Maximize Early Social Security Benefits with Leverage© Eva L. Levine July, 2016

A Leverage Strategy

The consensus among advisors regarding social security is that retirees should delay benefits to 70, which would guarantee them additional benefits for the rest of their lives. It is a strategy to reduce longevity as well as inflation risks, as benefits get cost of living adjustment (COLA) due to inflation. Despite the advantage, few retirees have done that. Based on Social Security Administration's records, only 4% of women and 2% of men claimed benefits at 70 in 2013, as opposed to 27% of women and 34% of men who claimed at full retirement age of 65 or 66. www.crr@bc.edu, No. 15-8. A recent study found that among those who would claim social security early, 25% indicated that they did not think that they would live long enough to make it worth optimizing benefits. www.nationwide.com/socialsecurity. Clearly, mortality concerns trump longevity risks in retirees' decision on when to begin social security.

This paper seeks to resolve the dilemma whether to claim social security sooner or later. It proposes a strategy of maximizing social security by claiming early at full retirement age of 66, and leveraging the early benefits from 66 to 69 through various investment vehicles that would result in more benefits than if the retiree had delayed the benefit to 70. The strategy would mitigate both mortality and longevity risks.

Scope and Assumptions

The proposed strategy is based on three components: the beneficiary population, the benefit amounts for early and deferred social security, and the leverage options. Data for this paper are tabulated on Excel and laid out in Tables 1-4. Positive results that support the strategy are marked in blue, and negative results are marked in red. P denotes the year when early and deferred benefits achieve parity, after which deferred benefits would overtake early benefits.

A. The Beneficiary Population

The strategy requires that a retiree has the ability to elect whether to delay social security either because he is still working, or because he does not otherwise rely on the benefits for living expenses. Accordingly, to test the effectiveness of this strategy, we have focused on 5 beneficiary groups that are in the higher income category with a marginal tax rate of 28%. These beneficiary groups cover the basic social security beneficiary scenarios as follows:

• Scenario1 covers single retirees, both male and female. Table 1 lays out the test results for this beneficiary group.

- Scenario 2 covers a couple, each of whom is entitled to the same benefit and is identified as 'couple with 200% benefit' in this study. Table 2 shows the test results for this scenario.
- Scenario 2A covers the same couple in Scenario 2, but with one spouse dying at life expectancy of 85, as shown in Table 2A.
- Scenario 3 covers a couple with one spouse claiming social security as spousal benefit, and is identified as a 'couple with 150% benefit' or 75% of the benefit for the couple in Scenario 2. Table 3 shows the test results for this scenario.
- Scenario 3A covers the same couple in Scenario 3, but with one spouse dying at life expectancy of 85, with test results shown in Table 3A.

B. Benefit Amounts

Social security benefits for each beneficiary are based on the following assumptions.

- 1. The annual benefit for each individual beneficiary is \$30,000 at age 66, except for the beneficiary who gets only 50% of the full benefit as spousal benefit.
- 2. The benefit amount is increased by 3% per year as Cost of Living Adjustment (COLA). (SSA estimates that COLA will average 2.7% to 2024, www.ss.gov/OACT/TRassum.html.)
- 3. The benefit that starts at 66 is characterized and referred to as 'early benefit.'
- 4. The early benefit is compared with benefit deferred to age 70 ('deferred benefit'), which begins at 32% more than the early benefit accrued since 66.
- 5. All gross benefits are subject to 28% income tax on 85% of the payment. Benefit amounts after tax are referred to as net benefit.
- 6. Gross benefits for early and deferred social security are shown on all tabulation tables under column 1, and column 3, respectively.
- 7. Net benefits for early and deferred social security are shown on all tables under column 2, and column 4, respectively.
- 8. The difference between the lower net early benefits and the higher deferred net benefits, beginning at age 70, is referred to as '70 v 66 net deficit' under column 5 in all tables.
- 9. All benefit data are tabulated on an annual, as well as on a cumulative basis for each decade to age 100.
- 10. For the survivor in Scenario 2A, the benefit amount drops from 200% to 100% after the death of one spouse at 85. For the survivor in Scenario 3A, the benefit amount also drops from 150% to 100% after the death of one spouse at 85.

C. Leverage Options

This strategy is tested on five investment vehicles as leverage options described below as Options A to E. Retirees can invest the early benefit funds in these options that would result in higher benefits than if the retiree had deferred social security.

1. **Option A** is a regular investment account that participates in the market, which can be either in equity or bond, or a combination of various types of investment. It can be located in a tax-deferred vehicle, such as a low-cost variable annuity account. The early benefit funds from social security can be deposited in this account and be allowed to grow with no tax impact for as long as the retiree desires. An example of a low cost variable annuity is a self-managed account with Jefferson National that charges only a flat monthly fee of \$20. www.jeffnat.com.

For purposes of this paper, it is assumed that the investment will grow at a rate of 5% per year with no withdrawal. 5% is a relatively conservative growth rate and is within the current expected range of return considered to be reasonable by the financial industry going forward. For example, a recent report from the McKinsey Global Institute in April 2016 estimates that the growth rate for domestic equity may range from 4% to 6.5% in the foreseeable future. www.McKinsey.com.

5% is used in this article also because the cost of living adjustment (COLA) rate for social security benefits has been projected by the Social Security Administration in its annual Trustee Report for 2016 to be 2.7% from now to 2024, or even later.

www.ss.gov/OACT/TR/TRassum.html COLA is adopted as a stand-in for inflation rate for social security retirement benefits purposes. Since a 5% investment growth rate appears to be achievable over a long term investment horizon that spans the potentially equally long retirement span of today's retirees, an investment growth rate that exceeds COLA moderately is therefore a reasonable expectation for the subject strategy.

