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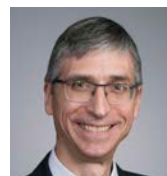
SOCIAL INSURANCE
& PUBLIC FINANCE
SECTION

Editor's Corner

By Tom Vicente

Welcome to the Summer Edition of In the Public Interest, the newsletter of the Social Insurance and Public Finance Section. In this edition we present an interesting take on the potential (and unintended) ramifications of changes in the full Social Security retirement age. While this is one perspective on raising the retirement age, other analysts have expressed different views. We would welcome additional articles discussing the matter. Neither the SI&PF section nor the SOA itself has a position on whether or not the retirement age should be raised.

This is a good reminder that we as actuaries, and specifically members of this section, can help to inform conversations around financial security and its costs, through Social Insurance and the pension programs covering many public sector employees. We are entering a period where there will be an increased need for our expertise and creativity as government decision makers encounter pressure on budgets from lower revenues and more social spending needs. As this edition's article points out, there is often more than just one facet to be considered in these areas and we are well positioned to inform and engage others on the entire spectrum of issues. Your Section is responding, providing ongoing podcasts, hosting a Town Hall forum and periodic webcasts on timely subjects. This Newsletter is part of that effort and an important way for us to share new thoughts and ideas across our membership. Let us know what you are encountering and how you are helping to solve emerging issues. I bet it will make a great article! ■



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A Widening Gap in Life Expectancy Makes Raising Social Security’s Retirement Age a Particularly Bad Deal for Low-Wage Earners

By Karl Polzer

Thanks to Stephen Goss, William Arnone, Henry Aaron, and Rusty Toler for comments and suggestions. They bear no responsibility for the article’s shortcomings.

Editor’s note: This article was written before the impact of the COVID-19 pandemic, which is disproportionately affecting lower-income populations.

Americans are increasingly worrying about the prospect of automatic, across-the-board 20 percent cuts in monthly Social Security benefits that will occur if Congress fails to raise sufficient revenue to cover scheduled benefits by **sometime in the mid-2030s**.¹ Few, however, realize that low-wage workers already may be receiving a cut in lifetime retirement benefits about two-thirds as large due partially to an increase in the retirement age gradually being implemented under **legislation** enacted nearly four decades ago.² The age for collecting full benefits is going up two years for all income groups, but **lifetime** retirement income for those at the bottom is impacted the most. Why? Low-wage workers, on average, live shorter lives. They already collect a lot fewer Social Security checks than those who are better off. Though a higher retirement age would not impact monthly payment rates, it would have a relatively greater negative impact on lifetime income for people with a history of low earnings as well as the relative value of lifetime benefits compared with taxes they paid.

