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HOW MUCH DO TAX-EXEMPT ORGANIZATIONS BENEFIT FROM TAX EXEMPTION?

Nathan Born and Adam Looney
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ABSTRACT

Tax-exempt organizations are subsidized relative to taxable organizations because income related to furthering their core mission is excluded from income tax. The value of this subsidy is unclear. There is no government-provided estimate, and the tax benefit for any organization depends on the organization's activities. Using samples of administrative data on tax-exempt organizations, we estimate the tax expenditure associated with federal income tax exemption for organizations exempt under Sections 501(c)3 to 501(c)8 of the Internal Revenue Code. In 2018, we estimate the value of income tax exemption for these sectors was \$21.2 billion. Most organizations do not benefit from tax-exemption because they produce no income. Hospitals and health systems, which earn profit from providing patient care, benefit the most from tax exemption, followed by institutions with endowment income that is not disbursed furthering exempt causes, and certain other large organizations that derive income from the services they provide.

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I. INTRODUCTION

The income earned by tax-exempt organizations is generally excluded from income tax. As a result, tax-exempt hospitals and universities, for example, are not subject to taxes imposed on their for-profit competitors.

Whether and how much tax-exempt organizations (or their constituents) benefit from tax exemption is unclear. Some tax-exempt organizations earn substantial and persistent profits, which would trigger large tax liabilities if accrued at for-profit businesses. And the impression that profitable tax-exempt organizations avoid taxes draws scrutiny from policymakers and researchers.

The highly-profitable nonprofit hospital sector, for example, is required by legislation to provide “community benefits” in return for its favorable tax status (a requirement not imposed on other charities) and hospitals are regularly evaluated to measure whether they meet that standard (see, e.g. Herring et al 2018, Sataline 2010). Beyond hospitals, federal lawmakers have proposed revoking the tax-exempt status of professional sports leagues lest they be used to shelter income earned by professional teams (prompting the National Football League (NFL) to give up tax-exempt status voluntarily). Congress imposed an excise tax on the investment income of certain universities to reduce the perceived subsidy associated with tax exemption. However, federal agencies came to a surprising split decision as to whether Grand Canyon University qualified as a nonprofit charity, with the Internal Revenue Service (IRS) acceding, but the Department of Education concluding that it instead operated for the private benefit of its original shareholders (Clegg 2015; Johnston, 2019; Department of Education 2019). In short, there is widespread interest and misunderstanding about whether and how organizations benefit from tax-exempt status.

To measure how much tax-exempt organizations benefit from their special tax status, we draw on the empirical framework of the tax expenditure budget. According to the Congressional Budget Act of 1974, tax expenditures are “revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability.” Tax expenditures are estimated as the revenue that would otherwise be collected in the absence of special tax treatment. Treasury’s Office of Tax Analysis (OTA) and the Joint Committee on Taxation (JCT) produce tax expenditure estimates for a voluminous list of provisions, including the deduction for charitable contributions, tax-exempt interest allocable to certain bonds issued by charities (such as for hospital construction), and the exclusion of tax on the investment income of one type of tax-exempt organization, Voluntary Employee Benefit Association trusts (VEBAs) (Treasury 2021, JCT 2020). However, neither organization produces a tax expenditure estimate for the exclusion of income of tax-exempt organizations. In contrast, many states, including California and Texas, estimate the revenue loss associated with the exclusion of income of tax-exempt organizations as tax expenditures in their budget documents (Hegar 2020; State of California Department of Finance 2022).

The tax expenditure framework is useful for understanding the benefit tax-exempt organizations get from tax exemption because it poses a concrete counterfactual that is comparable to other budget estimates policymakers have asked for: how much would organizations pay in tax if their tax-exempt status were revoked or eliminated? Because we use this empirical framework, we call this forgone revenue the tax expenditure for tax exemption. (We defer to Section III of this paper the question of whether it constitutes a tax expenditure under the definition in the Budget Act of 1974. Neither Treasury or the JCT think so. We think there is a good case that it does.)

To estimate the aggregate tax expenditure and how it varies across different types of organizations, we use revenue and expense items from a stratified random sample of tax-exempt organizations required to file Form 990 (“Return of Organization Exempt from Income Tax”) from tax years 1990 through 2018 assembled, tested, and corrected by the IRS Statistics of Income Division (Arnsberger 2016). Medium and large tax-exempt entities, except churches, are required to file a 990.¹ We estimate the tax savings for entities that qualify for tax-exemption under Internal Revenue Code (IRC) sections 501(c)3 to 501(c)8—about 257,073 organizations in 2018.² These entities make up the vast majority of the activity of the private tax-exempt sector.

For modeling purposes, we assume that these organizations would operate as C-corporations in the absence of tax exemption, and would be subject to tax on their net income. This is the tax treatment of organizations whose exemption is revoked, and of income unrelated to an entity’s exempt purpose (which is taxable).³ We assume that gifts to organizations (defined as total contributions, gifts, and grants minus government grants and membership dues from Part VIII of Form 990) would be treated as non-taxable contributions of capital, the same treatment as equity investments used to fund a startup or capitalize a corporation. We calculate net income as the sum of investment income they earn on that equity, receipts and fees from services provided to constituents, minus expenses. To accurately measure the revenues and expenses of related organizations, we form consolidated groups by associating supporting organizations to their parent organization; the main consequence is to eliminate double counting of income that flows from a subsidiary to a parent and is recorded on the returns of both organizations. As with taxable corporations, we carryback or forward losses in calculating net income according to the rules in place each year. We then apply the relevant corporate tax rate (including the graduated rates that applied prior to 2018) to positive net income in order to estimate the value of the exemption. In keeping with the methods the Department of Treasury and JCT use to estimate tax expenditures, we do not model potential behavioral responses to the imposition of tax (Treasury, n.d.). This results in an overestimate of the actual revenue gain that would arise if tax-exempt status were eliminated and organizations sought to reduce taxable income, such as by deferring realization of capital gains on endowment assets.

In 2018, we estimate that the tax expenditure associated with the exclusion of income for the tax-exempt organizations that we study was \$21.2 billion, or similar in magnitude to the Treasury’s estimate of the tax expenditure for Individual Retirement Accounts (\$19.1 billion) or the sum total of tax credits and deductions for

postsecondary education investments (\$15.5 billion) or the Child Tax Credit (\$24.7 billion). Within the tax-exempt sector, charitable organizations (501(c)3s) represent the majority of the tax expenditure for tax exemption (\$17.7 billion).

The tax expenditure for other types of organizations we study is much smaller. For instance, the aggregate tax expenditure for entities organized under 501(c)4 (Civic Leagues, Social Welfare Orgs, and Local Associations of Employees), 501(c)5 (Labor, Agricultural and Horticultural Organizations), and 501(c)6 (Business Leagues, Chambers of Commerce, Real Estate Boards) was approximately \$1.2 billion, \$600 million, and \$1.2 billion, respectively. The tax expenditure estimates for 501(c)7 Social and Recreational Clubs and 501(c)8 Fraternal Beneficiary Societies and Associations, are even smaller.

Within the charitable organization sector, hospitals account for 62 percent (\$10.7 billion) of the tax expenditure. The tax expenditure associated with private schools and universities was \$1.7 billion; for entities described as Supporting Organizations (whose function is to provide services in support of other, often related charities) the tax expenditure is estimated at \$1.7 billion.⁴ The estimate is \$2.1 billion for entities the IRS describes as derive their support from a combination of fees, gifts, and grants (organizations ranging from health insurance plan providers to standardized test providers). The tax expenditure for what the IRS describes as publicly supported charities—those financed mostly by gifts from the general public, and which make up 44 percent of the charities we study—was \$1.4 billion or about 8 percent of the tax expenditure for all charitable organizations.

While the tax expenditure for tax exemption represents a significant source of support in the aggregate, most tax-exempt organizations, including organizations that may be very large in terms of revenue and expenses, appear to benefit very little from their tax-exempt status; they either have no net income in any year or positive income in one year is offset by deficits in others. For instance, in 2018 most organizations (77 percent) appeared not to benefit directly from the tax expenditure because they had no taxable income.

It should not be surprising that organizations often called “nonprofits” produce little net income—indeed, it would be concerning if the opposite were true. However, it may be counterintuitive because many organizations without net income or with only modest incomes are large, well-funded, or generate substantial endowment income. Those organizations expend that revenue furthering their charitable purposes leaving little or no net income. And organizations with no net income do not benefit directly from excluding their income from tax.⁵

Another lesson of our analysis is that attempts to measure the subsidy associated with tax exemption using only selected sources of revenue, like investment income from an endowment, overstates the total subsidy because investment income often cross-subsidizes the costs of providing charitable services, e.g., education and research at universities; the resulting net “taxable” income of the organization may be much less or even zero. In 2018, for instance, colleges and universities earned about \$31 billion in investment income and received \$230 billion for educational and research services provided (mostly in tuition and fees). However, the costs of

providing their educational and research services (\$323 billion) exceeded their gross receipts. Hence, the tax expenditure (estimated at \$1.7 billion) is less than what one might infer from examining endowment income or tuition revenue by itself. In that sense, the excise tax on certain universities' endowment income enacted in 2017 is unusual in that it applies to one component of those universities' receipts rather than on the university's net income; the tax is imposed even if a university expends all their endowment income furthering its charitable purpose.

Another finding is that the tax expenditure is concentrated in regularly profitable organizations. Most tax-exempt organizations generate little income because they are conduits between charitable benefactors and recipients of charitable services, or because the fees they charge for their services are set to approximately equal their costs. But not all tax-exempt organizations operate this way. Some entities produce substantial income from their exempt activities. For instance, tax-exempt hospitals and a small handful of educational institutions produce substantial income from fees for patient services and tuition charged to students. (Often these organizations compete directly with for-profit businesses in the same industry.) Other things equal, profitable tax-exempt organizations accumulate retained earnings more quickly (in the form of endowments or investments) and grow faster.

