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# How Social Security Benefits Are Computed: In Brief

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# Summary

Social Security, the largest program in the federal budget (in terms of outlays), provides monthly cash benefits to retired or disabled workers and their family members as well as to the family members of deceased workers. In 2018, benefit outlays were approximately $989 billion, with roughly 63 million beneficiaries and 176 million workers in Social Security-covered employment. Under current law, Social Security's revenues are projected to be insufficient to pay full scheduled benefits after 2035.

Monthly benefit amounts are determined by federal law. Social Security is of ongoing interest both because of its role in supporting a large portion of the population and because of its long-term financial imbalance, and policymakers have considered numerous proposals to change its benefit computation rules.

The Social Security benefits that are paid to worker beneficiaries and to workers' dependents and survivors are based on workers' past earnings. The computation process involves three main steps:

- First, a summarized measure of lifetime earnings is computed. That measure is called the *average indexed monthly earnings* (AIME).
- Second, a benefit formula is applied to the AIME to compute the *primary insurance amount* (PIA). The benefit formula is progressive. As a result, workers with higher AIMEs receive higher Social Security benefits, but the benefits received by people with lower earnings replace a larger share of past earnings.
- Third, an adjustment may be made based on the age at which a beneficiary chooses to begin receiving payments. For retired workers who claim benefits at the full retirement age (FRA) and for disabled workers, the monthly benefit equals the PIA. Retired workers who claim earlier receive lower monthly benefits, and those who claim later receive higher benefits.

Retired worker benefits can be affected by other adjustments. For example, the *windfall elimination provision* can reduce benefits for individuals who receive a pension from non-Social Security-covered earnings, and benefits can be withheld under the *retirement earnings test* if an individual continues to work and earns above a certain amount. Although not an adjustment, Social Security benefits can be subject to income tax, thereby affecting the beneficiary's net income.

Benefits for eligible dependents and survivors are based on the worker's PIA. For example, a dependent spouse receives a benefit equal to 50% of the worker's PIA, and a widow(er) receives a benefit equal to 100% of the worker's PIA. Dependent benefits may also be adjusted based on the age at which they are claimed and other factors.

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# Introduction

Social Security, which paid about $989 billion in benefits in 2018, is the largest program in the federal budget in terms of outlays. There are currently about 63 million Social Security beneficiaries.[1]

Most Social Security beneficiaries are retired or disabled workers, whose monthly benefits depend on their past earnings, their age, and other factors. Benefits are also paid to workers' dependents and survivors, based on the earnings of the workers upon whose work record they claim.

Social Security has a significant impact on beneficiaries, both young and old, in terms of income support and poverty reduction. Under current law, Social Security's revenues are projected to be insufficient to pay full scheduled benefits after 2035. For both of those reasons, Social Security is of ongoing interest to policymakers. Most proposals to change Social Security outlays would change the benefit computation rules. Evaluating such proposals requires an understanding of how benefits are computed under current law.

# Eligibility

A person who has a sufficient history of earnings in employment subject to Social Security payroll taxes becomes insured for Social Security, which makes the worker and qualified dependents eligible for benefits. Insured status is based on the number of *quarters of coverage* (QCs) earned.[2] In 2019, a worker earns one QC for each $1,360 of earnings, and a worker may earn up to four QCs per calendar year. The amount needed for a QC increases annually by the growth in average earnings in the economy, as measured by Social Security's average wage index.[3]

To be eligible for most benefits, workers must be *fully insured*, which requires one QC for each year elapsed after the worker turns 21 years old, with a minimum of 6 QCs and a maximum of 40 QCs. A worker is first eligible for Social Security retirement benefits at 62, so to be eligible for retirement benefits, a worker must generally have worked for 10 years. Workers are *permanently insured* when they are fully insured and will not lose fully insured status when they stop working under covered employment, for example, if a worker has the maximum 40 QCs.

Benefits may be paid to eligible survivors of workers who were fully insured at the time of death. Some dependents are also eligible if the deceased worker was *currently insured*, which requires earning 6 QCs in the 13 quarters ending with the quarter of death.

To be eligible for disability benefits, workers must also satisfy a recency of work requirement. Workers aged 31 and older must have earned 20 QCs in the 10 years before becoming disabled. Fewer QCs are required for younger workers.[4]

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[1] This report provides an overview of how Social Security benefits are computed. For additional details and a more comprehensive overview of Social Security, see CRS Report R42035, *Social Security Primer*.

[2] For details, see "Insured Status" in Social Security Administration, *Annual Statistical Supplement, 2017* (March 2018), at https://www.ssa.gov/policy/docs/statcomps/supplement/2017/supplement17.pdf.

