

## **Retirement Financial Risk Management A U. S. Perspective**

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### **Summary**

This paper presents the commonality of risks Financial Institutions share with Individual Persons approaching retirement, the common techniques of minimizing those risks, and the unique options available to Individual Persons.

In an important way, the Individual has the upper hand. He can pass off many of his individual risks to Financial Institutions. Each Financial Institution must bear most of the risks it accepts from the Individual, although it can and does reinsure some with other Financial Institutions.

A typical Retiree's Desire is to have an amount of income sufficient to maintain his pre-retirement standard of living, for as long as he or his spouse may live, without Risk.

Totally "without Risk" is an impossibility of achievement. Hence, to reduce exposure, Risk Management becomes the objective. Management of Risk consists of three steps: 1) Identification of the Risks involved with each source of Retirement income, 2) Minimization of the Risks identified, and 3) achievement of a balance between the extent of Risk Minimization and the effects on Quantity of Retirement Income.

## Résumé

### Gestion de Risque Financier de Retraite

Cet article présente la facteur commun des risques que les institutions financières partagent avec des personnes individuelles approchant l'âge de la retraite, les techniques communes pour minimiser ces risques et les options uniques à la disposition de ces personnes individuelles.

D'une façon importante, l'Individu a l'avantage. Il peut transférer un nombre important de risques individuels aux institutions financières. Chaque institution financière doit supporter la plupart des risques qu'elle accepte de l'Individu, bien qu'elle puisse réassurer et qu'elle réassure certains de ces risques auprès d'autres institutions financières.

L'un des désirs caractéristiques du retraité est d'avoir un revenu suffisant pour maintenir son niveau de vie d'avant la retraite pendant aussi longtemps que son conjoint ou sa conjointe est en vie, sans risque.

Il est impossible d'obtenir une absence de risque totale. C'est pourquoi, pour réduire le risque, la Gestion de Risque devient l'objectif. La gestion de risque est constituée de trois étapes: 1) Identification des risques impliqués dans chaque source de revenu de retraite, 2) Minimisation des risques identifiés et 3) réalisation d'un équilibre entre l'étendue de la minimisation du risque et les effets sur la quantité du revenu de retraite.

## **RETIREMENT FINANCIAL RISK MANAGEMENT**

Retirees, as Individuals, face the following financial risks:

- o Inflation risk
- o Security risk
- o Currency risk
- o Political risk
- o Longevity risk
- o Interest rate risk
- o Concentration risk
- o Economic risk
- o Market risk
- o Tax risk

### **THE RETIREE'S DESIRE**

The Individual approaching retirement must rely upon his Investment Income Sources. He wants to make sure that his Capital will be safe, that his Social Security Benefits and Employer Pension will be reliable, and that his Retirement Income from other Retirement Accumulations will be paid as promised.

If his pre-retirement expenses, including taxes, amount to 70% of pre-tax earnings, he is saving 30% of his pre-tax earnings. Hence, his Desire to maintain his pre-retirement standard of living is to have a retirement income equal to 70% of pre-retirement, pre-tax earnings.

He is aware of some of the Risks, particularly the Inflation Risk, but extreme Minimization of all of the Risks, at the expense of a drastic reduction of income, is not acceptable.

The starting place is a compilation of all assets -- the sources from which Retirement Income will be derived.

## SOURCES OF RETIREMENT INCOME

There are normally only two sources of Retirement Income, assets in Benefit Plans and Investment Capital.

In some instances there may be post-retirement earnings, or inheritances; while these sources can be substantial in some instances, they are not considered for the purposes of this paper.

**BENEFIT PLANS** include Social Security, Pensions and other Retirement Income Plans.

**INVESTMENT CAPITAL** includes Bonds, Stocks, "after-tax" Annuities, Real Estate and other investments capable of producing income.

Starting with Benefit Plans, the Risks associated with each of these sources of retirement income, and methods of minimizing them are as follows:

### SOCIAL SECURITY RETIREMENT BENEFITS

**Amount.** The Social Security Monthly Benefit, called "Primary Insurance Amount" (PIA) is computed by applying a formula to one's "Average Indexed Monthly Earnings" (AIME).

