# An Intergenerational Solution to Inadequate Social Security Benefit Payments

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## *ABSTRACT*

Many persons depend to a large extent on social security to fund their retirement. Yet according to the Social Security Administration (SS Advisory 2008), the average beneficiary age 62-64 receives benefits equal to only 50% of income. Some 40% of those over age 80 depend on social security for 90% of their total income. Furthermore, without significant changes in anticipated revenues or expenses, social security will likely become insolvent within the next three decades. This of course could leave many retirees in difficult financial situations. In fact, the Congressional Budget Office recently concluded that due to the weak economy and reduced tax revenue, the Social Security trust fund will be cash flow negative in 2010, many years ahead of previous forecasts.

Given current economic conditions, secular trends in employee benefit plans, and federal government financing shortfalls, individuals in the future will likely have to become more self-sufficient in funding their own retirement. The long-term trend in employee benefits is a continued shift to defined contribution plans from defined benefit plans. Research suggests many people underfund their defined contribution plan and invest too conservatively. The foreseeable trend in government financing is larger deficits, not smaller. The Federal Government's budget is likely to be under stress for many years, making it unlikely that social security benefits will expand. Benefits are more likely to contract for future retirees. In all probability, individuals will have more responsibility to fund their retirement going forward, not less. In such an environment, time will be a key ingredient for individuals to successfully fund their retirement goals.

In this paper, we examine the idea of a funding mechanism to start infants on a path to retirement security that simultaneously could be used to reduce some of the Social Security Administration's unfunded obligations to future retirees. Historically, the wealthy have had the means and access to structure trust agreements to allow assets to be placed in benefit of a minor. Typically, the goal is to allow the assets to grow while the beneficiary is a minor and then allow some or complete access once the minor becomes of legal age. Because of the unique structure of each trust, the cost is usually prohibitive to all but the well-to-do. Suppose a generic trust document could be created. A "one size fits all" legal document would result in lower cost of purchase, due to its commodity-like structure. Instead of trusts costing thousands of dollars, acquisition costs could be much lower. This is already true for many other kinds of legal documents, such as wills and powers of attorney. These trusts could be developed by private firms or as part of a government "social security" program. The key difference with traditional trusts for minors is that the assets would not be available to the beneficiary until normal retirement age.

Based on our prior work, under reasonable nominal rates of return we found that funding of approximately $1000 per newborn per year for five years could alleviate a great degree of retirement funding uncertainty and shortfall. Extending this prior work, in this paper we introduce a more realistic simulation, considering this funding program on a present value basis with comparison to an "average" Social Security recipient.

## *INTRODUCTION*

For the past 70+ years the US retirement system has been founded on three pillars: Social Security, employer-provided retirement plans, and private savings. What was once considered a three-legged stool with a solid foundation is not seen as wobbly at best. A broad spectrum of societal changes (demographic, economic, and cultural) are undermining this foundation and making retirement security more challenging for many Americans. While some retirement experts call for "tweaking" the existing system, others look for more dramatic changes in the funding elements for retirement income. Regardless, the key long-term problem is the risk that future retirees will have inadequate retirement income (Scholz, et al. 2006). This paper, while reviewing the current state of retirement funding in the US, focuses on a novel approach to solving the retirement funding crisis for future generations.

## *THE TRADITIONAL FOUNDATION*

### Social Security

Social Security, enacted in the US in 1935, is the main source of retirement funding for a large segment of current retirees. Its importance spans a wide range, from a low of just under 20% of the annual income for those in the highest income quintile to over 80% of the annual income for those in the lowest income quintile (US Census Bureau, 2007). For the average retiree age 62-64, Social Security provides some 50% of income. Those age 70-74 on average receive about 62% of their income from Social Security while the corresponding percentage is 74% for those older than age 80 (Working for Retirement Security, 2008).

It is widely documented that the Social Security Trust Fund is in some peril, at least over the long-term (Sloan, 2009). The size of the Trust Fund has grown steadily since the "fix" in 1983 (Greenspan Commission, 1983) and now stands at $2.5 trillion, with a projection to rise to $4 trillion. The problem is that in the not too distant future the annual cash flow of Social Security will become negative, even as the Trust Fund grows. The annual excess of tax revenues over expenditures is invested in US Treasuries and the only way for Social Security to cover its cash flow deficits (when annual expenditures exceed annual tax revenue) will be to redeem US Treasury IOU's. But the only way the Treasury will have the funds to make good on Social Security obligations will be to sell new debt to investors. The Treasury will simply replace debt owed to Social Security with debt owed to the investing public (Sloan, 2009).