[3] The average wage index is the average of all workers' wages subject to federal income taxes and contributions to deferred compensation plans. It is calculated using some wages that are not subject to the Social Security payroll tax.

[4] To be eligible for disability benefits, workers must also be found unable to engage in substantial gainful activity. See CRS Report R44948, *Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI): Eligibility,*

In the case of workers having work history in multiple countries, international *totalization agreements* allow workers who divide their careers between the United States and certain countries to fill gaps in Social Security coverage by combining work credits under each country's system to qualify for benefits under one or both systems.[5]

# Average Indexed Monthly Earnings

The first step of computing a benefit is determining a worker's *average indexed monthly earnings* (AIME), a measure of a worker's past earnings.

## Wage Indexing

Rather than using the amounts earned in past years directly, the AIME computation process first updates past earnings to account for growth in overall economy-wide earnings. That is done by increasing each year of a worker's taxable earnings after 1950 by the growth in average earnings in the economy, as measured by the national average wage index, from the year of work until two years before eligibility for benefits, which for retired workers is at 62.[6] For example, the Social Security average wage grew from $32,155 in 2000 to $41,674 in 2010. So if a worker earned $20,000 in 2000 and turned 60 in 2010, the *indexed* wage for 2000 would be $20,000 x ($41,674/$32,155), or $25,921. Earnings from later years—for retired workers, at ages 61 and above—are not indexed.

## Averaging Indexed Earnings

For retired workers, the AIME equals the average of the 35 highest years of indexed earnings, divided by 12 (to change from an annual to a monthly measure). Those years of earnings are known as *computation years*. If the person worked fewer than 35 years in employment subject to Social Security payroll taxes, the computation includes some years of zero earnings.

In the case of workers who die before turning 62 years old, the number of computation years is generally reduced below 35 by the number of years until he or she would have reached 62. For example, the AIME for a worker who died at 61 is based on 34 computation years.

For disabled workers, the number of computation years depends primarily on the age at which they become disabled, increasing from 2 years for those aged 24 or younger to 35 years for those aged 62 or older.[7]

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*Benefits, and Financing*.

[5] See CRS Report RL32004, *Social Security Benefits for Noncitizens*.

[6] The Social Security Administration uses the national average wage indexing series to ensure that future benefits reflect the general rise in the standard of living over the course of a worker's earning history. For details, see "Index earnings used to compute initial benefits" in Social Security Administration, Office of the Chief Actuary, "National Average Wage Index," at https://www.ssa.gov/oact/COLA/AWI.html.

[7] The number of computation years equals the number of "elapsed years" minus any "dropout years." The number of elapsed years equals the calendar years after an individual turns 21 years old through the year before the individual first becomes eligible for disability benefits, with a minimum of two. For every five elapsed years, there is one disability dropout year, up to a maximum of five. In addition, people with fewer than three disability dropout years may be credited with up to two additional dropout years based on the care of a child, for up to a total of three dropout years. See CRS Report R43370, *Social Security Disability Insurance (SSDI): Becoming Insured, Calculating Benefit Payments, and the Effect of Dropout Year Provisions*.

# Primary Insurance Amount

The next step in determining a benefit is to compute the *primary insurance amount* (PIA) by applying a benefit formula to the AIME.

First, the AIME is sectioned into three brackets (or segments) of earnings, which are divided by dollar amounts known as bend points. In 2019, the bend points are $926 and $5,583. Those amounts are indexed to the national average wage index, so they generally increase each year.

Three factors, which are fixed by law at 90%, 32%, and 15%, are applied to the three brackets of AIME. For workers with AIMEs of $926 or less in 2019, the PIA is 90% of the AIME. Because the other two factors are lower, that share declines as AIMEs increase, which makes the benefit formula progressive. For workers who become eligible for retirement benefits, become disabled, or die in 2019, the PIA is determined as shown in the example in **Table 1** and in **Figure 1**.

