

Social Security: What Would Happen If the Trust Funds Ran Out?

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Summary

The Social Security trustees project that, under their intermediate assumptions and under current law, the Disability Insurance (DI) trust fund will become depleted in 2023 and the Old-Age and Survivors Insurance (OASI) trust fund will become depleted in 2035. Although the two funds are legally separate, they are often considered in combination. The trustees project that the combined Social Security trust funds will become depleted in 2034. At that point, revenue would be sufficient to pay only about 79% of scheduled benefits.

If a trust fund became depleted, there would be a conflict between two federal laws. Under the Social Security Act, beneficiaries would still be legally entitled to their full scheduled benefits. However, the Antideficiency Act prohibits government spending in excess of available funds, so the Social Security Administration (SSA) would not have legal authority to pay full Social Security benefits on time.

It is unclear what specific actions SSA would take if a trust fund were depleted. After insolvency, Social Security would continue to receive tax income, from which a majority of scheduled benefits could be paid. One option would be to pay full benefits on a delayed schedule; another would be to make timely but reduced payments. Social Security beneficiaries would remain legally entitled to full, timely benefits and could take legal action to claim the balance of their benefits.

Maintaining financial balance after trust fund insolvency would require substantial reductions in Social Security benefits, substantial increases in income, or some combination of the two. The trustees project that following insolvency of the combined funds in 2034, Congress could restore balance by reducing scheduled benefits by about 21%; the required reduction would grow gradually to 26% by 2090. Alternatively, Congress could raise the Social Security payroll tax rate from 12.4% to 15.7% following insolvency in 2034, then gradually increase it to 16.8% by 2090.

Trust-fund insolvency could be avoided if outlays were reduced or income increased sufficiently. The sooner Congress acts to adjust Social Security policy, the less abrupt the changes would need to be, because they could be spread over a longer period and would therefore affect a larger number of workers and beneficiaries. Even if changes were not implemented immediately, enacting them sooner would give workers and beneficiaries time to plan and adjust their work and savings behavior.

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Introduction

Each year when the Social Security trustees release their annual report, attention is focused on the projection of the year that the Social Security trust funds will become insolvent. In their 2016 report, the trustees project that, under their intermediate assumptions and under current law, the Disability Insurance (DI) trust fund will become depleted in 2023 and the Old-Age and Survivors Insurance (OASI) trust fund will do so in 2035.¹ Although the two funds are legally separate, they are often described in combination. The trustees project that the combined Social Security trust funds will become depleted in 2034.

Some Americans may believe that if the trust funds were depleted, Social Security would be unable to pay any benefits. In fact, in 2034, the first year of projected insolvency of the combined Social Security trust funds, the program is projected to have enough tax revenue to pay about 79% of scheduled benefits; that percentage would decline to 74% by the end of the 75-year projection period.

Although benefits would be paid in some form, it is unclear how the necessary reductions would be implemented, because the Social Security Act does not specify what would happen to benefits if a trust fund became depleted. One option would be to pay full benefits on a delayed schedule; another would be to make timely but reduced payments.

This report explains what the Social Security trust funds are and how they work. It describes the historical operations of the trust funds and the Social Security trustees' projections of future operations. It explains what could happen if Congress allowed the trust funds to run out. It also analyzes two scenarios that assume Congress waits until the moment of insolvency to act, showing the magnitude of benefit cuts or tax increases needed and how such changes would affect beneficiaries.

The Social Security Trust Funds²

How the Trust Funds Work

Social Security provides retirement, disability, and survivor benefits to qualifying workers and their families. These benefits are funded from two trust funds: the OASI trust fund and the DI trust fund.³ The two funds operate separately but are closely linked. Several times in the past, Congress has authorized the reallocation of the Social Security payroll tax rate to equalize the financial conditions of the two trust funds.⁴ In part because of those experiences, analysts often treat the two funds collectively.

¹ U.S. Congress, House Committee on Ways and Means, *The 2016 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, 114th Cong., 2nd sess., June 22, 2016, H.Doc. 114-145 (Washington: GPO, 2016), Table IV.B4, <https://www.ssa.gov/oact/tr/2016/index.html> (hereinafter “2016 Social Security Trustees Report”).

² See CRS Report RL33028, *Social Security: The Trust Funds*.

³ A *trust fund* is an accounting mechanism that records receipts designated for the specific purpose of the fund and the expenditures made to its beneficiaries.

⁴ For more information on payroll tax reallocations between the OASI and Disability Insurance (DI) trust funds, see CRS Report R43318, *The Social Security Disability Insurance (DI) Trust Fund: Background and Current Status*.

Trust Fund Receipts

The trust funds' primary source of income is the Social Security payroll tax, but they also receive income from federal income taxes on benefits and interest on the funds' balance. The payroll tax consists of a 12.40% tax on wages and self-employment income up to the taxable maximum, which is \$127,200 in 2017 and generally increases annually with average earnings growth in the economy.⁵ Of the 12.40% total, 10.03% is credited to the OASI trust fund and 2.37% to the DI trust fund.⁶ Some Social Security benefits paid to people with incomes above a certain threshold are subject to federal income tax.⁷ Most of the resulting revenue is credited to the Social Security trust funds, and some goes to Medicare's Hospital Insurance (HI) trust fund.⁸ In 2015, payroll taxes accounted for 86.4% of Social Security income, interest accounted for 10.1%, and income taxes on benefits accounted for 3.4%.⁹

Trust Fund Expenditures

In 2015, 98.8% of the trust funds' expenditures paid for benefits. Administrative expenses accounted for 0.7% of expenditures. The remaining 0.5% was transferred to the Railroad Retirement Board (RRB) as part of a financial interchange with the RRB.¹⁰ This annual exchange of funds places the Social Security trust funds in the same financial position in which they would have been if railroad service had been covered by Social Security.

Annual Surpluses and Deficits

In years when Social Security's total receipts, including interest, exceed expenditures, then the trust funds have a *surplus*. By law, that surplus is invested in special issue U.S. Treasury securities, which are backed by the full faith and credit of the federal government.¹¹ In other words, Social Security's cash surpluses are borrowed by the general fund of the U.S. Treasury. The Treasury, in turn, incurs an obligation to repay the bonds with interest.

