

POLICY NOTE

A SOCIAL SECURITY BRIDGE OPTION WOULD HELP REDUCE EARLY-CLAIMING PENALTIES FOR THOSE WITH RETIREMENT SAVINGS

BY TERESA GHILARDUCCI

NOVEMBER 2023

Elevator Pitch: The Social Security benefit structure penalizes people who claim before age 70. Yet over one-fifth of eligible people claim before their full retirement age (age 67 for those born in 1960), and over 90 percent claim before the maximum age of 70, resulting in reduced monthly benefits. While many claim early out of necessity, financial advisors often recommend to those with retirement savings to spend down their savings before tapping into Social Security to increase their lifetime monthly benefit. However, few people have professional advisors. A Social Security Bridge option that is formalized, accessible, and easy to understand would allow beneficiaries to boost monthly benefits and help protect against downward mobility in retirement. This bridge, while important for many, is not a relevant for those with little to no retirement savings. Thus, we also advocate for increasing the Social Security minimum benefit to ensure adequate lifetime retirement income for the over 63 million Americans who will retire without any retirement savings.

Social Security has evolved to significantly penalize people who claim before age 70.ⁱ Yet, close to 90 percent of people claim before age 70. More than one-fifth of eligible individuals opt to claim their Social Security benefits as early as age 62, resulting in a 35 percent cut.ⁱⁱ Without the potential benefits of increased lifetime income provided by Social Security, many older people are at risk of not maintaining preretirement consumption levels and falling into poverty in retirement, even among middle- and upper-income level households.ⁱⁱⁱ

A formalized, well-promoted, accessible, and easy to understand Social Security Bridge option could help workers delay their claims and thereby secure higher lifetime benefits and greater economic stability in old age. While this bridge is not relevant for the financial fragility of all retirees in the U.S., it provides an important mechanism for millions of Americans to optimize their Social Security benefits—helping to ensure a sustainable income during their retirement and freeing them and their spouses from the common and harmful worry of outliving their retirement savings.

The effectiveness of a formalized Social Security Bridge option depends on people's access to retirement savings. Therefore, we also advocate for broader policy reforms to ensure retirement security for all, including expanding access to tax-advantaged retirement savings accounts and revitalizing special minimum benefits within the Social Security framework.

Suggested Citation: Ghilarducci, T. (2023). "A Social Security Bridge Option Would Help Reduce Early-Claiming Penalties For Those With Retirement Savings." Policy Note Series, Schwartz Center for Economic Policy Analysis at The New School for Social Research. New York, NY.

Social Security Benefits Reward Delayed Claiming

All eligible workers can claim Social Security as early as age 62, but claiming before one's full retirement age (FRA) permanently reduces the monthly benefit. Meanwhile, the Social Security benefit formula incentivizes delaying claims after a worker's FRA, up to age 70. An individual born in 1960 with an FRA of 67 and a primary insurance amount (PIA) of \$2,000 would only receive \$1,400 per month at age 62. If the same worker were to wait until age 70 to claim their benefits, they would receive \$2,480 a month.^{iv}

Social Security also includes benefits for spouses and dependents based on the worker's account. While a worker's early claiming does not affect the amount their spouse can receive as long as the primary claimant is alive, claiming before age 70 reduces the survivor's benefit^v because the amount is determined by the worker's claiming age. This includes any deductions or credits that worker received for claiming early or delaying.^{vi} Surviving spouses can claim benefits beginning at age 60 but they will receive less if the deceased worker claimed before reaching their FRA.

The Timing of Claiming and Its Consequences

Despite the significant credits for delayed claiming, many people claim early at age 62. From 2015 to 2018, 22 percent of eligible men and 25 percent of women aged 62 claimed Social Security.^{vii} Among people born in 1946 with a full retirement age of 66, only 8 percent of men and 7 percent of women delayed claiming one year or more past their FRA.^{viii}

Except when someone urgently needs the money and has no alternatives, people are generally better off if they delay claiming. Calculations of optimal retirement timing consider the monetary value of benefits over one's lifetime and the value of the higher guaranteed lifetime income afforded by delayed claiming. By themselves, calculations of the lifetime income effect do not consider the longevity insurance benefit,^{ix} which is equivalent to buying insurance against the risk of outliving one's savings.

