CENTER on AGING
at American Institutes for Research

Issue Brief SEPTEMBER 2016

How Social Security and Medicare Reduce Inequality

Marilyn Moon and Yan A. Wang

Income inequality has become a major discussion topic in the United States as the discrepancy in financial resources between rich and poor has grown. For people age 65 and over, the gap is substantial but less pronounced than it would otherwise be thanks to Social Security and Medicare, which mitigate disparities in income distribution. The differences that these two important entitlement programs play in income distribution for older Americans and in the quality of their lives needs to be understood as part of any discussions about changes in these programs going forward.

Social Security and Medicare were designed to provide predictable benefits to people in retirement or to people with disabilities. Together, these program represent a crucial source of financial well-being for most older and disabled Americans. Beyond that, the design of the benefits also ensures that lower income beneficiaries receive proportionately more than their higher income counterparts relative to the tax contributions that individuals and their employers must pay.

Without these programs, the financial status of older Americans would look very different. Individuals would likely work longer and put aside more in savings than they currently do. But lower income persons probably would not be able to replace Social Security as readily as those with higher incomes. In the case of health care, those with fewer resources would likely get less care and hence spend less on health services. Their resulting lack of care could mean disproportionately worsened health and even earlier death. Even after adjustments for the lack of benefits, lower income individuals would be at a greater disadvantage.

To provide some sense of how these programs help reduce inequality, it is helpful to look at what the distribution of financial resources would be without Social Security and Medicare. Of course, it is impossible to demonstrate fully what the level and distribution of resources would look like without these programs. Nonetheless, showing how much of a difference these programs make in individuals' lives compared to the other resources they have accumulated over their lifetimes helps underscore their importance.

How Social Security and Medicare Work

Older Americans have been protected from some of the swings in the economy that contribute to inequality. In particular, layoffs or spells out of the labor force can bring down the incomes of those in their working years, increasing inequality in retirement. The two large social insurance programs, Social Security and Medicare, mitigate these influences and so help smooth out some of the vagaries of individuals' work lives. To see how, consider how these programs work.

Social Security is designed to keep benefits stable despite ups and downs in participants' earnings while working and differences in how much Americans earn. Two basic characteristics of the formula used for calculating the benefits that individuals receive provide this protection.

First, the Social Security calculation is based on the top 35 years of earnings for each individual. Many Americans have more than 35 years of earnings history so they can "drop out" the years with lower or no earnings. And averaging over such a long period helps to ensure that any single year will not be as deleterious to the ultimate benefit level.

Second, and more important, the formula that translates past earnings into benefits is progressive—so those with lower earnings receive a higher proportional benefit. The formula converts an individual's average indexed monthly earnings into a primary insurance amount (PIA) in three steps. At the lowest wage levels, 90 percent of the average wages are attributed to the PIA. The second adjustment "replaces" just 32 percent of earnings and the third step replaces just 15 percent.[1] In this way, individuals with lower average incomes have a so-called "replacement rate" that is substantially higher than the rate that higher wage earners receive. Also, the range of benefits varies by substantially less than wages or income do.[2] For example, five out of every six Social Security beneficiaries received monthly benefits that ranged between $500 and $1,500 per month in 2013.[3]

In the case of Medicare, the basic benefits are essentially the same for all who are eligible for the program. It is the size of this benefit relative to the incomes of modestly well off families that makes a big difference in reducing inequality. Someone with $20,000 in income, for example, benefits relatively more from a $10,000 annual Medicare benefit than someone with $100,000 in income does.[4]

Calculating Income to Highlight Inequality

The most traditional measure of economic status—the focus of our analysis—is income. Traditionally, that means wages, pensions, income from assets such as interest payments and dividends, benefits from other Government programs, and Social Security. To assess how much people age 65 and over benefit from the program, we need to look at individuals' incomes, but family income is a more appropriate indicator because families generally pool and share resources. One member may earn more, for instance, while others earn less but provide more support at home. What matters most is each older individual's share of family income. Reported family income divided by the number of family members is thus what we attribute to each family member. (The data used come from the Current Population Survey.)

One convenient way to highlight the extent of inequality is to examine the income shares of people divided into five equal groups or quintiles. The bottom quintile consists of the 20 percent of people with the lowest incomes while the top quintile has the 20 percent with the highest levels of income. If income were equally distributed across the population, each quintile would command 20 percent of all income. Instead, as Figure 1 shows, those with the highest incomes command a much greater share.

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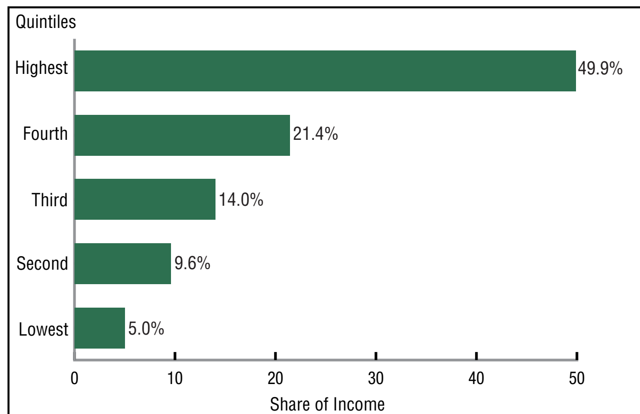
[1] Social Security Administration. 2014. Annual Statistical Supplement to the Social Security Bulletin, 2014. Washington: U.S. Government Printing Office.