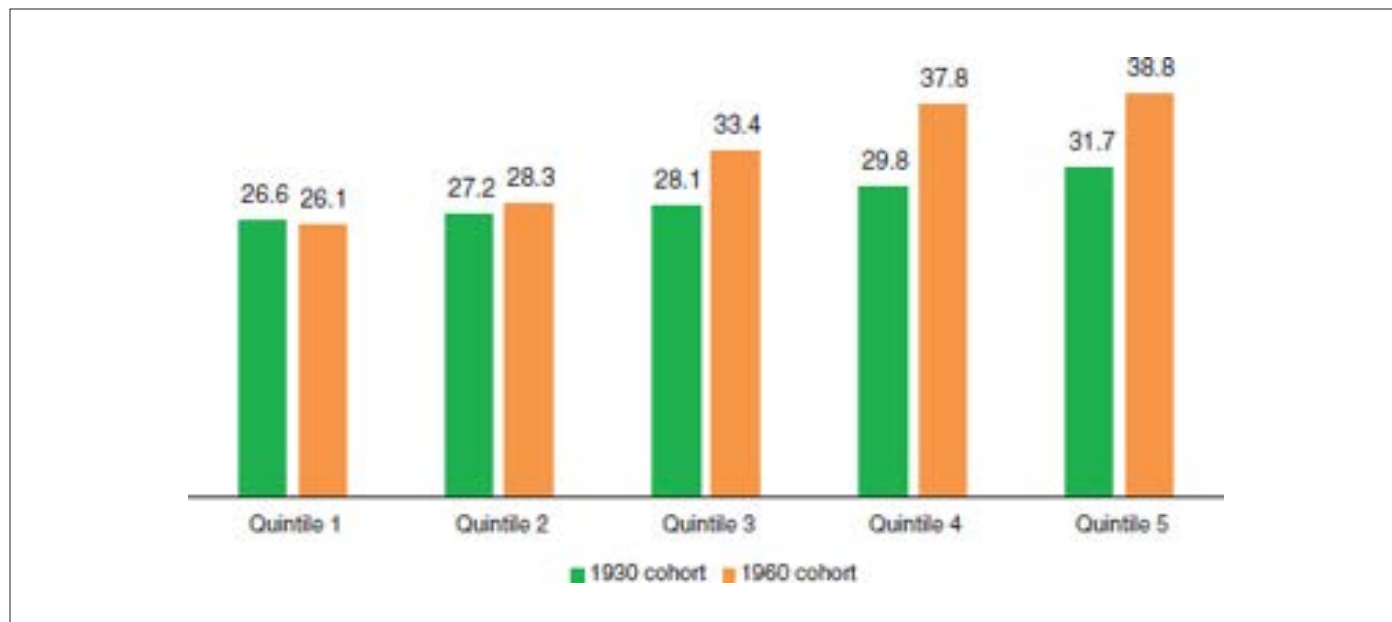


Since Social Security was created during the Great Depression, life expectancy has diverged dramatically for low- and high-income Americans. While it continues to rise for the middle-class and affluent, life expectancy has remained flat for lower-income workers and now may be in decline. This change in the state of nature has reduced Social Security’s progressivity. If Congress chooses to bump up the retirement age again to help restore long-term solvency, the value of Social Security old age benefits for low-income workers will decline in both absolute and relative terms. A recent **Congressional Research Service (CRS) report** concluded that, because of the growing disparity in life expectancy by income, “policy proposals that increase the retirement age will tend to skew Social Security benefits toward higher earners.”³

A GROWING GAP IN LIFE EXPECTANCY

Many recent studies find the life expectancy gap is growing. By how much depends on how and when it’s measured. In 2014, the Congressional Budget Office (CBO) calculated that a 65-year-old man in the upper quintile (fifth) of life earnings could be expected to live more than three years longer than a similar

Figure 1
 Estimated and Projected Life Expectancy at age 50 for Males Born in 1930 and 1960, by Income Quintile



Source: National Academy of Sciences

man in the lowest quintile. By 2039, the difference would double to six years.⁴

In a 2015 report, the [National Academy of Sciences](#) compared the 1930 and 1960 birth cohorts and found that life expectancy for the bottom quintile of men at age 50 **decreased** slightly to 26.1 years over the 30-year period. Meanwhile, life expectancy rose for men age 50 in higher-income quintiles. As shown in Figure 1, the life expectancy gap between the bottom (quintile 1) and top fifth of the income distribution widened from 5.1 to 12.7 years.

In 2016, a Brookings study found, for men born in 1940, those in the lowest income decile at age 50 could expect to live to be about 76 years old compared with 88 years for the highest income decile. Another [research team](#), led by Raj Chetty, found that disparity in longevity continued to increase over 2001–2014; the average gap between the bottom and top 1 percent was 14.6 years for men and 10.1 years for women.⁵

Following up previous research, [Anne Case and Angus Deaton](#) in 2017 reported that mortality and morbidity among white non-Hispanic Americans in midlife continued to climb from 2000 through 2015.⁶ Furthermore, mortality among white non-Hispanics was increasing for both males and females without a college degree but falling for those with a college degree. “We propose a preliminary but plausible story in which cumulative disadvantage from one birth cohort to the next—in the labor

market, in marriage and child outcomes, and in health—is triggered by progressively worsening labor market opportunities at the time of entry for whites with low levels of education. This account, which fits much of the data, has the profoundly negative implication that policies—even ones that successfully improve earnings and jobs, or redistribute income—will take many years to reverse the increase in mortality and morbidity, and that those in midlife now are likely to do worse in old age than the current elderly,” they wrote.

To many, findings that whites with low levels of income and education are dying younger came as a surprise. In recent years, the lion’s share of American research on disadvantaged people has been fueled by funders focusing on minority populations and women. Relatively little research has been done on the costs and benefits of Social Security for disadvantaged non-minority populations or the working poor as a group.

SOCIAL SECURITY PROGRESSIVITY: ONE PROGRAM WITH THREE PARTS

While this article focuses most on how dying at earlier ages may be reducing low-wage workers’ total retirement benefits, it is important to remember that Social Security is a three-part program that remains very progressive overall, particularly because disability and survivors benefits disproportionately go to lower-income people. For the program in its entirety, the ratio of benefits to taxes for people in the bottom fifth of the earning distribution is almost three times greater than for those in the top fifth.

Benefits paid to retired workers—comprising about three quarters of program spending—are much less progressive if viewed separately, according to a 2006 CBO analysis.⁷ This is because the steep progressivity built into the wage replacement formula for retirement benefits is offset by differences in life expectancy discussed here. For the bottom 10th of workers, the ratio of benefits to taxes is about 80 percent for retirement income, falling to about 55 percent for the top 10th. Raising the retirement age again may neutralize much of the progressivity in retired-worker benefits though the program would remain progressive overall. Since CBO did these estimates, an outside observer might expect the benefit/cost difference between top and bottom earners to have narrowed because both the retirement age and longevity gap have increased.

SOCIAL SECURITY ACTUARIES RESEARCH

Widening Mortality Gap not Detected in 2018 OACT Analysis

A 2018 study by Social Security's Office of the Chief Actuary (OACT) underscored the association between both higher income and higher lifetime earnings with lower mortality rates. However, it did not detect a widening mortality gap found by the studies cited above. On the contrary, the OACT study found that the gap in life expectancy between beneficiaries with high and low career earnings appears to be stable in recent years, possibly even receding a bit.⁸ The study's design, however, may blunt its ability to detect the impact of higher mortality among low-income people, both retired and still working, in several ways. For one thing, it is based on a large sample of male and female retired workers at ages 62 and older over a series of years. So, higher death rates among younger workers that might affect the program in the future would not yet be showing up.

