# GRS Perspectives 

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# Social Security: Will It Be There for You? <br> Brian B. Murphy, FSA, EA, FCA, MAAA, PhD 

## Background

On August 14, 1935, President Franklin D. Roosevelt signed the Social Security Act into law (Public Law 74271). The new Act created a social insurance program designed to pay continuing income to retired workers age 65 and older. It has been described as a watershed achievement of social welfare reform in American history. For the first time, retired workers were guaranteed a basic floor of protection against the hardships of poverty. ${ }^{1}$

The first taxes were collected in 1937 and the first lump sum payment was made that same month in the amount of $\$ 0.17$. In January 1940, regular ongoing monthly benefit payments began with the first monthly check for $\$ 22.54$. The first recipient had paid a total of $\$ 24.75$ in Social Security taxes and lived to collect $\$ 22,888.92$ in benefits, nearly 1,000 times the amount the individual had paid into the Social Security program.

In its original form, Social Security only paid retirement benefits to the primary worker. Survivor benefits, disability benefits and benefits for spouses and children were added later. The original contribution rate was $1 \%$ of the first $\$ 3,000$ of compensation for both the employer and the employee.

Social Security, as we understand it today, consists of the Old Age and Survivors Insurance Fund (OASI), and the Disability Insurance Fund (DI). The combination is sometimes called "OASDI." Social Security covers virtually all private sector employees and $75 \%$ of
public employees. ${ }^{2}$ Consequently, it is an important part of retirement planning for almost all Americans. It is also an enormous federal program. In 2015, it paid out $\$ 897$ billion in benefits and received $\$ 920$ billion in income. Income included $\$ 93$ billion in interest and $\$ 32$ billion from taxation of benefits, in addition to income from the $12.4 \%$ Social Security tax. At the time of this writing, 60 million individuals are receiving $\$ 75$ billion per month in benefits.

In 2017, the Social Security contribution rate is 6.2\% for both the employer and the employee on the first $\$ 127,200$ of earned income. The figure of $\$ 127,200$ is called the "Taxable Wage Base." ${ }^{3}$ This limit is adjusted annually for inflation. There is a $1.45 \%$ tax on all earned income for both employers and employees for Medicare, so that the total tax is $15.3 \%(=6.2 \%+6.2 \%$ $+1.45 \%+1.45 \%)$. High earners and people with investment income are subject to additional Medicare taxes that are not covered in this GRS Perspectives. The total tax is called the "FICA" tax. ${ }^{4}$ It can be argued that FICA is not a tax because it is directly linked to benefits. Arguing against that concept is the fact that Social Security benefits are not guaranteed. They do

[^0]not have the same protections in federal law as other types of retirement benefits.

This GRS Perspectives will first explain how Social Security benefits are calculated. Then, it will discuss how they are funded and the current funding status of OASDI. Finally, it will discuss various ideas for changing the system, primarily related to methods for dealing with the enormous financial strain that is projected to face Social Security in just a few years. The various ideas for change did not originate with GRS. For the most part, they can be found in public sources that are cited in the bibliography (see page 9).

## How Are Social Security Benefits Calculated?

Social Security is a type of career average indexed retirement plan. The Social Security Administration (SSA) maintains a record of each person's taxable earnings by year throughout the person's career. The SSA also maintains a record of the Average Wage for each calendar year and creates the "Average Wage Index" (AWI). The average wage index ${ }^{5}$ is based on compensation (wages, tips, etc.) subject to Federal income taxes, as reported by employers on Form W-2. Due to lags in reporting, the Average Wage Indexing series is, in a sense, one year behind. For example, in 2017, the National Average Wage for 2015 is the last figure known.