The greater the net income earned from these activities, the larger is the tax subsidy. The largest beneficiaries are hospitals and health organizations, which saved about \$10.7 billion in federal income taxes in 2018 because of the tax exemption on the income they earned providing services to patients and insurers. While some educational institutions also produce net income and thus benefit from the tax expenditure, the largest beneficiaries are a mix of well-known institutions with large endowments, like Harvard, Yale, and Princeton, and institutions whose revenues from online operations and federal aid sources outstrip their instructional expenses, like Liberty University, Savannah College of Art and Design, Southern New Hampshire University, and (starting in 2018) Grand Canyon University.

The findings of this paper are of particular relevance to policymakers, especially considering the recent changes made by the Tax Cuts and Jobs Act (TCJA) to the taxation of endowments or proposed limitations on other tax-exempt sectors. The new endowment tax, for example, is not targeted either to organizations with the largest tax expenditure and nor to universities that provide the least charitable service. Likewise, our analysis raises the question of whether the benefits of tax-exemption are effectively targeted to organizations doing the most charitable work; in practice, because the benefit depends on the profitability of the organization, it primarily accrues to organizations that charge more in fees than spent on charitable services, and organizations with substantial investment income that is reinvested for the future rather than expended concurrently. It is unclear if that is the intent of the subsidy.

This paper also contributes to two large streams of literature on tax expenditures broadly and on tax-exempt and charitable organizations. The work on tax expenditures began with Surrey and McDaniels (1985) and continues to contribute to our understanding of how the state allocates resources and how these

allocations change through time, which is particularly useful for budget analysts (Burman (2003)). Tax researchers have invested significant time in increasing our understanding of the impacts of various tax subsidies, such as in Howard (1997) which looks at distributional impacts of the mortgage interest deduction and in Sheils and Hogan (1999) which looks at impact of the employer deduction for contributions to health insurance. Our paper attempts to lay out the circumstances under which tax exemption for particular organizations constitutes a tax expenditure as well as capture the spirit of the recommendations in Toder, Wasow, and Ettliger (2002), which suggested in part that tax expenditures be broken out in detail and historical estimates be provided.

This paper also contributes to the literature on the tax treatment of charitable organizations. Much of this literature focuses specifically on nonprofit hospitals to measure their profitability and the benefits they derive from tax-exempt status, and to compare it to the community benefits they provide (Copeland, and Rudney 1990, Congressional Budget Office 2006, Young et al. 2013, Rosenbaum et al. 2015, Herring et al. 2018). Our work expands the scope of the analysis to other charities, allowing a comparison of across organizations and charitable sectors. In addition, this paper offers particular insights to the ongoing work related to agency issues faced by tax-exempt organizations (Masulis, Reza 2015, Core, Guay, Verdi 2006). In identifying tax-exempt organizations which receive a large tax subsidy and yet provide low levels of program services, we draw attention to a dimension for future study for researchers interested in agency problems for tax-exempt organizations.

The remainder of the paper is structured as follows. First, we provide some basic information about the portions of the tax law that govern whether an organization may be exempt from the corporate income tax and provide a basic two-period model illustrating the nature of this tax expenditure. We then outline the data and methodology that we employ to estimate the tax expenditure for tax-exempt organizations. We then discuss the results of our analysis and offer some concluding remarks.

II. BACKGROUND

A. Tax Law and The Information Returns of Tax-Exempt Organizations

Certain organizations are exempt from federal corporate income tax under Section 501 of the Internal Revenue Code (IRC). Organizations qualify for exemption based, in part, on their qualifying activities and functions as described in Section 501(c) of the IRC. For example, 501(c)3 describes what are commonly known as charitable organizations; 501(c)4 defines civic leagues; 501(c)11 describes teacher's retirement funds; 501(c)13 is for non-profit cemetery companies. Our analysis focuses on a subsection of these organizations, 501(c)(3) through 501(c)(8) organizations⁶ which account for the largest share of the sector and the largest number of organizations.⁷

Charitable organizations described in Section 501(c)(3) must meet the following legal requirements to be recognized as exempt from federal income tax. The organization must be "organized and operated exclusively

for religious, charitable, scientific, testing for public safety, literary, or educational purposes, or to foster national or international amateur sports competition (but only if no part of its activities involve the provision of athletic facilities or equipment), or for the prevention of cruelty to children or animals.” The organization must not benefit private shareholders or transfer significant benefits to individuals which have influence over the organization. The organization must meet restrictions on political campaigning and legislative lobbying. In short, the organization must serve a public rather than a private interest.

If a tax-exempt organization’s exempt status is revoked they are required to file Form 1120, the corporate income tax return, or Form 1041, the income tax return for estates and trusts (which form depends on their structure under state law). (Likewise, organizations are taxed similarly to corporations on any income earned that is unrelated to their exempt purpose.) Organizations whose exemption is revoked IRS reports the names of entities which have had tax-exempt status revoked on a running list along with the date of revocation.

Tax-exempt entities (other than churches) are required to file a return each year and those returns are public documents. The IRS constructs a stratified random sample of return information from those returns available each year. Our analysis uses samples of Form 990 returns for Tax Years 1990-2018. The sample is a stratified random sample, where the sampling is based upon the asset size of the organization; large entities and hospitals are included with certainty and the smallest organizations are sampled at less than a 1 percent probability (Arnsberger 2016).

The sample data provide information on the revenues and expenses of each sampled tax-exempt organization, including information like source of revenue (i.e. gift, revenues related to the organization’s exempt purpose, or income from investment earnings) and certain expenses. Since tax-exempt organizations are rarely audited, and there is no tax due on their reported income, some evidence suggests there is inconsistency or heterogeneity in reporting behavior (Krishnan, Yetman, Yetman (2006)). Tax-exempt organizations are not subject to a consistent financial disclosure regime like public companies and need not prepare GAAP financial statements to stakeholders or regulators. On the other hand, organizations and their officers face criminal penalties if they knowingly submit false information on Form 990. In addition, the data elements are subjected to comprehensive testing and correction procedures by the IRS SOI to improve statistical reliability and validity.

We estimate a hypothetical tax liability (the tax expenditure estimate) for each tax-exempt organization in each year they appear in the sample. We then apply the sampling weights to get an estimate of the tax expenditure for the entire tax-exempt sector. Finally, we utilize the classification codes provided by SOI to allocate the tax expenditure to the various types of tax-exempt organizations.

The public use file includes 501(c)(3) through 501(c)(9) organizations. We exclude from our analysis 501(c)(9) organizations (VEBAs) which operate like savings vehicles to provide health benefits for employees; the Treasury already produces a tax expenditure estimate for the exclusion of income of VEBAs. Churches, even those which

may have tens of billions in revenues and assets, are not required to file a return, and thus are largely excluded from the sample.

We also exclude from our analysis tax-exempt organizations that file Form 990-EZ or 990-N. Form 990-EZ is a simplified version of the Form 990, which may be filed by organizations (other than private foundations) that have gross receipts of less than \$200,000 and total assets of less than \$500,000. Data from Form 990-EZ and 990-N exclude certain revenue and expenditure information necessary for our analysis. Moreover, these organizations account for a very small share of overall positive net income in the tax-exempt sector. In 2018, for example, these organizations reported net income of \$766 million, with revenues of \$11.5 billion and expenses of \$10.7 billion (IRS 2021). In practice, the taxable net income of such organizations would be even smaller after considering tax items like net operating losses (NOLs) and the fact that most revenues are contributions and gifts (which we exclude from taxable receipts). Thus, the exclusion of such organizations has a trivial effect on top-line tax expenditure estimates.

Total revenue for 501(c)(3) – 501(c)(8) organizations exceeded \$2.5 trillion in 2018. Based on the most recent IRS tabulations (from 2013), the organizations we study account for about 90 percent of the overall tax-exempt sector’s revenue, expenses, income, and positive net income (excluding churches).⁸

LITERATURE: THE TAX TREATMENT OF TAX-EXEMPT AND CHARITABLE ORGANIZATIONS

A related literature attempts to estimate the benefit that nonprofit hospitals gain from their tax-exempt status (e.g. Copeland, and Rudney 1990, CBO 2006, Rosenbaum et al 2015). Nonprofit hospitals are highly profitable; seven of the ten most profitable hospitals in the U.S. are nonprofits (Bai and Anderson 2016). And policymakers require tax-exempt hospitals to provide “community benefits” to justify their tax treatment—a standard that has prompted researchers to measure both the benefits organizations get from tax exemption and also the charitable benefits they provide (Herring et al 2018).

Despite the fact that all other 501(c)3 charities benefit from identical tax treatment, non-hospital charitable organizations are not required to meet community benefit standards. Nevertheless, some organizations have come under scrutiny over related concerns. For instance, a new excise tax on the investment income of certain universities, enacted in 2017, was motivated, in part, by a concern that affected institutions were not providing sufficient charitable benefits—such as greater financial aid—relative to the subsidy they received from tax-exempt status (Seltzer 2016).⁹

Legislators considered revoking the tax-exempt status of professional sports leagues, out of a (likely misplaced) concern they were used to shelter from tax income earned by private sports team. In response, the NFL voluntarily gave up tax-exempt status, suggesting whatever financial benefit wasn’t worth the bad publicity (Johnston 2019).

And the recent case of Grand Canyon University suggests the distinction between a for-profit and nonprofit entity is surprisingly murky even to federal regulators. Prior to 2018, the university was operated as a for-profit

business. In 2018, it attempted to change its status to a nonprofit charity in a transaction that required the university to remit the majority of its annual revenues to a for-profit entity owned by its previous shareholders and managed by the university's president. While the IRS allowed the conversion—the entity is now exempt from tax—the Department of Education ruled the other way, finding that the entity continued to be operated for the benefit of the for-profit parent (and thus remains subject to regulations governing for-profit colleges). The split-decision illustrates the challenges in determining what it means to operate as a charity and in determining the incidence of these tax advantages.

