What is Social Security

Introduction

The United States' Social Security system provides retirement benefits to millions of elderly Americans. The program also makes disability payments to the disabled and provides benefits to widowers if their spouse dies prematurely. In total, it provided benefits to 65 million Americans in 2021 (SSBT, 2022). Further, the program has been credited with reducing elderly poverty as a result of its expansion since 1935 (Martin & Weaver, 2005).

Social Security uses contributions (in the form of payroll taxes) from current workers to pay the benefits of current retirees as well as build up reserves. Reserves are extra funds set aside to pay for future benefits. Currently, Social Security has $2.85 trillion in reserves (SSBT, 2022). When workers retire, their benefit is calculated based on their average indexed monthly earnings ("AIME") (OCA(a)). Note that past earnings are valued in today's dollars. The final benefit amount is a function of the AIME, this function is designed to be progressive in that those with small AIME's get relatively higher benefits compared to those with higher AIME's. Further, retirees' benefits are annually increased by a cost-of-living adjustment ("COLA") amount. This is especially relevant in light of high US inflation experienced in 2021 and 2022. For 2023, seniors received an 8.7% increase in benefits due to COLA (OCA(b)).

While providing stable retirement income is great, Social Security is in financial trouble. Its problems may not materialize in the next year, the next two years or even in the next five years for that matter. However, it is projected that the Social Security trust funds will run out of money in 2035 (SSBT, 2022). The Social Security Board of Trustees, who oversee the US Social Security system, produce an annual report that assesses the solvency of the Social Security trust funds (SSBT, 2022). If no policy actions are taken, benefits will need to be reduced by 25% after depletion (SSBT, 2022). Caution should be taken when interpreting the 2022 model results as it does not consider recent developments. The recent developments I am referring to are elevated interest rates and higher inflation. In addition, the Covid-19 pandemic's impact on Social Security is not fully known.

In the remainder paper, I will discuss the current state of the program, how this program functions and the politics surrounding Social Security.

Current State

In 1935, in midst of the Great Depression, Franklin Delano Roosevelt signed the Social Security program into law. Social Security subsequently grew rapidly becoming the largest US social program and a source of stable income for US seniors. It appears to be especially effective at reducing the elderly poverty rate as the rate decreased from 35.2% in 1959 to 9.7% in 2008

(Martin & Weaver, 2005). Since 1935, Social Security has expanded significantly and now distributes over a trillion dollars in benefits annually (SSBT, 2022).

Social Security is overseen by its Board of Trustees and managed by a government agency called the Social Security Administration. Four of the Trustees are selected based on their positions in the federal government and two other board members are appointed by the president and confirmed by the senate. Kilolo Kijakazi is the current acting commissioner of the program and the two other trustees have been left vacant since 2015 (Anderson, 2022). Social Security has two trust funds; the Old Age and Survivorship Insurance (OASI) Fund for funding retirement benefits and the Disability Insurance Fund (DI) for funding disability benefits. These funds are like reserves in that these funds are set aside to pay future benefits. The trust funds are generally funded with payroll taxes and invest in interest earning assets. Funds are disbursed to pay benefits and expenses. Each year, the Trustees publish a report on Social Security solvency. In their report, the Trustees model the future expected path of the trust funds over a 75-year projection period to assess the solvency based on a variety of assumptions[1]. They report the actuarial deficit and the projected date of trust fund depletion. There is controversy over whether 75 years is too long of a projection period as other countries measure solvency on a shorter time frame (Turner, 2017). In addition, there significant assumption uncertainty over what the US will look like in 75 years, which makes the goal of having solvency over 75 years impractical.

In their 2022 report, the Trustees indicate that the trust funds are expected to be depleted in 2035. Further, a key metric used to test solvency is the actuarial deficit, which now stands at 3.42% (SSBT, 2022). The general calculation for the actuarial deficit is the present values of unpaid benefits (due to trust fund depletion) plus required ending balance all divided by the present value of taxable payrolls. If nothing is done before depletion, benefits will need to be cut by 25% after depletion (SSBT, 2022). The last major Social Security legislative change occurred in 1983 as there was an impending insolvency crisis. Legislators phased in a 2-year retirement age increase (from 65 to 67), raised payroll taxes and increased taxes on Social Security benefits (Martin & Weaver, 2005) to shore up the program's finances.