The earliest age at which a (non-disabled) person can receive a Social Security retirement benefit is age 62. For example, suppose that Jane was born in 1950 and applies for benefits in 2016. Jane turned age 62 and became eligible for reduced Social Security benefits in 2012, but decided to delay retirement until she reached her Full Retirement Age (FRA). For a person born in 1950, the FRA is age $66 .{ }^{6}$ The first step in the calculation is to index her taxable earnings (earnings up to but not exceeding the Taxable Wage Base (TWB) in each year of her career) in accordance with the Average Wage Index. The indexing is done initially as though she had applied for benefits at age 62, regardless of when she actually applies. She turned 62 in 2012, and at that time the last figure in the AWI series was the 2010 National Average Wage, which was $\$ 41,673.83$. Jane's earnings in each prior year are
then indexed to 2010, the year she turned age 60. For example, suppose that in 1982 (a year in which the National Average wage was $\$ 14,531.34$ ) Jane had earned $\$ 12,022.28$. Her earnings for 1982 would then be indexed to 2010 as follows:

$$
\frac{\$ 41,673.83}{\$ 14,531.34} \times \$ 12,022.28=\$ 34,478.20
$$

If Jane's actual earnings in any year exceed the Taxable Wage Base for that year, only earnings up to the Taxable Wage Base would be used in the computation.

This calculation is done for each year that Jane had taxable earnings, up to and including the year that she turned age 60. For years after she turned age 60, the indexed earnings are considered to be the actual nominal earnings (up to but not exceeding the Taxable Wage Base for the year in question). After these calculations are completed, the 35 highest years of indexed earnings are selected and all other years are dropped from the calculation. If Jane did not have 35 years of taxable earnings, then the 35 highest years will contain some zeros, and the zeros will be included in the averaging process. (This point can be misunderstood by individuals who retire from public or private sector employment at relatively young ages and expect to draw a full Social Security benefit later.) The average of the 35 highest years is then calculated and the result, after division by twelve, is called the Average Indexed Monthly Earnings (AIME). Let us suppose that Jane's AIME is $\$ 8,556$.

The next part of the calculation produces Jane's Primary Insurance Amount (PIA). The PIA is the amount that Jane would get if she retired at her full retirement age (FRA). Recall that since she was born in 1950, her FRA is 66 . For the first part of the PIA calculation, Jane's AIME is divided into three bands. The points at which the divisions occur are called "Bend Points." The bend points ${ }^{7}$ change each

[^1]year in accordance with the national average wage index. In 2012, the year Jane turned age 62, the bend points were $\$ 767$ and $\$ 4,624$, respectively. This part of Jane's calculation proceeds as follows:

| Multiplier | Times | AIME |  | Result |
| :---: | :---: | :---: | :---: | :---: |
|  |  | From | To |  |
| 90\% | x | \$ 0 | \$ 767 | \$ 690.30 |
| 32\% | x | \$ 767 | \$4,624 | \$1,234.24 |
| 15\% | x | \$4,624 | \$8,556 | \$ 589.80 |
| Result |  |  |  | \$2,514.34 |
| \% of AIME R | Replace |  |  | 29\% |

Jane did not retire at her earliest possible age. However, if she had done so, she would have received cost-of-living adjustments (COLAs) for each year from 2012 through 2015. Delaying retirement does not cause her to lose the COLAs. For those years, the COLAs were $1.7 \%, 1.5 \%, 1.7 \%$ and $0.0 \%$, respectively. After adding the COLAs and applying SSA rounding rules, the PIA becomes $\mathbf{\$ 2 , 6 3 9 . 4 0}$.

In 2016, if Jane retires at exact age 66, her monthly benefit would be $\$ 2,639$ (fractions of a dollar are dropped). If she retires in 2016 at an age other than exact age 66, either an early retirement reduction or a late retirement increase would be applied.

