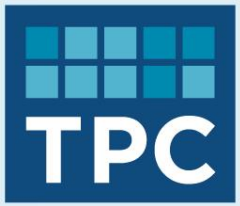

TAX POLICY CENTER
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TAX INCENTIVES FOR RETIREMENT SAVINGS

Eric Toder, Surachai Khitatrakun, and Aravind Boddupalli

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ABSTRACT

Federal tax law provides substantial tax incentives for retirement saving. These include the deferral of taxes on contributions to retirement savings accounts by employers, employees, and self-employed taxpayers and the earnings on these contributions until the funds are withdrawn in retirement for traditional retirement accounts; the exemption of investment income accrued within retirement accounts for Roth retirement accounts; and a retirement savings tax credit for low-income taxpayers. This chartbook explores the implications of current-law income tax incentives for retirement savings, illustrates alternative ways of measuring the tax benefits they generate, and analyzes the distributional impacts of alternative tax proposals to encourage retirement saving. We find that tax incentives for retirement saving provide the largest benefits as a share of income to upper-middle-income taxpayers.

Introduction

The tax law provisions that subsidize saving in tax-qualified retirement plans add up to one of the largest tax expenditures in the federal income tax. These plans promote saving within qualified plans by (1) exempting employee and employer contributions (net of withdrawals) to qualified retirement saving plans and the investment income accrued within these plans from federal income tax and (2) exempting employer contributions from earnings subject to federal payroll taxes. An alternative form of qualified plan, a Roth plan (named after its Congressional sponsor, Senator William Roth, R-DE) does not allow a deduction for contributions; it instead exempts from tax both investment income earned within a qualified plan and withdrawals from the plan in retirement. Federal tax law also includes a limited tax credit for contributions to qualified plans (the savers' credit).

Traditionally, US income tax law has allowed qualified plan treatment (exemption for net contributions to retirement plans and investment income within plans) for employer-sponsored defined-benefit plans that promise a retirement annuity to employees based on their years of service and average earnings during their final several years of employment with a firm. Employers could alternatively establish defined-contribution plans in which they contribute to an account owned by employees to accumulate savings for retirement. Since 1974, Congress has enacted measures that have expanded the types of vehicles eligible for these tax benefits, including retirement plans for the self-employed (Keogh plans), individual retirement accounts established by employees (IRAs), and employer-sponsored defined-contribution plans with voluntary employee contributions (401(k), 403(b), and 457 plans, depending on the type of employer). Congress also added Roth IRAs and Roth 401(k) plans to the menu of options for tax-favored retirement saving. These plans are subject to limits, such as on retirement income promised to employees (for defined-benefit plans) and on annual contributions (for defined-contribution plans). Further, employer-sponsored plans must meet tests to ensure broad participation within the firm, and IRA contributions for employees with pension plans are subject to income limits. Overall, although Congress has taken some measures to limit "top-heavy" plans (those that favor only the most highly paid employees), the general trend has been that tax benefits for qualified plans have expanded over time.

Participation in qualified plans is widespread, but many individuals do not participate in either a defined-benefit or defined-contribution plan. In general, the tax benefits are much more favorable to upper-middle income taxpayers than to others, because upper income taxpayers are more likely to have access to employer-sponsored plans, are more likely to participate in plans their employers offer, contribute more when they do participate, and benefit more per dollar of contribution because they would otherwise pay higher marginal tax rates on their exempt or deferred income. (Because of contribution limits, however, individuals in the top 1 percent of the income distribution on average receive less benefit as a share of income than others in the top quintile.) Moreover, disagreement persists about the how much these incentives promote additional saving rather than providing tax benefits to money people would have saved anyway. These concerns have led to proposals to place tighter limits on contributions to qualified plans and to replace deductions and exemptions with tax credits that provide relatively larger saving incentives to lower- and middle-income individuals.

In this chartbook, we illustrate the distributional effects of tax incentives for retirement saving using alternative methods for estimating the distribution of benefits. Measuring benefits from these provisions is challenging because, unlike most tax expenditures, qualified retirement plans change both the level and timing of tax liabilities. We then consider four alternatives for reforming the contribution to retirement saving plans:

- limiting the annual deduction for employee contributions to employer-sponsored defined-contribution plans to $15,000, with and without the current law additional $6,500 "catch-up" contribution for employees age 50 and over
- limiting the annual deduction for both employee and combined employer/employee contributions to employer-sponsored defined-contribution plans to $20,000, with and without the current law "catch-up" contribution provision
- replacing the deduction for employee contributions with a revenue-neutral nonrefundable tax credit (i.e., limited to income tax liability) and a revenue-neutral refundable tax credit
- allowing only Roth contributions to employer-sponsored defined-contribution plans and IRAs

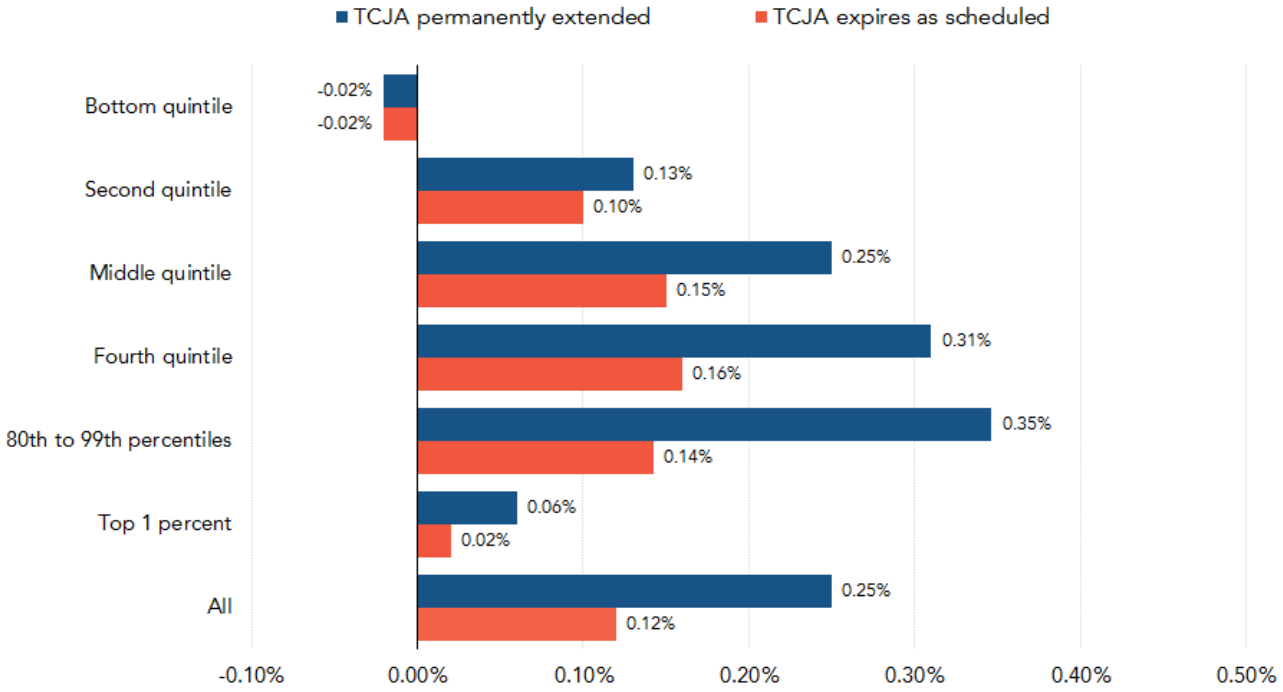
The following charts show the distributional effects of current tax expenditures for retirement saving and of these possible reforms. Figure 1 shows the distribution of net tax benefits for tax-deductible contributions (tax saving from current-year deductions less the net present value of taxes paid on future withdrawals associated with these deductions) to retirement saving plans. Figures 2 to 4 show the distributional effects of tax expenditures calculated in three different ways, and figure 5 compares the total size of the tax expenditure under these three methods. Figures 6 to 9 show the distributional effects of selected proposals to change retirement saving incentives.[1]

