Social Security's financial outlook: The 2018 update in perspective

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CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

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SOCIAL SECURITY'S FINANCIAL OUTLOOK: THE 2018 UPDATE IN PERSPECTIVE

By Alicia H. Munnell*

Introduction

The 2018 Trustees Report shows virtually no change in the program's 75-year deficit: 2.84 percent of taxable payrolls in 2018 compared to 2.83 percent in 2017. Similarly, the trust fund is scheduled to run out of money in 2034, the same year projected in last year's report. One small piece of news is that Social Security's total cost will exceed its income (including interest) in 2018 for the first time since 1982 – an event that occurred a few years ahead of schedule.

A more noteworthy issue is that this report reflects the continuing absence of public trustees. My hope is that these slots will soon be filled. Public trustees have played an important role in overseeing the program and communicating its status to the public. Their continued absence reflects a failure with the political process, not with the program itself.

This *brief* updates the numbers for 2018 and puts the current report in perspective. It also briefly discusses recent developments on the fertility front and speculates about whether the current low levels of fertility are a temporary or permanent shift. If the fertility rate remains low, the deficit will be larger than shown in the current report. It also discusses the benefits of early versus late action.

The bottom line on Social Security's finances remains the same. Social Security's shortfall over the next 75 years, which has been evident for the last three decades, should be addressed sooner rather than later in order to share the burden more equitably across cohorts, restore confidence in the nation's major retirement program, and give people time to adjust to needed changes.

The 2018 Report

The Social Security actuaries project the system's financial outlook over the next 75 years under three sets of assumptions – high cost, low cost, and intermediate. Our focus is on the intermediate assumptions, which show the cost of the program rising rapidly to about 17 percent of taxable payrolls in 2039, at which point it declines slightly for a decade before drifting up toward 18 percent of taxable payrolls (see Figure 1 on the next page).

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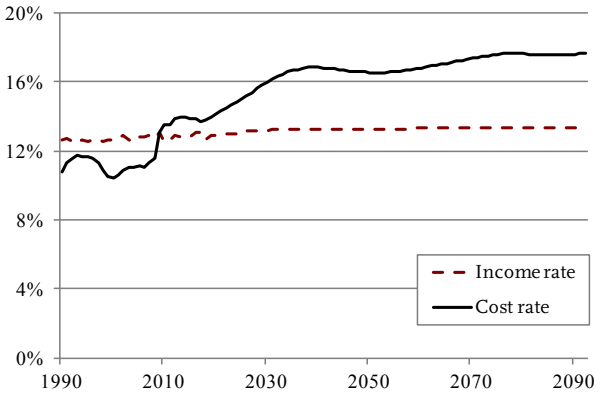
Figure 1. Social Security Income and Cost Rates as a Percentage of Taxable Payroll, 1990-2092



Source: 2018 Social Security Trustees Report, Table IV.B1.

The increase in costs is driven by the demographics, specifically the drop in the total fertility rate after the baby-boom period. The combined effects of a slow-growing labor force and the retirement of baby boomers reduce the ratio of workers to retirees from about 3:1 to 2:1 and raise costs commensurately. In addition, the long-term increase in life expectancies at the individual level causes costs to continue to increase even after the ratio of workers to retirees stabilizes. The increasing gap between the income and cost rates means that the system is facing a 75-year deficit.

The 75-year cash flow deficit is mitigated somewhat by the existence of a trust fund, with assets currently equal to roughly three years of benefits. These assets are the result of cash flow surpluses that began in response to reforms enacted in 1983. Before the Great Recession, these cash flow surpluses were expected to continue for several years, but the recession caused the cost rate to exceed the income rate in 2010 (see Table 1).