Some key items to note from this calculation and the related discussion include:

1. The OASDI portion of the FICA tax is regressive. In 2017, a person whose income is $\$ 200,000$ will pay $\$ 7,886$ or $3.94 \%$ of income in OASDI tax, whereas a person who earns $\$ 35,000$ will pay $6.2 \%$ of income in OASDI tax.
2. The benefits are progressive. Low wage earners receive a much higher percentage of their AIME in the form of Social Security benefits than high wage earners as can be seen from Jane's calculation above. If her AIME had been only $\$ 767$, her benefit would have been $\$ 690.30$, which would be $90 \%$ of her AIME. In addition, because a portion of the benefits are subject to federal income tax and the income tax system is progressive, high income individuals will lose a greater proportion of their Social Security benefits to federal taxes than low
income individuals (which effectively adds to the progressivity of the benefit formula).
3. Because 35 years of earnings must be counted in the formula, individuals who have a working career less than 35 years are disadvantaged (i.e., parents who interrupt a career for child-raising, " 30 \& out" retirees from public or private employment, etc.). However, the progressivity of the formula somewhat offsets that disadvantage.
4. Individuals who have worked for part of their career in employment that is not covered by Social Security will be treated like low wage earners because they will have zeros for some years in the AIME formula. Essentially, they would be advantaged by the formula (assuming there is some type of pension from non-covered employment) if no adjustments were made. The "Windfall Elimination Provision" (WEP) was designed to mitigate this advantage. ${ }^{8}$
5. Earnings above the Taxable Wage Base and unearned income (interest, dividends, capital gains, etc.) play no role in the formula.

## How Are Social Security Benefits Funded?

Social Security benefits are funded from three sources: 1) the $12.4 \%$ payroll tax; 2 ) income tax on benefits; and 3 ) investment income on the trust fund. The U.S. Treasury Department invests trust fund reserves (currently \$2.8 trillion) in non-marketable Special Issue U.S. Treasury Securities. This is different from the funding program of state and local government retirement systems. State and local government pension funds are not invested exclusively in plan sponsor debt. In 2015, the combined OASDI trust fund reserves earned interest at an effective rate of $3.4 \% .{ }^{9}$ Of course, the U.S. government is paying this interest. Therefore, it is paid from other government revenues, including personal and corporate income taxes, etc.

[^2]
## Definitions of Terms Required to Understand Other Measures of OASDI Condition

| Term | Definition |
| :--- | :--- |
| Annual Balance | represents the difference between non-interest income and cost for a year. |
| Actuarial Balance | refers to the present value of the difference between income and outgo over the period. |
| Actuarial Deficit | refers to a negative actuarial balance. |
| Unfunded Obligation | over a period is the actuarial balance reduced by the assets at the beginning of the period. |
| Long-Range Actuarial <br> Balance | refers to the actuarial balance over a 75 -year period. |

## Measures of OASDI Condition

The Social Security Trustees measure the financial position of the program based upon three different assumptions which are called low, intermediate, and high cost assumptions, respectively. The intermediate assumptions are typically used when citing the funded status of the OASDI Trust Funds. According to the 2016 Social Security Trustees Report (see page 49) and based upon intermediate assumptions, the OASDI asset pool is expected to grow through 2019, and afterward to decline steadily. This means that beginning in 2020, a portion of the Special Issue U.S. Treasury Securities must be cashed in and the Federal government will need to find a way to generate the needed funds either through higher taxes or additional borrowing. By 2034, all of the $\$ 2.8$ trillion Trust Fund will be exhausted. ${ }^{10}$ At that point, only $79 \%$ of scheduled benefits would be payable, declining to $74 \%$ by 2090.

Here are a few measures of OASDI condition based upon Intermediate Assumptions. According to the 2016 Trustees Report (see pages 75 and 76), OASDI is 2.66\% of payroll short of long-range actuarial balance. To clarify, the Actuarial Deficit is $2.66 \%$ of taxable payroll over the 75 -year projection period 2016 to 2090. In 2090, the annual balance is $-4.35 \%$, or in other words, income is projected to be $4.35 \%$ short of outgo in 2090. Consequently, even if the program was changed so that long-range actuarial balance is restored, by 2090 the program will again be out of balance. The unfunded obligation through 2090 is \$11.4 trillion, which is equivalent to about $2.5 \%$ of taxable payroll. The infinite horizon unfunded obligation, or in other words, the unfunded obligation over the indefinite future is $\$ 32.1$ trillion, which is equivalent to about 4\% of taxable payroll. These are
very large numbers that make it clear that changes have to be made either to the income or to the outgo from the OASDI trust funds, or both, if its promises are to be kept. The longer changes are delayed, the more difficult it will be to make needed changes.