How has Social Security fallen into this predicament? A combination of factors, including more generous benefits, falling birth rates, aging population, longer life expectancy, wage rate growth slower than forecast, and a falling average retirement age (Retirement Security, 2005).

While many solutions to Social Security have been proposed, those are not the focus of this paper. Rather, the above is to point out that a growing problem exists and it may seriously affect the retirement plans of current and future retirees.

**Employment-Based Plans**

Employer sponsored retirement plans are the second leg of the stool. Until some 15 years ago, the defined benefit plan (pension) was the more common form of employee benefit plan. For example, in 1980, of those employees with an employer retirement plan, 62% had a traditional pension plan, 16% had a defined contribution plan, while 22% had both types of plans. In 2005, the statistics reversed, as 10% had a pension plan, 62% had a defined contribution plan, and 27% had both plans. Once often overlooked problem is that over this time period, only some 50% of full-time employees had any type of employer sponsored retirement plan (Working for Retirement Security, 2008).

Where employees remained with one employer for an entire career, this means of funding retirement income was an efficient and beneficial mode. But, in an era of greater labor mobility, meaning less time with any single employer, coupled with the desire of many firms to reduce or eliminate the obligations of a pension plan, means that many employers have eliminated this benefit (Ghilarducci, 2007). Instead, the trend for the past 20 years has been to substitute defined-contribution plans (such as a 401(k)) for defined benefit plans. Defined contribution plans have the benefit of giving control to the employee at the cost of income guarantees. As a funding vehicle for retirement, while the defined contribution plan has some generous features, the ability to access funds prior to retirement defeats the goal of adequate retirement income (Ghilarducci, 2007). Also, Schieber (2007) found that in a sample of private 401(k) plans of workers age 50-64, approximately 9% had a zero balance, 40% had accumulated less than half of their annual pay, and 37% had accumulated double their annual pay, and only 9% had accumulated at least quadruple their annual pay. To replace 40% of pre-retirement salary at age 62 requires accumulated savings of approximately five times annual pay (Working for Retirement Security, 2008).

**Private Efforts**

Private savings is the third stool of the retirement income foundation. Household savings rates have rebounded in the past 12 months from the historic lows of the previous few years. From a peak of over 10% in the mid 1970's to early 1980's, the household savings rate steadily fell to near 0% by 2006 (Farrell, et al., 2008). The financial crisis of 2008 seems to have spurred the rebound in private savings. Many researchers noted that prior to the crisis, rising equity and real estate values caused wealth to increase at the same time that savings was declining. Even with this rebound, saving rates remain too low relative to the retirement income gap, and too few households save at an adequate rate (Helman, et al., 2008).

## *THE ELEPHANT IN THE ROOM: HEALTH CARE*

When considering the ability of the average retiree to fund retirement expenses, health care and associated costs must be part of the equation. The current health insurance debate has highlighted many of the unsustainable trends in health care expenditures. As noted in a report of the US Centers of Medicare and Medicaid Services (National Health Expenditure Projections, 2008) in 1960 health care spending grew from 5% of GDP to 17% of GDP in 2008. That represents an annual rate of growth 2.5% faster than the rate of growth of GDP in the same

period. Current expenditures of some $2.4 trillion are expected to almost double by 2018, representing a 70% increase per capita.

This rate of growth is not sustainable. Extrapolating this historic rate of growth means that near the end of the 21st century health care spending will equal almost the entire U.S. GDP. According to the Congressional Budget Office (CBO, 2009), using a rate of growth of health care expenditures 0.8% faster than GDP growth results in health care expenditures doubling to 31% of GDP by 2035 and 46% of GDP by 2080. Those long-term predictions are notoriously difficult and subject to error, the best estimates agree that without fundamental changes, health care expenditures will continue to consume more of the country's resources.
For retirees, the above trend is similar. From 1997 to 2005, according to a study from the Kaiser Family Foundation (2009):

> the median annual out-of-pocket health care expenses of Medicare beneficiaries – including premiums and supplemental insurance – grew by 64% from $1,670 to $2,740. Over the same period, their median income grew by only 25%, from $12,000 to $15,000.

Of course, this burden is not distributed equally. In 2005 25% of all Medicare recipients spent about one-third of their income on health care expenditures. At the current grow rates in expenditures and income, those 25% will be spending 50% of their income on health care.