[1] The charts below were prepared prior to the decline in economic activity caused by the COVID-19 epidemic. They reflect economic conditions as projected by the Congressional Budget Office in January 2019.

FIGURE 1

Distribution of Deductions for New Retirement Savings Contributions

Benefit as a share of pretax income, by income level, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: TCJA = Tax Cuts and Jobs Act of 2017. Baseline is the law in place as of December 18, 2019. Figure shows tax savings from deductions to qualified retirement saving plans less the present-value of taxes on future withdrawals with and without the individual tax rate cuts in the TCJA permanently extended.

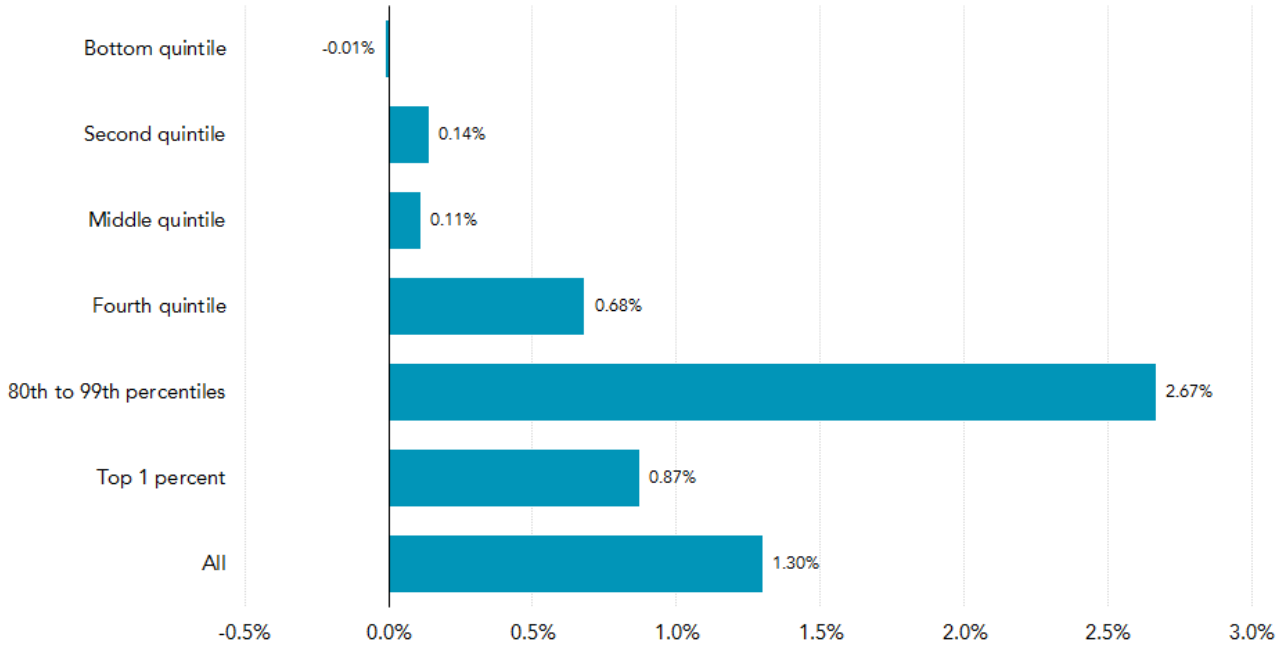
What is the Distribution of Net Tax Benefits for Current-Year Deductions to Retirement Saving Accounts?

- The net benefit of current-year deductions to retirement saving accounts is the tax saving from the deduction less the present value of taxes on post-retirement withdrawals of these contributions plus the earnings on them.
- The net benefit will be larger if the lower tax rates in the TCJA are permanent than if the rate cuts expire as scheduled at the end of 2025.
- If the TCJA's lower tax rates are extended after 2025, net tax benefits of the retirement contribution as a share of income will be highest for taxpayers in the 80th to 99th percentiles. If the tax cuts expire as scheduled, benefits as a share of income are highest between the 20th and 99th percentiles.

FIGURE 2

Distribution of Retirement Savings Tax Incentives

Benefit as a share of pretax income, by income level, Treasury/JCT method, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The Treasury/Joint Committee on Taxation (JCT) method estimates the tax expenditure as the sum of the tax saving from deductions for contributions to qualified retirement saving plans, the savers' credit, and the exemption of current income accrued within qualified plans minus the additional taxes if all withdrawals from qualified plans were taxable, accounting for all interactions among these provisions.