- 2. **Option B** is also based on the same or similar investments as Option A at 5% return, except that it is positioned in an account that is subject to the 28% income tax on the growth of the investment. Proceeds from this option can be deployed for further investments in either Option C, annuity, or Option E, long term care insurance.
- 3. **Option** C entails the use of annuity that would be funded by the early benefit funds to generate income to offset the additional social security benefits from deferral. The data for annuity are broken down by gender (CM for male, CF for female in Table 1) and marital status for the couple through a joint or a combination of individual policy (C1 C3 in Tables 2 3A), as gender and marital status are factors in determining annuity benefits. All annuity data are derived from the website www.immediateannuities.com.

All data for Option C constitute net income after taxes have been accounted for.

It must be noted that, for replication purposes, data from an internet source such as immediateannuities.com are subject to change on a daily basis, because it is essentially a

secondary source, and the primary sources, which are the insurance companies that offer the annuities, are not always represented on such sites. Moreover, there are many annuities on the market besides immediate annuity that may offer different benefits.

4. **Option D** pertains to an Index Universal Life policy at 6% growth, which provides death benefit and cash value as cash reserve, as well as potential retirement income starting at age 80 or 85. Data for this option are obtained from Allianz Life Insurance Company for a joint life, as well as a single life policy, www.allianzlife.com Data for the joint life policy are identified in Tables 2 – 4 as D1 (no withdrawal), D2 (income withdrawal at 80), and D3 (income withdrawal at 85). For single retirees in Table 1, D1M, D2M, and D3M denote data for single male retirees, and D1F, D2F, and D3F for single female retirees.

This vehicle allows the immediate leverage of social security benefits from day 1, as social security payments can be deposited in a life policy on a monthly, quarterly, or annual basis. Similar to annuity products, there are many such IUL polices on the market, the numbers presented in this paper are intended to be an example, and not a definitive result from this particular vehicle.

As it is a life insurance vehicle, underwriting is usually required, especially for the senior population. The data for this Option D assumes a 'preferred' underwriting category, which indicates 'good health.' Some retirees may not be able to utilize this option due to underwriting requirements.

If an IUL is accessed for income, it is advisable to do it with care in order not to trigger any potential tax consequence.

5. **Option E** covers the use of early benefit funds for health care through a long term care policy. The policy data for this option is derived from Lincoln Financial Group's long term care policy known as *MoneyGuard*® II, which offers premium refund if the policy holder does not use the insured benefits, www.lfg.com.

As gender makes a difference in insurance benefits, the tables below identify the difference by indicating E1 for male and E2 for female. There is no joint coverage for the type of LTC insurance included in this paper, which is based on a policy offered by Lincoln Financial Group, www.lfg.com, although joint, linked, or shared policies are available on the market through other companies.

Option E is funded from the accumulated social security benefits from age 66 to the end of 69. This option allows retirees to leverage the benefit for long term care funding, which would not have been available otherwise, since many policies require a single premium or a 2-pay premium payment schedule.

Similar to life insurance, long term care insurance under this option may require underwriting, which would disqualify some retirees from using this leverage.

Findings

- 1. The data confirm that social security benefits achieve parity at age 80, whether they are claimed at 66 or 70. So deferring benefit would not realize any additional benefit until after 80.
- 2. There are 54 total outcomes in this study, as summarized in Table 4. 39 (72%) of the outcomes show positive results for higher benefits from claiming benefits at 66 (figures in blue). 15 (28%) of the outcomes depict a benefit parity that would occur at age 97 or later. Thus the overall result shows that in virtually all the cases, using leverage to maximize early social security benefits would likely work for beneficiaries who would survive to the high 90's.
- 3. Options A and D1 offer the best outcomes with positive results across all scenarios. These outcomes are achieved because the early benefits can accumulate through the entire retirement years without being deployed for retirement expenses. They serve essentially as liquidity reserve that a retiree can access for any purpose at any time.
- 4. The returns for Options A and D1 are particularly noteworthy for Scenarios 2A and 3A for the surviving spouse. As shown in Table 4, the total net returns for Options A (\$606,767) and D1 (\$676,472) under Scenario 2A for the surviving spouse at 100 exceed the returns for the couple if both had survived to 100 (\$348,209 for Option A, and \$417,914 for Option D1 in Scenario 2). Scenario 3A exhibits similar results.

This outcome suggests that frontloading social security benefits is actually highly beneficial to the surviving spouse, which contradicts the conventional wisdom that delaying social security to 70 would ensure more income protection for the surviving spouse.

- 5. The results also show that if a life policy is used for retirement income under Options D2 and D3, the aggregate benefits would also exceed what social security can offer through deferred benefit claim.
- 6. The leverage strategy also appears to work on different levels of benefit and income, because the outcome for the beneficiaries with lower benefits (the couple with 150% benefit) tracks the outcome for the beneficiaries with higher benefits (the couple with 200% benefit), even though the former receives only 75% of the benefits of the latter.
- 7. The data also indicate that some leverage options work better than others for each beneficiary group. For example, the life insurance Option D may not work as well for singles as for a couple because the policy benefits for singles are generally lower than for a couple with a joint policy.
- 8. The result for Option B is noteworthy in that it's essentially positive across all scenarios, as deficits occur at age 100 in 3 of the 6 scenario outcomes (Table 4).

