuals must choose mutual funds which will perform well (as defined by approaching or exceeding broader market returns). Finally, individuals must not buy and sell across funds at the wrong time. As the Dalbar study (2004) shows, the average mutual fund investor struggles with this, as fear and greed drive behavior. For instance the S&P 500 produced average annual returns of 12.98 percent from 1984 to 2003, but the average equity fund investor only received a return of 3.51 percent as individuals made poor decisions in timing their mutual fund purchases and redemptions. For those who chose to time the market and not invest the same amount each month, the return was actually -3.29 percent. Fixed income returns were even worse, as the average investor earned only 3.75 percent annually over the 20-year period, compared to the 11.16 percent average annual return of the Long-Term Government Bond Index.

Furthermore, Bengen (1994) and others argue that the sequence of investment returns on a lump sum nest egg will dramatically influence how long the nest egg will provide income. Thus Monte Carlo simulation techniques have emerged over the last decade to help determine a 'safe withdrawal rate.' Four main criticisms are directed at the use of Monte Carlo simulations by financial advisers. First, they tend to ignore investment and advice expenses (Kotlikoff and Burns 2004). Second, they ignore taxes, which can dramatically impact retirement security, as we will discuss below. Third, Monte Carlo techniques rely on returns drawn from historical averages. As investment returns during the early years of retirement dramatically impact the odds of the nest egg surviving for retirements that can last two or three decades, market returns of the next decade may disappoint investors and may not be properly positioned with Monte Carlo techniques. Indeed, Whitehouse (2005) polled some of the most widely recognized experts in the financial markets who predicted their expected real returns in the bond and stock markets over the next 40 years. The results, summarized in Table 7-1, do not approach historical averages. A final criticism of Monte Carlo simulation techniques is that it may be unrealistic to assume that retirees will have the fortitude to stay invested in equity markets as they get older and experience market losses.

Inflation risk is very real over retirement periods that can last 25 or more years. At a 3 percent inflation rate, the value of one dollar falls to \$0.48 after 25 years. Historically, US inflation rates have averaged around 3.1 percent. Whether inflation returns to the hyperinflationary periods of the 1970s and early 1980s remains to be seen, but there are arguments that the coming demographics issues and budget deficits will cause higher inflation (Arnott and Casscells 2003; Kotlikoff and Burns 2004). Both the smaller number

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TABLE 7-1 Projected Real Rates of Return (%) Anticipated Over the Next 40 Years

<i>Financial Expert Name</i>	<i>Organization</i>	<i>Stocks (%)</i>	<i>Government Bonds (%)</i>	<i>Corporate Bonds (%)</i>
William Dudley	Goldman Sachs	5.00	2.00	2.50
Jeremy Siegel	Wharton	6.00	1.80	2.30
David Rosenberg	Merrill Lynch	4.00	3.00	4.00
Ethan Harris	Lehman Brothers	4.00	3.50	2.50
Robert Shiller	Yale	4.60	2.20	2.70
Joseph LaVorgna	Deutsche Bank	6.50	4.00	5.00
Parul Jain	Nomura	4.50	3.50	4.00
John Lonski	Moody's	4.00	2.00	3.00
David Malpass	Bear Stearns	5.50	3.50	4.25
Jim Glassman	J. P. Morgan	4.00	2.50	3.00
	Average	4.81	2.80	3.33

Source: Whitehouse (2005); reprinted with permission.

Note: This table indicates that financial experts expect the investment returns of stocks and bonds to be below historical averages over the next several decades.

of workers left in the workforce and the cost of entitlement programs are likely to generate higher inflation as the bills become due.

The death of a spouse can cause a significant risk to a widow or widower as Social Security and pension benefits are significantly reduced. In addition, women can be much more vulnerable financially with defined contribution plans, compared to defined benefit plans, since they lose the protection provided under the defined benefit joint and survivor benefit option (Munnell and Sass 2005). In addition, women often marry older men and have longer life expectancies. Furthermore, many widows left the financial management of retirement to their spouses and, at widowhood are faced with an overwhelming burden of becoming the investment manager and financial planner with little expertise.

Social Security: Subtle Changes with Major Impact

Changes enacted under Social Security reforms introduced in 1983 are now phasing in. Importantly, the FRA is now 66 for those who will become eligible for Social Security over the next several years and it will be going to 67 for the cohort born in 1960 and later. Changes to the FRA have increased the penalty for taking Social Security early. What was once a 20 percent decrease in the initial benefit amount when starting Social Security at age 62 is now a 25 percent decrease. The compounding effect of COLAs over longer life expectancies makes these cuts even deeper in nominal terms as

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the base amount on which COLAs are applied is reduced to a greater extent than it was when the FRA was 65. In addition, the 'reward' for delaying Social Security past the FRA is now 8 percent per year for those turning 62 in 2005 and later. Again, in nominal terms, the compounding effect of COLAs throughout retirement adds to the value of delaying compared to older cohorts who did not have an 8 percent Delayed Retirement Credit (DRC). It is also unlikely that most individuals realize that even when they are delaying benefits, they are receiving credit for COLAs during the period for which they are delaying the start of Social Security.

Consider an example. A worker turning 62 in 2006 has a final salary of \$75,000 making her eligible for a \$1,320 a month in Social Security benefits if she began immediately. If she delays Social Security benefits until age 70, her benefit will grow to \$2,884 more than double what she would collect at age 62. Not only would she avoid the penalty for taking her benefits early, but she would also receive increased DRCs and all of the intermittent projected COLA credits projected in the Social Security Administration's trust report as of December 2006. Conversely, if she were to take the \$1,320 at age 62, her benefit would grow only to \$1,637 by age 70. A much higher initial benefit will receive much higher absolute dollar increases over time as the COLA rate is applied. Since these adjustments are compounding, the cumulative differences can be quite significant. Many individuals are likely not considering the impact of higher COLAs on a delayed benefit since the Social Security statement they receive does not illustrate the benefits of those higher COLAs. For example, in discussions with many retirees, we found that they use Excel spreadsheets to forecast their own break-even points and use the Social Security estimated benefits from the annual Social Security statement. By entering the age 66 amount and age 70 amount (which are in current dollars) into a formula that measures future dollar values, the analysis becomes skewed.

Value of COLAs

In nearly all break-even analysis, COLAs are ignored. Muksian (2004) points out that individuals often fail to account for the value of COLAs. Although the Social Security system is generally deemed to be actuarially fair whether taking benefits early, at FRA, or later, the value of COLA benefits, for those who are fortunate to live a long time (and vulnerable to inflation and longevity risk), during retirement can be dramatic. Although, COLAs are not guaranteed by law, we believe that COLAs should be considered as part of the value proposition of weighing whether to delay Social Security benefits. Politically, it would be very difficult to cut COLA benefits for current retirees. Due to much longer life expectancies than in the past,

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the compounding value of COLAs should be considered, especially as these benefits often can be passed on to a widow at the death of the worker. When future projected COLAs are factored in, an individual retiring with a first Social Security check payable in 2006 at age 62 has a crossover age of 78 when comparing to waiting until age 70 to begin initial benefits.

