

# TACKLING THE TAX CODE



EFFICIENT AND EQUITABLE WAYS  
TO RAISE REVENUE

Edited by

JAY SHAMBAUGH and RYAN NUNN



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to Raise Revenue

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Jay Shambaugh and Ryan Nunn

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BROOKINGS

# Acknowledgments

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*The policy proposals included in this volume are proposals from the authors. As emphasized in The Hamilton Project's original strategy paper, the Project was designed in part to provide a forum for leading thinkers across the nation to put forward innovative and potentially important economic policy ideas that share the Project's broad goals of promoting economic growth, broad-based participation in growth, and economic security. The authors are invited to express their own ideas in policy papers, whether or not the Project's staff or Advisory Council agrees with the specific proposals. These policy papers are offered in that spirit.*

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# Foreword

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Alexander Hamilton, for whom our project is named, was appointed Secretary of the Treasury at age 34 by President George Washington. He carried with him into office what biographer Ron Chernow called “a panoramic vision of a diversified economy that would provide opportunity for people from all walks of life.”<sup>a</sup>

The American War of Independence against Great Britain left us with crushing debts. On assuming office, devising our nation’s first tax system was among Hamilton’s most urgent and difficult assignments. This tax system funded the government and paid off the states’ Revolutionary War debts, which in turn gave our young, vulnerable nation a chance to prosper.

Thanks to Hamilton’s foresight and political courage, America’s course toward bankruptcy was reversed, we established our creditworthiness, and a strong and successful nation was built. When Hamilton left his post five years later, interest rates in the United States were as low as any in the world.

This book is about taxes. It poses a simple question: Given that the United States needs more revenue, how should we raise it? The answers come from some of our nation’s foremost tax policy scholars and experts. The Hamilton Project commissioned them to come forward with proposals to address our government’s pressing need for revenue under the economic conditions that prevail today.

The ideas in the chapters that follow focus on the central and most enduring questions about raising taxes—who pays them, what effects do they have on the economy, and how much revenue can they raise—questions that have animated our political discourse across three centuries. While every effort

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a. Chernow, Ron. 2006, April. Presentation at the Hamilton Project at the Brookings Institution, Washington, DC.

to raise taxes provokes opposition, principled and otherwise, our current economic circumstances demand we take up those questions again.

There are a number of reasons to consider sources for more revenue. First, we have immense fiscal imbalances in the United States. In June, the Congressional Budget Office reported that “large budget deficits over the next 30 years are projected to drive federal debt held by the public to unprecedented levels—from 78 percent of gross domestic product in 2019 to 144 percent by 2049.”<sup>b</sup> Even in today’s low interest rate environment, unsound fiscal conditions will at some unpredictable moment in the future constrain the ability of policymakers to address national challenges if the debt grows continuously and today’s mix of revenues and spending remains unchanged.

Second, these imbalances are driven not by ambitious new spending programs but by previous health care and pension commitments as well as declines in federal revenues. As contributing author William Gale of the Brookings Institution writes, “much of the projected increase in spending is due to rising net interest payments—burdens created by deficits from previous years” (p. 198). To be clear, savings in government programs can be derived from thoughtful reforms, and federal budgets must reflect the necessity of stabilizing our fiscal position in the years and decades to come.

The yawning gap between spending and income is due in large part to reduced tax collections. As Larry Summers, former Secretary of the Treasury, and Jason Furman, former chairman of the President’s Council of Economic Advisors, wrote earlier this year, “the federal government [in 2018] took in revenue equivalent to just 16 percent of GDP, the lowest level in half a century, except for a few brief periods in the aftermath of recessions. Without the Bush and Trump tax cuts (and the interest payments on the debt that went with them), last year’s federal budget would have come close to balancing.”<sup>c</sup>

Third, we cannot get back on track to restore long-term economic growth, address growing economic inequality, provide affordable health care coverage, combat climate change, and much more without restoring the nation’s tax base. Simply put, we need additional revenues to pay for investments that will make our economy grow and enable more Americans to share in that growth.

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b. Congressional Budget Office (CBO). 2019. *The 2019 Long-Term Budget Outlook*. Congressional Budget Office, Washington, DC.

c. Furman, Jason and Lawrence H. Summers. 2019, January 28. “Who’s Afraid of Budget Deficits? How Washington Should End Its Debt Obsession,” *Larry Summers* (blog).

Fourth, most of these new revenues must come from those best able to pay, especially since tax cuts benefiting the highest earners account for so much of the declining share of taxes paid at the federal level. Since the late 1960s, the share of federal revenue paid by working Americans in the form of payroll taxes has increased from just over 20 percent to 35 percent. Yet corporate tax collections have plummeted from more than 25 percent to less than 10 percent of revenues,<sup>d</sup> and the top rate paid by wealthy filers has fallen from 70 percent during Lyndon Johnson’s presidency to 37 percent today.<sup>e</sup> And over the last two decades, Congress has hollowed out the estate tax to such an extent that only 0.2 percent of estates pay any tax at all.<sup>f</sup>

This has consequences beyond the bottom line. The tax system does far too little to address the concentration of income at the highest levels or fund investments that enhance economic and social mobility for workers and their families.

In short, to stabilize our fiscal trajectory, whether to make our revenue system more progressive and growth-friendly or to fund new priorities, there is an urgent need to reconsider our current tax system.

In the chapters that follow, we present our contributors’ new proposals for a value-added tax, a financial transactions tax, wealth and inheritance taxes, fixing the broken corporate and international tax systems, and giving the Internal Revenue Service the resources it needs to ensure that tax laws, both old and new, are better enforced and administered and to remove loopholes and unnecessary deductions and shelters.

Overall, these proposals are carefully designed and built on the best available evidence and analysis. Each was subject to peer review, independently and in conferences, where we invited authorities in tax policy, economists, and others to exchange their views with the authors. We are grateful to all for contributing their expertise and making each proposal better.

Tax policy is enormously complex. There are economic differences between—and disparate impacts from—taxes on capital, consumption, and labor. Straightforward computational questions can lead to contentious debates. What should be unobjectionable policy goals—for example, raising revenues in the least costly and most progressive and efficient ways—can

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d. Office of Management and Budget (OMB). 2019. “Table 2.1 Receipts by Source: 1934–2024.” Historical Tables, Office of Management and Budget, Washington, DC.

e. Urban-Brookings Tax Policy Center (TPC). 2018. “Historical Highest Marginal Income Tax Rates.” Tax Policy Center, Washington, DC.

f. Huang, Chye-Ching and Chloe Cho. 2017. “Ten Facts You Should Know About the Estate Tax.” Center on Budget and Policy Priorities, Washington, DC.



be difficult to realize in practice. We hope this book evokes an informed debate and prepares policymakers to act.

Beyond substance, higher hurdles lie in wait. In every budget and tax debate in which we've participated, some policymakers argue that tax increases will cost jobs and impede economic growth. Others argue that their hands are tied by pledges not to raise taxes signed as they campaigned for elected office. Critics of President Bill Clinton's economic program warned that raising the top rate would wreck the economy and prevent any deficit reduction from taking place. In fact, the opposite happened: economic growth was strong and surpassed expectations while large deficits turned into large surpluses. This can happen again.

This volume is about more than raising revenues and stabilizing our fiscal position. It is about preserving our market-based economy and providing for a strong and effective government that promotes not only growth but widespread economic well-being and reduced inequality for all Americans. In the coming debate over our nation's future, this is the narrative we hope policymakers and the broader public will choose to embrace, so that we may succeed in our time as Americans did in Hamilton's time, at the dawn of our national life.

ROGER C. ALTMAN

ROBERT E. RUBIN

# Introduction

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Taxation is an enduring focus of economic policy debates. Substantial reforms and changes in tax rates happen every decade: as policymakers propose new ideas, they tend to match them with new revenues or a revised tax code. This volume contributes to that vital discussion with policy options for raising revenue in efficient and equitable ways.

In this volume we present a series of policy options, authored by leading tax experts and backed by rigorous analysis, to increase federal revenue in ways that are both efficient and equitable. The policies include better tax enforcement, improved corporate taxation, increased taxation of wealth and inheritances, and taxes on financial and other transactions. Some options represent alternatives to each other; these provide informed choices for policymakers tasked with raising federal revenue. But the proposals share the goal of efficiently raising more revenue in a way that increases the burden on high earners while largely shielding low earners.

There are many reasons to raise more tax revenue. For example, the latest budget forecasts suggest that a persistent gap between federal revenue and federal spending will grow over time and thus generate a persistently increasing debt-to-GDP ratio.<sup>a</sup> Even policymakers comfortable with current debt levels may wish to phase in additional revenue over time to stabilize or slow the increase in debt.

Another reason to raise more tax revenue is the anticipated need for increases in federal spending across a range of programs and investments, including retirement and health care, infrastructure, R&D, innovation, and education. As federal discretionary spending has shrunk relative to the size of the economy in recent decades, investments in a wide range of programs have suffered.

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a. Congressional Budget Office (CBO). 2019. *An Update to the Budget and Economic Outlook: 2019 to 2029*. Washington, DC: Congressional Budget Office.

New economic challenges may also necessitate more tax revenue. For example, our response to climate change—both through mitigation and adaptation—will require increased spending in some areas. Another example is health care, where several policymakers have called for a greater federal role, which would require additional spending. Thus, even those comfortable with the current fiscal picture may have an interest in raising more revenue to fund new priorities.

Finally, putting revenue needs aside, the current tax system could be updated to make it more progressive and efficient. High levels of wealth and income inequality suggest policy options that would raise revenue in ways that increase the progressivity of the tax code. This update might require raising revenue from new sources or in new ways. We also focus on reforms that would both support economic growth and raise revenue with minimal distortions.

We begin with a chapter by Emily Moss, Ryan Nunn, and Jay Shambaugh of The Hamilton Project that examines how the federal government currently raises revenue and the effects that taxes have on the U.S. economy, as well as the considerations that motivate tax policy design. It documents the low level of federal revenue by both historical and international standards as well as the shift from reliance on corporate and excise taxes to payroll taxes, which are more regressive. The chapter also examines the distribution of wealth and income in the United States and implications for progressivity of taxation.

The first chapter of policy proposals, by Lily Batchelder of New York University, argues for the replacement of existing wealth transfer taxes with a comprehensive inheritance tax. The following chapter, written by Greg Leiserson of the Washington Center for Equitable Growth, is itself a menu of ambitious options for taxing wealth and capital income.

The next two chapters find progressive and efficient opportunities to raise revenue by taxing transactions. Antonio Weiss of the Harvard Kennedy School and Laura Kawano of the University of Michigan propose a new financial transactions tax that would raise significant revenue. William Gale of the Brookings Institution proposes a value-added tax (VAT) that would improve on similar taxes used in many other advanced economies and that, when paired with a uniform rebate to households, can implement the VAT in a progressive way.

The following two chapters address the corporate and international tax systems. Kimberly Clausing of Reed College proposes short-run reforms as well as a comprehensive reform to the taxation of multinationals—sales-based formulary apportionment—that raise revenue while reducing the incentive to move production outside the United States. Jason Furman of the Harvard Kennedy School proposes to reorient corporate tax policy in ways that raise additional revenue and increase economic growth.

The final chapter, authored by Natasha Sarin of the University of Pennsylvania, Lawrence Summers of Harvard University, and Joe Kupferberg of Harvard University and the University of Pennsylvania, proposes a more robust approach to tax enforcement and compliance, pairing this reform with complementary base-broadening measures.

There are of course more options to raise revenue than could be included in a single volume. In particular, we exclude proposals for what are known as Pigouvian taxes (see the next chapter for discussion), which address negative spillovers and aim to discourage particular activities. For example, a tax on carbon could raise revenue while mitigating emissions and slowing climate change.

Another progressive revenue-raising option, not included in this volume, is a proposal simply to raise marginal tax rates on high earners. This could be done by raising the top marginal rates or by creating a new tax bracket at a higher income level. Because these policies involve less fundamental reforms to tax policy, we do not dedicate a chapter to either of them in this volume.

Because it would not be advisable for policymakers to implement all these proposals simultaneously, the volume does not include a comprehensive revenue score. For example, a financial transactions tax may be designed differently depending on how a VAT is constructed. New wealth taxes may be less desirable if sufficient reforms are made to taxing the intergenerational transfer of wealth.

However, we do include expected revenue increases for several of the individual proposals, as illustrated in table 1 below; some of these proposals could be combined to generate larger sums of revenue. In addition, the proposals provide estimates of their distributional impacts. It is important to remember that any of these proposals would likely be implemented as part of a broader tax package, and it is the impact of the overall package on progressivity that is most important. In particular, a proposal that generates some tax burden for lower earners can be offset by other changes (e.g., increases in refundable credits or reductions in regressive taxes).

TABLE 1.

## Projected Revenue Raised by Policy Proposals in this Volume

Chapter authors	Proposal	10-year revenue estimate
Batchelder	Inheritance tax and constructive realization on gifts/bequests	\$337 billion–\$1.4 trillion, depending on exemption level
Leiserson	Wealth tax or accrual tax	\$3.0 trillion
Weiss and Kawano	Financial transactions tax	\$508 billion
Gale	Value-added tax	\$2.9 trillion
Clausing	International corporate tax	\$1.4 trillion
Furman	Domestic corporate tax	\$1.1 trillion
Sarin, Summers, and Kupferberg	Base broadening, enforcement, and other reforms	\$4.0 trillion

Note: Revenue estimates for Batchelder; Kawano and Weiss; and Gale are from the Urban–Brookings Tax Policy Center (TPC) revenue scores for this volume. Other estimates are based on the author's calculations if they were less suited for TPC modeling. Estimates for Weiss and Kawano; Batchelder are for 2020–30.



As illustrated in table 1, the proposals involve substantial sums of revenue. The financial transactions tax, targeted at a limited sector of the economy, would raise more than \$500 billion over a decade. Although reforms to estate taxation would affect a small number of households, they would raise \$300 billion to \$1.4 trillion over 10 years, depending on their design. Wealth taxes (or accrual taxation of investment income) could raise \$3 trillion over that same period. A VAT could raise nearly \$3 trillion over a decade even with a considerable rebate to ensure that the tax is progressive. Corporate tax reform would also generate trillions of dollars in new revenue. And a package of reforms proposed by Sarin, Summers, and Kupferberg—including measures to boost tax enforcement, broaden the tax base, and improve corporate taxation, among others—could raise a combined \$4 trillion. (This package overlaps with several of the other chapters, such that revenue projections cannot be added.) The scale of these estimates makes clear that there exist policy opportunities to substantially increase both federal revenue and the progressivity and efficiency of the tax code.

The proposals in this volume constitute important steps toward the improvement of the U.S. tax system. Federal revenue can be increased substantially at the same time that the progressivity and efficiency of the tax code are improved. A more growth-friendly tax system that places less of its burden on taxpayers with limited means is a vital part of any project to promote broadly shared economic growth.

# The Economics of Federal Tax Policy

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Emily Moss, *The Hamilton Project*

Ryan Nunn, *The Hamilton Project and the Brookings Institution*

Jay Shambaugh, *The Hamilton Project, the Brookings Institution, and The George Washington University*

## Abstract

The federal government faces increasing revenue needs driven by the aging of the population and emerging challenges. But the United States collects less revenue than it typically has in the past and less revenue than other governments do today. In addition, how the government raises revenue—not just how much it raises—has critical implications for economic prosperity. This chapter provides a framework for assessing tax policies and understanding their implications for growth and economic inequality.

## Introduction

At just above 16 percent of GDP in 2018, federal revenues were below the post-war average (OMB 2019b). This low level of revenues is particularly striking given the relatively strong state of the economy—when revenues would typically be above average—and substantially reflects the tax cuts enacted at the end of 2017. Looking forward, the federal government faces increasing revenue needs given the aging of the population and the need to address emerging challenges.

But how the government raises revenue—not just how much it raises—has critical implications for economic prosperity. The other chapters in this volume provide detailed proposals for how to raise revenue in efficient and equitable ways. This chapter provides important background on the current state of federal taxation in the United States and the considerations that inform tax design.

The current level of federal revenues is not just low relative to its past values, but also relative to the rest of the world. The U.S. government raises less in taxes as a share of the economy than nearly every other advanced country. This is not simply due to government doing less in the United States. The

federal government does not raise enough revenue to pay for its current and projected spending, making up the shortfall with substantial borrowing. The United States relies heavily on payroll taxes and income taxes and raises far less from corporate taxes or estate taxes. In contrast to many other countries, it also has very little direct federal taxation of consumption. U.S. tax rates have come down over the past half century, with the exception of payroll tax rates. Revenue is reduced further by credits and deductions, often known as tax expenditures.

The way we tax has important implications for economic efficiency. Taxes may discourage particular activities—employment or saving, for example—thus generating economic distortions. Recognizing this, one challenge for policymakers is to tax in ways that minimize distortions—not discouraging activities that should be taking place (i.e., those activities for which social benefits exceed social costs).<sup>1</sup> Efficient taxation can be an important part of a growth-friendly fiscal framework.

Tax design also matters for progressivity and the overall fairness of our economic system. The guiding principle of progressive taxation is that those with greater ability to pay should contribute a higher share of their resources. Perhaps the most important justification for progressive taxation is that ability to pay is sharply different across people, such that the welfare cost of a dollar in tax payments is much lower for high-income people. Someone with \$1,000,000 of income likely derives a smaller benefit from the last dollar they spend than someone with \$10,000 in income. Also, in practice the poorest of the poor simply have extremely limited resources; policymakers' goal is to increase their resources, not reduce them through taxation. Balancing efficiency and progressivity—and looking for opportunities to enhance both at the same time—is a core task for tax policymakers.

The current federal income tax system does impose higher tax rates on those with higher income, though state and local taxes and other non-income taxes often fall more heavily on the poor, making the combined system less progressive than it might appear based on income tax rates alone (TPC 2019). The high levels of both income and wealth inequality in the United States suggest a need to tilt the tax system in a more progressive direction, while doing so in as growth-friendly a way as possible.

This chapter reviews the economics of taxation and the facts about how the federal government raises revenue today. It makes clear that the current tax system does not raise enough revenue to cover costs or prevent debt levels from rising. Further, given demographic shifts and new public challenges, the need for revenue (possibly including new revenue sources)

will grow over time. The chapter also makes clear that how we raise that revenue will be crucial. Taxes have important economic effects and can cause undesirable distortions. Raising revenue in a growth-friendly way is therefore crucial. Finally, we conclude by discussing the high degree of income and wealth inequality in the United States, which strengthens the case for raising revenue in a progressive manner.

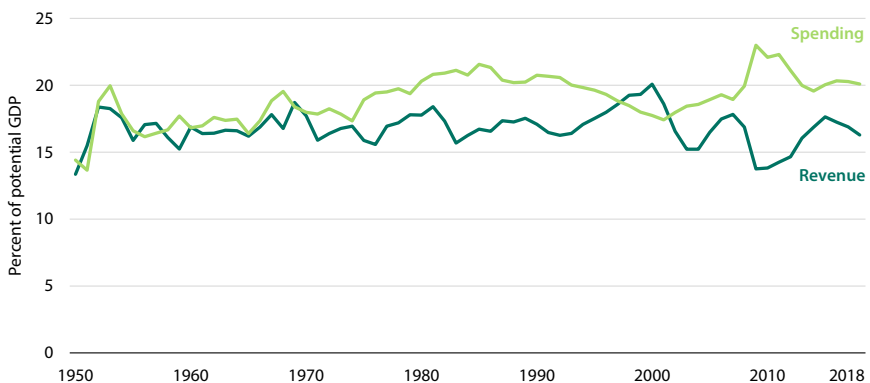
## Trends in Federal Taxation

Despite changed circumstances and policy priorities, the federal government's revenue has stayed in a range of 13–20 percent of potential GDP for the past 75 years.<sup>2</sup> However, the ebbs and flows of tax revenue have recently intensified: For example, federal revenue as a share of potential GDP dropped nearly a quarter, from 20.1 to 15.2 percent, from 2000 to 2003.<sup>3</sup> Current federal revenues are lower than the historical average and have been trending downward as a share of potential GDP since 2015 even as the economy continues to grow.

In figure 1 we plot both revenue and spending as a share of potential GDP. In 2018 federal revenue stood at 16.3 percent of potential GDP, below its 1950–2018 average of 16.8 percent. Typically, federal revenues have grown

FIGURE 1.

### U.S. Federal Revenue and Spending as Percent of Potential GDP, 1950–2018



Source: Congressional Budget Office (CBO) 1950–2018; Office of Management and Budget (OMB) 2019a; authors' calculations.

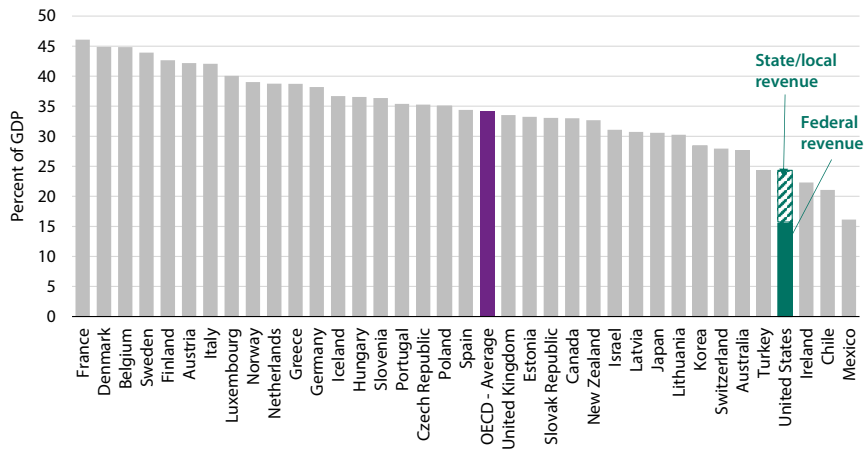
Note: Revenue and spending data are from the OMB historical tables summarizing receipts, outlays, and surpluses or deficits. Total federal revenue includes the sum of individual income taxes, corporate income taxes, social insurance and retirement receipts, excise taxes, and other federal receipts. Total federal spending includes interest and transfer payments. Estimates of potential GDP are from the CBO. Potential GDP is the maximum sustainable output that can be produced.



during economic expansions (e.g., the mid-1980s, the late 1990s, and the mid-2000s) and dipped during recessions due to both temporary tax relief and falling incomes. The recent decline in tax revenues since 2015 despite a growing economy is unusual. In addition, federal spending was 20.1 percent of potential GDP in 2018, driven higher than its long-run average by the aging of the population and the associated rise in retirement and health-care expenditures (CBO 2019a). Though today’s federal tax burden is only slightly below historical standards, it is historically low relative to federal spending. In addition, federal deficits have never been this high when the unemployment rate is this low (indicating a relatively strong economy). Though largely outside the scope of this chapter, deficits and accumulated debt are certainly a core consideration when setting the overall tax burden (Gale 2019).

Taxes in the United States are also low relative to other advanced economies. In figure 2 we show total tax revenue—including subnational and federal revenue—as a share of GDP for each Organisation for Economic Co-operation and Development (OECD) country. Ranging from France at 46.1 percent to Mexico at 16.1 percent, different advanced economies have made different choices about revenues and the size of their respective governments. The United States sits squarely on the low end of this distribution at 24.3 percent after adding state and local revenue to the 15.7

**FIGURE 2.**  
**Government Revenue as a Percent of GDP, by Country**



Source: Organisation for Co-operation and Development (OECD) Revenue Statistics 2018.  
 Note: Data are for 2018. Estimates for Australia and Japan were not updated in 2018; Australia and Japan data are for 2017. For some countries’ data, the OECD adjusts to take into account capital transfer and facilitate comparability between countries.

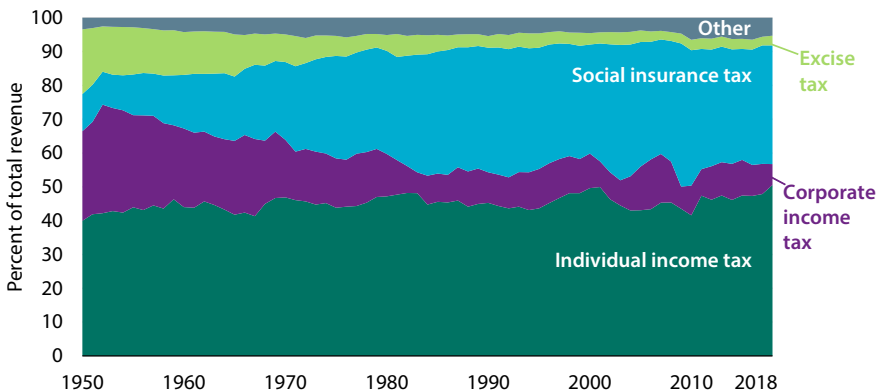
percent of GDP from federal revenue. The combined U.S. rate is nearly 10 percentage points below the OECD average of 34.3 percent in 2018.

## WHERE FEDERAL REVENUE COMES FROM

While federal revenue as a share of income has roughly remained in its historical range, the key components of federal revenue have shifted considerably over time (see figure 3). The United States has historically relied heavily on personal income taxes (including taxes on labor and investment income), raising between 39.9 and 50.6 percent of its federal revenue from that source. What has changed is that the federal government of 1950 also raised a large share of its revenue from corporate income and excise taxes (26.5 percent and 19.1 percent of revenue, respectively). Over time those sources of revenue have declined in comparison to the payroll taxes that fund Social Security, Medicare, and other social insurance programs.<sup>4</sup> This shift away from corporate and excise taxation to payroll taxation (and, to a lesser extent, personal income taxation) had significant implications for the progressivity of the federal tax system, as discussed at the end of this chapter. Given that a substantial portion of payroll taxes phases out as incomes rise, payroll taxes are regressive: Low-income individuals pay a higher share of their income than high-income individuals.

FIGURE 3.

### Sources of U.S. Federal Revenue, 1950–2018



Source: Office of Management and Budget (OMB) 2019c; authors' calculations.