When the trust funds spend more than they receive in taxes and interest, they have a *deficit*, which requires Social Security to redeem bonds accumulated in previous years. Treasury pays benefits with cash from general revenues and writes down an equivalent amount of the trust fund's bond holdings.¹²

An alternative measure of the trust funds' finances is given by the *cash-flow* balance. That measure does not consider interest income, so the trust funds run a *cash-flow surplus* when tax

⁵ 26 U.S.C. §§1401, 3101, and 3111. See Social Security Administration (SSA), Office of the Chief Actuary (OACT), "Contribution and Benefit Base," <https://www.ssa.gov/oact/cola/cbb.html>.

⁶ 42 U.S.C. §401(b). Both the total rate and the allocation between OASI and DI have changed many times; for historical rates, see SSA, "Social Security Taxes Rates," <https://www.ssa.gov/oact/progdata/oasdiRates.html>.

⁷ See CRS Report RL32552, *Social Security: Calculation and History of Taxing Benefits*.

⁸ For more information on Medicare's HI trust fund, see CRS Report R43122, *Medicare Financial Status: In Brief*.

⁹ SSA, OACT, "Trust Fund Data," <http://www.ssa.gov/OACT/ProgData/funds.html>. The remaining 0.04% came from transfers from the federal government's general fund, which occurred for several different reasons.

¹⁰ See CRS Report RS22350, *Railroad Retirement Board: Retirement, Survivor, Disability, Unemployment, and Sickness Benefits*.

¹¹ See CRS Report RS20607, *Social Security: Trust Fund Investment Practices*.

¹² For more information on the operations of the trust funds, see David Pattison, "Social Security Trust Fund Cash Flows and Reserves," *Social Security Bulletin*, vol. 75, no. 1 (February 2015), <https://www.ssa.gov/policy/docs/ssb/v75n1/index.html>.

income exceeds expenditures, and they run a *cash-flow deficit* when they spend more than they receive in taxes.

Trust Fund Solvency

If the trust funds are not able to pay all of current expenses out of current tax income and accumulated trust fund assets, they are *insolvent*. Insolvency means that Social Security's trust funds are unable to pay benefits in full and on time. It does *not* mean that Social Security will be completely broke and unable to pay any benefits.

Historical Trust Fund Operations

The OASI trust fund was created by the Social Security Amendments of 1939 (P.L. 76-379) and superseded the Old-Age Reserve Account established by the original Social Security Act in 1935 (P.L. 74-271).¹³ The DI trust fund was established as part of the Social Security Amendments of 1956 (P.L. 84-880)—the same legislation that created DI.¹⁴ Neither of the Social Security trust funds has ever become insolvent. In 2015, the OASI trust fund had a surplus of \$51.0 billion, and the DI trust fund had a deficit of \$28.0 billion, for a combined surplus of \$23.0 billion, including interest.¹⁵ Interest income for the combined funds was \$93.3 billion, so on a cash-flow basis, there was a combined 2015 *deficit* of \$70.3 billion.¹⁶ At the end of 2015, the combined trust funds had total assets of \$2.8 trillion.¹⁷

Cash-Flow Surpluses and Deficits

The trust funds have run annual surpluses in most years. Except for the first decades of the program and a few years beginning in the late 1960s, these annual surpluses were typically small relative to the size of the trust funds' expenditures. Beginning in 1975, the combined trust funds ran annual deficits.¹⁸ The trust funds made up the difference between income and outgo during these years by redeeming some of the bonds accumulated in earlier years. In other words, in those years, the Social Security trust funds received net transfers from the Treasury's general fund.

Near-Insolvency of the OASI Trust Fund in the Early 1980s

The Social Security trust funds have never been depleted. However, in the early 1980s, a solvency crisis loomed for the OASI trust fund. The 1982 Social Security Trustees Report projected that in the absence of legislative changes the OASI trust fund would become insolvent by July 1983.¹⁹ To relieve the pressure on the OASI trust fund temporarily, Congress permitted

¹³ The OASI trust fund became effective on January 1, 1940. For more information on the origins of the OASI trust fund and the Old-Age Reserve Account, see Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund, *First Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Fund*, January 3, 1941, <https://www.ssa.gov/oact/tr/historical/1941TR.html>.

¹⁴ The DI trust fund was established on August 1, 1956. For more information on the origins of the DI trust fund, see CRS Report R43318, *The Social Security Disability Insurance (DI) Trust Fund: Background and Current Status*.

¹⁵ SSA, OACT, "Financial Data for a Selected Time Period," <https://www.ssa.gov/OACT/ProgData/allOps.html>.

¹⁶ Ibid.

¹⁷ Ibid. At the end of 2015, the OASI trust fund had assets of \$2.8 trillion and the DI trust fund had assets of \$32.3 billion.

¹⁸ See CRS Report RL33028, *Social Security: The Trust Funds*.

¹⁹ U.S. Congress, House Committee on Ways and Means, *The 1982 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, 97th Cong., 2nd sess., April 1, (continued...)

the fund to borrow from the DI and HI trust funds.²⁰ Money was transferred to the OASI fund in 1982 and repaid by 1986. Interfund borrowing authority expired at the end of 1987.²¹

This temporary measure allowed policymakers time to develop a more sustainable solution to Social Security's solvency problem. The Social Security Amendments of 1983 (P.L. 98-21) increased Social Security income and reduced spending. As a result, the combined trust funds ran significant surpluses, which on average exceeded a quarter of outlays from 1987 to 2009.

The aging of the baby-boom population and the recent recession and subsequent weak economy have resulted in higher outlays and lower tax revenues for Social Security. Since 2010, the combined trust funds have run cash-flow deficits, which are projected to continue indefinitely under current law. However, because interest income has exceeded the cash-flow deficit, the combined trust funds have continued to run surpluses, which averaged 6% of total outlays from 2010 through 2015.

Cash-flow deficits do not affect Social Security directly. However, if the non-Social Security portion of the federal budget is in deficit, redemption of trust fund bonds puts additional pressure on the overall federal budget.