The US Centers of Medicare and Medicaid Services (Foster and Clemens, 2008) looked at the costs of Medicare Supplemental Medical Insurance (Part B) and Prescription Drug coverage (Part D). The authors found that in 2008 these two combined costs equaled about 25% of the average Social Security benefit. At the current rate of growth, that will rise to 40% by 2030 and 67% by 2080. Munnell, et al., (2008) estimated that an average couple retiring in 2010 would need to have saved just over $200,000 in order to provide the income stream necessary to fund their share of health care expenses.

It is not just retirees who are paying more for health care. In the ten years from 1999 to 2008, all health related expenditures for the average worker receiving employer-sponsored insurance doubled (Survey of Employer … 2000-2008). Using data from the US Bureau of Labor and the US Bureau of the Census, in the same period the average worker's wages rose 34%, family income rose 29%, and the aggregate increase in the price level rose 29%.

## *ADEQUATE RETIREMENT FUNDING*

Putting together sources of retirement income with health care costs does not paint a pleasant scenario. Research addressing the adequacy of retirement funding comes to a similar conclusion that some significant share of the population is not prepared nor has the resources to maintain a standard of living comparable to when they were employed. Scholz, et al., 2006, found that fewer than 20% of individuals close to retirement have less than their "optimal target" amount. Farrell, et al., 2008, believe that closer to two-thirds or retirees will not be able to use their sources of retirement income to replace 80% of their pre-retirement income.

While Social Security and other sources of retirement income are under some degree of stress, the resources being devoted to health care continuing to increase. The problems in health care addressed previously do not even consider the additional problem of rising longevity and long-term care costs. While neither Social Security nor health care funding is on a sustainable path, and their non-sustainability is the source of US near to intermediate-term problems, the goal of this paper is not to address the current crisis but to consider a solution to the long-term lack of retirement income that many current workers are likely to confront if current trends continue.

## *A SOLUTION TO A CRISIS*

The retirement funding shortfall resulting from the precarious status of Social Security and escalating health care costs is really a problem that affects two distinct groups. One group is composed of current workers and recent retirees. This is the group for which patching the current system is imperative. The second group is made up of youth, from teens to newborns. For this group, a patch may not be the best long-term solution.

### Current Workforce and Retirees

For current workers and retirees, making sure the current system remains viable is important. While certainly a 30 year old can do more and has the time to augment his/her self-funding, those near or in retirement do not have that possibility. Even with time for the younger of this group to provide more for their own retirement, the simple fact is that most of this cohort does not have enough time to be able to overcome the funding shortfall that will ensue if Social Security were to fail. Given the lack of time, it is conceivable that the best solution for this group is for their to be some combination of modifications to the existing system: raise the retirement age for full benefits, increase the FICA tax rate, lift some or all of the cap on Social Security wages subject to the tax, and slow the rate of growth in benefits. While this approach would likely make the system solvent for the foreseeable future, it may not be the best solution those who are significantly younger.

### Children and Infants

Only three factors ultimately matter when considering the amount of savings necessary to adequately fund retirement. Those are:

- contributions
- returns
- time

The future value of any investment account will increase with larger contributions, higher assumed investment return, or longer time until the funds are needed. In the case of retirement, many individuals, especially in light of the market downturn in 2008, have had to consider delaying their retirement date. But, if we think about adequately funding the retirement of those who are currently a long way from that date, we can also look at the time element from the beginning of the calculation. That is, what happens if the accumulation starts earlier than the typical timing of sometime during one's work years?

Without looking at calculations, any student of time value principles knows that starting the accumulation phase sooner means greater future value or alternatively for a given future value less contributions need be made.

The example in Table 1 illustrates this principle. Results assume payments are made at the beginning of each period, the investment return is a constant 8.0% per year, and taxes are ignored.

**Table 1: Investment Amount Required for a Certain Nominal Future Value**

| Age at Start | Deposit per year | # of Deposits | Total of Deposits | Value at age 62 |
|---|---|---|---|---|
| 1 | $1,000.00 | 5 | $5,000.00 | $509,295.00 |
| 25 | $2,322.00 | 37 | $85,914.00 | $509,295.00 |
| 30 | $3,514.00 | 32 | $112,448.00 | $509,295.00 |
| 35 | $5,399.00 | 27 | $145,773.00 | $509,295.00 |
| 40 | $8,503.00 | 22 | $187,066.00 | $509,295.00 |
| 45 | $13,972.00 | 17 | $237,524.00 | $509,295.00 |
| 50 | $24,849.00 | 12 | $298,188.00 | $509,295.00 |

Beginning at year one, five annual payments of $1,000.00 are deposited into an account. At a constant 8.0% per year, with the start of the sixth year, the annuity has grown to $6336.00. Taking this annuity as a lump sum and investing it for 57 years at 8.0% per year results in a future value of $509,295. Assuming a 3% annual rate of inflation, in real terms the present value of the lump sum in $81,482.