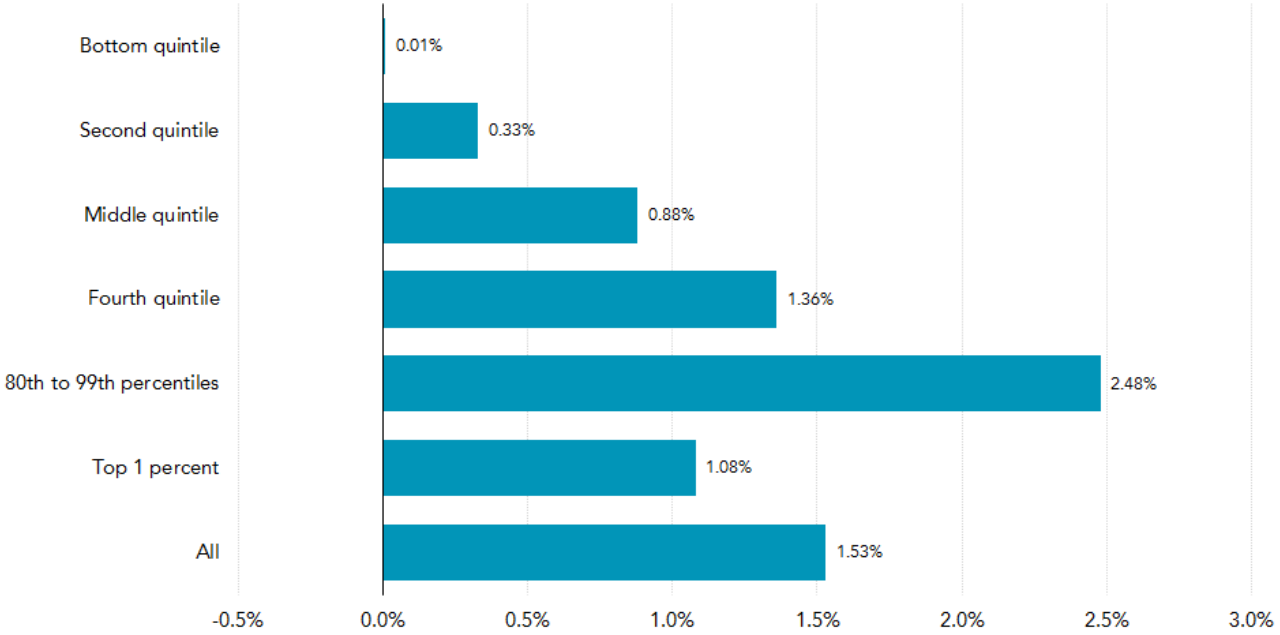
What is the Distribution of Benefits Using the Treasury/JCT Method for Estimating the Tax Expenditure?

- The Congressional Joint Committee on Taxation and the Treasury Department's Office of Tax Policy estimate the tax expenditure as the sum of the benefits from deducting current contributions and exempting income earned within retirement accounts, less taxes on current withdrawals by retirees.
- Using this method, the largest benefit as a share of income (2.67 percent) goes to taxpayers in the 80th to 99th percentiles; taxpayers in the bottom three quintiles receive little benefit. One reason for this is that taxes paid on withdrawals by current retirees with low current incomes outweigh the tax benefits of similarly low-income current workers' deductions and exemptions. However, pension recipients with low current incomes may have been in higher income groups when working.

FIGURE 3

Distribution of Retirement Savings Tax Incentives

Benefit as a share of pretax income, by income level, alternative cash-flow method, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The alternative cash-flow method estimates the tax expenditure as the tax saving from deductions for qualified retirement saving plans, net of the present value of future payments (assuming TCJA individual tax rates are permanently extended), the savers' credit, and the exemption of current income accrued within qualified plans, accounting for all interactions among these provisions.

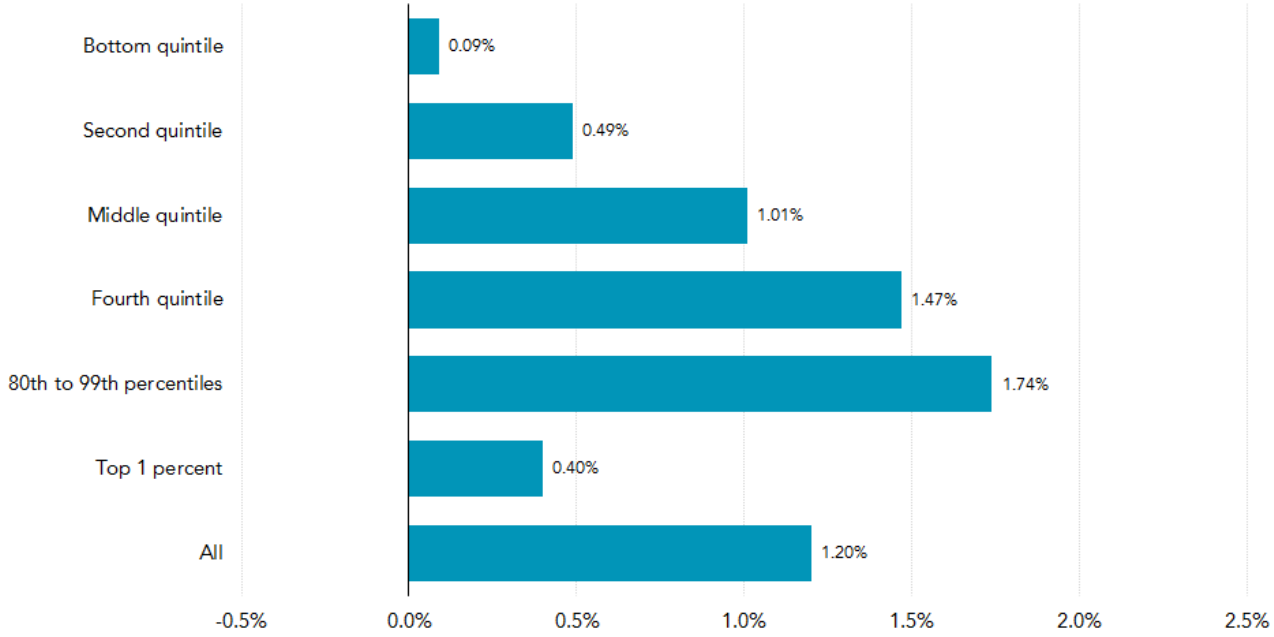
What is the Distribution of Benefits Using the Alternative Cash-Flow Method for Estimating the Tax Expenditure?

- This chart uses a modified method that assigns the present value of the taxes paid on future withdrawals to current contributors (instead of assigning the taxes to current retirees, as under the Treasury/JCT Method). The value of the tax benefits is the sum of the net benefit of deductions plus the benefit of exemption of income earned within retirement plans.
- Using this method, the largest benefit as a share of income (2.48 percent) still goes to taxpayers in the 80th to 99th percentiles, but taxpayers in all groups benefit.
- Taxpayers in the middle quintile receive a benefit equal to 0.88 percent of income, compared to 0.11 percent of income using the Treasury/JCT methodology.