This result for Option B indicates the lower threshold for the requisite return for this strategy to work. After accounting for income tax on the investment growth, the net rate of return amounts to 3.6%, which is 0.6% over the assumed COLA rate of 3%. It suggests that this strategy would work as long as the leverage return is around 1% above COLA. It would definitely work if the return is 2% above COLA, as demonstrated in Option A, while returns below COLA would most likely make this leverage strategy unworkable.

9. Leverage Option E for long term care appears to work in all scenarios except in Scenario 3A where the surviving spouse may encounter a potential deficit at age 98.

Discussion

A. Mortality Risk

The most common advice on social security benefit claim currently is to delay it to age 70 in order to maximize the payments for life for retirees. It is based on the concern for longevity, as well as inflation risks, which can be mitigated by having COLA applied to social security benefits when there is inflation.

However, as we know that the amount of benefit is the same until age 80, whether it is claimed at 66 or 70, there is little benefit to a retiree for delaying the benefit should he die sooner than later before 80, although it is argued that a surviving spouse, if any, may get better financial protection by getting a bigger social security check for spousal benefit.

The purpose of this article is to recognize that mortality risk should be considered in deciding when to claim benefits, and to propose a solution to the dilemma that confronts all social security beneficiaries. The solution is to claim benefits at full retirement age of 66, and to leverage the cumulative benefits over 4 years in a variety of investment vehicles that would create assets or income to offset the loss of the additional social security payments from deferring the claim to 70.

Based on the findings from our study, this leverage strategy appears to work for all the select beneficiary groups, namely, singles, both male and female, as well as couples with different levels of benefits in every decade of retirement, though the leverage options may provide different benefit amounts among the beneficiaries because of the different social security benefit amounts. In fact, our findings indicate that the strategy can work so well that it can exceed the benefits from deferral by more than \$600,000 in one scenario (2A) under Options A and D at the end of a 34-year retirement for high income beneficiaries with an annual benefit that begins at \$60,000.

B. Longevity Risk

Given that the early social security benefits can be leveraged to produce long term benefits that can last 34 years or more, frontloading the benefits can also address longevity issues if the right leverage is adopted by a beneficiary. Which leverage option

should be selected would depend on the retirement needs of the beneficiary, his risk tolerance, financial resources, overall financial goal, marital status, health status, and other applicable factors.

C. Survivor Risk

Perhaps the most significant finding of this study is the fact that a surviving spouse can benefit from the frontloading of benefits by leveraging the early benefit funds through investments or an insurance vehicle such as a joint and survivor policy from an Index Universal Life program. In comparing the outcome for a couple who both survive to age 100 (Scenarios 2 and 3), with the outcome for a couple with one spouse dying at life expectancy of 85 (Scenarios 2A and 3A), it is clear that the latter scenarios show that a surviving spouse can consistently get better financial protection when the early social security benefits are properly leveraged and realized. This finding directly contradicts the general belief that delaying social security benefits would offer a surviving spouse better income protection in retirement.

D. Market Risk

The arguments against early benefit claim usually include longevity, inflation, and market risks, because social security is a guaranteed, safe, and inflation adjusted source of retirement income that is more reliable than income from other types of retirement investment. On the other hand, social security is subject to public policy and mortality risks that work against some beneficiaries, as the benefits may be modified at any time due to policy changes, such as the recent restrictions on the 'file and suspend' strategy. Additionally, according to the statement of the public trustees of the Social Security Administration on the annual trustee report for 2015, annual social security costs will be more than 25% higher than income by 2034. www.ssa.gov/OACT/TRUSM/index.htlm. There is always a risk whether the benefit in the future will remain the same.

One way to mitigate market risk is to invest the early benefit funds in low risk vehicles such as an IUL or a LTC policy where the benefits are guaranteed up front. While these vehicles may not be available to everyone due to underwriting requirements, they should be considered as a viable leverage to protect what a beneficiary is entitled to in addressing his mortality risks. There is also a bias among many financial advisors against using cash value life insurance for retirement purposes due to policy costs, among other reasons. However, as this study demonstrates, the benefits of a cash value life insurance may serve as an effective leverage to ameliorate both mortality and market risks, and to provide an additional source of retirement income that may last till death.

E. Retirement Risks

The convergence of various factors that affect retirement, such as increased life expectancy, insufficient retirement savings, market volatility, exorbitant healthcare costs, low interest rates for fixed income, etc., has highlighted the need for retirement planning, particularly in the area of retirement income. These issues serve as the backdrop for the

increased attention to social security, which is a major source of retirement income for millions of retirees.

While it is true that delaying social security benefits to 70 would yield a higher payout over time, the fact is that it may not be the best cause of action for retirees who may not live long enough to enjoy the benefit. Since the current life expectancy is around 84.3 for Americans age 65 and over, and benefits are the same until age 80, it means that many Americans may not actually realize the promise of higher social security benefits should they follow the advice of delaying the benefit. The fear of dying early, among other reasons, may explain why only 2% of male beneficiaries and 4% of female beneficiaries defer benefit claim to 70. Mortality concern is also cited by 25% of the respondents in the Nationwide survey mentioned earlier as the reason for claiming social security early.

It is therefore important for financial advisors to help retirees assess the various risks in determining what are the best way and the best time to claim social security, and how to maximize the benefits through their retirement years. In light of the different retirement needs that face each retiree, it may not be enough to advise only that delaying social security claim is the best way to ensure more retirement income. What is needed, perhaps, is an understanding of the total picture of a retiree's finances, and his unique retirement risks.