For an individual retiring in 1990 at age 65, the monthly PIA is found by adding 90% of his first \$356 of AIME, 32% of AIME in excess of \$356 through \$2,145, and 15% of AIME in excess of \$2,145 up to a maximum of \$2,693. If the PIA is not an even multiple of 10 cents, it is rounded down to the next lower multiple of 10 cents. Applying the above formula, the maximum monthly retirement benefit is \$975.00.

90%	of	\$ 356	=	\$320.40
32%	of	1,789	=	572.48
15%	of	548	=	82.20
1990 Maximum Primary Insurance Amount				\$975.00

The Retiree's Spouse's monthly benefit will be the greater of 1) the Spouse's PIA based on the Spouse's earnings record, or 2) 50% of the Retiree's monthly benefit. In this example, if both become age 65 in 1990 and the PIA based on the Spouse's earnings record would be less than \$487.50, their monthly income will start at \$1,462.50.

At the death of the first, the survivor's monthly benefit will be reduced to the Retiree's PIA. This formula may thus be looked upon as a Joint and 2/3rds Life Annuity.

Under present law, the monthly benefit will be indexed for inflation and recomputed each January 1.

**Risks.** There are three risks: Economic, Political and Tax.

The Economic risk is that the increasing costs of the Social Security System will compel a change in the benefit structure. To date, there have been no decreases in the benefit structure. A more likely possibility is a postponement or change in cost of living adjustments. There has been, in fact, a six month postponement of the indexing process in 1983. Prior to that time COLAs were recomputed annually to become effective each July 1. The 1983 postponement resulted in no benefit increase for a period of 18 months. It was promised at the time that there would be a make-up when the economic crisis was alleviated, but it has not been forthcoming.

The Political Risk of decreasing benefits, even in the face of economic problems, is believed to be minimal, because there is such a very large proportion of the electorate among our Senior Citizens who vote, and it is well known that the first order of duty of a Congressperson is to get re-elected.

The Tax Risk is perhaps the greatest of the three. Prior to 1984 Social Security Benefits were tax-free. Under present law, up to 50% of Social Security Benefits are taxable if Modified Adjusted Gross Income

exceeds \$25,000 in the case of a Single tax return or \$32,000 in the case of a Joint return. The justification for taxing 50% of the Benefits was based on the theory that Employers contribute 50% of the Social Security taxes.

While there is no such basis for justifying the taxation of more than 50% of benefits (the other 50% of FICA taxes are paid by Employees from after-tax earnings), it is possible for Congress to tax the other 50% of benefits merely to raise money.

It is believed unlikely that the \$25,000/\$32,000 thresholds will be reduced in absolute dollars. However, because they are not indexed for inflation, the economic effect of no change in thresholds is to automatically increase the taxable portion to the extent of future inflation.

### **Minimization of Risk**

There is little, if anything the individual retiree can do to minimize his Social Security Income Risks. On the other hand, as a member of the Senior Citizenry, he can exercise his rights of free speech and communication with his representatives in government.

## **PENSION INCOME**

**Inflation Risk** is by far the greatest problem with this source of retirement income. Unlike Social Security Benefits which are financed by taxation, most Pension plans do not, or, from the point of view of employers, cannot, provide for cost of living adjustments.

To their credit, a few employers have made voluntary ad hoc additions in recognition of inflation-generated decreases in the purchasing power of fixed dollar pensions. However a Retiree certainly cannot rely on the desires or abilities of a former employer's future management to continue such gratuitous additions.

Once a fixed dollar Pension has started, the individual can do nothing about minimizing the inflation risk. While few of us are disciplined enough to do so, the foreseeing retiree may save and invest some of his pension income in early years of retirement, and have it available to spend in later years.

## **OTHER RETIREMENT INCOME PLANS**

**Inflation Risk** of fixed dollar income from Profit-Sharing, 401(k), Tax Sheltered Annuities and other defined contribution plans, is like Pension plan income in that it is the inflation risk which is paramount.