Claiming before one's full retirement age reduces benefits by at most 30 percent. Penalties for claiming before age 70 are especially pronounced for married couples, single women, and two-earner couples.^x Delayed claiming by the partner with the higher income will increase household lifetime retirement income and reduce survivor poverty.^{xi} What's more, advantages to delayed claiming rise with interest rates^{xii} and can produce up to a 10 percent increase in lifetime spending power.^{xiii}

People who claim early fare worse than people who claim at their FRA. According to self-reports, people who waited to claim until their FRA were more satisfied with their decision than those who claimed early.^{xiv} This self-assessment makes sense since people who delay claiming have higher income and wealth in retirement and rely less on Social Security than those who claim early.^{xv} Reduced income for early claiming also increases poverty; the 1965 legislation that first allowed early claiming may have increased the overall elderly poverty rate.^{xvi} People who claim benefits at age 62 are 5 percent more likely to be in financially fragile households than people who claim at full retirement age or later: 22.5 percent of those who claim at age 62 are financially fragile compared to 17.3 percent who claim at their FRA or older.^{xvii}

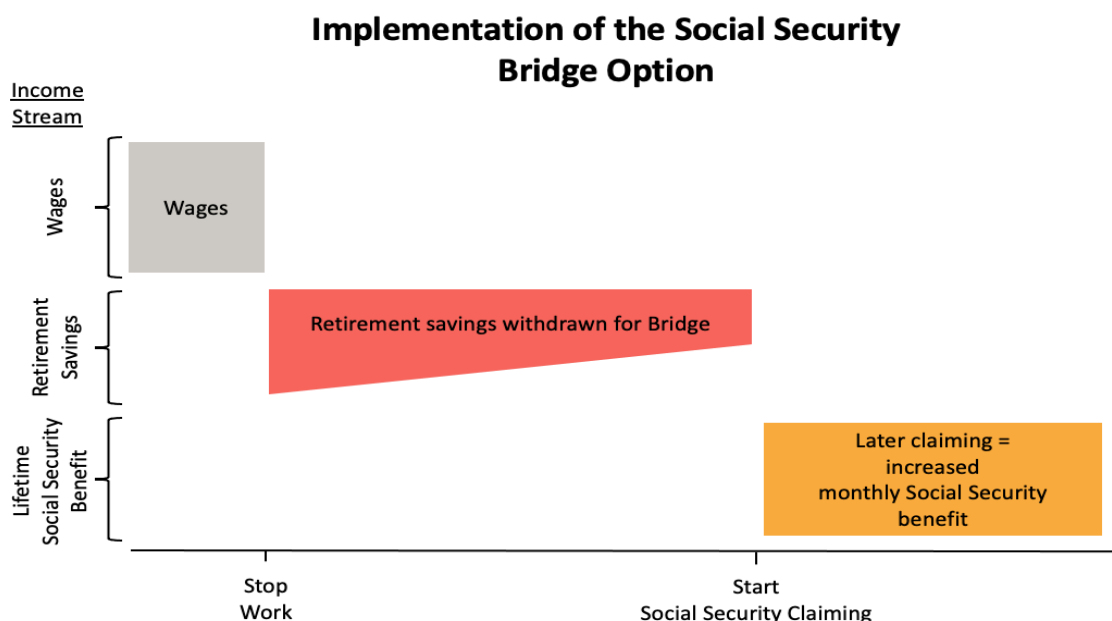
While outcomes are worse for early claimants and benefits accrue to those who delay, we do not presume that all early-claiming workers are making a mistake. Our previous research suggests that older workers who are struggling to maintain their standard of living have very limited financial wealth from which to draw to supplement low wages, leaving them with no choice but to claim early if they want to stabilize their income.^{xviii}

A Social Security Bridge Option Could Help Delay Claiming

Given the significant incentives to delay claiming and research demonstrating that early claiming is suboptimal for nearly everyone, we recommend a strategy known as bridging. Commonly recommended by financial advisors, bridging involves delaying claiming Social Security by covering living expenses through withdrawals from retirement savings. This bridge allows the retiree to delay claiming, thereby increasing their eventual Social Security retirement benefit and their spouse's possible survivor benefit.^{xix, xx}