As a possible topic for future study, the OACT researchers also noted that data used to estimate very low lifetime earnings reflect a mix of individuals with a full career of low earnings and those with many years of zero earnings. They speculated that many of the individuals with multiple years of zero earnings are foreign-born workers who may be healthier than average. If this proves true, then lifetime low-wage workers may have a higher mortality rate than the study shows for the two groups together.⁹ The OACT study also found that the youngest group of females reaching retirement had a larger gap in death rates between high and low earners than previous cohorts, possibly coinciding with increased female labor force participation during the last several decades. Over time, will the stresses of paid work narrow the mortality gap between women and men?

Annual "Money's Worth" Checks

For many years, OACT has done annual "money's worth" analyses comparing estimates of total Social Security lifetime benefits received by workers of different cohorts, earnings levels, and family structures with total taxes paid. Money's worth ratios typically decrease as earnings increase for all groups. The most recent analysis as of this writing, published January 2019,

estimates that, under present law, single males reaching age 65 in 2020 with **very low earnings** will receive a total of \$1.63 in retirement, disability, and spousal benefits for every \$1.00 in taxes they paid, while those with **high earnings** will get back about 73 cents on the dollar.¹⁰ Among family types, one-earner couples have the highest benefit/cost ratios by far because spousal, child, and widow(er) benefits flow from one earner's contributions.

While providing ballpark estimates of relative value, OACT points out that these ratios do not reflect the additional value Social Security brings, including reducing the risk of extreme negative economic outcomes stemming from a worker's death, disability, or living to very old age. The money's worth estimates are a useful tool, and help the program maintain political support. But Social Security's mission is not providing absolute equality of costs and benefits across the entire working population. The Social Security Act of 1935 and subsequent adjustments charge Social Security with a balancing act. A primary goal is "to provide monthly benefit levels with a mix of equity (higher benefits for higher earners/contributors) and adequacy (replacement of a larger portion of pre-retirement earnings for lower earners)."¹¹

The 2019 money's worth report points out that its benefit/cost ratios do not reflect any differences in mortality by earnings level, adding: "...we recognize the tendency for higher earners to have greater life expectancy, which would offset, to some degree, the progressive nature of benefits on a lifetime basis." OACT is evaluating ways to incorporate the results of a 2018 study of mortality by career earnings (discussed earlier) into future money's worth estimates and actuarial projections.¹² OACT money's worth analyses already reflect lower mortality for women, which results in a higher likelihood of surviving to retirement age, longer life after retirement, and, therefore, higher ratios even when earnings levels are the same as men's.¹³

FIXING SOCIAL SECURITY'S FINANCES SHOULD NOT HURT LOW-WAGE WORKERS

As policymakers struggle with how to restore Social Security's long-term financial health, it is important to understand that raising the retirement age is really a cut in retirement benefits that may impact the lives of low-income workers the most. Many policy packages under discussion, particularly coming from the right and center of the political spectrum, include raising the retirement age by a specific number of years¹⁴ or through indexation tied to changes in average life expectancy.

Figure 2 provides a hypothetical illustration of how a two-year hike in the age of retirement benefit eligibility would have different lifetime benefit impacts on beneficiaries with histories of high and low earnings. The low earner starts with annual Social Security income of \$12,000; the high earner, \$36,000. The new policy would cause both to lose 24 monthly payments. Assuming the longevity gap remains constant (six years in this illustration), the relative lifetime impact on the low-wage worker would be much greater—a 25 percent loss vs. 14.3 percent loss

Figure 2
Relative Change in Lifetime Social Security Income Between High and Low Earners From Raising the Retirement Age (Two Longevity Scenarios)

(Life Expectancy Assumptions are Illustrative)

	Annual Social Sec. income	Life expectancy at age 67	Lifetime Social Sec. income	Lifetime SS income with 2-year hike in retirement age	% change in lifetime SS income from baseline
Low earner	\$12,000	8	\$96,000	\$72,000	-25.0%
High earner: life expectancy gap stays as is	\$36,000	14	\$504,000	\$432,000	-14.3%
High earner: life expectancy grows 3 more years	\$36,000	17	\$612,000	\$540,000	7.1%

Source: Center on Capital & Social Equity ballpark estimates

of lifetime retirement benefits—because, on average, he will die sooner and receive benefits for fewer years than the high earner. If the longevity gap were to widen by three years, as some analysts have projected, the bottom row in Figure 2 shows that high earners, on average, would end up getting 7.1 percent more in lifetime Social Security income than they otherwise would have received, because their gain in life expectancy would more than compensate for the two-year benefit cut.

CONCLUDING REMARKS

The widening gap in life span between high- and low-income Americans may be eroding the progressivity of Social Security retirement benefits. Differential longevity trends have had the effect of raising lifetime benefits for high earners but not for low earners. Social Security’s long-term financial problems result in part from an increase in average life expectancy driven by wealthier people living longer, and, thereby, collecting more benefits. Policymakers should not use funding shortfalls attributable to these trends as an excuse to cut monthly benefits alike for those who have gained (high earners) and for those who haven’t (low earners). Arguing that benefits should be cut for all is rather like proposing to reduce food allowances equally for both of your children because one happens to have a greater appetite for sweets and has become more costly to feed.

