

## Introduction

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The five papers in this issue of *Tax Policy and the Economy* are all directly related to important issues concerning U.S. taxation and transfers.

In the first paper, Gopi Shah Goda, Ithai Lurie, Priyanka S. Parikh, and Chelsea Swete examine the distributional impact of the itemized medical deduction (IMD) in the federal income tax. The authors note that higher income taxpayers are more likely to itemize and consequently have more opportunity to take the IMD than lower income taxpayers but note that the deduction is only available for expenses over 7.5 percent of adjusted gross income, which works against those with higher incomes for any given level of medical spending. Using tax data for 2018-2019, the authors find the IMD to be highly skewed toward higher income taxpayers, whose value of tax savings are much greater than those for low income taxpayers. The authors also compare the distribution to that in 2015-2016, prior to the 2017 Tax Cuts and Jobs Act (TCJA), which greatly increased the standard deduction and reduced the rate of itemization. The authors find the same skewing in qualitative terms, with taxpayers who claim the IMD in the top income decile receiving tax savings of \$4,203 on average and those claiming in the bottom decile receiving \$1 on average, but also find the distribution became more unequal after the TCJA as indicated by an increase in the Gini coefficient for the share of tax savings by income level. Goda and coauthors also compare the distribution of tax savings from the IMD to the more heavily studied mortgage interest deduction (MID), which they find to be even more skewed toward higher income taxpayers than the IMD, in part because of the lack of an AGI floor for the

MID. The Gini coefficients for the MID are also higher than those for the IMD, both before and after the TCJA. In an examination of the impact of the IMD by age, the authors find that both claiming and the value of tax savings sharply increase with age and, in a comparison with the MID, find the latter to have a less steep age gradient because more younger taxpayers receive the MID. Finally, the authors use data on medical expenses from the Health and Retirement Study (which has information for the full population, not just those who claim it on tax returns) to examine the distributional impacts of alternative structures of the IMD. They find that allowing the deduction for non-itemizers or changing it to a tax credit in a budget-neutral way would make the distribution of the IMD more equal.

Danny Yagan conducts an investigation of the accounting factors influencing changes in the federal budget deficit and the federal debt-to-GDP ratio, whose growth in recent years has attracted much public discussion. The deficit – and in particular the interest payment component – is higher now as the debt-to-GDP ratio has doubled since the Great Recession, and many media accounts claim that high interest payments demonstrate the unsustainability of the debt. However, Yagan shows that the change in the debt ratio is mechanically influenced by the level of the past debt ratio and in opposite directions by two separate effects. One is that the change in the ratio is reduced by the growth rate of GDP as a result of the mechanical increase in the denominator of the ratio—which earlier work termed the “growth dividend”—and he shows that the magnitude of that reduction is greater, the greater the level of the initial debt-to-GDP ratio. On the other hand, a higher initial debt-to-GDP ratio generates higher net interest payments on the debt as well, so the net effect of the higher net interest and the growth dividend, which Yagan terms “excess interest,” is ambiguous in sign. Analyzing past budget data, he finds that excess interest has been slightly negative in recent years because the growth dividend has exceeded the

growth of net interest payments and is projected to remain negative in the short-term, although longer-term budget projections suggest it may turn positive in the future. But Yagan emphasizes that the sustainability of budget deficits is primarily determined by what he calls the primary deficit, which is spending minus revenues but ignoring interest on the debt, which is different than the deficit measure used by many policy makers and public commentators. A primary deficit of zero will result in a falling debt-to-GDP ratio in the long term if excess interest remains negative. But Yagan also emphasizes that, while a high debt-to-GDP ratio by itself is not necessarily a sign of long-term debt unsustainability, he notes that a high ratio makes the ratio more vulnerable to a rise in interest rates without a comparable increase in the GDP growth rate. which would not only make excess interest more likely to be positive but would also make any resulting increase in debt ratio higher, the higher is the level of the ratio initially.