What should be given strong consideration is that the longer the retiree lives, the higher the return delayed Social Security income provides. Benefits have 'snowballed' due to the DRCs and COLAs over many years. Conversely, consider that retirees tend to become more conservative with their own investments as they age and will often struggle to generate sufficient yield to make the income last for longer periods.

In recent years, inflation protection products such as Treasury Inflation Protected Securities (TIPs) and Inflation linked bonds (I-Bonds) have been introduced in the securities market. TIPs are now offered as 5-, 10-, and 20-year bonds but like other bonds, they can lose value in a rising interest rate environment. No matter what inflation rates occur in the future, COLAs on Social Security retirement benefits provide low-cost inflation protection that no private product can duplicate without significant cost. This is primarily due to the expense of providing similar benefits in the private market. As of this time, we believe only a couple of insurers are offering CPI-adjusted immediate annuities in the USA to allow individuals to transfer inflation risk to the insurer.

By taking Social Security early (while not purchasing a private inflation-adjusted annuity), a retiree 'chooses' to retain the inflation risk on the difference in annual income between the early Social Security amount chosen and the delayed Social Security income foregone. These dollars that must be made up are often much less tax efficient as they usually take the form of IRA withdrawals (taxed as ordinary income). Also, an individual picks up the expense of managing these dollars in the form of fees and expenses (commissions, management fees, 12B-1 fees, adviser charges, etc.).

Survivor Protection

The value of spousal and survivor benefits is another area where Social Security has not been adequately valued. The importance of spousal and survivor benefits is further enhanced as the protections provided by defined benefit retirement plans (with a spouse being forced to waive a joint and survivor annuity if one is not elected) disappear as defined contribution plans replace defined benefit plans in the private marketplace. The survivor protection offered under Social Security should be an important consideration in deciding when to take Social Security. Whenever a

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member of a married couple dies, the highest individual benefit at that point in time is the one that continues to be collected by the surviving spouse. In other words, it does not matter who dies first, the worker or the spouse, because the lower benefit drops off. Thus, when a primary worker delays Social Security, the higher delayed benefit plus any compounding COLAs are passed on to the widow at the worker's death, if that benefit is higher than the one she is currently receiving. If an individual still decides to start Social Security early at age 62, the potential benefit to his widow is also reduced at the higher penalty incurred with the FRA at 66 and climbing.

The fact that a higher, delayed retirement benefit can be passed on at death is often overlooked in break-even calculations. Mirer (1998) and Rose and Larimore (2001) explore the economic value of collecting Social Security early versus waiting until FRA, but both studies fail to put an economic benefit on the survivor benefit that continues on after the death of the retired worker. According to the Group Annuity Mortality Table of 1994 currently used by many insurers, given a couple who are both 65 years old, the odds that one of them will reach age 85 are 80 percent; age 90, 57 percent; and age 95, 28 percent. Therefore, there is a good chance of one of the spouses benefiting from a higher delayed Social Security amount for many years. Workers who are older than their spouses should give this special consideration, since their spouses are likely to survive them by several years.

Since the higher Social Security benefit is passed on to a surviving spouse at the worker's death and the lower spousal benefit is dropped, it is often more beneficial to start the spouse's benefits earlier (Jennings and Reichenstein 2001; Munnell and Soto 2005). Therefore, absent specific individual health considerations, it will often be beneficial to start the spouse's benefits first. To illustrate this, we first review what a spouse is eligible to receive according to Social Security rules. This provides the basis for our evaluation. The spouse of a worker is always able to receive whatever benefit she earns on her own record. In addition, if her own worker's benefit is less than half of her husband's primary worker benefit, then the spouse is also eligible to collect the excess of half of his primary benefit minus her own benefit. Both the worker benefit collected on her own record and the spousal benefit collected on his record receive reductions for taking the benefit before FRA. The spousal benefit reductions are greater than worker reductions. While the spouse's own worker benefit can receive DRCs if the benefit is postponed after FRA, her spousal benefit does not receive these credits. This clause in the Social Security rules, more fully explained below, is used to create a disincentive to delay receipt of benefits.

Under the old rules, Social Security policy prevented a wife from taking benefits based on her husband's primary worker benefit until he (the

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primary worker) became '*entitled*.' Although a worker might be *eligible* for full retirement benefits, say at age 66, he was not *entitled* until he filed for these benefits. And the spouse did not become *entitled to the spousal benefits* until the worker filed for those benefits. Therefore, since a spousal benefit did not receive DRCs and the spouse could only take those benefits once the worker files, it became clear that the value of delaying Social Security for a married couple was reduced if the worker is delaying Social Security and the spouse is *eligible* for benefits but not receiving them. The spouse would not receive any DRCs, and therefore 'left money on the table,' if she continued to wait to start her benefits. Jennings and Reichenstein (2001) incorporated this into their present value calculations for Social Security options.

Recent changes to Social Security, however, have changed the dynamics of these outcomes and what married couples should now consider. In particular, the Senior Citizens' Freedom to Work Act of 2000 allowed seniors to 'file and suspend' their benefits upon reaching FRA, which enables the benefits of a worker to continue to accrue DRCs.¹ This ability to 'file and suspend' benefits is an option whether or not the primary worker is still working. Most importantly, it also allows the spouse to take Social Security benefits based on her spousal benefits even when her husband continues to delay his own benefit and receive DRCs. Thus, the disincentive to delay the primary worker's benefit due to spousal benefit concerns described above now impacts a much smaller percentage of beneficiaries, those cases where the spouse is older than the worker and eligible for spousal benefits.

Accordingly, the value of delaying Social Security for a primary worker (and eventually a potential widow) improved, since most of the time spousal benefits are not forfeited if the spouse is otherwise eligible to receive benefits. The Senior Citizens' Freedom to Work Act of 2000 provides more choice for the retirees and the decision on whether to collect Social Security benefits now becomes a separate one for the worker and the spouse in a married couple. It is critical that retirees and advisers understand these choices and their value if they are to make informed decisions to maximize the Social Security benefits available to them.