Note: Data are from the OMB historical tables of federal receipts by source. Social insurance tax includes both the employee and employer portions of payroll taxes, as well as employment insurance (e.g. disability), unemployment insurance, and other retirement receipts. Excise tax includes federal funds (e.g. alcohol, tobacco) and trust funds (e.g. transportation, airport/airway). Other federal revenue includes estate and gift taxes, customs duties and fees, and other miscellaneous receipts.

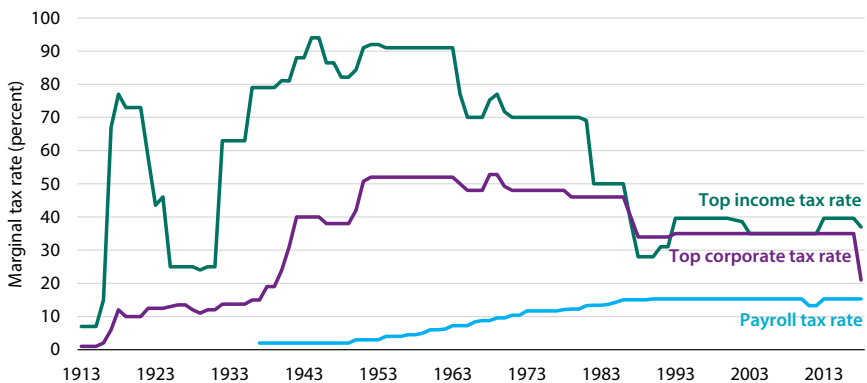
The revenue raised from a tax is the product of the taxable base and the average tax rate applied to that base. Figure 3 therefore reflects changes over time in both components. For example, an increase in the share of personal income taxes could be driven by rising rates or rising personal income, both of which would tend to raise the revenue generated by that tax. In addition, higher income inequality can raise revenue if more income is earned by those at the top of the distribution where marginal income tax rates are higher. To help illustrate this distinction between rates and the share of revenue raised, figure 4 shows changes over time in the statutory top marginal rates of federal personal income, corporate, and payroll taxation (i.e., the highest tax rate applied to income for a given tax).

Perhaps the most striking aspect of figure 4 is the dramatic decline in the top marginal tax rate on individual income since the 1960s.<sup>5</sup> In part because this decline occurred at the same time that income inequality rose sharply—exposing more income to the top marginal tax rate—the personal income tax has nonetheless maintained and slightly increased its share of federal revenues.<sup>6</sup> The decline in the top income tax rate was not uniform. At times, there have been increases in the top rate, but today it is well below its historical average.

By contrast, reductions in the corporate income tax rate have been accompanied by a falling share of federal revenues. Increases in payroll tax

FIGURE 4.

## U.S. Top Marginal Tax Rate by Federal Revenue Source, 1913–2018



Source: Internal Revenue Service (IRS) 1913–2018; Social Security Administration (SSA) 1937–2018; Urban–Brookings Tax Policy Center (TPC) 1913–2018; authors' calculations.

Note: Data for the top income tax rates are from the TPC. Data for the top corporate tax rates are from the IRS. Data for the payroll tax rates are from the SSA. Payroll tax includes both the employee and employer contributions.

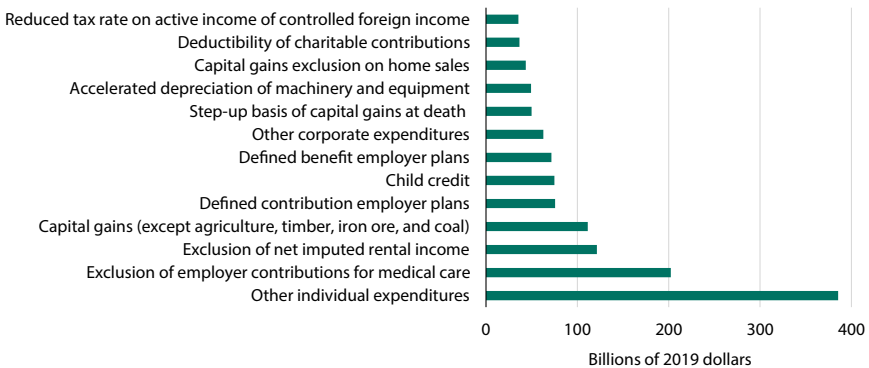
rates have led to a rising share of social insurance tax revenue (as shown in figure 3).

### THE TAXABLE BASE AND ITS CARVEOUTS

Having examined how tax rates have evolved, we now examine the taxable base, focusing on carveouts and exceptions in the personal and corporate income tax bases—referred to as tax expenditures—that constrict the scope of taxation relative to total personal and corporate income.<sup>7</sup> Figure 5 shows the annual value of these tax expenditures in fiscal year 2019.<sup>8</sup> Some are relatively familiar—such as the deduction for charitable contributions and the child credit—and others are less so, like the exclusion of net imputed rental income and the capital gains expenditure.<sup>9</sup> Most of the largest expenditures are exclusions from the individual income tax base. Of these, most (e.g., employer contributions for medical insurance) do not require the itemization of a personal income tax return because they are not counted as part of income. But many of the smaller individual tax expenditures (collected in the largest bar in figure 5) do require itemization and are consequently unavailable to low- and middle-income taxpayers who claim the standard deduction.

One way to think about tax expenditures is in terms of the public subsidy they provide for spending on tax-favored activities. For example, the deduction for charitable giving gives a strong incentive for donations, albeit only for those who itemize the deductions on their tax returns, and at a rate

FIGURE 5.  
Cost of Federal Income Tax Expenditures, by Type



Source: U.S. Department of the Treasury 2019; authors' calculations.

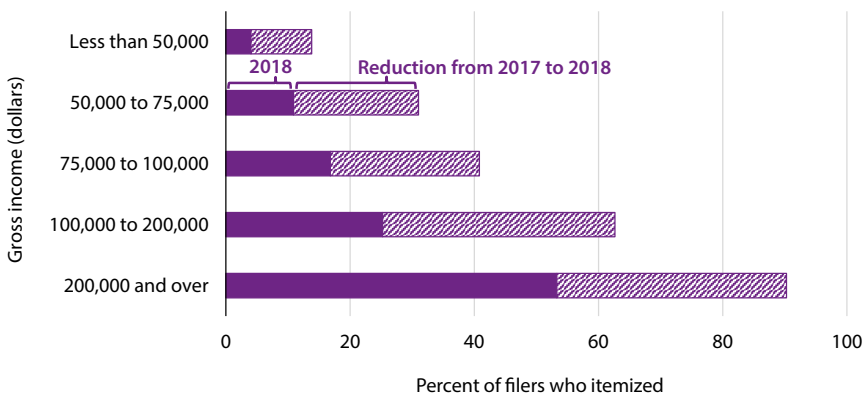
Note: Dollar amounts are fiscal year 2019 estimates. "Capital gains (except agriculture, timber, iron ore, and coal)" refers to preferential rate structure for capital gains. Refundable portions of tax credits are excluded.

that equals the marginal tax rate faced by the taxpayer (such that someone in the top bracket receives a larger subsidy for the same-sized donation than someone in a lower bracket). Understanding and evaluating a given tax expenditure is therefore partly a matter of deciding whether a particular good or service merits a public subsidy.

In addition to examining tax expenditures one by one, it is useful to examine how tax expenditures as a whole affect the tax burdens of different income groups. We explore how expenditures affect tax burdens by showing the share of filers who itemized their deductions before and after the Tax Cuts and Jobs Act of 2017 (TCJA), which dramatically increased the number of taxpayers who take the standard deduction. Figure 6 indicates that itemization is much less common than it was previously among those with less than \$200,000 in gross income. For example, of those with incomes between \$100,000 and \$200,000, 63 percent itemized in 2017 and only an estimated 25 percent itemized in 2018. As described above, this decline has implications for public subsidies—lower-earning taxpayers are no longer given a tax incentive to engage in otherwise tax-preferred activities—and renders the distribution of tax expenditures more unequal than before. After the TCJA, virtually no taxpayers with less than \$50,000 in gross income receive incentives to engage in tax-preferred activities, since virtually none of them itemizes their tax returns. The large majority of taxpayers with incomes below \$200,000 no longer itemize. It

FIGURE 6.

## Percent of Tax Filers Who Itemized in 2017 and 2018



Source: Joint Committee on Taxation (JCT) 2018; authors' calculations.

Note: The horizontal bars show the percent of taxpayers itemizing in 2017; the solid portion of the bars show the percent itemizing in 2018. "Gross income" refers to adjusted gross income plus tax-exempt interest, contributions for health plans and life insurance, employer share of FICA tax, workers' compensation, nontaxable Social Security benefits, insurance value of Medicare benefits, alternative minimum tax preference items, individual share of business taxes, and excluded income of U.S. citizens living abroad. The percent of filers who itemized in 2018 is categorized by 2017 income levels; the percent who itemized in 2017 is categorized by 2016 income levels.

has always been the case that tax expenditures disproportionately benefited high-income individuals. For the same deduction, high-income individuals lowered their taxes by a larger amount due to their higher tax rate. But, after the TCJA, itemized deductions are now more exclusively the province of the rich. The hundreds of billions of dollars of tax expenditures thus substantially reduce the progressivity of the tax code.

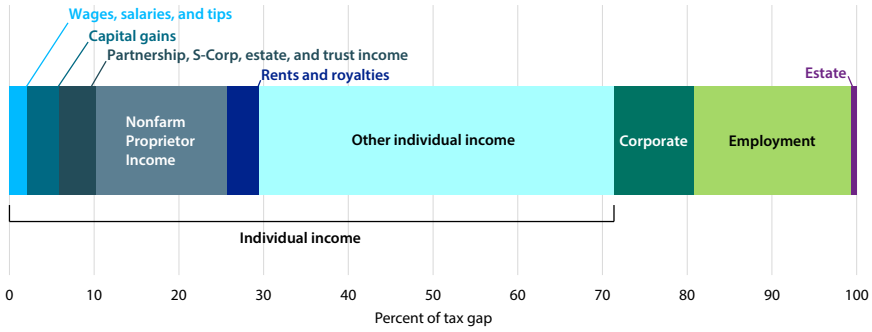
## THE EXTENT OF TAX EVASION

Tax expenditures are not the only means by which tax bases can be eroded. Some individuals and businesses simply evade taxes and refuse to pay the legally required amounts.<sup>10</sup> Tax evasion in the United States is substantial: The IRS estimates that \$441 billion, or 14.6 percent of the estimated tax due (on average each year between fiscal years 2011 and 2013), was not paid voluntarily in a timely manner; this is referred to as the gross tax gap (IRS 2019b). Figure 7a shows the misreporting rate for various components of individual income taxation, including wages, salaries, and tips; capital gains; partnership, S-Corporation, estate, and trust income; nonfarm proprietor income; and rents and royalties. Rents and royalties and nonfarm proprietor income (and to a lesser extent, capital gains and partnership income) have much higher rates of evasion than wage income (which is typically reported on a Form W-2; see also Krupkin and Looney 2017). Driven in large part by misreporting of business income, individual tax evasion is estimated by the IRS to be the largest component of the overall tax gap as shown in figure 7b.

It is important to note that the figure describes illegal evasion and not legal avoidance. As discussed in subsequent chapters by Jason Furman (2020) and Kimberly Clausing (2020), there are extensive opportunities for corporations to avoid taxation legally, such that 60 of the top Fortune 500 companies owed no taxes in 2018 (ITEP 2019). There are also many opportunities for individual taxpayers, and especially high earners, to shelter their income from taxation.<sup>11</sup>

Of course, tax authorities conduct enforcement activities that aim to boost compliance with the tax law. The federal government spends roughly \$4.7 billion per year on enforcement (IRS 2019a). An extensive system of information reporting (e.g., reports triggered when organizations make payments) allows the tax authorities to detect some noncompliance and to focus their enforcement efforts. Audits by the tax authorities are an important part of these efforts to detect and deter evasion.<sup>12</sup>

**FIGURE 7A.**  
**Tax Gap Components, 2011–13**

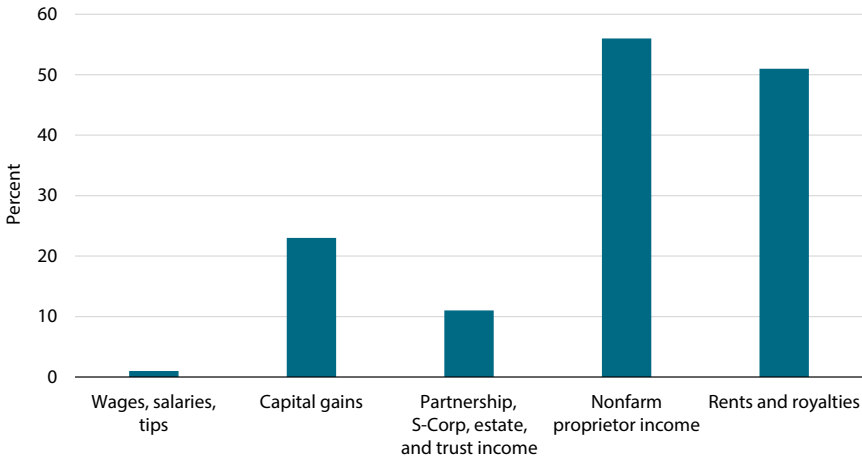


Source: International Revenue Service (IRS) 2019b; authors' calculations.

Note: Estimates are for the average of 2011, 2012, and 2013. Each component represents a given component's tax gap as a percent of the gross tax gap (\$458 billion). The gross tax gap is the sum of the nonfiling tax gap, underreporting tax gap, and underpayment tax gap. Individual incomes (wage, salaries, and tips; capital gains; partnership, S-Corp, estate, and trust income; nonfarm proprietor income; and rents and royalties) are estimates of underreporting. Other individual income, corporate, employment, and estate are sums of nonfiling, underreporting, and underpayment estimates for each given tax gap component.



**FIGURE 7B.**  
**Percent of Individual Income Taxes Underreported, 2011–13**



Source: International Revenue Service (IRS) 2019b.

Note: Estimates are for the average of 2011, 2012, and 2013. Each bar represents the percent of taxes due for that particular tax return line item that were underreported in an average year between tax years 2011–13.



## Economic Implications of Tax Design

The taxes described above do more than simply raise revenue: They also shape the economy by changing incentives and generating economic distortions. The cost of the tax system is often referred to as deadweight loss or excess burden, defined as the cost incurred by society above and beyond the revenues raised by government. (See the appendix for an illustration of deadweight loss and tax incidence.) If revenues could be raised without changing the behavior of firms or individuals, the tax system would generate no economic distortions. However, with some exceptions—Pigouvian taxes, discussed in box 1, are an important example—taxes tend to discourage socially beneficial activities and thereby generate costs for society. Another exception relates to what economists call “economic rents” (i.e., unearned profits often generated by monopoly profits or preferential government regulation). If supernormal returns—that is, returns above the normal return to capital that prevails in the economy—tend to be associated with economic rents, then taxes on those supernormal returns (see Furman 2020 in this volume) would be less socially costly.

In the case of personal income and payroll taxation, individuals subject to a tax on their labor earnings will have an incentive to supply less market labor and to spend more time on untaxed leisure. Individual responses to labor taxation can also take the form of reduced human capital investments, given that the return on those investments is diminished by the tax. Such changes in behavior contribute to the social cost of taxation (above and beyond the transfer of income from taxpayers to the government). Minimizing these costs and building an efficient tax system is an important objective for policymakers.

Fairness in taxation is just as important as efficiency. An oft-used taxonomy of fairness concerns includes horizontal equity, vertical equity, and simplicity. Horizontal equity requires that taxpayers of equal means (or in similar circumstances) face the same tax burden. This principle is violated when, for example, consumption of certain goods is taxed more heavily than consumption of other goods, causing individuals with different preferences to make different tax payments, or when tax avoidance and evasion allow some to escape taxation. Vertical equity requires that those with greater means make greater contributions. This can be understood in terms of the progressivity of a tax: the degree to which those with greater resources pay a higher *share* of their resources. And simplicity makes it easier for taxpayers to understand how they contribute, allowing participation in discussions about appropriate tax policy.



Here we focus on two concepts for understanding excess burden and fairness: the elasticity of taxable income (ETI) and progressivity, respectively.<sup>13</sup> The first is a measure of how much taxable income declines as the tax rate rises and is in some circumstances proportional to the social cost of a tax (Chetty 2009; Feldstein 1999). When an ETI is estimated to be higher for one tax instrument than for an alternative, taxpayers are escaping the tax to a greater extent either through shifts in their economic behavior or other forms of tax avoidance. In turn, a high ETI estimate is an indication that the tax is costlier than the alternative.

BOX 1.

## Pigouvian Taxes

For one specific type of tax, discouraging the taxed activity is a feature rather than a bug. A Pigouvian tax is applied to activities that have negative social impacts that are not taken into account by market participants. In the presence of such a tax, market participants internalize such costs and adjust their behavior accordingly. For example, if a firm does not pay for the pollution it generates, it will generally produce too much of a good that generates pollution. To address this problem, policymakers could regulate the pollution directly, or alternatively could apply a tax equal to the social cost of the pollution. With the latter approach, the firm faces the true social cost of its activity and engages in the efficient amount of pollution abatement.

In many ways, Pigouvian taxes are the opposite of typical taxes. Instead of seeking revenue with minimal distortions, the point of Pigouvian taxes is in fact to generate changes in behavior. They can still be used to raise revenue, and often are, but the point of such taxation is to align social costs and benefits.

A notable Pigouvian tax under discussion today is a tax on carbon emissions. Economic activities that generate carbon emissions impose costs on society, but, except in jurisdictions with a sufficiently high carbon tax or cap-and-trade system, those activities do not bear the true social cost of emitting carbon.<sup>14</sup>

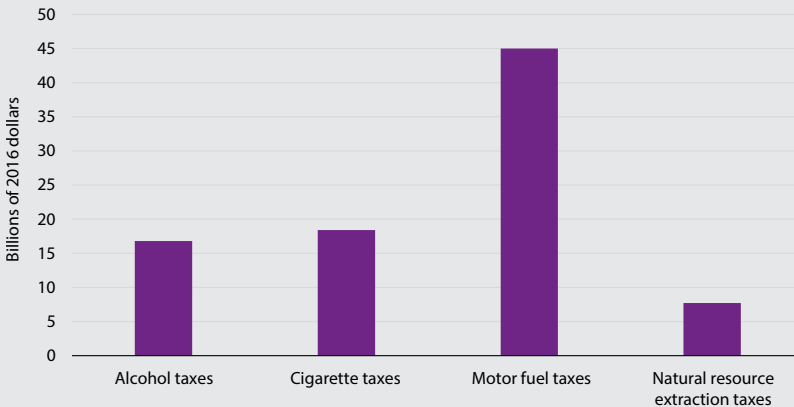
So-called sin taxes on activities such as drinking and smoking are similar to Pigouvian taxes in that they tax behaviors that have negative spillovers. However, the more important motivation

for such taxes may be that they are a source of revenue with an unsympathetic tax base. User fees (such as tolls) are also analogous to Pigouvian taxes in that when any one individual uses a road or a bridge, they generate costs for others in the form of wear and tear and congestion. By pricing the use of infrastructure, the tax or fee can realign social costs and benefits.

Box figure 1 shows the sums of revenue raised at the state and local level from taxes with Pigouvian features. A concern with such taxes is that they often fall more heavily on the poor, who spend a higher share of their income on cigarettes or gasoline, making these taxes regressive in structure. The regressivity of Pigouvian taxes can be offset with either an increase in the overall progressivity of the tax system or through lump-sum rebates.

BOX FIGURE 1.

### State and Local Revenue from Pigouvian Taxes



Source: Urban Institute 2016.

Note: Estimates are for 2016 and represent revenue from state and local governments only. Motor fuel taxes include taxes on gasoline, diesel, and gasohol. Natural resource extraction taxes (severance taxes) include taxes on the extraction of various natural resources, including oil and natural gas.

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The second concept—progressivity—is typically understood in terms of tax burden as a share of taxpayer income. When those with higher incomes face a higher average tax rate, a tax is progressive. The two concepts are sometimes in tension and sometimes in agreement. For example, additional tax enforcement could raise the effective tax rate on the highest-income households and corporations while reducing taxable income elasticities—

which would be both efficient and equitable (Saez, Slemrod, and Giertz 2012). But raising taxes on high-income taxpayers could increase progressivity at the cost of greater excess burden, depending on their response to the increase. We examine the progressivity of the tax code in the final section of this chapter.

## HOW TAXPAYERS RESPOND TO TAXES

At the most basic level, a tax rate increase tends to further discourage whatever is being taxed. This takes the form of a substitution effect (which means that untaxed activities such as leisure are now more appealing relative to taxed activities such as supplying labor in the marketplace); and an income effect (the tax reduces a person's available resources and may lead them to supply more labor). But the exact extent to which a tax discourages something is important for assessing the desirability of that tax.

There are reasons why some taxes should, in theory, be more efficient than other taxes. A land tax should be especially efficient because the total stock of land is fixed and landowners cannot (in aggregate) escape the tax. A tax on consumption, such as a value-added tax, distorts the labor-leisure decision but does not affect the decision to consume today or tomorrow. By contrast, a tax on income (with no deduction for savings) discourages both labor supply and savings. Taxes on capital income tend to lower the attractiveness of deferring consumption and thereby reduce savings and investment.<sup>15</sup>

Another relevant consideration is the *salience* of a tax. Some taxes are especially visible to payers, like an income tax that they must pay explicitly at the end of the year.<sup>16</sup> Other taxes, especially if they are not incorporated into posted prices, may be less salient and will tend to produce a smaller taxpayer response (Chetty, Looney, and Kroft 2009).<sup>17</sup>

Economists have extensively explored the empirical effects of different taxes (e.g., Gruber and Saez 2002; and Saez, Slemrod, and Giertz 2012). One of the most important effects to estimate is the ETI. As mentioned above, the ETI measures how responsive the tax base is to the tax rate. The higher the elasticity, the more dramatically the tax base erodes when the tax rate rises, and the less efficient the tax is at raising revenue.<sup>18</sup>

Some taxes tend to offer few avoidance opportunities and consequently have low ETIs. For example, payroll taxes are generally more difficult to avoid than income taxes, which results in diminished responsiveness (relative to the income tax) of the earnings base to the payroll tax rate (Lehmann, Marical, Rioux 2013; Saez, Matsaganis, and Tsakloglou 2012).

Other taxes (at least as currently designed and enforced) are easier to avoid, especially when set at high rates: Recent studies of the United States have tended to find capital gains ETIs in the range of 0.6 to 0.9, reflecting the fact that people can avoid the tax by not selling assets (Congressional Research Service 2019).

Much of the research on taxpayer responses has focused on the individual income tax, given its large role in the tax system and the many opportunities it offers for avoiding tax burden. In table 1 we present a range of ETI estimates from different researchers. The studies featured here focus on different taxpayer populations, apply different methods, and evaluate different tax reforms; it is therefore unsurprising that estimates vary. But recent studies have produced estimates between 0.3 and 0.9, which are smaller than older estimates but still suggestive of considerable taxpayer responsiveness to changes in income tax rates.

However, one should not think of the ETI as being an immutable characteristic of a tax: Saez, Slemrod, and Giertz (2012) note that the ETI is to some extent a policy choice, affected by the avoidance opportunities offered in a given tax policy environment, as well as by the enforcement activities undertaken by the tax authority. For example, if evasion is more harshly punished, the ETI will likely be lower than otherwise.

Tax expenditures are another such policy choice. When taxpayers have many opportunities to shelter income from taxation (e.g., incurring mortgage debt or delaying realizations of capital gains), a marginal tax rate increase tends to yield less additional revenue. Indeed, individuals' use of tax expenditures may be substantially more responsive to the marginal tax rate than their gross income (Hamilton 2018). This downside must be balanced against the social objective of subsidizing the tax-favored activity: for example, a tax expenditure exists for charitable donations because policymakers believe it to be in the public interest for charitable activities to be encouraged. When evaluating a tax expenditure, it is important to ask whether the favored activity is worth subsidizing through the tax code.

## **HOW THE ECONOMY RESPONDS TO TAXES**

Countries have made widely varying choices about the level of their tax burdens. As shown in figure 2, revenue as a share of GDP varies from 16.1 percent in Mexico to 46.1 percent in France in 2018. How do all these different choices affect overall economic growth and other macroeconomic outcomes?

TABLE 1.

## Taxable Income Elasticity Estimates for the Individual Income Tax

Author (date)	Estimate of taxable income elasticity	Sample	Tax law change	Dataset
Lindsey (1987)	1.6–1.8	All income groups	ERTA (1979)	SOI
Auten and Carroll (1995)	0.46–3.04	All income groups	TRA 86 (1985, 1989)	CWHS
Feldstein (1995)	1.04–3.05	All income groups	TRA 86 (1985, 1988)	SOI/CWHS
Sammartino and Weiner (1997)	Large transitory; small permanent	Top 1 percent	OBRA 90 and 93 (1989–1994)	SOI/SOCA
Carroll (1998)	0.4	> \$50K percent	OBRA 90 and 93 (1989–1995)	SOI
Auten and Carroll (1999)	1.1–1.3	Joint > \$21K Single > \$15.6K	TRA 86 (1985, 1989)	SOI
Long (1999)	0.193–0.819	\$0 to \$200K	State variation (1991)	SOI Public Use File
Goolsbee (2000)	0–0.40	Upper income	OBRA 93 (1991–1995)	S&P EXECUCOMP
Moffitt and Wilhelm (2000)	0–1.83	All income groups	TRA 86 (1983, 1989)	SCF
Gruber and Saez (2002)	0.4	All income groups	ERTA and TRA 86 (1979–1990)	SOI/CWHS
Kopczuk (2003)	0.21–0.57 without tax base effect; 0.53 overall	All income groups	ERTA & TRA 86 (1979–1990)	SOI/CWHS
Saez (2003)	0.311	All income groups	Bracket creep (1979–1981)	SOI/Michigan Panel
Saez (2004)	0–1.7 (pairs of years); 0.62 for top 1 percent	All income groups	1960–2000	SOI
Giertz (2007)	0.2–0.3	All income groups	1979–2001	SOI/CWHS
Auten and Joulfaian (2009)	0.6–1.3	Incomes exceeding \$200K	Various reforms	SOI
Heim (2009)	0.3–0.4	All income groups	EGTRRA 2001 and JGTRRA 2003	1995–2001 Edited Panel
Weber (2014)	0.86	Incomes exceeding \$10K	TRA 1986	CWHS
Kumar and Liang (2016)	0.7	Incomes exceeding \$10K	ERTA 1981, TRA 1986	CWHS

Source: Auten and Joulfaian 2009; Giertz 2004; Heim 2009; Kumar and Liang 2016; Saez, Slemrod, and Giertz 2012; Weber 2014.