Recent Near-Insolvency of the DI Trust Fund²²

In their 2012-2015 annual reports, the trustees projected that the DI trust fund would be depleted in late 2016 (see **Table A-1** in the **Appendix**). At the end of 2015, the balance of the DI trust fund was \$32.3 billion, down from \$60.2 billion at the start of the year.²³ The declining solvency of the DI trust fund was the result of an imbalance between the fund's income and cost. Over the past 20 years, tax revenues to the DI trust fund were relatively flat as a percentage of taxable payroll, while cost as a share of taxable payroll grew markedly.²⁴ The increase in cost stemmed largely from the growth in the number of beneficiaries in the program.²⁵ Between 1995 and 2015, the number of disabled-worker beneficiaries increased by 113% from nearly 4.2 million to more than 8.9 million.²⁶ (The number of disabled-worker beneficiaries has since decreased to 8.8 million.)²⁷

On November 2, 2015, President Barack Obama signed into law the Bipartisan Budget Act of 2015 (BBA 2015; P.L. 114-74). Among its many provisions, the BBA 2015 authorized a temporary reallocation of the Social Security payroll tax rate between the OASI and DI trust

(...continued)

1982, H.Doc. 97-163 (Washington: GPO, 1982), p. 2, <https://www.ssa.gov/oact/tr/historical/1982TR.pdf> (hereinafter "1982 Social Security Trustees Report").

²⁰ P.L. 97-123.

²¹ The interfund borrowing authority authorized by P.L. 97-123 expired at the end of 1982. The Social Security Amendments of 1983 (P.L. 98-21) reauthorized interfund borrowing among the three trust funds until the end of 1987; however, this authority was never exercised. For more information, see Bruce D. Schobel, "Interfund Borrowing Under the Social Security Act," *Social Security Bulletin*, vol. 46, no. 9 (September 1983), <https://www.ssa.gov/policy/docs/ssb/v46n9/>.

²² See CRS Report R43318, *The Social Security Disability Insurance (DI) Trust Fund: Background and Current Status*.

²³ SSA, OACT, "Time Series for Selected Financial Items," <https://www.ssa.gov/oact/ProgData/tsOps.html>.

²⁴ *Taxable payroll* is the total amount of earnings in the economy that is subject to Social Security payroll taxes (with some adjustments).

²⁵ See CRS Report R43054, *Social Security Disability Insurance (SSDI) Reform: An Overview of Proposals to Manage the Growth in the SSDI Rolls*.

²⁶ SSA, OACT, "Benefits Paid by Type of Beneficiary," <https://www.ssa.gov/oact/ProgData/icp.html>.

²⁷ *Ibid.* Data are for September 2016.

funds to provide DI with a larger share for 2016 through 2018. Specifically, the DI trust fund's share of the combined tax rate increased by 0.57 percentage points at the beginning of 2016, from 1.80% to 2.37%. Because the BBA 2015 did not change the combined payroll tax rate of 12.40%, the portion of the tax rate allocated to OASI decreased by a corresponding amount. This means that OASI's share of the combined tax rate declined by 0.57 percentage points at the start of 2016, from 10.60% to 10.03%. For 2019 and later, the shares allocated to the DI and OASI trust funds are scheduled to return to their 2015 levels: 1.80% to the DI trust fund and 10.60% to the OASI trust fund. The trustees project that the temporary reallocation of the payroll tax rate will extend the solvency of the DI trust fund from 2016 to 2023.

Social Security Financial Projections

This report focuses on the trustees' "intermediate" Social Security projections, which reflect their "best estimates" of future demographic and economic trends.²⁸ Under that set of assumptions, the DI trust fund is depleted in 2023 and the OASI trust fund is depleted in 2035.²⁹ Considered on a hypothetical combined basis, the trust funds would become insolvent in 2034. However, the trustees' projections—like all long-term projections—are uncertain. They estimate that there is a 10% chance that the combined trust funds would become insolvent in 2031 or earlier and a 10% chance that insolvency would occur in 2040 or later.³⁰ Using somewhat different assumptions and projection methods, the Congressional Budget Office (CBO) projects that the combined trust funds will become insolvent in 2029.³¹

Even after insolvency, the trust funds will continue to receive income from payroll taxes and income taxes on benefits that will allow some benefits to be paid. The trustees project that, under their intermediate assumptions, tax income will be sufficient to cover about 79% of scheduled benefits following insolvency of the combined trust funds in 2034, declining to 74% in 2090.

Trust Fund Ratio

To put the trust fund balance in context, analysts commonly consider the trust fund ratio: the balance in the trust funds at the beginning of a year divided by projected outlays for that year. The trust fund ratio thus represents the proportion of a year's cost that could be paid solely with the reserves at the beginning of the year. The ratio for the combined trust funds peaked at 358% at the end of 2008. The combined trust fund ratio declined to 311% at the end of 2015 and is continuing to fall. By definition, the ratio will reach zero when the trust funds become depleted.

As shown in **Figure 1**, the DI trust fund ratio is projected to increase over the next several years because of the temporary reallocation of the payroll tax rate between the trust funds. The

²⁸ To estimate the future financial status of the trust funds, the Social Security trustees produce short-range and long-range actuarial projections under three sets of economic and demographic assumptions: intermediate, low-cost, and high-cost. Intermediate assumptions represent the trustees' best estimate of the financial condition of the trust funds in the future. The low-cost and high-cost sets of assumptions, on the other hand, depict extraordinarily favorable (low-cost) or unfavorable (high-cost) possibilities for the trust funds' future solvency. According to the trustees, "actual future costs are unlikely to be as extreme as those portrayed by the low-cost and high-cost projections" (2016 Social Security Trustees Report, p. 9). Unless otherwise specified, projections cited in this report are based on the trustees' intermediate assumptions.

²⁹ 2016 Social Security Trustees Report, Table IV.B4.