For example, for a single retiree, if he/she has enough income from various sources for all the living expenses, but has no protection for long term care, an advisor might suggest that claiming social security at 66 and leveraging the early benefit funds for a substantial long term care insurance policy may be an appropriate solution to meeting the healthcare needs of the retiree. In our study, this can be accomplished by getting a policy of over \$300,000 with the early benefit funds of \$100,000. This coverage amount may be more than what the retiree can get from deferring social security to 70, and is a better way to go for healthcare protection than, for example, Option A, which would not give him/her the same coverage amount until age 91.

Or, in the case of a couple who would like to have more financial protection for the surviving spouse, whoever it may be, they can apply the early social security benefits to a cash value life insurance policy as Option D, which can offer various benefits, including tax-free income, that is relatively safe from market risk. The protection would exceed what the additional social security payout would offer through claim deferral until the survivor's death. Moreover, a joint life insurance policy, such as the kind that's used for illustration in this study, can also provide the funds for long term care expenses for the couple if the policy conditions are met. In the event they should have a goal of leaving a legacy to their family, the leverage option with life insurance can also assist in accomplishing the goal.

F. Fiduciary Requirement

In view of the new Department of Labor's fiduciary rule, which requires that advisors act in the best interest of their clients on retirement issues, advisors may need to help clients

assess the benefits of claiming social security earlier than later by apply this leverage strategy, since early benefits appear to be in line with what clients want in addressing their mortality concern. The positive outcomes of the various leverage options tested in this study also show that the strategy would mitigate longevity risk by ensuring that the early benefits can provide long term retirement resources for the retirees.

Conclusion

The purpose of this paper is to address mortality as well as longevity risks in the timing of social security benefits. The results of our study confirm that the proposed leverage strategy would enhance retirees' retirement resources consistently to age 100. The strategy would mitigate retirees' mortality risk, while ensuring that the early benefits would exceed or be comparable to benefits derived from deferral.

The most significant finding from this study is the fact that frontloading social security benefits actually provide more retirement resources for survivors over time than deferred benefits. It is therefore critical that advisors help their clients realize the full potential of their social security benefits through assessing the relative merits of early and deferred benefit claim by applying this leverage strategy. The new DOL fiduciary rule may require that such assessment be done in the best interest of the clients.

Table 1: Scenario 1 - Single Beneficiary 100% Social Security Benefits

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Note: 66V70 Net Cum Benefits* = Cumulative social security net benefits at 66 plus cumulative leverage less cumulative social security net benefits at 70.

**IUL = Index Universal Life; **20 = Death Benefit; **ITC = Long Term Care Insurance.

Table 2: Scenario 2 - Couple With 200% Social Security Benefits

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ì	10	TO.	DB	ocal	607420	607420	607420	607420	607420	607420	607420		607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	60/420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	356230	607420	624764	657946	693017	730271	770055	812820	866545	923827	1050021	1050021	1050021	417914	
Early Benefits Leverage Options	ខ		Joint Life WifeOnly	297,463	1	ı	1	1	ı	1			ı		1	ì	I	1	ı	1	ı		1		29916	29916	29916	29916	29916	29916	29916	29916	29916	299160	299160	47970	29916	29916	29916	29916	29916	29916	29916	29916	29916	P29916	329076	628236	-3871	
fits Lever	g		int Life	\$297,463 \$297,463	1	1	1	ţ	ı	1			1		1	1	1	1	1		1		L		23980	23980	23980	23980	23980	23980	23980	23980	23980	239800	239800	-11390	23980	23980	23980	23980	23980	23980	23980	P23980	23980	23980	263780	503580	*128527	
Early Bene	Annuiby	After Tax	of W+H		1	ı	1			1				1 1	1	ı	1	1	ı	1 1	1		1		30775	30775	30775	30775	30775	30775	30775	30775	30775	307750	307750	26560	30775	30775	30775	30775	30775	30775	30775	30//5	30775	30775	338525		14168	
;	ช				1	ł	;	I	ı	1			ı		1	ı	1	1	ı	1 1	,1		ı		14952	14952	14952	14952	14952	14952	14952	14952	14952	149520	149520		14952	14952	14952	14952	14952	14952	14952	14952	14952	14952	164472	ı		
			Husband Wife	\$148,732 \$148,732	1	1	1	1	ı	1			1	1 1	1	I	1	1	1		ŀ		1		15823	15823	15823	15823	15823	15823	15823	15823	15823	158230	158230		15823	15823	15823	15823	15823	15823	15823	15823	15823	15823	174053	1		
,	e e	2%	Taxable	13X 2670	\$47,366	97859	151632	208850	700000	208850	208850		216369	232228	240588	249249	258222	267518	27/149	297463	297463		297463	29/463	305983	316998	328410	340233	352481	365170	391936	406046	420663	420663	420663	169473	435807	450623	466846	483652	501064	519102	537790	55/150	5//20/	P619514	619514	619514	-12593	
,	Investments	2%		Dererred	\$48,006	99853	155775	216022	770077	216002	216002		226823	250072	262576	275705	289490	303965	319163	351877	351877		351877	3518//	369471	387945	407342	427709	449094	471549	519883	545877	573171	573171	573131	321941	601829	631920	663516	696692	731527	768103	806508	846834	8891/6	980316	980316	980316	348209	
,	ın.		70 v 66	wer Derich	0	0 (0 (0 0	5		0		16466	17469	17994	18533	19089	19661	20251	27485	188770		1	2506	22130	22794	23478		24908					253696		251190	29741								3/6/5		(1)		632107	
efits	4		5 70 Net	4X 20%	0	0	0 0	0 0	>		0		67925	72062	74224	76450	78744	81106	83539	88627	778687			/898//	91286	94025	96845	99751	102743	105825	112270	115638	119108	1046492		1825179	122681	126361	130152	134057	138079	142221	146488	150882	155409	164873	1571273		3396465	
Social Security Benefits	m		SS 70 SS 70 Net 70 v 66	20 Kg 2%	0	0 0	0 0	0 0	5		0		89141	94570	97407	100329	103339	106439	113637	116309	1021902				119798	123392	127094	130907	134834	138879	147336	151757		1373350			160998	165828	170803	175927	181205	186641	192240	19800/	210066	216368	2062029			
Social Se	2				\$45,720	47092	48504	49960	1917/0		191276		51459	54593	56230	57917	29622	61445	63288	67147	589917			/81193	69156	71231	73368	75569	77836	80171	85053	87605	90233	792796		1573989	92940	95728	00986	101558	104605	107743	110975	114304	121756	124904	1190357		2764346	
	Η.		SS 66 SS 66 Net	OLA 3%		61800	63654	65564	970767				6/531	71644	73793	76007	78287	80636	83055	88113	774167				90756	93479	96283	99172	102147	105211	111618	114967	118416	1040416			121968	125627	129396	133278	137276	141394	145636	150005	154505	163915	1562141			ŧ.
			Age	,		29	89 8		DR DR	Leverage	66v70 Net	can benefits	9 7	72	73	74	75	76	//	26	Total 70-75	DB	Leverage	Cum Benefits*	80	81	82	83	84	50 0	87			Total 80-85	Leverage	66v70Net Cum Benefits*	06	16	92	93	94	92	96	/6	20 00	100	190-100	DB	66v70Net	Cum Benefits*