Benefits are based on covered earnings. Earnings up to the maximum taxable amount ($132,900 in 2019) are subject to the Social Security payroll tax. If a worker earns the maximum taxable earnings in every year of a full work history and becomes eligible in 2019, the maximum PIA is $2,861.[8]

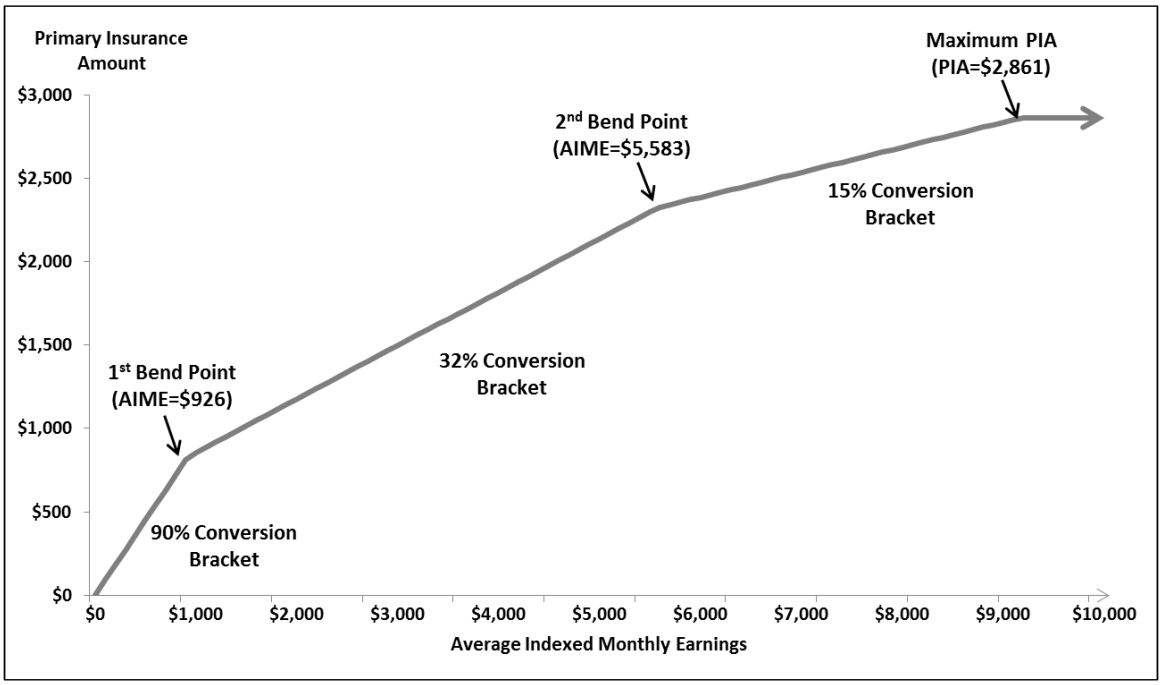
**Table 1. Computation of a Worker's Primary Insurance Amount (PIA) in 2019 Based on an Illustrative AIME of $6,000**

| Factors | Three Brackets of AIME | PIA for Worker with an Illustrative AIME of $6,000 |
|---|---|---|
| 90% | first $926 of AIME, plus | $833.40 |
| 32% | AIME over $926 and through $5,583 , plus | $1,490.24 |
| 15% | AIME over $5,583 | $62.55 |
| **Total: Worker's PIA** (by law, rounded down to nearest 10 cents) | | **$2,386.10** |

**Source:** The Congressional Research Service (CRS).

[8] Social Security Administration, "2019 Social Security Changes," https://www.ssa.gov/news/press/factsheets/colafacts2019.pdf.

**Figure 1. Computation of a Worker's Primary Insurance Amount (PIA) in 2019**




**Source:** CRS.

# Wage Indexing Results in Stable Replacement Rates

In the AIME computation, earnings are indexed to the average wage index, and the bend points in the benefit formula are indexed to growth in the average wage index. As a result, replacement rates—the portion of earnings that benefits replace—remain generally stable. That is, from year to year, the average benefits that *new* beneficiaries receive increase at approximately the same rate as average earnings in the economy.

# Cost-of-Living Adjustment

A *cost-of-living adjustment* (COLA) is applied to the benefit beginning in the second year of eligibility, which for retired workers is age 63. The COLA applies even if a worker has not yet begun to receive benefits. The COLA usually equals the growth in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) from the third quarter of one calendar year to the third quarter of the next year. Beneficiaries will receive a COLA of 2.8% for benefits paid in January 2019.[9]

[9] If the CPI-W does not increase over the relevant period, no COLA is payable. No COLA was payable in January 2010 or January 2011 because the CPI-W for the third quarter of 2009 and for the third quarter of 2010 were both lower than the CPI-W for the third quarter of 2008. No COLA was payable in January 2016 because the CPI-W for the third quarter of 2015 was lower than the CPI-W for the third quarter of 2014. For details, see CRS Report 94-803, *Social Security: Cost-of-Living Adjustments*.