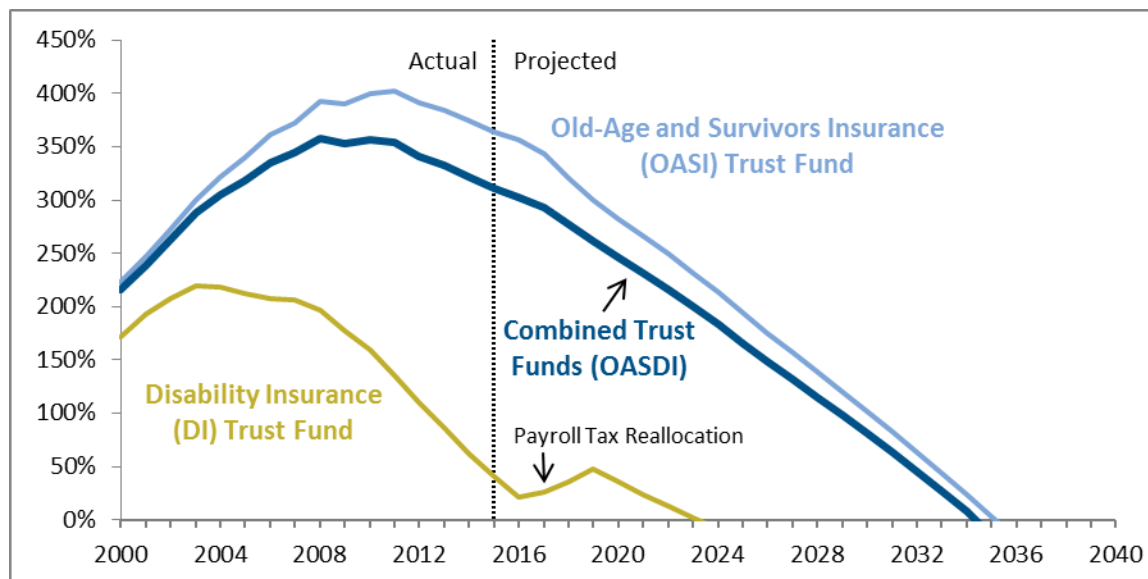
³⁰ Ibid., Table VI.E1.

³¹ U.S. Congressional Budget Office (CBO), *The 2016 Long-Term Budget Outlook*, July 12, 2016, p. 29, <https://www.cbo.gov/publication/51580>. Under its 2016 extended baseline and under current law, CBO projects that the DI trust fund will become depleted in FY2022 and the OASI trust fund will become depleted in calendar year 2030.

reallocation will accelerate the declining solvency of the OASI trust fund slightly but will have no effect on the solvency of the hypothetical combined trust funds.

Figure 1. Actual and Projected Social Security Trust Fund Ratios, 2000-2040

(trust fund assets at the beginning of the year as a share of annual cost)



Source: CRS, based on U.S. Congress, House Committee on Ways and Means, *The 2016 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, 114th Cong., 2nd sess., June 22, 2016, H.Doc. 114-145 (Washington: GPO, 2016), Table IV.B4, <https://www.ssa.gov/oact/tr/2016/index.html>.

Notes: Projections are based on the trustees' 2016 intermediate assumptions.

Legal Background on Trust Fund Insolvency

The Antideficiency Act

The Social Security Act specifies that benefit payments shall be made *only* from the trust funds (i.e., accumulated trust fund assets).³² Another law, the Antideficiency Act, prohibits government spending in excess of available funds.³³ Consequently, if the Social Security trust funds become insolvent—that is, if current tax income and accumulated assets are not sufficient to pay the benefits to which people are entitled—the law effectively prohibits full Social Security benefits from being paid on time.

Legal Entitlement to Social Security Benefits

The Social Security Act states that every individual who meets program eligibility requirements is entitled to benefits.³⁴ Social Security is an *entitlement program*, which means that the federal government is legally obligated to pay Social Security benefits to all those who are eligible for

³² 42 U.S.C. §401(h).

³³ 31 U.S.C. §1341.

³⁴ 42 U.S.C. §§402 and 423.

them as set forth in the statute.³⁵ If the federal government fails to pay the benefits stipulated by law, beneficiaries could take legal action. Insolvency would not relieve the government of its obligation to provide benefits.

What Happens to Benefits in the Case of Insolvency?

The Antideficiency Act prohibits government agencies from paying for benefits, goods, or services beyond the limit authorized in law for such payments. The authorized limit in law for Social Security benefits is the balance of the trust fund. The Social Security Act does not stipulate what would happen to benefit payments if the trust funds ran out. As a result, either full benefit checks may be paid on a delayed schedule or reduced benefits would be paid on time.³⁶ In either case, total payable benefits would be lower than scheduled benefits.

To see how a delay could affect beneficiaries, consider the current Social Security benefit payment schedule, shown in **Table 1**. (This schedule may be changed at the discretion of the commissioner of Social Security.)³⁷

Table 1. Current Social Security Benefit Payment Schedule

Benefits Paid On	Birth Date of Worker on Whose Record Benefits Are Paid
Third of every month	Any birth date for: (1) Social Security beneficiaries who also receive Supplemental Security Income benefits or who reside in a foreign country, and (2) Most beneficiaries who began to receive benefits prior to June 1997.
Second Wednesday	1 st to 10 th day of the month
Third Wednesday	11 th to 20 th day of the month
Fourth Wednesday	21 st to 31 st day of the month

Source: CRS, based on 20 C.F.R. §404.1807 and Social Security Administration, “Cyclical Payment of Social Security Benefits,” <http://ssa.gov/OACT/ProgData/cyclicalpay.html>.

Note: For beneficiaries scheduled to receive payments on the third of the month, benefits may be paid earlier if the third is on a weekend or holiday.

New beneficiaries’ payment dates are generally based on their day of birth—for example, if a retired worker was born on the first of the month (e.g., June 1), his or her benefit payment is made on the second Wednesday in the month.³⁸ If trust fund insolvency caused delays in the payment schedule, benefit payments could be made in the usual order—first to those who receive benefits on the third of the month, then to those on the second Wednesday of the month, and so on, until the remainder of the trust funds’ balance reached zero. At that point, no benefits could be

³⁵ However, Congress retains the right to modify provisions of the Social Security Act at any time, which could affect the benefits current and future beneficiaries may receive (42 U.S.C. §1304). For more details, see CRS Report RL32822, *Social Security Reform: Legal Analysis of Social Security Benefit Entitlement Issues*.

³⁶ The 1982 Trustees Report, which projected impending trust fund insolvency, stated that unless legislative changes were made, “inability to pay some benefits *on time* would result” (1982 Social Security Trustees Report, p. 2 [emphasis added]). That language suggests that after insolvency, full benefit payments would have been made on a delayed schedule. The 2016 report uses more neutral language, stating that after insolvency, the trust funds would be “unable to pay scheduled benefits in full on a timely basis” (2016 Social Security Trustees Report, p. 6).