FIGURE 4

Distribution of Retirement Savings Tax Incentives

Benefit as a share of pretax income, by income level, present value method, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The present value method estimates the difference between the present value of future retirement benefits from current-year contributions to retirement saving plans and the present value of retirement benefits if the same net amounts were saved outside of qualified retirement plans. The benefits of future taxes as a share of income are adjusted to account for a measure of the additional future income from current-year savings.

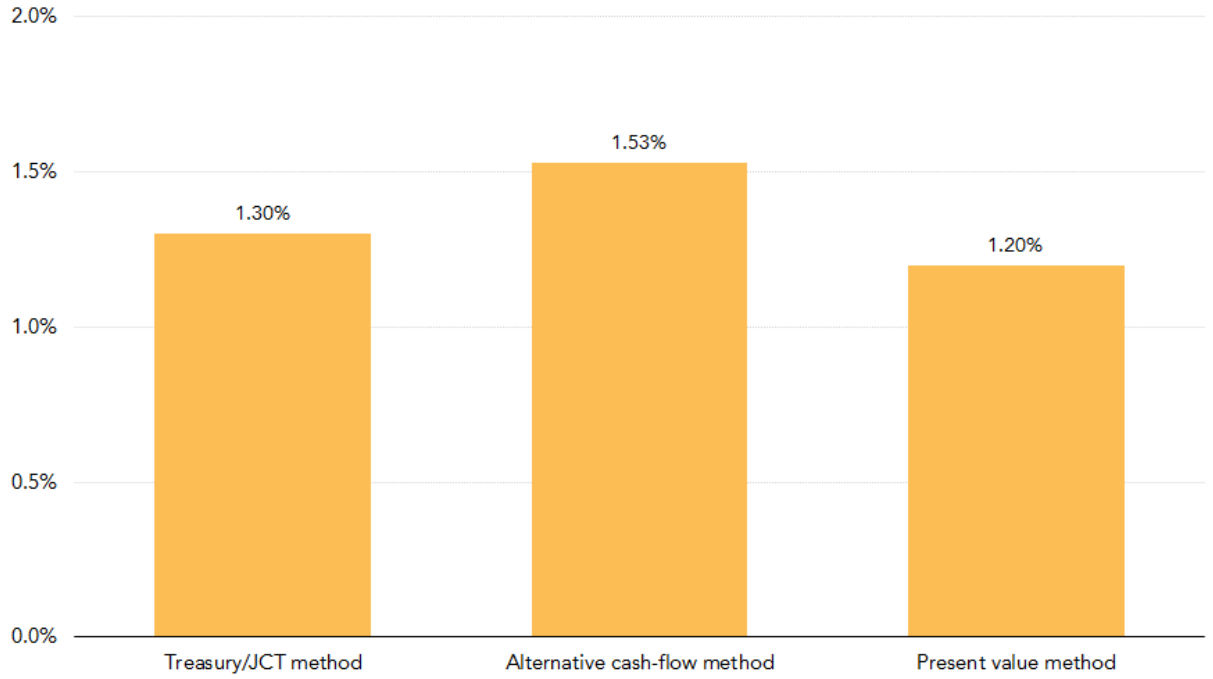
What is the Distribution of the Present Value of Current Contributions to Qualified Plans?

- This chart displays the benefit from the retirement saving tax preferences as the difference between the present value of retirement income generated by contributing to a qualified plan and the present value of retirement income if the same amount of saving were done outside of a qualified retirement plan.
- Under this method, all groups benefit but the largest benefit as a share of income (1.74 percent) goes to taxpayers in the 80th to 99th percentiles of the income distribution.

FIGURE 5

Comparison of Total Tax Benefit from Retirement Savings Tax Incentives

Benefit as a share of pretax income, all tax units, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. Figure shows comparison between retirement savings plan benefits as a share of income using three methods of measuring the tax expenditure.

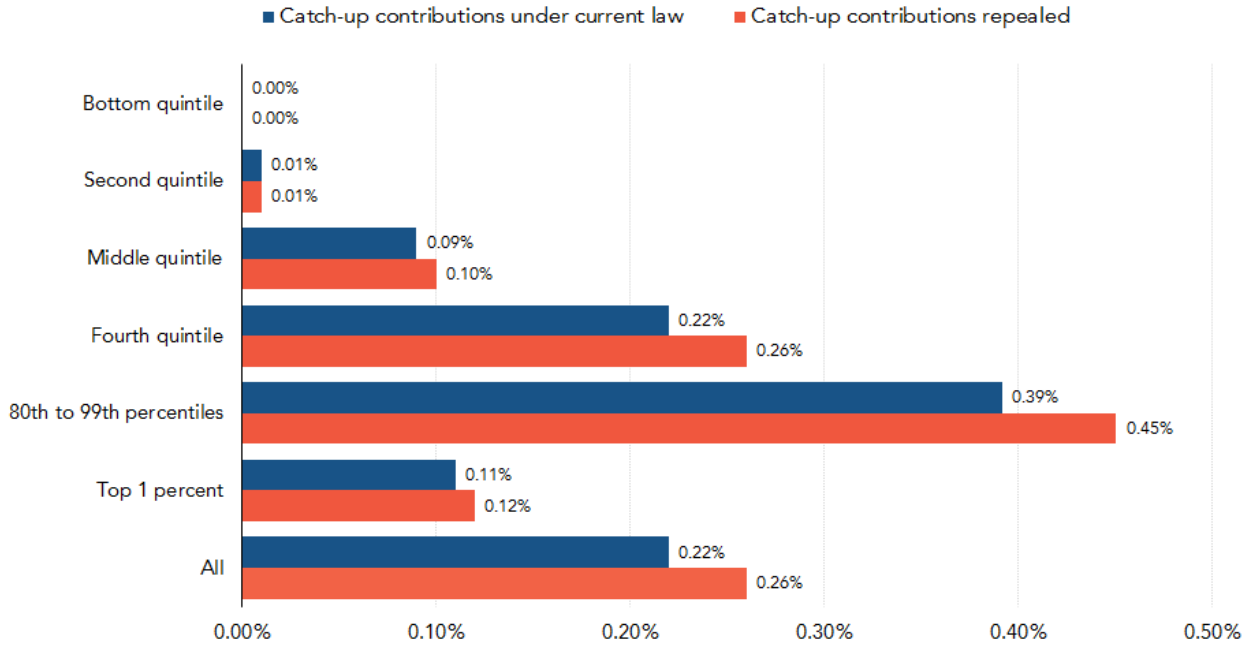
How does the size of the tax expenditure for retirement saving depend on the methodology used to estimate it?