### **Minimization of Inflation Risk**

A possible solution is found in the fact that most Defined Contribution plans (as well as a few Pension plans) permit lump sum distributions.

There was a time when the Retiree could transfer at least part of the inflation risk by taking his Pension or Other Retirement Income benefit in a lump sum and purchasing a guaranteed increasing annuity from an insurance company. Such an annuity starts with a relatively low monthly benefit and increases over the years at a guaranteed rate of increase. Unfortunately however, subject to a viable exception to be discussed later, the Proposed Regulations implementing IRC Sec. 401(a)(9) now require that distributions from Qualified Retirement Plans must be "non-increasing".

A method still available is for the Retiree to take his benefit in a lump sum, remove it from its former Qualified status by paying his tax immediately (in some instances under very favorable Capital Gains tax treatment accompanied by "5 or 10 Year Averaging" tax provisions), and then purchase guaranteed increasing annuities.

Like the private employer, no insurance company we know of will guarantee an annuity geared to actual inflation or to a stipulated cost of living index. Hence, the best the Retiree can do is to choose in advance a guaranteed rate of increase such as say 4% or 6%. This solution, although not perfect, is usually better than none.

The problem then becomes an insurance company problem. From the point of view of the insurance company, how does it invest the lump sum to match its long-term increasing payouts? Unfortunately, some insurers' answers, in the form of decreasing their interest rate assumptions, is not always in favor of the Retiree. The approach taken by others is to use a multi-tiered set of interest rate assumptions, decreasing the assumed interest rate with the length of time of its increasing annuity guarantees.

In summary, the retiree and spouse must make a careful analysis of the alternatives. Do they have the discipline to spend less in the early years in order to have more in later years -- at the death of the first, will the surviving spouse have the discipline to continue the plan -- or are they better served if they let an insurance company do it for them?

As alluded to above, there are exceptions to the "non-increasing" rule. One of these exceptions is a Variable Annuity. If the Retiree is not risk-adverse to market variations, he may take his benefit in a lump sum, transfer it to a Qualified Rollover IRA without paying an immediate tax, and then choose a Variable annuity, under which the monthly benefits will vary in accordance with the investment performance of the (typically common stock fund) into which he placed the IRA Rollover. Using this exception to the "non-increasing" rule, the Retiree has exposed himself to the Market Risk of his chosen investment, but has perhaps reduced his Inflation Risk to the extent that Market variations may track with inflation.

Except for the generally applicable Currency Risk to be discussed later, the above concludes the discussion of the specific Risks and their Minimization associated with the first source of retirement income, Social Security, Pension and other Benefit Plans.

Following is a discussion of the Risks and their Minimization associated with obtaining retirement income from the second source, Investment Capital.

Investment Capital includes Stocks, Bonds, "after-tax" Annuities, Real Estate and other investments capable of producing income.

## **STOCKS**

### **Risks**

After the crash of 1929, the large losses in 1973 and 1974, and the relatively mild reductions in values in the autumns of both 1987 and 1990, we are all very aware of the downside Market Risks of Stocks and other equity investments.

### **Rewards**

If there were no Gains to accompany Losses, there would be no Stock Market. Despite the losses in the years enumerated, there have, over time and in the aggregate, been more gains than losses. In other words, while there certainly are downside Risks, we have learned that there are also Rewards. Hence the objective is

### **Minimization of Risk**

During his accumulation period, a disciplined investor seeks to minimize market risks by using the principles of Diversification and Dollar Cost Averaging.

**Diversification.** During those accumulation years, he may have diversified directly through purchases of a large number of individual stocks, or indirectly through purchases of Mutual Funds or Variable Annuities.

To the extent his equity investments are in individual stocks and mutual funds, not seeking dividend income taxable during those years, the majority of his holdings probably will be growth-oriented.

