Social Security: Equitable Reform

Kathryn Tippey

Department of Chemical and Biological Engineering, University of Alabama, Tuscaloosa, AL 35487, USA

Social Security is a major social insurance program that is projected to undergo financial woes in the near future. As this program is so essential to securing the human infrastructure of the United States, particularly because so many elderly have become increasingly reliant on Social Security benefits, any financial doubts in the program's estimates should be dealt with quickly and seriously. While the history of Social Security establishes the program as a progressive tool for policymakers that decreases the risks associated with retirement, the financial state of the program must be addressed along with possible reforms to increase the system's solvency.

Social Security was created via the Social Security Act in 1935 as part of the New Deal. The goal of the program was to diminish the effects of poverty found in the elderly population during the Great Depression by providing benefits to retired workers over the age of 65 [6]. Social Security benefits were organized under a pay-as-you-go system in which current workers and employers paid current benefits to retired workers [6].

Over several decades, Social Security was broadened to include other vulnerable groups, eventually becoming a substantial force in the fight against poverty. In 1939, the program began granting benefits to dependents and survivors of workers covered under Social Security [6]. In the 1950s, Social Security was expanded to include farm and domestic workers, self-employed workers, certain federal employees, and workers with disabilities and their dependants [6].

In the current Social Security system, to be eligible for retirement benefits a worker must have worked for at least 10 years [8]. A retiree's benefits are calculated based on the individual's best 35 years of average annual earnings, which is then indexed to the growth in wages using the National Average Wage index [8]. As the calculations system is progressive, the level of career average earnings replaced by Social Security benefits is greater for lower-income earners than higher-income earners because lower-income earners have less ability to save and invest during their careers [8]. The maximum Social Security benefit a worker could receive by retiring at full retirement in 2008 was $2,185 a month [8]. However, the average monthly benefit for a retired worker was approximately $955 and the average monthly benefit per retired worker and spouse was approximately $1,574 [6].

Social Security is indispensible in ensuring the economic security of this nation [8]. Currently, approximately one in six Americans receive a Social Security benefit: 69 percent of beneficiaries are retired workers and their dependents, 18 percent of beneficiaries are disabled worked and their dependents, and 13 percents of beneficiaries are survivors of deceased workers [8]. The system provides retirees with a basic level of income that is protected against inflation, financial market fluctuations, and the risks of outliving one's own assets [6]. In addition, the Social Security program protects against death of a family wage earner and can partially offset career failure [2].

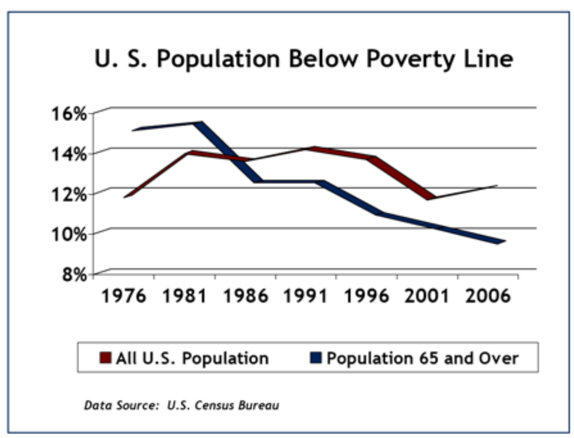

Figure 1: Overview of the Social Security Administration [8]

When Social Security Numbers were first assigned in 1936, most elderly in the United States were living in poverty [8]. Poverty among the elderly has decreased from 15 percent in 1976 to 9.4 percent in 2006 [8]. In addition, the percentage of the people 65 and older that live under the poverty level has decreased substantially in the past several decades [Figure 1], eventually becoming consistently lower than the poverty level of the general population. This change further demonstrates how Social Security has facilitated an increase in the quality of life of the elderly [8]. Currently, 91 percent of people 65 years or older receive Old-Age and Survivors Insurance (OASI) benefits [8]. Retirees have become overly reliant on Social Security benefits [Figure 2]. While Social Security is intended to cover approximately 40 percent of a retiree's income, nearly 63 percent of the elderly receiving benefits say that payments comprise over 50 percent of their income.