The mechanics of a formalized Social Security Bridge option generally call for retired workers aged 62 and older to spend down funds from their defined contribution retirement accounts (e.g., IRA, 401(k)s) before they claim Social Security. These retired workers would withdraw funds roughly equal to their monthly Social Security benefit to delay their Social Security claims while maintaining a relatively smooth level of consumption (see Figure 1). In essence, the worker is using their retirement savings to buy a higher lifetime income stream as Social Security payments are guaranteed through the end of the worker's and their spouse's lives. This strategy mitigates the risk that workers and their spouses outlive their accumulated retirement savings.^{xxi}

Figure 1. Graphical Representation of a Social Security Bridge Option



How would a Bridge function? Consider a person born in 1960 who was 62 in 2022 and had a \$2,000 primary insurance amount (PIA) based on their work history (see Table 1). By claiming at age 62 they would yield a monthly benefit of \$1,400, 30 percent less than they would get at age 67, their Full Retirement Age. Likewise, their surviving spouse is eligible to receive only \$1,400 per month for their lifetime.

With a Bridge option, if this worker had a retirement account (an IRA or 401(k)), they could delay claiming by withdrawing \$24,000 to cover their expenses and claim at 63 to receive a monthly benefit that would be \$100 higher. While this may not sound like much, it is indexed to inflation. If the worker's savings were significant (say, \$200,000) this worker could claim at age 70 and live on an inflation-indexed \$2,480 monthly retirement payment—a boost of more than \$1000 a month above what they would get at age 62.

Table 1. Social Security Bridge Increases Lifetime Social Security Retirement Payments

Social Security benefits by length of bridge for hypothetical individual aged 62 in 2022 with a \$2,000 PIA

Bridge length (years)	Age starts claiming	Retirement account withdrawals during bridge	Monthly Social Security individual benefit	Monthly Social Security survivor benefit
0	62	\$0	\$1,400	\$1,400
1	63	\$24,000	\$1,500	\$1,500
2	64	\$48,000	\$1,600	\$1,600
3	65	\$72,000	\$1,733	\$1,733
4	66	\$96,000	\$1,867	\$1,867
5	67	\$120,000	\$2,000	\$2,000
6	68	\$144,000	\$2,160	\$2,160
7	69	\$168,000	\$2,320	\$2,320
8	70	\$192,000	\$2,480	\$2,480

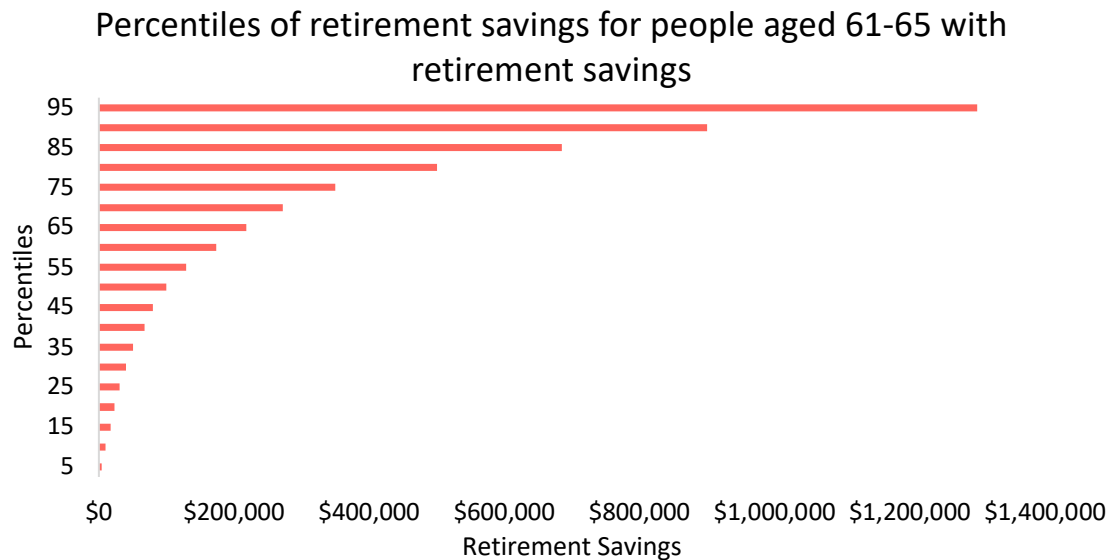
Notes: Hypothetical individual born in 1960 with a full retirement age of 67. Survivor benefit is assumed to be paid at or after spouse's full retirement age.