One of the major problems that Social Security faces is the aging population, namely, the baby boomers. Many of baby boomers have either retired or are approaching retirement age (SSBT, 2022). Further, life expectancy has increased from 61 in 1935 to 79 in 2020 (Statistica, 2021) which means retirees are expected to live longer and collect more retirement benefits than prior generations. In a similar vein, US fertility rates have declined (SSBT, 2022) which reduces the size of the working age population. In addition, working age mortality has been increasing (I recently wrote about this trend, link) which also shrinks the workforce when young people tragically die prematurely (often times from drug overdoses). Surprisingly, Covid appeared to be beneficial for the program as elderly mortality was elevated during the pandemic. The 2022

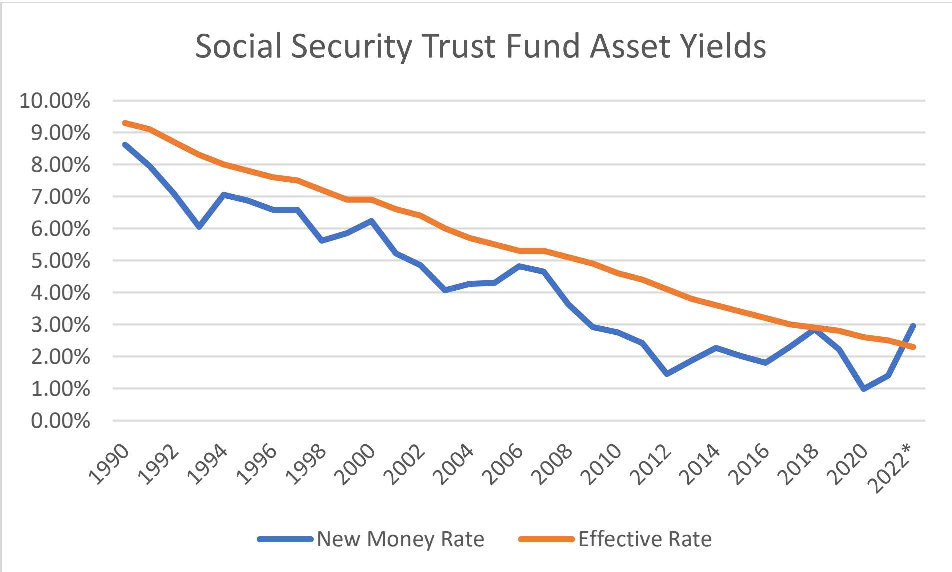
[1] In their report, they show model results for three scenarios, a baseline scenario, a pessimistic scenario and an optimistic scenario. Their model utilizes demographic assumptions (e.g., fertility rates, age distribution, mortality rates, etc.), economic assumptions (e.g., interest rates, inflation, GDP, etc.) and program specific assumptions (e.g., covered payroll taxes, average benefits, etc.).

report reported an actuarial deficit improvement by 0.17% from the 2021 report. However, the 2022 report does not capture significant US inflation. This inflation led to higher cost of living adjustments which will increase benefits starting in 2023. This is offset slightly by higher interest rates earned on Social Security's investments. However, the combined stress of these two factors appears to be negative. Overall, the asset side of Social Security has not been favorable to the program's financial health. Since, the 1990 interest rates have declined and after 2008, the US experienced a prolonged low-rate environment which affects the rate earned on Social Security's investments.

Mechanics

The Social Security trust fund inflows are payroll taxes, benefit taxes and interest. Individuals pay a 6.2% tax on their earnings below the contribution base of $160,200 in 2023 (OCA(c)) and their employer pays a matching rate, bringing the cumulative rate up to 12.4%. The contribution base is updated annually based on national wage growth. Some policymakers would like earnings above the contribution base to be taxable in order to improve funding. They can justify this position based on income inequality. Income inequality appears to be hitting Social Security as only 82.4% of all earnings are taxable (i.e., all earnings above contribution base are not taxable). This figure stood at 88.6% in 1984 (SSBT, 2022). In addition, to payroll taxes, Social Security also taxes social security benefits based on an individual's total retirement earnings (AARP, 2019).