At least according to the intermediate assumptions, if nothing is done before 2034, benefits would have to be reduced suddenly by about $21 \%$ with the percentage reduction gradually increasing, ultimately reaching $26 \%$ by 2090. It would be unthinkable to let such a crash landing happen. Currently, the U.S. government has 17 years to figure out what to do. A likely end result may be a blend of several of the potential changes discussed below, and some discussed in other sources that are cited in the bibliography (see page 9).

## Potential Changes to OASDI to Address Solvency Issues

The following are examples of changes to OASDI that may address some or all of the gap between funding that is available under current law, and funding that is expected to be needed to support benefits.

[^3]Increase the OASDI Tax Rate: Elimination of the longterm actuarial deficit would require an increase in the tax rate from the present $12.4 \%$ of taxable payroll to approximately $15 \%$. If the increase was split evenly between employers and employees, the increase would be approximately $1.3 \%$ of taxable payroll for each. The increase would not need to happen all at once. It could be phased in at a rate of $0.1 \%$ or so per year over a long period of years.

Pros: A tax rate increase could be a complete solution. No one would lose benefits. Increasing the tax rate gradually would allow workers' aftertax income to continue to increase.

Cons: The FICA tax is regressive. The financial effects would be magnified for low income workers and the industries employing them. It might affect the ability of low income workers to afford basic needs; whereas for higher income workers, only discretionary spending would likely be affected. An increase in the tax rate could lead to an increase in unemployment for lower income workers. The indicated increase only gets OASDI through the 75 -year period. Further increases would be required later.

Of course, the tax increase would not have to be split evenly between employers and employees. The employer could pay all or most of the increase, which might alleviate some of the effect on workers. Why "some of" and not "all of"? One economic theory suggests that, in effect, workers pay the entire tax
anyway. Under that theory, having the employer pay all or most of the increase would not shield workers from the negative effects of the tax to a significant extent.

Increase the Taxable Wage Base (TWB): Either increase the TWB ( $\$ 127,200$ in 2017) materially or extend it to cover all earnings as was done with Medicare. This could potentially be done with or without a corresponding addition of benefits for earnings above the current TWB. The following chart is based on a person who attained age 62 in 2016. The AIME for such a person whose earnings had always equaled or exceeded the TWB would be $\$ 9,431$. The chart below illustrates the effect of adding a new bend point at the 2016 maximum AIME with a $5 \%$ multiplier attached to AIME above that bend point. In this example, full OASDI contributions would be required for earnings above the current TWB, although there could be alternatives to that.
Under present law, the PIA for an individual retiring at age 62 in 2016 would be calculated as $90 \%$ of the first $\$ 856$ of AIME plus $32 \%$ of the next $\$ 4,301$ (= $\$ 5,157-$ $\$ 856$ ) of AIME plus $15 \%$ of all excess AIME. The results for a low, medium and maximum earner are shown in the following chart and are compared with results for a hypothetical "SuperMax" earner who would have an AIME of \$20,000 (based upon an increased TWB) and is subject to the new bend point.

Under present law, the Max earner and the Supermax earner make the same contributions and get the same benefits. (The AIME of the Supermax earner under the