# How Timing of Benefit Claim Affects Benefit Levels

## Full Retirement Age

The *full retirement age* (FRA, also called the normal retirement age) is the age at which a worker can receive the full PIA, increased by any COLAs. The FRA was 65 for people born before 1938, but the Social Security Amendments of 1983 (P.L. 98-21) raised the FRA for those born later, as shown in **Table 2**.

**Table 2. Full Retirement Age (FRA) by Year of Birth**

| Year of Birth | Year Turning 62 | Full Retirement Age |
|---|---|---|
| 1937 or earlier | 1999 or earlier | 65 |
| 1938 | 2000 | 65 and 2 months |
| 1939 | 2001 | 65 and 4 months |
| 1940 | 2002 | 65 and 6 months |
| 1941 | 2003 | 65 and 8 months |
| 1942 | 2004 | 65 and 10 months |
| 1943-1954 | 2005-2016 | 66 |
| 1955 | 2017 | 66 and 2 months |
| 1956 | 2018 | 66 and 4 months |
| 1957 | 2019 | 66 and 6 months |
| 1958 | 2020 | 66 and 8 months |
| 1959 | 2021 | 66 and 10 months |
| 1960 or later | 2022 or later | 67 |

**Source:** Social Security Administration, Office of the Chief Actuary, "Normal Retirement Age," at http://www.ssa.gov/OACT/progdata/nra.html.

## Adjustments for Early and Late Benefit Claim

Retired workers may claim benefits when they turn 62 years old, but the longer that they wait, the higher their monthly benefit. The higher monthly benefit is intended to offset the fewer number of payments that people who delay claim will receive over their lifetimes, so that the total value of lifetime benefits is approximately the same regardless of when they claim based on average life expectancy.

The permanent reduction in monthly benefits that applies to people who claim *before* the FRA is called an actuarial reduction. It equals 6⅔% per year for the first three years of early claim and 5% for additional years.[10]

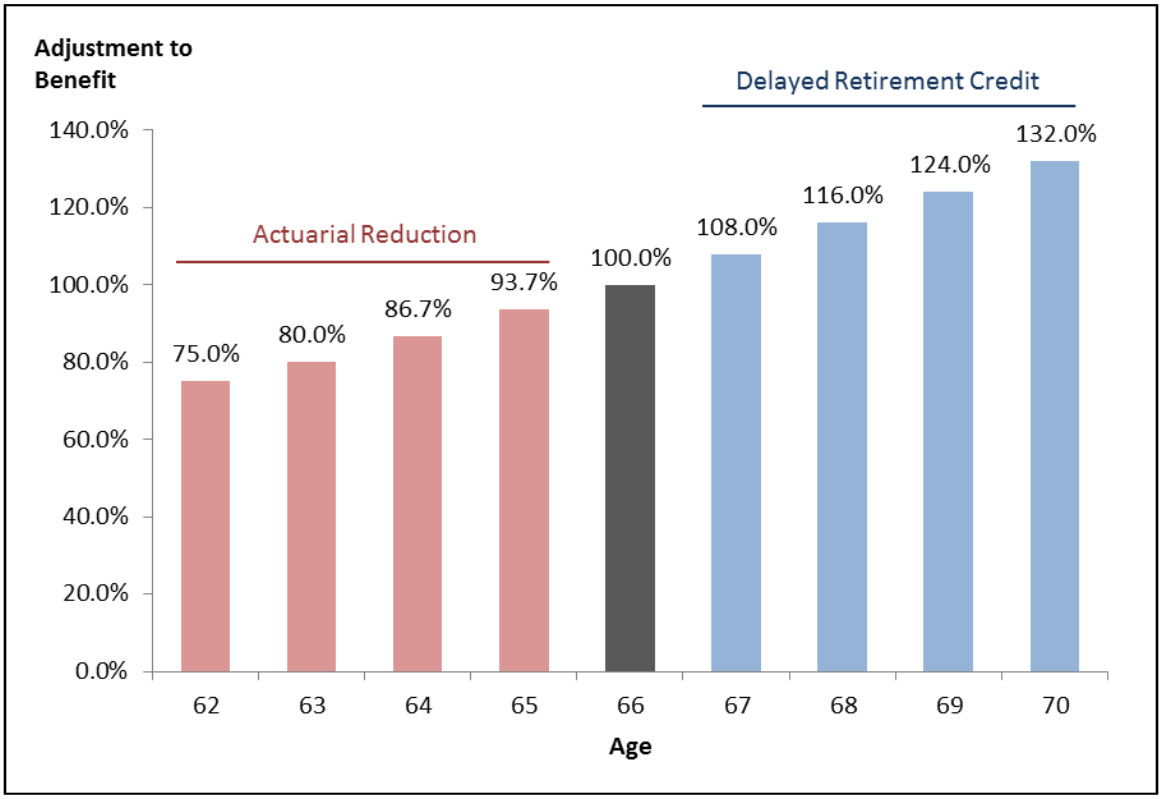
[10] Technically, the actuarial reduction is five-ninths of 1% for each month up to 36 months of benefit entitlement before the FRA and five-twelfths of 1% for each month beyond 36 months.