Given this flexibility, we have identified three primary strategies for couples when delaying Social Security. It is often in a couple's best interest to delay the primary benefit as late as possible, due to the fact that the benefit is passed on to the surviving spouse. The three options revolve around when the spouse takes her own worker's benefit. Scenario I involves the spouse starting benefits as early as possible. Under Scenario II, the spouse delays starting benefits until her FRA. With Scenario III, the spouse delays her benefits until age 70. While the full menu of options involve every month of age in between, these three key ages are chosen due to the change in the calculation of the timing of benefits formula that occurs at FRA.

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Under all three scenarios, the primary worker will file and suspend upon reaching his FRA. Any benefit that the spouse is entitled to off the primary's record (the 'spousal benefit') will start at that time unless otherwise stated.

This new ability for the spouse to take spousal benefits at an earlier age is valuable because the lower (spousal) benefit will drop off once one of the married individuals dies. And, more importantly, the higher, delayed Social Security benefit is now 'stepped up to' by the widow and therefore can provide much higher survivor income protection. This especially holds true when a spouse is younger than the worker, as the younger the spouse (widow) is, the higher the present value of her projected benefits.

Table 7-2 identifies the actuarial present value of Social Security benefits for a married couple and compares beginning Social Security early at age 62 versus the three scenarios just described. For the purposes of this paper, the actuarial present value is defined as the survivorship-adjusted net present value of the cash flows. Cash flows are first multiplied by the probability of survival as determined by the 1994 Group Annuity Rates Mortality Table (GAR) and then discounted by the rate discussed below. The 1994 GAR table is chosen because it is designed to represent the mortality of those sufficiently healthy to work at the time the table is used. The primary worker is assumed to be entitled to an age 62 benefit of \$1,414 per month. The three examples are based on the spouse being entitled to (a) no worker benefit on her own but a spousal benefit on the primary's record, (b) a \$300 monthly worker benefit at age 62 and a smaller spousal benefit on the primary's record, and (c) a \$1,000 monthly worker benefit at age 62 and no spousal benefit. For a discount rate, we chose to use the 15-year US treasury rate as of mid-January, 2007, the time all of the comparable market numbers were run. That rate was 4.9622 percent. Since Social Security is an obligation of the government, it is most appropriately discounted by the rate for other government securities.

It is helpful to break the Social Security decision into component parts. The first column of Table 7-2 calculates the actuarial value of the pre-tax cash flows for the primary worker (and surviving spouse conditional on the primary being the first death) if the worker elects to receive the benefits exactly at 62. The second column calculates the same value as of age 62 should the worker elect to delay the receipt of the benefits until age 70. The third through sixth columns relate to the decision around taking the spouse's benefits. Column 3 values the spousal benefit (and the spouse's worker benefit, if any) should the spouse elect to take benefits as early as possible. Column 4 (Scenario I) portrays the value to the spouse should she take benefits early while the primary delays. Remember, if the primary is delaying the benefit, the spousal piece collected off the primary's benefit cannot be collected until the primary reaches FRA.

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TABLE 7-2 Actuarial Present Value of Social Security Benefits Under Alternative Retirement Strategies (\$2006)

	Primary Worker		Spouse Delayed			
	Early at 62	Delayed at 70	Early at 62	Scenario I*	Scenario II**	Scenario III***
(a) \$0 Spouse's worker benefit, spousal benefit only	344,896	397,144	108,634	114,816	N/A	N/A
(b) \$300 Spouse's worker benefit and smaller spousal benefit	344,896	397,144	111,926	115,486	114,591	111,227
(c) \$1,000 Spouse's worker benefit and no spousal benefit	344,896	397,144	164,630	164,630	162,081	150,867

Source: Authors' computations.

Note: Actuarial present value calculated using a 4.9622% net interest rate and the 1994 Group Annuity Rates mortality table for a couple both aged 62. In each example, Primary Worker is entitled to \$1,404 per month. This table shows that the value of delaying Social Security benefits is increased due to the ability of the surviving spouse to inherit the higher delayed benefit upon the death of the primary worker. Due to the survivor benefit, the value to the spouse of her benefits is reduced if she waits past age 62 while the husband is delaying benefits.

* Spouse's worker benefit (if any) begins at age 62, spousal benefit (if any) begins at age 66.

** Spouse's worker benefit (if any) begins at age 66, spousal benefit (if any) begins at age 66.

*** Spouse's worker benefit (if any) begins at age 70, spousal benefit (if any) begins at age 66.

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Columns 5 and 6 value the decision to take benefits under Scenarios II and III listed above.

As shown in Table 7-2, delaying the primary benefit until age 70 represents a greater present value option assuming a 4.9622 percent net interest rate and the 1994 GAR relative to taking the primary benefit early. In valuing the primary benefit, we used the probabilities that one member of the couple would still be alive to collect the higher, delayed benefit. This methodology is used because a surviving spouse may collect the primary's delayed benefit in the future if she is living and the primary worker has died. Choosing to delay the spouse's own worker benefits is a negative present value proposition because the formula for delaying is not actuarially equivalent for the spouse when one factors in the fact that both members of the couple must be alive in order for the spouse's benefit to be collected. This is illustrated from the \$1,000 spouse's worker benefit [Example (c)] as one moves from Scenario I (starting the spouse's worker benefit at age 62) versus Scenario II (beginning the spouse's worker benefit at age 66). Conversely, the higher penalty for taking the spousal benefit on the primary record early makes the choice to delay receipt until FRA a positive one under these assumptions. This is shown through 'Example (a),' where the spouse has only a spousal benefit and no worker benefit of her own. The PV of taking the spousal piece at FRA (which is the earliest possible decision should the primary delay benefits) is higher than the PV of taking the spousal piece early. Thus, unless a couple has reason to believe their expected longevity is materially different than the longevity implied by the 1994 GAR table, Scenario I provides the best value. These figures do not include the effects of taxes and they also place no value on the peace of mind that comes from a higher guaranteed income level that will survive as long as one member is alive.

Au: Please provide the expanded form of PV if it is deemed necessary.

Additional Factors in the Take-Up Decision

Tax Treatment of Social Security Benefits

Social Security income is often much more tax efficient than IRA income under current tax law. In fact, we believe that the tax benefits of Social Security have been greatly underappreciated. Marginal tax rates may be much higher after retirement, as noted by Gokhale et al. (2001) and Gokhale and Kotlikoff (2003). Prior research such as Jennings and Reichenstein (2001) makes the assumption that Social Security income earned over the Combined Income thresholds will cause Social Security to be taxed at a rate of up to 85 percent of the benefits paid and that the source of income does not matter. Actually, this assumption will not necessarily hold true for the

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majority of individuals and mandates a closer look, especially in light of the question of when to initiate Social Security benefits.