| Bend Point | Factor | AIME |  | Type of Earner |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Low | Medium | $\begin{aligned} & \text { Max } \\ & \$ 9,431 \\ & \hline \end{aligned}$ | SuperMax |  |
|  |  |  |  | Current |  |  | Alternate |
|  |  |  |  | \$2,000 |  |  | \$9,431 | \$20,000 |
|  |  | From To |  |  | Formula Results |  |  |  |  |
| \$ 856 | 90\% | \$ 0 | \$ 856 | \$ 770 | \$ 770 | \$ 770 | \$ 770 | \$ 770 |
| \$5,157 | 32\% | \$ 856 | \$5,157 | \$ 366 | \$ 939 | \$1,376 | \$1,376 | \$1,376 |
| \$9,431 | 15\% | \$5,157 | \$9,431 | \$ 0 | \$ 0 | \$ 641 | \$ 641 | \$ 641 |
|  | 5\% | \$9,431 | Above \$9,431 |  |  |  |  | \$ 528 |
|  | Result: |  | nthly Amount | \$1,136 | \$1,709 | \$2,787 | \$2,787 | \$3,315 |
|  |  | \% o | IME Replaced | 57\% | 45\% | 30\% | n/a | 17\% |

current column is $\$ 9,431$ because under present law earnings above the wage base are not counted in calculating the AIME and, of course, OASDI contributions are not made on income above the wage base.) It is important to note that the percentage of AIME replaced goes down as AIME goes up and that the Supermax earner in the alternate illustration only gets $17 \%$ of AIME replaced. However, in this example, the individual has paid FICA taxes on all earnings at the same rate as everyone else.

Pros: A change of this type would result in an immediate increase in income to the OASDI trust funds. However, most of the effect on benefit payments would be deferred since the TWB would be raised for future years only. Depending on exactly how it is implemented, such a change could eliminate all or most of the entire longrange actuarial deficit. This is a progressive type change. Most wage earners would not be affected by the increase in the TWB. Higher income individuals would pay higher total contributions than at present, but would get additional benefits in return for their contributions. It is also likely that a good portion of the additional benefits that result from a change of this type would be returned to the OASDI Trust fund because of the taxation of benefits.

Cons: The change could result in extraordinarily high benefits being paid to some very highly paid individuals, particularly if the TWB was extended to cover all earned income (i.e., if the cap on taxable earnings was removed entirely as was done with Medicare). For example, some corporate executives or celebrities can have taxable earnings on the order of $\$ 1$ million per month. Also, a professional athlete can earn a hundred million dollars over a short career. If a meaningful factor in the AIME calculation is applied (e.g., $5 \%$ as in the illustration) to the top tier of AIME, the resulting benefits would be much more than a "basic floor of protection against the hardships of poverty" and would effectively change the nature of the program. If a very low or zero factor is applied to the top tier of AIME, high earning individuals will see taxes going out with no resulting benefit being earned.

Support for the program could be eroded. Elimination of the cap combined with the current progressive income tax system would be a significant increase in top marginal tax rates, the effects of which on the economy are uncertain. Although some upper limit is likely needed, the inclusion of an upper limit will reduce the effectiveness of the change.

Raise the Retirement Age: The full retirement age (FRA) was 65 from the start of the program in 1940 until the System was modified in 1983. For people turning age 62 prior to 2000, the FRA remains at 65 years. For people turning age 62 in 2000, it was 65 years 2 months. For people who turned age 62 from 2005 to 2016 (born from 1943 to 1954), it is age 66. The full retirement age for people turning age 62 in 2017 is 66 years 2 months. It increases by two months per year going forward until it reaches age 67 for individuals born in 1960 or later. The Early Retirement Age (ERA) was created in 1956 and set at age 62 for women. The ERA was first made available to men in 1961. The ERA has not changed since that time. However, since 1940, life expectancies have increased by much more than the two year increase in FRA and the 0 year increase in ERA. In fact, the Social Security Administration estimates that life expectancies at age 65 for both men and women have increased by seven years since 1940, which is an increase in expected retirement lifetimes on the order of $50 \%$. According to the most recent projection scales released by the Society of Actuaries, life expectancies at typical retirement ages are expected to continue to increase by about one year every 10 years in the future. This means that OASDI is paying out benefits for a much longer period than is compatible with the original plan design. Unless the retirement age is changed, the payout period will continue increasing. Raising the FRA and the ERA to ages 70 and 65 respectively would improve long-range actuarial balance by about 0.74\% of taxable payroll. With some reasonable further indexing, increasing the retirement age could improve the long-range actuarial balance by as much as $1.4 \%$ of payroll.