Raising the retirement age again would hurt low-wage workers more and make the Social Security retirement benefits less progressive. When it develops a plan to restore Social Security

solvency, Congress should not raise the ages at which full and early reduced retirement benefits can be collected, unless low- and middle-income retirees, at very least, are held harmless. One idea that has been discussed is adding a hardship income threshold below which the retirement age stays the same. CRS, however, has pointed out that this would be difficult to implement, because there is no simple income cutoff point at which life expectancy does not increase with income.

Public awareness and concern about growing economic inequality in the United States may spur policymakers to consider making Social Security **more progressive** both in terms of monthly payments and lifetime benefits and costs. Greater disparity in life spans could justify resetting the standard retirement age to 65 for longtime low-wage workers while raising it for high-wage workers, with graduated age eligibility for people with lifetime earnings in between. The benefit formula could be made more progressive. Lifetime low-wage workers could be required to work for fewer years to collect full retirement benefits.

Many Social Security advocates, analysts, and program actuaries share concerns over how raising the retirement age again would impact low earners. OACT worked with the Simpson-Bowles Commission in 2010 on provisions that could help address this issue, but staff also note that the commission’s efforts were one of the few instances in recent memory that policymakers have tried to find remedies.¹⁵ Though the commission proposed increasing the retirement age above 67 based on average increases in

American life expectancy, it would have buffered adverse impacts on workers with earnings under 400 percent of the federal poverty level and kept the current-law retirement age for those with the lowest earnings. It also would have enhanced the special minimum benefit for low earners, which now provides help to very few beneficiaries because of inadequate benefit indexing.

A 2006 Urban Institute study found that strengthening Social Security's minimum benefit could mitigate negative impacts of raising the retirement age on vulnerable groups including lifetime low earners.¹⁶ Interestingly, the Urban analysts concluded that increasing the retirement age would reduce lifetime benefits for all groups, but would reduce benefits **less** for those with lower lifetime earnings and less education: "We do not observe a disproportionate impact on vulnerable groups primarily because low income workers are more likely to be disabled; the disabled are protected from the retirement age change. Raising the retirement age does not affect when disabled workers can apply for benefits or the amounts they can receive." Also, much of the difference in life expectancy between groups occurs before retirement age. But the Urban study did find that a higher Social Security retirement age would increase the number of older Americans living in poverty.

Would a similar analysis today with updated assumptions have different results? The Urban modeling was done before the studies, cited above, showing the growing gap in life expectancy. Unlike the money's worth exercises, it looks at benefits, not the relationship of benefits to payroll tax contributions, which are regressive. Emphasizing the importance of disability benefits in buffering impacts for low-wage workers, the study notes that raising the retirement age would not affect when workers can apply for disability benefits or the amounts received. If the value of disability benefits remained roughly constant, there might be some point at which raising the retirement age results in a relative loss of retirement benefits for low-wage workers that is greater than the relative advantage to them of disability benefits. If so, an argument could be made that a higher retirement age could justify higher disability payments. Finally, the Urban findings do not eliminate the observation that raising the retirement age would disproportionately impact low-wage workers if retirement benefits are viewed separately. Lifetime low earners who survive to retirement without becoming disabled would lose out.

Other ideas for dealing with the longevity gap's impact on lifetime income could be developed along with supporting research and analysis. For example, annuitizing Social Security retirement benefits by income blocks of the top 10 percent, middle 80 percent, and bottom 10 percent, rather than in one pool, could shift benefits from top to bottom while leaving the middle largely the same. Under this approach, groups of workers with shorter expected life spans might collect much larger monthly checks than now. Longer expected life would likely result in smaller checks. Although compartmentalizing the mortality risk pool may be difficult to administer and would

meet resistance, modeling variants of such an approach might be a good way to illustrate the differing impacts of both the growing life expectancy gap and raising the retirement age.

Purists describe Social Security as a pay-as-you-go blend of social insurance mechanisms making monthly payments under rules expressing priorities set by Congress. Money's worth benefit/cost analysis of how various subgroups make out can be useful—but it is only theoretical. In no way does such analysis determine Social Security payment levels—except, perhaps, in the future, to the extent the estimates influence lawmakers to make changes to the program.

History presents an opportunity for policymakers to analyze the distributional impact of the ongoing transition to receiving full retirement benefits at age 67. The [National Academy of Social Insurance](#) estimates the higher eligibility age reduces monthly benefits for younger workers by 12.5 percent.¹⁷

The experience of other countries that have increased the age for collecting retirement benefits sheds light as well. For example, researchers now examining the impact of raising the age in Denmark conclude: "Males from lower socio-economic groups spend fewer years in retirement, pay higher pension costs per year of expected benefits and are exposed to higher micro-longevity risk than the rest of the population. Disadvantages are magnified when retirement age is linked to life expectancy. Linking retirement age to life expectancy has detrimental implications for lower socio-economic groups."¹⁸

FINANCING SOCIAL SECURITY IN A MORE UNEQUAL SOCIETY

Social Security's financing could be fixed without any benefit cuts by increasing taxes for the wealthiest. **One such approach**¹⁹ would: 1) levy an **additional 6.2 percent tax on investment income**,²⁰ gradually extended from top earners to the middle class, and 2) apply Social Security **payroll tax to earnings above \$400,000**, leaving a "donut hole" that would gradually disappear as the current indexed tax cap rises, while providing some benefit credit for newly taxed earnings.²¹ These are just two of many options Social Security actuaries have analyzed in response to queries from the Hill. Payroll taxes now supporting the program are regressive. Though applied at the same rate to all workers, Social Security taxes leave low-income workers with less income for life necessities than those higher earners.