A Social Security Bridge Would Have A Large Impact for Workers With Retirement Wealth

There is wide variation in savings among people at claiming age who have not yet claimed. Ten percent of those with retirement savings have \$10,000 or less. The median level of retirement savings is \$100,000. The top 5 percent have \$1.3 million or more (Figure 3). Since the average Social Security payment in 2020 was \$1,636 a month, the average individual would need around \$20,000 to delay claiming for 12 months (assuming retirement savings withdrawals are taxed like Social Security).^{xxii} Nearly 80 percent of people aged 61-65 with retirement savings who have not already claimed—about 5.6 million older Americans—could afford to delay their claiming at least 12 months, assuming a monthly income of \$1,636. This won't enable a luxurious life, to be sure, but will lead to greater benefits and comfort in older age.

This is a significant impact, yet it is likely overstated. One way to estimate the impact of a bridge annuity is to match retirement savings to the expected Social Security benefit level based on work history and earnings. One research paper found that only 35 percent—not 80 percent—of people have enough IRA wealth to delay claiming for 24 months.^{xxiii}

Figure 2. There Is Wide Variation in Retirement Savings Levels



Source: SCEPA analysis of Survey of Consumer Finance 2019 data.

Notes: N=516

While a Social Security Bridge is an attractive option for workers with retirement accounts, more than half of people aged 61-65 who have not yet claimed Social Security have no retirement accounts.^{xxiv} People nearing retirement without savings are likelier to be unmarried, non-white, and without a high school degree; 80 percent of people aged 61-65 who have retirement savings are white non-Hispanic. People without any retirement savings are more likely to be not working and have worked fewer years in their lifetime. The median current income of people who are working and do not have any retirement savings is almost one-fourth the median current income of people who are working and have at least some retirement savings (Appendix Table 1).

Bridge Implementation and Lifting Up the Social Security Administration

A Stronger Social Security Administration Could Expand Bridging Opportunities

The Social Security Administration (SSA) could increase awareness of the benefits of delayed claiming and encourage those who can delay to draw more heavily on their retirement savings before they start claiming. By incorporating more comprehensive information about the advantages of delayed claiming and providing examples of bridge strategies when individuals are making their claiming decisions, the SSA could offer crucial guidance precisely when it is needed most. To achieve this, SSA will need updates to its website and informational materials as well as training for personnel who assist individuals in filing claims.

Employer-Sponsored Bridge Account Option

Under this option, employer-sponsored retirement accounts could incorporate bridge payments. A workplace 401(k)-type plan could default a portion of a worker's retirement savings to bridge to a higher Social Security benefit.^{xxv} The default would distribute payments starting from the first month of retirement equal to the Social Security benefits they would get if they claimed. These payments would continue as

long as funds allocated to the bridge last or until the retiree turns 70. The employer default option makes sense as most retirement wealth is stored in employer-sponsored retirement accounts at the time of retirement.

Social Security-Held Bridge Account Option

Establishing a separate retirement account held by Social Security specifically for bridging would ensure access to all people who could contribute funds to such an account. Upon stopping work, the retiree would start receiving payments from Social Security as if they had already claimed their benefits. When the bridge account runs out or the retiree turns 70, Social Security could automatically enable retirement claiming. The retiree wouldn't experience any change in benefit payment amount or source of payments.

Tax Considerations

Any bridge implementation would have to manage taxes. Currently, most individual retirement savings are held in tax-advantaged accounts like 401(k)s, traditional IRAs, Keogh accounts, and Thrift Savings Plans, which allow the account holder or their employer to contribute pre-tax money. These funds are only taxed at the time of withdrawal. Roth IRAs are contributed to with post-tax money and are not taxed again at the time of withdrawal. Social Security payments also have their own special rules for taxation. For most people, 85% of Social Security benefits are subject to income tax; but in low-income households, only 50% of benefits are taxed as income. Formalizations of the Social Security Bridge option will have to consider whether bridge funds (administered either by the employer or by Social Security) allow for both pre- and post-tax contributions, making sure to avoid double taxation on any post-tax contributions; and whether bridge payments should receive the same special taxation rules as Social Security benefits.

Policy Recommendations

While a Social Security Bridge option would offer a straightforward way for retirees to delay claiming, it is only useful for people who have access to and can save money throughout their working life to be used once they retire. Additional policies are needed to help ensure adequate lifetime retirement income for the millions of Americans who will retire without any retirement savings.