The rules outlining the taxation of Social Security benefits can be found under section 126 of the Official Social Security Handbook [Social Security Administration (SSA) 2001]. A brief description is of use here. Law changes enacted in 1983 and later in 1993 provide that Social Security benefits received over certain thresholds of Combined Income are subject to taxation up to 85 percent of a Social Security dollar. The thresholds were determined in 1983 with the idea that only the wealthy would pay taxes on their Social Security benefits. After the first threshold, up to 50 percent of Social Security income is subject to taxation. After the second threshold, up to 85 percent of Social Security income is subject to taxation. The thresholds were not indexed for inflation, and currently as of 2007 stand at \$32,000/\$44,000 for married couples, and \$25,000/\$34,000 for single individuals. The threshold for 50 percent taxation was established effective for 1983, the 85 percent for 1994.

The Combined Income formula includes all of a retiree's income excluding Roth income together with 50 percent of their Social Security income. The amount of Social Security that is taxable is the minimum of three tests: 50 percent of the Combined Income amount over the first threshold plus 35 percent of Combined Income over the second threshold, *or* 50 percent of benefits plus 85 percent of Combined Income over the second threshold, *or* 85 percent of benefits. Combined Income counts all of the income that is normally taxable plus tax-free municipal bond income. Therefore a married couple which has saved diligently within a 401(k) can face a very high marginal tax rate on an additional dollar of IRA income. If the spouses are in a 25 percent tax bracket, they may pay 25 percent on the IRA dollar as ordinary income tax and another 21.25 percent on the Social Security dollar now subject to taxation at 85 percent ($\$1 \times .85 \times 25$ percent). The effective marginal tax rate on that dollar is therefore 46.25 percent. When current tax rates increase under the sunset provisions scheduled under current law, the effective rate will increase even higher and will exceed 50 percent. State taxes can push the marginal tax rate even higher.

Some financial journalists have dubbed this concept the 'tax torpedo.' But just as the tax torpedo can accelerate the taxes due on a retirement income strategy, *trading* IRA income for Social Security income can create a reverse tax torpedo and drastically reduce taxes. Commonly, a retiree will take Social Security early at age 62 and fund his remaining income needs with IRA withdrawals (which represent his qualified retirement savings). Many of these retirees will find themselves hit by the tax torpedo. Contrast, however, that an individual who delays taking Social Security and funds his needs out of his IRA or other qualified plan is, in essence, trading IRA income for higher Social Security income. This can provide distinct and

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measurable tax advantages. In lieu of just assuming that 85 percent of Social Security income will become taxable, it is important to recognize what type of income is being received. Since Social Security income only counts at a 50 percent rate into the Combined Income formula, much larger amounts of Social Security can be received before the Combined Income thresholds are met. Therefore, when trading an IRA dollar of income for a Social Security dollar, not only is the IRA dollar no longer present (and thus no tax is due), but less Social Security income is also subject to taxation.

A quick illustration is as follows: assume an IRA dollar is removed from the income pool and is added back in the form of Social Security. Removing the IRA dollar causes the Adjusted Gross Income (AGI) to reduce by one dollar. AGI is income including wages, interest, capital gains, and income from retirement accounts adjusted downward by specific deductions (including contributions to deductible retirement accounts), but not including standard and itemized deductions. The IRA dollar being removed also causes Combined Income to drop by a dollar. The Social Security dollar that is added back counts only half to Combined Income, netting a ¢50 decrease in the Combined Income amount. If, for example, we assume that the Combined Income amount is already over the second threshold, that ¢50 decrease results in an additional ¢42.5 reduction to AGI. This results in a total AGI reduction of \$1.425. The total gross income has not changed, but AGI is reduced by \$1.425.

In a 25 percent bracket, this saves \$0.35625 in federal taxes on that dollar of income. If the beneficiary's state of residence also taxes Social Security, it functions the exact same way, albeit just with different tax rates. If the state does not tax Social Security, the lower IRA income still reduces state taxes. Of course, when enough dollars are shifted to Social Security (from an IRA), the retiree may slide into a marginal tax bracket lower than 25 percent. Therefore, additional retirement income such as Required Minimum Distribution amounts may also benefit from lower tax rates. Of course, additional income could be subject to the 'tax torpedo' as well.

Table 7-3 shows an example with \$69,000 of pretax income. For a retired married couple both aged 72, having Social Security income of \$24,000 plus IRA income of \$45,000 results in AGI of \$62,050. Conversely, the couple who delays Social Security and has Social Security income of \$39,000 with a lower IRA income of \$30,000 has the same pretax income of \$69,000 but an AGI of only \$40,675. The first couple has \$21,375 more in AGI—52.5 percent higher and spends \$3,206.25 more in federal income taxes alone for 2006. This same inefficiency occurs every year throughout their retirement once the higher Social Security benefits have started. That totals almost \$100,000 in additional federal taxes over 30 years.

For a retiring individual with only 401(k) wealth (likely to be rolled into an IRA) and Social Security, to be able to afford delaying Social Security

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TABLE 7-3 Tax Efficiency from Alternative Social Security Claiming Strategies (\$2006)

	<i>Strategy I</i>	<i>Strategy II</i>
Social Security income	24,000	39,000
IRA yearly withdrawal	45,000	30,000
Other taxable income	0	0
Sum of income from all sources	69,000	69,000
Combined income	57,000	49,500
50% excess over 1st threshold +35% excess over 2nd	17,050	10,675
85% of benefits	20,400	33,150
50% of benefits +85% excess over 2nd threshold	23,050	24,175
Adjusted Gross Income (minimum of Combined Income Tests + IRA Income)	62,050	40,675
Federal taxes	6,060	2,854
State taxes	2,891	1,895
Other nontaxable income	0	0
Total after-tax income	61,703	65,321

Source: Authors' computations.

Note: This table indicates the tax efficiency of delaying Social Security once that higher income stream begins. The two columns compare taking the same amount of pretax income (\$69,000) for a 72-year-old man with different amounts of Social Security and IRA income. The column on the right has a strategy that takes \$15,000 more in Social Security income and \$15,000 less in IRA income than the column on the left. As the right-hand column indicates, Adjusted Gross Income is reduced by approximately one third compared to the left-hand column because there is less IRA income and surprisingly, much lower taxable Social Security. State taxes are assumed to be 4.66%.

income, IRA income would need to be taken from the retiree's retirement date until the delayed Social Security start age. We will refer to this time period as the 'Bridge Period' and individuals will be receiving 'Bridge Income' from their IRA during this period. Although this IRA income is fully taxable as ordinary income and conventional wisdom holds that tax-deferred income is best delayed as long as possible, the benefits from delaying Social Security are often much greater. Many retirees will pay slightly higher taxes during the Bridge Period, but experience thousands of dollars in annual savings from the point that higher Social Security income begins. By decoupling when to take the majority of IRA income from the time one takes the majority of their Social Security income, much greater tax efficiency can be achieved.