Beyond tax exemption, Treasury and JCT estimate that charities receive considerable benefits from other provisions tied to their exempt status. For instance, between 2021 and 2030, Treasury estimates that deductions for charitable contributions will represent over \$800 billion in foregone revenue. Tax-exempt interest hospital construction bonds and tax exemption for credit unions are expected to represent approximately \$37 billion and \$25 billion in foregone revenue across the budget window.

A TAX EXPENDITURE?

Is the exclusion of income tax of tax-exempt organizations a “tax expenditure” under the definition of the Budget Act of 1974? Clearly, neither the Treasury nor JCT think so, as it is not included in their otherwise extensive annually-published estimates of tax expenditures.

There are good reasons to adopt that position. Tax expenditures are estimated relative to a “normal” or idealized income tax system. Under one definition of an idealized income tax system, an organization that never produces a cumulative profit (i.e., in present value terms) never should pay taxes as long as they can carry forward or backwards tax losses (with interest); any temporary profit will be offset by eventual losses. Indeed, the JCT assumes that the normal income tax law would provide for the carryback and carryforward of net operating losses. (Treasury assumes a different treatment.) Hence, under the JCT's version of a normal tax system, tax-exempt organizations should never pay tax.¹⁰

Contributing to this view is the fact that charities do not have shareholders, nor can they distribute profits other than in the advancement of their exempt purpose. Furthermore, they are bound by inurement rules prohibiting their operation for the benefit of private interests. Unlike other tax expenditures, which are clearly associated with income accruing to an individual or corporate taxpayer, there is no specific owner of the profits of a charity—besides, of course, the people their organization is intended to benefit.

On the other hand, what constitutes the counterfactual “ideal” tax system is subjective. While JCT's baseline system assumes that losses should be carried forward and back without limit, Treasury's does not.

In practice, of course, there are limitations on loss carryforwards and carrybacks. This asymmetry is an important source of income tax revenue (Altshuler and Auerbach 1990). A large share of tax losses are “lost” and never used to offset taxable income (Cooper and Knittel 2006). Likewise, many of the expenses of charities would be disallowed as expenses under Section 183 if undertaken by a for-profit business. More directly, some

charities and other tax-exempt organizations earn substantial and persistent profits, making their relatively favorable tax treatment important to their annual finances and the growth in their resources and endowments—even if they are nominally “non-profit,” some charities never incur a loss during our sample period. Finally, while the law prevents distribution of profits of a tax-exempt organization or for the operator of a charity to reap private benefits, the ultimate incidence of the favorable treatment of tax-exempt compared taxable organizations is not clear. That question motivates the oversight and analysis of nonprofit hospitals and the scrutiny of other organizations and their executives. Our view is that it is worth understanding the tax benefits of these organizations and the tax expenditure approach makes for a practical, widely-used yardstick.

III. METHODOLOGY

A. Calculating a Tax Expenditure

To calculate taxes that would be owed by these organizations in the absence of tax-exemption, we assume that without the exemption provided by Section 501(c), the organizations would be organized and treated as C-corporations.¹¹ This is the typical treatment of organizations whose tax-exempt status is revoked, and the same modeling choice as made by the JCT in its evaluation of the value of tax exemptions for nonprofit hospitals (CBO 2006).

To estimate taxable income, we gather data on the receipts and expenses of each organization as reported on their return. We treat contributions (gifts) as contributions of capital (equity) and thus exclude them from taxable receipts. Gifts that establish a charity or tax-exempt organization are conceptually similar to equity investments that establish a company and allow it to operate. Equity investors are not purchasing goods from the company, just as charitable contributors aren’t purchasing services from a charity. In the absence of tax exemption, a donor intending to establish a charitable organization would prefer to capitalize a corporation (and treat the investment as equity) rather than purchase (taxable) services from the entity. (Indeed, many taxable corporations—startups—regularly raise equity investments to offset ongoing losses as they grow.)

We measure net income as receipts minus expenses. Receipts include membership fees, program service revenues (which might include tuition charged to students, hospital bills to patients or insurers, or testing fees for standardized test providers), and investment income. Total expenses include program service expenses, compensation of employees, fundraising expenses, as well as various forms of cost recovery for capital assets, such as depreciation, amortization, or depletion.

In general, the Form 990 data does not describe the cost recovery method used. Tax-exempt entities generally use less tax favorable depreciation methods than would otherwise similar taxable corporations, such as the straight-line method of depreciation, and cannot not use bonus depreciation or Section 179 expensing. In addition, the accounting treatment may differ in other small ways, such as in the treatment of inventories or income recognition rules. As a practical matter, the available data prevent an adjustment for these income-reporting differences. However, as a matter of interpretation and measurement in the context of the broader

tax expenditure budget, the tax savings of accelerated depreciation and expensing are measured separately as their own tax expenditures. Thus, the tax expenditure we measure is conceptually accurate.

We use the revenues and expenses reported on returns and make no adjustments for behavioral responses. This mirrors the approach used by Treasury and the JCT to measure tax expenditures. However, it should not be confused with a revenue estimate for repealing the tax expenditure because organizations would presumably change their behavior to reduce taxes owed. For instance, entities with significant financial resources, like foundations or universities with endowments, currently have few incentives to undertake typical tax-minimizing portfolio strategies (like delaying realizations of investment gains) but would if they were taxable.

To avoid double counting, we associate the activities of supporting organizations with the charitable organizations they support. Certain charitable organizations are formed to provide supporting services to other charities and file separate returns. For instance, the Harvard Management Private Equity Corporation was formed to provide investment services to the President and Fellows of Harvard College (the organization that operates the university itself). Moreover, the investment assets and related income appear on both the supporting organization's 990 and the "parent."

To avoid double counting, when supporting entities support exactly one institution or where more than 50 percent of the support is provided to one organization, we exclude the activity of the supporting organization.¹² However, if a supporting organization does not provide more than half of its support to one entity, we are unable to differentiate cases when they are related (e.g., when the national YMCA supporting organization provides support to hundreds of local YMCA chapters) from when they are unrelated (e.g., when the Common Fund for Non-Profit Organizations provides investment services for a large number of unrelated charities). In this case, we treat such supporting organizations as their own entities and report them separately in our analysis. To the extent that they support entities that produce taxable losses (and which would thus net gains from supporting entities against losses of the supported entity), the tax expenditure associated with these entities would be overstated. However, because support from an unrelated supporting organization is typically characterized as a gift (which we exclude from revenues in our analysis), such double counting is reduced.

Because we observe all large institutions and all hospitals with certainty each year in our repeated cross sections, we identify and apply NOL carryforwards and carrybacks to form taxable income. We apply carryback rules first. For each year that a tax-exempt organization has negative net income we carryback that loss against any income earned in the prior two tax years starting with two years prior. Any refund associated with the carryback is assumed to reduce tax liability in the current year. Any unused losses are carried forward to the subsequent tax year. This is consistent with the findings of Patel, Seegert, and Smith (2017), who found that, generally, firms with NOL deductions fully employ the deduction when they have positive taxable income.

For organizations not observed with certainty in our sample, we impute NOLs using tabulations of the temporal usage of NOLs in corporations from Cooper and Knittel (2010). Their analysis suggests that roughly 15

percent of losses are carried back and used immediately, and 3.5 percent are used each year over the subsequent 10 years. In total, 50 percent of all NOLs are actually applied over a 10-year period (the rest are “lost” and not used). However, opportunities to use losses appear far fewer in the nonprofit sector. Among organizations we observe with certainty, it appears that only 20 percent of losses can be used within the sample period. Thus, we aggregate total losses in each year in sample strata, organization type, and charity type, assume the same fraction of the losses are applied in each year as Cooper and Knittel, but apply those losses proportionately to the positive net income of 40 percent of firms with positive net income (which means only 20 percent of the NOLs are eventually used).

Prior to 2018, we apply graduated corporate tax rates to positive imputed taxable income to determine the imputed tax liability of that organization in that tax year. In 2018, we apply the 21 percent rate and disallow loss carrybacks.

Finally, organizations are already subject to tax on any income earned that is unrelated to their exempt purpose (“unrelated business income” or UBI).¹³ In practice, few organizations report earning UBI and the amount of tax paid is low. In 2013 (the latest year of data available), charities (501(c)(3) organizations) paid \$278 million in unrelated business income taxes and 501(c)(3) – 501(c)(8) organizations paid a total of \$345 million. To adjust for UBI, we subtract positive UBI net income from net income when it is reported (starting in 2008). Prior to 2008, where only gross UBI income is available (rather than net UBI income), we impute positive net UBI income for each sample strata, organization type, and charity type based on the ratio of positive net UBI income to positive gross UBI income in each group after 2007.

To examine which charitable and tax-exempt sectors benefit most from tax-exemption, and why, we also use information from Form 990 describing the activities of the organization. In addition to the charitable or tax-exempt purpose, we also describe the charitable efforts of these organizations. Specifically, we define net charitable services as the amount the organization spends on program service expenses minus program service revenue. For instance, a 501(c)3 university’s program service revenue generally includes tuition and fees paid by students (but excludes gifts or investment income) and its program service expenses might include expenses for educational services, faculty salaries, and educational facilities (but not expenses related to fundraising or investment management). Examination of both the tax expenditure received by charitable organizations and the charitable services rendered by those organizations allows taxpayers and policymakers to weigh the costs and benefits of the subsidy provided to charitable organizations against one measure of the services they provide.

In our analysis of the educational sector, we augment our analysis with data on the per-student tuition and fees charged and instructional expenditures from the Department of Education (College Scorecard 2021) to provide additional detail on the activities of the organizations.