When retirement time comes, the Retiree will have some hard choices. On the one hand, he would like to increase his income by changing to primarily dividend paying stocks. On the other hand, he can do this only by selling the growth stocks and paying immediate taxes on his capital gains. (Of course, if he does not need increased income from this source, he may well prefer to hold his growth stocks until death. His heirs will receive them with a stepped up basis, avoiding the capital gains tax.)

Another reason he may decide to hold his growth stocks is that they may act as a hedge against the Inflation Risk. To the extent the growth stocks reflect growth in the economy, the Retiree may choose to sell, without replacement, at the times cumulative inflation has eroded the purchasing power of his other sources of retirement income.

If the Retiree does decide to sell his growth stocks for the purpose of increasing his dividend income, he may act to Minimize Risk by continuing to have a diversified portfolio after retirement. He may trade some of his growth stocks for stocks paying higher dividends, but, rather than take the Concentration Risk (too much in one place) he may continue to diversify his holdings by diversifying among the newly acquired dividend oriented stocks.

To the extent his equity investments have been accumulated in tax-deferred variable annuities, he may make his changes from growth orientation to income orientation without tax considerations.

Dollar Averaging. Secondly, during his accumulation period, a disciplined investor uses the principles of Dollar Cost Averaging. Likewise, as a Retiree sells off his portfolio, he does not need to sell in big blocks when he needs the money or when he thinks the time is "right". Instead, he may use Dollar Cost Averaging principles in reverse. To minimize the Market Risk of selling too much at the wrong time, he may specify a number of shares or units he wishes to dispose of each month.

## **BONDS**

U.S. Government and high quality Municipal Bonds carry very little Security Risk, that is, one may rely upon receiving their promised interest payments when due, and, when held to maturity, may rely upon full repayment of principal.

However, their market values are directly subject to Interest Rate Risk. Hence, to minimize the Interest Rate Risk, the Retiree will normally hold them to maturity.

Lower grade Municipals and Corporate Bonds carry Market Risks similar to stocks. The corresponding Rewards are only in higher rates of interest than dividends.

As with all fixed-rate investments, there is nothing the Retiree can do about minimizing the Inflation Risk. He simply has to accept it, in return for the relatively high rates of return.

## **AFTER-TAX ANNUITIES**

**Inflation Risk.** Guaranteed increasing and variable annuities, as methods of Minimizing the Inflation Risk, were discussed above in connection with the subject "Other Retirement Income Plans".

**Security Risk.** Vicariously, the problems of other financial institutions

have caused some Retirees to wonder about the Security Risks of placing their money in insurance companies. Some otherwise knowledgeable sources make a lot of hubbub by comparing their ratios of "junk bonds and mortgages" to the insurance companies' statutory surplus. We believe their worries are exaggerated, because very large portions of so-called "junk" are, in reality, good investments on which interest is being collected. More importantly, the would-be pundits do not seem to be aware of the extent to which statutory reserves are required to be overstated, and thus statutory surplus understated.

It is prudent, however, for Retirees to minimize whatever Security Risk there may be, by investing only in high quality insurers.

**Longevity Risk.** Whether guaranteed increasing or level, annuities may be selected to pay only for a number of years "certain", akin to a reverse mortgage, or, more customarily, for the duration of life.

Most Retirees choose life annuities, usually coupled with a guaranteed minimum "certain" period, because of the scientific method in which life annuities utilize both principal and interest, protecting the Retiree against the Longevity Risk of living "too long", and thus outliving his Capital.

As with Retirement Income Plan annuities, many Retirees will seek to balance the inflation risk of their After-Tax annuities by choosing their life incomes in some combination of Fixed-Dollar and Variable life annuities.

## **REAL ESTATE**

The risks of Real Estate investments cover almost all of the types discussed above. Few Retirees keep such investments during their retirement years, because of their decreasing abilities as handymen, in the case of owning the house across the street, or monitoring managements, in the case of owning pieces of distant shopping malls and high-rises.

## **CURRENCY RISK**

Comparable in some ways to Inflation Risk, is the underlying Currency Risk, which could jeopardize all of the Retiree's sources of income.