Pros: A further increase in the retirement age may be justified based upon prior and projected increases in future life expectancies. It can solve a significant part of the problem and greatly
reduce the need for future tax increases.
Cons: The increase in retirement age probably favors white collar workers over blue collar workers. Workers in strenuous physically demanding jobs might be unable to continue working until the new FRA or ERA. An increase in disability applications may result. Even white collar workers may have difficulty functioning at expected levels at advanced ages. At some point, for both blue and white collar workers, a person's skills can become outdated making jobs within a person's skill set non-existent in the economy. There could be a need for some type of hardship exemption to deal with individuals who are not disabled, but who may no longer be able to work.

Another version of this change could involve raising the FRA to age 70, but leaving the ERA at age 62. Perhaps a method could be designed to ameliorate the effect of the early retirement reduction on low income workers.

## Other Types of Changes

Some other potential changes for the system may include the following:

1. Reduce benefits for future retirees by changing the bend points in the formula or changing the \% factors applied to the bend points. This could be done with an across the board reduction, or with a surgical reduction that would focus the effect of decreased benefits on higher income earners. The change could be phased in gradually by reducing the bend points by small amounts over a series of years.
2. Reduce benefits for future retirees by increasing the number of years over which the AIME is calculated. For example, 35 years is currently used. Perhaps as the retirement age increases, the number of years in the formula should increase as well. This might have a disproportionate effect on low income workers. It would have a negative effect on individuals who have not worked a full career for various reasons (i.e., child care, caring for a disabled spouse or parent, etc.).
3. Increase benefits for older retirees. This would not really help with the financing but, perhaps at
some point, the oldest of the old should be insulated from benefit reductions that affect younger retirees.
4. Change the COLA formula to reduce future COLAs. Currently, Social Security COLAs are based on increases in the CPI-W, third quarter average to third quarter average. A reduction in future COLAs would be predicated on the idea that COLAs are already too high, an idea with which many retirees would disagree. In fact, the Older Americans Act of 1987 directed the Bureau of Labor Statistics (BLS) to develop an experimental CPI-E based on a typical basket of goods and services for individuals age 62 years and older. While the results were not completely conclusive, the BLS reported that the experimental CPI-E increased faster than CPI-U or CPI-W during the study period (1990-95). It is also obvious that older individuals as a rule are more affected by increases in health care costs than younger individuals. In any event, a change made to reduce the COLA would most likely have little effect on benefits in the first few years after retirement. However, over time its effects would become focused on the oldest retirees.
5. Reduce benefits for family members (spouses, children or parents) other than the worker. These benefits were not part of the original program. It could be argued that if the program is having difficulties, it should revert back toward its original design. For example, if the spouse's benefit was gradually reduced from the current $50 \%$ of PIA to $33 \%$, long-range actuarial balance could be improved by about $0.12 \%$ of pay. The idea of reducing spousal benefits stems mostly from the societal change that has greatly increased the number of two-earner families since the Social Security program was launched. Within the present structure, there are many cases where the Social Security taxes paid by the lesser earning spouse result in no benefit at all (because half of the benefit of the higher earning spouse is greater than the earned benefit of the lower earning spouse). A reduction in spousal benefits could reduce this inequity but, of course, it would reduce total benefits paid as well.
6. Increase the level of taxation of benefits. Since the taxation thresholds ( $\$ 25,000$ for an individual
filer and $\$ 32,000$ for married filing jointly) are not indexed to inflation, present law implies that eventually $85 \%$ of benefits would be subject to tax anyway. There is not much to gain from taxing the additional $15 \%$. Additional taxation would not affect lower income beneficiaries, but would be a benefit reduction for higher income individuals.
7. Mandate all newly hired state and local government employees into Social Security. This would increase contributions in the near term, but would also increase benefits payable in the long term. It would not improve the long-range actuarial balance by much - about $0.15 \%$ of taxable payroll. It would also involve massive redesign of certain state and local government pension plans, and could be quite unpopular with affected governments. Although there is currently much controversy about the manner in which the funded status of state and local government pension plans should be measured, it can be argued easily that all such plans are in better condition than Social Security. Unlike Social Security, which holds Special Issue Treasuries as its only asset, state and local government plans are invested in a broad range of marketable securities (they do not invest exclusively in plan sponsor debt). Mandatory coverage would involve the federal government either imposing a $6.2 \%$ tax on a sovereign State as the employer or imposing the full $12.4 \%$ tax on the employee.
8. Link the Social Security Full Retirement Age to income in some way. In one example, the FRA would move to age 67 according to the present schedule for individuals whose AIME is less than the first bend point ( $\$ 885$ in 2017). It would be increased gradually to age 68 for individuals whose AIME is between the first and second bend points (i.e., between $\$ 885$ and $\$ 5,336$ in 2017) and to age 70 for individuals whose AIME is above the second bend point. The thought process would be that low income individuals may be more likely to have physically demanding jobs not compatible with working to age 70. By comparison, higher income individuals are more likely to have white collar type jobs that may permit working to more advanced ages.