IV. RESULTS

A. Characteristics of Tax-Exempt Organizations

Because the tax expenditure ultimately depends on how much net income tax-exempt organizations earn, it is useful to examine the distribution of net income across the tax-exempt sector. Table 1 summarizes the revenues, expenditures, aggregate revenue minus aggregate expenses, and taxable net income of organizations in 2018. (Taxable net income is larger than revenue less expenses because it excludes the negative income of loss-making organizations.) All data elements are drawn from Part I of Form 990.

First, despite the large size of the sector, which accounts for \$2.1 trillion in total revenues, the net income of these organizations is small. Most organizations formed under sections 501(c)4 through 501(c)8 produce very little net income—their revenues are almost entirely offset by their expenses. As a result, even if these organizations were taxable, the amount of tax they would pay is small.

The first column of Table 1 describes the aggregate revenues, expenses, and net income of organizations that are tax-exempt under IRC Section 501(c)3—Charitable Organizations. In 2018, these organizations' received revenues of \$1.6 trillion from program services (such as tuition charged by educational institutions or patient fees charged by hospitals), \$474 billion from contributions, gifts, and grants (such as charitable contributions from individuals), and \$91 billion in investment income (such as income from an endowment). The next panel in the table the expenses of the organizations: \$196 billion in grants (mostly to other charitable organizations or individuals), \$887 billion in salaries for their employees, and \$988 billion in other expenses (which could include anything from amounts spent on food by food pantries, land acquisition by land trusts, or medical equipment by hospitals). On net, in 2018 total revenues (including gifts) exceeded expenditures. In our accounting, however, those gifts are contributions of capital; excluding gifts the sector produced a net loss: the amount expended exceeded the amount earned from program service revenue, investment income, and other revenue. Taxable net income is the sum of the positive amount of revenue minus expenses minus gifts minus positive unrelated business income (which is already subject to tax). The "taxable income" of organizations in this year was \$87 billion.

TABLE 1

Income and Expenses of Selected Tax Exempt Organizations—2018

Billions of 2018 dollars



Selected Tax Exempt Organizations (Subsection C Type)	Charitable organizations C(3)	Civic leagues, social welfare orgs, and local associations of employees C(4)	Labor, agricultural and horticultural organizations C(5)	Business leagues, chambers of commerce, real estate boards C(6)	Social and recreational clubs C(7)	Fraternal beneficiary societies and associations C(8)	Total
Program service revenue	1618.3	103.3	20.7	36.8	10.2	13.2	1802.4
Contributions, gifts, grants	474.2	9.7	5.9	10.5	2.2	0.7	503.2
Investment and other income	91.1	2.4	1.1	2.6	0.5	4.4	102.0
Other revenue	43.9	1.9	1.2	3.2	3.0	1.6	54.8
Total revenue	2223.1	116.5	26.3	49.8	14.9	19.7	2450.3
Of which unrelated business income	1.3	0.0	0.0	0.1	0.5	0.0	1.9
Grants and similar amounts paid	195.8	5.2	0.6	1.9	0.1	0.3	203.9
Benefits paid to or for members	23.5	33.3	3.5	0.8	0.1	13.6	74.7
Salaries, employee benefits	886.5	8.5	8.5	15.4	6.3	2.1	927.1
Fundraising expenses	22.3	0.4	0.0	0.1	0.0	0.0	22.8
Other expenses	987.5	63.7	11.0	26.8	7.7	1.9	1098.7
Total expenses	2094.5	110.7	23.6	44.9	14.1	17.9	2305.7
Program Service Expenses	1813.0	102.4					
Revenue minus expenses (gross)	128.7	5.8	2.7	4.9	0.8	1.9	144.7
Net income (excluding gifts)	-345.5	-4.0	-3.2	-5.6	-1.4	1.2	-358.5
Positive "taxable" net income	86.9	6.4	2.9	7.2	0.9	1.8	106.0
Tax expenditure	17.7	1.2	0.6	1.2	0.2	0.4	21.2
Fraction benefiting from tax expenditure	23.0%	41.3%	57.6%	50.2%	52.9%	46.4%	28.4%
N	204991.1	11477.5	9481.5	17825.4	9032.3	4265.0	257072.7

Source: Author's calculations from IRS form 990 sample files.

B. The Tax Expenditure for Tax Exemption

After applying NOL carryforwards from losses incurred in earlier years and the 21 percent tax rate that applied in 2018, the implied tax is \$17.7 billion—the tax expenditure for charitable organizations.

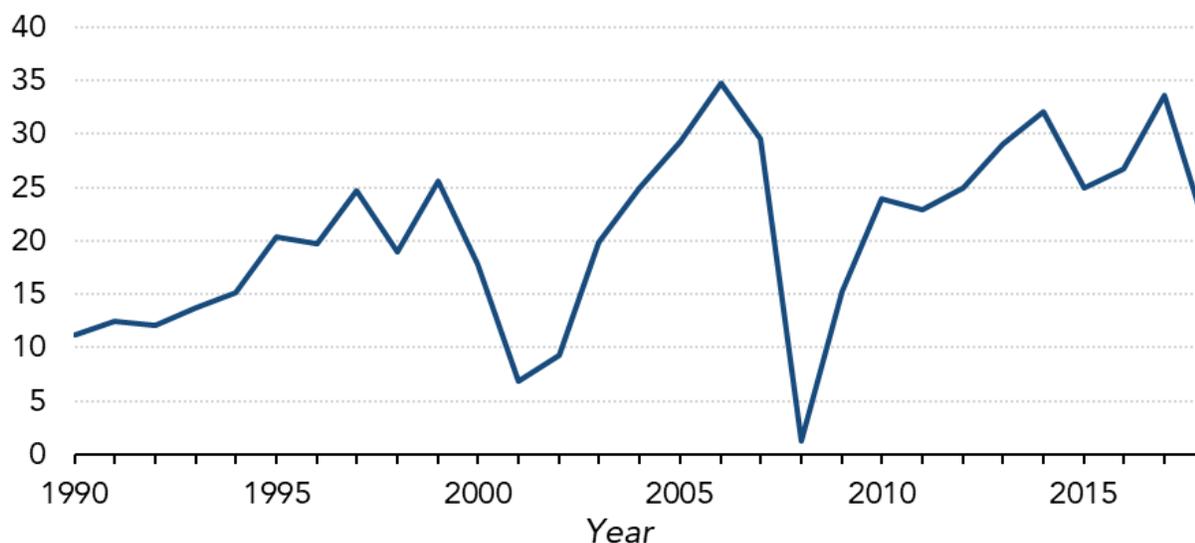
Table 1 also presents the estimates of the tax expenditure across different types of exempt organizations. The total tax expenditure was \$21.2 billion in 2018. Charitable organizations, which represent 80 percent of organizations receive 83 percent of the benefit of the exclusion. Organizations organized under sections 501(c)(4) (Social Welfare Organizations), 501(c)(6) (business leagues, chambers of commerce) and 501(c)(7) (social welfare groups) are associated with the next largest—but vastly smaller—tax expenditure estimates of \$1.2 billion, \$600 million, and \$1.2 billion, respectively.

To illustrate how this expenditure has evolved over time, Figure 1 provides a time series of the estimated tax expenditure from 1990 to 2018 in constant 2018 dollars. Over this period, the tax expenditure increased from about \$10 billion in the early 1990s to a peak above \$30 billion in the mid-2000s, largely because of growth in the size of the charitable sector, before declining to \$21 billion in 2018 as a result of the reduction in the corporate rate to 21 percent from 35 percent. During periods of recession, in 2001 and 2008, the tax expenditure estimate plunges as gifts, investment income, and program service revenues fall far more than expenditures.

FIGURE 1

The Tax Expenditure for Tax Exemption 1990 to 2018

Billions 2018 USD



To examine the robustness of our results to alternative assumptions, Appendix Tables 1 and 2 replicate the calculation of the tax expenditure estimates in Table 1 and 2 (below) using different definitions of taxable income. In one alternative, we impute the use of net operating losses for all organizations using the temporal patterns measured by Cooper and Knittel (2010) and the assumption that 20 percent of NOLs are eventually used. (Our main analysis assigns NOL usage directly from the longitudinal data). In that case, the overall tax expenditure is \$20.6 billion (rather than \$21.2 billion). Next, we assume that 10 percent of gifts are counted as revenues (rather than as equity infusions). In that case, we find the tax expenditure would be \$21.8 billion. Third, we deny deductions for grants and other assistance to domestic governments and organizations out of a concern these expenses should be treated as nondeductible gifts (or equity investments) in other entities, mirroring the non-inclusion in revenues of gifts received. Because some of these grants are likely to be taxable to the recipient, reflect payment for a service, or other expenses that would be deductible, the denial of these deductions is likely to cause an overstatement of the net income of the affected organizations. Nevertheless, the magnitude is small and the implied tax expenditure in 2018 is \$23.5 billion. Fourth, we turn off NOL carryforward and carrybacks; the tax expenditure in 2018 would have been \$22.6 billion.

In each of the above cases, the total tax expenditure estimate is little changed because of the concentration or polarization of income and loss within tax-exempt organizations. Many organizations specialize in attracting gifts and expending all the revenue on program-related expenses, resulting in deep and persistent losses that are not recovered even with increases to receipts or reductions in deductions. Profitable organizations, however, often attract few gifts or make few grants to affiliates, and their persistent profits mean they produce few NOLs to use later.

Finally, we redefine net income to be total revenues minus total expenditure (without any adjustment for UBI or gifts). This scenario is intended to provide an extreme upper bound on the tax expenditure that we view as unrealistic (because it would be more cost effective to capitalize a taxable corporations with the charitable gifts). In this case, the tax expenditure would be \$41.1 billion (and most of that increase in tax would come from the organizations that receive the most gifts). These alternative scenarios give confidence that our estimates are robust to modest changes in assumptions.