Note: 66/70 Net Cum Benefits* = Cumulative social security net benefits at 66 plus cumulative leverage less cumulative social security net benefits at 70.

Table 2A: Scenario 2A - Couple with 200% Social Security Benefits and Survivor Benefits after 85

																										ļ				2000 Contract of the Contract									1													
2	27	2016	*	m	3100,000	ı	E 1		1	ı	1		338000	338000	338000	338000	338000	338000	338000	338000	338000	338000	338000	338000		338000	338000	338000	338000		000000	338000	338000	338000	338000	220000	338000	481316		338000	338000	338000	338000	338000	338000	338000	338000	338000	338000	1	338000	200051
ā	TC Incurance	FICHISMI	Ξ	Premium	\$100,000 \$100,000	1	()	ı	1	ı	I		326400	326400	326400	326400	326400	326400	326400	326400	326400	326400	326400	326400		326400	326400	326400	326400				1	1	ı	1 1	326400	1		1	ı	1		ı	ī	1	ı	ı	1 1	1	326400	
2	S	ome	88			ı	f 1	1	1	ſ	1			1	ı	r i	: :	1	1	1	1	: 13	. 1				1	1 1		-			25976																285736			
2	oint I ifa	IIII Inc	80 85	Total Premium	\$208,850	1		ī	1	1	1			1	1	1	1	1	1	1	1	(1)	1			17672	17672	17672	17672	88360	17672	17672	17672	17672	17672	399248	575968	392884		17672	17672	17672	17672	17672	17672	17672	17672	17672	194392	211644	582756	-
Σ			DB	Tota		607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420	607420		607420	607420	607420	607420	607420	007470	607420	607420	607420	607420	607420	607420	424336		607420	624764	657946	730271	770055	812820	866545	923827	984902	1050021	1050021	1050021	Care a mar
Early Benefits Leverage Options	3		WifeOnly		\$297,463	,	1 1		1		1		-	į	1	1	: :	1	1	1	E	,	1			29916	29916	29916	29916	149580	0,000	20016	29916	29916	29916	149300	299160	116076		29916	29916	29916	20016	29916	29916	29916	29916	29916	329076	ı	628236	
Benefits Le	ť		Joint Life		\$297,463 \$,	1		ı		ì			ī	:	ı		,	;	1	ı	I	1			23980	23980	23980	23980	119900	00000	23980	23980	23980	23980	113900	239800	56716		23980	23980	23980	73980	23980	23980	23980	23980	23980	263780		503580	
Early	willer	muity	H+W Jo			,	£ 1	1	1)			1	;		: :	1	ŧ	1	E	ı	1			30775	30775	30775	30775	153875			ŧ	;	153075	C/06CT	228635	45551		ı	1	1				1	ı	1	1 1	ı	1	
5		4 4	Wife		\$148,732	1	î i		;		1			E	1	E I		- 1	1	1		1	1			14952	14952	14952	14952		44052	14952	14952	14952	14952	14/90	-1			14952	14952	14952	14952	14952	14952	14952	14952	14952	164472	1	393107	
			Husband		\$148,732 \$1	ı	ı	1 1	t		1			ı	1	1 1	1 1	- 1	ı	,	E	ı	1			15823	15823	15823	15823			1 1	ı	1	ı	1 1	. 1			1	ı	ı		1 1	1	ı	1	ı	1 1	ı	ı	
ø	0	nts 56%	Taxable	Tax 28%		\$47,366	97859	208850	208850		208850	208850	216369	224158	232228	240588	243549	267518	277149	287126	297463	297463	297463	297463		305983	316998	328410	357481	352481	07.470	378317	391936	406046	420663	420863	420663	237579	-	435807	450623	466846	483522	519102	537790	557150	577207	597987	619514		619514	
	Intractmente	Investmen 5%	Тах	Deferred		\$48,006	99853	216022	216022		216002	216022	226823	238164	250072	262576	289490	303965	319163	335121	351877	351877	351877	351877		369471	387945	407342	42//09	449094	2474740	471349	519882	545877	573170	1/18/6	573171	390087		601829	631920	663516	72157	768103	806508	846834	889176	933634	980316		980316	
	n		70 v 66	Net Deficit		0	0 0	0 0	0			0	16466	16961	17469	17994	10000	19661	20251	20860	21485	188770		2506		22130	22794	23478	24182	117491	Survivor Deficits	12313	13608	14016	14437	78000T		183084		14871	15317	15777	16237	17240	17757	18289	18838	19403	190465			
ខ្ល	3					0	0 0	0 0	0			0	67925	69963	72062	74224	78744	81106	83539	86046	88627	778687		778687		91286	94025	96845	107743	484650	S	57500	56135	57819	59554	7/559/		1544259		61341	63181	65077	67079	71111	73244	75442	77705	80036	785643			
rity Benefit	9		SS 70 SS	COLA 3% Tax 28%		0	0 0	0 0	0			0			94570		103339				116309					119798				636024	nefits	71522	73669	75879	78155	1004690				80499	82914	85401	8/363	93320	96120	99004	101974	105033	1031015			
Social Security Benefits	7					\$45,720	47092	49960	191276			191276	51459	53002	54593	56230			63288		67142			781193		69156				367159	Survivor Benefits	40086	42527	43803	45117	2/3381		1361175		46470	47864	49300	57303	53871	55488				595178			
اري ا	4		S 66 SS 6	COLA 3% Tax 28%		\$60,000 \$4		65564				1000				73793								6		90756	93479			- 1	S	57187	55810	57484	59209	/61128		1		60984	62814	64698	66669	70697	72818	75003	77253	79570	781071			
			Age			9\$ 99		o 69	59-	DB	Leverage	66v70Net Cum Benefits*				73						54.	Leverage*	66v70Net	Cum Benefits*		81			4			87			lotal 80-85	Leverage*	66v70Net	Cum benefits	06	91	92	93	÷ &	96	26	86	99	10		Leverage*	