³⁷ 20 C.F.R. §404.1807. For the rationale behind the current payment schedule, see SSA, “Cycling Payment of Social Security,” 62 *Federal Register* 6114-6121, February 11, 1997, <https://www.gpo.gov/fdsys/pkg/FR-1997-02-11/pdf/97-3205.pdf>.

³⁸ For beneficiaries who receive Social Security benefits based on another person’s work record (e.g., spousal benefits), their payment date depends on the birth date of the worker on whose record they receive benefits. The current benefit payment schedule was first implemented for new beneficiaries in May 1997.

paid until more tax receipts were credited to the trust funds. Then benefit payments could be picked up where they left off when the trust funds ran out. This cycle could continue indefinitely. The timing of these payments would be unpredictable.

What If Congress Waits to Act?

There are many options to restore Social Security solvency, which could be combined or targeted in a variety of ways. For example, Congress could decrease Social Security benefits.³⁹ Benefit cuts could be applied proportionately to all beneficiaries or structured to protect certain people, such as disabled or low-income beneficiaries. Congress could also increase Social Security's income by raising payroll or other taxes or by transferring funds from the Treasury's general fund. Payroll tax increases could be applied proportionately to all workers or targeted to certain workers, such as those who earn more than the taxable maximum (\$127,200 in 2017).

The next section presents two policy options that could be implemented after the trust funds' combined balance fell to zero to ensure a balanced system in later years:

- the *benefit cut scenario*, under which benefits would be cut across the board; and
- the *tax increase scenario*, under which the payroll tax rate would increase.

Both scenarios assume that current law would remain in place until the combined trust funds became insolvent. If changes were made sooner, they could be smaller, since the burden of lower benefits or higher taxes would be shared by more beneficiaries or workers over a longer period.⁴⁰ Either scenario would essentially convert Social Security to a pure pay-as-you-go system, in which income and outgo are equal on an annual basis and there are no trust fund assets. These scenarios are only two of a wide range of possibilities.

Benefit Cut Scenario

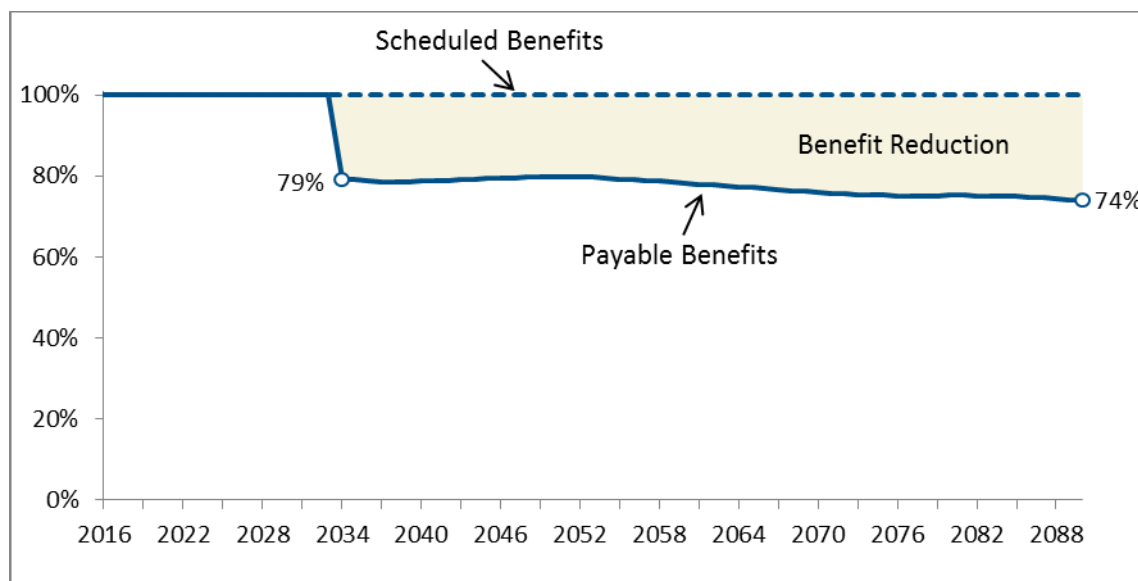
Size of Benefit Cuts

If the trust funds were allowed to run out, Congress could eliminate annual cash-flow deficits by cutting benefits so that spending equals tax income on an annual basis. According to the trustees, achieving annual balance would require benefit cuts of 21% in 2034, the first year of insolvency, rising to 26% by 2090. To maintain balance after 2090, the Social Security trustees project that larger benefit reductions would be needed, because people would continue to live longer and therefore collect benefits for longer periods. **Figure 2** shows the percentage of scheduled benefits that are payable each year with scheduled revenues.

³⁹ Reducing administrative costs, which account for 1% of total Social Security outlays, would have little effect on overall spending.

⁴⁰ The trustees estimate that 75-year solvency could be restored through (1) an immediate payroll tax increase of 2.58 percentage points (from the current 12.40% to 14.98%), (2) a benefit reduction of 16% for all current and future beneficiaries, (3) a benefit reduction of 19% for all those who become initially eligible for benefits in 2016 or later, or (4) some combination of those approaches. If Congress waited until 2034 to act, the trustees estimate that maintaining solvency over the 75-year projection period would require (1) a payroll tax increase of 3.58 percentage points (from the current 12.40% to 15.98%) starting in 2034, (2) a reduction in scheduled benefits of 21% starting in 2034, or (3) some combination of those approaches. See 2016 Social Security Trustees Report, pp. 5-6.

Figure 2. Payable Benefits as a Share of Scheduled Benefits Under Current Law, 2016-2090



Source: CRS, based on memorandum from Daniel Nickerson, actuary, and Kyle Burkhalter, actuary, to Chris Chaplain, supervisory actuary, and Karen Glenn, deputy chief actuary, "Present-Law OASDI Payable Percentages: Present-Law Revenue as a Percent of the Cost of Providing Scheduled Benefits Through Year 2090," August 2, 2016.

Notes: Projections are based on the trustees' 2016 intermediate assumptions. In calculating the share of payable benefits, SSA's Office of the Chief Actuary limits income from the taxation of benefits to the amount that would be obtained from the payable benefits.

One way to understand how such a reduction would affect beneficiaries is to examine the effect on projected replacement rates and real benefit amounts for hypothetical workers.