C. Charitable Organizations

Since charitable organizations account for the largest share of the tax expenditure, we examine how that expenditure varies within the sector. Selected charity types, and their associated revenues, income, and tax expenditure are described in Table 2. Some are recognizable entities like schools and universities (including college beneficiary institutions that support universities, which in our analysis mainly includes foundations that support public universities which do not file returns themselves) or hospitals. Another major group is defined by the IRS as “Organizations receiving a substantial support from a governmental unit or general public.” This category includes the largest and most diverse group of charities such as institutions ranging from donor advised funds, foundations that support arts or museums, international aid relief organizations, and foundations

established combat disease, hunger, or poverty. The last major group are “Organizations receiving their support from gifts, grants and contributions and fees for exempt services”. The major distinction is that these organizations receive a large fraction of their support from fees charged to members or service recipients; this category includes organizations like health insurance providers, standardized test providers, or the YMCA.¹⁴ A supporting organization is a charity that carries out its exempt purposes by supporting other exempt organizations, usually other public charities. For instance, supporting organizations sometimes offer financial management, healthcare or retirement services, or coordination services for member organizations.

Tax-exempt hospitals and cooperative hospital service organizations account for both the largest amount and largest share of the total expenditure for charitable organizations. Whereas hospitals represent 41 percent of program service expenses, they represent 62 percent of the tax expenditure. About 94 percent of overall revenue for hospitals is attributable to program service revenue, which is largely revenue paid by patients or insurers for health services. No other organization category receives a greater proportion of their income from program services than do hospitals.

TABLE 2

Income and Expenses of Charitable Organizations—2018

Billions of 2018 dollars



Selected tax exempt organizations (Subsection C Type)	Hospital, or a cooperative hospital service organization	Organizations receiving a substantial support from a governmental unit or general public	Organizations receiving their support from gifts, grants and contributions and fees for exempt services	Schools and universities	Supporting organizations	Other charities	Total
Revenues							
Program service revenue	855.7	114.3	350.8	229.5	64.4	3.5	1618.3
Contributions, gifts, grants	21.0	299.6	44.5	83.9	8.2	12.7	469.9
Investment and other income	17.4	19.6	9.4	30.6	12.0	2.1	91.1
Other revenue	17.5	9.4	8.6	5.5	2.7	0.3	43.9
Total revenue	911.6	442.9	413.2	349.5	87.4	18.6	2223.1
Unrelated business income	0.4	0.2	0.2	0.1	0.3	0.0	1.3
Expenses							
Grants/similar amounts paid	9.2	106.4	8.3	54.6	9.9	7.5	195.8
Benefits paid to/for members	0.5	0.5	21.1	0.1	1.4	0.0	23.5
Salaries, employee benefits	401.0	153.2	139.8	158.3	29.5	4.5	886.5
Fundraising expenses	0.9	12.4	2.5	5.8	0.3	0.4	22.3
Other expenses	450.9	144.3	238.5	110.1	39.5	4.2	987.5
Total expenses	861.5	405.3	407.8	323.2	80.4	16.3	2094.5
Program service expenses	738.4	351.8	361.6	277.2	70.1	14.1	1813.0
Revenue minus expenses (gross)	50.1	37.5	5.4	26.3	7.0	2.3	128.6
Net Income (excluding gifts)	29.1	-262.1	-39.1	-57.6	-1.2	-10.4	-341.3
Positive "taxable" net income	51.9	6.7	10.2	8.9	8.9	0.3	86.9
Tax Expenditure	10.7	1.4	2.1	1.7	1.7	0.1	17.4
Fraction benefiting	0.5	0.2	0.3	0.3	0.5	0.2	0.2
Memo: net charitable services	-117.4	10.8	237.5	47.7	5.6	14.1	1813.0
Number of organizations	4267.0	90253.0	81528.0	15726.0	8407.0	4811.0	204992.0

Source: Author's calculations from IRS form 990 sample files.

Note: Other charities include organizations formed to promote public safety, support medical research, community trusts, federal, state, or local governmental units, and churches.

Note that our analysis focuses exclusively on the tax benefit associated with federal tax exemption. Rosenbaum, Kindig, Bao, Byrnes, and O’Laughlin (2015) produce estimates for the non-profit hospital sector for 2011, including not just federal income tax expenditures but also other subsidies like state-level income tax-exemption, the benefit of tax-exempt bond financing, and sales and property tax-exemption, leading to an overall higher value for total tax expenditures for tax-exempt hospitals than this paper (\$24.6 billion or roughly double our estimate for that year). In addition to the differences in scope of subsidies, we allow hospitals to carryforward or back NOLs and measure the tax base to be slightly broader. Nevertheless, we view our methodology and estimates of the narrow expenditure for federal exemption to be consistent with that paper and to be more broadly representative of the taxable income and tax expenditure of the entities we study.

While most charitable organizations are those which get their support from the public or a combination of the public and membership fees (those in the second and third column of Table 2), these organizations represent only a small portion of the total tax expenditure. The basic reason is that their spending typically far outstrips their taxable revenue—they expend not just their program service and investment revenue but also the gifts they receive providing services to their constituents; they lose money on their activities. The same is broadly true of schools and universities and the remaining charitable organizations.

At the bottom of Table 2, we present a crude but intuitive measure of the net charitable services (NCS) of each type of organization—the difference between program service expenditures (which represents the total cost of services the entity provides to its beneficiaries) minus program service revenues (which is typically the amount it charges beneficiaries for those services). For example, consider a university that spends more money on instruction, research, and student services than it charges students for tuition, and makes up the gap with gifts from alumni or endowment funds. That institution is presumably providing more net benefits to its students than a university whose tuition exceeds the amount it spends on instructional services. More generally, across all types of charitable organizations, the gap between how much they spend on program services and how much they charge for those services provides a measure of the net benefits to the people it serves.

In most cases, NCS is positive because most charitable organizations use revenue from gifts or endowment income to finance some or all of their charitable activities. Most (but not all) charitable educational institutions incur costs to educate students or produce research that far exceed the tuition and fees charged to students.

Looking across types of organizations, the second to last row of Table 2 shows that publicly-supported charities provide the most NCS, and hospitals provide the least NCS. In fact, nonprofit hospitals charge \$117 billion more for the services they provide than it spends on the services themselves (despite being the largest beneficiary of the tax expenditure). Tax-exempt hospitals are the only type of organization as a sector that earn positive net income from program services.

Our findings are generally consistent with those of Capps et al. (2017), Rosenbaum (2015), and Herring et al. (2018), which evaluate charity care provided by hospitals. Using three measures of charitable services, they find that tax-exempt hospitals are no more likely to supply charitable services than for-profit hospitals.

D. Which Organizations Benefit Most?

To provide a clearer and more tangible illustration of who benefits from tax exemption and why, Table 3 lists the twenty tax-exempt organizations that have benefited most from tax exemption over the 3-year period between 2016 and 2018 (in constant 2018 dollars).

Most of the organizations listed are charities, which is unsurprising given that the charitable sector represents the largest source of the expenditure. Moreover, 12 of the 20 organizations on the list are non-profit hospitals (or supporting organizations manage a hospital network, like Ascension Health Alliance). Four are K-12 schools or universities (including University of Virginia’s endowment-managing organization; UVA, as a government entity, does not file a 990); in addition, Fort Schuyler Management Corporation manages grants and research activities for the State University System of New York (and received but had not yet disbursed significant grants in these years). The fraternal beneficiary society (Thrivent Financial, formerly Thrivent Financial for Lutherans) provides financial services for its members. And the Michigan Catastrophic Claims Association was established by the Michigan Legislature to provide insurance to Michigan drivers.

One insight from the broader analysis is that large, routinely profitable organizations, like hospitals and hospital networks, regularly dominate the list and account for a large share of the tax expenditure. But outside of routinely profitable organizations, other organizations make the top twenty (and contribute to the aggregate expenditure) occasionally because of differences in the timing between revenue and expenditure, such as when an organization receives grants for research activities or benefits from a sharp increase in endowment income

TABLE 3

Organizations with Largest Benefit from Tax Exemption 2016–2018
2018 dollars



Name	501(C)-type	Charity type (if a 501(c)3)	Average annual tax expenditure	Average annual net income
Kaiser Foundation Hospitals	Charity	Hospital	854	2,837
Ascension Health Alliance	Charity	Supporting Org.	258	811
Thrivent Financial For Lutherans	Fraternal Beneficiary Society	n.a.	210	758
Indiana University Health Inc	Charity	Hospital	200	656
Milton Hershey School And School Trust	Charity	School or University	197	714
The Trustees Of Princeton University	Charity	School or University	194	564
Banner Health	Charity	Hospital	178	601
University Of Virginia Investment Management Co.	Charity	Supporting Org.	168	577
OhioHealth Corporation	Charity	Hospital	168	481
New York State Catholic Health Plan Inc	Charity	supported through Activities	164	639
IHC Health Services Inc	Charity	Hospital	161	539
Howard Hughes Medical Institute	Charity	Hospital	156	488
Yale University	Charity	School or University	154	461
Adventist Health Systemsunbelt Inc	Charity	Hospital	144	482
Providence Health & Services - Oregon	Charity	Hospital	141	510
Orlando Health Inc	Charity	Hospital	140	466
Michigan Catastrophic Claims Association	Business League	n.a.	133	806
Duke University Health System Inc	Charity	Hospital	130	429
Fort Schuyler Management Corporation	Charity	supported through Activities	122	350
Stanford Health Care	Charity	Hospital	122	406

Source: Author’s calculations from IRS form 990 sample files.