While the historical strength of the U.S. dollar has been excellent, there have been signs of deterioration in recent years. In a "worst case" scenario, it is not impossible for our trillion dollar debt to be the cause of a significant dollar devaluation. A possible method of Minimizing this Risk is for the Retiree to place some of his investments in other traditionally strong currencies such as British, German, or Japanese. For example, the Swiss franc, especially via Swiss franc annuities, may be a viable hedge.

## **SUMMING IT ALL UP**

**EXHIBIT I** is a hypothetical example of a Retiree whose pre-retirement income was \$100,000 per year, of which he was saving \$30,000, and who has an objective of retiring on \$70,000 in order to maintain his pre-retirement standard of living.

He finds, to his happiness, that his objective will be more than met, \$84,395, exceeding his objective by \$14,395.

However, remembering how his father retired on an amount considered 25 years ago to be very ample, and how now it is hardly enough to make ends meet, he wonders what future inflation might do to the \$84,395.

Looking down the last column, he finds that if inflation is 4%, his income 25 years from now will be only \$43,628, about half of the starting amount.

**EXHIBIT 2** shows that by 1) taking his \$200,000 Pension in a lump sum, paying an immediate 18.46% tax computed by the 10-year averaging method, and purchasing a guaranteed increasing annuity, and 2) substituting a guaranteed increasing annuity for the level annuity in Exhibit

I, he starts his retirement at \$72,178.

Looking down the last column, he finds that 25 years from now his purchasing power will have decreased by about 31%, rather than by 48%.

Note that he could not apply similar treatment to the \$300,000 value of his Other Retirement Plans, because it is all in Tax-Sheltered Annuities. Under Tax-Sheltered Annuities, the law prohibits Guaranteed Increasing distributions, and the favorable 10-year Averaging method is not available.

Although the Exhibit does not show the possibility, he could have chosen to annuitize the \$300,000, or a part of it, by means of a Variable annuity, under which the results might be more or less, but similar to the results of a guaranteed increasing annuity.

**Minimization of Risk.** Which way is he better off? Via Exhibit I, does he have the discipline to save the differences in the early years in order to have more in later years? Or, via Exhibit 2, should he Minimize the Risks by passing them on to an insurance company?

**INCOME OBJECTIVE \$70,000 PER YEAR FOR AS LONG AS RETIREE OR SPOUSE MAY LIVE**

INCOME OBJECTIVE \$70,000 PER YEAR FOR AS LONG AS RETIREE OR SPOUSE MAY LIVE							
IF INFLATION IS	4%	RETIREMENT INCOME IN TERMS OF 1990 PURCHASING POWER					
EXHIBIT I				NORMAL METHOD			
SOCIAL SECURITY VALUES	PENSION VALUES	OTHER RETIRE VALUES	STOCK VALUES	BOND VALUES	ANNUITY VALUES	TOTAL VALUES	
234,548	200,000	300,000	50,000	50,000	100,000	934,548	
RETIREMENT YEAR	SOC SEC J & 2/3rds BENEFITS	PENSION J & 100% BENEFITS	OTHER RETIRE BENEFITS	DIVIDEND INCOME	BOND INTEREST	ANNUITY J & 100% INCOME	TOTAL INCOME
1	17,550	19,206	28,808	3,000	4,500	11,331	84,395
2	17,550	18,467	27,700	2,885	4,327	10,895	81,824
3	17,550	17,757	26,635	2,774	4,161	10,476	79,352
4	17,550	17,074	25,610	2,667	4,000	10,073	76,975
5	17,550	16,417	24,625	2,564	3,847	9,686	74,689
6	17,550	15,786	23,678	2,466	3,699	9,313	72,492
7	17,550	15,178	22,768	2,371	3,556	8,955	70,379
8	17,550	14,595	21,892	2,280	3,420	8,611	68,347
9	17,550	14,033	21,050	2,192	3,288	8,280	66,393
10	17,550	13,494	20,240	2,108	3,162	7,961	64,514
11	17,550	12,975	19,462	2,027	3,040	7,655	62,708
12	17,550	12,476	18,713	1,949	2,923	7,361	60,971
13	17,550	11,996	17,994	1,874	2,811	7,077	59,301
14	17,550	11,534	17,302	1,802	2,703	6,805	57,695
15	17,550	11,091	16,636	1,732	2,599	6,543	56,151
16	17,550	10,664	15,996	1,666	2,499	6,292	54,667
17	17,550	10,254	15,381	1,602	2,403	6,050	53,239
18	17,550	9,860	14,789	1,540	2,310	5,817	51,866
19	17,550	9,480	14,221	1,481	2,221	5,593	50,547
20	17,550	9,116	13,674	1,424	2,136	5,378	49,277
21	17,550	8,765	13,148	1,369	2,054	5,171	48,057
22	17,550	8,428	12,642	1,317	1,975	4,972	46,884
23	17,550	8,104	12,156	1,266	1,899	4,781	45,756
24	17,550	7,792	11,688	1,217	1,826	4,597	44,671
25	17,550	7,492	11,239	1,170	1,756	4,421	43,628
LEFT FOR HEIRS	0	0	0	75,000	50,000	0	125,000