Replacement Rates

One way of measuring the adequacy of Social Security benefits is the *replacement rate*, the ratio of a person's benefit to past earnings. Replacement rates can be calculated in different ways. This report uses the methodology employed by SSA's actuaries, which is to calculate a worker's initial Social Security benefit as a percentage of the worker's average indexed monthly earnings.⁴¹ Social Security was established to replace income lost to a family as a result of the retirement, death, or disability of a worker. To ensure that average benefit levels grow along with average wages—thus keeping replacement rates generally steady—initial Social Security benefits are indexed to wage growth. Historically, wages have generally risen faster than prices, allowing the standard of living to rise from one generation to the next.

Figure 3 shows projected replacement rates under the benefit cut scenario for hypothetical low, medium, and high earners who claim retirement benefits at the age of 65 from 2016 through

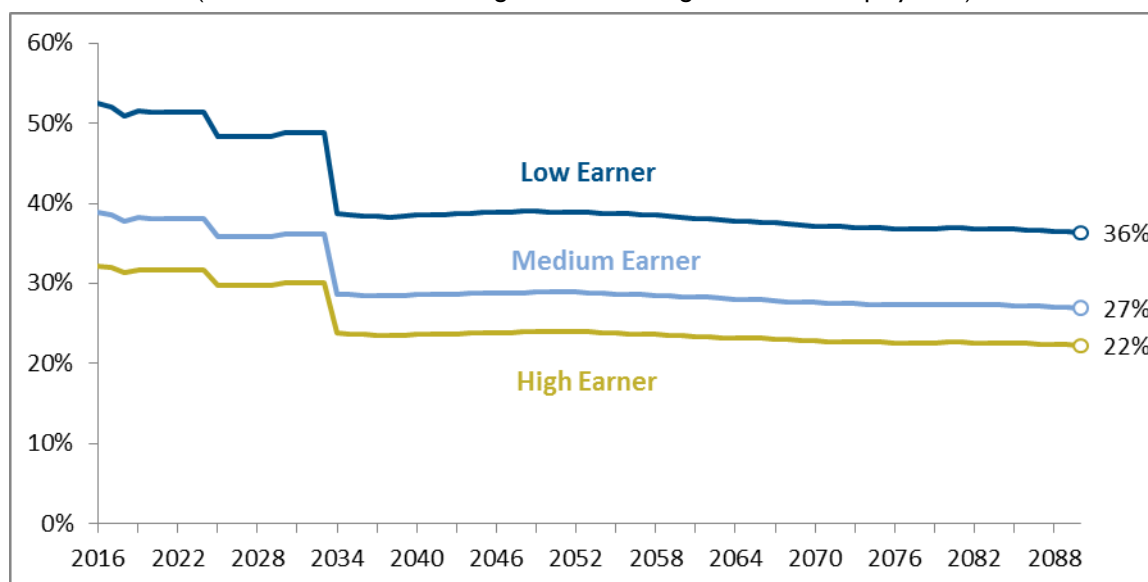
⁴¹ This formula uses the highest 35 years of earnings covered by Social Security, indexed to wage growth using the SSA's Average Wage Index (AWI). Other ways to measure replacement rates are discussed in Andrew G. Biggs and Glenn R. Springstead, "Alternate Measures of Replacement Rates for Social Security Benefits and Retirement Income," *Social Security Bulletin*, vol. 68, no. 2, October 2008, <http://www.ssa.gov/policy/docs/ssb/v68n2/v68n2p1.html>, and in SSA, OACT, *Replacement Rates For Retirees: What Makes Sense For Planning And Evaluation?*, Actuarial Note 155, July 2014, at http://www.ssa.gov/OACT/NOTES/pdf_notes/note155.pdf.

2090.⁴² The Social Security benefit formula is progressive, so the replacement rate is higher for people with lower lifetime earnings in covered employment than for people with higher lifetime earnings. In 2016, the estimated rates are 53% for low earners, 39% for medium earners, and 32% for high earners.⁴³

Between 2016 and 2025, replacement rates for people aged 65 are projected to decrease by about 10% because of the scheduled increase in the full retirement age (FRA).⁴⁴ Thereafter, the FRA would remain 67, and *scheduled* replacement rates would remain steady. But when the trust funds become depleted, *payable* benefits and replacement rates would fall immediately by 21%.

Figure 3. Replacement Rates Under the Benefit Cut Scenario, 2016-2090

(benefits as a share of average lifetime earnings in covered employment)



Source: CRS, based on 2016 Payable Benefits Memo and SSA, OACT, *Replacement Rates for Hypothetical Retired Workers*, Actuarial Note 2016.9, June 2016, <https://www.ssa.gov/oact/NOTES/ran9/an2016-9.pdf>.

Notes: Projections are based on the trustees' 2016 intermediate assumptions. Replacement rates are for hypothetical earners who claim retirement benefits at age 65.

Because lower earners have higher replacement rates, the 21% reduction would result in a larger *percentage point* reduction in replacement rates for low earners than for high earners. The replacement rate for low earners would fall from 49% in 2033 to 39% in 2034, a decline of 10 percentage points. In contrast, the replacement rate for high earners would fall from 30% in 2033 to 24% in 2034, a 6-percentage-point drop.

⁴² The low earner is assumed to have earned 45% of the national average wage (or \$22,105 in 2016) when working and to receive an annual Social Security benefit of \$11,270 in 2016. The medium earner is assumed to have earned the average wage (or \$49,121 in 2016) and to receive a benefit of \$18,579 in 2016. The high earner is assumed to have earned 160% of the average wage (or \$78,594 in 2016) and to receive a benefit of about \$24,628 in 2016. For information on the development of the hypothetical workers, see SSA, OACT, *Internal Rates of Return Under the OASDI Program for Hypothetical Workers*, Actuarial Note 144, June 2001, <http://www.ssa.gov/OACT/NOTES/note2000s/note144.html>.

⁴³ See SSA, OACT, *Replacement Rates for Hypothetical Retired Workers*, Actuarial Note 2016.9, June 2016, <https://www.ssa.gov/OACT/NOTES/ran9/an2016-9.pdf>.