Taken to an extreme, if a person were to convert all of his income into Social Security income, he would pay no taxes on the income. Social

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Security, as a sole source of income, is tax-free up to \$113,058 for 2006 for a married couple with the standard income tax deductions. (This number is indexed with inflation and tied to the tax brackets.) Thereafter for the next \$28,000 of Social Security income, the marginal tax rate of another Social Security dollar is 4.25 percent. In reality, with the earnings cap, nobody can receive that much from Social Security. Two high-income earners who delayed to age 70 could total ~\$60,000 in benefits in today's dollars.

As a planning strategy, however, pre-retirees could project their future Social Security benefits at age 70 and assume lower taxes will be paid on their income. Due to the wage indexing of Social Security benefits, many retirees will retire with significant Social Security benefits. Often, these benefits can be turned into tax-free income at age 70. Let us consider a higher than average earning dual income couple, both aged 55 and earning \$75,000 a year. We assume the couple wants to retire at age 62. The Social Security Web site shows a future value of \$20,400 for each worker if collecting at age 62, for a total of \$40,800 for the couple. However, if the couple, while still retiring at age 62, waits to begin Social Security benefits until age 70, those benefits are projected to be ~\$44,500 per person for a total of \$89,000 of income beginning at age 70 eight years later. If they had no other income, the entire \$89,000 of Social Security income would escape federal and state taxation.

As the Combined Income thresholds are not indexed for inflation, more and more individuals will be subject to the tax torpedo and therefore would benefit from this strategy. Munnell (2003) and others have discussed the increased taxation of Social Security benefits that is occurring over time, as individuals will be more likely to have income over these non-indexed Combined Income thresholds. The higher taxation can often be avoided when higher Social Security benefits are elected and IRA income is minimized. At very high amounts of other income, the tax benefits of trading for more Social Security dollars become limited to the ¢15 of every Social Security dollar that is always sheltered from taxes. Thus, there are always some tax benefits to this strategy, no matter what the income level is. Although it is not intuitive due to the lower Social Security taxation thresholds (starting at \$25,000 and \$32,000), our research shows that retirees receiving up to \$90,000 per year in after-tax income can see significant tax savings once higher, delayed Social Security benefits begin.

When considering the after-tax dollars actually available for the retirement lifestyle, the break-even age for comparing early Social Security versus delayed Social Security is often lowered to somewhere between 75 and 76 years old. The actual age varies depending on the tax situation of the individual. It is important to note that the tax advantages created by

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delaying Social Security may be even more advantageous for a married couple after the death of the primary worker. Note that the surviving spouse will be in a single tax bracket and have a lower Combined Income threshold. With a strategy of 'early Social Security' and IRA withdrawals, the widow will likely see taxation of the IRA and much of her Social Security income. By evoking a strategy at the beginning of retirement of taking IRA income first and a higher delayed Social Security amount, a widow may see much lower taxes since most of the income is in the form of Social Security via the higher Survivor Benefit. And thus, as mentioned above, that income is treated more favorably and will likely see the Social Security taxation formula pick up the test which calculates 50 percent of the Combined Income amount over the first threshold plus 35 percent of Combined Income over the second threshold. Consider, a widow could have \$50,000 of Social Security income (counting as \$25,000) before hitting that first threshold for a single individual.

As mentioned above, many financial advisers advocate taking Social Security early and invoke a strategy to manage IRA withdrawals. Since longevity and investment risks are not often pooled via annuitization, a larger nest egg is needed to self-insure against these postretirement risks when additional income is needed above and beyond an 'early' Social Security benefit amount. Furthermore, expenses must be considered.

The Expense Advantage of Social Security

The 'safe withdrawal rate' initially introduced by Bengen (1994) uses Monte Carlo simulation of historical returns to predict the probability of successfully providing an income stream over a 20-, 30-, or 40-year retirement horizon. Unfortunately, investment expenses and fees are often ignored in this discussion. Pye (2001) concluded that investment expenses can have a profound impact on withdrawal rates. Since individuals increasingly bear the burden of providing income throughout retirement, expenses drained from a portfolio also will reduce future retirement income and thus have emerged as a risk to retirement security. Pye found that the safe withdrawal rate must be reduced by ratio of the expense rate divided by the expected rate of return of the portfolio. Therefore, a 30-year 'safe withdrawal rate' of 4 percent, which assumed a 7 percent average gross return with 2.5 percent expenses, would have to be reduced by 35.7 percent to 2.57 percent $[1 - (.025/.07) \times .04]$. In this example, over 35 percent of potential income is going to pay for expenses, yet many individuals appear not to be factoring in these expenses when calculating a safe withdrawal rate.

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In Maxey (2005), Lipper reported that the average expense ratio of equity funds had risen to 1.56 percent. In addition, Karcinski, Livingston, and O'Neal (2004) found that the average equity mutual fund has an additional 96 basis points of hidden fees made up of brokerage costs and trading costs. Some retirees also pay up-front commissions to purchase mutual funds, while many others pay an asset-under-management fee of 1–1.5 percent to a financial adviser/planner. Therefore, total annual expenses for a retiree to hire professional assistance in a 'Do-It-Yourself' retirement world can easily amount to 3 percent or more.

By trading IRA income for higher, delayed Social Security income, a retiree transitions the expenses of managing his assets to the government. Although an individual has paid FICA taxes during his or her working years, there is no additional cost based on the size of the chosen Social Security benefit. We assume a retiree elects delayed Social Security and receives \$20,000 (adjusted annually for inflation) more of income from age 70 on. If the retiree had elected the lower Social Security amount (\$20,000 less), a comparable safe withdrawal rate of 5 percent for the next 20 years may provide a high probability of income being provided for the full duration under a 60/30/10 stock/bond/cash split. Therefore, with no expenses, a lump sum amount of \$400,000 could provide the 5 percent withdrawal of \$20,000, which is income above and beyond the (early) Social Security benefit. However, once fees are brought in, the size of the lump sum needed grows tremendously. If one assumes 2.5 percent of expenses and an assumed 7 percent gross return, the safe 5 percent withdrawal amount is lowered to 3.215 percent [$1 - (.025/.07) \times .05$]. Therefore, to provide \$20,000 of income, the lump sum amount grows from \$400,000 to \$622,083. This is a much more expensive strategy as evidenced that in the first year alone, \$20,000 of income is provided but also expenses of \$15,552 (2.5 percent \times \$622,083) are generated.

By delaying Social Security, the individual no longer bears the costs of providing that additional income. Since Social Security is 'expense free' during retirement, more dollars can be received by a retiree and not used to pay for investment/financial expertise.