## Changing OASDI Seems Rather Difficult. What Else Could Be Done?

The funding gap could also be closed if no changes are made to OASDI benefits or to OASDI tax rates and general revenue is used to supplement OASDI funding. General revenue has been transferred to the OASDI Trust Funds in isolated instances in the past. After thinking through the difficulty of all of the changes to OASDI discussed above, use of general revenue seems to be an obvious solution. It is not really a solution, though; it is just a transfer of the problem to another portion of the federal government. Can this be done without weakening the ability of the federal government to provide for critical needs other than support of the old age population (defense, infrastructure, etc.)?

General revenue funding would almost certainly require some type of increase in either personal or corporate tax rates. The effect of the tax increase on the economy as a whole would be uncertain but would of course have to be viewed in light of the other available alternatives. Ongoing use of general revenue would be a fundamental change in the nature of the Social Security program, breaking the link between taxes and benefits and converting it at least partially from what is called a "social insurance program" to a welfare program. The link between Social Security taxes and benefits is a strong incentive for individuals to support the program and to pay the required taxes. Support for the program and for paying the taxes could be eroded if the link between the two is broken or materially weakened. Means testing could well be an eventual result. Means testing would encourage some people to use clever estate planning techniques to qualify for Social Security benefits. It might also discourage retirement savings generally. Permanent general revenue funding for OASDI is a very complicated issue, but it is likely to be put on the table at some point in the future.

## Conclusion

The American Academy of Actuaries has a game on its website that allows players to try to fix Social Security. According to the game, the following combination of changes "works."

- Increase the Full Retirement Age gradually to age 69 for individuals born in 1972 and later, and continue increasing it by one month every two years thereafter;
- Reduce benefits for future retirees by $5 \%$;
- Increase the payroll tax from the current $12.4 \%$ to $13.2 \%$; and
- Increase the wage base materially.

This is not a recommended combination of changes, but rather an illustration of potential changes. Other combinations will work also. The author encourages readers to: play the Social Security game (http:// socialsecuritygame.actuary.org/); become knowledgeable on the subject; be vocal; communicate thoughts to elected representatives; and be open to well-thought-out changes that treat everyone as fairly as possible under the circumstances.

Social Security will change. But if policymakers act responsibly, it can and will be there in the future.