Improved Communication and Education

The Social Security Administration should improve its communication and education efforts to inform individuals about the benefits of delayed claiming. This includes providing information on how claiming decisions impact survivor benefits and reframing discussions of the claiming age to encourage more optimal claiming decisions.

Increase Access to Retirement Savings

A bridge option is only possible for people with access to retirement savings accounts, which emphasizes the longstanding need to ensure that all workers have access to retirement plans. Access to these accounts is limited to people with an employer that voluntarily opts into sponsoring and/or contributing any money toward workers' retirements. This system disadvantages self-employed workers and those with longer spells of not working in the formal economy.

To close this gap in access to retirement plans, we need a universal retirement plan similar to some current proposals, including the Retirement Savings for Americans Act. Such a plan should establish a savings program for workers who do not have access to one and support saving by providing matching contributions for low- and middle-income workers.^{xxvi} Ideally, the implementation of a universal retirement

plan would include collaboration with the Social Security Administration to make a bridge option available to all.

Make Retirement Tax Expenditures More Equitable

The current federal retirement tax structure benefits those who can afford to save more and those who have higher marginal tax rates. These benefits provide little to no incentives for those who lack access to retirement plans, people with low earnings and low tax rates, and those who may face severe budget constraints that prevent them from saving for retirement. Reforming retirement tax expenditures and making a saver's credit refundable would make retirement tax benefits more equitable, effective, and efficient.

Update Special Minimum Benefits

Another solution to reduce elder poverty already exists within Social Security, so-called special minimum benefits—but they need to be updated. These benefits were originally designed to assist beneficiaries with low lifetime earnings by providing a minimum level of benefits, but they have become less relevant due to their indexing methods. While effective at alleviating elder poverty in the past, these benefits were indexed to prices instead of wages and since wages have grown faster than prices since the 1970s, the special minimum benefit has been gradually irrelevant.^{xxvii} Raising and re-indexing benefit levels and changing eligibility guidelines are two policy levers within the current framework to deliver poverty-reducing minimum benefits to low-income seniors.^{xxviii}

Appendix

Appendix Table 1 displays selective characteristics of people who have and don't have retirement savings. For example, 57.3 percent of people with retirement savings are white, compared to 24.2 who are Black. And 46.7 percent will have just a high school degree.

Appendix Table 1. Characteristics of People Aged 61-65 with and without Retirement Savings

	Full sample (n=881)	Characteristics of those with retirement savings (n=365)	Characteristics of those without retirement savings (n=516)
Age (mean)	62.8	62.9	62.7
Female (%)	53.9%	52.8%	55.2%
Married (%)	49.0%	38.8%	61.5%
White non-Hispanic (%) †	67.9%	57.3%	80.5%
Black non-Hispanic (%) †	18.1%	24.2%	10.8%
Hispanic (%) †	9.6%	12.9%	5.6%
Other race non-Hispanic (%) †	4.4%	5.5%	3.1%
Less than HS degree (%)	12.5%	19.5%	3.9%
HS degree (%)	41.3%	46.7%	34.7%
College degree (%)	30.7%	26.2%	36.3%
Graduate degree (%)	15.5%	7.6%	25.1%
Currently working (%)	58.0%	38.3%	82.1%
Years worked full-time (mean)	33.8	30.5	37.9
Years worked part-time (mean)	3.5	3.6	3.4
Yearly pretax wages if working (median)	\$46,800	\$15,925	\$58,000

Source: SCEPA analysis of Survey of Consumer Finance 2019 data.

Notes: Estimates are weighted. The sample includes anyone 61-65 who is not already claiming Social Security retirement. Married includes married and living with a same-sex partner.

† SCF only collects race and ethnicity for the reference person (full sample n=566) (without savings n=238) (with savings n=328).

HRS Analysis Notes

Analysis on the Health and Retirement Study (HRS) uses data from 2020 and utilizes the RAND HRS's Longitudinal File and the Harmonized HRS data file^{xxxix xxx xxxi}. The analysis sample includes all 2020 survey respondents who are receiving Social Security retirement income, are 62 and older, and have a non-missing value for the age they started claiming Social Security. Estimates were calculated using HRS's individual-level sampling weight. A household is deemed financially fragile if it exceeds at least one of four thresholds: a home mortgage loan-to-value ratio above 80%; a ratio of non-housing debt to liquid assets above 50%; less than three months' worth of income in liquid assets; or rent exceeding 30% of income. Household-level imputations were performed to address missingness in the value of rent using a predictive mean matching model using urbanicity, respondent and spouse education, and number of people living in the household as covariates^{xxxii}.