Even if Social Security benefits remain the same, the National Academy of Social Insurance estimates that 52 percent of households would still be at risk of not having enough financial resources to maintain their living standards in retirement.²² The figure is much higher for people with low incomes and for racial minorities. Social Security has played a critical role in reducing poverty among seniors to levels comparable to younger adults.²³ Yet, Americans receiving Social Security retirement benefits have



a higher poverty rate and must work longer than counterparts in other advanced economies.²⁴

Economic inequality has been growing in the United States since the 1970s with accompanying stresses now manifesting among older Americans. Among the signs are widening wealth gaps within the Baby Boom generation.²⁵ A 2019 Harvard University housing study found about 10 million households age 65 and over were “cost burdened” (paying more than 30 percent of income for housing) of which five million were “severely burdened” (paying more than half their income for housing) from 2016–2017.²⁶ Though the general level of inflation in the United States has been tame recently, the cost of housing, health care, and long-term care for the elderly is expected to continue rising at a more rapid pace.²⁷

Many are questioning whether the United States has mutated from a nation anchored in a large middle class to one in which a small number of wealthy, ringed by a comfortable upper-middle class, gradually distance themselves from a growing number of struggling workers. Brookings researchers recently reported: “There is a vast segment of workers today earning wages low enough to leave their livelihood and families extremely vulnerable.” They found that 53 million Americans ages of 18 to

64—accounting for 44 percent of all workers—qualify as “low-wage.” Their median hourly wages were \$10.22 and annual earnings about \$18,000.²⁸

A more unequal America may find it harder to achieve the political consensus needed to shore up Social Security’s finances. More disparity may result in low-income workers being unable to afford, and high-income taxpayers less willing to pay, the tax increases needed to help a smaller middle class²⁹ maintain major social insurance commitments. But who knows? If politically awakened, a larger underclass could be a catalyst in coming to a compromise.

The clock is ticking. When Congress ends up balancing Social Security’s books, the deal should ensure that low-wage Americans, who are not sharing the longevity gains of better-off neighbors, receive their fair share of benefits and can cover the cost of living. ■



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SOURCES:

- “The Growing Gap in Life Expectancy by Income: Implications for Federal Programs and Policy Responses,” The National Academies of Sciences, Engineering, and Medicine, Sept. 17, 2015. <https://www.ncbi.nlm.nih.gov/books/NBK321304/>
- “The Growing Gap in Life Expectancy by Income: Recent Evidence and Implications for the Social Security Retirement Age,” Katelin P. Isaacs and Sharmila Choudhury, Congressional Research Service, May 12, 2017. <https://fas.org/sgp/crs/misc/R44846.pdf>
- “The Association Between Income and Life Expectancy in the United States,” 2001–2014, Raj Chetty and others, JAMA, April 26, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866586/>
- “Mortality and Morbidity in the 21st Century,” Anne Case and Angus Deaton, Brookings Papers on Economic Activity,” Spring 2017. <https://www.brookings.edu/wp-content/uploads/2017/08/casetextsp17bpea.pdf>
- “Report to the New Leadership and the American People on Social Insurance and Inequality,” Benjamin W. Veghte, Elliot Schreur, and Alexandra L. Bradley (eds.), National Academy of Social Insurance, January 2017. https://www.nasi.org/sites/default/files/research/Report_to_New_Leadership_and_American_People_web.pdf
- “Implications of Growing Differences in Life Expectancy Across Socioeconomic Groups for CBO’s Analyses of Social Security Policy Options: Presentation to the Committee on the Long-Run Macro-Economic Effects of the Aging U.S. Population,” National Academy of Sciences, Joyce Manchester, Chief, Long-Term Analysis Unit, CBO, Jan. 31, 2014. <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/presentation/45058-socialsecuritypresentation.pdf>
- “Is Social Security Progressive?,” CBO, Dec. 15, 2006. <https://www.cbo.gov/sites/default/files/109th-congress-2005-2006/reports/12-15-progressivity-ss.pdf>
- “What the dip in US life expectancy is really about: inequality”; “While poor Americans are dying earlier, the rich are enjoying unprecedented longevity,” Julia Belluz, Vox, Nov. 30, 2018.
- “Linking retirement ages to life expectancy does not lessen the consequences of unequal lifespans,” Jesús-Adrián Álvarez, Malene Kallestrup-Lamb, Søren Kjærgaard, and James W. Vaupel. Presentation by Jesús-Adrián Álvarez at the Society of Actuaries Living to 100 Conference, Orlando FL, Jan. 13, 2020. <https://www.soa.org/globalassets/assets/files/e-business/pd/events/2020/living-to-100/pd-2020-livingto100-session-1b.pdf> (Álvarez, J. A., Kjærgaard, S., Kallestrup-Lamb, M. & Vaupel, J. W. (2020). Trends in life expectancy and lifespan variation after retirement. Forthcoming in Living to 100 Monograph, Society of Actuaries.)
- “Has social security Redistributed to Whites from People of Color?,” C. Eugene Steuerle, Karen E. Smith, and Caleb Quakenbush, Urban Institute, November 2013. <https://www.urban.org/sites/default/files/alfresco/publication-pdfs/412943-Has-Social-Security-Redistributed-to-Whites-from-People-of-Color-.PDF>
- “Social Security Amendments of 1983: Legislative History and Summary of Provisions,” John A. Svahn and Mary Ross, Social Security Bulletin, July 1983, Vol. 46, No. 7. <https://www.ssa.gov/policy/docs/ssb/v46n7/v46n7p3.pdf>
- “Social Security Policy Options,” 2015, CBO, December 2015. https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51011-SSOptions_OneCol-2.pdf11
- “The Wrong Way to Make Social Security And Medicare More Progressive,” Sita N. Slavov and Alan D. Viard, Tax Notes Federal, Sept. 16, 2019. <https://www.aei.org/wp-content/uploads/2019/10/On-the-Margin-Sep-16-2019.pdf>
- “Housing Americas Older Adults 2019: As both the number and share of older households in the United States increase to unprecedented levels, inequalities are becoming more evident,” Joint Center for Housing Studies of Harvard University, 2019. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Housing_Americas_Older_Adults_2019.pdf
- “Growing inequality has shrunk Social Security’s revenue. Revitalizing its tax base could help restore solvency without cutting benefits,” Karl Polzer, Center on Capital & Social Equity, July 2018. <http://inequalityink.org/resources/Soc%20Security%20shrinking%20tax%20base%204.pdf>
- “There’s a way to save Social Security, but it involves taxing the rich,” Karl Polzer, Washington Examiner, Aug. 2, 2018. <https://www.washingtonexaminer.com/opinion/op-eds/theres-a-way-to-save-social-security-but-it-involves-taxing-the-rich>
- “Housing America’s Older Adults 2019,” Joint Center for Housing Studies, Harvard University. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Housing_Americas_Older_Adults_2019.pdf
- “America’s Unusual High Rates Of Old-Age Poverty And Old-Age Work,” Teresa Ghilarducci, Forbes, March 2, 2018. <https://www.forbes.com/sites/teresaghilarducci/2018/03/02/americas-unusual-high-rates-of-old-age-poverty-and-old-age-work/#7e74fb23458a>
- “Shining A Light On ‘The Forgotten Middle,’” Robert G. Kramer, Health Affairs Blog, April 24, 2019. <https://www.healthaffairs.org/doi/10.1377/hblog20190423.170644/full/>

"The Distressing Growth of Wealth Inequality of Boomers: Gaps between the haves and have-nots, and what could shrink them," Richard Eisenberg, Next Avenue, Oct. 16, 2019. https://www.nextavenue.org/wealth-inequality-of-boomers/?hide_newsletter=true&utm_source=Next+Avenue+Email+Newsletter&utm_campaign=3dd1d1a762-10.22.2019_Tuesday_Newsletter&utm_medium=email&utm_term=0_056a405b5a-3dd1d1a762-164924101&mc_cid=3dd1d1a762&mc_eid=662669f069

"Who Never Receives Social Security Benefits?," Kevin Whitman, Gayle L. Reznik, and Dave Shoffner, Social Security Bulletin, Vol. 71, No. 2, 2011. <https://www.ssa.gov/policy/docs/ssb/v71n2/v71n2p17.pdf>

"Mortality By Career-Average Earnings Level: Actuarial Study No. 124," Tiffany Bosley, Michael Morris, and Karen Glenn, Social Security Administration Office of the Chief Actuary, April 2018. https://www.ssa.gov/oact/NOTES/pdf_studies/study124.pdf

"Money's Worth Ratios under The OASDI Program for Hypothetical Workers," Michael Clingman, Kyle Burkhalter, and Chris Chaplain, Actuarial Note Number 2018.7, Social Security Administration Office of the Chief Actuary, January 2019. <https://www.ssa.gov/oact/NOTES/ran7/an2018-7.pdf>

Letter to National Commission on Fiscal Responsibility and Reform (Simpson-Bowles) from the Social Security Office of the Chief Actuary providing estimates of the commission's proposed reforms, Dec. 1, 2010. https://www.ssa.gov/OACT/solvency/FiscalCommission_20101201.pdf

Letter to National Commission on Fiscal Responsibility and Reform (Simpson-Bowles) and Bipartisan Policy Center from the Social Security Office of the Chief Actuary providing updated illustrations of the effects on Social Security benefit levels for the proposals to improve the financial status of the OASI and DI Trust Funds, Feb. 2, 2011. https://www.ssa.gov/OACT/solvency/BowlesSimpsonRivlinDomenici_20110202.pdf

"Would Raising the Social Security Retirement Age Harm Low-Income Groups?," Gordon B. T. Mermin and C. Eugene Steuerle, Urban Institute, December 2006. <https://www.urban.org/sites/default/files/publication/46161/311413-Would-Raising-the-Social-Security-Retirement-Age-Harm-Low-Income-Groups-.PDF>