As is expected, starting early has obvious advantages over starting late. But is this enough to fund projected future retirement expenses? Not necessarily. As outlined in Working for Retirement Security, 2008, a worker to retire at age 62 and replace 40% of his or her pre-retirement income during retirement would need to accumulate about five times this annual income amount. The more than half million dollars accumulated would likely provide this figure (in current dollars) to over half of all retirees. According to the Bureau of Labor Statistics (BLS May 2009), the average annual wage in the U.S. measured over all occupations was $43,460, well below the threshold in question. For those that fell short, this would provide a nice supplement to other means of retirement income. The amount of $509,295 is not a magic figure, simply the result of the given assumptions.

## *HOW TO FUND THIS RETIREMENT INCOME*

The numbers in Table 1 look promising, but of course a logical question is to wonder where the average worker would come up with these investment dollars. More pointedly, what is the correct amount needed to fund a particular retirement goal?

The wealthy have always had the means and the tools to fund a newborn's future funding needs. The vehicle is a trust. Trusts come in many shapes and forms and if fact a common type of trust is a Uniform Gift to Minor Account (UGMA). The problem for retirement funding for a UGMA is that the beneficiary gains complete access to the account at the age of consent (18 in most states). Thus as a retirement funding vehicle it is lacking. To protect invasion of assets until the donor so chooses, irrevocable trusts are the vehicle of choice. Historically, the problem for all but the most well-to-do is that using the services of an attorney (normally necessary) is expensive, with costs easily running to the thousands of dollars.

Like UGMA's, suppose the government set up a standardized irrevocable trust that did not allow invasion of the funds until at least age 59 and a half (consistent with other retirement accounts and the absence of a penalty for early withdrawal). There already exists one such "commodity" trust product, named KissTrust[1]. The provider has structured an irrevocable trust available at a modest price while also providing custodial services. With an irrevocable trust, anyone with the means and desire could fund the future retirement needs of another.

Of course, the "catch" is how to come up with the investment dollars if one finds that one's own retirement is underfunded? For some, a parent or grandparent may have the financial wherewithal to fund an irrevocable trust for a child or grandchild. Private funding could be in an amount sufficient to fund merely a portion of the amount necessary to fund 100% of retirement expenses. Conversely, even modest amounts that provide partial support makes the acute problems of retirement funding less extreme.

A possible solution to a lack of private resources comes from the Ghilarducci (2007) proposal of a "Guaranteed Retirement Account (GRA)." GRA's as proposed are a personal retirement savings account that are funded with a 5.0% contribution from each worker. This cost is offset with a refundable $600.00 tax credit. The tax credit is intended to replace the tax breaks currently granted to defined contribution plans and other tax-deferred accounts, such as IRA's. These tax breaks are worth more than $100 billion per year and would be offset by the cost of the refundable tax credit. Thus the Ghilarducci plan is designed to be tax revenue neutral.

But suppose that instead of funding a public pension program for adult workers, the federal government was to fund a retirement account of each newborn US citizen. That is, to use the power of compound interest and time to fund a "personal pension" but at a modest cost. What amount of contribution would be "adequate?"

[1] Full disclosure – the author has provided consulting services to KissTrust for which he was compensated. The use of an irrevocable trust is not predicated on using any service offered by KissTrust.

A reasonable place to begin in answering this question is to look at a typical worker. According to the Bureau of Labor Statistics (May 2009), the average annual wage of a U.S. worker was $43,460. Assume this wage belongs to a 22 year old newly employed individual. At the current combined Social Security payroll tax rate of 12.4% and a constant 2.0% annual wage increase, under current guidelines that 22 year old will (together with the employer) contribute $325,808 to the Social Security Trust Fund over a 40 year career. The current (2010) average benefit for an average retiree is $14,040 per year. Indexing this benefit to a 2.0% annual growth rate, the 22 year old would qualify for a first year (age 62) benefit of approximately $31,000. Continuing a 2.0% annual increase throughout retirement, a 20-year retirement would payout about $753,000 from age 62 to 82.[2]

From the perspective of a private pension plan, we use the rule of thumb that a 4.0% per year withdrawal rate is the maximum rate so as to allow for inflation adjustments and a perpetual stream of income. Under this guideline, to fund $31,000 per year with an inflation adjustment into perpetuity requires an initial lump sum at age 62 of approximately $753,000.