The permanent increase in monthly benefits that applies to those who claim *after* the FRA is called the delayed retirement credit. For people born in 1943 and later, that credit is 8% for each year of delayed claim after the FRA, up to age 70.[11]

For people with an FRA of 66, therefore, monthly benefits are 75% of the PIA for those who claim benefits at the age of 62 and 132% of the PIA for people who wait until the age of 70 to claim (see **Figure 2**). Because people who claim earlier receive more payments over a lifetime, the overall effect of claiming at different ages depends on how long the beneficiary lives. For example, someone who dies at 71 years old would be better off claiming early, but someone who survives to 95 would be better off claiming late.

**Figure 2. Monthly Retirement Benefit by Claim Age**

Percentage of Primary Insurance Amount (PIA), for People with a Full Retirement Age of 66




**Source:** CRS.

An increase in the FRA can result in lower benefits in two ways. First, monthly benefits will be different for individuals who have identical work histories and the same age of claiming benefits, but who have different FRAs. For example, someone with an FRA of 66 and who claims at age 62 will receive a monthly benefit equal to 75% of the PIA. For someone with an FRA of 67, claiming at 62 will result in a monthly benefit that is 70% of the PIA. Depending on the claim age, the scheduled increase in the FRA from 66 to 67 will reduce monthly benefits by between 6.1% and 7.7%. Second, lifetime benefits will be different for workers who have identical work histories and identical age of death, but different FRAs. For example, consider two workers who

[11] For people born before 1943, the delayed retirement credit varies from 3.0% to 7.5%, depending on the year of birth. See "Delayed Retirement Credit" in Social Security Administration, Office of the Chief Actuary, "Early or Late Retirement?," at http://www.ssa.gov/OACT/quickcalc/early_late.html#late.

have FRAs of 65 and 67, respectively, both of whom claim at their FRA, and thus receive identical monthly benefits. If both workers die at age 75, the worker with an FRA of 65 will have received monthly benefits for 10 years, compared with the worker with an FRA of 67, who will have received monthly benefits for 8 years.

# Dependent Benefits

Social Security benefits are payable to the spouse, divorced spouse, or dependent child of a retired or disabled worker and to the widow(er), divorced widow(er), dependent child, or parent of a deceased worker.[12] When dependent beneficiaries also earned worker benefits, they receive the larger of the worker or the dependent benefit.

A spouse's base benefit (that is, before any adjustments) equals 50% of the worker's PIA. A widow(er)'s base benefit is 100% of the worker's PIA. The base benefit for children of a retired or disabled worker is 50% of the worker's PIA, and the base benefit for children of deceased workers is 75% of the worker's PIA.

# Other Adjustments to Benefits

Other benefit adjustments apply in certain situations, notably

- the *windfall elimination provision* (WEP), which reduces benefits for *worker* beneficiaries who have pensions from employment that was not subject to Social Security payroll taxes;[13]
- the *government pension offset* (GPO), which reduces Social Security *spousal* benefits paid to people who have pensions from employment that was not subject to Social Security payroll taxes;[14]
- the *retirement earnings test*, which results in a withholding of monthly Social Security benefits paid to beneficiaries who are younger than the full retirement age and have earnings above a certain level;[15] and
- the *maximum family benefit*, which limits the amount of benefits payable to a family based on a worker's record.[16]

In some cases, a portion of Social Security benefits may be subject to federal income tax. Taxation is not a benefit adjustment, but it does affect the net income of beneficiaries. For additional information, see CRS Report RL32552, *Social Security: Calculation and History of Taxing Benefits*.

[12] The computation of dependent benefits may be quite complex. For additional details and information on other dependent benefits, see "Benefits for the Worker's Family Members" in CRS Report R42035, *Social Security Primer*.

[13] See CRS In Focus IF10203, *Social Security: The Windfall Elimination Provision (WEP) and the Government Pension Offset (GPO)*.

[14] Ibid.

[15] See the Social Security Administration, Office of the Actuary, "Exempt Amounts Under the Earnings Test" at https://www.ssa.gov/oact/cola/rtea.html.

[16] See "Maximum Family Benefit Amount" in CRS Report R42035, *Social Security Primer*.

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