"Low-wage work is more pervasive than you think, and there aren't enough 'good jobs' to go around," Martha Ross and Nicole Bateman, Brookings Institution, Nov. 21, 2019. <https://www.brookings.edu/blog/the-avenue/2019/11/21/low-wage-work-is-more-pervasive-than-you-think-and-there-arent-enough-good-jobs-to-go-around/>

"The middle class is losing ground," Pew Research Center, Dec. 8, 2015. https://www.pewsocialtrends.org/2015/12/09/the-american-middle-class-is-losing-ground/st_2015-12-09_middle-class-01/

"The Growing Size and Incomes of the Upper Middle Class," Stephen J. Rose, Urban Institute, June 2016. <https://www.urban.org/sites/default/files/publication/81581/2000819-The-Growing-Size-and-Incomes-of-the-Upper-Middle-Class.pdf>

"Rising Income Polarization in the United States," Ali Alich, IMFblog, June 28, 2016. <https://blogs.imf.org/2016/06/28/rising-income-polarization-in-the-united-states/>

"Social Security Benefits, Finances, and Policy Options: A Primer," National Academy of Social Insurance, August 2019. <https://www.nasi.org/socialsecurityprimer>

ENDNOTES

- 1 "2019 Annual Report of the Board of Trustees of the Social Security Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds." Under the trustees' intermediate assumptions, the total cost of the OASDI program is projected to exceed total income starting in 2020, with reserves declining until the trust fund becomes depleted in 2035. <https://www.ssa.gov/OACT/TR/2019/tr2019>.
- 2 "Social Security Amendments of 1983: Legislative History and Summary of Provisions," John A. Svahn and Mary Ross, Social Security Bulletin, July 1983, Vol. 46, No. 7. <https://www.ssa.gov/policy/docs/ssb/v46n7/v46n7p3.pdf>
- 3 "The Growing Gap in Life Expectancy by Income: Recent Evidence and Implications for the Social Security Retirement Age," Katelin P. Isaacs and Sharmila Choudhury, Congressional Research Service, May 12, 2017. <https://fas.org/sgp/crs/misc/R44846.pdf>
- 4 "The Growing Gap in Life Expectancy by Income: Recent Evidence and Implications...," Isaacs and Choudhury, 2017, p. 12. <https://fas.org/sgp/crs/misc/R44846.pdf>
- 5 "The Association Between Income and Life Expectancy in the United States," 2001–2014, Raj Chetty and others, JAMA, April 26, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866586/>
- 6 "Mortality and Morbidity in the 21st Century," Anne Case and Angus Deaton, Brookings Papers on Economic Activity, Spring 2017. <https://www.brookings.edu/wp-content/uploads/2017/08/casetextsp17bpea.pdf>
- 7 "Is Social Security Progressive?," CBO, Dec. 15, 2006. <https://www.cbo.gov/sites/default/files/109th-congress-2005-2006/reports/12-15-progressivity-ss.pdf>
- 8 "Mortality By Career-Average Earnings Level: Actuarial Study No. 124," Tiffany Bosley, Michael Morris, and Karen Glenn, Social Security Administration Office of the Chief Actuary, April 2018. https://www.ssa.gov/oact/NOTES/pdf_studies/study124.pdf
- 9 The OACT study also found that the 2015 (youngest) group of females age 62–64 had a larger gap in death rates between high and low earners than previous cohorts, possibly coinciding with increased female labor force participation over the last several decades.
- 10 "Money's Worth Ratios under The OASDI Program for Hypothetical Workers," Michael Clingman, Kyle Burkhalter, and Chris Chaplain, Actuarial Note Number 2018.7, Social Security Administration Office of the Chief Actuary, January 2019. <https://www.ssa.gov/oact/NOTES/ran7/an2018-7.pdf>
- 11 "Money's Worth Ratios under The OASDI Program for Hypothetical Workers," Michael Clingman, Kyle Burkhalter, and Chris Chaplain, Actuarial Note Number 2018.7, Social Security Administration Office of the Chief Actuary, January 2019, p. 6. <https://www.ssa.gov/oact/NOTES/ran7/an2018-7.pdf>