Table 1. Key Dates for Social Security Trust Fund

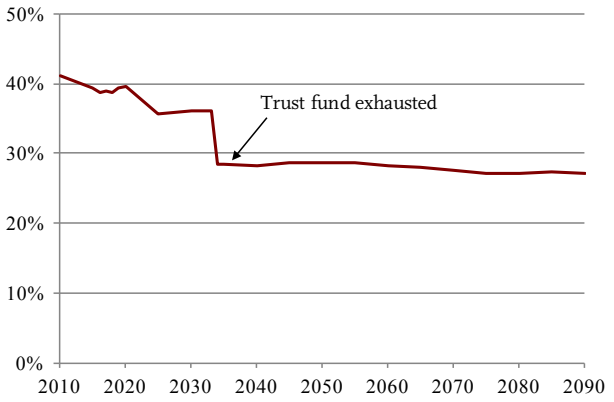
Event	2014	2015	2016	2017	2018
First year outgo exceeds income excluding interest	2010	2010	2010	2010	2010
First year outgo exceeds income including interest	2020	2020	2020	2021	2018
Assets are exhausted	2033	2034	2034	2034	2034

Source: 2014-2018 Social Security Trustees Reports.

This shift from annual surplus to deficit means that Social Security has been tapping the interest on trust fund assets to cover benefits sooner than anticipated. And, in 2018, taxes and interest are expected to fall short of annual benefit payments, which requires the government to begin drawing down trust fund assets to meet benefit commitments. The trust fund is then projected to be exhausted in 2034, the same year as in the last Trustees Report.

The exhaustion of the trust fund does not mean that Social Security is "bankrupt." Payroll tax revenues keep rolling in and can cover about 75 percent of currently legislated benefits over the remainder of the projection period. Relying on only current tax revenues, however, means that the replacement rate – benefits relative to pre-retirement earnings – for the typical age-65 worker would drop from 36 percent to 28 percent (see Figure 2) – a level not seen since the 1950s. (Note that the replacement rate for those claiming at age 65 is already scheduled to decline from 39 percent today to 36 percent because of the ongoing increase in the Full Retirement Age.)

Figure 2. Replacement Rate for the Medium Earner at Age 65 from Existing Revenues, 2010-2092



Source: Social Security Actuarial Note, Number 2018.9

Moving from cash flows to the 75-year deficit requires calculating the difference between the present discounted value of scheduled benefits and the present discounted value of future taxes plus the assets in the trust fund. This calculation shows that Social Security's long-run deficit is projected to equal 2.84 percent of covered payroll earnings. That figure means that if payroll taxes were raised immediately by

2.84 percentage points – 1.42 percentage points each for the employee and the employer – the government would be able to pay the current package of benefits for everyone who reaches retirement age through 2092, with a one-year reserve at the end.

At this point in time, solving the 75-year funding gap is not the end of the story in terms of required tax increases. Once the ratio of retirees to workers stabilizes and costs remain relatively constant as a percentage of payroll, any solution that solves the problem for 75 years will more or less solve the problem permanently. But, during this period of transition, any package that restores balance only for the next 75 years will show a deficit in the following year as the projection period picks up a year with a large negative balance. Policymakers generally recognize the effect of adding deficit years to the valuation period, and many advocate a solution that involves "sustainable solvency," in which the ratio of trust fund assets to outlays is either stable or rising in the 76th year. Thus, eliminating the 75-year shortfall should be viewed as the first step toward long-run solvency.

Some commentators cite Social Security's financial shortfall over the next 75 years in terms of dollars – $13.2 trillion (see Table 2). Although this number appears very large, the economy will also be growing. So dividing this number – plus a one-year reserve – by taxable payroll over the next 75 years brings us back to the 2.84 percent-of-payroll deficit discussed above.