Note: Differences in effective tax rates largely reflect differences in the availability and timing of net operating losses.

but has yet to expend those resources on its exempt purpose. While that income and expenditure may balance out over a long enough time horizon, given the asymmetric treatment of profits and losses in the income tax system, this results in a real tax savings for tax-exempt organizations relative to taxable organizations.

Finally, the last column of Table 3 provides our measure of net charitable services—the difference between the amount each organization spends on program services (such as expenditures for treating patients or educating students) and the amount of revenue the organization charges for those services. At most organizations, this number is negative, reflecting the fact that the amounts charged exceed the amounts of services provided. Indeed, the exceptions that provide significant net charitable services are the large universities (Princeton and Yale), the Milton Hershey School (a tuition-free boarding school which educates low-income individuals), and the Howard Hughes Medical Institute, an endowment-funded research organization.

Furthermore, while our analysis finds significant tax benefits for many organizations, how and why individual organizations benefit and whether those tax savings produce social benefits is not clear from the top-line tax expenditure. To illustrate, Table 4 focuses narrowly on the tax expenditure for American universities.

Many of the universities with the largest tax expenditure between 2016 and 2018 are well-known universities with large endowments, like Princeton, Yale, Washington University, or Stanford, whose endowment income surged during this period. As a result of their tax-exempt status, they avoid a large tax bill on that income in the year the income accrued.

However, it's clear from their activities that they use their endowment income (and charitable gifts they receive) to further their charitable purpose. The third column provides our measure of net charitable services. The large well-financed universities use their endowments to fill the gap between how much they spend furthering their charitable purpose—such as educating students or conducting research—and how much they charge students for those services.

Indeed, this pattern maps closely into independent measures of the services they provide to students net of the cost to students. The last three columns of Table 4 provide data from the Department of Education on tuition and instructional expenditures per full-time-equivalent student at each university. Princeton, Yale, Washington University, Stanford, and MIT spend several times more on instructional services per full-time student than they charge students in tuition. Presumably, as expenditures rise in light of unexpected increases in the endowment, instructional services will rise more than tuition, and the institution will offset current income with future losses.

But not all universities operate that way. Liberty University, Savannah College of Art and Design, MCPH University, Southern New Hampshire University, Midwestern University, or Belmont University, accrue their income (and produce their tax expenditure) because they charge tuition far in excess of the amount spent on instructional services; their profits are generated from the students they serve (in many of these specific cases online students). Indeed, for each of these institutions, the measure of net charity is negative. Perhaps future students will benefit from the retained profits earned by these organizations, but their current and past students will not.

TABLE 4

American Universities with Largest Benefit from Tax Exemption 2016–2018
2018 dollars



Name	Average annual tax expenditure	Average annual net income	Tuition per student (2019)	Instructional expenses per student (2019)	Instructional expenses per tuition dollar
Princeton University	194	564	14,876	60,048	4.04
Yale University	154	461	18,096	57,231	3.16
Washington University	95	287	27,073	132,974	4.91
Stanford University	78	55	24,860	113,338	4.56
Liberty University Inc	73	246	11,402	3,419	0.30
University of Notre Dame	67	209	25,579	32,634	1.28
Savannah College of Art And Design Inc	40	133	27,610	8,744	0.32
MCPH University	39	127	22,488	9,697	0.43
Southern New Hampshire University	36	120	9,979	1,555	0.16
Midwestern University	34	113	53,756	22,219	0.41
University of Pittsburgh	34	118	19,095	18,921	0.99
Temple University	29	90	23,261	14,609	0.63
Massachusetts Institute of Technology	29	137	33,488	80,756	2.41
Emory University	27	84	27,810	46,367	1.67
Belmont University	26	87	26,421	10,232	0.39

Source: Author's calculations from IRS form 990 sample files; Department of Education, College Scorecard 2021.
Note: Differences in effective tax rates largely reflect differences in the availability and timing of net operating losses.

V. CONCLUSION

We estimate that if there were a tax expenditure for tax-exempt organizations, it would be \$21.2 billion for the organizations we study in 2018. Combined with other subsidies for these organizations, such as individual and corporate deductions for charitable contributions, support for tax-exempt organizations in total ranks among the largest tax expenditures in the budget. For instance, the tax expenditure we measure in 2018 approaches the expenditure for the Child Tax Credit (\$24.7 billion) and is several times the expenditure for programs like the Low-Income Housing Tax Credit (\$9 billion), the credit for increasing research activities (\$12 billion), or the deductibility of medical expenses (\$10 billion).

However, most tax-exempt organizations are literally “nonprofits” in the sense that they expend all of their revenues (and more) fulfilling their exempt purpose each year. These organizations benefit little from tax exemption because they produce no income. Tax-exempt status seems therefore to be of little direct value to

these organizations—which is surprising because they appear to be the most charitable, in the sense that they charge beneficiaries the least for the charitable services they provide.

Some organizations, however, either impose charges for their services in excess of their costs (e.g., in medical costs to patients and insurers or tuition and fees to students) or limit the amount of services they provide given their resources (for instance, limiting how many patients they serve or the quality of their care). These organizations do benefit from tax exemption—otherwise they would face significant, recurring tax bills.

As a policy to encourage charitable activities, tax exemption has some unusual properties. It seems to benefit organizations that earn the greatest profits and which seem, therefore, to do the least amount of charitable work. In principle, these organizations have no shareholder beneficiaries, so the accumulated income must accrue either to future beneficiaries (future patients or future students, perhaps) or, perhaps, others that derive income from the operation of the institutions (employees, managers, officials, or contractors).

If the accumulated income is, indeed, intended be expended on future beneficiaries, that raises the question of why should future beneficiaries benefit more than today's. The corporate tax is an income tax, and thus imposes a tax on future consumption relative to current consumption. As a result, the exclusion from income tax provides a relative subsidy for future consumption of the services provided by tax-exempt organizations relative to current services. Given that future generations are likely to be better off than current generations because of economic growth and innovation, why should the tax system subsidize future charity over current charity?

And if, instead, the accumulated retained earnings—which compound faster in the absence of tax—instead benefit the organization's managers or employees, that also seems contrary to the purpose of charitable status. However, that seems plausible given that managers and employees of larger and more prestigious organizations earn more and benefit from holding more prominent positions. The question of who ultimately benefits from the subsidy tax-exempt organizations—the incidence of the tax expenditure—merits future work.

In the absence of tax-exempt status (assuming the deduction for charitable contributions continued), the effect on most organizations would be small—they need not worry about paying federal income tax because they have no income. Organizations whose profits derive from endowment income would be likely to reduce their potential liability by changing their portfolio of investments, deferring gains, and other (legal) avoidance measures. But other profitable organizations—like hospitals or universities that derive their income from tuition—would have to either pay the tax or fundamentally change their operations to reduce prices or increase their charitable expenses to zero out their income and thus their taxes. That might be an appropriate outcome for a charitable organization claiming to be a nonprofit.

APPENDIX A. SAMPLE CONSTRUCTION AND DATA METHODOLOGY

The sample used in this analysis is formed from the 1990 to 2018 Form 990 microdata sample files—a stratified random sample of the population of such returns—constructed by the IRS Statistics of Income Division. According to the IRS, the data are subject to comprehensive testing and correction procedures to improve statistical reliability and validity.

We measure the net income of each organization as the sum of its revenues excluding contributions and gifts minus total expenses and minus net unrelated business income (UBI). (Prior to 2008 the sample files provide gross UBI but not net UBI; in those years we impute net UBI for organizations with positive gross UBI based on the average ratio of net-to-positive-gross UBI of organizations in the same sample strata, 501 subsection type, and (for 501(C)3s) charity type after 2007. In practice, because UBI is a de minimus proportion of net income of tax-exempt organizations, alternative methods of adjusting for UBI, such as subtracting total amounts in UBI taxes paid or subtracting gross UBI from taxable income, have little effect on the aggregate statistics.)

We associate supporting organizations with their affiliated supported “parent” organizations by EIN and capture the amount of support directed to each supported organization. We assume that the activities of organizations that provide more than half of their support to a single “parent” have those activities consolidated onto the parent organization’s return and exclude the income of the supporting organization from our estimate of the tax expenditure. This is clearly the right treatment for most large organizations that form subsidiaries to, for example, manage their endowments or insurance providers for their members, where the income and assets of e.g. the endowment is duplicated on the 990 of both the parent charity and the subsidiary supporting organization.

However, there are also organizations that provide services to a broad number of charities (such as financial services for smaller organizations) or are operated to make gifts to other charities. For organizations where less than half of the support is provided to any one organization, we measure the income and tax expenditure for the supporting organization itself. While this may still lead to some double counting (e.g. of income that is recorded at the supporting organization and also at the recipient organization) this is minimized to the extent that the support is in the form of gifts and contributions (which are excluded from taxable revenues). Furthermore, the income and tax expenditure is transparently reported separately in our analysis for supporting organizations, so the potential upper bound is known.

We impute net operating losses (NOLs) as follows. For organizations observed with certainty in the sample (large charities and hospitals), we impute NOLs directly and assume they are first carried back and then carried forward, and thus used completely at the first opportunity. These organizations represent the vast majority of activity in the tax-exempt sector (about 80 percent by revenues and positive net income).

APPENDIX A. SAMPLE CONSTRUCTION AND DATA METHODOLOGY

For organizations not observed with certainty, we impute the use of NOLs using Cooper and Knittel's (2010) analysis of NOL use by corporate businesses. In particular, the data in Table 3 suggests that about 15 percent of losses are immediately carried back and about 3.5 percent are used each year over the subsequent 10 years. In the context of the nonprofit sector, in which losses are far more pervasive than in the corporate sector, we assume that only 20 percent of NOLs are actually used (60 percent less than found in Cooper and Knittel's analysis) but use otherwise occurs following the same temporal pattern. (We find that only 20 percent of losses can be used by the firms observed with certainty over a 10-year period.)