SCF Analysis Notes

Analysis on the Survey of Consumer Finance (SCF) uses data from 2019^{xxxiii}. The analysis sample includes all survey respondents and their spouses if the respondent and spouse are financially independent, aged 61 to 65, and not receiving Social Security retirement income. The analysis is only conducted on the first imputation implicate. Individual-level estimates were calculated using individual-level sampling weights derived from SCF's household-level sampling weight, which was first divided by five to account for the five possible implicates and then divided by two for households where information is available for both the reference person and their spouse. Retirement savings includes money in a Roth IRA, roll-over IRA, regular or other IRA, or Keogh account; balances held as part of a pension account with an associated account balance which can be withdrawn or borrowed against; account balance for remaining pensions from which the person is already drawing benefits; and account balances for any other pension and retirement accounts from previous employees which can be withdrawn from following the aggregation of total retirement savings variable derived as part of the SCF's Summary Extract Public Data^{xxxiv}.

Endnotes

- ⁱ Social Security retirement benefits are guaranteed to all United States citizens or legal residents who have earned at least 40 “work credits” by working at least ten years in a job covered by Social Security. Social Security determines each person’s benefit amount using a formula based on the worker’s earning history and the age at which they start claiming those benefits.
- ⁱⁱ Purcell, P. J. (2020). Employment at Older Ages and Social Security Benefit Claiming, 1980–2018. *Research and Statistics Note 2020-01*. Available at SSRN: <https://ssrn.com/abstract=3578518>.
- ⁱⁱⁱ <https://www.epi.org/publication/chapter-3-economic-risk/#3F>
- ^{iv} Social Security Administration. (2023). Your Social Security. In SSA Publication No. 05-10035. Social Security Administration. Washington, DC.
- ^v Social Security Administration. (2023). How Social Security Can Help You When A Family Member Dies. In SSA Publication No. 05-10008. Social Security Administration. Washington, DC.
- ^{vi} This amount includes any deductions or credits the workers received for early or delayed claiming. Surviving spouses can claim benefits beginning at age 60 but will be paid a reduced amount of the deceased’s benefit if they start receiving it before their FRA.
- ^{vii} Purcell, P. J. (2020). Employment at Older Ages and Social Security Benefit Claiming, 1980–2018.
- ^{viii} Glickman, M. M., & Hermes, S. (2015). Why Retirees Claim Social Security at 62 and How It Affects Their Retirement Income: Evidence from the Health and Retirement Study. *The Journal of Retirement*, 2(3), 25-39.
- ^{ix} Sun, W., & Webb, A. (2011). Valuing the Longevity Insurance Acquired by Delayed Claiming of Social Security. *Journal of Risk and Insurance*, 78(4), 907-930.
- ^x Shoven, J. B., & Slavov, S. N. (2014). Does it pay to delay social security? *Journal of Pension Economics & Finance*, 13(2), 121-144.
- ^{xi} Sass, S. A., Sun, W., & Webb, A. (2013). Social security claiming decision of married men and widow poverty. *Economics Letters*, 119(1), 20-23.
- ^{xii} Shoven, J. B., & Slavov, S. N. (2014). Does it pay to delay social security? *Journal of Pension Economics & Finance*, 13(2), 121-144.
- ^{xiii} Altig, D., Kotlikoff, L. J., & Ye, V. Y. (2023). How Much Lifetime Social Security Benefits Are Americans Leaving on the Table? *Tax Policy and the Economy*, 37(1), 135-173.
- ^{xiv} Shoven, J. B., Slavov, S. N., & Wise, D. A. (2018). Understanding Social Security Claiming Decisions Using Survey Evidence. *Journal of Financial Planning*, 31(11), 35-47.
- ^{xv} Glickman, M. M., & Hermes, S. (2015). Why Retirees Claim Social Security at 62 and How It Affects Their Retirement Income: Evidence from the Health and Retirement Study. *The Journal of Retirement*, 2(3), 25-39.
- ^{xvi} Engelhardt, G. V., Gruber, J., & Kumar, A. (2022). Early Social Security Claiming and Old-Age Poverty: Evidence from the Introduction of the Social Security Early Eligibility Age. *Journal of Human Resources*, 57(4), 1079-1106.
- ^{xvii} Drystan Phillips analysis of the Health and Retirement Study 2020 data N=4,476.
- ^{xviii} Ghilarducci, Teresa, Papadopoulos, Michael, & Webb, Anthony. (2022). The Illusory Benefit of Working Longer on Retirement Financial Preparedness: Rethinking Advice That Working Longer Increases Retirement Income. *Journal of Retirement* 10, No. 1 (Summer): 7–27. <https://doi.org/10.3905/jor.2022.1.104>.
- ^{xix} Koenig, G., Fichtner, J. J., & Gale, W. G. (2018). Supplemental Transition Accounts for Retirement: A Proposal to Increase Retirement Income Security and Reform Social Security. *Public Policy & Aging Report*, 28(suppl_1), S22-S34.
- ^{xx} Vernon, S. (2018). How to ‘Pensionize’ any IRA or 401 (k) Plan. Stanford Center on Longevity. Stanford, CA.
- ^{xxi} Munnell, A. H., Wettstein, G., & Hou, W. (2022). How best to annuitize defined contribution assets? *Journal of Risk and Insurance*, 89(1), 211-235.
- ^{xxii} Social Security Administration. (2021). Fast Facts & Figures About Social Security, 2021. SSA Publication No. 13-11785. Social Security Administration, Office of Retirement and Disability Policy. Washington, DC.
- ^{xxiii} Goda, G. S., Ramnath, S., Shoven, J. B., & Slavov, S. N. (2018). The financial feasibility of delaying Social Security: evidence from administrative tax data. *Journal of Pension Economics & Finance*, 17(4), 419-436.
- ^{xxiv} SCEPA analysis of Survey of Consumer Finance 2019 data (N = 881).