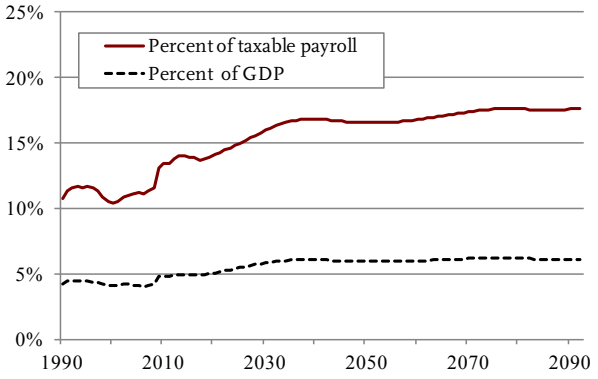
Table 2. Social Security's Financing Shortfall, 2018-2092

Period	Present value (trillions)	As a percentage of	
		Taxable payroll	GDP
2018-2092	$13.2*	2.7%	1.0%

* Adding $766 billion required for a one-year reserve cushion brings the deficit to 2.84 percent.
Source: 2018 Social Security Trustees Report, Table IV.B6.

The Trustees also report Social Security's shortfall as a percentage of Gross Domestic Product (GDP). The cost of the program is projected to rise from about 5 percent of GDP today to about 6 percent of GDP as the baby boomers retire (see Figure 3). The reason why costs as a percentage of GDP more or less stabilize – while costs as a percentage of taxable payroll keep rising – is that taxable payroll is projected to decline as a share of total compensation due to continued growth in health and retirement benefits.

Figure 3. Social Security Costs as a Percentage of GDP and Taxable Payroll, 1990-2092

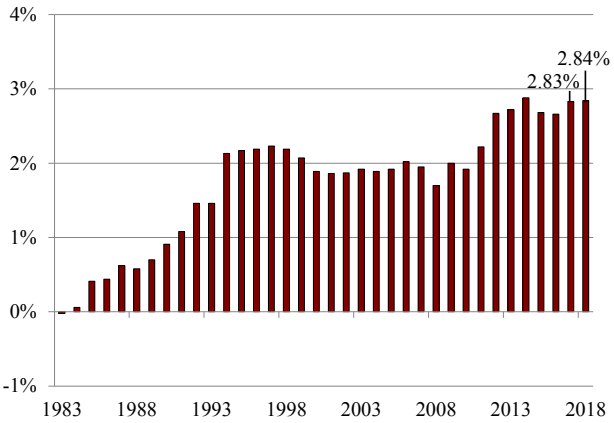


Source: 2018 Social Security Trustees Report, Figures II.D5 and IV.B1.

2018 Report in Perspective

The continued shortfall is in sharp contrast to the projection of a 75-year balance in 1983 when Congress enacted the recommendations of the National Commission on Social Security Reform (often referred to as the Greenspan Commission). Almost immediately after the 1983 legislation, however, deficits appeared and increased markedly in the early 1990s (see Figure 4).

Figure 4. Social Security's 75-Year Deficit as a Percentage of Taxable Payroll, 1983-2018



Sources: 1983-2018 Social Security Trustees Reports.

In the 1983 Report, the Trustees projected a 75-year actuarial surplus of 0.02 percent of taxable payroll; the 2018 Trustees project a deficit of 2.84 percent. Table 3 shows the reasons for this swing. Leading the list is the impact of changing the valuation period. That is, the 1983 Report looked at the system's finances over the period 1983-2057; the projection period for the 2018 Report is 2018-2092. Each time the valuation period moves out one year, it picks up a year with a large negative balance.

Table 3. Reasons for Change in the Actuarial Deficit, 1983-2018

Item	Change
Actuarial balance in 1983	0.02%
Changes in actuarial balance due to:	
Valuation period	-2.03
Economic data and assumptions	-0.94
Disability data and assumptions	-0.65
Other factors*	-0.02
Methods and programmatic data	0.40
Legislation/regulation	0.19
Demographic data and assumptions	0.19
Total change in actuarial balance	-2.86
Actuarial balance in 2018	-2.84

* Discrepancies due to rounding.
Source: Author's calculations based on earlier analysis by John Hambor, recreated and updated from *1983-2018 Social Security Trustees Reports*.

A worsening of economic assumptions – primarily a decline in assumed productivity growth and the impact of the Great Recession – has also contributed to the increase in the deficit. Another contributor to the increased actuarial deficit over the past 35 years has been increases in disability rolls.