Note: Estimates are net-of-tax elasticities; i.e., estimates indicate the percent increase in taxable income associated with a one-percentage-point increase in the net-of-tax rate. The net-of-tax rate is one minus the tax rate. ERTA refers to the Economic Recovery Tax Act of 1981. TRA refers to the Tax Reform Act of 1986. OBRA refers to the Omnibus Budget Reconciliation Acts of 1990 and 1993. EGTRRA refers to the Economic Growth and Tax Relief Reconciliation Act of 2001. JGTRRA refers to the Jobs and Growth Tax Relief Reconciliation Act of 2003. SOI refers to the IRS Statistics of Income data. CWHS refers to the Continuous Work History Survey of the SOI. SOCA refers to the Sales of Capital Assets panel of the SOI. SCF refers to the Survey of Consumer Finances.

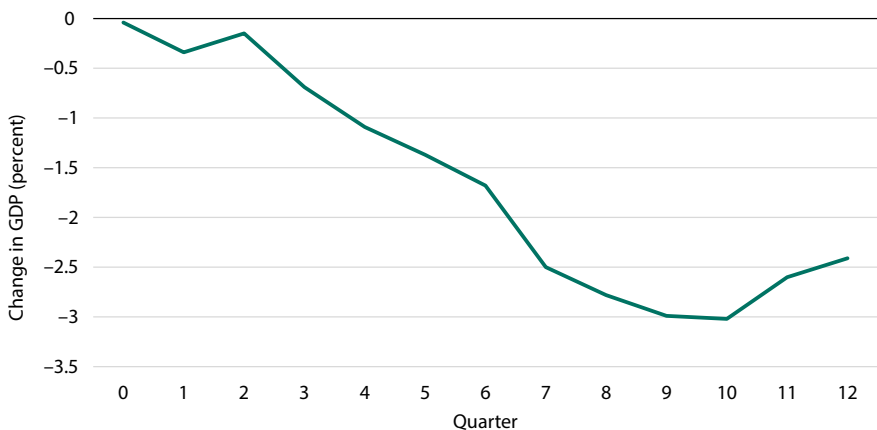
Overall tax burden reflects a balance between conflicting objectives. On the one hand, tax revenue is necessary to fund valuable public goods: infrastructure, social insurance, national defense, and other public priorities contribute to economic output and social welfare more broadly. On the other hand, taxes impose burdens on individuals and families that can be impediments to economic activity. It is therefore an empirical matter whether a small tax increase from a given level would, in the long run, tend to boost or harm economic activity.

Macroeconomic effects may also vary over the short and long runs. A deficit-financed tax cut, for example, serves as fiscal stimulus and could increase growth over the short run even if it does not increase it in the long run.<sup>19</sup>

Figure 8, reproduced from Romer and Romer (2010), shows that an incrementally larger tax burden tends to reduce GDP. The authors estimate that a one-percentage-point increase in tax burden (as a share of GDP) reduces GDP by roughly 3.1 percent (relative to a counterfactual in which taxes were not increased) after 2.5 years have elapsed. These effects are estimated based on exogenous tax changes (i.e., those not driven by changing economic conditions or by the desire to fund new government spending). Of course, taxes are usually not raised and lowered in a vacuum. If the tax increase is used to finance activities with substantial value to

FIGURE 8.

### Change in GDP After a 1-Percent of GDP Increase in Tax Revenue



Source: Romer and Romer 2010.

Note: The figure shows the estimated percent change in GDP (i.e., the percent difference between GDP with and without the tax increase) after an exogenous tax increase equal to 1 percent of GDP. Estimates control for lagged GDP growth.

the economy (e.g., education, transfers that benefit children, research, and infrastructure), the net effect on the economy could be either positive or negative. Similarly, a tax cut that generates reductions in crucial investments would likely be a net negative for economic growth.

Every tax reform is different. A reform could start from a position of fiscal strength or weakness, could occur in a strong or weak economy, and could make the tax system more or less efficient. The TCJA of 2017 made sweeping changes to the U.S. tax system and raised projected deficits by \$1 trillion to \$2 trillion over 10 years (TPC 2019). Box 2 describes estimates and projections of the 2017 law's effects on U.S. GDP.

Another way that tax reforms differ is by how they shift the burden across low- and high-income taxpayers. The effects shown in box figure 2 are for the economy as a whole, but do the macroeconomic impacts differ when tax burdens are changed for low-income versus high-income people? A recent study examining these differences found that tax increases levied on the bottom 90 percent of taxpayers are substantially more harmful to GDP, consumption, labor force participation, and employment growth

#### BOX 2.

### What Did TCJA Do for Growth?

The name of the Tax Cuts and Jobs Act of 2017 suggests that part of the stated goal of the act was to reduce taxpayer burden and spur employment to increase economic growth. A number of studies have examined the expected impact, with nearly all studies expecting a short-run boost to growth as taxpayers and firms received additional after-tax income (enabling greater spending) but a minimal long-run impact for economic growth (Mertens 2018; Page et al. 2017). Over time, many of the individual tax cut provisions expire. In addition, as detailed in Furman's (2020) and Clausung's (2020) chapters in this volume, although the law cut taxes on corporate income, it did not do so in a way that maximized the increase in economic growth.

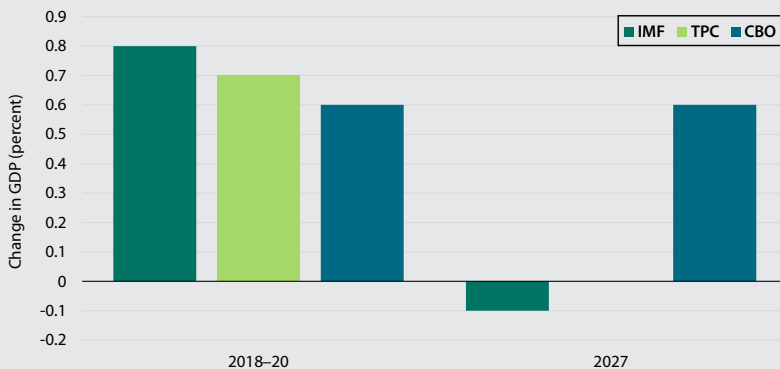
Balanced against the changes to rates are the effects of having larger levels of debt and/or smaller levels of government investment due to the \$1.5 trillion to \$2.0 trillion of reduced revenues (TPC 2019). Furthermore, even the short-run stimulus impact of the law

may have been minimized if the Federal Reserve already thought the economy was approaching full employment, in which case a tax cut may have simply caused the Federal Reserve to raise rates faster than it otherwise would have.

As seen in box figure 2, most studies expected the level of GDP to be between 0.6 and 0.8 percent higher on average from 2018–20, implying that the TCJA lifted annual growth by 0.2 to 0.4 percentage points over that period. After 10 years, though, some modelers expect that there will be zero impact on the level of GDP; the Congressional Budget Office (CBO) expects GDP to be 0.6 percent higher, which implies annual growth impacts of roughly 0.05 percentage points.

BOX FIGURE 2.

### Estimates of Percent Change in GDP Due to TCJA



Source: Urban–Brookings Tax Policy Center (TPC) 2019.

Note: Estimates are the change in GDP relative to a baseline without the TCJA in a given year. The TPC estimate for 2027 is zero.

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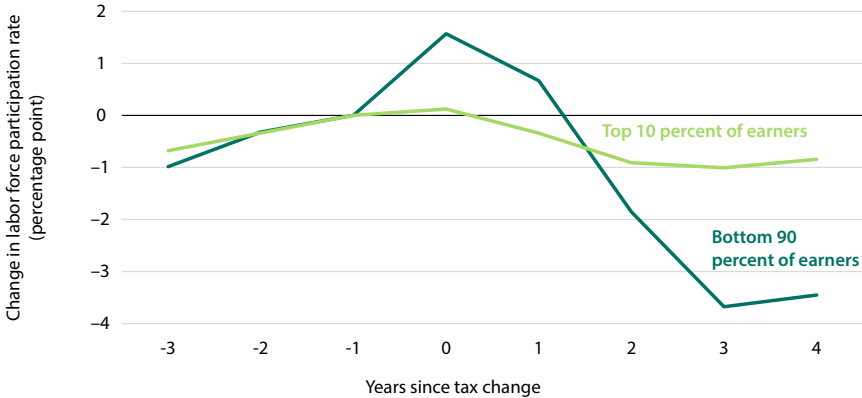
than the same tax increases levied on the top 10 percent (Zidar 2019). For consumption in particular, one possible explanation for the difference is that lower-income people are more likely to be liquidity constrained, such that a tax increase forces a sharp cut in consumption (Zidar 2019).

Figure 9 shows the effects of a tax increase equal to 1 percent of GDP on the labor force participation rate of the bottom 90 percent and top 10 percent of the income distribution, respectively. By three to four years after a tax increase, the labor force participation rate for the bottom 90 percent has



FIGURE 9.

## Effect of a 1-Percent of GDP Tax Increase on Labor Force Participation



Source: Zidar 2019.

Note: Figure shows effects of a 1-percent of GDP tax increase on the labor force participation rate for those with adjusted gross income in the bottom 90 percent nationally and for those with adjusted gross income in the top 10 percent nationally.



declined more than three percentage points. For the top 10 percent, the labor force participation rate fell only about one percentage point.

The pattern evident in figure 9 is consistent with a larger body of evidence demonstrating low and stagnant returns to work for low- and middle-wage workers (Nunn, Parsons, and Shambaugh 2019; Shambaugh et al. 2017). Lower returns to work can make labor force attachment more sensitive to changes in taxes. Figure 9 also reflects the tendency for lower-wage workers to be more exposed to cyclical fluctuations in the economy. Hence, a tax increase that reduces fiscal stimulus and slows the economy is more likely to decrease the labor force participation of lower-wage workers (Bernstein 2018).

## Distributional Impacts of Tax Policies

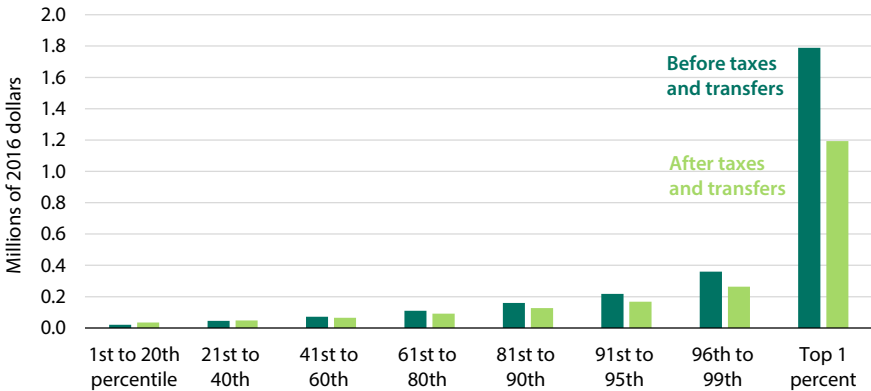
Are taxes distributed fairly? Who bears the burden of the U.S. tax system? And how does that tax system ameliorate (or exacerbate) inequality?

### **INCOME IS HIGHLY CONCENTRATED BUT FEDERAL TAXATION IS PROGRESSIVE**

The U.S. federal tax code (including government transfers) is progressive, drawing on a larger share of top earners' income than that of lower earners. Comparing the distributions of pretax and posttax income illustrates this

FIGURE 10.

## Average Income Levels Before and After Taxes and Transfers, by Income Percentile Group



Source: Congressional Budget Office (CBO) 2019b.

Note: Data are from 2016. “Before taxes and transfers” refers to market income plus social insurance benefits. Market income consists of labor income, business income, capital income (including capital gains), income received in retirement for past services, and other nongovernmental sources of income. “After taxes and transfers” refers to income before taxes and transfers plus federal, state, and local means-tested transfers (including benefits from Medicaid and the Children’s Health Insurance Program, the Supplemental Nutrition Assistance Program, and Supplemental Security Income) minus federal taxes. See CBO (2019b) for more details.

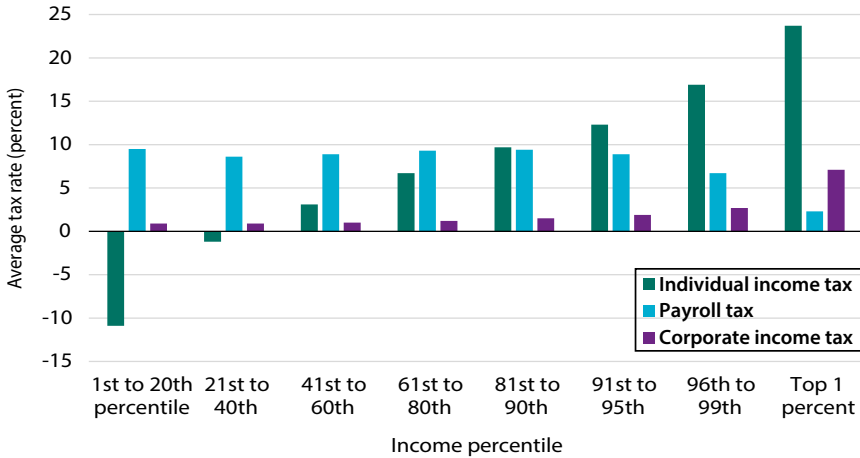


point (figure 10).<sup>20</sup> More striking, though, is the highly unequal allocation of income across households. As many have noted, the period from 1980 through the present has seen income become much more concentrated at the top.<sup>21</sup>

The current income distribution depicted in figure 10 shows this high concentration of income. By the Congressional Budget Office’s (CBO) estimate, the top 1 percent of the income distribution has an average annual income (before taxes and transfers) of nearly \$1,800,000, as compared to \$73,000 for the average of the middle quintile.<sup>22</sup> Those numbers are reduced to \$1,200,000 and \$66,000, respectively, after adjusting for taxes and transfers. At the bottom 20 percent of the income distribution, taxes and transfers boost average incomes from \$21,000 to \$35,000. Transfers—including the value of government-subsidized health care—explain why income can be higher after taxes for those at the bottom of the distribution. In some cases these transfers are not actually cash income but rather access to resources like food (through SNAP) or healthcare (through Medicaid or CHIP). The inclusion of the value of health insurance may boost incomes at the bottom of the distribution by a misleading amount if people do not place as high a value on the insurance as it costs to provide it.

FIGURE 11.

## Average Effective Federal Tax Rates by Income Percentile Group



Source: Congressional Budget Office (CBO) 2019b.

Note: Data are from 2016. Average effective federal tax rates are calculated by dividing total federal taxes by total income before transfers and taxes in each income group. Income before taxes and transfers refers to market income plus social insurance benefits. Market income consists of labor income, business income, capital income (including capital gains), income received in retirement for past services, and other nongovernmental sources of income. Social insurance benefits include Social Security and disability insurance, Medicare, unemployment insurance, and workers' compensation. Income percentile groups are created based on household income before taxes and transfers. Excise taxes are not included in this figure; thus, the sum of the average effective federal tax rates in this figure (individual income, payroll, and corporate income taxes) are not exactly equal to the effective marginal tax rates.

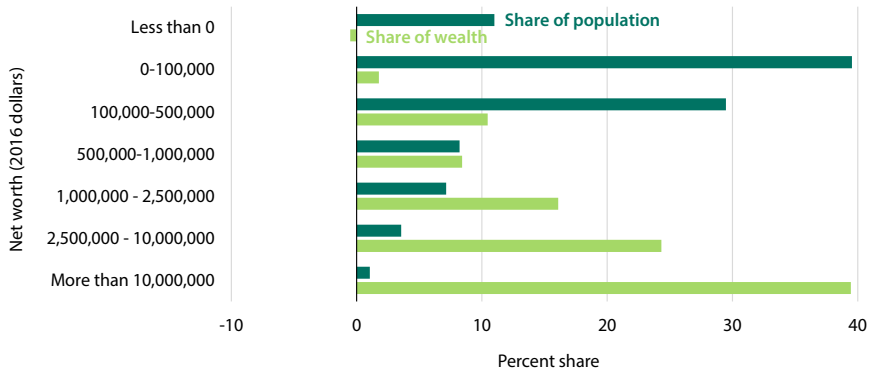
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The gaps between pretax and posttax income can also be understood in terms of the average tax rates faced by taxpayers in different parts of the income distribution. Figure 11 shows average effective federal tax rates, as opposed to top marginal rates, by percentile of the income distribution. The individual income tax is the primary driver of overall progressivity, whereas the corporate income tax, after it is assigned to individual taxpayers who ultimately bear its burden, makes a smaller contribution to progressivity, and the payroll tax has a regressive effect. For the lowest earners, tax burden consists almost entirely of payroll taxes, which for some households can be offset by refundable credits like the Earned Income Tax Credit. The shift over time away from corporate taxation and towards payroll taxation has reduced the progressivity of the tax code, as have the most recent reductions in corporate tax rates and top marginal rates on individual income.

The CBO calculated that the top percentile of earners faced an average effective federal rate of 33.3 percent in 2016, most of which is associated with the individual income tax.<sup>23</sup> At the other end of the distribution, the bottom 20 percent of the income distribution faced a combined federal

FIGURE 12.

## Wealth and Population Shares, by Net Worth



Source: Federal Reserve 2016 (Survey of Consumer Finance); authors' calculations.

Note: Data are from 2016. "Share of wealth" is created by totaling net worth across the sample. "Net worth" is defined as all assets and debts of an individual. The share of wealth for those with a negative net worth is represented as a negative value since those with a negative net worth decrease the net worth calculation.



effective rate of 1.7 percent in 2016.<sup>24</sup> Total tax burdens, inclusive of state and local taxes, are less progressive than the federal burden alone: most transfers to low-income households are funded at the federal level and state and local governments often rely heavily on sales tax or other taxes that can be regressive.

When assessing the distributional impacts of taxes, it is important to be aware that the statutory incidence of tax instruments—the distribution of actual payments made to the government—is sometimes different from *economic* incidence, which falls on the individuals who ultimately bear the burden of a tax. For example, the Social Security payroll tax is split equally between employers and employees: its statutory incidence is equally shared. But the economic incidence of the tax is believed to be mostly on workers, who experience a decline in their pretax wages when a payroll tax is instituted and effectively pay some of the employer share of the payroll tax, in addition to their own share (Fullerton and Metcalf 2002).<sup>25</sup> Changes in wages and other prices can shift the burden of a tax from the individual or business that nominally pays it to a different party.<sup>26</sup>

## WEALTH IS HIGHLY CONCENTRATED

Despite a certain degree of progressivity in the tax and transfer system, economic prosperity remains very unequally shared. This inequality is fully evident in figure 12, which draws on family-level microdata from the Survey

of Consumer Finances to show the extremely concentrated distribution of wealth.<sup>27</sup> Over 10 percent of the population has negative wealth and almost another 40 percent of the population has a net worth of less than \$100,000 (which includes housing, vehicles, and retirement wealth). One percent of the population has a net worth of at least \$10 million; this group accounts for 39 percent of total net worth held in the United States.

The U.S. tax system is largely oriented around income rather than wealth, but wealth disparities have increasingly been discussed in conjunction with tax policy (Saez and Zucman 2019). These disparities can serve as motivation for enhanced progressivity in traditional tax instruments, like estate and income taxes, or they can be addressed directly through progressive wealth taxes.<sup>28</sup> Box 3 describes two important drivers of wealth disparities: education and race.

BOX 3.

### Educational and Racial Disparities in the Distribution of Wealth

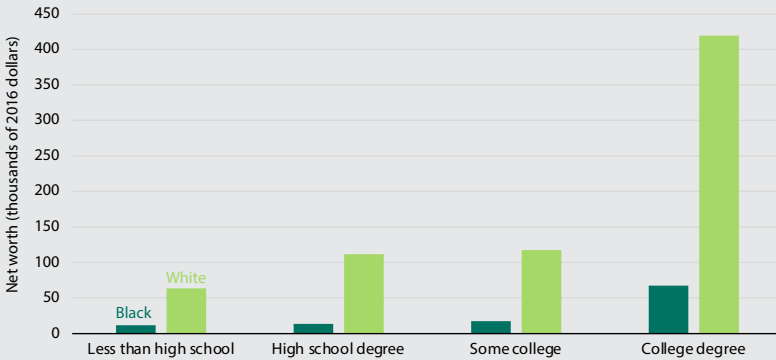
Wealth disparities across groups reflect accumulated differences in after-tax income, much of which is the product of racial barriers to economic opportunity (Hardy, Logan, and Parman 2018). Though it does not explicitly address racial disparities, tax policy affects racial wealth gaps. Those gaps are large: White households comprise 90 percent of households in the top 1 percent of the wealth distribution despite constituting only 65 percent of all households. By contrast, Black households represent 15 percent of all households but comprise 20 percent of households in the bottom 60 percent of the wealth distribution (Huang and Taylor 2019). In 2016 the median White household had a net worth 10 times greater than that of the median Black household (Federal Reserve 2016; authors' calculations).

These racial gaps persist even after adjusting for differences in educational attainment. Although college graduates—Black and White—have greater net worth than others, box figure 3 underscores that educational differences are insufficient to account for the racial wealth gap. The net worth of White household heads who have completed less than a high school education is 5.5 times greater than that of Black household heads with similar education,

while the net worth of White household heads with a college degree is 6.2 times greater than that of Black household heads with similar education. As wealth can accumulate over generations, wealth gaps can represent discrimination or unequal opportunities that persist across many generations. Similarly, wealth gaps by education represent not only the impact of education on income and wealth but also the fact that children from wealthy families are more likely to attend college.

BOX FIGURE 3.

### Median Net Worth, by Education and Race



Source: Federal Reserve 2016 (Survey of Consumer Finance); authors' calculations.

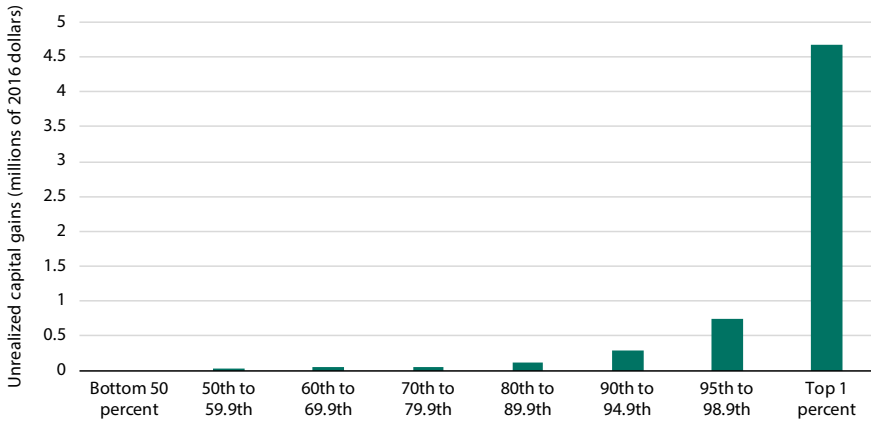
Note: Data are from 2016. Observations are household heads and restricted to ages 25 and older. "High school degree" includes observations with a high school diploma or GED. "Some college" includes observations who attended some college but did not obtain a degree, or who completed an associate degree. "College degree" includes observations with a bachelor's, master's, doctorate, or professional school degree.

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One factor that limits the progressivity of the current U.S. tax system is its treatment of capital income, which is disproportionately received by high-income taxpayers. The receipt of capital gains and dividend income are taxed at top rates of 23.8 percent and 20.0 percent, respectively—well below the 37.0 percent top marginal rate on ordinary income (TPC 2018; 2019). For some, this preferential treatment of capital income is explained by optimal tax theory: Capital income taxation can discourage savings and generate additional economic distortions relative to labor income taxation, though there is little evidence that the reduction in capital gains taxes in 2003 had meaningful impacts on savings, investment, or growth (Yagan 2015).<sup>29</sup>

FIGURE 13.

## Median Unrealized Capital Gains, by Net Worth



Source: Federal Reserve 2016 (Survey of Consumer Finance); authors' calculations.

Note: Data are from 2016. Data include the following capital gains: primary residence, other real estate, businesses, and stocks and pooled investment funds.

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But the lower rates for capital gains and dividends are sometimes also justified by the realization-based nature of capital income. That is, investors do not pay tax until they “realize” a capital gain by selling an asset that has risen in value.<sup>30</sup> Higher capital gains tax rates intensify the taxpayer incentive to delay their capital gains realizations, thereby limiting how much tax revenue can be obtained as well as distorting the allocation of assets in capital markets. A taxpayer with a gain can effectively continue to generate additional capital income with money that would have been paid to the government if they had instead sold the asset.

Even with relatively low tax rates for capital income, taxpayers maintain vast unrealized capital income. Figure 13 shows the distribution of unrealized capital gains by taxpayer net worth. The top 1 percent of wealth holders possess on average \$4,670,000 of capital gains that they have yet to realize, while those in the 50th to 59th percentile of net worth report only \$27,000. *Realized* capital gains in a typical year averaged roughly \$700 billion from 2014 to 2016, or roughly 4 percent of GDP.<sup>31</sup> In general, capital gains taxation represents less than 10 percent of overall income taxes paid (Federal Reserve 2016). Combined with the small—and shrinking—share of taxes from corporate income, this means a large share of U.S. taxation falls on work, and not on wealth.