Note: 66v70 Cum Benefits* = Cumulative social security net benefits at 66 plus cumulative leverage less social security net benefits at 70.

Table 3: Scenario 3 - Couple with 150% Social Security Benefits

Sign Stroke No. 66	Ö	cial Sec	Social Security Benefits	efits	1	•	ı		,	Early	Senefits Lev	Early Benefits Leverage Options	ì	1	i	d	1
State Stat	7		m	4	ın	A	a apage		ฮ	America	S	ខ	01	D2	D3	E1	E2
Column C						2%	2%			After Tax				IUL Inco	ne	TIC IIISHI	a) III Ce
Color Colo	99		SS 70	44	70 v 66	Тах	Taxable	Husband	Wife	M+M	oint Life W	ife Only		80	85	Husband	Wife
No. Color	3		COLA 3%		Net Deficit	Deferred	1ak 28%		\$111,551			223,102		Premium \$156,641		Premiu \$75,000	m \$75,000
0 0 0 0 1/480 1/284 1/28	4	2066	0	0	0	36005	35525	,	1	ı	1	:	455572	1	1	ı	1
0 0 0 0 0 150211 15641 0 0 0 0 0 0 0 0 0	co	5319	0	0	0	74890	73394	ī	ı	I	ı	ı	455572	ı	1	ī	;
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	m i	3382	0 0	0 0	0 (116836	113728	1	1	1	1	1	455572	I	1	E	:
Marie Mari	13 0	4237	0 0	0 0	0	162021	156641	1 1	1 1	1 1	: :	1 1	455572		1 1	1 1	
Column C													455572	1	1	1	
0 0 0 0 152211 55641 156211 55641 156211 55641 156211 55641 156211 55641 156211 55641 156211 55641 156211 55641 156211 55641 156211 55641 15621 156211						162021	156641	1	,	1	ı	1	455572	1	1	ı	1
1,000,000,000,000,000,000,000,000,000,0	12	4237	0	0	0	162021	156641						455572				
1,500, 1	1 113	8594	66855	50944		170122	162280			ı			455572			244812	243108
70054 5566 13400 13400 13400 13400 13400 13400 13400 13600 13400	(1)	39752	68861	52472		178628	168122	1	1	1	1	1	455572	ľ	E	244812	243108
7.26.48 5.35.68 1.34.66 5.05.68 1.34.66 5.05.68 1.34.66 5.05.68 1.34.66 5.05.68 1.34.66 5.05.68 1.34.66 5.05.68 1.34.67 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.68 7.77.68 5.05.68 1.34.67 7.77.68 5.05.68 1.34.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 5.05.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 7.77.68 <t< td=""><td>~</td><td>10944</td><td>70926</td><td>54046</td><td></td><td>187560</td><td>174175</td><td>1</td><td>;</td><td>1</td><td>1</td><td>1</td><td>455572</td><td>1</td><td>1</td><td>244812</td><td>243108</td></t<>	~	10944	70926	54046		187560	174175	1	;	1	1	1	455572	1	1	244812	243108
7.58 5.75	4	12173	73054	55668		196937	180445	Ī	1	I	:	ı	455572	ı	ı	244812	243108
National State Nati	4	3438	/5246	5/338		206784	186941	ł	1	1	ı		455572	ľ	í	244812	243108
1,50,000,000,000,000,000,000,000,000,000	4 4	T4/4	2007	25028		21/124	1936/1	I		ı	;	1	455572	1	1	244812	243108
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	1 4	2466	87773	62655		026777	200845	1	1	1	1		4555/2	ı	1	244812	243108
Fig. 15 Fig.	4	0688	84690	64534		751348	215349	1	. 1	1	1		455572			244612	243108
1864 1869	5	356	87231	66470		263915	223102		- 1	1	1		455572	- 1	1	244812	243108
\$8946 \$8644 \$1659 \$23102	44	2437	766418	584016		263915	223102	ł	ŧ	ı	1	f	455572	ı	ſ	244812	243108
Seed													455572	1	1		
\$84406 12689 26846 12687 277111 211133 11166 11120 23081 17988 22440 455572 11644 -						263915	223102	ı	1	1	1	1	455572	1	1	244812	243108
8944 68464 16597 777111 231133 11861 11220 23061 17968 22440 455572 11684 244812 95320 7323 7762 32051 17988 22440 455572 11684 244812 95320 7832 7762 320791 230792 11861 11220 23081 17988 22440 455572 11684 244812 91132 77657 38860 336572 77627 11684 244812 104158 77657 38860 368577 11861 11220 23081 17988 22440 455572 11864 244812 104158 77657 19860 11760 380 22440 455572 11864 17995 244812 110502 86728 11760 380 22440 455572 11864 17995 244812 110502 78284 282440 455572 118	S.	96674		584016		263915	223102						455572			244812	243108