Offsetting the negative factors has been a reduction in the actuarial deficit due to changes in demographic assumptions – primarily higher mortality for women. Legislative and regulatory changes have also had a positive impact on the system's finances. For example, the passage of the Affordable Care Act in 2010 was assumed to reduce Social Security's 75-year deficit by 0.14 percent, mainly through an expected increase in taxable wages by slowing the growth in the cost of employer-sponsored health insurance. Methodological improvements had the largest positive effect on the 75-year outlook.

Between 2017 and 2018, in the absence of any other changes, the Social Security deficit would have increased by 0.06 percentage points as a result of including the large negative balance for 2092 in the calculation. Most of this increase was offset by a 0.05-percentage-point saving through improvements in methodology and programmatic data. Recent declines in disability applications and awards also reduced the deficit by another 0.01 percentage points. A host of offsetting demographic and economic developments each raised the deficit by 0.1 percentage points.

Current Issues

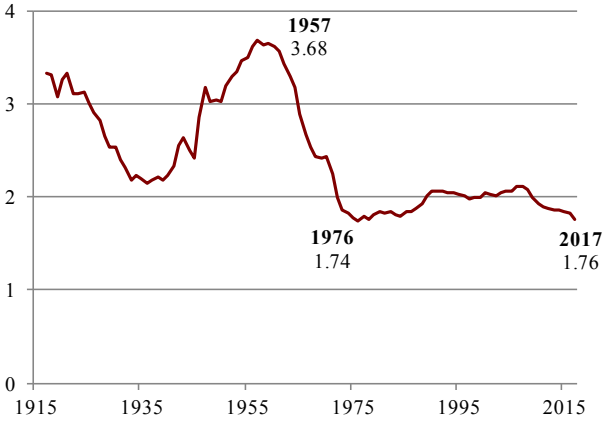
The most pressing current issue for the Social Security Trustees is how to think about the sharp decline in the total fertility rate. In addition, the case for making changes sooner rather than later remains an important issue.

Fertility Developments

The fertility rate determines the age structure of the population, the ratio of workers to retirees, and hence the finances of the Social Security program, which operates largely on a pay-as-you-go basis. Is the drop in recent years a response to the Great Recession or a permanent shift? And what would a permanent shift mean for Social Security?

The National Center for Health Statistics recently reported that, in 2017, the *birth rate* had declined to a record low. This measure has grabbed the attention of the press and politicians. The birth rate, however, can be affected by an aging population – 40-year-olds have fewer children than 20-year olds. A more relevant measure is the *total fertility rate* (TFR), which represents the average number of children that would be born to a woman throughout her reproductive years if she were to experience, at each point in her life, the birth rates currently observed at that age. The TFR, which is used in the Trustees Report projections, is now at 1.76, the second lowest rate in history (the rate was 1.74 in 1976) (see Figure 5 on the next page).

Figure 5. Total Fertility Rate (Hypothetical Lifetime Births per Woman) 1915-2017



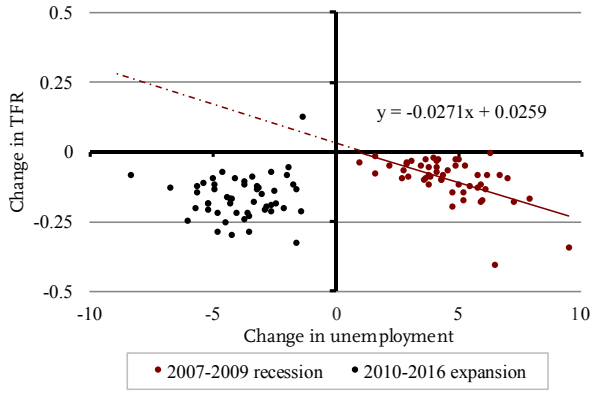
Source: Centers for Disease Control and Prevention, *U.S. National Vital Statistics Reports* (1915-2015); and Max Planck Institute for Demographic Research and Vienna Institute of Demography, *Human Fertility Database* (2016-2017).