## Conclusion

Decisions about taxes are among the most frequently and hotly debated policy choices a government makes, affecting people in many aspects of their lives. Changes in tax policy generally create both winners and losers and are therefore especially controversial. The United States remains a relatively lightly taxed economy, and projections are that tax revenue will substantially lag spending for the foreseeable future.

Fiscal policy must be evaluated from several perspectives. From a macroeconomic standpoint, the size of a budget deficit (or surplus) matters for the amount of aggregate demand the government is providing to the economy; a fiscal deficit can also raise solvency concerns and affect financial market conditions more broadly. From a microeconomic standpoint, the details of spending policy are crucial: Government spending on infrastructure, education, health, research, defense, and countless other priorities help determine our economic future. Spending on income transfers, whether to the elderly or the poor, can have substantial impacts on peoples' lives and overall income inequality.

How revenue is raised, though, can be just as important. Taxes can discourage some economic activities or, via deductions and credits, can be used to encourage activity. Current tax policy falls heavily on work through payroll taxes and income taxes. Capital income is also taxed, but the corporate tax raises far less revenue as a share of the economy than it used to, and capital gains and estate taxation are a small share of income taxation. Furthermore, while the U.S. tax code is on average progressive, high levels of income and wealth inequality provide strong arguments for raising revenue in a more progressive fashion.

## Appendix

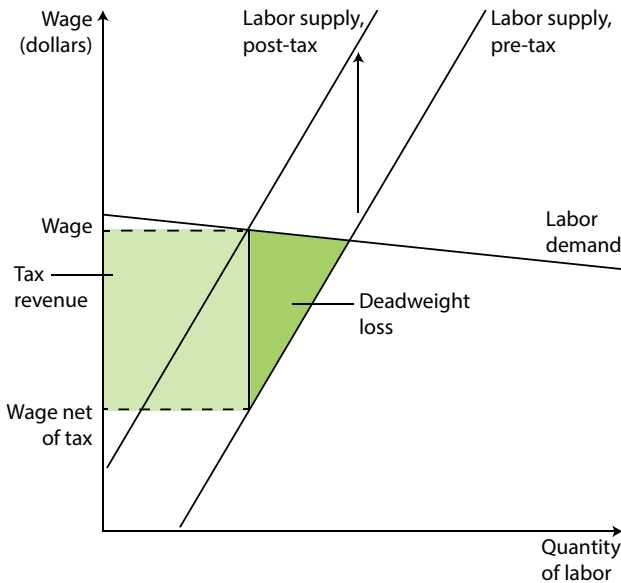
When an activity is taxed, it is discouraged to some extent. Appendix figure 1 characterizes this effect and the possible distortions that arise from taxation by showing the impact of an income tax on labor supply. The impact of the tax is depicted by the inward shift in the labor supply schedule from the pretax to posttax lines.<sup>32</sup> Workers receive a lower wage net of the tax, and thus the amount of labor workers are willing to supply would be lower at the same wage before the tax was instituted. The darker green shaded area directly below that arrow is the deadweight loss. This deadweight loss represents the fact that the tax does not simply raise revenue, but also generates a reduction in the taxed activity. The more an activity is discouraged, and the larger this shaded area, the larger the



efficiency cost of a tax. As discussed near the end of this chapter, figure 8 also depicts the *incidence* of a tax, or the allocation of the burden across market participants. In this case, the bulk of the tax falls on workers, but a small portion falls on firms who will need to pay more to get a given amount of labor due to the labor supply shift.

APPENDIX FIGURE 1.

## The Deadweight Loss from Taxation



## Acknowledgments

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## Endnotes

1. As is discussed later, in some cases the government wants to discourage certain activities and can use taxes to curtail them (e.g., smoking or pollution).
2. Potential GDP is a measure of maximum sustainable economic output; it abstracts from business cycle volatility that generates fluctuations in actual GDP.
3. This decline was prompted by major tax cuts in 2001 and 2003 as well as a recession in 2001.
4. The reduction in corporate tax revenue share is partly attributable to the increase in income flowing to pass-through businesses (Smith et al. 2019).
5. Note that the top marginal rate and the average tax rate (not shown in figure 4) are distinct; over time the fraction of taxpayers (and taxable income) exposed to the top marginal rate can vary.
6. This is in part due to a shift from corporate income to business pass-through income that increased personal income tax revenue (Smith et al. 2019).
7. The payroll tax base is comparatively simple, consisting of personal labor income up to a cap (\$132,900 in 2019) for the 12.4 percent Social Security taxes and personal labor income without a cap for the 2.9 percent Medicare payroll tax.
8. Note that these calculations are static in the sense that, for example, the capital gains expenditure assumes no taxpayer response if the capital gains tax rate were to be raised to that of ordinary income taxation (Kamin 2015).
9. The rent that landlords receive is subject to tax. Similarly, economists think of homeowners as paying (in their capacity as housing users) themselves an imputed rent (in their capacity as housing owners). This imputed rent is not subject to tax under current law. The capital gains expenditure is the lost revenue associated with the lower rate on capital gains relative to personal income.
10. In the public finance literature, the term “evasion” refers to illegal activities, while the term “avoidance” refers to legal responses to taxes that may include use of tax expenditures.
11. For example, taxpayers respond substantially to the estate tax, with larger responses from those who have advance warning of their deaths (Kopczuk 2007, 2013).
12. Slemrod (2019) reviews empirical research on tax evasion and strategies to combat it. He explains that the optimal degree of tax enforcement depends on the costs of these strategies as well as the efficiency costs and equity concerns raised by tax evasion. See also Sarin and Summers (2019) for an extensive discussion of tax enforcement in the United States.
13. We follow the public finance literature in defining the ETI as the percent change in taxable income resulting from a 1-percent increase in the net-of-tax rate, which is in turn defined as one minus the tax rate.
14. For a detailed discussion of carbon taxes, see The Hamilton Project and Stanford Institute for Economic Policy Research (2019) and Morris (2013).
15. Tax economists have described conditions under which it is socially optimal to set a tax rate of zero on capital income (Chamley 1986 and Judd 1985). However, practical considerations, such as the ease with which labor income can be misclassified as capital income (Christiansen and Tuomala 2008; Smith et al. 2019) or imperfections in capital markets (Piketty and Saez 2012), among other reasons, justify substantial positive capital income tax rates. See also Conesa, Kitao, and Krueger (2009) for further discussion.
16. Policy choices about implementation of a tax can affect its salience. For example, income tax withholding may reduce the salience of the income tax by reducing or eliminating the necessity of making an end-of-year payment (Jones 2012).
17. For reasons of space, we do not discuss other types of response. For example, Piketty, Saez, and Stantcheva (2014) suggest a role for bargaining effects, whereby low tax rates on income induce high earners to bargain aggressively for additional compensation.
18. Researchers focus on the compensated ETI, which is the taxpayer response to an increased rate when holding taxpayer utility constant. In other words, the compensated ETI abstracts from income effects and implicitly assumes that tax revenues are returned lump sum to taxpayers.
19. Some researchers argue that fiscal contraction, particularly when associated with spending reductions, can be expansionary in some special circumstances (Alesina, Favero, and Giavazzi 2018), but the overwhelming bulk of evidence shows that fiscal expansion when the economy is below full employment has positive impacts. See Boushey, Nunn, O’Donnell, and Shambaugh

- (2019) for discussion.
20. Posttax income includes transfers like benefits from Medicaid and the Children's Health Insurance Program, the Supplemental Nutrition Assistance Program, and Supplemental Security Income.
  21. See Piketty, Saez, and Zucman (2019) as well as the updated data available at <http://gabriel-zucman.eu/usdina/>. There is a consensus that the top share of pre-tax/pre-transfer income has increased over time. However, researchers disagree about the precise size of this increase (for example, see Auten and Splinter 2019).
  22. It is important to note that this constitutes a snapshot of income and does not capture volatility. Auten, Gee, and Turner (2013) found that more than half of those in the top one percent dropped out of that group after five years.
  23. Researchers disagree about this number and the overall progressivity of the tax code. In particular, there are debates about the very top of the distribution where Saez and Zucman (2019) find a lower tax rate for this group (inclusive of federal, state, and local taxes) than for many other taxpayers. See also Piketty, Saez, and Zucman (2018) and Auten and Splinter (2019).
  24. One important analytical consideration is whether transfers are included in the definition of income used to estimate average tax rates. Saez and Zucman (2019) calculate a bottom 50 percent average tax rate of 25 percent (inclusive of all local, state, and federal taxes) when excluding the refundable portion of tax credits from the denominator, whereas Auten and Splinter (2019) calculate this rate to be 13 percent when including transfers in the denominator (both calculations are for 2015).
  25. However, statutory incidence may affect economic incidence to some extent, as was found by Saez, Matsaganis, and Tsakoglou (2012) in a study of a Greek tax reform, and by Chetty, Looney, and Kroft (2009) in cases where tax salience is limited.
  26. The corporate income tax produces an even more complicated problem for analysts seeking to understand its incidence. Ultimately, corporate taxation is borne by some combination of workers, consumers, and capital owners. If wages fall in response to an increased corporate income tax, then workers bear some of the total burden. The Urban-Brookings Tax Policy Center (TPC), for example, assumes that in the long run workers bear 20 percent of the burden of the corporate income tax (TPC 2019).
  27. The Survey of Consumer Finances sample excludes the top earners listed in the Forbes 400, which limits its ability to capture wealth owned by the very wealthiest families. The Survey also omits the capitalized value (i.e. wealth) of defined benefit retirement income. However, it has the desirable features of (a) capturing the market value (as opposed to book value) of assets, and (b) not being sensitive to estimated parameters like rates of return, among other advantages (Bricker et al. 2016). Other methodological approaches to wealth estimation like the estate and capitalization approaches can provide complementary assessments of wealth inequality.
  28. See the subsequent chapters in this volume by Lily Batchelder (2020) and Greg Leiserson (2020).
  29. Yagan (2015) finds that the reduction in the dividend tax generated no new corporate investment or increased employee compensation.
  30. Realized capital gains are procyclical, boosting federal revenues during economic booms and reducing revenues during downturns. This can make the tax system appear more progressive during booms, when high-income taxpayers report substantial capital gains income.
  31. Capital gains accruing to the bottom 80 percent represent less than 1 percent of that cohort's taxable income, but those accruing to the top 1 percent account for as much as 40 percent of their income (Federal Reserve 2016).
  32. There is also an offsetting income effect. Because the tax makes people poorer, they may want to work more to have a desired amount of income to spend. The shift shown in the figure is the total effect including this offsetting influence.

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# Leveling the Playing Field between Inherited Income and Income from Work through an Inheritance Tax

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## Abstract

Despite our founding vision as a land of opportunity, the United States ranks at or near the bottom among high-income countries in economic equality and intergenerational mobility.<sup>1</sup> Our tax code plays a key role. Inherited income is taxed at less than one-seventh the average tax rate on income from work and savings. This chapter proposes a major step toward leveling the playing field by requiring wealthy heirs to pay income and payroll taxes on inheritances they receive above a large lifetime exemption. As part of this shift, the proposal would repeal the current estate and gift taxes and would tax accrued gains (beyond a threshold) on transferred assets at the time of transfer. It would also substantially reform the rules governing family-owned businesses, personal residences, and the timing and valuation of transfers through trusts and similar vehicles. The Urban-Brookings Tax Policy Center estimates the proposal would raise \$340 billion over the next decade if the lifetime exemption were \$2.5 million, and \$917 billion if it were \$1 million, relative to current law.

The proposal would almost exclusively burden the most affluent and most privileged heirs in society, while the additional revenues could be used to invest in those who are not as fortunate. As a result, the proposal would soften inequalities, strengthen mobility, and more equitably allocate taxes on inheritances among heirs. It would also enhance efficiency and growth by curtailing unproductive tax planning, increasing work among heirs, and reducing distortions to labor markets and capital allocation. Furthermore, the proposal is likely to increase public support for taxing inherited income. While the burdens of estate and inheritance taxes both largely fall on heirs, inheritance taxes are more self-evidently “silver spoon taxes” and appear to be more politically resilient as a result.



## Introduction

One of America's founding ideals is as a land of opportunity—a nation where one's financial success depends relatively little on the circumstances of one's birth. To be sure, we have had great failings in this regard. But equality of opportunity has remained a shared goal of liberals and conservatives alike.

Despite this founding vision, today the United States has one of the lowest levels of intergenerational economic mobility among high-income countries. While there are many drivers, our tax code plays a key role. Nowhere is this more evident than the taxation of wealth transfers. One child inheriting tens of millions of dollars while another inherits nothing is perhaps the paradigmatic example of unequal opportunities. But under current law recipients of large inheritances can exclude the entire amount they inherit from their tax returns. Meanwhile, those who live solely off their earnings rather than inheritances must pay both income and payroll taxes on everything they earn.

The estate tax and its cousins—the gift tax and the generation-skipping transfer tax—were meant to partially address this omission. But over time they have withered as Congress has repeatedly raised their exemptions and lowered their rates. In 2020 they are projected to raise \$16 billion, implying an average tax rate on inherited income of only 2 percent (appendix table 1, Urban-Brookings Tax Policy Center [TPC] 2018c; author's calculations). This is less than one-seventh the average tax rate on income from work and savings. Broadening economic opportunity will require many changes, but one vital reform is strengthening the taxation of inheritances.

This chapter proposes raising more revenues from large inheritances and fundamentally changing the way they are taxed. There would no longer be a separate wealth transfer tax system. Instead, taxation of inheritances would be integrated into the income and payroll taxes. A wealthy heir would simply pay income and payroll taxes on their large inheritances, just as a police officer or teacher does on their wages. The focal point for assigning tax burdens would shift from the amount the donor transfers to the amount heirs receive.

Specifically, the proposal would require heirs to include any inheritances they receive above a large lifetime exemption as ordinary income on their income tax returns. They would also have to pay payroll taxes (disregarding the Social Security maximum earnings threshold) on inheritances above this threshold, for which they would accumulate Social Security benefits up to the maximum benefit amount.

In addition, the proposal would partially repeal two provisions in the income tax—carryover basis and stepped-up basis—that, respectively, substantially reduce the tax due on accrued gains on gifted assets and completely eliminate it for bequeathed assets. Instead, such gains would be taxed at the time of transfer to the extent they are especially large. To address concerns about family-owned and -operated businesses and primary residences, the proposal would allow heirs to indefinitely defer any inheritance tax they owe (with interest) to the extent it could require them to sell such assets. Finally, the proposal would curtail tax avoidance through a suite of reforms to the rules governing the timing and valuation of transfers through trusts and similar vehicles.

The proposal would raise a large amount of revenue based on estimates by the Urban-Brookings Tax Policy Center (TPC). If the lifetime exemption were \$2.5 million, it would raise \$340 billion over the next decade. If the lifetime exemption were \$1 million, it would raise \$917 billion, and if it was \$500,000, the proposal would raise about \$1.4 trillion. These lifetime exemptions would limit the proposal's reach to those receiving exceptionally large inheritances—the top 0.02 percent, 0.08 percent, and 0.18 percent, respectively, when ranked by inheritance size. Moreover, the proposal would probably raise even more because TPC was not able to model several of its revenue-raising features. These funds could be used to invest in Americans who are less privileged, further mitigating unequal opportunities.

The proposal would take a large step toward leveling the playing field between income from inherited wealth and income from work, while also taxing similar inheritances in a more similar way. In doing so, it would soften inequalities and strengthen mobility. It would also enhance efficiency and growth by curtailing unproductive tax planning, increasing work among heirs, and reducing distortions to labor markets and capital allocation.

A further benefit of the proposal is that it would also more equitably allocate taxes on inheritances among heirs. At an aggregate level, the economic burden of revenue-equivalent estate taxes and inheritance taxes is not very different. Both are largely borne by the most affluent and privileged heirs in society. This occurs because both have sharply progressive rate structures, and, on average, heirs of large estates receive large inheritances and are relatively high-income themselves. But this is not always the case: Some heirs of very large estates receive small inheritances and are not that well off. Some heirs of smaller estates have inherited a great deal over time and are very affluent. As a result, the inheritance tax proposed here would

allocate tax burdens much more precisely based on heirs' economic status than our current wealth transfer taxes do.

Finally, and perhaps most importantly, shifting to an inheritance tax is likely to increase public support for taxing inherited income because it would better align the public's understanding of wealth transfer taxes with their actual economic effects. Experts on both sides of the aisle agree that wealth transfer taxes are largely borne by heirs, and not by their benefactors, regardless of whether they are structured as estate or inheritance taxes (Batchelder and Khitatrakun 2008; Mankiw 2003). But the structure of an estate tax makes it easier for opponents to characterize it as a double tax on frugal, generous entrepreneurs who just want to take care of their families—even though nothing could be farther from the truth. Instead, the estate tax is the only tax that ensures wealthy heirs pay at least some tax on large amounts of inherited income, even if at much lower average rates than apply to income from good, old hard work. Nevertheless, inheritance taxes are more self-evidently “silver spoon taxes” and, as a result, appear to be more politically resilient.

## The Challenge: Why Reform the Taxation of Inheritances?

In 2020 Americans are projected to inherit about \$765 billion in gifts and bequests (appendix table 1). This represents roughly 4 percent of annual household income (appendix table 1, TPC 2018a; author's calculations). This estimate excludes wealth transfers to spouses and transfers that support minor children. Beyond this annual flow, a large share of existing wealth was derived from inheritances. Inheritances represent about 40 percent of all wealth (Davies and Shorrocks 2000; Piketty and Zucman 2015; Wolff and Gittleman 2014).

The estate tax and its cousins—the gift tax and the generation-skipping transfer tax—are the only federal taxes that apply directly to inherited income. But those taxes are projected to raise only \$16 billion in 2020, implying an effective tax rate of 2 percent (appendix table 1; TPC 2018c; author's calculations). Expanding and reforming the taxation of inheritances would improve the fairness and efficiency of the fiscal system, spur growth, and reduce tax complexity and associated tax planning.

### **FAIRNESS**

The United States faces two related challenges that call for increasing the progressivity of our fiscal system overall, and specifically for

taxing inheritances more heavily: high economic inequality and low intergenerational mobility. Among high-income countries, the United States has the second-highest level of income inequality after taxes and transfers and the highest level of wealth inequality (Balestra and Tonkin 2018; Batchelder and Kamin 2019; Organisation for Economic Co-operation and Development [OECD] 2019a, 2019b). As a group, the top 1 percent receives more income than the bottom 40 percent and owns more wealth than the bottom 95 percent (Wolff 2017). Both income and wealth inequality are heavily skewed by race (Wolff 2018).

Despite our national mythos as a land of opportunity, the United States also has one of the lowest levels of intergenerational economic mobility. That is, relative to other countries, financial success in the United States depends heavily on the circumstances of one's birth. On average, a father in the United States passes on roughly one-half of his economic advantage or disadvantage to his son (Corak 2013).<sup>2</sup> Among other high-income countries, the comparable figure is typically about one-third, and in several countries it is one-fifth. There are even larger mobility barriers among some communities of color. Black men in particular have far less upward mobility and greater downward mobility than others, and to such a large extent that the current black–white income gap is not projected to change at all if these mobility dynamics persist (Chetty et al. 2018).

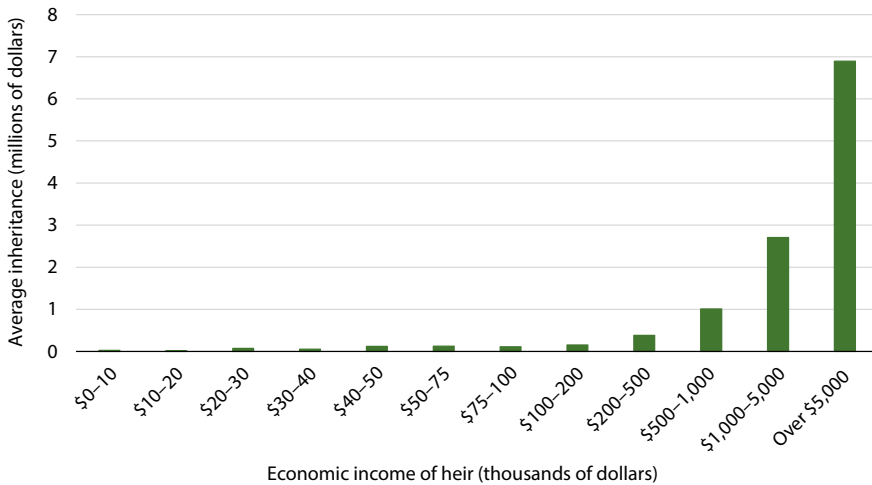
Inheritances exacerbate both these challenges. Among households receiving an inheritance in 2020, those with economic income over \$1 million are, on average, expected to inherit \$3 million, while those with economic income under \$50,000 are expected to inherit only \$62,000 (see figure 1; for further data, see appendix table 2).<sup>3</sup> Inheritances thus increase within-generation inequality on an absolute basis, conferring much larger benefits on high-income families than on low-income families.<sup>4</sup>

Inheritances also magnify wealth disparities by race. White households are twice as likely as black households to receive an inheritance. Moreover, receipt of an inheritance is associated with a \$104,000 increase in median wealth among white families, but only a \$4,000 increase among black families (Thompson and Suarez 2015).

Inheritances have even-more-dramatic effects on intergenerational mobility, substantially increasing the degree to which a child's economic future is determined by the luck of their birth. Indeed, by some estimates, financial inheritances are a more important predictor of a child's future earnings than are the child's IQ, personality, and education *combined* (Bowles, Gintis, and Groves 2005).

FIGURE 1.

## Average Inheritance Received by Economic Income Group among 2020 Heirs



Source: Appendix table 2.

Note: Economic income is expanded cash income plus one-fifth of gifts and bequests received.

THE HAMILTON  
PROJECT  
BROOKINGS

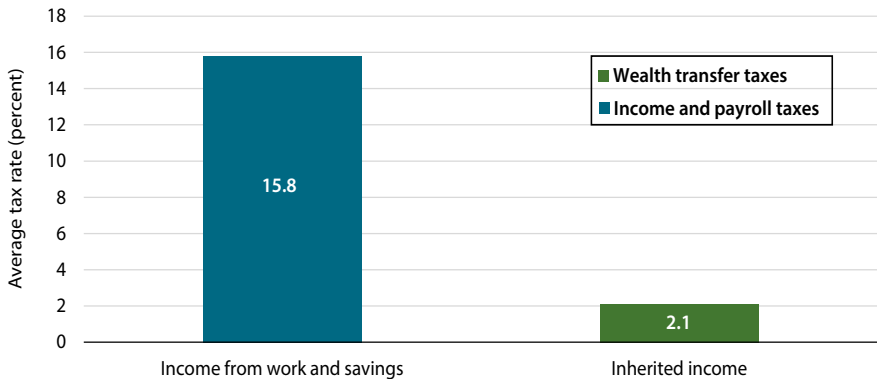
Given the degree to which inheritances drive inequality in economic opportunities, one would think tax policy would try to ameliorate their effects. But current law does very little in this regard. For example, if a wealthy individual bequeaths assets with \$10 million in unrealized gains, neither the donor nor the heir ever has to pay income or payroll tax on that \$10 million gain because of a provision called stepped-up basis. In addition, inherited income is excluded from the income and payroll tax bases. That is, beneficiaries of large inheritances are never liable for income or payroll tax on the value of inheritances they receive—regardless of whether the inheritances are attributable to unrealized gains.<sup>5</sup>

Some argue that any income or payroll tax previously paid by a wealthy donor on assets they gift or bequeath should count as taxes paid by the heir. But the donor and heir are two separate people. When a wealthy individual pays their personal assistant's wages out of after-tax funds, we do not think the assistant has therefore paid tax on their own wages. Likewise, a wealthy heir has not paid tax on their inherited income just because their benefactor paid tax on their income that was used to fund the inheritance.

Others argue that only money earned in exchange for goods and services should be subject to income tax. But the income tax does, and should, be levied on all forms of income that increase one's ability to pay, like winning the lottery (which is, after all, not so different from inheriting wealth).

FIGURE 2.

## Average Tax Rates on Income from Work and Savings vs. Inherited Income



Sources: Appendix table 1; TPC 2018b, 2018c; author's calculations.

Note: Estimate for inherited income is for 2020. Estimate for income from work and savings is for 2019. Both estimates include the individual income tax, the employee and employer shares of the payroll tax, and wealth transfer taxes (the estate tax, gift tax, and generation-skipping transfer taxes). However, inherited income is not currently subject to income and payroll taxes, and income from work and savings is not subject to wealth transfer taxes.



The estate tax and its cousins were meant to partially address these inadequacies of the income and payroll taxes, which would otherwise leave inherited income to be effectively taxed at a zero rate. Importantly, bipartisan experts agree that the heirs of large estates, and not their benefactors, largely bear the burden of wealth transfer taxes (Batchelder and Khitatrakun 2008; Mankiw 2003).<sup>6</sup> As such, those are the only taxes on inherited income.

But the exemptions in our current wealth transfer taxes are so large (\$23.2 million per couple in 2020) and the base so porous that income in the form of inheritances is taxed at an average rate of only 2 percent, as illustrated in figure 2. This rate is less than one-seventh of the average tax rate—levied in the form of income and payroll taxes—on income from work and savings.

In a fairer system, income from large inheritances would actually be taxed at a higher rate than income from work. Recipients of large inheritances are better off than people who earn the same amount of money by working because heirs incur no opportunity cost: They have not had to give up any leisure or earning opportunities in order to receive their inheritance. All else equal, therefore, fairness demands that heirs pay more taxes on the same amount of income, not less.

But all else is not equal. Recipients of large inheritances also typically benefit from a huge leg up in life in other ways that mean they can earn relatively more if they choose to work. Wealthy heirs generally have access to the best education, valuable social networks, easy and inexpensive access to credit, and a safety net that protects them if they take risks that do not pan out. These advantages further strengthen the case for taxing inheritances at a higher rate than income from work.