9.254 7051 1705 290967 289454 11861 1120 23068 1798 22440 455572 11684 244812 95230 77651 18660 305551 248075 11861 11220 23061 1798 22440 455572 11684 244812 101125 73663 13663 356527 11861 11220 23061 1798 22440 455572 11684 244812 100728 81750 19828 33672 275843 11861 11220 23061 1798 22440 455572 11684 244812 1103007 8402 3042 2460 455572 11684 2440 455572 11684 244812 1103007 8702 27684 11861 11220 23061 1798 22440 455572 11684 244812 1103007 48653 11120 23061 1798 <th>1 "</th> <th>51867</th> <th>89848</th> <th>68464</th> <th></th> <th>277111</th> <th>231133</th> <th>11861</th> <th>11220</th> <th>23081</th> <th>17988</th> <th>22440</th> <th>455572</th> <th>11684</th> <th>1</th> <th>244812</th> <th>243108</th>	1 "	51867	89848	68464		277111	231133	11861	11220	23081	17988	22440	455572	11684	1	244812	243108
95230 7563 1768 22440 45527 1164 - 244812 101125 74812 1836 305515 11861 11220 23081 17988 22440 455272 11684 - 244812 101128 70051 18680 38680 36672 11861 11220 23081 17988 22440 455572 11684 1995 244812 10728 81750 2041 38690 37785 11861 11220 23081 17988 22440 455572 11684 17995 244812 110520 2041 1861 11220 23081 17988 22440 455572 11684 17995 244812 110520 2041 1788 22440 455572 11684 17995 244812 110520 2041 1788 22440 455572 11684 17995 244812 110500 2041 1788 22440 455572 11684 17995		53423	92543			290967	239454	11861	11220	23081	17988	22440	455572	11684	:	244812	243108
98772 74812 18136 320791 1570G 11861 11220 23061 17988 22440 455572 11684 - 244812 10112 77364 19680 35672 11861 11220 23081 17988 22440 455572 11684 - 244812 10728 81750 19618 375672 11861 11220 23081 17988 22440 455572 11684 17995 244812 110502 8072 2042 405419 306719 11861 11220 23081 17988 22440 455572 11684 17995 244812 110502 8072 2040 11861 11220 23081 17988 22440 455572 11684 17995 244812 1103007 784863 12056 11861 11220 23081 17988 22440 455572 11684 17995 244812 1103007 784879 11861 11220 23081	m)	2026	95320			305515	248075	11861	11220	23081	17988	22440	455572	11684	ī	244812	243108
107.28 77.057 18680 336820 56257 11861 11220 23061 17988 22440 455572 11684 7995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 11684 71995 244812 11861 11220 23061 17988 22440 455572 44812 12608 22440 455572 44812 244812 124812 244812	п)	56676	98179			320791	257005	11861	11220	23081	17988	22440	455572	11684	ī	244812	243108
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15.274 12.002	ō c	0000	006761			TOGOGO	4308/5	11861	11220	T8087	71/988	22440	646865	P11684	1/995	244812	243108
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12402.b 11/8445 2850/8 /35,259 4088/6 1304/1 1,123420 253891 1/9880 246840 735189 116840 19/945 24812 24812 2	9 9	36/8	1622/5			735259	468876	11861	11220	23081	17988	22440	735169	11684	17995	244812	243108
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	80	4038		2547324		271973	5590			21415	100	7954	271883	-77611	38680	13169	11465

Note: 66v70 Cum Benefits* = Cumulative social securty net benefits at 66 plus cumulative leverage less cumulative social security net benefits at 70.

Table 3A: Scenario 3A - Couple with 150% Social Security Benefits and Survivor Benefits after 85