So, an average wage worker in 2010 would, along with the employer, contribute over a 40 year career $325,808 so as to qualify for a 20 year benefit equivalent to having a lump sum of $753,000 beginning at age 62.

Suppose the state attempted to pre-fund the cost of this amount of retirement income using a Trust account (tax-deferred) that had a private legal structure coupled with public funding. Put another way, if we consider our year 2010 22-year-old earning an average wage and if we could go back in time to 1988 to his 1st birthday, what lump sum would produce the same retirement outcome at age 62 as outlined above? The answer, of course, depends on the rate of return assumption (see Table 2).

**Table 2: Lump Sum Contribution v. PV of Social Security Contributions for Average Worker**

| Annual Interest Rate | Lump Sum at Age 1 to Fund $753,000 at age 62 | PV of Social Security Contributions of $325,808 |
|---|---|---|
| 3.0% | $124,086 | $78,729 |
| 4.0% | $68,827 | $63,863 |
| 5.0% | $38,393 | $52,236 |
| 6.0% | $21,535 | $42,808 |
| 7.0% | $12,145 | $35,147 |
| 8.0% | $6,886 | $28,910 |

[2] Based on an assumed 20 year life expectancy.

At lower rates of interest it makes more sense to delay investment to a later date. Conversely, at higher rates of interest the clear economic advantage is to save early as the cost to society is much less than with delay.

What is the cost to society of a program in which public dollars are used to fund a person Trust Account in which the beneficiary is unable to access the contents until retirement age (at least 59 ½ years old)? Using estimated data from 2008 (Flag Counter, 2009), the U.S. birth rate was 14.18 births per 1,000 of population. The estimated infant mortality rate in 2008 was 6.26 deaths per 1,000 of live births (by 1st birthday). Combined the net birth rate is 14.09 newborns per 1,000 of population. Based on a population of 300 million, that results in 4.23 million age one infants each year. Table 3 shows the estimated cost in dollars and as a percentage of 2009 net payroll taxes.

**Table 3: Estimated Annual Cost to Fund a Pre-Pay Retirement Plan**

| Annual Interest Rate | Estimated Annual Cost 4.23 million infants age 1 | Percentage of 2009 Net Payroll Tax Receipts |
|---|---|---|
| 3.0% | $525 Billion | 78.7% |
| 4.0% | $291 Billion | 43.6% |
| 5.0% | $162 Billion | 24.3% |
| 6.0% | $91 Billion | 13.6% |
| 7.0% | $51 Billion | 7.6% |
| 8.0% | $29 Billion | 4.4% |

The cost to fund the Trust understates the aggregate cost to the extent that the annual contribution amount is indexed to the rate of inflation coupled with increases in the net birth rate. In 2009 (SSA News Release) the net payroll tax contributions to the combined Old-Age and Survivors Insurance, and Disability Insurance (OASDI) Trust Funds was $667 billion.

Structurally, the government could make the contribution directly or offer a tax credit. Like the GRA, the federal government could make use of its existing infrastructure using the Social Security Administration and the Thrift Savings Plan to manage assets. Unlike the GRA, given the length of investment horizon, an ultra-conservative asset allocation with a guaranteed return is not necessary. However, to keep the accounts "on track" it may be preferable to use an allocation of "lifestyle" funds that automatically adjust an account's asset allocation based on the number of years to the maturity of the trust. Of course, this does not solve the retirement funding problems for today's current workers and retirees. That will require a different fix. But, long-term, a program of irrevocable trust accounts for every newborn could reduce the probability of future retirees living in poverty.

## *CONCLUSION*

That Social Security and Medicare have near-term and long-term funding shortfalls is well documented. The same can be said of private sources of retirement funding. The means to

modify public and private savings programs to help current retirees and those already in the workforce are not addressed in this paper. What is addressed is a program to solve the very long-term retirement funding deficiencies facing our society. Using a program that begins contributions at birth, the benefit of compound interest for a long length of time helps to solve the retirement funding crisis. The federal government would need to structure the irrevocable trust vehicle. Implementation would be left either to private individuals or through public funding. The administrative cost of a public program should be modest, using the existing infrastructure of the Social Security Administration and the Thrift Savings Plan. The dollar outlay based on current birth rates, while significant, is small relative to the entire federal budget. Assuming a high enough annual rate of return, the cost would be modest relative to the annual net payroll tax revenues and in relation to the over $100 billion annual cost to the treasury of allowable tax breaks for tax-deferred retirement plans.

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