Increasing the progressivity of income and payroll taxes could substantially reduce inequality and broaden opportunity. Indeed, cross-country analysis finds that within-generation income and wealth inequality are associated with less economic mobility across generations (Corak 2013). Yet this approach would be insufficient without stronger taxes on inheritances specifically. More progressive income and payroll taxes cannot ensure that large inheritances are taxed at similar or higher rates than wage income as long as inheritances are excluded from their tax bases.

## **EFFICIENCY AND ECONOMIC GROWTH**

The relatively light taxation of income in the form of inheritances compared to income from work and savings also reduces the efficiency of the tax system and impedes growth. Indeed, several studies estimate that, when one combines efficiency and fairness concerns, the optimal tax rate on large inheritances is far higher than current law—on the order of 60 to 80 percent (Batchelder 2009; Piketty and Saez 2013a).<sup>7</sup> The optimal top tax rate on other forms of income is also much higher than current law (for a review, see Piketty and Saez 2013b). But increasing taxes on large inheritances may nevertheless be more efficient than comparably progressive increases to income taxes.<sup>8</sup>

To understand why, it is important to distinguish the different reasons why people with very large estates might have saved. It is an article of faith among estate tax opponents that wealth transfer taxes harm the economy because they sharply reduce working and saving among very wealthy individuals. But for this harm to occur, the working and saving decisions of wealthy donors must be heavily influenced by the amount their heirs will receive after tax. In fact, a large body of empirical research finds this is not the case. Instead, the amount that the affluent accumulate for wealth transfers is relatively unresponsive to the wealth transfer tax rate (for reviews, see Batchelder 2009 and Kopczuk 2013).

People with very large estates typically have multiple reasons for saving: They might enjoy being wealthy relative to other people, with the prestige and power that it confers while they are alive (egoistic saving). They

could have saved to meet their projected needs in retirement, including unanticipated health expenses (life-cycle saving). They may have saved to be able to give to their children or others they care about (altruistic saving). And they might have saved to compensate the heir for services, such as taking care of them in old age (exchange-motivated saving). The empirical evidence to date suggests the first two motivations (and especially the first) are so strong among the very wealthy that they reduce their saving very little in response to high wealth transfer tax rates (for reviews, see Batchelder 2009, Joulfaian 2019, and Kopczuk 2013). Put differently, a lot of the reason why the wealthy save is to be wealthy while they are alive, which wealth transfer taxes do not affect. As a result, taxing large wealth transfers generates fewer economic distortions than many other kinds of comparably progressive taxes.

Moreover, there are several other efficiency- and growth-related reasons to tax large inheritances more heavily—and at rates comparable to or higher than tax rates on income from work and savings—that existing estimates of the optimal tax rate do not incorporate.

For one, any negative effects of wealth transfer taxes on the working and saving decisions of wealthy donors are at least partially offset by their positive effects on such decisions for the next generation. There is extensive evidence that wealth transfer taxes induce heirs to work and save more because they do not have as large an inheritance to live off (Brown, Coile, and Weisbenner 2010; Holtz-Eakin, Joulfaian, and Rosen 1993). This is what economists call an income effect. More working and saving by heirs grows the economy.

Wealth transfer taxes also tend to improve business productivity and therefore economic efficiency. Several studies have found that businesses run by heirs tend to perform worse because nepotism limits labor market competition for the best manager (e.g., Pérez-González 2006).

Furthermore, higher taxes on large inheritances can reduce labor market distortions in much broader ways. In earlier times, we missed out on the talents of many Americans by prohibiting them from pursuing careers in which they would excel, whether by law or intimidation. Today we continue to miss out on many Americans' talents because of typically less blatant but still powerful barriers to upward mobility. One reason is the uneven playing field that large inheritances create.

In addition, the current tax treatment of accrued gains on gifted or bequeathed assets distorts capital allocation decisions throughout the economy in a phenomenon called lock-in. Currently, when an asset is



bequeathed, all income taxes due on the accrued gains on the asset are wiped out because of stepped-up basis. This provision creates an enormous incentive for prospective donors to hold on to underperforming assets until death, purely for tax reasons. Assets transferred to charities typically benefit from the same tax advantage. When assets are gifted to individuals (i.e., given during a donor's life rather than at their death), the lock-in effect is smaller but still substantial.<sup>9</sup> If gains on gifted or bequeathed assets were taxed more like labor income—which is taxed as soon as it accrues—these distortions to capital allocation decisions would diminish.

## COMPLEXITY AND TAX PLANNING

The final drawback of our current approach to taxing large inheritances is its extraordinary complexity and the tax-planning opportunities it creates, which privilege those who can afford the best tax advice. Any tax on wealthy individuals will entail a number of complex rules, if only to counter the avoidance strategies that their tax advisers develop. But current law entails far more complexity than is necessary, especially by taxing similar types of transfers at very different effective rates.

One example of this needless complexity is stepped-up basis for bequests and carryover basis for gifts. As just discussed, these provisions inefficiently distort capital allocation, creating incentives to hold on to underperforming assets. But they also generate transactional complexity, meaning incentives for taxpayers to spend time and money on tax planning that they could more productively spend elsewhere.

Another example of unnecessary complexity is the differential treatment of gifts and bequests more generally. Current wealth transfer taxes generally tax bequests more heavily than they tax gifts made during life because the former are taxed on a pretax (tax-inclusive) basis and the latter on an after-tax (tax-exclusive) basis. For example, suppose a donor wants to transfer \$1 million above and beyond their lifetime exemption. If they do so through a bequest, the 40 percent estate tax rate will apply to the pretax transfer (i.e., the full \$1 million), leaving their heir with \$600,000. But if they do so through a gift, the 40 percent gift tax rate will apply to the posttax transfer, allowing their heir to inherit \$714,286 for the same cost to the donor.<sup>10</sup> Thus, comparing apples to apples, the gift tax rate is actually only 29 percent. Cutting against this favorable tax treatment for gifts is stepped-up basis, which results in lower income tax rates on bequests to the extent they include appreciated assets. These cross-cutting incentives create traps for the unwary and incentives for wealthy donors to spend substantial resources on tax planning to minimize their tax liability, which is a deadweight loss to the economy.

Further complicating matters are the rules governing valuations and transfers through trusts or other entities. For example, family limited partnerships (FLPs) are often used to hold assets in order to obtain nonliquidity discounts. Once the moment for valuing and taxing the transfer has passed, heirs often dissolve the FLP so they can sell the underlying assets at will. The Internal Revenue Service (IRS) estimates the valuation discounts for FLPs range from 30 to 65 percent (Dodge 2016; Eller 2005). These valuation discounts are often unreasonably large when the FLP owns a closely held business. But they are even more egregious when the FLP holds investment assets with a clear market value, such as portfolio interests in publicly traded stock. As another example, donors often use trusts or other devices under which they retain the ability to receive some portion of their property back, in order to deflate the value of the transferred assets. Grantor retained annuity trusts (GRATs) are the most common approach. According to one estimate, they have reduced the amount of revenue raised by estate and gift taxes by one-third (Midar 2013).

In sum, wealth transfer taxes currently play a critical role in addressing the undertaxation of inherited income, but they are insufficient. The entire approach to taxing inheritances—including their income and payroll tax treatment—needs to be reformed in order to level the playing field between income from inherited wealth and income from work. Doing so can soften inequalities, strengthen mobility, and enhance efficiency and growth by reducing unproductive tax planning and distortions to labor markets and capital allocation. Before turning to the details of the proposal, some further background on current law is necessary.

## Background: Overview of Current Law

There are currently several components to the taxation of wealth transfers: the estate tax, gift tax, and generation-skipping transfer tax (collectively referred to as wealth transfer taxes), the basic income tax and payroll tax treatment of gifts and bequests, and the income tax treatment of accrued gains on assets that are gifted or bequeathed. These elements are summarized in table 1.

### **WEALTH TRANSFER TAXES**

The *estate tax* was enacted in 1916 and has been part of the law ever since, with the exception of 2010 when it was repealed for one year. As of 2020 the estate tax is applied at a 40 percent rate to the sum of lifetime gifts and bequests transferred in excess of \$11.58 million. Effectively, this means that a married couple can transfer \$23.16 million over their lifetimes to

TABLE 1.

## Major Features of Current Law Treatment of Inheritances

	Wealth transfer taxes			Income and payroll taxes		
	Rate	Donor lifetime exemption	Donor additional annual exemption	Donor	Heir	Accrued gains
Gifts	40%	\$11.58M (\$23.16M per couple)	\$15K per heir	No deduction	No tax	Carryover basis
Bequests			\$0			Stepped-up basis
Generation-skipping transfers	Additional 40%		Same as other gifts/bequests			Same as other gifts/bequests

Note: Transfers to spouses and charities, and gifts for education, medical expenses, and support expenses for minors, are tax exempt. Parameters are for 2020.



their children or other beneficiaries tax free. The \$11.58 million per donor exemption is scheduled to fall by half after 2025 due to the expiration of some provisions in the 2017 tax bill.

The *gift tax* has been a part of the tax code since its enactment in 1932. Gifts are subject to the same unified lifetime exemption as the estate tax, and gifts above that exemption are also subject to a 40 percent rate. However, as previously noted, the effective gift tax rate is lower than the estate tax because it applies to posttax, not pretax, gifts. In addition, each year a donor can completely disregard gifts totaling up to \$15,000 to a given heir (effectively \$30,000 for a married donor couple), meaning these gifts do not count toward the lifetime exemption. All wealth transfer tax exemptions are indexed for inflation.

The *generation-skipping transfer (GST) tax* was enacted in 1986 in response to concern that transfers directly to a donor's grandchildren were taxed only once under the estate and gift taxes, whereas transfers to a donor's grandchildren through their children were taxed twice.<sup>11</sup> The GST tax imposes a second (but only a second) layer of tax on transfers to recipients who are two or more generations younger than the donor. Its exemptions and rates mirror those of the estate tax.

Under all three wealth transfer taxes, a large portion of gifts and bequests are tax exempt. Transfers to spouses and charities are not taxed. Similarly, amounts paid during life for education and medical expenses and for basic support expenses for minors are tax exempt. There are also special

provisions for transfers of closely held businesses to address concerns that the tax might otherwise force the sale of the business. For example, any tax due on bequests of many closely held businesses can be paid in installments over a period as long as 15 years at a below-market interest rate.

Over time the share of federal revenue raised from these wealth transfer taxes has declined precipitously due to Congress raising the lifetime exemptions and lowering the rates. In 1973 wealth transfer taxes accounted for 2.1 percent of federal revenues; in 2020 they are projected to account for only 0.5 percent (Office of Management and Budget [OMB] 2019). Over that same period, the share of estates subject to the estate tax fell from 6.5 percent to a projected 0.1 percent (JCT 2015; TPC 2018c).

## **INCOME AND PAYROLL TAX TREATMENT**

Although a great deal of attention is typically paid to wealth transfer taxes, and to the estate tax specifically, the income and payroll tax treatment of gifts and bequests is equally important. Donors do not receive an income tax deduction for gifts and bequests (other than those to charitable organizations). But recipients of gifts and bequests can exclude amounts they inherit from their income for income or payroll tax purposes. In addition, assets gifted during life receive a carryover basis, while bequests receive a fair market value basis. This means that the tax due on accrued gains on gifted assets can be deferred until the heir sells the assets, at which point they will pay tax on gains that accrued both before and after they received it. The tax due on accrued gains on bequeathed assets is forgiven entirely; the heir pays tax only on gains that accrued after they inherited the asset.

## **The Proposal**

### **MAJOR FEATURES**

The inheritance tax proposed here represents a fundamental shift in the way wealth transfers are taxed. Under the proposal, there would no longer be any separate wealth transfer tax system; the estate, gift, and GST taxes would be repealed. Instead, taxation of inheritances would be integrated into the income and payroll taxes. The focal point for taxation would shift from the amount transferred to the amount heirs receive.

The proposal can be scaled to different revenue targets. Revenue estimates for three different lifetime exemptions are provided below. For purposes of describing the mechanics of the proposal, I will focus on the highest exemption of \$2.5 million. At this level, the proposal would raise about the

same amount of revenue as the 2009 estate and gift taxes if their lifetime exemptions at the time (\$3.5 million) were indexed for inflation. The proposal has four major features.

First, if a taxpayer inherits more than \$2.5 million over the course of their lifetime from any combination of donors, they would be required to pay income and payroll taxes on gifts and bequests they receive above this threshold. To state the obvious, \$2.5 million is a lot of money. Less than 1 percent of heirs inherit that much (see appendix table 1). An individual who inherits \$2.5 million at age 21 can live off their inheritance for the rest of their life without anyone in their household ever working, and their annual household income will still be higher than that of three-quarters of American families.<sup>12</sup>

Heirs would include any inheritances above this threshold (taxable inheritances) as ordinary income on their income tax Form 1040. Currently, the top rate on ordinary income is 37 percent, though it is scheduled to revert to 39.6 percent after 2025. Heirs would also have to pay Social Security and Medicare taxes (disregarding the Social Security maximum earnings threshold) on their taxable inheritances on their 1040. The combined rate for those taxes is 15.3 percent. Heirs would accumulate Social Security benefits on their Social Security tax payments up to the maximum benefit amount. Excess payroll tax revenues collected would go to the Social Security and Medicare trust funds.

Taxable inheritances could be spread out over the current year and the previous four years to smooth out income spikes that might trigger higher income tax rates, while minimizing work disincentives. The income tax rate would be calculated without regard to net operating losses in order to limit the ability of heirs to obtain lower income tax rates by artificially concentrating business losses in years when they receive inheritances.

In addition, each year heirs could entirely disregard \$15,000 in gifts and bequests, meaning they would not count toward the \$2.5 million lifetime exemption. If a taxpayer received gifts from a given donor over the course of the year that totaled less than \$2,000, that donor's gifts would not count toward this additional annual exemption, even if the annual sum of such gifts from multiple donors exceeded \$15,000. These annual exemptions would help ensure that the vast majority of gifts and bequests would not have to be reported, thus limiting compliance costs. They would also ensure that individuals would not have to report the receipt of a large number of relatively small gifts from family and friends, for example after a wedding. All exemptions and the amount of prior inheritances would be adjusted for inflation.

The existing rules governing what transfers are taxable would remain largely unchanged. Transfers to spouses and charities, as well as gifts for education, medical expenses, and support expenses for minors, would still be tax exempt.<sup>13</sup> Thus, similar to current law, the proposal would not tax a large portion of wealth transfers even after accounting for the lifetime exemption.

Aside from appreciated assets, which are discussed below, the income tax treatment of donors would remain unaltered. Donors would not receive an income tax deduction for gifts and bequests unless the transfer was to a charitable organization.

To understand how the proposal works, imagine an heir receives a bequest of \$3 million above the \$15,000 annual exemption, and has not received reportable inheritances (i.e., exceeding the annual exemption) in any prior year. Their taxable inheritance would be  $\$3,000,000 - \$2,500,000 = \$500,000$ . They would have to pay tax on this amount under the same rate structure as their other ordinary income plus the 15.3 percent payroll tax. Because the income tax brackets rise with income, this might mean that part of their taxable inheritance would fall within a higher tax bracket than, for example, their income from work, because they received the inheritance all in one year. To limit this effect, they could elect to file as if their taxable inheritance was only \$100,000 in the current year and in each of the previous four years. If this heir was in the top income tax bracket, their marginal tax rate on their inherited income would be 49.5 percent and their average tax rate on their inheritance would be 8.2 percent.<sup>14</sup>

The second feature of the proposal would apply constructive realization for income tax purposes to large accrued gains on gifts and bequests, repealing carryover basis and stepped-up basis for large accrued gains in the process. Specifically, the proposal would follow President Obama's proposal by maintaining current law for the first \$100,000 in accrued gains (\$200,000 per couple) plus \$250,000 for personal residences (\$500,000 per couple) (U.S. Department of the Treasury [Treasury] 2015).<sup>15</sup> Gains above these exemptions would be treated as realized when transferred. Unlike President Obama's proposal, however, this proposal would apply to charitable transfers.

The income tax due on any constructively realized gains would be paid by the donor or their estate, and therefore would effectively be deductible when calculating heirs' taxable inheritances.<sup>16</sup> For example, suppose a donor gives \$3 million in publicly traded stock to their child, who has not previously received any reportable inheritances (i.e., exceeding the annual exemption) and who has used up their current-year \$15,000 annual exemption with

an inheritance from a different source. The donor's basis in the stock is \$2.7 million. The donor would have to pay income tax on \$200,000 of the \$300,000 accrued gains. The heir would receive a basis of \$2.9 million in the \$3 million of stock they inherit, and would owe income and payroll tax on a taxable inheritance of \$500,000, as explained above.<sup>17</sup>

This feature of the proposal would ensure that almost all capital income used to fund large inheritances is taxed once, regardless of how well-advised the donor and their heirs are. It would also substantially reduce incentives for investors to hold on to underperforming assets purely for tax reasons.

The third feature of the proposal would address the politically sensitive issue of family-owned businesses and primary residences through a special provision. To be clear, the liquidity issues associated with such assets have been greatly exaggerated in the public debate. Estate tax repeal lobbyists have repeatedly invoked the trope of the estate tax forcing the sale of family farms, even though neither the American Farm Bureau nor *The New York Times* has been able to identify a single instance of this occurring (Graetz and Shapiro 2011; Johnston 2001). More generally, business assets can create liquidity problems only if there are insufficient liquid assets in the estate to pay any tax due plus any mortgages and liens outstanding. But this is true for only about 3 percent of estate tax returns, many of which currently elect to defer the estate tax due for up to 15 years at a below-market rate of return (IRS 2014; JCT 2015).<sup>18</sup> Nevertheless, rhetoric may matter more than reality. Some argue that the failure of estate tax supporters to adequately address this issue was a prime reason for the brief repeal of the estate tax in 2010 (Graetz and Shapiro 2011).

To address these concerns, the proposal would allow heirs to indefinitely defer the tax they owe on taxable inheritances to the extent it exceeds the liquid assets they inherit, minus a cushion of \$500,000. During the deferral period, they would only have to pay a market rate of interest on the tax due, and not the underlying tax liability itself. Liquid assets would be defined as all assets other than family-owned and -operated businesses, and primary residences. To qualify as a family-owned and -operated business, the donor or their relatives must have majority owned and materially participated in the business during the 10-year period prior to the transfer. The deferral period would end when the heir or their relatives no longer majority own or materially participate in the business, or to the extent they dispose of their interest in the business, or otherwise cash it out.<sup>19</sup> To qualify as a primary residence, the donor or their relatives must have continually used the house as their primary residence for the 10-year period prior to the transfer. The deferral period would end when the heir no longer uses it as their primary

residence. Current provisions allowing deferral, exemptions, or valuation discounts for certain closely held businesses and personal residences would be repealed.<sup>20</sup>

To illustrate how this feature of the proposal would work, suppose an heir who is otherwise in the highest income tax bracket receives a reportable bequest of \$12.5 million and has received no prior inheritances. Four-fifths of the bequest (\$10 million) is a closely held business, and one-fifth (\$2.5 million) is liquid assets, such as publicly traded stock. In this case, the heir's total tax liability would be \$4.95 million.<sup>21</sup> Because this tax liability exceeds the liquid assets they are inheriting minus the \$500,000 cushion, they could elect to defer the excess (\$2.95 million) as long as they or their relatives continue to majority own and operate the business.

This provision would therefore eliminate the possibility that an heir would ever need to sell a family business or primary residence at the time of inheritance in order to pay the associated tax liability. It would also eliminate the possibility that they would ever need to sell such assets over time if they earn at least a market interest rate of return. Unlike current law, however, this provision would limit the preference to those who actually face liquidity constraints and would charge heirs a market interest rate. As a result, it would entail far weaker incentives for donors to shift wealth into closely held businesses and real estate purely for tax reasons.

Finally, the fourth feature of the proposal would limit tax avoidance through a number of reforms to the rules governing the timing and valuation of transfers through trusts and other devices, as described in more detail in box 1. The proposal would also substantially simplify and narrow the reach of the generation-skipping transfer tax, limiting it to generation-skipping transfers through dynastic trusts, which are increasingly used to provide for an unlimited number of future generations.<sup>22</sup>

The four major features of the proposal are summarized in table 2.



TABLE 2.

## Major Features of Proposed Treatment of Inheritances

	Wealth transfer taxes	Income and payroll taxes				
		Donor	Heir lifetime exemption	Heir additional annual exemption	Rate	Accrued gains
Gifts	None	No deduction	\$2.5M or \$1M or \$500K*	\$15K**	Ordinary income + payroll tax***	Realization upon transfer w/ exemptions
Bequests					Add'l tax at top rate if in trust	
Generation-skipping transfers						

\* Transfers to spouses and charities, and gifts for education, medical expenses, and support expenses for minors, are tax exempt.

\*\* Gifts of less than \$2,000 received from a given donor are excluded from both exemptions.

\*\*\* The heir could elect to spread taxable inheritances over the current year and the previous four years. There would be no maximum earnings threshold for purposes of the payroll tax.



## REPORTING, WITHHOLDING, AND TRANSITION RULES

As with any tax reform, the proposal would require a number of reporting, withholding, and transition rules so that the IRS could effectively administer it. These rules are critical because moving from no information reporting to substantial information reporting, on average, increases individual income tax compliance from 37 to 93 percent (IRS 2016). When coupled with tax withholding, the compliance rate rises to 99 percent (IRS 2016).<sup>23</sup>

To facilitate compliance, the proposal would require donors or their estates to report all gifts or bequests above the \$15,000 annual reporting exemption to the recipient and to the IRS. Donors would also have to report their basis in all transferred assets to the heir and the IRS. Heirs would have to annually report the amount of any gifts and bequests they receive in excess of the \$15,000 annual reporting exemption (and the \$2,000 per donor annual exemption) to the IRS so the IRS can track their cumulative reportable inheritances.

Donors or their estates would be required to remit a withholding tax on all transfers above the \$15,000 annual reporting exemption at the highest income and payroll tax rate (currently 49.5 percent). However, the heir could immediately claim a refund for the withholding tax if they had not yet reached their lifetime exemption, or to the extent that their income and

payroll tax rate was lower than the withholding rate.<sup>24</sup> Box 1 describes how the withholding tax would work in the case of beneficiaries of trusts and similar devices.

Finally, the proposal would not be phased in, but would be effective immediately.<sup>25</sup> It would apply to all post-effective-date inheritances. Previous inheritances would not count toward the lifetime exemption and heirs could not claim a credit for wealth transfer taxes paid on such previous inheritances. The proposal would also apply to all post-effective-date distributions from trusts, regardless of when the trust was created.

These transition rules would be reasonably precise because heirs tend to receive only one substantial inheritance over their lifetime. For example, among heirs who are projected to inherit more than \$2.5 million in 2020, their inheritance in that year will represent an estimated 96 percent of their lifetime inheritances (appendix table 1; author's calculations).

#### BOX 1.

### How would the proposal address concerns about tax avoidance through trusts, business entities, and similar devices?

Under current law, taxpayers use a number of strategies to avoid the estate, gift, and generation-skipping transfer taxes.

Donors may transfer assets through family-owned entities, such as FLPs and LLCs, in order to claim large nonliquidity discounts.<sup>26</sup> For example, a donor might contribute assets to an FLP and then transfer a quarter interest in the FLP to each of their four children. The children could then claim that each of their interests are worth less than a quarter of the assets' value because none of them has a controlling interest in the FLP. Such valuation discounts are often excessive when the FLP owns one or more closely held businesses. But they are even more egregious when the FLP holds investment assets that have a clear market value and are completely liquid, such as portfolio interests in publicly traded stock. The IRS estimates that valuation discounts for FLPs range from 30 to 65 percent (Dodge 2016; Eller 2005). Donors also use other entities or devices to obtain nonliquidity discounts. Overall, such discounts range from 15 to 60 percent or higher (JCT 2012).

Donors may also undervalue wealth transfers by using trusts or similar devices to create string or hybrid transfers, where the donor gifts property to their heirs but retains the possibility of receiving some portion of the property back. GRATs are the most common approach. Under a GRAT, the trust pays the donor a set amount for several years, and then distributes the remaining assets to their heirs. The donor is typically allowed to undervalue the taxable gift (and overvalue their retained interest) at the time of transfer because the IRS-prescribed interest rate is unreasonably low. Then, their retained interest is valued at its actual (and much lower) value when it is later included in their taxable estate. In the process, a large portion of the value of the transferred assets simply disappears for wealth transfer tax purposes. According to one estimate, GRATs have reduced the amount of revenue raised by the estate and gift taxes by one-third (Midar 2013), and they are just one form of this type of tax-planning strategy.<sup>27</sup> Moreover, the amount of disappearing wealth is magnified when such retained interests are coupled with valuation discounts, such as those obtained through FLPs.

Donors often adopt similar strategies when making charitable contributions. They may create trusts that are directed to distribute part of their assets to charities and part to taxable beneficiaries. By taking advantage of the current rules used to project the share of the trust assets that will go to charities (which typically allow the donor to assume a below-market interest rate), they can undervalue the portion of the transfer that is subject to the estate and gift taxes.

In addition, donors can use grantor trusts to reduce the size of taxable gifts. A grantor trust is one over which the donor retains some powers. In practice, these powers can be negligible, making grantor trust status effectively elective, even when the creation of the trust is treated as a taxable gift (Ascher 2010). Once a trust is a grantor trust, the donor is responsible for paying income tax on the trust's income; otherwise the trust itself owes the tax. Because the donor paying income tax on the trust's behalf is not treated as a taxable gift, the effective gift tax rate on inheritances from grantor trusts is typically substantially lower than it is for non-grantor trusts.

Furthermore, donors may value transferred assets at different amounts in different contexts, often without penalty. While legislation passed in 2015 cut down on some of these abuses, opportunities for inconsistent valuations remain.

To address these avoidance strategies, the proposal includes a suite of reforms designed to more accurately value wealth transfers, drawing on proposals by the Treasury (1984), Cunningham (2000), Crawford (2011), Caron and Repetti (2014), Dodge (2016), and others. These reforms could generally be adopted on their own or as part of the proposal, but several would be easier to implement in the context of an inheritance tax (Batchelder 2009; Crawford 2016).