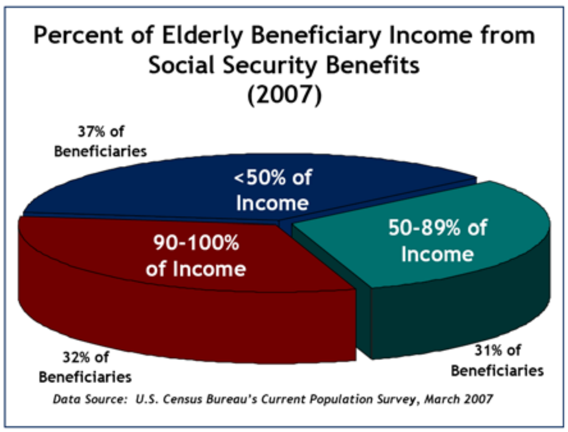

Figure 2: Overview of the Social Security Administration [8]

The current payroll tax for Social Security totals 12.4 percent and is estimated to cover only 70 percent of the costs for benefits over the projected 75 years period from 2006 to 2081 [8]. The formula for the costs and benefits exhibited by Social Security can be stated:

$$t(wL) = (bR)$$

where *t* equals the payroll tax rate paid on *w* earnings by *L* number of workers and *b* equals the average benefit paid to *R* retirees [1]. This formula can be modified through simple algebra such that:

$$t = (b/w)(R/L)$$

where *(b/w)* is the ratio of the average benefits paid to the payroll tax rate paid on earnings and *(R/L)* is the ratio of workers to beneficiaries [1]. This formula can then be used to demonstrate the system's compensation for inflation by holding the *(b/w)* ratio constant [1]. Demographic models are used to make projections about the population of the labor force and the population of beneficiaries [1]. The estimates calculated through these models take into account the changes in the future population and economic indicators [1].

The changing age structure and increased life expectancy in the United States are two major contributing factors to the projected deficit in the financial status of Social Security. In 1950, the worker per beneficiary ratio was 16:1, and in 2006, the worker per beneficiary ratio was 3.3:1 [8]. In 2081, the estimated workers per beneficiary ratio based on intermediate assumptions of fertility rates and death rates is 1.9:1 [8]. As pay-go beneficiaries receive an implicit rate of returns equal to the sum of the growth rates of the labor force and of real wages, this change in worker per beneficiary ratio is of great concern [4]. Based on this calculation, the pay-go tax would need to be increased to 20 percent to keep the current benefits structure in 2080 [1]. Otherwise, the current 12.4 percent payroll tax could only pay 60 percent of the scheduled benefits for that year [1].

Since 1940, the average life expectancy has increased 4 years for men and 5 years for women [2]. With the current Social Security system, people who live longer receive the same annual benefit for a greater number of years, and therefore receive a larger overall monetary benefit from the program [1]. Some proposals suggest offsetting this increase by indexing Social Security payments or the age at which an individual can begin receiving full retirement benefits based on increases in average life expectancy [2].

Numerous policies have been proposed for reforming the Social Security system. Two of the main categories of reform that have emerged are explored in this paper: (1) changing the indexing system used to calculate Social Security benefits and (2) creating individual accounts. Multiple reform ideas should be combined in order to ensure the most equitable and beneficial outcome.

Due to the current indexing system used in calculating Social Security benefits, which relies on the Consumer Price Index, the purchasing power of payments through the system has increased over the years. Substituting wage indexing for price indexing would counteract this and gradually reduce the purchasing power of Social Security benefits [15]. However, a reduction in the purchasing power of Social Security benefits would likely lead to an increase in poverty levels among elderly Americans due to increased reliance strictly on payments as a source of retirement income. Hence, a "hybrid-indexing" system that used scaled proportions of price indexing and wage indexing based on workers' earnings in calculating benefits, with lower income workers maintaining a larger portion of the price indexing in their calculations, would offset this decrease in purchasing power for those most at-risk of living in poverty as well as increasing the progressivity of the Social Security system [15]. This would result in a gradual reduction of benefits, particularly for higher-income wage earners, which would aid in the solvency of the Social Security system [15]. While some may argue that this places an unfair burden on higher-income wage earners, patterns of mortality indicate improvements in life expectancy are disproportionately higher for higher-income wage earners, meaning that higher-income wage earners will collect benefits from the system for a longer period than lower-income wage earners [2].

Different forms of individual accounts have long been proposed as a way to fix the problems with the Social Security system. The main criticism is that individual accounts come with a number of increased risks that have the potential to decrease the rate of return as compared with current Social Security benefits. These risks include a low life expectancy, unemployment, poor investment decisions, and the lack of an insurance aspect given disability or death [9].

One type of individual account proposal explores the use of equity investments. Under an individual accounts plan, equity investments leave a worker with a 19 to 34 percent chance of being worse-off than under modified versions of the current Social Security system, which take into account possible reforms such as benefit cuts and additional taxes [9]. In addition, the risk of being worse-off under individual accounts increases based on earnings records and life expectancy [9]. With a complete earnings record, the risk of doing worse is 10 percent, and with an interrupted earnings record, the risk of doing worse is above 15 percent [9]. In addition, women are likely to be worse-off than men because they have a greater life expectancy [9].

Another type of proposed individual account involves a 60-40 equity-debt investment-based defined-contribution plan [4]. The writers of the proposal specifically note that the rate of return on an investment-based plan is the marginal product of capital, which is higher than the rate of return for pay-go, which is the rate of growth of aggregate wages [4]. For example, with a savings rate of 6 percent of earnings, a diverse set of individual estimates indicated that the probability that the returns on the proposed investment account would be lower than the benefits benchmarked by Social Security by age 67 is less than 17 percent [4]. In addition, the portfolio's performance would likely cover 85 percent of the individual's estimated retirement earnings as compared to the approximately 40 percent covered by Social Security benefits [4].