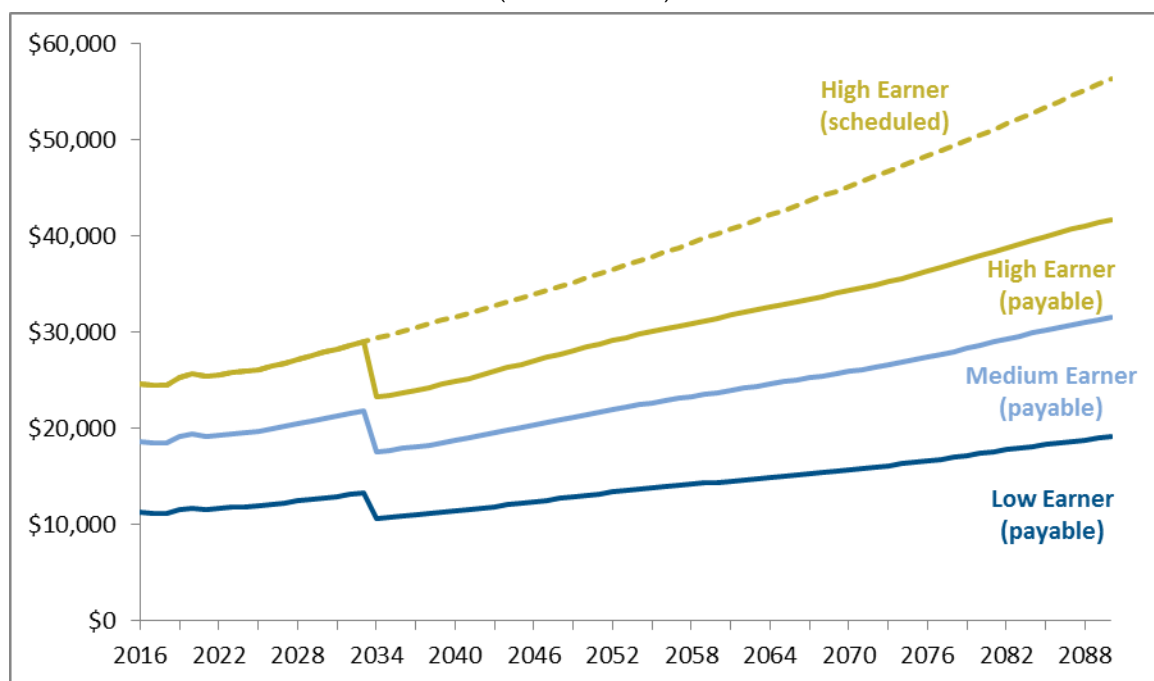
⁴⁴ The FRA is the age at which unreduced Social Security retirement benefits are first payable (currently 66). See CRS Report R44670, *The Social Security Retirement Age*.

Real Benefit Levels

Another measure of benefit adequacy is initial annual benefit amounts. Since benefits are based on workers' lifetime earnings, higher earners tend to receive higher benefit amounts than lower earners. In 2016, a hypothetical low earner is estimated to receive an annual Social Security benefit of \$11,270, a medium earner a benefit of \$18,579, and a high earner a benefit of \$24,628.⁴⁵

Figure 4 shows future initial real benefit amounts in 2016 dollars (i.e., after adjusting for inflation), which illustrates how the purchasing power of benefits will change over time. Because average real earnings generally grow over time, scheduled real benefits also grow. The trustees project that scheduled initial real benefit amounts for hypothetical individuals claiming retirement benefits at the age of 65 will increase by 19% between 2016 and 2034.⁴⁶

Figure 4. Initial Real Annual Payable Benefits Under the Benefit Cut Scenario, 2016-2090
(in 2016 dollars)



Source: CRS, based on 2016 Payable Benefits Memo and 2016 Social Security Trustees Report, Table V.C7.

Notes: Projections are based on the trustees' 2016 intermediate assumptions. Benefits are for hypothetical earners who claim retirement benefits at age 65. After insolvency, scheduled benefits would continue to increase because average real earnings are projected to continue to grow. Payable benefits would therefore also grow over time following the drop upon insolvency, though they would be permanently lower than scheduled benefits. For clarity, scheduled benefits are shown only for high earners.

Under the benefit cut scenario, real payable benefit levels are projected to drop by 21% after the trust funds become insolvent in 2034, then to once again rise gradually.⁴⁷ Under the trustees'

⁴⁵ 2016 Social Security Trustees Report, Table V.C7. Benefits in 2016 dollars with retirement at age 65.

⁴⁶ Ibid.

⁴⁷ Immediately before the trust funds become insolvent in 2034, annual scheduled real benefits for individuals retiring (continued...)

projections, benefits in 2035 would be 5% lower than they are today, but by 2040 they would again exceed today's levels and would continue to increase thereafter.

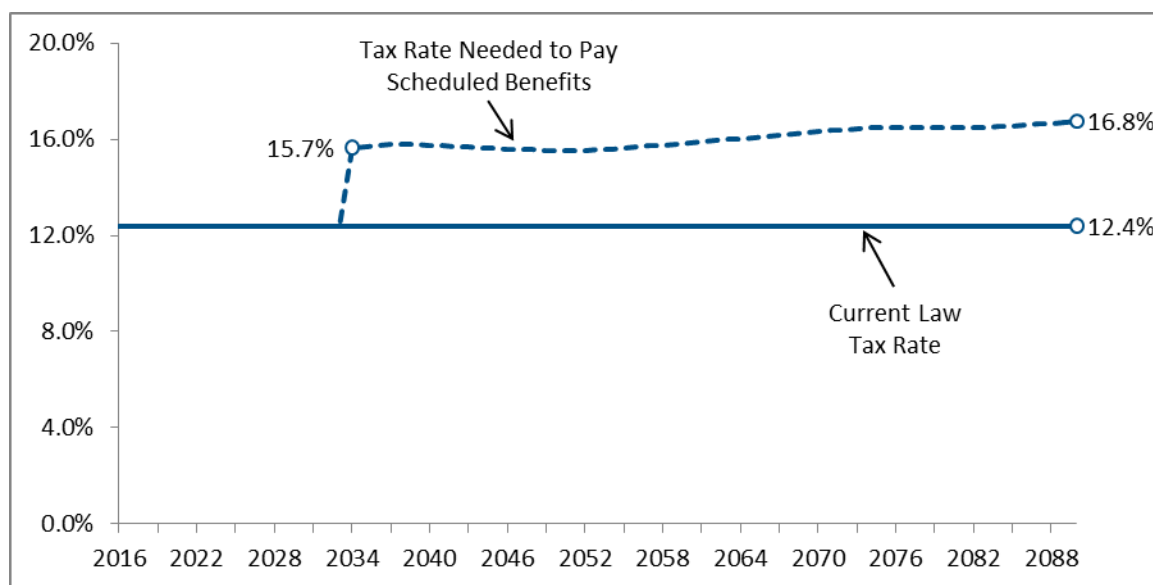
Payroll Tax Increase Scenario

Upon trust fund depletion, the system could also be balanced by raising the payroll tax rate so that the tax income would be sufficient to pay scheduled benefits each year.