- 12 See conclusion on p. 10 of “Mortality By Career-Average Earnings Level: Actuarial Study No. 124,” Tiffany Bosley, Michael Morris, and Karen Glenn, Social Security Administration Office of the Chief Actuary, April 2018. https://www.ssa.gov/oact/NOTES/pdf_studies/study124.pdf
- 13 “Money’s Worth Ratios under The OASDI Program for Hypothetical Workers,” Michael Clingman, Kyle Burkhalter, and Chris Chaplain, Actuarial Note Number 2018.7, Social Security Administration Office of the Chief Actuary, January 2019, p. 5. <https://www.ssa.gov/oact/NOTES/ran7/an2018-7.pdf>
- 14 “Growing inequality has shrunk Social Security’s revenue. Revitalizing its tax base could help restore solvency without cutting benefits,” Karl Polzer, Center on Capital & Social Equity, July 2018, p. 2. <http://inequalityink.org/resources/Soc%20Security%20shrinking%20tax%20base%204.pdf>
- 15 Letter to National Commission on Fiscal Responsibility and Reform (Simpson-Bowles) from the Social Security Office of the Chief Actuary providing estimates of the commission’s proposed reforms, Dec. 1, 2010. https://www.ssa.gov/OACT/solvency/FiscalCommission_20101201.pdf
- 16 “Would Raising the Social Security Retirement Age Harm Low-Income Groups?,” Gordon B. T. Mermin and C. Eugene Steuerle, Urban Institute, December 2006. <https://www.urban.org/sites/default/files/publication/46161/311413-Would-Raising-the-Social-Security-Retirement-Age-Harm-Low-Income-Groups-.PDF>
- 17 “Report to the New Leadership and the American People on Social Insurance and Inequality,” Benjamin W. Veghte, Elliot Schreur, and Alexandra L. Bradley (eds.), National Academy of Social Insurance, January 2017, p. xxiv. https://www.nasi.org/sites/default/files/research/Report_to_New_Leadership_and_American_People_web.pdf
- 18 “Linking retirement ages to life expectancy does not lessen the consequences of unequal lifespans,” Jesús-Adrián Álvarez, Malene Kallestrup-Lamb, Søren Kjærgaard, and James W. Vaupel. Presentation by Jesús-Adrián Álvarez at the Society of Actuaries *Living to 100 Conference*, Orlando, Fla, Jan. 13, 2020. <https://www.soa.org/globalassets/assets/files/e-business/pd/events/2020/living-to-100/pd-2020-livingto100-session-1b.pdf> (Álvarez, J. A., Kjærgaard, S., Kallestrup-Lamb, M. & Vaupel, J. W. (2020). “Trends in life expectancy and lifespan variation after retirement.” Forthcoming in *Living to 100 Monograph*, Society of Actuaries.)
- 19 “There’s a way to save Social Security, but it involves taxing the rich,” Karl Polzer, *Washington Examiner*, Aug. 2, 2018. <https://www.washingtonexaminer.com/opinion/op-eds/theres-a-way-to-save-social-security-but-it-involves-taxing-the-rich>
- 20 Social Security Office of the Actuary estimate based on the intermediate assumptions of the 2017 Trustees Report. https://www.ssa.gov/oact/solvency/provisions_tr2017/charts/chart_run249.html#graph
- 21 Social Security Office of the Actuary estimate based on the intermediate assumptions of the 2017 Trustees Report. https://www.ssa.gov/oact/solvency/provisions_tr2017/charts/chart_run295.html#graph
- 22 “Report to the New Leadership and the American People on Social Insurance and Inequality,” NASI, January 2017, p. 7. https://www.nasi.org/sites/default/files/research/Report_to_New_Leadership_and_American_People_web.pdf
- 23 “Poverty rate in the United States in 2018, by age and gender,” Statista. <https://www.statista.com/statistics/233154/us-poverty-rate-by-gender/>
- 24 “America’s Unusual High Rates of Old-Age Poverty And Old-Age Work,” **Teresa Ghilarducci**, *Forbes*, March 2, 2018. <https://www.forbes.com/sites/teresaghilarducci/2018/03/02/americas-unusual-high-rates-of-old-age-poverty-and-old-age-work/#7e74fb23458a>
- 25 “The Distressing Growth of Wealth Inequality of Boomers: Gaps between the haves and have-nots, and what could shrink them,” **Richard Eisenberg**, *Next Avenue*, Oct. 16, 2019. https://www.nextavenue.org/wealth-inequality-of-boomers/?hide_newsletter=true&utm_source=Next+Avenue+Email+Newsletter&utm_campaign=3dd1d1a762-10.22.2019_Tuesday_Newsletter&utm_medium=email&utm_term=0_056a405b5a-3dd1d1a762-164924101&mc_cid=3dd1d1a762&mc_eid=662669f069
- 26 “Housing America’s Older Adults 2019,” Joint Center for Housing Studies, Harvard University, p. 8. https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Housing_Americas_Older_Adults_2019.pdf
- 27 “Shining A Light On ‘The Forgotten Middle,’ **Robert G. Kramer**, *Health Affairs Blog*, April 24, 2019. <https://www.healthaffairs.org/doi/10.1377/hblog20190423.170644/full/>
- 28 “Low-wage work is more pervasive than you think, and there aren’t enough ‘good jobs’ to go around,” Martha Ross and Nicole Bateman, *Brookings Institution*, Nov. 21, 2019. <https://www.brookings.edu/blog/the-avenue/2019/11/21/low-wage-work-is-more-pervasive-than-you-think-and-there-arent-enough-good-jobs-to-go-around/>
- 29 Using different definitions, many researchers have found evidence of a changing and shrinking U.S. middle class. For example, see: (Pew) https://www.pewsocialtrends.org/2015/12/09/the-american-middle-class-is-losing-ground/st_2015-12-09_middle-class-01/, (Urban) <https://www.urban.org/sites/default/files/publication/81581/2000819-The-Growing-Size-and-Incomes-of-the-Upper-Middle-Class.pdf>, and (IMFblog) <https://blogs.imf.org/2016/06/28/rising-income-polarization-in-the-united-states/>.