Social Security Options and Customization Are Available

As defined contribution plans replace defined benefit plans, the role of the traditional Social Security benefit as an annuity will become relatively more important. Many retiring Americans will have a much greater fraction of wealth tied up in Social Security than from their own private retirement savings. Consider that a married high earner in 2006 would retire

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with over \$25,000 of Social Security income between the worker and the nonworking spouse if they started collecting right away at age 62. Even assuming no fees, ignoring the tax efficiency, and assuming a 4 percent safe withdrawal rate, that couple would need \$625,000 of saving just to provide a similar pretax benefit with 90 percent confidence that income will last 30 years.

Individuals have the ability to start different pieces of Social Security at different times. A working spouse could start her own worker benefits at age 62, add the additional spousal benefit when her husband reaches FRA, and then eventually assume an even higher widow's benefit at the death of her spouse. Another additional strategy can be used to maximize spousal benefits when the primary earning spouse is delaying Social Security as long as the lower earning spouse has already filed for benefits based on her work record. As Ruffenach (2007) noted, under this strategy, once the primary worker attains FRA, he files *only* for spousal benefits. He would be entitled to spousal benefits for the four-year period from age 66 to age 70. At age 70, once the higher benefit is claimed based on his own earnings history, the spousal benefits being paid to him would cease.

This tactic is unique since historically, the higher earning spouse may not have been thinking about claiming spousal benefits. The key to understanding this option is based on the earlier mention of the difference between being 'eligible' for a Social Security benefit and being 'entitled.' For example, an individual may be 'eligible' for full retirement benefits at age 66. But he only becomes 'entitled' to those benefits once he has filed for those benefits.

Accordingly, if an individual does not file for his Social Security benefits based on his own earnings, he is not 'entitled' to those earnings. Therefore, he may become 'entitled' to spousal benefits once he files for them (if his spouse has filed for benefits based on her work record and he is past FRA) since he is not yet 'entitled' to benefits based on his own work record. Prior to the FRA, an application for a spousal benefit is deemed to also be an application for the worker benefit. This is no longer the case once FRA is reached. Although these additional spousal benefits would add to the present value of Social Security benefits for those delaying Social Security, the figures in this chapter do not reflect these values.

Once individuals customize a strategy to optimize their potential Social Security benefits, they can structure an IRA strategy to provide income during the Bridge Period from retirement to the delayed Social Security date of the primary worker. For a married couple who started the spouse's Social Security benefit earlier, this income could be 'carved out' of the IRA income needed.

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The Benefits of Delaying Social Security and Taking Bridge Income

Thus far we have explained the inflation benefits, tax benefits, expense benefits, and survivor benefits of delaying Social Security. Further, we have introduced the concept of decoupling IRA and Social Security income by drawing on IRA assets first during a Bridge Period to higher, delayed Social Security. In this section, we explore this strategy in more depth. Specifically, we assume that the Bridge Income is in the form of a period-certain annuity constructed to provide a steady stream of nominal income on an after-tax basis to the retirees. A period-certain annuity is an immediate annuity term vehicle that pays monthly income for a specified period. Once that period has expired, no further value exists in the annuity. Since the money has been rolled out of a qualified plan, the period-certain annuity is in the form of an IRA. Thus, all income is taxable when payments are received by the individual. The annuity will provide 3 percent annual increases to provide for some inflation protection during the Bridge Period. The annuity will be reduced proportionately for the married couple as the spouse begins to receive Social Security benefits. For the annuity, we used a 5 percent nominal interest rate, assumed typical annuity administrative expenses, and an assumed 4 percent distribution cost. Other investment vehicles could also be utilized during the Bridge Period including laddering CDs or bonds, as well as using an invested portfolio of assets. Below, we present the annuity due to the ability to customize exact cash flows.

Three different cases are presented. The first two cases reflect single workers, George and Marianne. Both are relatively high-income earners and are projected to receive \$1,414 a month in Social Security benefits if they start at age 62. Since Social Security does not make any distinctions by sex, their benefits and taxes are identical; only their projected longevity is different. The third example is of a married couple, whom we will refer to as John and Linda, both assumed to be aged 62. Similar to Table 7-2 above, we examine various levels of spouse Social Security income for this general case.

In the first example, George has \$247,000 of 401(k) assets which he is considering rolling over to an IRA. He wishes to retire at age 62, at which point he can begin collecting a pension benefit of \$3,000 per month. (Note that the \$3,000 pension income could be \$3,000 of IRA withdrawals as both are taxed the same at the federal level). George considers taking Social Security at 62 and funding the remaining income he needs to live on by taking IRA withdrawals. Alternatively, he can take IRA income first during the Bridge Period and delay Social Security to age 70. He thus benefits from not taking the Social Security reduction, accumulating DRCs, and benefits from the intervening COLAs. By delaying Social Security, George

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can plan on much higher Social Security income versus IRA income during a retirement expected to last many years. Conversely, by taking early Social Security, George has higher IRA income. We make the same financial assumptions for Marianne, the single female.

To compare the two financial strategies, we develop a methodology that would match incomes on an after-tax basis. In this example for single retirees, George or Marianne will be providing themselves with \$58,000 of inflation-adjusted net after-tax income for the rest of their lives. Our methodology is as follows:

- Project Social Security Benefits to age 100, assuming both take the benefits early versus at age 70. The projected COLAs in the 2006 Annual Social Security Trustees report are used to adjust the benefits annually.
- Project Tax Brackets using 2006 tax brackets and standard deductions for single individuals out to the year 2044, taking into account the current sunset provisions in the tax law. For state taxes, a flat rate is assumed (4.66 percent for married, 5.19 percent for single) and taxes are calculated as a percentage of AGI.
- Calculate the Cost of the Bridge Income during the Bridge Period under the delayed approach. Using these assumptions and the assumed pension income, we calculate the after-tax benefit of starting Social Security at age 70. We then discount that after-tax amount back to age 62 for inflation using a 3 percent step rate. Next, we solve for the gross income that would need to be taken from the IRA assets to generate that level of after-tax income. Then we price the eight-year period-certain annuity using the initial income level calculated in c and increasing the payment by 3 percent to reflect Cost of Living increases. Last, we calculate the projected after-tax income for every year until age 100.
- Calculate the required IRA withdrawals that would need to be made under the early Social Security approach to match the after-tax income of the delayed approach for every year until age 100. IRA assets are presumed to grow at a 5.78 percent nominal rate (see Appendix Table 7-A1).

Once the cash flows are determined, we can then compare the two approaches.