- ^{xxv} Munnell, A. H., & Wettstein, G. (2021). Would 401 (k) Participants Use a Social Security 'Bridge' Option? CRR WP, 27.
- ^{xxvi} Radpour, Siavash, Eva Conway, and Teresa Ghilarducci. (2022). A Universal Retirement Plan Can Reduce Inequality and Prevent Downward Mobility in Retirement. Policy Note Series, Schwartz Center for Economic Policy Analysis at The New School for Social Research. New York, NY.
- ^{xxvii} Davis, O., Radpour, S., Conway, E. and Ghilarducci, T. (2022). Retirement Reforms are Necessary—So Is Strengthening Social Security. Policy Note Series, Schwartz Center for Economic Policy Analysis at The New School for Social Research. New York, NY.
- ^{xxviii} Eschtruth, Andrew D. and Alicia H. Munnell. 2019. Modernizing Social Security: Minimum Benefits. Brief 19-2, Center for Retirement Research at Boston College.
- ^{xxix} Health and Retirement Study, public use dataset. (March 2023). Produced and distributed by the University of Michigan with funding from the National Institute on Aging (grant number NIA U01AG009740). Ann Arbor, MI.
- ^{xxx} RAND HRS Longitudinal File 2020 (V1). (March 2023). Produced by the RAND Center for the Study of Aging, with funding from the National Institute on Aging and the Social Security Administration. Santa Monica, CA.
- ^{xxxi} Wang, Y., Cole, A., Green, H., Wilkens, J., Phillips, D., and Lee, J. (2023). Harmonized HRS, Version D. The Gateway to Global Aging Data, 2023. <https://doi.org/10.25549/4smz-hp46>.
- ^{xxxii} Little, R. J. (1988). Missing-Data Adjustments in Large Surveys. *Journal of Business & Economic Statistics*, 6(3), 287-296.
- ^{xxxiii} Bhutta, N., Bricker, J., Chang, A. C., Dettling, L. J., Goodman, S., Hsu, J. W., & Windle, R. (2021). Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances. *Federal Reserve Bulletin*.
- ^{xxxiv} Bricker, J., Henriques, A., Krimmel, J., & Sabelhaus, J. (2016). Measuring income and wealth at the top using administrative and survey data. *Brookings Papers on Economic Activity*, 2016(1), 261-331.