**INCOME OBJECTIVE \$70,000 PER YEAR FOR AS LONG AS RETIREE OR SPOUSE MAY LIVE**

IF INFLATION IS 4% RETIREMENT INCOME IN TERMS OF 1990 PURCHASING POWER

**EXHIBIT 2 INFLATION RISK MINIMIZED**

	SOCIAL SECURITY VALUES	PENSION VALUES	OTHER RETIRE VALUES	STOCK VALUES	BOND VALUES	ANNUITY VALUES	TOTAL VALUES
	234,548	200,000	300,000	50,000	50,000	100,000	934,548
RETIREMENT YEAR	SEC SEC J & 2/3rds BENEFITS	PENSION J & 100% BENEFITS	OTHER RETIRE BENEFITS	DIVIDEND INCOME	BOND INTEREST	ANNUITY J & 100% INCOME	TOTAL INCOME
1	17,550	11,356	28,808	3,000	4,500	6,964	72,178
2	17,550	11,356	27,700	2,885	4,327	6,964	70,782
3	17,550	11,356	26,635	2,774	4,161	6,964	69,439
4	17,550	11,356	25,610	2,667	4,000	6,964	68,148
5	17,550	11,356	24,625	2,564	3,847	6,964	66,906
6	17,550	11,356	23,678	2,466	3,699	6,964	65,713
7	17,550	11,356	22,768	2,371	3,556	6,964	64,565
8	17,550	11,356	21,892	2,280	3,420	6,964	63,461
9	17,550	11,356	21,050	2,192	3,288	6,964	62,400
10	17,550	11,356	20,240	2,108	3,162	6,964	61,380
11	17,550	11,356	19,462	2,027	3,040	6,964	60,398
12	17,550	11,356	18,713	1,949	2,923	6,964	59,455
13	17,550	11,356	17,994	1,874	2,811	6,964	58,548
14	17,550	11,356	17,302	1,802	2,703	6,964	57,676
15	17,550	11,356	16,636	1,732	2,599	6,964	56,837
16	17,550	11,356	15,996	1,666	2,499	6,964	56,031
17	17,550	11,356	15,381	1,602	2,403	6,964	55,255
18	17,550	11,356	14,789	1,540	2,310	6,964	54,510
19	17,550	11,356	14,221	1,481	2,221	6,964	53,793
20	17,550	11,356	13,674	1,424	2,136	6,964	53,103
21	17,550	11,356	13,148	1,369	2,054	6,964	52,440
22	17,550	11,356	12,642	1,317	1,975	6,964	51,803
23	17,550	11,356	12,156	1,266	1,899	6,964	51,190
24	17,550	11,356	11,688	1,217	1,826	6,964	50,601
25	17,550	11,356	11,239	1,170	1,756	6,964	50,035
LEFT FOR HEIRS	0	0	0	75,000	50,000	0	125,000