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The following tables show the Average Wage Indexing (AWI) Series and Benefit Formula Bend Points used to calculate Social Security benefits. Further information and complete historic tables can be found at the respective links below.

| Average Wage Indexing (AWI) Series |  |  |  |
| :---: | :---: | :---: | :---: |
| Year |  | AWI | Annual change |
| 2010 | \$ | 41,673.83 | 2.36\% |
| 2011 |  | 42,979.61 | 3.13\% |
| 2012 |  | 44,321.67 | 3.12\% |
| 2013 |  | 44,888.16 | 1.28\% |
| 2014 |  | 46,481.52 | 3.55\% |
| 2015 |  | 48,098.63 | 3.48\% |

Source: https://www.ssa.gov/oact/cola/awiseries.html

## Benefit Formula Bend Points

| Benefit Formula Bend Points |  |  |
| :---: | :---: | :---: |
| Year* | Dollar amounts in PIA formula |  |
|  | First | Second |
| 2012 | $\$ 767$ | $\$ 4,624$ |
| 2013 | 791 | 4,768 |
| 2014 | 816 | 4,917 |
| 2015 | 826 | 4,980 |
| 2016 | 856 | 5,157 |
| 2017 | 885 | 5,336 |

Source: https://www.ssa.gov/oact/cola/bendpoints.html

* Year of eligibility; that is, the year in which a worker attains age 62 , becomes disabled before age 62, or dies before attaining age 62.


## About the Author



Brian B. Murphy, FSA, EA, FCA, MAAA, PhD is a Senior Consultant \& Actuary who has more than 35 years of public sector actuarial and consulting experience. Brian's consulting experience with statewide pension plans includes systems in Arizona, Arkansas, Colorado, Illinois, Iowa, Maryland, Mississippi, Missouri, Ohio, Tennessee and Wisconsin. His local government experience covers plans in Florida, Michigan and Virginia.

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## The author thanks Heidi Barry, David Hoffman and Mary Ann Vitale at GRS for their review and very helpful comments.


#### Abstract

About GRS GRS is a national actuarial and benefits consulting firm. We help our clients develop and maintain fiscally sustainable benefit programs that preserve financial security for millions of Americans. Our reputation for providing independent advice and quality consulting services has remained unmatched for over 75 years.

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[^0]:    ${ }^{1}$ Robert J. Myers, one of the original designers of the Social Security program who served as Chief Actuary from 1947 to 1970 has been quoted as saying "I have always believed that Social Security should be a floor of protection, and I think that it has well served this purpose and is now doing so. " Transactions of the Society of Actuaries 1970 Vol 22 PT. 2 No. 63,
    https://www.soa.org/Library/Research/Transactions-Of-Society-OfActuaries/1970/January/tsa70v22pt2dn635.aspx
    ${ }^{2}$ Federal State Reference Guide, Publication 963 rev 11-2014 Page 1-1.
    ${ }^{3}$ Actual annual increases to the wage base are announced each year in October and apply to the following calendar year.
    ${ }^{4} 26$ USC, Subtitle C, Chapter 21.

[^1]:    ${ }^{5}$ https://www.ssa.gov/OACT/COLA/AWI.html
    ${ }^{6}$ The FRA increases by two months per year for individuals born after 1954 until it becomes age 67 for individuals born in 1960 and later.
    ${ }^{7}$ https://www.ssa.gov/oact/cola/bendpoints.html

[^2]:    ${ }^{8}$ Further information can be found at: https://www.ssa.gov/pubs/EN-05-10045.pdf
    ${ }^{9} 2016$ Social Security Trustees Report, page 8.

[^3]:    ${ }^{10}$ The 2034 intermediate assumption depletion date is unchanged from the 2015 Trustees Report. The "high cost" depletion date is 2030. Based upon stochastic projections, the Trustees estimate that there is a $95 \%$ probability of depletion sometime during the period 2029-2045. For a historical view of the projected depletion dates, please refer to https://www.ssa.gov/oact/tr/2016/ VI B LRact bal.html. See also https://www.cbo.gov/sites/ default/files/114th-congress-2015-2016/reports/52298socialsecuritychartbook.pdf and note that the CBOs' 2016 LongTerm Projections indicate a 2029 depletion date for the combined OASDI fund.

[^4]:    "GRS" is the national brand under which Gabriel, Roeder, Smith \& Company Holdings, Inc. and its subsidiaries operate and provide professional services. The GRS companies comprise a national actuarial and benefits consulting firm and are committed to working together to provide quality service offerings for clients throughout the nation.

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