The third paper, by Theresa Gullo, Benjamin Page, David Weiner, and Heidi L. Williams analyzes the economic and budgetary effects of research and development (R&D) investments. The federal government aims to promote innovation both directly through providing government funding for R&D and indirectly via tax provisions that change the after-tax price of private R&D. While recent progress in the research literature has provided rigorous quantitative estimates of how changes in such policies affect outcomes such as productivity and economic growth, that evidence has not featured prominently in Congressional discussions of R&D funding. As one example, the Congressional Budget Office (CBO)'s projections of how changes in the level of federally funded R&D would affect productivity and economic growth are by default excluded from CBO's standard cost estimates. To illustrate how the research literature could support federal agencies in providing more comprehensive information to policymakers about the economic and budgetary effects of R&D, the authors show how CBO's standard

framework for analyzing the economic effects of federal investment can be applied to the case of R&D. Gullo et al. then take stock of the evidence from the research literature and emphasize a few key implications, including that federal R&D appears to induce larger changes in productivity and economic growth than do federal expenditures on physical infrastructure; that investments in public R&D do not appear to be less productive than investments in private R&D (in contrast with standard assumptions about the relative productivity of public and private infrastructure investments); that changes to federal R&D appear to induce changes in productivity within the standard 10-year budget window (in contrast with the longer lags between R&D and productivity assumed by some federal agencies); and that federal R&D appears to be a complement, rather than a substitute, for private R&D. The authors then illustrate the applicability of these implications from the literature to three examples, including CBO's cost estimates of legislative provisions related to federally funded R&D, the staff of the Joint Committee on Taxation (JCT)'s revenue estimates of R&D-related tax provisions, and modeling of R&D in baseline budgetary and economic projections such as the total factor productivity projections generated by the Federal Reserve and by CBO.

Rosanne Altshuler, Lysle Boller, and Juan Carlos Suárez Serrato conduct a new study of profit shifting to low-tax jurisdictions by US multinational corporations (MNCs). The authors note the wide discrepancies in current studies on the volume of earnings shifted to different foreign affiliates—from \$11 billion to \$111 billion, for example—and hypothesize that one reason for those discrepancies is double-counting when the same earnings are reported on the books of multiple affiliates for the same MNC. One common example of this "aggregation error" occurs when one affiliate pays dividends to another and both affiliates report the income on their books. Altshuler et al. argue that aggregation error has likely increased over time, biasing

estimates of both levels and trends in profit shifting. The authors address aggregation error by using IRS tax returns from US MNCs and their affiliates from 1992 to 2016 to compare reported foreign earnings and foreign taxes to a matched sample of publicly traded firms and their SEC-required public book filings. They find much higher estimates of foreign earnings in the tax data than in the book filings, especially for MNCs with larger networks of foreign affiliates, consistent with aggregation error in the tax data. Altshuler et al. then use information in the tax data on dividends paid between related affiliates and show that using this information to subtract such dividends does indeed reduce aggregation error, especially in earnings discrepancies (more than foreign tax discrepancies). This consequently shrinks the difference between tax and book data. Finally, the authors examine estimates of the tax semi-elasticity of foreign earnings, which have been obtained in existing work, and analyze whether those elasticities are affected by their dividend adjustment to reduce aggregation error. They find that the estimates in the literature are largely robust to their dividend adjustment.

In the fifth paper, David Neumark and Peter Li address the effects of the Earned Income Tax Credit (EITC) on employment. A large research literature has documented significant positive effects of the federal EITC and some state EITCs on the probability of being employed, or on what is called the extensive margin (the intensive margin refers instead to how many hours are worked, among those already employed). Neumark and Li conduct a study of the employment effects of the California EITC, which is one of the most generous in the country, with a state credit equal to 85 percent of the federal EITC. Using data from 1987 to 2019 on less educated single mothers (the group that has been found to have the largest positive employment responses in existing work) and utilizing policy variation in the California EITC relative to states without a supplemental credit, the authors find no significant impact of the credit on employment

and, in fact, negative effects on the intensive margin, albeit of varying statistical significance. Neumark and Li also extend prior work on the EITCs in other states over the same sample period as they use for their California study, finding the other state EITCs, in contrast to that in California, to have had positive effects on employment. The authors provide two explanations for the lack of an effect of the California EITC. One is that the credit formula peaks and begins to phase out at a very low \$6,950 earnings level (at the time of 2015 implementation), far lower than that in the federal EITC, and it phases out at a much higher rate (34 percent) as well as having no plateau. This structure should provide only incentives for very low earners and the higher phaseout rate should discourage work beyond the peak. Their second explanation is that California has a very high minimum wage, sufficiently high that workers earning that wage and working only a few hours per week are likely to be eligible for little if any credit from the California program. The authors conclude by stressing the importance of the exact structure of an earned income tax schedule, coupled with other labor market regulations like the minimum wage, for its consequent employment effects.