The big debate is whether the drop in the TFR is a permanent shift or a temporary response to the Great Recession. Information from the state level provides some insights. Figure 6, which relates the change in the TFR for each state to the percentage-point change in the state's unemployment rate (lagged one year), shows a clear relationship between the size of the downturn and the state's TFR. As the unemployment rate rose when the Great Recession hit each state, the red dots show that the state's TFR declined.

Extending the relationship between changes in the unemployment rate and changes in the TFR to the recovery, one would expect the black dots representing the economic expansion to fall along the dashed line in the upper left hand quadrant of Figure 6. Instead, the black dots show that the reduction of the unemployment rate associated with the recovery has been accompanied by a further decline in the TFR – all the dots are in the lower left quadrant.

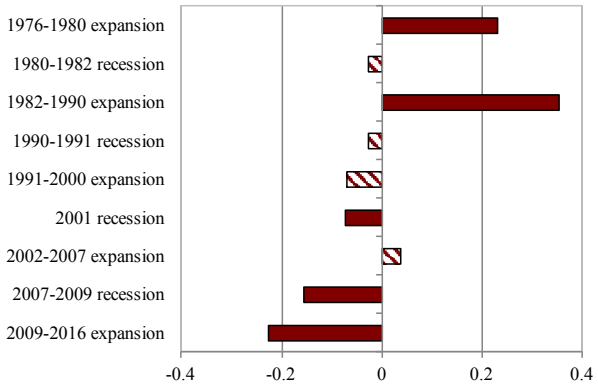
It could be that, in the United States, the TFR generally does not increase during recoveries. To understand the historical relationship between the U.S. economy and the TFR, Figure 7 presents estimates of the relationship between the change in the unemployment rate (lagged one year) and the change in fertility in the 50 states over the expansions and recessions during the period 1976-2016. The basic story is that the TFR goes down in recessions and up in expansions, with some anomalous results for the relatively mild cycle in the early 1990s. The pattern for the recent recovery is very different; fertility declined as the economy recovered, and in fact declined more than it had during the Great Recession.

Figure 6. Relationship between the Change in TFR and the Change in the Unemployment Rate During and After the Great Recession, by State



Note: Recession years are defined as the years between the peak and trough of real GDP for each state.
Source: Munnell, Chen, and Sanzenbacher (2018 forthcoming).

Figure 7. Estimate of the Effect of Business Cycles on the Change in TFR, 1976-2016



Note: The bars show the relationship between the change in the unemployment rate (lagged one year) and the change in fertility in the 50 states over expansions and recessions. Solid bars are statistically significant.
Source: Munnell, Chen, and Sanzenbacher (2018 forthcoming).

It seems hard to make the case at this point for a cyclical rebound in the TFR. Moreover, the TFR declined between 2001 – well before the Great Recession – and 2016 – well after the Great Recession. State regressions suggest that fertility is positively related to the percentage of women who are Hispanic and to the percentage of jobs that are predominantly male and negatively related to the percentage of women with a college degree and to low religiosity. The two big changes over this 16-year period are the decline in the fertility rate for Hispanics and the large increase in the percentage of women with a college degree. One might conclude that one does not need to appeal to the Great Recession to explain the decline in U.S. fertility in the 21st century.

This year's Trustees Report recognizes the weakness in the fertility numbers. Acknowledging that the TFR has not bounced back during this recovery, the Trustees eliminated a temporary rise above the ultimate assumed level that was in their previous projection. In addition, the lower fertility rate data for 2016 led the Trustees to lower the birth rates during the transition period to the ultimate levels. What the Trustees did not do is change the ultimate level of fertility – that number remains at 2.0.