Thus, we aggregate total losses of tax-exempt organizations in the same sample strata, 501 type, and (for 501(C)3s) charity type cell, carry them back or forward per Cooper and Knittel (Table 3), and assume they reduce aggregate positive net income in proportion to the ratio of the aggregate NOL to aggregate positive taxable income but only for 40 percent of the organizations in the cell with positive net income.

For the time-series analysis (Figure 1), we gross up the available NOLs in the earliest years to account for the censoring of the data before 1990 using Cooper and Knittel's Table 3. In particular, the pattern of NOL usage in Table 3 implies that in steady state the stock of available-to-be-used NOLs in a given year is about 3.33 times the amount of NOLs produced in a given year, so we gross up the first censored year (1990) by 3.33; the ratio of the available stock to the NOLs produced and available after two consecutive years is 2.7, so we gross up the observed stock of NOLs in 1991 by 2.7; the implied ratio falls quickly to zero by the 10th year after which no adjustment for censoring is made.

APPENDIX B. SENSITIVITY TO ALTERNATIVE ASSUMPTIONS

Appendix Tables 1 and 2 replicates the calculation of the tax expenditure estimates in Table 1 and 2 in the main paper using different definitions of taxable income. The top panel reproduces the estimates in the main paper. The subsequent panels make the following alternative assumptions:

Second panel: we impute the use of net operating losses for all organizations using the temporal patterns measured by Cooper and Knittel (2010) and the assumption that 20 percent of NOLs are eventually used. (Our main analysis assigns NOL usage directly from the longitudinal data).

Third panel: we assume that 10 percent of gifts are counted as revenues (rather than as equity infusions), which increases the net income of organizations receiving gifts.

Fourth panel: we assume that no deduction is available for expenses related to grants and other assistance to governments and other organizations in the U.S. (Form 990 Part IX line 1) to address the concern that some portion of these grants are gifts similar to equity investments excluded from gross revenues.

Fifth panel: we turn off NOL carryforward and carrybacks so that net income is solely determined by profit or loss that specific year.

Last panel: we redefine net income to be total revenues minus total expenditure, i.e. without any subtraction for UBI or gifts. This scenario is intended to provide an extreme upper bound on the tax expenditure that we view as unrealistic because it would be more tax efficient to capitalize taxable corporations with charitable gifts.

APPENDIX B. SENSITIVITY TO ALTERNATIVE ASSUMPTIONS

APPENDIX TABLE 1

Sensitivity of Tax Expenditure to Alternative Assumptions—2018

Billions of 2018 dollars



Selected tax exempt organizations (Subsection C type)	Charitable organizations C(3)	Civic leagues, social welfare orgs, and local associations of employees C(4)	Labor, agricultural and aorticultural organizations C(5)	Business leagues, chambers of commerce, real estate boards C(6)	Social and recreational clubs C(7)	Fraternal beneficiary societies and associations C(8)	Total
Primary Analysis (Table 1)							
Revenue minus expenses	128.7	5.8	2.7	4.9	0.8	1.9	144.7
Taxable net Income	86.9	6.4	2.9	7.2	0.9	1.8	106.0
Tax expenditure	17.7	1.2	0.6	1.2	0.2	0.4	21.2
Fraction benefiting from tax expenditure	23%	41%	58%	50%	53%	46%	28%
Impute NOLs for all organizations using Cooper and Knittel (2010)							
Taxable net income	79.9	5.9	2.8	7.1	0.8	1.8	98.3
Tax expenditure	16.8	1.2	0.6	1.5	0.2	0.4	20.6
Fraction benefiting from tax expenditure	23%	42%	58%	50%	53%	46%	29%
Assume 10% of gifts are included in revenue							
Taxable net income	90.1	6.4	2.9	7.2	0.9	1.8	109.3
Tax expenditure	18.3	1.2	0.6	1.2	0.2	0.4	21.8
Fraction benefiting from tax expenditure	25%	42%	58%	50%	54%	46%	30%
No net operating loss carryforwards or carrybacks							
Taxable net income	88.3	6.4	2.9	7.2	0.9	1.8	107.4
Tax expenditure	18.5	1.3	0.6	1.5	0.2	0.4	22.6
Fraction benefiting from tax expenditure	23%	42%	58%	50%	53%	46%	29%
No adjustment for unrelated business income or contributions and gifts							
Taxable net income	144.3	3.2	2.3	3.5	1.1	1.1	155.6
Tax expenditure	37.0	1.5	0.7	1.3	0.3	0.4	41.1
Fraction benefiting from tax expenditure	60%	56%	65%	62%	63%	59%	60%
N	204991	11477	9482	17825	9032	4265	257073

Note: This table replicates the analysis in Table 1 of the main paper using alternative methods for constructing taxable income to illustrate sensitivity to assumptions. The top panel provides the baseline analysis from Table 1. The second panel imputes NOLs at the aggregate organization type, charity type, and sampling strata level using the temporal pattern of Cooper and Knittel (2010). The third panel assumes that 10 percent of gifts and contributions are counted as taxable revenues.

The fourth panel excludes the effect of loss carryforwards and carrybacks. The last panel calculates the tax expenditure using the gross net income (revenue minus expenditure) without any adjustment for contributions and gifts or unrelated business income.

APPENDIX B. SENSITIVITY TO ALTERNATIVE ASSUMPTIONS

APPENDIX TABLE 2

Sensitivity of Tax Expenditure to Alternative Assumptions —2018

Billions of 2018 dollars



Selected tax exempt organizations (Subsection C Type)	Hospital, or a cooperative hospital service organization	Organizations receiving a substantial support from a governmental unit or general public	Organizations receiving their support from gifts, grants and contributions and fees for exempt services	Schools and universities	Supporting organizations	Other charities	Total
Primary analysis (Table 2)							
Revenue minus expenses	50.1	37.5	5.4	26.3	7.0	2.3	128.6
Taxable net income	51.9	6.7	10.2	8.9	8.9	0.3	86.9
Tax expenditure	10.7	1.4	2.1	1.7	1.7	0.1	17.4
Fraction benefiting	46%	17%	26%	28%	48%	17%	23%
Impute NOLs for all organizations using Cooper and Knittel (2010)							
Taxable net income	50.6	5.2	8.9	6.6	8.4	0.3	79.9
Tax expenditure	10.6	1.1	1.9	1.4	1.8	0.1	16.8
Fraction benefiting	48%	16%	26%	29%	48%	19%	23%
Assume 10% of gifts are included in revenue							
Taxable net income	52.6	7.5	10.5	10.0	9.2	0.3	90.1
Tax expenditure	10.9	1.5	2.1	1.9	1.8	0.1	18.3
Fraction benefiting from tax expenditure	46%	18%	27%	30%	50%	24%	25%
No net operating loss carryforwards or carrybacks							
Taxable net income	52.0	7.5	10.4	9.0	9.0	0.3	88.3
Tax expenditure	10.9	1.6	2.2	1.9	1.9	0.1	18.5
Fraction benefiting from tax expenditure	49%	17%	26%	29%	48%	21%	23%
No adjustment for unrelated business income or contributions and gifts							
Taxable net income	47.2	46.3	15.2	25.1	8.1	2.6	144.3
Tax expenditure	12.6	10.7	3.9	6.4	2.7	0.7	37.0
Fraction benefiting	57%	60%	59%	62%	68%	65%	60%
Number of organizations	4267.0	90253.0	81528.0	15726.0	8407.0	4811.0	204992.0

Note: This table replicates the analysis in Table 2 of the main paper using alternative methods for constructing taxable income to illustrate sensitivity to assumptions. The top panel provides the baseline analysis from Table 2. The second panel imputes NOLs at the aggregate organization type, charity type, and sampling strata level using the temporal pattern of Cooper and Knittel (2010). The third panel assumes that 10 percent of gifts and contributions are counted as taxable revenues. The fourth panel excludes the effect of loss carryforwards and carrybacks. The last panel calculates the tax expenditure using the gross net income (revenue minus expenditure) without any adjustment for contributions and gifts or unrelated business income.

APPENDIX C. CHARACTERISTICS OF TAX-EXEMPT ORGANIZATIONS AND SAMPLE STATISTICS

APPENDIX TABLE 3

Descriptions of Form 8283 Fields



Organization type	Description
Arts, culture and humanities	Includes organizations involved with the arts, music, history, and cultural activities, such as museums, libraries, science centers, and theaters
Educational institutions	Includes organizations whose primary function is educational, such as fraternities, schools (including those with a religious affiliation), scholarship funds, and universities.
Environment and animals	Includes organizations that protect, promote, or seek to improve the environment or welfare of animals, such as local animal shelters, botanical gardens, and garden clubs.
Health services and medical research	Includes hospitals, medical associations, nursing homes, and hospices
Large organizations	Includes large national and international organizations that have local chapters, such as second hand stores, and youth programs
Public and societal benefit	These are organizations that benefit individuals or communities and do not meet the conditions of other categories such as education, health, and religion. These include homeless shelters, food banks, and political think tanks.
Religious organizations	Includes churches, synagogues, and bookstores and thrift stores run by religious organizations.
Family foundations	A foundation is a type of philanthropic organization set up by individuals or institutions as a legal entity (usually either a corporation or trust) with the purpose of distributing grants to support causes in line with the goals of a foundation which is associated with a particular family.
Donor advised funds	A segregated fund within a public charity that permits the donor to have advisory privileges on distributions or investments. Donations to donor-advised funds may be understated due to the difficulty of identifying all such donations because they ultimately distribute to another charity that could be of any type.
Other foundations	A foundation is a type of philanthropic organization set up by individuals or institutions as a legal entity (usually either a corporation or trust) with the purpose of distributing grants to support causes in line with the goals of a foundation (besides family foundations).
Other and unknown	Includes all other organizations that are not included in any other category.