As for the asset side, Social Security invests in special issue treasury bonds which earn interest based on average market yields for public treasuries (42 U.S.C. § 401(d)). Two metrics can be used to assess the yields on the Social Security's investments; the new money rate or the yield earned on newly purchased assets and the effective rate representing the total net yield earned on Social Security's combined investments. Social Security generally invest in special issue bonds with maturities of less than 15 years. Therefore, the asset duration (a measure of the length of a portfolio or the portfolio's sensitivity to interest rates) is likely shorter than its liability duration. Below, the graph summarizes the interest rate earned on its new investments ("new money rate") and the effective rate over time. Based on the chart, the effective interest rate can be thought of as a lagging indicator to the new money rate.



Source: SSA Historical Interest Rates, https://www.ssa.gov/OACT/ProgData/intRates.html & SSA Effective Interest Rates, https://www.ssa.gov/OACT/ProgData/effectiveRates.html
* 12/31/2022 not finalized, used as of 11/30/2022 to proxy

As for the benefits side, each workers' benefits are calculated based on their average indexed monthly earnings ("AIME") for their highest 35 working years (OCA(a)). After the AIME is determined the primary insurance amount ("PIA") is calculated. The PIA is calculated similar to tax brackets. There are three brackets, which are updated annually for wage growth (OCA(a)). In 2023 for individuals, the brackets are 90% of first 1,115 of AIME, 32% for AIME in between 1,115 and 6,721 and 15% for AIME in excess of 6,721 (OCA(a)). This system is progressive in that more weight is given to retirees with low AIME's. If someone chooses to retire before their full retirement age, their benefit will be reduced by a prescribed schedule and if they retire later their benefits will be increased by a prescribed schedule. The full retirement age was originally set to 65 but is now 67 for those born in 1960 or later per the 1983 amendments (Martin & Weaver, 2005). For a more detailed explanation on the benefit calculation, readers are encouraged to visit the Social Security Administration's website (link: https://www.ssa.gov/OACT/COLA/Benefits.html).

Each year, benefits are increased by a cost-of-living adjustment linked to the consumer price index for wage earners. In light of skyrocketing inflation experienced throughout 2022, the COLA for 2023 was 8.7% (OCA(b)). This dynamic was not captured in the Trustees' report as the Trustees' model underestimated inflation. Further, going back to the asset side, the effective interest rate, or the interest earned on the total portfolio is a lagging indicator of new money interest rates. Therefore, the additional interest earned on the asset side will not react as quickly as the COLA increases on the benefits side.

Politics

Lastly, it comes time to discuss the political environment surrounding Social Security. In order to improve Social Security's funding, politicians must either raises taxes or reduce benefits. This is a fundamental conundrum because both are unpopular with the electorate. Further, the two major political parties favor different solution types as Republicans favor benefit decreases while Democrats favor tax raises (Brandon & Mohr, 2019). This political procrastination is termed political inertia by John Turner and it describes the tendency for policymakers to avoid enacting beneficial policies because the short-term costs are unpopular with the electorate (Turner, 2017). However, procrastination is not a sustainable solution. As discussed, if nothing is done before depletion, the Social Security benefits will be reduced by 25%, which will affect millions of elderly Americans (SSBT, 2022).

There are many types of policy proposals available that either raise taxes or reduce benefits. For instance, politicians could increase the taxable income base either raising the taxable maximum of 160,000 (as of 2023). They could also implement a tax donut hole where taxable income above 400,000 is taxed at the 12.4% combined rate, leaving income from 160,000 to 400,000 tax-free. It appears the Biden administration favors such an approach based the president repeatedly stating no one making less than 400,000 dollars per year will experience a tax increase. Further, in his State of the Union address, he declares, "And under my plan, nobody earning less than $400,000 a year will pay an additional penny in new taxes. Nobody" (State of the Union Address, 2022). This approach will likely be more popular than raising the payroll tax rates because less people are affected.