- This chart compares the size of the tax expenditure for retirement saving as a share of income for the Treasury/JCT method, the alternative cash-flow method, and an estimate of the present value of benefits from current contributions.
- The size of the average estimated tax expenditure ranges from 1.20 percent of income using the present value method to 1.53 percent of income using the alternative cash-flow method of estimating the current-year tax expenditure.

FIGURE 6

Proposal to Limit Maximum Defined-Contribution to $15,000

Change in tax liability as share of pretax income, by income level, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would change the defined-contribution maximum contribution limitation and elective contribution limit before catch-up contributions to $15,000. Tax liability changes include not only current-year changes in income and payroll tax liabilities but also changes in future taxes related to current-year contributions under the baseline.

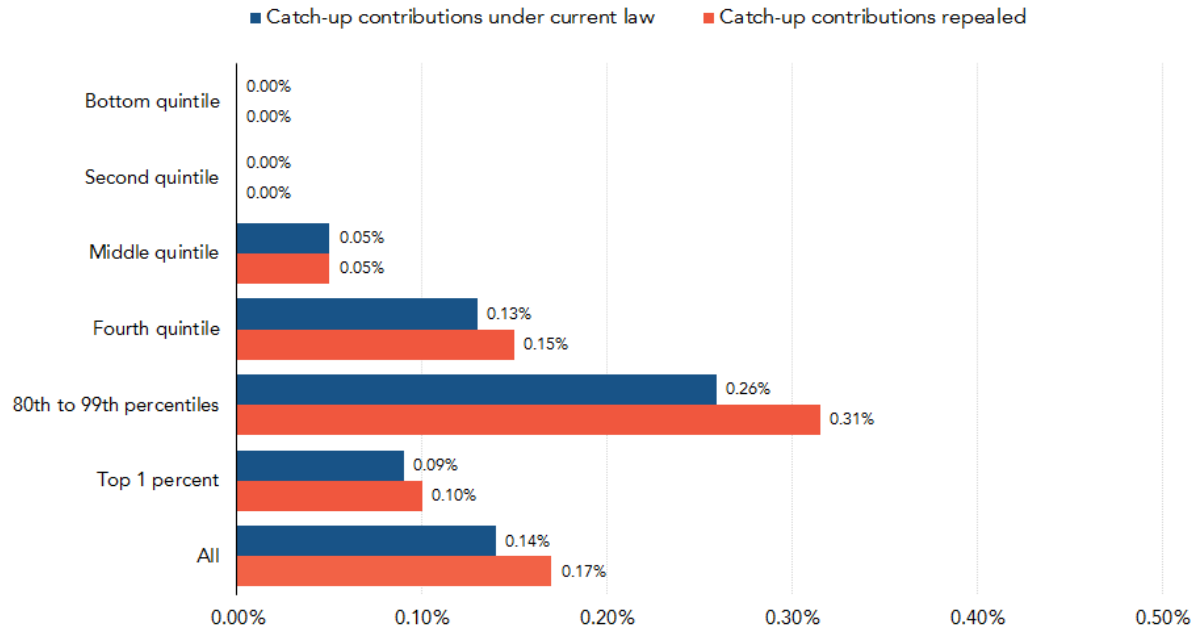
What Would be the Distribution of Additional Tax Burdens of a Proposal Limiting the Maximum Annual Individual Contribution in 2020 to $15,000?

- A $15,000 limit on combined employer and employee contributions per employee would raise taxes on average by 0.22 percent of income (0.39 percent for taxpayers in the 80th to 99th percentiles) if additional catch-up contributions for taxpayers age 50 and over were retained.
- If catch-up contributions were eliminated, the limit would raise taxes on average by 0.26 percent of income (0.45 percent in the 80th to 99th percentiles).

FIGURE 7

Proposal to Limit Maximum Defined-Contribution to $20,000

Change in tax liability as share of pretax income, by income level, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would change the defined-contribution maximum contribution limitation and elective contribution limit before catch-up contributions to $20,000. Tax liability changes include not only current-year changes in income and payroll tax liabilities but also changes in future taxes related to current-year contributions under the baseline.

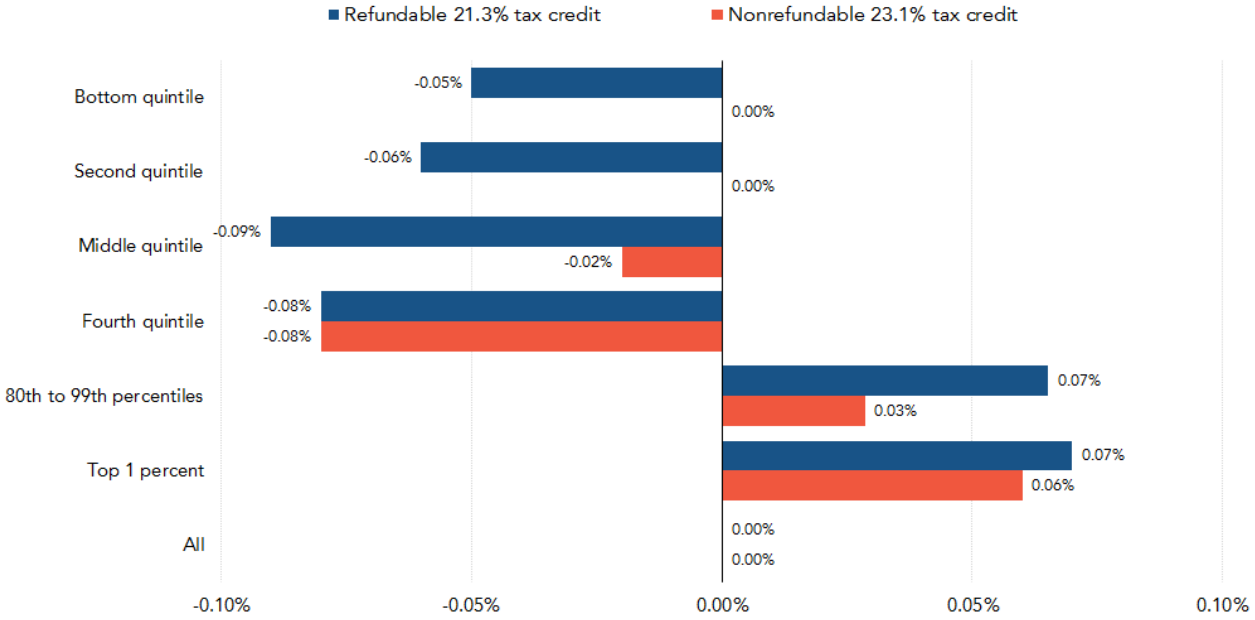
What Would be the Distribution of Additional Tax Burdens of a Proposal Limiting the Maximum Annual Individual Contribution in 2020 to $20,000?