APPENDIX C. CHARACTERISTICS OF TAX-EXEMPT ORGANIZATIONS AND SAMPLE STATISTICS

Appendix Table 4 presents statistics of organizations established under Section 501, including and in addition to the organizations we study. Our analysis focuses on organizations organized under section (C)3 to (C)8.

APPENDIX TABLE 4

Social Security Trust Fund Receipts and End of Year Assets

Millions of dollars, 2013^a



C-Status	Organization description	Revenue	Expenses	Net income	Positive net income	Total assets
2	Title holding companies	\$1	\$1	\$0	\$1	\$14
3	Charitable organizations	\$2,247	\$2,111	\$136	\$188	\$4,280
4	Social welfare	\$115	\$110	\$5	\$7	\$168
5	Labor and agriculture	\$26	\$24	\$2	\$3	\$45
6	Business leagues	\$55	\$53	\$3	\$5	\$98
7	Social and recreational clubs	\$15	\$14	\$1	\$1	\$29
8	Fraternal beneficiary societies	\$14	\$13	\$1	\$1	\$114
9	Voluntary employees' beneficiary association	\$165	\$156	\$9	\$14	\$263
10	Domestic fraternal beneficiary societies	\$0	\$0	\$0	\$0	\$3
11	Teachers' retirement fund associations	\$0	\$0	\$0	\$0	\$1
12	Benevolent life insurance associations	\$67	\$66	\$1	\$1	\$158
13	Cemetery companies	\$2	\$1	\$0	\$0	\$14
14	State-chartered credit unions	\$26	\$22	\$4	\$4	\$566
15	Mutual insurance companies	\$0	\$0	\$0	\$0	\$0
16	Crop financing organizations	\$0	\$0	\$0	\$0	\$0
17	Suppl. unemployment compensation trusts	\$0	\$0	\$0	\$0	\$0
18	Employee-funded pension trusts	\$0	\$0	\$0	\$0	\$1
19	Veterans' organizations	\$1	\$1	\$0	\$0	\$3
20	Group legal services plans	\$0	\$0	\$0	\$0	\$0
23	Assns. of past/present members of armed svc	\$0	\$0	\$0	\$0	\$4
25	Holding companies for pensions/other entities	\$2	\$1	\$1	\$1	\$26
26	State-spons. high-risk health insurance plans	\$0	\$0	\$0	\$0	\$0
27	State-spons. workers' comp. reinsurance plans	\$2	\$1	\$0	\$0	\$12
29	Section 4947(a)(1) nonexempt charitable trust	\$1	\$1	\$0	\$0	\$1
Organizations included in the selected sample		\$2,670	\$2,535	\$135	\$224	\$4,988
Organizations excluded from the analysis		\$70	\$40	\$30	\$4	\$815
All exempt organizations		\$2,740	\$2,576	\$165	\$228	\$5,803

Source: Annual Extract of Tax-Exempt Organization Financial Data (population), SOI Sample Data Files which are weighted by assets.

Note: Totals from the population file may not necessarily match totals on the SOI sample file in a given tax year.

APPENDIX C. CHARACTERISTICS OF TAX-EXEMPT ORGANIZATIONS AND SAMPLE STATISTICS

Appendix Table 5 presents annual unweighted sample sizes for the organizations we study. In 1996, the IRS SOI did not include C4-C8 organizations in its microdata sample.

APPENDIX TABLE 5

Organization-Year Counts by Subsection C Organization Type



Year	Hospital, or a cooperative hospital service organization	Other charities	Organizations that receive a substantial part of its support from a governmental unit or from the general public	Schools and universities	Supporting organizations	Organizations that receive their support from a combination of gifts, grants and contributions and fees from their exempt services	Total
1990	11,498	1,907	1,533	1,974	1,843	769	19,524
1991	10,552	1,559	1,172	1,598	1,628	507	17,016
1992	11,145	1,605	1,200	1,687	1,684	520	17,841
1993	11,588	1,313	1,035	1,429	1,189	521	17,075
1994	10,918	1,328	1,055	1,519	1,205	524	16,549
1995	11,677	1,257	1,110	1,597	1,239	536	17,416
1996	12,474						12,474
1997	13,193	1,366	1,158	1,829	1,372	530	19,448
1998	14,085	1,393	1,245	1,901	1,422	535	20,581
1999	14,522	1,391	1,285	1,977	1,468	518	21,161
2000	15,806	1,457	1,371	2,083	1,559	521	22,797
2001	16,439	1,496	1,413	2,155	1,631	497	23,631
2002	17,053	1,510	1,436	2,182	1,701	512	24,394
2003	13,749	887	810	1,259	1,016	257	17,978
2004	14,330	903	826	1,315	1,072	254	18,700
2005	15,080	947	845	1,404	1,102	268	19,646
2006	16,053	972	904	1,503	1,144	272	20,848
2007	15,501	863	794	1,316	1,008	227	19,709
2008	14,082	666	636	1,097	896	164	17,541
2009	15,868	714	673	1,158	916	185	19,514
2010	13,627	778	763	1,267	969	230	17,634
2011	13,880	810	773	1,295	989	221	17,968
2012	14,358	836	808	1,354	1,029	222	18,607
2013	14,953	854	834	1,428	1,046	221	19,336
2014	15,321	880	854	1,468	1,077	226	19,826
2015	15,597	902	891	1,487	1,091	230	20,198
2016	16,100	933	937	1,558	1,103	233	20,864
2017	16,746	965	999	1,627	1,139	234	21,710
2018	16,497	945	990	1,602	1,117	215	21,366

NOTES

- 1 Organizations with less than \$200,000 in gross receipts and less than \$500,000 in assets may file Form 990-EZ; even smaller organizations may file Form 990-N.
- 2 Our analysis excludes other entity forms, which include organizations such as voluntary employees' beneficiary associations, teacher retirement funds, cemetery companies, and title holding companies. These organizations are relatively small (in terms of revenue, expenses, and net income) compared to the selected sample and operate differently from the organizations we examine. See Appendix Table 1 for a complete list of tax-exempt organizations and selected financial characteristics.
- 3 IRS Publication 557 provides detailed information to entities regarding the tax consequences for revocation of tax-exempt status.
- 4 Entities under this definition are often established to manage endowments or provide services to affiliated charities. Because governmental organizations, which include public universities, are also tax-exempt under IRC 115, our analysis of universities pertains to private non-profit institutions but not public institutions.
- 5 Of course, they do benefit from other federal income tax provisions, like the ability to attract tax-deductible contributions or state and local tax benefits, like exclusions from property or sales taxes.
- 6 This includes charitable, social welfare, labor, and agricultural organizations, business leagues, social and recreational clubs, and fraternal beneficiary societies.
- 7 The appendix lists categories of tax-exempt entities organized under 501(c)2 through 501(c)29. Examples of organizations we exclude include voluntary employee beneficiary associations, cemetery companies, state-chartered credit unions (already included in Treasury's tax expenditure budget), or black lung benefit trusts.
- 8 See Appendix Table 4 for Tabulations of revenue, expenses, and net income by 501(c)-status. VEBAs have the largest share of revenue (64 percent), expenses (65 percent), and positive net income (58 percent) among the organizations excluded from the analysis.
- 9 This tax is levied on colleges and universities with at least 500 students and endowment assets in excess of \$500,000 per student (not indexed to inflation).
- 10 Likewise, Section 183 prohibits taxable organizations or individuals from deducting costs related to "activities not engaged in for profit." That rule would seem to impose tax on taxable organizations engaged in certain charitable activities even if they produced no profit. However, as a compliance measure it is presumably not part of an idealized tax system. (Which raises the question: Is Section 183's special rule that presumes that horse owners engaged in the breeding, training, or racing of horses are engaged in for-profit activities even when they lose money in five out of every seven years a tax expenditure because it provides favorable treatment?)
- 11 Surrey notes that not all tax-exempt entities would likely take the corporate form. Social clubs in particular may better fit the role of partnership or pass-through entity (Surrey and McDaniel, 1985). We follow Publication 557's suggestion that in absence of tax-exempt status, the entity would be required to file Form 1120.
- 12 A single tax-exempt entity might have several supporting organizations.
- 13 UBI might be generated, for instance, by a hospital that operates a food court for visitors. Operating the food court is not an exempt activity and income of the food court would be taxed as UBI.
- 14 These are organizations that qualify as public charities under section 509(a)2 and normally receive less than 1/3 of their support from gross investment income and unrelated taxable business income and more than 1/3 of its support from contributions, membership fees, etc.

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ABOUT THE AUTHORS

Nathan Born is a doctoral candidate at the Wharton School, University of Pennsylvania in the Department of Accounting.

Adam Looney is a nonresident senior fellow at Brookings, where he was previously the Joseph A. Pechman senior fellow in Economic Studies. He is also affiliated with the Urban-Brookings Tax Policy Center. Mr. Looney is now the Executive Director of the Marriner S. Eccles Institute at the University of Utah.

Mr. Looney returned to Brookings in March 2017 after three years of service in the U.S. Treasury Department as Deputy Assistant Secretary for Tax Analysis. At Treasury, Mr. Looney advised the Secretary on economic issues related to tax policy, analyzed current and proposed legislation, and provided the official receipts forecasts and revenue estimates for the Administration's budgets. He also studied, among several issues, the causes and consequences of student loan distress and the economic returns to postsecondary education, and played an instrumental role in the advancement of several data-intensive projects including the production of the Department of Education's College Scorecard.

Prior to joining the Treasury, Mr. Looney was policy director of The Hamilton Project, and was a senior fellow in Economic Studies at Brookings from 2010-2013. Previously, he served as the senior economist for public finance and tax policy with President Obama's Council of Economic Advisers and was an economist at the Federal Reserve Board. He received a PhD in economics from Harvard University and a BA in economics from Dartmouth College.



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