First, investment assets, such as publicly traded stock, that are held in family-owned entities would no longer be eligible for nonliquidity discounts. The owners of such entities would be treated as pro rata owners of the entity's investment assets.<sup>28</sup> In addition, the proposal would limit the availability of nonliquidity discounts for operating business assets held by family-owned entities. Minority discounts would be disregarded to the extent they were created by spousal property law or through a gift or bequest.

Second, retained interests, including those created through string or hybrid transfers, would be taxed under a hard-to-complete rule.<sup>29</sup> This means the heir's final tax liability would not be set until the donor's retained interest ends or the donor's death, whichever comes earlier. For example, in a GRAT, the value of the heirs' taxable inheritance would not be based on a rough projection of future events, but rather would be determined once the donor's retained annuity expires. In the meantime, a withholding tax would apply at the highest rate (currently 49.5 percent).

The hard-to-complete rule and withholding tax would also apply to trusts and other vehicles in which the donor retains no interest themselves if the precise beneficiaries or the amount they will receive is unclear because no single heir immediately has full and permanent control over the assets.<sup>30</sup> For example, if the trustee is authorized to distribute its assets among the donor's descendants according to their needs, the trust would pay a withholding tax when it receives assets and, upon distribution, the beneficiary could claim a credit for that withholding tax (which would accrue

interest at a market rate) against their income and payroll tax liability on the inheritance. If the distribution was only of part of the trust's assets, the beneficiary could claim only their pro rata share of the credit.

Third, in the case of grantor trusts, income tax payments by the grantor on behalf of the trust would be treated as additional gifts, and would be subject to the withholding tax.<sup>31</sup> The grantor trust rules should also be substantially reformed.<sup>32</sup>

Finally, building on the 2015 legislation, the proposal would require donors and heirs to assign basis and value transferred assets consistently in more circumstances. When gains are realized under the new constructive realization rule, heirs would have to adopt the same value for inheritance tax purposes, and vice versa. This consistency rule would also apply to charitable contributions and transfers to spouses, unlike current law. Furthermore, donors would have to report to both the IRS and their heirs any valuations of transferred assets procured for insurance, financial reporting, or banking purposes. The IRS could use these outside valuations as evidence of undervaluations by taxpayers.

Together, these reforms would substantially curtail the ability of taxpayers to temporarily and artificially deflate the value of inheritances at the time the tax liability is assessed, only to subsequently resolve any valuation uncertainties in ways that demonstrate that the tax liability should have been much higher.

## REVENUE EFFECTS

TPC has estimated the revenue effects of this proposal relative to current law. TPC based these estimates on their estate tax microsimulation model, which was adapted to estimate the amount that individual heirs inherit and each heir's other income. The estimates are rough because of data limitations that require multiple levels of imputation, and because they rely in part on IRS data on the distribution of estates among heirs from 1992, which is the last year the IRS conducted such a study.<sup>33</sup>

The estimates are restricted to the core features of the proposal and, as a result, probably substantially underestimate the revenue raised by the

proposal as a whole. Specifically, they do not include the proposed reforms to the rules governing closely held businesses, primary residences, and generation-skipping transfers described above, or the reforms to transfers through trusts and similar vehicles described in box 1. They also do not include revenue raised from applying constructive realization to charitable transfers, or from taxing post-effective-date distributions from pre-effective-date trusts.

As summarized in table 3, TPC estimates the proposal would raise \$337 billion over the next decade relative to current law if the lifetime exemption were \$2.5 million. It would raise even more at lower lifetime exemption levels: \$917 billion if the lifetime exemption were \$1 million, and \$1.393 trillion if it were \$500,000. Table 3 also illustrates the extent to which the proposal would raise less if the reforms to stepped-up basis and carryover basis were not included. These lifetime exemptions would limit the proposal's reach to those receiving exceptionally large inheritances—the top 0.02 percent, 0.08 percent, and 0.18 percent, respectively, when ranked by inheritance size (appendix tables 1 and 2; author's calculations).<sup>34</sup>

At the \$2.5 million exemption level, the proposal would raise about as much in steady state as the 2009 estate and gift taxes (which applied a 45 percent rate to transfers above a lifetime exemption of \$3.5 million, or \$7 million per couple) if their exemptions were indexed for inflation and if one disregards the revenue raised from constructive realization.<sup>35</sup>

TABLE 3.

## Revenue Raised by the Proposal

	Revenue raised, 2020-30
<b>Inheritance tax and constructive realization on gifts and bequests</b>	
\$2.5 million	\$337 billion
\$1 million	\$917 billion
\$500,000	\$1,393 billion
<b>Inheritance tax</b>	
\$2.5 million	\$168 billion
\$1 million	\$790 billion
\$500,000	\$1,298 billion

Source: TPC calculations.

Note: Estimates are for fiscal years and include the revenue effects of repealing the current estate and gift taxes (\$284 billion in revenue lost over the period). Exemption amounts are for 2020 and indexed for inflation thereafter. Estimates do not include the proposals to (1) reform rules regarding valuations, closely held businesses, primary residences, generation-skipping transfers, and transfers through trusts or similar vehicles; (2) apply the inheritance tax to distributions from pre-effective-date trusts; or (3) apply constructive realization to charitable transfers.

## BENEFITS OF THE PROPOSAL

### *Fairness*

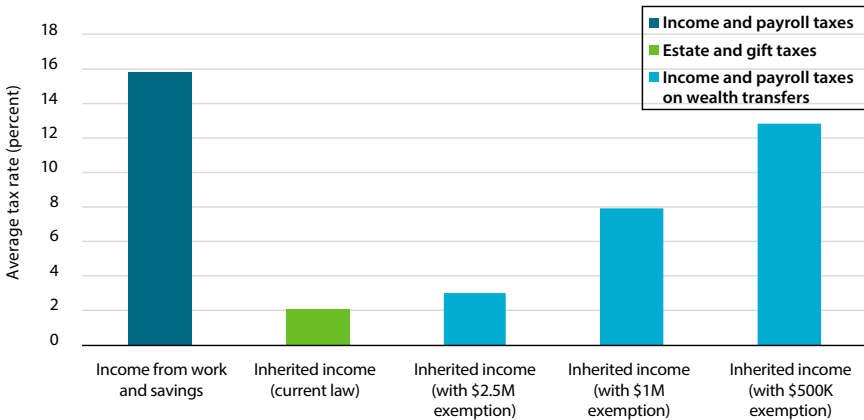
There are a number of ways the proposal would strengthen the fairness of the fiscal system as a whole. First, by taxing large wealth transfers more heavily, it would soften inequality and broaden opportunity. As illustrated in figure 3, the average tax rate on inherited income overall would still be far lower than the average rate on income from work and savings, largely because of the proposal's large lifetime exemptions. But the gap would narrow—and among heirs receiving the very largest inheritances, it would close or reverse.<sup>36</sup>

The revenue raised could be used to invest in those not fortunate enough to receive a massive inheritance, or the other advantages that typically accompany one—further improving intergenerational mobility. For example, it could fund expanded access to child care, universal preschool, increased Pell Grants, or expansions to the Earned Income Tax Credit to ensure no worker is taxed into poverty.

Second, the proposal is likely to increase public support for taxing inherited income because it would better align the public's understanding of wealth transfer taxes with their actual economic effects. Experts on both sides of the aisle agree that wealth transfer taxes are largely borne by heirs, not by

FIGURE 3.

### Average Tax Rate on Inheritances vs. Income from Work and Savings



Sources: TPC 2018b, 2018c; TPC calculations.

Note: The light blue bars represent the proposal for different lifetime exemption levels. Estimate for inherited income is for 2020 and assumes the proposal is fully phased in. Estimate for income from work and savings is for 2019. All estimates include the individual income tax, the employee and employer shares of the payroll tax, the estate tax, the gift tax, and the generation-skipping transfer tax.

their benefactors, regardless of whether they are structured as estate or inheritance taxes (Batchelder and Khitatrakun 2008; Mankiw 2003). But the structure of an estate tax makes it easier for opponents to characterize it as a double tax on frugal, generous entrepreneurs who just want to take care of their families—even though nothing could be farther from the truth. Instead, the estate tax is the only tax that ensures wealthy heirs pay at least some tax on large amounts of inherited income, even if at much lower rates than their personal assistants pay on their wages. Nevertheless, this imagery is powerful.

Perhaps as a result, inheritance taxes are much more common around the world. Most countries that historically had estate taxes have repealed them, while those with inheritance taxes typically have not (Batchelder 2009).<sup>37</sup> Inheritance taxes are potentially more politically resilient because they make clearer the inequities of low rates on inherited income. This should be even truer of the type of inheritance tax proposed here because, unlike most other inheritance taxes, it would include large inheritances directly in the heir's income and payroll tax base.<sup>38</sup>

Third, the proposal would more equitably allocate wealth transfer taxes among heirs. The core reason why is that some small inheritances come from relatively large estates, and some heirs to large fortunes received their inheritances from multiple, smaller estates. In addition, the proposal would apply different rates to heirs based on their total income, unlike the estate and gift taxes. As a result, the distribution of tax burdens among heirs would be somewhat different under the proposal than under our current system, even if both raised the same amount of revenue.

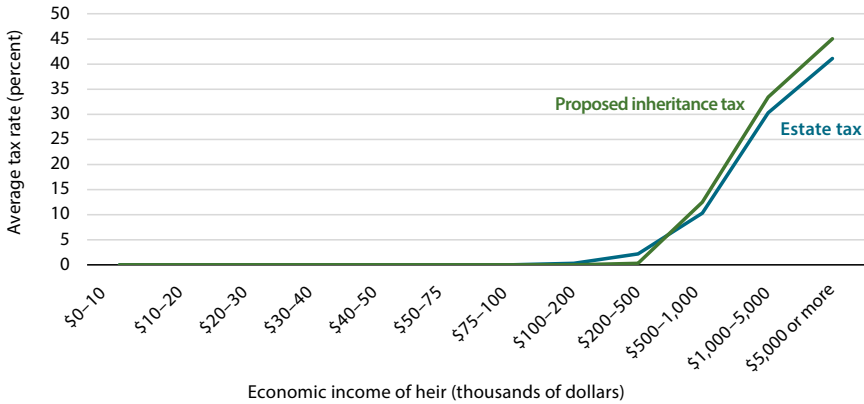
In aggregate, the distributional effects of revenue-equivalent inheritance taxes and estate taxes are not very different. To illustrate, figure 4 compares the burdens of an estate tax and inheritance tax by heirs' economic income if both raised the same amount of revenue in 2009. (It assumes a lifetime exemption of \$3.5 million under the estate tax and \$1.9 million under the inheritance tax.) While the inheritance tax is slightly more progressive, both are highly progressive and the difference is relatively small.

But if one focuses on the individual level, the difference between the two approaches become more pronounced. Figures 5 and 6 continue the comparison of an inheritance tax and an estate tax that raise the same amount of revenue in 2009. They show that, among heirs burdened by at least one tax, only 30 percent (7,972 out of 26,519 heirs) would be burdened by both tax systems. A full 63 percent of heirs who fall under the inheritance tax lifetime exemption—and therefore owe no inheritance tax—nevertheless face estate tax burdens.



FIGURE 4.

## Average Tax Rate on Inheritances by Heirs' Economic Income, 2009



Sources: Batchelder 2009; Batchelder and Khitatrakun 2008.

Note: Economic income is expanded cash income plus one-fifth of gifts and bequests received. The estate tax rate is 45 percent on cumulative transfers above \$3.5 million. The inheritance tax rate is the heir's ordinary income tax rate plus 15 percentage points on cumulative inheritances above \$1.9 million. Both estimates assume no change to the taxation of accrued gains on gifts and bequests.

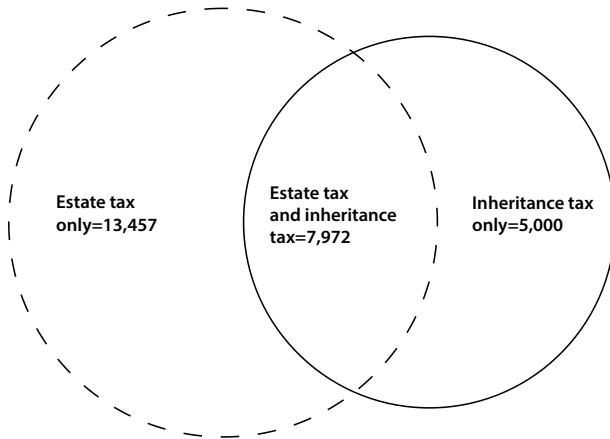


On a dollar-weighted basis, these individual-level differences shrink. The 7,972 heirs who are burdened by both taxes account for the lion's share (about 90 percent) of revenue raised by each tax (Batchelder 2009; Batchelder and Khitatrakun 2008). But even among this group, individual-level differences persist. While on average the estate tax rate rises with the inheritance tax rate among heirs who are burdened by both taxes, many inheritances are subject to a much higher estate tax rate than inheritance tax rate, or vice versa. As a result, figure 6 shows that about 30 percent of the dollar-weighted burden of revenue-equivalent estate and inheritance taxes would fall on different heirs. Overall, when weighted by inheritance size, only half of the inheritance tax rate of individual heirs is directly accounted for by factors that determine the heir's estate tax rate, and vice versa (Batchelder 2009).

These individual-level differences should not be construed as a fundamental criticism of the estate tax, which is overwhelmingly borne by the recipients of large inheritances. Even when the estate tax exemption was \$7 million per couple (rather than \$23 million, as it is today), less than 4 percent of the revenue came from heirs inheriting less than \$1 million. But its burdens are allocated less precisely based on heirs' ability to pay than they would be under the proposal.

**FIGURE 5.**

### Number of Heirs Burdened by 2009 Estate Tax and Revenue-Equivalent Inheritance Tax



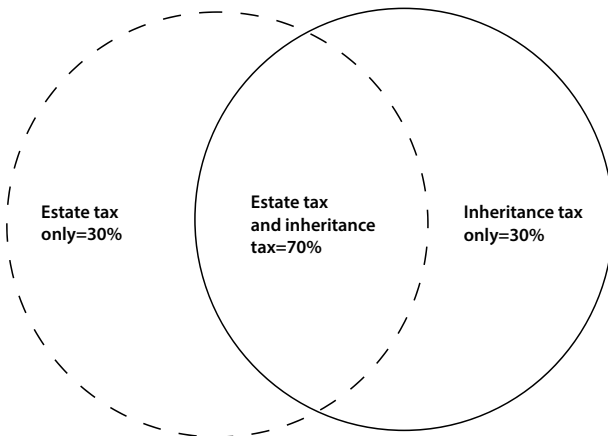
Sources: Batchelder 2009; Batchelder and Khitatrakun 2008.

Note: The estate tax rate is 45 percent on cumulative transfers above \$3.5 million. The inheritance tax rate is the heir's ordinary income tax rate plus 15 percentage points on cumulative inheritances above \$1.9 million. Both estimates assume no change to the taxation of accrued gains on gifts and bequests.



**FIGURE 6.**

### Dollar-Weighted Share of Revenue Raised from Heirs Burdened by 2009 Estate Tax and Revenue-Equivalent Inheritance Tax



Sources: Batchelder 2009; Batchelder and Khitatrakun 2008.

Note: The estate tax rate is 45 percent on cumulative transfers above \$3.5 million. The inheritance tax rate is the heir's ordinary income tax rate plus 15 percentage points on cumulative inheritances above \$1.9 million. Both estimates assume no change to the taxation of accrued gains on gifts and bequests.



The previous discussion focuses on the benefits of shifting to an inheritance tax. But the other features of the proposal would also strengthen the fairness of the tax system.

Applying constructive realization to large gains on assets that are gifted or bequeathed would be highly progressive. Under President Obama's similar proposal, the Treasury estimated that the top 1 percent of taxpayers would bear 99 percent of the burden, and the top 0.1 percent would bear 80 percent (Executive Office of the President and U.S. Treasury Department 2015). Part of the reason is that accrued but unrealized gains represent a larger share of the largest estates (Huang and Cho 2017). For example, unrealized gains represent 6 percent of the value of estates under \$2 million, but 46 percent of the value of estates over \$50 million (Avery, Grodzicki, and Moore 2015).

The proposed reforms to limit tax avoidance through trusts, business entities, and similar vehicles would be highly progressive as well. Although there is a large degree of uncertainty around how much wealth is currently held in trusts, they likely hold trillions of dollars in assets (Crawford 2019).<sup>39</sup> Many of these trusts were established to exist in perpetuity, potentially benefitting wealthy heirs in the same family for hundreds of years.

Moreover, a large share of the value of such trusts was never subject to income or wealth transfer taxes at all. For example, the donor may have established the trust before the generation-skipping transfer tax was enacted in 1986 and may have taken advantage of stepped-up basis and vehicles like those described in box 1 to avoid almost all income, estate, and gift taxes. The proposal would ensure that heirs of dynastic trusts are at least required to pay income and payroll taxes on amounts they inherit.

### *Efficiency and Effects on Growth*

The fact that the proposal would reduce the extent to which inherited income is taxed more lightly than income from work and savings should also improve the efficiency of the tax system and spur growth, as explained in more detail above. While donors may modestly reduce their saving, the effects should be relatively small. At the same time, heirs should respond by increasing their labor force participation and earnings substantially. Greater economic mobility should improve labor market efficiency as a whole. And constructive realization and curtailing avoidance opportunities would reduce distortions to capital allocation decisions, ensuring that more capital went to its most productive use.

The proposal would shift not only the average tax rate on inherited income closer to the optimum, but also change the form of taxation. Traditionally,

there are three ways of taxing wealth transfers. One is an estate and gift tax paid by the donor, where the rate and exemption turns on the amount the donor transfers. The second is an accessions tax, which taxes the heir and bases their rate and exemption solely on the amount they receive. The third is an inclusion tax, which also taxes the heir, but by requiring them to include inherited income in their income tax base. Over time, there have been a variety of proposals to replace the U.S. estate and gift taxes with an accessions or inclusion tax, both of which are inheritance taxes (e.g., Alstott 2007; Andrews 1967; Batchelder 2007, 2009; Becker 2005; Cunningham and Cunningham 2009; Dodge 1978; Duff 1993, 2016; Perry Fleischer 2016; Roosevelt 1938; Seligman 1916; Simons 1938). All three approaches have been implemented at some point in the United States and are presently in place in other jurisdictions (Batchelder 2009; Drometer et al. 2018).

The proposal here is largely an inclusion tax, but it differs from existing and proposed inclusion taxes in two ways. First, it includes inheritances not just in the income tax base, but in the payroll tax base as well. And second, it includes a large exemption for inherited income that is separate from other exemptions in the income and payroll tax systems.

The optimal form of taxes on inheritances depends on the prevalence of the four potential reasons why people with very large estates may have saved, which were described above. In the case of altruistic and exchange-motivated saving, the efficient approach is to base any exemption on the amount received, not on the amount transferred, and for the tax rate to rise with the heir's income.<sup>40</sup> In the case of life-cycle and egoistic saving, the efficient tax is essentially confiscatory, akin to a 100 percent accessions or estate tax.

As discussed, the empirical evidence to date finds that the vast majority of large wealth transfers stem from egoistic saving and, to a lesser extent, life-cycle saving, implying a high optimal tax rate on inherited income (for reviews, see Batchelder 2009 and Kopczuk 2013). But a meaningful minority stems from altruistic and exchange-motivated saving, implying that the optimal rate should be below 100 percent and should rise with the heir's income. Put together, this implies the optimal form of taxation is an inclusion tax, potentially at higher rates than those applied to other forms of income—similar to the unique form of tax proposed here.

The efficiency case for shifting from an estate and gift tax to an inheritance tax is even stronger when we consider that the nominal payor shifts from the donor to the heir. If all taxpayers were rational and farsighted, this would not matter. A rational donor would respond to any given wealth transfer tax liability in the same way, regardless of whether they, their

estate, or their heirs nominally pay the tax. But taxpayers are not rational and tend to be influenced by salient features of taxes, such as the nominal rate or payor, rather than the actual rate or who bears the economic burden (Chetty, Looney, and Kroft 2009; Eckel and Grossman 2003; Finkelstein 2007; Goldin and Homonoff 2013; Schenk 2011). Because any efficiency losses from taxing wealth transfers arise from the impact on donors' and not heirs' behavior, this implies that any economic distortions created by taxing wealth transfers will be smaller under an inheritance tax than they are under a comparable estate tax.

### *Simplification and Horizontal Equity*

Finally, the proposal would simplify the tax system by reducing incentives for taxpayers to spend time and money on tax planning that could more productively be spent elsewhere. It would also strengthen horizontal equity by reducing the extent to which the most aggressive tax planners are rewarded, while those who dutifully follow the letter and spirit of the law are penalized.

Unlike current law, gifts and bequests would generally be taxed at the same effective rates. The inheritance tax would apply to both on a pretax basis, in contrast to current law, which applies a different and lower effective rate to gifts. Large accrued gains on gifted or bequeathed assets would both be taxed at the time of the transfer (after a generous lifetime exemption), substantially reducing the differences under current law created by carryover basis for gifts and stepped-up basis for bequests. Prior gifts would be indexed for inflation when calculating whether an heir had met the lifetime exemption, reducing another incentive under current law to transfer wealth earlier in time through gifts.

Constructive realization for accrued gains would also reduce the current incentives for donors to carefully consider the tax consequences of selling assets they may gift or bequeath, rather than basing their investment decisions purely on nontax factors.

Finally, the proposed reforms to the taxation of transfers through trusts and other devices should dramatically reduce tax planning incentives. By adopting hard-to-complete rules and curtailing noneconomic valuation discounts, the proposal would eliminate the most lucrative and egregious avoidance strategies that the wealthy use today.

## Questions and Concerns

### *1. Would the proposal privilege larger families?*

One potential concern about the proposal is that, controlling for the total amount transferred, it will impose lower tax burdens on larger families. While true, this is fair because each individual heir will inherit less. The economic burden of both current wealth transfer taxes and the proposal largely falls on the recipients of large inheritances, not on their benefactors. If ten siblings each inherit \$1 million from their parents, each child is less privileged and has less ability to pay than does a child without siblings who inherits \$10 million from their parents. Thus, the children from the large family should collectively pay less on their inherited income than the child who inherits ten times as much.

### *2. How would the proposal affect charitable giving?*

The empirical evidence to date suggests that the amount of charitable giving is highly responsive to wealth transfer tax incentives (Batchelder 2009; Joulfaian 2019). The Congressional Budget Office (CBO) estimates that repealing the estate tax would reduce charitable giving by 16 to 28 percent, while other research and experience from the temporary repeal of the estate tax in 2010 suggests the reduction may be even larger (CBO 2004; Robbins, West, and Boteach 2017). Thus, the effect on charitable giving has been an important part of the debate about changes to the estate tax.

The proposal would strengthen incentives to give to charity in some respects and reduce them in others. Most notably, it would apply a higher top rate to inheritances (49.5 percent) than the estate tax (40 percent). This would increase the implicit subsidy for giving to charities instead of taxable heirs by a substantial 24 percent.

In other circumstances, though, the proposal reduces incentives to give to charities rather than individual heirs. Currently, once a donor has exceeded the lifetime exemption for wealth transfers, the only way they can straightforwardly avoid paying any estate or gift tax is by transferring funds to their spouse or charity. (They can also, of course, use an array of less-straightforward avoidance strategies, such as those described in box 1.) Under the proposal, there is a third option: The donor can make gifts or bequests to a broader array of heirs, such as grandchildren, siblings, or friends, to ensure that all their individual heirs remain below the lifetime inheritance exemption. Which effect dominates depends on the relative elasticity of giving to charities versus a wider set of heirs. Unfortunately, there do not appear to be any studies on this issue.

Other features of the proposal would also create cross-cutting incentives for charitable giving. For example, the proposal would tax contributions to noncharitable nonprofits (such as 501(c)(4)s and 501(c)(6)s), which are currently subject to the estate tax but not the gift tax. On the margin, this increases the incentive to give to charitable rather than noncharitable nonprofits. On the other hand, the proposal should reduce donors' responsiveness to taxes on wealth transfers in general by shifting the nominal payor from the donor to the heir. This implies donors may also respond less to the large incentive to give to charity under the proposal than they would to the same incentive under an estate and gift tax.

The likely effect of the proposal on charitable contributions of appreciated assets is even more complex. Currently, the effective income tax rate on such appreciation is typically lower for charitable gifts than it is for gifts to individuals, but is the same (i.e., none) for charitable bequests versus bequests to individuals. The proposal would apply constructive realization in all four circumstances, but there would be a \$100,000 exemption for accrued gains on assets transferred to individuals. As a result, this feature of the proposal should shift the form of charitable contributions during life toward unappreciated assets. If donors are unwilling or unable to engage in such shifting, it could also reduce charitable contributions on the margin.

Thus, overall the proposal simultaneously creates larger and smaller incentives to give to charity relative to current law. Which effect dominates for a particular donor depends on how responsive the donor is to charitable giving incentives overall, which tax bracket their current planned heirs would be in, how much they value transferring funds to additional heirs versus charities, how much they value transferring funds to noncharitable organizations versus charities, and how able they are to shift the types of assets they give to charities.

In the face of such conflicting incentives and empirical evidence, it is difficult to draw meaningful conclusions. A reasonable guess is that the proposal would slightly increase charitable giving overall, while changing the form of such giving toward relatively more contributions of cash and unappreciated property.

### *3. How would the proposal affect the states?*

Historically, the federal estate tax offered a dollar-for-dollar credit for state wealth transfer taxes up to a limit, which allowed states to receive part of the revenue from federal wealth transfer taxes without actually imposing any new economic burden on their residents. Although this credit was part of the law for more than 80 years, it was repealed effective in 2005 and

replaced with a deduction. Since then, the number of states with an estate or inheritance tax has plummeted from 50 to 17 (McNichol 2019).<sup>41</sup>

If one thinks such revenue sharing should be reinstated, it would be easy to do. For example, the proposal could include a credit for state inheritance taxes and each heir's share of state estate taxes. States would likely act to conform their wealth transfer tax systems to the inheritance tax model in order to piggyback on the new federal reporting requirements, as they did under the federal estate tax credit (even when they had an inheritance tax).