- A $20,000 limit on combined employee and employer contributions per employee would raise taxes on average by 0.14 percent of income (0.26 percent for taxpayers in the 80th to 99th percentiles) if additional catch-up contributions for taxpayers age 50 and over were retained.
- If catch-up contributions were eliminated, the limit would raise taxes on average by 0.17 percent of income (0.31 percent in the 80th to 99th percentiles).

FIGURE 8

Proposal to Replace Deductible Defined-Contributions with Expanded Savers' Credit

Change in tax liability as share of pretax income, by income level, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would repeal the deduction of elective contributions for individual retirement accounts (IRAs), Keogh plans, and employer-sponsored defined-contribution accounts, and introduce a refundable or nonrefundable tax credit as a percentage of the eligible contributions. The revenue-neutral percentage in 2020 would be 21.3 percent for the refundable tax credit and 23.1 percent for the nonrefundable tax credit. Estimates assume no change in future taxes.

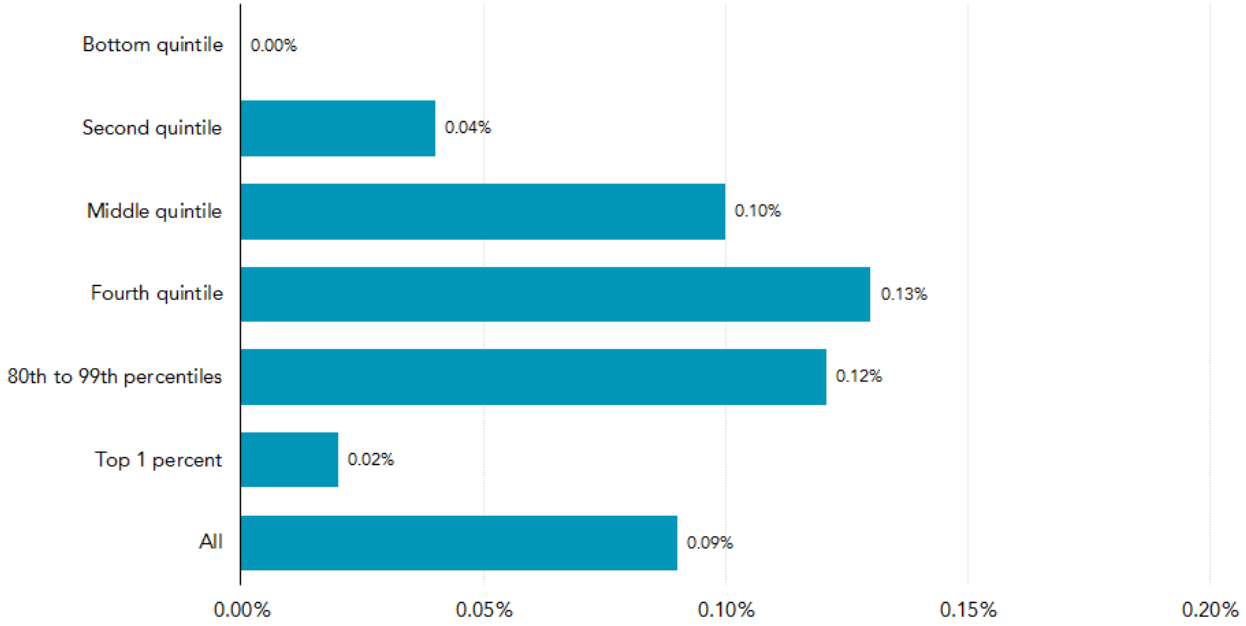
What is the distributional effect of a proposal replacing the current deduction for contributions to defined-contribution retirement plans with a revenue-neutral tax credit?

- Retaining current contribution limits, a nonrefundable tax credit of 23.1 percent would cost about the same as the current-law deduction in forgone tax revenue. If the tax credit were refundable, the revenue-neutral rate would be reduced to 21.3 percent.
- Both tax credit reforms would raise taxes in the top quintile of the distribution and reduce taxes in the third and fourth quintiles.
- Compared with the nonrefundable credit, the refundable credit would also benefit taxpayers in the bottom two quintiles but would provide less benefit (or impose slightly higher taxes) on other income groups.

FIGURE 9

Proposal to Allow Roth Contributions Only

Change in tax liability as share of pretax income, by income level, calendar year 2020



Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would repeal the deduction of elective contributions for individual retirement accounts (IRAs), Keogh plans, and employer-sponsored defined-contribution accounts, but continue to allow Roth contributions. Tax burden changes include current-year changes in income tax liabilities and also account for changes in future taxes related to current-year contributions under the baseline.

What is the distributional effect of a proposal to allow Roth accounts?

- A proposal to allow taxpayers to contribute only to Roth accounts would increase tax burdens only modestly because most of the present value revenue gain from denying deductions would be offset by the present value reduction in taxes owed on future distributions from qualified retirement plans.
- The tax increase would be highest in the 60th to 99 percentiles of the income distribution and almost as large in the middle quintile.
- The short-run revenue generated from such a proposal would be a misleading indicator of its long-run fiscal impact, because revenue would be forgone in future years when retirees withdraw contributions and earnings from their accounts.

TABLE 1

Distribution of Deductions for New Retirement Savings Contributions

Benefit as a share of pretax income, by income level, calendar year 2020

Expanded cash income percentile	TCJA permanently extended	TCJA expires as scheduled
Bottom quintile	-0.02%	-0.02%
Second quintile	0.13%	0.10%
Middle quintile	0.25%	0.15%
Fourth quintile	0.31%	0.16%
80th to 90th percentiles	0.35%	0.18%
90th to 95th percentiles	0.35%	0.13%
95th to 99th percentiles	0.34%	0.11%
Top 1 percent	0.06%	0.02%
All	0.25%	0.12%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: TCJA = Tax Cuts and Jobs Act of 2017. Baseline is the law in place as of December 18, 2019. Table shows tax savings from deductions to qualified retirement saving plans less the present-value of taxes on future withdrawals with and without the individual tax rate cuts in the TCJA permanently extended.

TABLE 2

Distribution of Retirement Savings Tax Incentives

Benefit as a share of pretax income, by income level and by calculation method, calendar year 2020

Expanded cash income percentile	Treasury/JCT method	Alternative cash-flow method	Present value method
Bottom quintile	-0.01%	0.01%	0.09%
Second quintile	0.14%	0.33%	0.49%
Middle quintile	0.11%	0.88%	1.01%
Fourth quintile	0.68%	1.36%	1.47%
80th to 90th percentiles	1.77%	1.90%	1.78%
90th to 95th percentiles	2.74%	2.48%	1.85%
95th to 99th percentiles	3.60%	3.12%	1.61%
Top 1 percent	0.87%	1.08%	0.40%
All	1.30%	1.53%	1.20%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).

Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The Treasury/Joint Commitee on Taxation (JCT) method estimates the tax expenditure as the sum of the tax saving from deductions for contributions to qualified retirement saving plans, the savers' credit, and the exemption of current income accrued within qualified plans minus the additional taxes if all withdrawals from qualified plans were taxable, accounting for all interactions among these provisions. The alternative cash-flow method estimates the tax expenditure as the tax saving from deductions for qualified retirement saving plans, net of the present value of future payments (assuming TCJA individual tax rates are permanently extended), the savers' credit, and the exemption of current income accrued within qualified plans, accounting for all interactions among these provisions. The present value method estimates the tax expenditure by calculating the difference between the present value of future retirement benefits from current-year contributions to retirement saving plans and the present value of retirement benefits if the same net amounts were saved outside of qualified retirement plans. The benefits of future taxes as a share of income are adjusted to account for a measure of the additional future income from current-year savings.

TABLE 3

Proposal to Limit Maximum Defined-Contribution to $15,000 or $20,000

Change in tax liability as share of pretax income, by income level, calendar year 2020

Expanded cash income percentile	Catch-up contributions			
	Under current law		Repealed	
	$15,000	$20,000	$15,000	$20,000
Bottom quintile	0.00%	0.00%	0.00%	0.00%
Second quintile	0.01%	0.00%	0.01%	0.00%
Middle quintile	0.09%	0.05%	0.10%	0.05%
Fourth quintile	0.22%	0.13%	0.26%	0.15%
80th to 90th percentiles	0.34%	0.20%	0.39%	0.25%
90th to 95th percentiles	0.43%	0.29%	0.50%	0.35%
95th to 99th percentiles	0.42%	0.30%	0.48%	0.36%
Top 1 percent	0.11%	0.09%	0.12%	0.10%
All	0.22%	0.14%	0.26%	0.17%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).

Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would change the maximum combined employee and employer contribution before catch-up contributions to $15,000 or $20,000 per employee. Tax liability changes include not only current-year changes in income and payroll tax liabilities but also changes in future taxes related to current-year contributions under the baseline.

TABLE 4

Proposal to Replace Deductible Defined-Contributions with Expanded Savers' Credit

Change in tax liability as share of pretax income, by income level, calendar year 2020

Expanded cash income percentile	Refundable 21.3% credit	Nonrefundable 23.1% credit
Bottom quintile	-0.05%	0.00%
Second quintile	-0.06%	0.00%
Middle quintile	-0.09%	-0.02%
Fourth quintile	-0.08%	-0.08%
80th to 90th percentiles	0.01%	-0.03%
90th to 95th percentiles	0.06%	0.02%
95th to 99th percentiles	0.13%	0.10%
Top 1 percent	0.07%	0.06%
All	0.00%	0.00%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would repeal the deduction of elective contributions for individual retirement accounts (IRAs), Keogh plans, and employer-sponsored defined-contribution accounts, and introduce a refundable or nonrefundable tax credit as a percentage of the eligible contributions. The revenue-neutral percentage in 2020 would be 21.3 percent for the refundable tax credit and 23.1 percent for the nonrefundable tax credit. Estimates assume no change in future taxes.

TABLE 5

Proposal to Allow Roth Contributions Only

Change in tax liability as share of pretax income, by income level, calendar year 2020

Expanded cash income percentile	Change in current-year tax liability net of lower taxes in retirement	Change in current-year tax liability alone
Bottom quintile	0.00%	0.00%
Second quintile	0.04%	0.09%
Middle quintile	0.10%	0.23%
Fourth quintile	0.13%	0.39%
80th to 90th percentiles	0.14%	0.55%
90th to 95th percentiles	0.12%	0.62%
95th to 99th percentiles	0.10%	0.57%
Top 1 percent	0.02%	0.17%
All	0.09%	0.36%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0319-2).
Notes: Baseline is the law in place as of December 18, 2019, with the Tax Cuts and Jobs Act of 2017 (TCJA) permanently extended. The proposal would repeal the deduction of elective contributions for individual retirement accounts (IRAs), Keogh plans, and employer-sponsored defined-contribution accounts, but continue to allow Roth contributions. Column (2) shows increase in tax burdens from disallowing the deduction of contributions less the present value of reduced tax burdens because withdrawals from accounts in retirement are no longer taxable. Column (3) shows increase in tax burdens from the loss of the current-year deduction only.

APPENDIX II. FURTHER DISCUSSION OF BENEFITS OF TAX EXPENDITURES FOR RETIREMENT SAVING

Tax expenditures are defined in relation to baseline rules for taxing income. Under the "baseline" income tax against which tax expenditures are measured, individuals would be taxable on both their earnings and all their returns from investment. Deposits to investment accounts would come from after-tax earnings, and funds within the account would grow each year at the annual after-tax return on investments within the account. Withdrawals from the account would then be tax-free because they would come from income that had previously been taxed. This method of taxation is called a TTE method: the contributions are taxable (T), the earnings within the fund are taxable (T), and withdrawals are exempt (E).

Traditional retirement accounts provide two benefits. First, earnings within the account are tax-exempt so that investments within the account accumulate at a pretax rate of return. Second, contributions to the account are also tax-free, but withdrawals are taxable because the wages used for contributions have not previously been taxed. The deferral of tax on earnings until they are withdrawn in retirement provides an additional benefit to many employees because they usually have lower incomes (and therefore pay lower marginal income tax rates) in retirement than in their prime working years when they are saving the most in these accounts. Because contributions to and earnings within the account are exempt, while withdrawals are taxable, traditional retirement accounts are often referred to as an EET system.

Under an alternative type of qualified retirement plan, contributions come from after-tax earnings, but earnings within the plan and withdrawals from the plan are tax free. This TEE (or "backloaded") system is sometimes referred to as a Roth account.

If the worker faces the same marginal tax in retirement as when working, the EET and TEE systems are equivalent for the same amount of pretax earnings contributed. If a worker sets aside W dollars of pretax earnings for retirement under an EET system, she deposits W dollars to a fund, which grows to a value of $W \times (1+r)^n$ after n years, where r is the annual pretax return on investments within the fund and n is the number of years invested. Because withdrawals are taxable, this leaves her with $W \times (1-t_R) \times (1+r)^n$ for personal use, where t_R is her marginal tax rate on retirement incoime. If she invests her earnings in a TEE, she only has $W \times (1-t_E)$ dollars to invest after paying tax on her earnings, where t_E is her marginal tax rate on current earnings. These dollars then grow at the pretax rate and face no additional tax on withdrawals, so that she ends up with $W \times (1-t_E) \times (1+r)^n$, the same amount as under an EET plan when t_E is equal to t_R.