In addition, to raising taxes, policymakers could increase the tax base through other means. They could enact policies that stimulate economic growth, increase immigration, influence higher fertility rates, or improve mortality for working age adults. With higher economic growth, there will be higher aggregate payroll income which will increase collected payroll taxes. Second, increasing the amount of working-age immigrants increases the tax base and likely counteracts the aging population as immigrants tend to be younger. Increasing immigration can be a short-term strategy as immigration can be increased or decreased based on policy.

In contrast to immigration, increasing fertility or increasing the number of children mothers have, will take longer to materialize. Lower fertility rates in the US are a driver for the aging population and there are not enough younger people replacing older workers. To increase the fertility rate, it will likely require incentives to reduce the cost of child bearing. For instance, based on a 2018 New York Times survey, many respondents cited cost-based barriers as their reasons for not having children (Miller, 2018). Lastly, the US has experienced adverse working age mortality in recent years (see my recent article about working-age-mortality, link). By reducing deaths in this demographic, the US government can collect more taxes. In addition, by improving the health of this demographic, productivity will improve which should translate into higher economic growth that will not just benefit Social Security.

As for the reducing benefits side, rather than flat out cutting benefits, policymakers could increase the retirement age. By increasing the retirement age, people will be forced to work longer and contribute more payroll taxes. In addition, they will spend less years collecting retirement benefits. The last time the retirement age was increased was in 1983 when congress thwarted an impending Social Security insolvency crisis (Martin & Weaver, 2005). The legislation phased in a retirement age increase (from 65 to 67). Naturally, there will be pushback as people would have to delay the start of their golden years. Further, raising the retirement age the same way for everyone may not be the fairest solution. For instance, people in blue collar jobs do not live as long and often have to work physically demanding jobs when compared to their white-collar counterparts (Brandon, & Mohr, 2019). Increasing the retirement could be justified as life expectancy has increased significantly since 1935 and other European countries have increased their retirement ages in recent years (Bravo, Ayuso, Holzmann, & Palmer, 2021).

I will now explore solutions on the asset side of Social Security. As discussed in the mechanics subsection, Social Security invest in treasury securities that are essentially risk-free and therefore are lower yielding. One solution to this “problem” is privatizing Social Security. Proponents of privatization assert that by allowing the funds to invest in the market, they will earn higher returns which will improve funding. It should be noted that there are many ways to privatize Social Security such as converting Social Security to a defined contribution plan or letting third-party private sector players manage the trust funds through a reinsurance-like transaction. George W. Bush ran on privatizing Social Security through 401-K-like contraptions in 2004 (Brandon & Mohr, 2019). However, privatization took a credibility hit after the Great Financial crisis. If Social Security had been invested in private bonds it would have been exposed to the elevated defaults after the housing bubble popped. If it was invested in stocks, the results could have been even worse. At its core, privatization transfers the interest rate risk (or the potential for losses to due to adverse interest rates shocks) to retirees. Due to the law of large numbers and their access to funds, institutions are more apt to manage interest rate risk than the elderly.

As mentioned previously, American politicians are experiencing political inertia where the long-term incentives of keeping this program running, do not align with their short-term goals of pleasing the electorate (Turner, 2017). In addition, hyper-partisanship should not be discounted as a reason why nothing gets passed on this front. By procrastinating, the solutions only become more expensive. For instance, to make the program solvent today, payrolls would need to be increased by 3.24% or benefits reduced by 20%. However, if we wait till after the trust funds become depleted in 2035, solvency is projected to cost either a 4.07% percentage point increase in payroll taxes or a 25% reduction in benefits (SSBT, 2022). Social Security has been a safety net to many elderly Americans. In the 2014 Current Population Study, it was estimated that Social Security contributes at least half of total retirement income for 52% of Americans (Dushi, Iams, & Trenkamp, 2017). As such, Social Security is a quintessential US social program for millions of Americans.

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