The single premium annuity to provide the Bridge Income utilizes almost the entire \$247,000 IRA balance. This can be viewed as the cost of 'purchasing' the income during the Bridge Period to affect this strategy. This is the number we use as the basis of our comparisons going forward. We then calculate present values of the income up until various points. In

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TABLE 7-4 Present Value of Required Income (\$): Single and Married Cases

<i>Social Security Claim</i>		<i>Single Marianne</i>	<i>George</i>	<i>Married John and Linda</i>
	Total after-tax income	58,000	58,000	68,000
	Annual IRA withdrawals (non-delayed)	15,149	15,149	18,135
Delayed to 70	Cost of bridge income period-certain annuity	246,636	246,636	276,648
Early at 62	Until life expectancy	286,454	259,819	381,931
Early at 62	75% life expectancy	335,199	311,553	419,113
Early at 62	90% life expectancy	364,601	350,194	453,453
Early at 62	Cost of inflation-protected annuity	304,064	276,266	409,635
Early at 62	Pye Safe Withdrawal Approach	451,424	451,424	540,414

Source: Authors' computations.

Note: Values calculated as of December 2006/January 2007. IRA assets accumulate at a 5.78% rate. This table compares costs of two strategies. The first involves delaying Social Security of the primary worker until age 70 while taking IRA income first during a Bridge Period from retirement until delayed Social Security begins. This is compared to a second strategy which starts Social Security at age 62 and couples that income with IRA income beginning at the same time. To provide the same after-tax income until life expectancy as the first approach via IRA withdrawals (in addition to the 'early' Social Security), the present value of the needed IRA is indicated. Similar values are provided if the individuals wanted to ensure the same after-tax income until the 75th and 90th percentiles of life expectancy. In addition, if the IRA was invested in an inflation-adjusted annuity, the cost is provided as of January 2007. Finally, we calculate the cost if the IRA utilized a safe withdrawal strategy of an initial 4% and thereafter increasing for inflation while incorporating Pye's methodology of properly accounting for investment expenses. Pye's methodology utilizes 4% Safe Withdrawal Rate with a 60/30/10 stock mutual fund/bond mutual fund/cash mix. Expenses are assumed to be 150 bp for stock mutual fund, 75 bps for bond fund, zero for cash. Expected gross return is 7.10%.

calculating the value of this approach, we use income up to the assumed life expectancies similar to Jennings and Reichenstein (2001); this approach is superior to calculating a pure actuarial value, since actuarial values do not adequately reflect the risks an individual faces. An individual is either alive or not and thus is required to provide himself with the full amount of necessary income, or none at all. (Life expectancies can be found in Appendix Table 7-A1.) Results are shown in Table 7-4.

Using the 1994 Group Annuity Rate mortality table, Marianne has a life expectancy of 87, and George has a life expectancy of 84. We also present values at the 75th and 90th percentiles of longevity. This is important as one of the largest risks that retirees face is living a longer life than they perhaps expect and thus risk running out of an adequate amount of

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income. Financial plans that focus only on life expectancy have a 50 percent chance of falling short. The present value is calculated using the same 4.9622 percent net interest rate utilized earlier. It is much more expensive for Marianne, on an expected value basis, to finance her after-tax income needed by electing early Social Security at age 62 and taking IRA withdrawals. The IRA balance runs out quickly as the retiree must not only pay higher taxes but also must provide the 'foregone COLAs' (the difference between COLA awards between the early Social Security and delayed Social Security amounts) out of her IRA. For George, the values are not quite as large, but the approach is still more efficient. These projections do not account for the risks of investing for retirement on one's own including poor mutual fund selection, greater than projected fund expenses, and the effects of reverse dollar cost averaging. This analysis also sets aside investment risk—the probability of running out of money is much higher under these assumptions (effectively a 6.16 percent withdrawal rate) than under the safe withdrawal rates calculated by Pye (2001). Recall that under Pye's methodology, the safe withdrawal rate must be reduced by the annual expenses divided by the expected return. Thus, with the safe withdrawal rate driven down by expenses, the size of the required nest egg must increase substantially. Using the assumed returns and expenses utilizing Pye's methodology, one would need a little over \$451,000 to have 90 percent confidence that George or Marianne could make the necessary withdrawals until age 92.

A better alternative to Pye's approach may be to purchase an inflation-protected annuity from a financial services company to provide desired income above and beyond this reduced, early Social Security benefit. This is the closest comparable financial product to the delayed Social Security plus Bridge Income approach. An initial income level of \$1,262 a month would need to be purchased to roughly approximate the cash flow required. A quote received on January 23, 2007, was \$276,265 for George and \$304,063 for Marianne for inflation-protected, life-only income annuities (www.flagship.vanguard.com). Thus, to provide themselves with most of the protections and income that following the delayed Social Security approach would bring, George would need 12 percent (\$30,000) more in assets, and Marianne would need over 23 percent (\$58,000) more.

The benefits are also substantial for the married couple, John and Linda. We assume they have \$277,000 in assets and a \$3,000 a month Joint and 100 percent Survivor pension. We assume that John has a monthly Social Security benefit of \$1,414 if he starts at age 62. Rather than examine all possible Social Security scenarios for the couple, we assume that Linda has a small worker's benefit of \$300 per month and would be eligible to collect a spousal benefit based on John's work record as well. Scenario I has Linda starting her \$300 per month benefit immediately at age 62 and then

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collecting an additional \$586 (today's dollars) spousal benefit starting at age 66. This is deliberately the most complex situation, to illustrate a practical application of the various components of the Social Security decision. We follow the same procedures as used in the single example, but substitute the married tax brackets and standard deductions. Again, the annuity increases at a 3 percent rate to mimic Social Security annual increases but is reduced proportionately when spousal Social Security begins. Essentially, the spousal Social Security income is carved out of the annuity cash flow. In calculating the value of the approach, we use the cash flows calculated for a married couple until the joint first to die age, and then we use the cash flows calculated for a single individual until the joint last to die age. John and Linda's total after-tax real income approximates \$68,000 per year in retirement.

Results appear in Table 7-4. For our married couple, the benefits of following a delayed Social Security approach are significant. To provide the same level (\$68,000 after-tax) of income, John and Linda would need anywhere from \$67,000 to \$265,000 more in assets, depending on the methodology chosen and the certainty level desired. John and Linda would need additional outside income of ~\$1,511 per month to have the same level of after-tax income that a delayed Social Security strategy would provide. This amount would drop by ~5 percent upon the first death, thus it approximately equates to a Joint and 95 percent survivor annuity with inflation adjustments. While not illustrated here, if Linda had no worker's benefit, the required cash flow would drop a bit more, equating to a Joint and 85 percent benefit.