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D2	Joint Life	IUL Incor	mnima	156,641	ı	1	ı	1	ī	ı	ı			1 1	1	1	1	ı	ī	ł	ı	1	. 1	1			11684	11684	11684	11684	11684		11684	11684	11684	11684	11684	116840	727777	291220		11684	11684	11684	11684	11684	11694	11684	11684	11684	11684	128524	140311	385675
D1		⊒ 8		₹\$-	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	455572	4555/2	455572	455572	455572		455577	455572	455572	455572	455572	THE STATE OF THE S	455572	455572	455572	455572	455572	455572	455572	312015		455572	455572	460984	485452	511463	233269	COTCOS CUCTRO	646865	689602	735169	735169	735169	735169
Options																																																						
Early Benefits Leverage Options C2 C3		Wife Only		\$223,102	I	1	I	ı	E		ŧ				ı	ı	ľ	ı	1	I	E	1	ı	1			22440	22440	22440	22440	112200		22440	22440	22440	22440	22440	224400	224400	80843		22440	22440	22440	22440	22440	22440	22440	22440	22440	22440	246840	474340	471240
Early Benefi C2		Joint Life Wife Only		\$223,102	į	:	ŧ	1	ı		ı			1 1	1	1	1	ı	1	1	ı	4 11	i.	1							1/988		17988	17988	17988	17988	17988	89940	179890	36323		17988	17988	17988	17988	17988	17000	17988	17988	17988	17988	197868	277740	377748
	Annuity	After Tax H+W	Premium		ŧ	ı	Ε	;	ŧ		:			1 1	T	;	1	1	1	į	ı	: 1	E	1			23081	23081	23081	23081	115405		1	1	1	1	1	115405	171505	27948		1						E 1						
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		Husband		\$111,551	E	I	1.	;	;		1			1 1	1	1	1	:	1	ì	:	: ;	li .	1			11861	11861	11861	11861	11861		1	1	1	1	1	L	1				1	1	1	1	1	1 1	,	1	ı	ı		I
m	ents	5% Taxable	Tax 28%		35525	73394	113728	156641	156641		156641	156641	162280	168122	174175	180445	186941	193671	200643	207866	215349	223102	707077	223102	223102		231133	239454	248075	257005	266257		275843	285773	296061	306719	317761	31//61	317761	174204		329200	341052	353329	366049	3/922/	2926/9	421676	436875	452583	468876	468876	320034	468876
۷	Investments	5% Tax	Deferred		36005	74890	116836	162021	162021	,	162021	162021	170122	178628	187560	196937	206784	217124	227980	239379	251348	263915	2000	263915	263915		277111	290967	305515	320791	336830		353672	371355	389923	409419	429890	429890	429890	286333		451385	473954	497652	522535	548661	960076	635144	666901	700246	735259	735259	725350	735259
S		70 v 66	Net Deficit		0	0	0	0	0		•	5	12350	12721	13102	13495	13900	14317	14747	15189	15645	141579	-		12658		16597	17095	17608	18136	88116		12827	13212	13608	14016	14437	120710		143557		14871	15317	15777	16250	16/3/	17757	18289	18838	19403	19985	190465		
its 4					0	0	0	0 1	0		•	>	50944	52472	54046	55668	57338	29058	60830	62655	64534	584016			584016		68464	70518	72633	74812	363485			54500	56135	57819	59554	944406		1228422		61341	63181	65077	67029	59040	73244	75442	77705	80036	82437	785643		
Social Security Benefits 2 3		55 70 55	COLA 3% Tax 28%		0	0	0	0 1	0		c	5	66855	68861	70926	73054	75246	77503	79828	82223	84690	766418	24				89848	92543	95320	98179	477015	ŧ	69440	71523	73669	75879	78155	/42681				80499	82914	85401	87963	20906	95320	99004	101974	105033	108184	1031015		
Social Sec 2		SS 66 Net	Tax 28%		45066	35319	36382	3/4/0	15423/		454337	154423/	38594	39752	40944	42173	43438	44741	46083	47466	48890	442437			596674		51867	53423	55026	56676	275369		40086 69440	41289	42527	43803	45117	167994		1084865		46470	47864	49300	50779	52302	55488	57152			62452			
н		99 8	COLA 3%		45000	46350	47745	491/3	188268				50648	52167	53732	55344	57005	58715	60476	62291	64159	580623					68067	70109	72212	74379	361377		52606	54184	55810	57484	59209	0/9049				60984	62814	64698	66639	2000	72818	75003	77253	79570	81957	781071		
		Age			99	67	89 6	69	10tal 66-69	8	Leverage	Cum Benefits*	70	2 7	72	73	74	75	76		8 6	Total 70-79	DB	Leverage®	66v70Net	Cum Benefits*	80	81	82	8 8	80-84		85	98	87		6		Leverages	66v70Net	Cum Benefits®	96	91	95	93	g	S 9	97				10	laversee*	Leverage*

Note: 66V70 Net Cum Benefits* = Cumulative social security net benefits at 66 plus cumulative leverage less cumulative social security net benefits at 70.

Table 4*
Summary of Net Benefits and Deficits of Social Security Claim at 66
Age 66-100

66-69 Net						
SS Benefits	\$95,638	\$95,638	\$191,276	\$191,276	\$154,237	\$154,237
Leverage Options	Scena Single Male		Scenario 2 Couple with 2	Scenario 2A 200% Benefits Survivor	Scenario 3 Couple with 15	Scenario 3A 0% Benefits Survivor
Α	\$174,104	\$174,104	\$348,209	\$606,767	\$271,973	\$401,573
В	-3458 P100	-3458 P100	-12593 P100	245965	5590	134854
СМ	16251				**	
CF	-	-2040 P100			y 	
C1			14168	19558	21415	-39097 P99
C2			-128527 P97	130031	-85538 P98	33726
C3	****		-3871 P100	254687	7954	137218
D1M	93678			**		
D2M	-70598 P97	-		***	NA TOOL	***
D3M	-29079 P99		-	en et	-	
D1F		52669				
D2F		-76235 P97		M-M		No. 400
D3F		-57773 P98				
D1			417914	676472	271883	401147
D2			-49351 P99	209207	-77611	51653
D3		wa.	92040	350598	P98 38680	167944
E1	10368	en fair ann aire fàil ain ain air àire fair dan dan aire ain aine din An	10346		13169	
E2		21968	21946	290851	11465	153898

^{*}All data are based on the last line of Tables 1-3A.