A further benefit of the proposal is that it would increase the ability of states to enact or retain wealth transfer taxes if they so wish. Shifting to a federal inheritance tax would facilitate state adoption of inheritance taxes, with their attendant political resiliency advantages described above. Moreover, state inheritance taxes would suffer from less base erosion through tax competition. Currently, states may compete to attract wealthy, elderly residents by eliminating or reducing their estate taxes. While such tax competition may increase state income tax revenue, it loses estate tax revenue and, on net, states typically raise less revenue overall (Moretti and Wilson 2019). Under an inheritance tax, states might also compete in this way, but their incentive to do so would be reduced. Each heir would have a smaller tax incentive to move, and heirs may find it more difficult to move than donors, who are typically retired, for employment reasons.

#### *4. How would the proposal work in the cross-border context?*

The proposal would apply to all inheritances if either the donor or the heir is a U.S. citizen or resident. This is consistent with existing jurisdictional principles governing cross-border transactions, which permit countries to tax income of their citizens and residents, or income sourced to the country. If the heir is a foreign resident, the donor or their estate would be required to collect a withholding tax on the inheritance to the extent it exceeds the annual reporting exemption. The heir could claim credit for the withholding tax once they report and pay tax on their inheritance. If the donor is a foreign resident, the heir could claim a foreign tax credit for any foreign wealth transfer tax paid on the inheritance.

#### *5. Does the proposal eliminate the need for a wealth tax or an accrual tax?*

Recently, there have been several prominent proposals for a wealth tax or an accrual tax. Batchelder and Kamin (2019) summarize the benefits and challenges associated with these proposals. To the extent one believes that, on balance, either regime should be adopted, the proposal offered here is a complement rather than a substitute for these reforms.



The rationale for a wealth tax or an accrual tax largely stems from our current low effective tax rates on capital income and the unfairness these low rates create because the highest-income taxpayers tend to report a very large share of their income in the form of capital income. In contrast, all other taxpayers tend to report the lion's share of their income as labor compensation. This inequity is a separate issue from whether and how inheritances should be taxed. One could believe that tax rates on capital income should generally be low and nevertheless support including large inheritances in the heir's income and payroll tax base.

An accrual tax has the further benefit of largely eliminating the lock-in effect created by deferral incentives in the tax code. The proposal here would eliminate two of those incentives: stepped-up basis for bequests and carryover basis for gifts. But it would not address the third and potentially largest incentive: the realization rule. If one believes that tax rates on capital gains should be raised substantially, it is critical to reduce or eliminate the lock-in effect. Otherwise, large increases to the capital gains rate could lose revenue as investors respond by holding on to underperforming assets even longer. The constructive realization approach proposed here would raise the revenue-maximizing capital gains rate substantially—by some estimates from about 30 to 50 percent (Rubin 2019). But an accrual tax, coupled with the constructive realization rule proposed here, would raise the revenue-maximizing capital gains rate far higher.

A wealth tax potentially has some political economy advantages over an accrual tax as a way to tax the wealthy more heavily. It is easier to explain and may have a broader base because it would be writing on a blank slate. Enacting the proposal here would not change those dynamics. If anything, it could improve the IRS's ability to administer a wealth tax by establishing a set of valuation rules for assets held in trusts and other entities that better reflects economic realities.

Another rationale for a wealth tax is that it would arguably increase the fairness of the tax system as a whole if wealth provides additional information about well-being beyond the taxpayer's income. The proposal here would partially address these concerns because inheritances are one source of wealth. But it would not apply to many other forms of wealth that arguably should be counted in determining taxpayers' relative affluence, such as assets earned and consumed during life.

## Conclusion

Wealth transfer taxes are a vital part of efforts to mitigate economic disparities, and especially inequality of opportunity. The proposal offered here would diminish the relative advantages enjoyed by those born at the very top, while leaving those who do not receive extraordinarily large inheritances unaffected.

At the same time, the proposal would raise a large amount of revenue that could be used for investments that enhance economic mobility of children from low- and middle-income families. For example, it could fund expanded access to child care, universal preschool, increased Pell Grants, or expansions to the Earned Income Tax Credit to ensure no worker is taxed into poverty. These proposals are estimated to significantly improve infant health, heighten academic achievement, boost labor force participation, and increase lifetime earnings for children from relatively disadvantaged backgrounds (Executive Office of the President and U.S. Treasury Department 2014; Marr et al. 2015).

President Franklin Delano Roosevelt once said, “Inherited economic power is as inconsistent with the ideals of this generation as inherited political power was inconsistent with the ideals of the generation which established our government” (Roosevelt 1938). The same could be said today. Rather than falling near the bottom among high-income countries on this score, we should recommit to a vision of America as a land of opportunity where one’s financial success depends relatively little on the circumstances of one’s birth. A first step is to start taxing extraordinarily large inheritances the same way we tax good old hard work.

# Appendix

APPENDIX TABLE 1.

## Distribution of Current-Year and Lifetime Inheritances by Current-Year Inheritance Size

Current inheritance level	Tax units receiving current inheritances		Total current inheritances		Lifetime inheritances of tax units receiving current inheritances	
	Number	Share of tax units	Amount (in millions)	Share of current inheritances	Amount (in millions)	Share of lifetime inheritances
\$0–\$100K	2,874,479	69.6%	\$72,671	9.5%	\$139,573	14.6%
\$100K–\$500K	940,215	22.8%	\$204,351	26.7%	\$270,596	28.4%
\$500K–\$1M	169,022	4.1%	\$119,451	15.6%	\$135,047	14.2%
\$1M–\$2.5M	114,260	2.8%	\$200,356	26.2%	\$234,425	24.6%
\$2.5M–\$5M	19,870	0.5%	\$68,270	8.9%	\$74,797	7.8%
\$5M–\$10M	7,397	0.2%	\$44,772	5.9%	\$45,092	4.7%
\$10M–\$20M	2,199	0.1%	\$29,651	3.9%	\$29,912	3.1%
\$20M–\$50M	732	0.0%	\$17,463	2.3%	\$17,503	1.8%
More than \$50M	70	0.0%	\$7,248	0.9%	\$7,248	0.8%
All	4,128,243	100%	\$764,233	100%	\$954,193	100%

Source: TPC calculations.

Note: Estimates are for 2020. Includes filing and non-filing units but excludes those that are dependents of other tax units.

APPENDIX TABLE 2.

## Distribution of Current-Year and Lifetime Inheritances by Heir's Economic Income

Heir economic income	All tax units	Tax units receiving current inheritances				
	Number	Number	Average current inheritance	Average lifetime inheritance	Share of current inheritances	Share of lifetime inheritances
\$0– \$10K	11,449,386	94,215	\$23,802	\$26,974	0.3%	0.3%
\$10K– \$20K	20,992,776	339,638	\$17,442	\$27,315	0.8%	1.0%
\$20K– \$30K	19,464,062	365,792	\$70,285	\$97,114	3.4%	3.7%
\$30K– \$40K	15,867,046	288,649	\$53,172	\$100,715	2.0%	3.0%
\$40K– \$50K	13,263,684	334,711	\$118,392	\$148,038	5.2%	5.2%
\$50K– \$75K	25,054,272	675,873	\$124,894	\$181,834	11.0%	12.9%
\$75K– \$100K	16,975,536	416,450	\$107,992	\$140,731	5.9%	6.1%
\$100K– \$200K	32,524,126	977,820	\$151,840	\$195,540	19.4%	20.0%
\$200K– \$500K	16,038,559	487,794	\$379,737	\$465,296	24.2%	23.8%
\$500K– \$1M	2,065,668	82,610	\$1,009,075	\$1,161,363	10.9%	10.1%
\$1M– \$5M	827,883	34,511	\$2,707,537	\$2,771,184	12.2%	10.0%
More than \$5M	79,655	2,465	\$6,893,587	\$7,022,544	2.2%	1.8%
All	175,863,553	4,128,243	\$185,123	231,138	100%	100%

Source: TPC calculations.

Note: Estimates are for 2020. Includes filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but included in the totals. Economic income is expanded cash income plus one-fifth of gifts and bequests received.

APPENDIX TABLE 3.

## Distribution of Current-Year and Lifetime Inheritances by Heir's Income Excluding Inheritances

Heir income excluding inheritances	All tax units	Tax units receiving current inheritances				
	Number	Number	Average current inheritance	Average lifetime inheritance	Share of current inheritances	Share of lifetime inheritances
\$0–\$10K	11,664,491	309,320	\$127,745	\$146,765	5.2%	4.8%
\$10K– \$20K	21,189,508	536,369	\$127,391	\$148,124	8.9%	8.3%
\$20K– \$30K	19,554,620	456,350	\$149,009	\$199,402	8.9%	9.5%
\$30K– \$40K	15,871,693	293,297	\$122,950	\$156,840	4.7%	4.8%
\$40K– \$50K	13,273,734	344,761	\$225,765	\$251,563	10.2%	9.1%
\$50K– \$75K	24,944,690	566,291	\$214,909	\$280,607	15.9%	16.7%
\$75K– \$100K	16,971,269	412,183	\$172,276	\$230,005	9.3%	9.9%
\$100K– \$200K	32,326,819	780,514	\$175,164	\$224,506	17.9%	18.4%
\$200K– \$500K	15,881,095	330,330	\$264,468	\$344,077	11.4%	11.9%
\$500K– \$1M	2,031,158	48,100	\$405,547	\$457,535	2.6%	2.3%
\$1M– \$5M	814,335	20,963	\$801,780	\$866,395	2.2%	1.9%
More than \$5M	79,236	2,046	\$1,403,547	\$1,546,826	0.4%	0.3%
All	175,863,553	4,128,243	\$185,123	\$231,138	100%	100%

Source: TPC calculations.

Note: Estimates are for 2020. Includes filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but included in the total.

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## Endnotes

1. This article draws extensively on my prior work on wealth transfer taxes, including Batchelder (2007, 2008, 2009, 2016, 2017) and Batchelder and Khitatrakun (2008).
2. Intergenerational mobility estimates typically look only at the correlation between fathers' and sons' incomes, excluding mothers' and daughters' incomes, because of large changes in labor force participation among women over the past several decades.
3. Economic income is defined here as expanded cash income (following the TPC definition) plus one-fifth of any gift or bequest received in the current year, in order to smooth inherited income over time. This distribution of inheritances would appear even more skewed if economic income were defined to include heirs' entire inheritance in the year of receipt, which would be more consistent with TPC's definition of expanded cash income in other contexts, such as including all accrued gains only when they are realized (Rosenberg 2013). Tax units with negative income are omitted from the three appendix tables. If they are included in the category of economic income under \$50,000, that group's estimated average inheritance is \$74,000.
4. They do not increase within-generation inequality on a relative basis, however, because of regression to the mean (Batchelder 2009; Wolff 2002).
5. If an heir saves their inheritance, the earnings on those savings will be taxed, but the amount inherited will not.
6. The Joint Committee on Taxation (JCT) and the Congressional Budget Office (CBO) do not include the estate, gift, and generation-skipping transfer taxes in their distributional analyses. The Treasury has only done so intermittently, but in those cases has distributed the burden to the donor. I have seen no public justification for this assumption and privately have been told it does not reflect a theoretical or empirical judgment, but rather the practical difficulty in linking estate and gift tax returns to heirs. For further discussion, see Batchelder (2009) and TPC (2018d, 2019). Experts who question whether wealth transfer taxes largely burden heirs generally assume their enactment is accompanied by changes to income tax rates that perfectly offset their revenue or distributional effects (e.g., Hines 2009). But such perfect offsets are impossible if one believes the distributional measure should include inherited income; it would require simultaneously enacting and repealing the same changes to the taxation of inherited income.
7. To the extent that donors with large estates have saved for altruistic reasons and receiving bequests is not a tag for well-being, the optimal tax on inheritances is negative (Batchelder 2009; Farhi and Werning 2010; Kaplow 1995; Piketty and Saez 2013a). But neither of these assumptions holds in reality. Receiving large inheritances does increase the heir's well-being, and the vast majority of large wealth transfers stem from other saving motives, especially egoistic saving, for which the optimal tax rate is 100 percent (Batchelder 2009; Gale and Slemrod 2001).
8. The empirical evidence on this point is far from conclusive. But to provide a rough sense, a review of the literature on the elasticity of taxable income with respect to the net-of-tax income tax rate concluded that the best available estimates range from 0.12 to 0.40 (Saez, Slemrod, and Giertz 2012). In contrast, a review of the literature on the elasticity of estates to the net-of-tax estate tax rate concluded, "All these papers estimate a similar baseline elasticity of between 0.1 and 0.2" (Kopczuk 2013, 365). Several caveats are in order. First, these estimates are not strictly apples to apples

because one is a stock and one is a flow, and because the taxable income elasticities include both capital and labor income and are not limited to the top of the income distribution. These elasticities also include avoidance responses in addition to real behavioral changes. Nevertheless, they suggest that, as a first pass, wealth transfer taxes may be more efficient than comparably progressive income and wealth taxes.

9. Specifically, the accrued gain on the asset at the time of the gift is not taxed until the recipient disposes of the asset due to a provision called carryover basis.
10. In other words, \$1 million = \$714,286 + \$714,286 \* 0.4.
11. Technically the GST tax was first enacted in 1976, but that version was retroactively repealed in 1986.
12. For example, \$2.5 million would produce an inflation-adjusted income of about \$122,000 to age 98, assuming a 5 percent real rate of return. In 2018 the 70th percentile of household income was \$100,000 and the 80th percentile was \$130,000 (U.S. Census Bureau 2019). This example considers the expected, not guaranteed, consumption potential of such an heir. In order to guarantee income exceeding the 75th percentile in every year, the heir would need to purchase a life annuity, which may entail a lower rate of return.
13. However, transfers to noncharitable nonprofit organizations (such as 501(c)(4), (c)(5), and (c)(6) organizations) would be taxable at the highest income and payroll tax rates.
14. The heir's marginal tax rate on their taxable inheritance would be lower than the sum of their marginal income and payroll tax rates because individuals can deduct or exclude half of payroll taxes on their income tax return. Thus, the top marginal tax rate on inheritances would be  $0.37 + 0.153 - (0.37 * 0.0765) = 0.4947$ . This heir's average tax rate would be 8.2 percent because this marginal tax rate applies to only one-sixth of their inheritance.
15. It also would maintain current law for transfers of tangible personal property, such as furniture and small family heirlooms, but not collectibles.
16. There are interactions between this proposal and the proposed changes to the rules governing transfers through trusts and similar devices described in box 1. Generally, constructive realization should apply to the donor in the same circumstances as the withholding tax on wealth transfers. In addition, constructive realization should apply to the heir when their final inheritance tax liability is determined. For example, suppose a donor contributes appreciated assets to a GRAT, of which 60 percent is expected to go to the donor and 40 percent to their heir. The donor would then pay tax on 40 percent of the accrued gains at the time of the contribution, and the basis in the GRAT's asset would be adjusted accordingly. When the heir ultimately receives the remaining assets, they would pay tax on any accrued gains above and beyond those constructively realized by the donor, including gains that accrued in the intervening years. A number of complex issues that might otherwise arise would be mitigated or resolved by the facts that constructive realization would apply to transfers to charities, and the rate applicable to gains constructively realized when assets are contributed to a trust would be the donor's, not the heir's. For further discussion of some of these issues, see American College of Trust and Estate Counsel (ACTEC 2019).
17. The heir would receive a carryover basis to the extent the accrued gain is exempt from constructive realization because this is a gift. If the transfer instead was a bequest, the heir would receive a stepped-up basis for the exempt portion of the accrued gain (i.e., their basis in the stock would be \$3 million).
18. For these purposes, liquid assets include cash, cash management accounts, state and local bonds, federal government bonds, publicly traded stock, and life insurance on the life of the decedent that is payable to the estate. It does not include proceeds from insurance on the life of the donor that is payable to the heirs (JCT 2015).
19. This would include circumstances in which the business sells some of its assets and distributes the proceeds to the heir, or when the heir and/or related parties incur nonrecourse debt secured by the business or its assets.
20. Specifically, the proposal would repeal § 6166, which allows estates to defer paying the estate tax due on certain closely held businesses for up to 15 years at a below-market interest rate; § 2032A, which permits valuation discounts for real property used in a trade or business; and § 2702, which allows donors to undervalue personal residences for gift tax purposes in certain circumstances (JCT 2015; Miller and Maine 2011).

21. Their taxable inheritance would be \$10 million and their marginal tax rate would be 49.5 percent.
22. Specifically, contributions to dynastic trusts would be subject to a withholding tax at the top income and payroll tax rate (currently 49.5 percent). Distributions from such trusts to skip heirs (two more generations younger than the donor) would be taxed at the heir's ordinary income tax rate and the payroll tax rate (disregarding the taxable maximum) to the extent they exceed the heir's lifetime exemption. Skip heirs would not receive a credit for their portion of the withholding tax, which is the GST tax, except to the extent of any unused portion of their own lifetime exemption or that of their parents. If the donor directly transfers assets to a skip heir, rather than through a dynastic trust, the GST tax would not apply. The rationale for exempting direct transfers to skip heirs is that it is far less likely in such circumstances that the intervening generations had access to the assets the skip heir inherits and chose to forgo such access.
23. Comparable estimates for the estate and gift tax are not available.
24. The withholding tax would apply to the tax-inclusive gift or bequest, as would the heir's income and payroll tax liability. For example, suppose a donor wants to transfer \$1 million after tax to their heir. They would need to set aside \$1,980,198 for the transfer and would remit a withholding tax of 49.5 percent, or \$980,198, on that amount, with the remaining \$1 million going to the heir. The heir would report an inheritance of \$1,980,198 on their Form 1040. If the heir had already used up their annual and lifetime exemptions and was in the highest tax bracket, they would owe no additional tax and would receive no refund. However, if these conditions did not hold, the heir would receive a credit for the excess withholding tax paid.
25. The effective date should be a date earlier than the date of enactment, such as the date of introduction, in order to limit tax planning in anticipation of the reform. This is a common practice in tax legislation.
26. These include discounts for lack-of-marketability, lack-of-control, and minority interests (Cunningham and Cunningham 2018).
27. Another example is an installment sale by a donor to their grantor trust, which the trust pays for with an installment note bearing a low rate of interest (U.S. Senate Committee on Finance 2017).
28. This treatment would apply even if state law or the governing documents limit the heir's ability to sell, redeem, or liquidate their interest.
29. Following Dodge (2016), retained interests would be defined broadly to include the possibility of the donor receiving trust income or assets under another person's power, even if that power is limited by standards such as support.
30. This treatment would apply to charitable lead annuity trusts, irrevocable life insurance trusts, insurance dedicated funds, and Crummey trusts, just to name a few examples.
31. This treatment should apply to income tax payments by the donor after the effective date, whether on behalf of new or existing grantor trusts.
32. For proposals, see Schmolka (2000), Soled (2001), Ascher (2010), and Cunningham and Cunningham (2012). If the grantor trust rules were largely repealed, this proposal would be less necessary.
33. The IRS has conducted more limited studies since then and, controlling for estate size, the distribution of estates among heirs does not appear to have changed in any dramatic ways (Joulfaian 2019).
34. If one excludes households that do not receive an inheritance in the current year, the corresponding percentages are 0.8 percent, 3.6 percent, and 7.7 percent. Arguably, the best approach would be to rank households by lifetime inheritances received and include those that never receive an inheritance. In this case, the share of households burdened by the proposal would also be very small because only a small minority ever receive an inheritance (Thompson and Suarez 2015).
35. Specifically, TPC estimates the estate and gift taxes at the 2009 parameters (indexed) would raise \$518 billion over calendar years 2020 to 2029, relative to a baseline of no wealth transfer taxes. The estate and gift tax lifetime exemption in 2020 would be \$4.14 million after indexing (\$8.28 million per couple). Disregarding constructive realization, TPC estimates the proposed inheritance tax would raise \$511 billion over the same period in steady state relative to a baseline of no wealth transfer taxes. While TPC assumes the proposal is effective immediately (i.e., that it applies to gifts and bequests received after December 31, 2019), some of the revenue raised from transfers in 2028 to 2030 would not be collected until after 2030, and thus are not included in table 3. In addition, the



- proposal raises less in table 3 than it would in steady state because only inheritances received after December 31, 2019, count toward the lifetime exemption in table 3.
36. Heirs with inheritances far above the lifetime exemption could pay a higher average tax rate on their inherited income than their income from work because the Social Security tax applies only to labor earnings up to \$137,700 in 2020. However, this would not be the case for heirs who are not far above the lifetime exemption because it would substantially lower their average tax rate on inherited income.
  37. The U.S. states also have been less likely to repeal inheritance taxes than estate taxes (Cammenga 2019; McNichol 2019).
  38. Most inheritance taxes in the U.S. states and around the world are accessions taxes, which provide an exemption for each heir and then apply a flat, low rate above that exemption that is unrelated to the heir's income or payroll tax rate (Batchelder 2009).
  39. Banks and trust companies acting as trustees must report the amount of trust assets they manage, which was \$918 billion in 2018 (Sitkoff and Dukeminier 2017). But when a private individual serves as the trustee, there is no similar reporting requirement. Moreover, many trust assets, including real estate and closely held business interests, cannot be held in a trust maintained by a bank or trust company (Crawford 2019).
  40. As explained in Batchelder (2009), because exchange-motivated transfers are essentially compensation, they should be taxed like all other labor income and included in the income and payroll tax bases. Altruistic transfers should be subsidized to account for positive externalities, with the subsidy rate gradually declining to zero as the heir's ability to pay rises.
  41. The District of Columbia also has an estate tax.

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# Taxing Wealth

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## Abstract

The U.S. income tax does a poor job of taxing the income from wealth. This chapter details four approaches to reforming the taxation of wealth, each of which is calibrated to raise approximately \$3 trillion over the next decade. Approach 1 is a 2 percent annual wealth tax above \$25 million (\$12.5 million for individual filers). Approach 2 is a 2 percent annual wealth tax with realization-based taxation of non-traded assets for taxpayers with more than \$25 million (\$12.5 million for individual filers). Approach 3 is accrual taxation of investment income at ordinary tax rates for taxpayers with more than \$16.5 million in gross assets (\$8.25 million for individual filers). And Approach 4 is accrual taxation at ordinary tax rates with realization-based taxation of non-traded assets for those with more than \$16.5 million in gross assets (\$8.25 million for individual filers). Under both the realization-based wealth tax and the realization-based accrual tax, the tax paid upon realization would be computed in a manner designed to eliminate the benefits of deferral. As a result, all four approaches would address the fundamental weakness of the existing income tax when it comes to taxing investment income: allowing taxpayers to defer paying tax on investment gains until assets are sold at no cost.

## Introduction

In fiscal year 2019 the federal government collected revenues equal to 16.3 percent of GDP, well below the 17.4 percent average of the prior 50 years (Congressional Budget Office [CBO] 2019b). In light of both existing spending commitments and the potential benefits of additional spending in a variety of areas, the federal government should raise additional revenues. High and rising inequality strongly suggests that the wealthy should contribute a substantial share of these revenues (Auten and Splinter 2019;

Batty et al. 2019; Bricker et al. 2016; Piketty, Saez, and Zucman 2018; Saez and Zucman 2016; Smith, Zidar, and Zwick 2019). Moreover, structural weaknesses in how the income tax applies to the income from wealth—weaknesses that facilitate tax avoidance and generate inequities—point to the taxation of wealth as an area ripe for reform.

Under current law, gains on investment assets are taxed only when realized, generally meaning when an asset is sold. About 20 percent of the income of the top 1 percent consists of realized capital gains (CBO 2019a). However, measuring capital gains only when they are realized understates both total incomes and the portion attributable to capital gains. Unrealized gains, meaning increases in the value of investment assets that have not been sold, represent a substantial fraction of all gains and have grown in importance in recent decades (Robbins 2018). Importantly, unrealized gains on assets that are never sold during a taxpayer's lifetime are wiped out for income tax purposes at death under a provision known as step-up in basis. (See appendix A for a description of the taxation of wealth and investment income under current law.)

The opportunity to defer taxation until assets are sold and to avoid taxes entirely if assets are never sold leads to widespread, and costly, tax avoidance. Moreover, even when gains are taxed, they are taxed at preferential rates. The maximum federal income tax rate on capital gains and dividends is only 23.8 percent, whereas the maximum rate on ordinary income is 40.8 percent.<sup>1</sup>

Reforming the taxation of wealth—by strengthening the tax base and simultaneously increasing tax rates—offers an important opportunity to raise substantial revenues from the wealthiest families. This chapter details four alternative approaches to reforming the taxation of wealth:

1. A 2 percent annual wealth tax on the market value of a family's wealth in excess of \$25 million for married couples and \$12.5 million for individuals.
2. A 2 percent annual wealth tax on the market value of a family's publicly traded assets and liabilities, combined with an equivalent retrospective tax on non-traded assets when they are sold, applicable to family wealth in excess of \$25 million for married couples and \$12.5 million for individuals.
3. Accrual taxation of investment income at ordinary tax rates for married taxpayers with more than \$16.5 million in gross assets and single taxpayers with more than \$8.25 million in gross assets, meaning that

affected taxpayers would include all investment gains in income in the year in which the gains accrue through mark-to-market accounting.

4. Accrual taxation of investment income from publicly traded assets and liabilities at ordinary tax rates, combined with an equivalent retrospective tax on income from non-traded assets when they are sold, applicable to married taxpayers with more than \$16.5 million in gross assets and individual taxpayers with more than \$8.25 million in gross assets.

Under Approaches 2 and 4, both of which tax gains on non-traded assets upon realization, the tax paid would be computed in a manner designed to eliminate the benefits of deferral, through what is known as a deferral charge. To simplify terminology, I refer to these approaches as realization-based approaches throughout this chapter, even though they rely on realization only for non-traded assets and not for publicly traded assets.