While not portrayed in these examples, we note that for two income households, delaying both the spouse and the primary's worker benefits can result in very significant tax savings. Retirees should consider the benefits in light of both partners' health and projected longevity to determine if it is worth delaying both. It is also useful to note that we only consider income motives in this chapter. The primary disadvantage of the delayed Social Security plus Bridge Income strategy is the fast spend-down of assets during the Bridge Period. While significant tax advantages and efficiencies exist, retirees need to live into their mid-70s or early 80s in order to truly benefit from the strategy relative to an early Social Security plus drawdown approach.

Conclusion

Our research shows that individuals should not just look at traditional 'break-even' points when evaluating when to begin Social Security retirement benefits. Instead, optimizing their potential Social Security payments over the next several decades can provide retirees with significant financial

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peace of mind. In particular, Social Security has undergone significant changes that make the value of delaying the receipt of Social Security benefits greater than in the past. Specifically, the increase in the FRA and DRCs can result in significantly greater benefits from delaying Social Security.

The tax efficiency of Social Security income and the 'tax torpedo' penalization of taking qualified retirement income serve to magnify these benefits. In the future, greater numbers of spouses will become eligible for their own worker benefits, but they should consider how those benefits integrate with their spouse's benefits to provide optimal survivor income protection. Additionally, changes made under the Senior Citizens' Freedom to Work Act of 2000 make delaying Social Security for the worker (the higher earning Social Security beneficiary within a married couple) even more attractive. With the additional benefits of survivor protection, inflation adjustments, low expenses, and customization options available, delaying Social Security (for at least one member of a retiring couple) and taking income from personal retirement savings during the Bridge Period becomes a very efficient strategy of providing retirement income. Conversely, the rates of return required to be generated by personal savings accounts such as IRAs and 401(k)s to pay for the additional taxes and expenses when choosing to take Social Security early exceed what many academics and professionals are projecting today. In sum, reasonably healthy individuals and couples may wish to take seriously the potential benefits of delaying Social Security, and first providing themselves with income from their qualified retirement saving.

Appendix

TABLE 7-A1 Life Expectancy Ages

	<i>Marianne</i>	<i>George</i>	<i>Married</i> <i>(first to die)</i>	<i>Married</i> <i>(last to die)</i>
Life expectancy	87	84	80	91
75% expectancy	93	90	86	95
90% expectancy	97	95	90	99

Source: Society of Actuaries (1995).

Note

¹ Since this information is not widely known, interested readers may secure more information in the Social Security *Program Operations Manual System* §§GN 02409.100 and GN 02409.110 [Social Security Administration (SSA) 2007].

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- Arnott, Robert D. and Anne Casscells (2003). 'Demographics and Capital Market Returns,' *Financial Analysts Journal*, 59(2): 20–9.
- Bengen, William (1994). 'Determining Withdrawal Rates Using Historical Data,' *Journal of Financial Planning*, 7(10): 171–80.
- Coile, Courtney and Jonathan Gruber (2000). 'Social Security and Retirement,' NBER Working Paper no. 7830. Cambridge, MA: National Bureau of Economic Research.
- Dalbar, Inc (2004). *Quantitative Analysis of Investor Behavior 2004*. Boston, MA: Dalbar, Inc.
- Gokhale, Jagadeesh and Laurence Kotlikoff (2003). 'Who Gets Paid to Save?' in James M. Poterba (ed.), *Tax Policy and the Economy*, Vol. 17. Cambridge, MA: The MIT Press, pp. 111–40.
- and Todd Neumann (2001). 'Does Participating in a 401(k) Raise Your Lifetime Taxes?' NBER Working Paper no. 8341, Cambridge, MA: National Bureau of Economic Research.
- Gustman, Alan and Thomas L. Steinmeier (2002). 'The Social Security Early Entitlement Age in a Structural Model of Retirement and Wealth,' NBER Working Paper no. 9183, Cambridge, MA: National Bureau of Economic Research.
- Jennings, William and William Reichenstein (2001). 'Estimating the Value of Social Security Retirement Benefits,' *Journal of Wealth Management*, 4(3):14–29.
- Karcinski, James, Miles Livingston, and Edward S. O'Neal (2004). 'Portfolio Transactions Costs at U.S. Equity Mutual Funds,' Zero Alpha Group. www.zeroalphagroup.com/news/hiddenstudy111704.cfm.
- Kotlikoff, Laurence and Scott Burns (2004). *The Coming Generational Storm*. Cambridge, MA: The MIT Press.
- Maxey, Daisy (2005). 'How To Look At Mutual Fund Fees,' *The Wall Street Journal*, February 7: R1.
- McKinsey & Company (2005). *The Retirement Journey*. New York, NY: McKinsey & Company.
- Mirer, Thad W. (1998). 'The Optimal Time to File for Social Security Benefits,' *Public Finance Review*, November, 26: 611–36.
- Muksian, Robert (2004). 'The Effect of Retirement Under Social Security at Age 62,' *Journal of Financial Planning*, January: 64–71.
- Munnell, Alicia (2003). 'The Declining Role of Social Security,' *Just the Facts on Retirement Issues*, Center for Retirement Research Report #6. Boston, MA: Center for Retirement Research at Boston College.
- and Mauricio Soto (2005). 'Why Do Women Claim Social Security Benefits So Early?' *Just the Facts on Retirement Issues*, Center for Retirement Research Report #35. Boston, MA: Center for Retirement Research at Boston College.
- and Steven Sass (2005). '401(k) Plans and Women: A 'Good News/Bad News Story,' *Just the Facts on Retirement Issues*, Center for Retirement Research Report #13. Boston, MA: Center for Retirement Research at Boston College.
- Pye, Gordon (2001). 'Adjusting Withdrawal Rates for Taxes and Expenses,' *Journal of Financial Planning*, April: 126–36.

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- Rose, Clarence and L. Keith Larimore (2001). 'Social Security Benefit Considerations in Early Retirement,' *Journal of Financial Planning*, June: 116-21.
- Ruffenach, Glenn (2007). 'The Baby Boomer's Guide to Social Security,' *The Wall Street Journal*, November 17: R1.
- Social Security Administration (SSA) (2001). *The Official Social Security Handbook*. Washington DC: Social Security Administration.
- (2005). *Annual Statistical Supplement to the Social Security Bulletin*. Washington DC: Social Security Administration.
- (2007). *Program Operations Manual System*. Washington DC: Social Security Administration.
- Society of Actuaries (1995). '1994 Group Annuity Mortality Table,' *Transactions of Society of Actuaries*, 47: 886.
- United States General Accounting Office (GAO) (2003). 'Private Pensions: Participants Need Information on Risks They Face in Managing Pension Assets At and During Retirement,' GAO-03-810, July 29.
- Whitehouse, Mark (2005). 'Social Security Overhaul Plan Leans on a Bullish Market,' *The Wall Street Journal*, February 28: C1.