One proposed mechanism for protecting the public against being worse-off in an individual accounts program is to provide a "guarantee" mechanism to safeguard people from market risks [5]. However, the cost of the guarantee would depend largely on the composition of the individual's portfolio. As the volatility of stocks increases over time, the cost of guaranteeing that a stock yields the risk-free rate of return achieved through the Social Security program would also increase [5]. In addition, larger accounts would also cost more to guarantee [5]. Three possible ways to moderate the costs of a guarantee program would be to have a stricter guarantee design, to decrease the investment horizon, or to increase the amount of bonds required in an individual's portfolio [5].

Despite many of the risks associated with individual accounts, the pay-go system also has risks, which stem from the fact that the system depends on current workers in the economy to fund benefits for current retirees [7]. As investment benefits and pay-go benefits both have a degree of uncertainty for inherently different reasons, a mixed system would provide greater protection to the individual [3]. As demonstrated by Figure 3, a pure individual accounts system generates higher returns and a greater variance, or risk-factor, and the pay-go system has lower returns and a lower variance [3]. Only individuals that are infinitely risk-averse would be likely to choose a system with a minimum variance [3]. According to calculations of lifetime utility for differing levels of individual risk-aversion, even people with relatively high levels of risk-aversion would prefer to participate in a system with at least a 50 percent diversion to individual accounts [3].

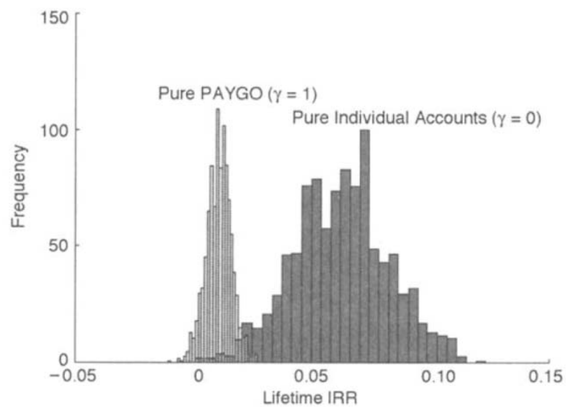

Figure 3: Distribution of Lifetime Returns for Pure PAYGO and Pure Individual-Accounts Systems [7]

As "hybrid indexing" would make Social Security benefits calculations more progressive, combining this indexing with a mixed system of individual accounts and pay-go would result in an equitably better rate of return in the Social Security benefits system. As pay-go and individual accounts have different risks associated with maintaining their payments, a "diversified" index would work to decrease the overall risk associated with retirement income as well as increase the benefits individuals would receive.

As Social Security has become a vital part of this nation's infrastructure, reforms to the program must be made in order to overcome the problems currently threatening the system's solvency. In accordance with the progressive nature of the program, the most equitable reform would be to create a "diversified" index that uses both "hybrid indexing" and individual accounts. This type of reform would facilitate a prolonged solvency of the Social Security system by providing it with much needed relief from its financial woes.

References

[1] Clark, RL (2004). Social Security Financing: Facts, Fantasies, Foibles, and Follies. The American Economic Review, 94.2:182-186.

[2] Diamond, PA & Orszag, PR. (2005). Saving Social Security. The Journal of Economic Perspectives, 19.2: 11-32.

[3] Feldstein, M (2005). Structural Reform of Social Security. The Journal of Economic Perspectives, 19.2: 33-55.

[4] Feldstein, M & Ranguelova, E. (2001). Individual Risk in an Investment-Based Social Security System. The American Economic Review, 91.4: 1116-1125.

[5] Lachance, ME & Mitchell, OS. (2003). Guaranteeing Individual Accounts. The American Economic Review, 93.2: 257-260.

[6] LeBlanc, M. (2005). The Social Security Debate in the United States. The Library of Parliament (Canada), PRB 05-41E.

[7] Nataraj, S & Shoven, JB. (2003). Comparing the Risks of Social Security with and without Individual Accounts. The American Economic Review, 93.2: 348-353.

[8] Social Security Online. U.S. Social Security Administration. 23 Feb. 2008 <http://www.ssa.gov/>.

[9] Weller, CE. (2000). Risky Business? Evaluating Market Risk of Equity Investment Proposals to Reform Social Security. Journal of Policy Analysis and Management, 19.2: 263-273.

Kathryn Tippey is a senior majoring in Economics and Mathematics with a minor in Computer-Based Honors from Tuscaloosa, AL. She currently works with Dr. Paan Jindapon to access the impact of climate change on residential energy costs and is a NOAA Ernest F. Hollings Scholar.