Size of Payroll Tax Rate Increases

The trustees project that paying scheduled benefits after depletion in 2034 would require an increase in the combined employee and employer payroll tax rate from the current 12.4% to 15.7% after insolvency in 2034. To sustain balance, the payroll tax rate would have to reach 16.8% by 2090, the last year of the 75-year projection period.⁴⁸ **Figure 5** shows the combined payroll tax rate under current law and the combined payroll tax rate needed to pay scheduled benefits from 2016 to 2090.

Figure 5. Combined Payroll Tax Rate Under Current Law and Under the Payroll Tax Increase Scenario, 2016-2090



Source: CRS, based on the 2016 Social Security Trustees Report, Table IV.B1.

Notes: Projections are based on the trustees' 2016 intermediate assumptions. Under the trustees' projections, the current 12.4% combined payroll tax rate is sufficient to pay scheduled benefits prior to 2034 on a combined basis.

(...continued)

at age 65 are projected to be \$13,421 for the low earner, \$22,123 for the medium earner, and \$29,314 for the high earner. The annual payable real benefits would be 79% of these amounts.

⁴⁸ Alternatively, the payroll tax rate could be permanently increased by 3.58 percentage points starting in 2034 (from 12.40% to 15.98%) to maintain solvency over the 75-year projection period. See footnote 40.

Impact of Payroll Tax Increases

Raising the payroll tax rate would increase most workers' taxes by the same proportion. However, because covered earnings are taxable only up to a specified maximum (\$127,200 in 2017), the effective increase in the payroll tax would be smaller in percentage terms for people who earn more than the taxable maximum than for other workers. Unlike the federal income tax, the Social Security payroll tax is levied at a flat rate starting at the first dollar of earnings.

Conclusion

Under current law, the Social Security trust funds will almost certainly become insolvent. The sooner changes are made to the program, the smaller and less abrupt the changes would need to be to maintain solvency. Prompt action would also allow Congress to gradually phase in changes, rather than abruptly cutting benefits or raising taxes, thus allowing workers to plan in advance for their retirements.

Appendix. Key Dates Projected for the Social Security Trust Funds

Table A-1. Key Dates Projected for the Social Security Trust Funds as Shown Under the Intermediate Assumptions in Trustees Reports from 1983 to 2016

Year of Report	Year of Projected Depletion			Year That Cost First Exceeds Non-Interest Income			Year That Cost First Exceeds Total Income		
	OASI	DI	OASDI	OASI	DI	OASDI	OASI	DI	OASDI
Intermediate II-B Projections ^a									
1983	b	b	b	c	c	2021	c	c	2047
1984	b	2050	b	2021	2012	2021	2045	2038	2044
1985	2050	2034	2049	2019	2010	2019	2032	2020	2032
1986	2054	2026	2051	2020	2009	2019	2035	2017	2033
1987	2055	2023	2051	2020	2008	2019	2036	2013	2033
1988	2050	2027	2048	2019	2009	2019	2033	2016	2032
1989	2049	2025	2046	2019	2009	2018	2032	2014	2030
1990	2046	2020	2043	2019	2008	2017	2030	2011	2028
Intermediate Projections									
1991	2045	2015	2041	2018	1998	2017	2030	2011	2028
1992	2042	1997	2036	2018	1992	2016	2028	1992	2024
1993	2044	1995	2036	2019	1993	2017	2030	1993	2025
1994	2036	1995	2029	2016	1994	2013	2024	1994	2019
1995	2031	2016	2030	2014	2003	2013	2021	2007	2020
1996	2031	2015	2029	2014	2003	2012	2021	2007	2019
1997	2031	2015	2029	2014	2004	2012	2021	2007	2019
1998	2034	2019	2032	2015	2006	2013	2023	2009	2021
1999	2036	2020	2034	2015	2006	2014	2024	2009	2022
2000	2039	2023	2037	2016	2007	2015	2026	2012	2025
2001	2040	2026	2038	2016	2008	2016	2027	2015	2027
2002	2043	2028	2041	2018	2009	2017	2028	2018	2027
2003	2044	2028	2042	2018	2008	2018	2030	2018	2028
2004	2044	2029	2042	2018	2008	2018	2029	2017	2028
2005	2043	2027	2041	2018	2005	2017	2028	2014	2027
2006	2042	2025	2040	2018	2005	2017	2028	2013	2027
2007	2042	2026	2041	2018	2005	2017	2028	2013	2027
2008	2042	2025	2041	2018	2005	2017	2028	2012	2027
2009	2039	2020	2037	2017	2005	2016	2025	2009	2024

Year of Report	Year of Projected Depletion			Year That Cost First Exceeds Non-Interest Income			Year That Cost First Exceeds Total Income		
	OASI	DI	OASDI	OASI	DI	OASDI	OASI	DI	OASDI
2010	2040	2018	2037	2018	2005	2015	2026	2009	2025
2011	2038	2018	2036	2017	2005	2010	2025	2009	2023
2012	2035	2016	2033	2010	2005	2010	2023	2009	2021
2013	2035	2016	2033	2010	2005	2010	2022	2009	2021
2014	2034	2016	2033	2010	2005	2010	2022	2009	2020
2015	2035	2016	2034	2010	2005	2010	2022	2009	2020
2016	2035	2023	2034	2010	2019	2010	2022	2019	2020

Source: CRS, based on data from 1983-2016 Social Security Trustees Reports and information provided by SSA.

- a. From 1983 to 1990, two intermediate forecasts were prepared (II-A and II-B). The intermediate II-B forecast corresponds more closely to the intermediate forecast in subsequent years.
- b. Trust fund expected to remain solvent throughout the long-range projection period.
- c. Not available.

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