In contrast, if the worker invests W dollars in an ordinary savings accounts, she will end up in retirement with only $W \times (1-t_E) \times (1+((r\times (1-t_A))^n)$ dollars if investment income outside of retirement accounts is taxable at the tax rate of t_A. The difference between accruing income at a pretax and and an after-tax return can be substantial if the funds are invested for many years. For example, if $t_E=t_A=t_R=25$ percent, r=6 percent, and n=30 years, a deposit of $1,000 invested for 30 years will yield $5,743 of retirement wealth if invested in an EET or TEE account, compaed with only $3,745 if invested in a TTE account.

The tax code also provides a nonrefundable tax credit at rates between 10 and 50 percent, varying with income, for the first $2,000 of contributions to qualified retirement savings accounts. In 2020, the credit is available only for taxpayers with adjusted gross income less than $65,000 if married filing jointly; $48,750 if filing as head of household; and $32,500 if filing as single, married filing separately, or qualifying widow or widower.

APPENDIX II. FURTHER DISCUSSION OF BENEFITS OF TAX EXPENDITURES FOR RETIREMENT SAVING

Types of Qualified Plans

In defined-benefit (DB) plans, employers pay retirement benefits to their employees using formulas based on an employee's years of service and average earnings in her final years of employment. Employers make annual deposits to reserve funds used to pay future retirement benefits. Employers' deposits to these funds are deductible to employers and not taxable to employees and earnings accrue tax-free within the funds. Distributions from the funds are taxable to employees. Some plans (mostly in the public sector) are funded by contributions from both employers and employees; in those cases, contributions by employees come from after-tax earnings, and withdrawals are prorated between the portion representing a return of the employee contributions, which is tax-free, and the portions attributable to fund earnings and employer contributions, which are taxable.

The value to an employee of a DB plan is equal to the present value of her promised future retirement benefits, based on her current earnings history with the firm. This value increases over time as she accumulates more years of service, receives higher annual earnings, and comes closer to eligibility for receiving benefits. In any year, the increase in the present discounted value of future DB benefits represents a form of tax-free income. The amount of retirement income that a qualified DB plan can finance is limited; that limit is $230,000 for tax year 2020.

In contrast, in defined-contribution (DC) plans, employers and/or employees make contributions to accounts in the employee's name. The employee's future retirement benefits depend on the amount she and her employer deposit in the plan and on earnings accrued within the plan. Some DC plans are sponsored by employers; others can be established by individuals.

In the most common type of employer-sponsored plan, established under sections 401(k), 403(b), and 457 of the Internal Revenue Code and the federal government's thrift saving plan (collectively often referred to as 401(k) plans), the employee contributes a fixed percentage of her pay, up to an annual maximum amount. Employers either contribute an additional fixed amount or make matching contributions, up to a limit. For tax year 2020, the maximum annual employee contribution is $19,500. Employees age 50 and over may make an additional $6,500 contribution to these accounts. The maximum employer contribution to DC plans will be a much higher $57,000, but most employers contribute much less than this limit. Antidiscrimination rules require broad participation among employees at different earnings levels for a plan to qualify for tax benefits, but there are safe harbor provisions that allow employers with low voluntary employee participation rates to meet antidiscrimination requirements through employer contributions alone.

There are other qualified DC retirement plans for individuals. Self-employed individuals may contribute up to 25 percent of net income (20 percent of income including retirement contributions) to qualified retirement plans or simplified self-employed plans, up to a maximum of $57,000. Employees without a pension plan and employees covered by a plan with income below certain limits may contribute to individual retirement accounts (IRAs). The maximum contribution to an IRA in 2020 is $6,000, with an additional $1,000 catch-up contribution for employees age 50 and over. Employees may also contribute as much as $6,000 to an IRA for a nonworking spouse, with an additional $1,000 catch-up contribution for spouses age 50 and over.

APPENDIX II. FURTHER DISCUSSION OF BENEFITS OF TAX EXPENDITURES FOR RETIREMENT SAVING

In lieu of deductible contributions to employer-sponsored DC plans and IRAs, employees may contribute to Roth 401(k) plans and Roth IRAs, subject to the same contribution limits as for deductible plans. This makes the Roth contribution limits effectively higher than the contributions for deductible plans because future withdrawals from Roth plans are tax free. This means that the same total dollar amount contributed to a Roth plan will generate more after-tax retirement income than an equal contribution to a traditional retirement plan.

Employer contributions to retirement plans are exempt from both income and payroll taxes and withdrawals are never subject to payroll tax. In contrast, individual contributions to 401(k) plans, IRAs, and self-employed plans do not reduce wages subject to payroll tax (and do not reduce wages counted in computing future Social Security retirement and disability benefits).

Employees must withdraw funds from EET-type plans beginning at age 70-and-a-half (age 72 beginning in 2020), based on an IRS annuity formula that uses assumptions about the interest rate and future life expectancy. This requirement is meant to ensure that earnings deposited in retirement plans do not escape income tax permanently. Roth (TEE) plans are not subject this requirement. And individuals age 70-and-a-half and over are not required to make withdrawals from plans sponsored by firms where they are still employed.

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ABOUT THE AUTHORS

Eric Toder is an Institute fellow at the Urban Institute and co-director of the Urban-Brookings Tax Policy Center. In this position, he oversees TPC's modeling team, serves as its leading expert on corporate and international taxation and tax compliance issues, and authors and directs research studies. Before joining Urban, Toder held a number of senior-level position in tax policy offices in the US government and overseas, including service as deputy assistant secretary for tax analysis at the US Department of the Treasury, director of research at the Internal Revenue Services, deputy assistant director of the Tax Analysis Division at the Congressional Budget Office, and consultant to the New Zealand Treasury. He received his PhD in economics from the University of Rochester.

Surachai Khitatrakun is a senior research associate in the Urban-Brookings Tax Policy Center, where is he specializes in analysis of retirement savings incentives and retirement policy. He received his PhD in economics from the University of Wisconsin.

Aravind Boddupalli is a research analyst in the Urban-Brookings Tax Policy Center, where he contributes to projects regarding federal, state, and local tax and budget issues. Boddupalli graduated summa cum laude from the University of Minnesota with a BA in economics and political science.

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