[2] Not everyone receives the primary insurance amount, however. Early retirees (before age 66 for current workers) receive reduced benefits that reflect an actuarially fair adjustment based on life expectancy. Consequently, to the extent that lower wage workers find it more difficult to work beyond age 62, the benefit's progressivity will be somewhat reduced. Another complicating factor is that married couples may receive a dependent's benefit, which can increase the combined amount that they would receive from the sum of the two individual insurance amounts. This mainly helps couples if one spouse has substantially higher earnings than the other (and/or more years of coverage).

[3] Social Security Administration, 2014.

[4] Two other factors that influence Medicare's impact on financial well-being are not included in the analysis here. There are modest low income protections offered to beneficiaries (all of which [PHASE OUT?] by the time their incomes reach 150 percent of the Federal poverty level) that either supplement the benefits or reduce the out-of-pocket costs that individuals are otherwise required to pay. This helps very low-income families afford care that they might otherwise forgo. The second factor works in the opposite direction. Many studies have shown that higher income individuals use more health care services (and so might benefit more from Medicare) even after controlling for differences in health status. Most likely, this group can more easily cover out-of-pocket costs for health care with their own incomes or supplemental insurance from former employers.

Figure 1: Adjusted Income per Capita by Quintiles Persons Aged 65+, 2013



Note: Data derived from U.S. Census Bureau's Current Population Survey. Available at http://www.census.gov/programs-surveys/cps.html.

And at the bottom of the income distribution, one fifth of all individuals together receive only 5 percent of all income going to that age group.

Empirical Estimates of Social Security's Impact on Inequality

A careful simulation to estimate Social Security's impact on inequality would hypothesize what incomes would be if Social Security did not exist. Without the program, individuals would make different decisions over their working lives—potentially increasing their savings, seeking jobs with good retiree benefits attached, or delaying retirement. But this approach would require making far more assumptions than we are able to make here. Instead, we simply consider how the income distribution would change if Social Security benefits were subtracted from income.

Because the issue at hand is the relative impact of such a change across the income distribution, we implicitly assume that those with lower incomes are all about equally able or unable to adjust their behavior to the absence of a strong public pension such as Social Security. Arguably, such an assumption provides a conservative estimate of how this policy change would affect the relative shares of income of those with substantial resources versus those of those who have much less. Higher wage workers are more likely to be able to modify their behavior, to change jobs to find preferential benefits, and perhaps to remain longer in the labor force than those with lower skills and less market power.

When Social Security benefits are subtracted from incomes, as expected, these incomes fall substantially. For those near the bottom of the income distribution, well over half of their incomes usually come from Social Security.[5] Higher up the income scale, some individuals are still working or their family is more likely to have income from pensions or savings. Consequently, Social Security represents a substantially lower share of the incomes in each higher quintile group.

The levels of income fall across the whole income distribution, as shown in Table 1, but the relative impact on this resource distribution is quite different. Figure 2 indicates the quintile shares first of overall income and then income minus Social Security in 2013. Those in the bottom quintile lose shares to those in the higher quintiles—the group for whom Social Security provides *less* of their incomes. This shows that Social Security effectively reduces the income inequality we would see without Social Security.

Table 1: Levels of per Capita Resources for Persons Aged 65+, 2013

Quintiles	Income Net of Social Security	Person Income	Income plus Medicare Benefits
0~20%	$2,160	$7,483	$14,459
20~40%	$3,891	$14,415	$22,381
40~60%	$9,042	$20,997	$28,714
60~80%	$20,544	$32,012	$39,412
80%~100%	$62,858	$74,607	$81,793
Average	$19,699	$29,903	$37,352

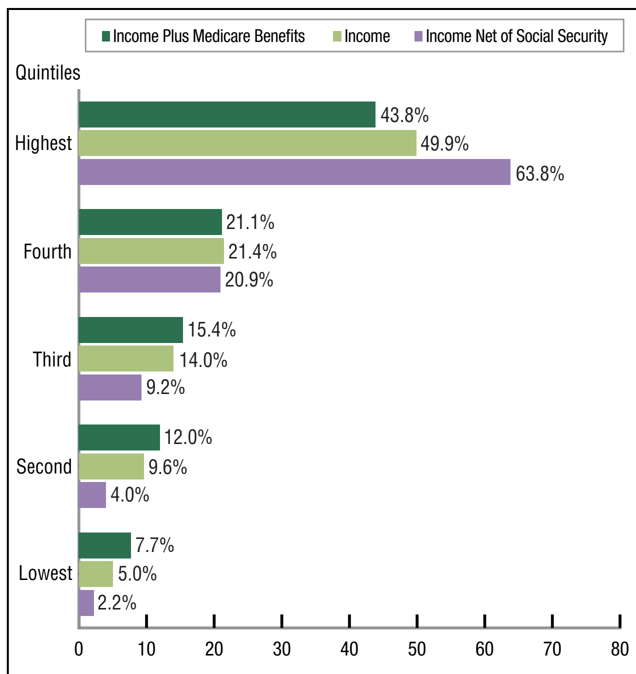
The Impact of Adding Medicare to per Capita Income