If the TFR remains low, the Social Security deficit over the next 75 years will be higher than the current projection. For the first 25 years, a decline in fertility has little effect, but over the next 50 years the cost rate increases because lower fertility reduces the labor force more than it does the beneficiary population (see Table 4). For the 75-year period as a whole, a fertility rate of 1.8 rather than 2.0 raises the 75-year deficit by 0.41 percent of taxable payrolls.

Table 4. Sensitivity of OASDI Actuarial Balance to Fertility Assumptions

Valuation period	Ultimate fertility rate		
	1.8	2.0	2.2
25-year 2018-42	-1.75	-1.77	-1.78
50-year 2018-67	-2.61	-2.45	-2.29
75-year 2018-92	-3.25	-2.84	-2.46
75th year	-5.84	-4.32	-3.02

Source: 2018 Social Security Trustees Report, Table VI.D1.

Fixing Social Security Sooner Rather Than Later

The arguments for acting sooner rather than later are compelling. First, early action has important implications for distributing the burden across generations. The fact that the country has not taken any steps to restore balance since the substantial deficits first appeared in the 1990s means that most baby boomers have escaped completely from contributing to a solution. Second, eliminating the deficit will restore people's faith in the program and make them feel more secure about retirement. Third, early action allows workers to adjust their savings and retirement plans to offset any cuts.

What is not true, however, is that delay makes fixing the program more expensive. The reason delaying a fix *appears* more expensive is that the 75-period under consideration changes. For example, the 2018 Trustees Report shows that closing the 75-year deficit would require a 2.78-percentage-point payroll tax increase now compared to a 3.87-percentage-point increase in 2034, the year in which the Trust Fund is exhausted. (Note that the 2.78-percentage-point increase differs from the 2.84-percent deficit because it excludes the one-year reserve and includes some behavioral responses.)

The required tax increases are different because they reflect differences in the two 75-year projection periods. The 75-year period from 2018-2092 includes years when the Trust Fund still exists and the cost rate has not reached its maximum, as the ratio of retirees to workers is still increasing. The 75-period from 2034-2108 would no longer be buffered by a Trust Fund and the retiree/worker ratio will have plateaued at a high level. Thus, the cost of the later 75-year period is much higher than that of the earlier one.

The answer is very different if the period is held constant. Over the two periods combined – that is the years 2018-2108 – the cost is the same whether starting early or late (see Table 5 on the next page). Reforms beginning in 2018 would require a payroll tax increase of 2.78 percentage points until 2091, followed by an increase of 4.70 percentage points thereafter. Reforms beginning in 2034 would require a payroll tax increase of 3.87 percentage points from 2034-2108. Thus, regardless of the timing of the reform, the average percentage tax increase is the same over the 92-year period.

Table 5. Required Tax Increase to Cover Benefits, 2018-2108

	2017-2033	2034-2091	2092-2108	Annual avg. 2017-2108
Start in 2018	2.78%	2.78%	4.70%	3.15%
Start in 2034	0.00	3.87	3.87	3.15

Note: The 2.78-percentage-point tax increase differs from the 2.84-percent deficit in two ways: it excludes a one-year reserve and includes some behavioral responses.
Source: Author's calculations from *2018 Social Security Trustees Report*.

That said, raising the tax rate more gradually would have a less dramatic effect on the economy – adding one more reason to act sooner rather than later.

Conclusion

The 2018 Trustees Report confirms what has been evident for almost three decades – namely, Social Security is facing a long-term financing shortfall which equals 1.0 percent of GDP. The changes required to fix the system are well within the bounds of fluctuations in spending on other programs.

The major risk to the long-term finances not incorporated in this report is the possibility that fertility levels stay low. The Trustees have made some short-term adjustments to reflect the persistency of the decline, but retain a long-term total fertility rate assumption of 2.0.

Regardless of the ultimate number, stabilizing the system's finances should be a high priority to restore confidence in our ability to manage our fiscal policy and to assure working Americans that they will receive the income they need in retirement. The long-run deficit can be eliminated only by putting more money into the system or by cutting benefits. There is no silver bullet.

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