To assess Medicare's impact on financial resources, we examine how incomes would change if the value

[5] Social Security Administration, 2014.

of Medicare were counted as income.[6] Because the insurance value for Medicare is substantial ($10,130 per individual in 2013[7]), its impact is quite large. As Figure 2 also shows, because the bottom 20 percent of people age 65 and older have incomes that average less than Medicare's actuarial value, their total resource share rises dramatically when Medicare is added to their resources.

Figure 2: Adjusted Resource Shares per Capita by Quintile Persons Aged 65+, 2013



Note: Data derived from U.S. Census Bureau's Current Population Survey. Available at http://www.census.gov/programs-surveys/cps.html.

For our estimates, we divide the average actuarial value of Medicare benefits for each beneficiary in the family by the number of family members. The per capita amount of the benefit thus varies only when the number of family members is greater than the number of Medicare beneficiaries in the family. (A more sophisticated analysis of Medicare's impact could attribute differential actuarial values by age or by income, for example.[8])

The Combined Impact of Medicare and Social Security

To examine the combined impact of these two programs, it is useful to compare income minus the Social Security amount to income plus Medicare. That comparison lets us consider the difference in resource shares from both programs simultaneously. As Figure 2 indicates, the share to the bottom quintile rises from 2.2 to 7.7 percent of total income—a substantial benefit to those with the lowest incomes. In the middle quintile, the impact is small; the decline in share occurs in the resources commanded by the top quintile of the income distribution. Social Security and Medicare more than triple the share of resources that the bottom 20 percent of the population in each age group receives and cut the resources to those in the top 20 percent. Although those in the top quintile still have resources far exceeding those in the bottom quintile, the discrepancy is not nearly as large as it would be without these programs.

Although the shares remain very similar for those in the fourth quintile, as shown in Figure 1, subtracting Social Security benefits or adding Medicare does make a substantial difference in the total dollars accounted for in that quintile too (Table 1)—about $10,000 on average from Social Security benefits and more than $7,000 from Medicare.

Conclusion

Social Security and Medicare are doing what the programs' creators intended: they provide a disproportionate level of support to older persons with the fewest resources. The progressive nature of these programs protects those at the bottom of the income

[6] Importantly, this does not raise the ability to consume other goods and services by the same amount because these are in-kind benefits. Because we are thus not measuring pure purchasing power here, we use the term "resources" to denote income plus Medicare benefits.

[7] Board of Trustees. 2014. *Annual Report of the Board of Trustees of the Medicare Hospital Insurance and Supplementary Medicare Insurance Trust Funds,* U.S. Government Printing Office.

[8] If estimates were made using characteristics including income, then the redistributional aspect of Medicare might be reduced modestly because high-income beneficiaries tend to use more health care resources than those with more modest incomes. On the other hand, we are also excluding Medicaid benefits, which would further increase the income shares of those in the bottom quintile.

distribution relatively more. These two programs do not reverse the inequality gap in the income distribution of older Americans in their retirement years, but they do reduce the level of inequality.

A key policy question is whether efforts to reduce or substantially modify these programs over time will increase or decrease these programs' mitigating effects. For example, two often discussed options for generating "entitlement savings" include reducing benefits under Social Security over time by changing how the cost of living adjustment is calculated, and raising Medicare premiums across the board. Both options would reduce the value of the benefits going to all recipients and would make the programs less progressive. In that scenario, fewer resources would be available to those at all income levels, but the burden would represent a greater portion of the incomes of those with the fewest resources. As for raising the age of eligibility for one or both programs, a third popular proposal, lower income individuals would have a harder time adjusting as they are more likely to retire early and they may die earlier. If policy went in this direction, then the reduction in the progressivity of these entitlement benefits could be even greater.

Analyses of reforms in entitlement programs should include an assessment of the extent to which changes will reduce the progressivity of benefits—a primary aim of these programs from their inception.

ABOUT THE AUTHORS

Marilyn Moon is a nationally known expert on Medicare, Director of the Center on Aging and an Institute Fellow at the American Institutes for Research. She has served as a senior fellow at the Urban Institute, a public trustee for the Social Security and Medicare trust funds, and chaired the Maryland Health Care Commission.

Yan Wang is a research associate in the Center on Aging at AIR.

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CONTACT AIR

Yan Wang
Research Associate
American Institutes for Research
1000 Thomas Jefferson Street, NW
Washington, DC 20007
301.592.2126
yawang@air.org

FUNDING

The Center on Aging is funded by American Institutes for Research.