The four approaches share many common features, both as a matter of implementation and as a matter of economics. They differ in structure on two main dimensions: whether they tax the stock of wealth or the flow of income from wealth, and whether they are based on annual asset valuations or rely on realization for assets that are not publicly traded (see figure 1). The wealth tax approaches apply to the stock of wealth, whereas the accrual taxation approaches apply to the flow of income from wealth. The wealth tax and the accrual tax rely on annual valuations for all assets and liabilities, while the two realization-based approaches rely on realization to measure the value of non-traded assets.

FIGURE 1.

## Four Approaches to Taxing Wealth

	Tax on wealth	Tax on income from wealth
<b>Valuation-based taxation of non-traded assets</b>	Wealth tax (Approach 1)	Accrual taxation (Approach 3)
<b>Realization-based taxation of non-traded assets</b>	Realization-based wealth tax (Approach 2)	Realization-based accrual taxation (Approach 4)



As a result of these structural differences, the approaches differ in their treatment of uncertain investment returns, their treatment of assets that deliver nonfinancial returns, the scope for and ease of integration with the existing income tax, progressivity, and the risk that the proposals would be declared unconstitutional. All four approaches would avoid the structural shortcomings of the current income tax, delivering larger revenue increases for a given increase in burden than would be possible with a simple increase in the tax rate on capital gains.

The wealth tax and accrual tax approaches (Approaches 1 and 3, respectively) are each calibrated to raise \$3 trillion between 2021 and 2030, ignoring transitional revenues under the accrual tax. The burden of both approaches would lie overwhelmingly on the wealthiest households. Essentially all of the burden of the wealth tax (Approach 1) would lie on the wealthiest 1 percent of households in 2021, and 98 percent of the burden of the accrual tax (Approach 3) would lie on the wealthiest 1 percent of households.<sup>2</sup> However, the wealth tax would be more heavily concentrated on the very wealthiest households than would the accrual tax. The accrual tax would also affect more households (0.8 percent of all households) than the wealth tax (0.5 percent). Both approaches would substantially reduce the after-tax incomes of the top 1 percent of households when classified by wealth, with after-tax incomes falling by 15 percent in 2021 under the wealth tax and 12 percent under the accrual tax.

Separate estimates of the revenues raised and burden imposed by the realization-based approaches are not presented in this chapter due to the limited evidence on which to base an estimate of the differences between the valuation-based approaches (Approaches 1 and 3) and the realization-based approaches (Approaches 2 and 4). However, these differences are critical in assessing their relative merits, so I provide substantial discussion of these differences below.

As presented in this chapter, taxing wealth—whether through a wealth tax or accrual taxation of investment income—serves to complete the income tax. This motivation for taxing wealth is not new with this proposal. Schenk (2000) proposes adopting a wealth tax alongside a consumption tax, which she brands as a proposal to save the income tax. And accrual taxation is part of the Haig-Simons income tax base that has long been considered the benchmark for a comprehensive income tax, defined as consumption plus the change in net worth (Simons 1938).<sup>3</sup>

The chapter proceeds as follows. The first section describes the shortcomings of the current system and explains why fundamental reform is needed. The next section lays out the four approaches to taxing wealth in detail. The

following section reviews the economic effects of taxing wealth. The fourth section addresses questions and concerns about taxing wealth. A final section concludes.

## The Challenge

As noted in the introduction, income from wealth accounts for a substantial share of all income for the wealthiest households, but the existing income tax does a poor job of taxing this income. The root cause of this problem is that the tax code allows taxpayers to defer (without interest) paying tax on investment gains until assets are sold. Realization-based taxation of capital gains without an appropriate deferral charge opens the door to substantial and costly tax avoidance, reducing revenues and generating inequities across taxpayers.

On its own, deferral—the opportunity to delay paying tax until an asset is sold—mechanically reduces the present value of tax due on an investment (i.e., the value of the tax that will be due over the life of the asset today, after adjusting for the time value of money) because the tax liability does not compound over time. In other words, a taxpayer who must pay tax on asset returns every year accumulates wealth more slowly than a taxpayer who pays tax only once after holding an asset for several years. Symmetrically, just as taxpayers benefit from deferring gains, they also benefit from accelerating losses. And, since taxpayers can choose when to realize gains and losses, they will tend to accelerate the sale of assets that have decreased in value.

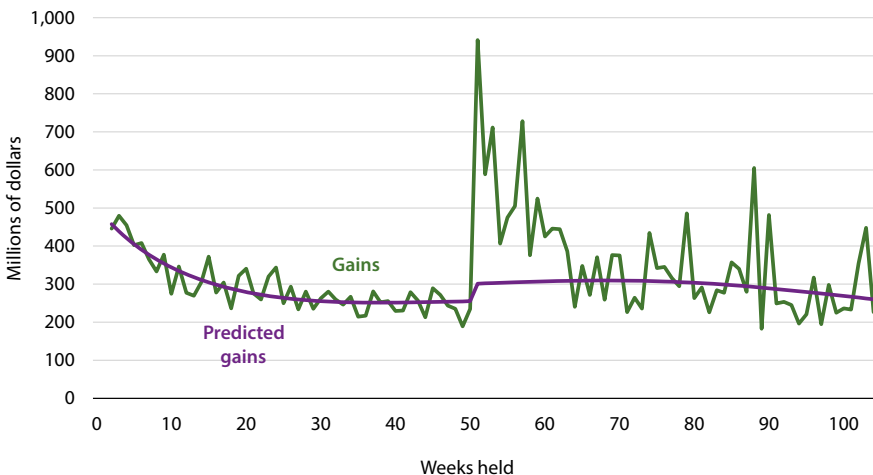
The incentive to defer tax is much larger than just the time value of money, however, because deferral can be combined with other provisions of tax law to yield additional benefits. Taxpayers may hope to avoid selling an asset until their death, and thus hope to avoid paying any capital gains tax whatsoever. In the case of real estate assets, they may plan to swap one asset for another in a like-kind exchange that allows them to defer tax.<sup>4</sup> And, although like-kind exchanges offer only a temporary deferral of tax, they make it easier to avoid selling assets during a taxpayer's life and thus also facilitate the use of the step-up in basis at death to avoid tax entirely. Taxpayers may allow assets to appreciate and then donate the appreciated asset to charity, in which case they pay no tax on the capital gain but receive a charitable deduction equal to the market value including the gain. Finally, but importantly, taxpayers may choose to delay selling an appreciated asset because they expect Congress to reduce tax rates in the future; thus, by holding on to an asset they expect to ultimately pay tax at a lower rate.

All of these actions to avoid tax through deferral come at a cost. Taxpayers incur costs for professional services as they structure their transactions to avoid buying or selling assets. Taxpayers incur costs when they skew their portfolio away from what would otherwise be their preferred investments to assets that can benefit from deferral more readily, such as shifting their portfolio from debt to equity. And taxpayers incur costs when they hold on to positions that are no longer desirable from a pretax perspective because selling their position would require them to pay taxes.

I am unaware of a direct estimate of these costs in the aggregate, but there is substantial indirect evidence that these costs are an important consideration in individuals' tax planning and thus for policymakers when setting tax policy. For example, researchers have documented that taxpayers adjust the timing of their transactions to benefit from the difference in the tax rate on short-term and long-term gains. These responses are indicative of taxpayers' willingness and ability to avoid taxes by changing the timing of capital gains realizations, and suggestive of the costs associated with changing the timing. Dowd, McClelland, and Mortenson (2019), for example, find pronounced spikes in the quantity of capital gains realized just over the eligibility threshold for the lower long-term capital gains rate (figure 2).

FIGURE 2.

## Capital Gains Realizations by Holding Period

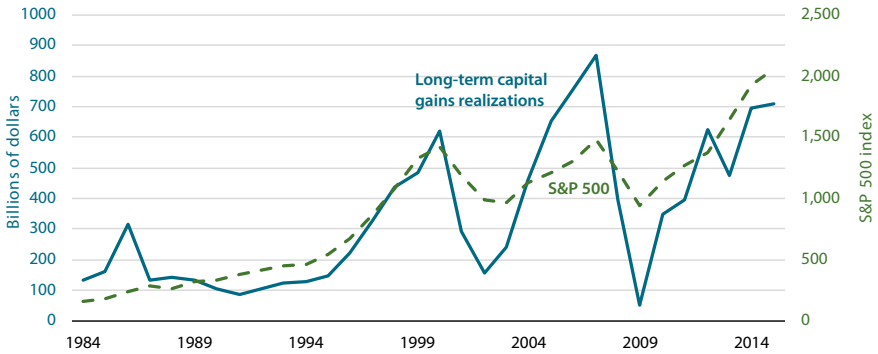


Source: Dowd, McClelland, and Mortenson 2019.

Note: Capital gains are eligible for the preferential long-term rate if the underlying assets are held for more than one year (52 weeks). Estimates are for 2012.

FIGURE 3.

## Capital Gains Realizations and the S&P 500, 1984–2015



Source: Dowd, McClelland, and Mortenson 2019.

Note: Long-term capital gains are capital gains on assets held for more than one year.

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Similarly, the authors document that long-term capital gains realizations increase or decrease sharply in the year following a decrease or increase in the tax rate. (See figure 3 for the trend in long-term capital gains realizations over time).

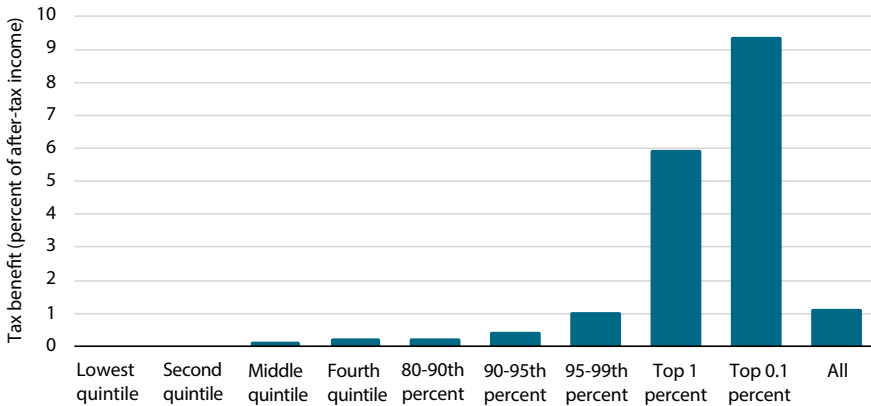
As noted above, realization-based taxation of capital gains can affect not just decisions about when to sell assets, but also the choice of which assets to hold in the first place. Poterba and Samwick (2003), for example, find evidence consistent with higher tax rates encouraging a shift into assets that are more lightly taxed, such as retirement holdings, tax-exempt bonds, and equities.

Although the evidence of behavioral responses to capital gains taxes indicates the existence of costly avoidance, deferral also generates inequities across taxpayers with different capacities to exploit deferral. Wealthy taxpayers with access to financial markets can maximize the benefits of deferral on their investments including through the step-up in basis at death, but middle-class families who draw down their assets in retirement are unable to benefit from the provisions to the same extent.

Finally, the preferential rates for capital gains and dividends are both expensive and regressive. The U.S. Department of the Treasury (Treasury) estimates that the tax expenditure for the preferential rates on capital gains will total \$1.2 trillion from 2020 to 2029, and the tax expenditure for the preferential rates on dividends will be \$400 billion over the same period (Treasury 2019). The tax expenditure for stepped-up basis is an additional \$700 billion over 10 years. The Urban–Brookings Tax Policy Center (TPC)

FIGURE 4.

## Tax Benefit from Preferential Rates on Long-Term Capital Gains and Dividends



Source: Urban–Brookings Tax Policy Center (TPC) 2018.

Note: Estimates are for 2018.

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estimates that 75 percent of the benefits of the preferential rates accrued to the highest-income 1 percent of taxpayers in 2018, with 57 percent accruing to the highest-income 0.1 percent (TPC 2018; see figure 4 for the after-tax income benefits from preferential rates on long-term capital gains and dividends). These rate disparities also encourage taxpayers to attempt to convert income taxed at ordinary rates into income that can benefit from preferential rates.

### THE NEED FOR FUNDAMENTAL REFORM

Incremental reform proposals could address some of the issues identified above and would be well worth pursuing in the absence of fundamental reform. However, these proposals do not substitute for fundamental reforms to the taxation of wealth. Indeed, incremental proposals to address these issues are often included—implicitly or explicitly—in fundamental reforms.

One major incremental reform would be to treat death or gift as a realization event for purposes of the income tax. In other words, all unrealized gains would be taxed when a person dies or gives away the underlying asset. The Obama administration included a proposal along these lines in the President’s budget each year beginning in 2015 (Treasury 2015a). As noted above, the tax expenditure for the step-up in basis at death is projected to be \$700 billion over the next decade.<sup>5</sup>

A second incremental reform would be to raise the tax rate on dividends. Traditionally, dividend payments have been viewed as less sensitive to taxation than capital gains realizations and potentially less relevant in determining the equilibrium cost of capital (Weisbach 2017; Yagan 2015). However, even though they are likely less elastic than capital gains, dividends remain a financial choice for businesses and thus are likely more elastic than real economic decisions such as hiring and investment (Yagan 2015). As noted above, the tax expenditure for preferential rates on qualified dividends is \$400 billion over 10 years, and the revenue raised by repealing the preferential rate for dividends would likely be somewhat less.

A third incremental proposal would be to raise the tax rate on capital gains to match the rate on ordinary income. However, estimates of the realization response to changes in the capital gains rate suggest that this increase would have more limited revenue-raising potential. Gravelle (2019) suggests the revenue-maximizing capital gains rate according to the modeling at the Joint Committee on Taxation (JCT) and the Treasury would be under 33 percent if all other features of current law remained the same. She argues that this modeling likely overstates the responsiveness of capital gains realizations, but even so a substantial fraction of potential revenue raised would be lost due to behavior. Ricco (2019) estimates that the revenue-maximizing capital gains rate would be 33 percent under current law and 42 percent if gains were taxed at death as in the first incremental reform option above. Given the responsiveness of capital gains realizations to the tax rate, repealing the preferential rates on capital gains would likely raise substantially less than the \$1.2 trillion 10-year tax expenditure estimate even if it were combined with taxing gains at death.

Together, treating death or gift as a realization event, repealing the preferential rate for dividends, and raising the tax rate on capital gains and dividends would reflect an ambitious agenda to reduce tax preferences for capital income. However, the relative ease of avoiding capital gains taxes via strategies that exploit deferral means that these reforms would generate substantially less revenue than more ambitious proposals to tax wealth—but without imposing commensurately lower burden on taxpayers.<sup>6</sup> That is, taxing wealth, either through a wealth tax or via accrual taxation, would deliver far higher revenues at modestly higher burden than the incremental package described here.

## The Proposal

This section details four alternative approaches to reforming the taxation of wealth: (1) a 2 percent annual wealth tax, (2) a 2 percent annual wealth

tax with realization-based taxation of non-traded assets, (3) accrual taxation of investment income on all types of assets via mark-to-market accounting, and (4) accrual taxation of investment income via mark-to-market accounting for publicly traded assets combined with realization-based taxation of gains on non-traded assets when they are sold. The realization-based approaches would include a deferral charge on the sale of non-traded assets that would approximately eliminate the benefits of deferral. The accrual taxation approaches would apply ordinary rates to gains taxed under the accrual system, effectively repealing the preferential rates for capital gains and dividends.

As noted in the introduction, all four approaches represent reforms to the taxation of wealth, and thus they share many common features both as a matter of implementation and as a matter of economics. They differ in structure on two main dimensions: whether they tax the stock of wealth or the flow of income from wealth, and whether they are based on annual asset valuations or rely on realization for assets that are not publicly traded. As a result of these structural differences, the proposals differ in their treatment of uncertain investment returns, their treatment of assets that deliver nonfinancial returns, the scope for and ease of integration with the existing income tax, their progressivity, and the risk that the proposals would be declared unconstitutional.

The choice between the valuation-based approaches and the realization-based approaches depends primarily on (1) the accuracy and opportunities for gaming in the valuation requirement and in the deferral charge, and (2) the costs of preparing valuations and complying with the deferral charge. The choice between the wealth tax and the income tax approaches depends primarily on the value of integration with the existing income tax, the importance of including assets for which the primary return is nonfinancial in the tax base, the impacts of different treatments of uncertain investment returns, the desired level of progressivity, and the weight placed on the risk that the proposal would be declared unconstitutional.

The wealth tax and accrual tax proposals described here are each calibrated to raise approximately \$3 trillion over the next decade. Of course, by modifying the rates and exemptions, the reach of these proposals could be expanded or contracted. A lower rate would impose a lower burden on those affected. A higher threshold would exempt more families from the tax and reduce compliance costs (by making fewer households subject for the tax). Both of those advantages would trade against reduced tax revenue.

The remainder of this section describes each of the four approaches to reforming the taxation of wealth in detail. It first describes the wealth

tax and then the variation on a wealth tax relying on realization for the purposes of taxing non-traded assets. It next describes accrual taxation via mark-to-market accounting and then the variation of accrual taxation relying on realization for the taxation of non-traded assets.

## **APPROACH 1: THE WEALTH TAX**

The wealth tax would impose an annual 2 percent tax on the market value of each family's wealth in excess of \$25 million for married couples and \$12.5 million for individual filers. The total annual value of gifts (other than to charitable organizations) by taxpayers subject to the wealth tax would be subject to an additional gift tax at a rate of 20 percent.<sup>7</sup>

### *The Design of the Tax*

The wealth tax would be imposed on a family basis. In contrast to the income tax, dependents' wealth would be included in the wealth of the taxpayer or taxpayers eligible to claim them as dependents, not on a separate return.<sup>8</sup>

The wealth tax would apply to U.S. citizens and resident aliens who have lived in the United States for more than 10 years.<sup>9</sup> The wealth tax base would include the worldwide assets and liabilities of those taxpayers. Any tangible personal property not used in connection with a trade or business, that is not a collectible, that is reasonably expected to depreciate, and that is worth less than \$25,000 could be excluded from the tax base. This exclusion would cover household goods, personal vehicles, and other similar possessions.

Taxpayers would be required to apply a consistent method of accounting for purposes of determining the value of different assets and liabilities but would have flexibility to choose accounting methods suitable for their assets and liabilities. They could adopt different valuation dates for different assets provided that the use of those dates would not be anticipated to result in an inconsistent valuation of the taxpayer's total assets. The Treasury and the Internal Revenue Service (IRS) would have authority to issue regulations for segregated accounting of assets resulting from dispositions of assets valued on different dates within the year. For assets that are traded on an exchange, mutual funds, real estate investment trusts, other assets for which a quotation is available from an issuer, and derivatives of these assets, taxpayers could elect to use the average value at market close in the last month of the tax year.

The principle for valuation would be the fair market value of the assets and liabilities. However, no discounts for lack of marketability—a reduction applied to the estimated value of an asset when there is no ready market for



the asset—would be allowed for any asset for which at least 60 percent of the asset is owned by related parties.<sup>10</sup>

In the case of closely held businesses, this principle implies that the value of the business would not include any claim to future labor of an owner-employee. The value would include only the value of tangible and intangible assets that would convey with the business, including intangible assets such as client lists and business relationships. An important implication is that businesses for which profits consist primarily of the labor income of the owners would have relatively low valuations for purposes of the wealth tax (Smith et al. 2019). This category would likely include many professional service businesses, such as medical practices and law firms. Determining the value of firms for which the labor of owner-employees represents a substantial fraction of the value of the business would be one of the central compliance and enforcement challenges of a wealth tax.

Wealth held in trusts would be an important part of the wealth tax base both because substantial wealth is currently held in trusts and because—were trusts not to be covered by the tax—they would be an easy means of avoiding the tax. The wealth tax would apply to trusts with no exemption, subject to certain exceptions. First, beneficiaries with an irrevocable interest, meaning a claim to benefits from the trust that cannot be modified or revoked by another party, would be allowed to elect to include in their wealth the fair market value of that interest. If they do so, the trust would be entitled to exclude the value of that interest in determining its wealth tax liability.<sup>11</sup> Hence, smaller trusts that are designed to benefit individuals who are not themselves wealthy would not owe any tax as the combined value of the trust and the individuals' wealth would be below the wealth tax thresholds. Second, grantor trusts included in the estate of the grantor under the estate tax rules would be included in the wealth tax return for the grantor. Thus, if the combined wealth of the grantor and the trust is below the wealth tax thresholds, there would be no wealth tax liability. Practically, these two exceptions mean that wealth in trusts would not be taxed for most families. However, complicated trusts that cannot be readily attributed to grantors or beneficiaries and trusts used by high-wealth individuals would pay the tax, ensuring that trusts do not become a vehicle to avoid the wealth tax.

In addition to applying the wealth tax to trusts, several additional reforms to the taxation of trusts would be included as part of this proposal to address avoidance strategies available under current law that would be even more attractive under a wealth tax. Namely, any retained interest in a trust (meaning a claim to benefits from the trust by the person setting

up the trust) would be valued at zero for gift tax purposes regardless of the nature of that interest. Similarly, retained interests in property contributed to charitable organizations and charitable trusts would be valued at zero regardless of the nature of the interest.<sup>12</sup>

Careful attention to nonprofits is necessary in order to avoid excessive avoidance of the wealth tax through nonprofit organizations. Pension funds and 501(c)(3) organizations would be exempt from the wealth tax.<sup>13</sup> Other nonprofits, including 501(c)(4) social welfare organizations, which can engage in lobbying and political campaign activities; 501(c)(5) labor unions; and 501(c)(6) chambers of commerce would be subject to the wealth tax. These types of nonprofits would be entitled to a \$1 million exemption if they abide by the restrictions on lobbying and political activities that apply to 501(c)(3) organizations. The proposal would also apply the gift tax to contributions to organizations exempt from tax under 501(c)(4), 501(c)(5), and 501(c)(6). In addition, the proposal would require that in a given year donor-advised funds distribute at least 5 percent of the fair-market value of their assets (as calculated at the end of the prior year), evaluated on an account-by-account basis (not at the level of the sponsoring organization).<sup>14</sup>

A wealth tax would create an incentive for wealthy taxpayers to move abroad and relinquish their U.S. citizenship to avoid the tax. The proposal therefore includes a one-time tax that would apply upon expatriation; it would be equal to the present value of the tax due on taxable wealth on the day prior to expatriation as computed using actuarial estimates for the mortality of the wealthiest percentile of the population, future investment gains at the rate of inflation, and a discount rate equal to the federal government's borrowing rate.<sup>15</sup>

### *Information Reporting*

The wealth tax would be supported by a system of information reporting on balance sheet information. Two distinct regimes would apply to financial institutions and businesses.

Financial institutions would be subject to a system of information reporting modeled on the provisions of the Foreign Account Tax Compliance Act (FATCA). A financial institution for purposes of wealth tax information reporting would include any entity that (1) accepts deposits in the ordinary course of a banking or similar business; (2) holds financial assets for the account of others as a substantial portion of its business; (3) is engaged primarily in the business of investing, reinvesting, or trading in securities, partnership interests, commodities, or any interest in such securities, partnership interests, or commodities; or (4) services loans as a substantial

portion of its business. The first three prongs of this definition are taken directly from those for FATCA, while the fourth prong is new, given the importance of liabilities for a wealth tax.

In parallel fashion, financial accounts would include (1) any depository account, (2) any custodial account, (3) any equity or debt interest in a financial institution other than interests that are regularly traded on an established securities market, and (4) any loans serviced by a financial institution.

For every financial account maintained by a financial institution, the financial institution would be required to furnish to the taxpayer and to the IRS a statement of the fair market value of the account on the final day of the year to the extent the account or the assets in the account would be considered publicly traded assets. In the case of assets for which the taxpayer may elect to report the average value over the last month, financial institutions would be required to report that value as well. In cases where an account covered by the wealth tax information reporting requirements triggers an information reporting obligation under current law, the financial institution would be allowed to report the information on a single combined return.

Financial institutions would be required to report on assets and liabilities for the same set of entities to which FATCA applies, including U.S. citizens, closely held U.S. corporations, partnerships, estates, and trusts. In addition, though FATCA exempts nonprofits from the reporting requirements, nonprofits other than those exempt under section 501(c)(3) and pension funds would be covered by the system of wealth tax information reporting proposed here.

In addition to the general system for information reporting for financial institutions discussed above, any employer that maintains a pension plan would be required to file an information return reporting the fair market value of each participant's interest in the plan to each participant and to the IRS. The Treasury and the IRS would be authorized to prescribe a set of actuarial assumptions for use in valuing defined benefit pension entitlements.

A parallel system of information reporting would apply to any business worth more than \$50 million. Such businesses would be required to provide a valuation of the business to the IRS and to all shareholders, partners, or other owners. This valuation would include both the value of the business as if it were owned by a single person and the valuation of each of the

interests in the business.<sup>16</sup> Businesses with publicly traded stock could rely on market values as the source of the valuation they report.

Businesses worth more than \$50 million, and individual taxpayers with an interest in a business worth more than \$10 million that is not publicly traded, would be required to file an information return with the IRS for any financial transaction that implicitly or explicitly assigns a value to the business. Examples of such transactions would include, but would not be limited to, any sale of stock and any debt issuance that includes a valuation. The Treasury and IRS would have authority to determine both the set of transactions that require reporting and to provide relief from the reporting obligation in cases where businesses would otherwise be required to file an excessive number of such returns. The implied values in financial transaction reports would have no direct bearing on the valuation for wealth tax purposes; rather, they would provide a tool for the IRS to use in enforcement efforts.

Taxpayers who file a wealth tax return would be required to disclose if they value assets on their wealth tax return in a manner inconsistent with the value reported by the business on an information return. The IRS would be able to litigate values reported on business information returns with the business entity. Any change in the valuation resulting from litigation would result in a penalty for misreporting paid by the entity at the wealth tax rate of 2 percent. Taxpayers who reported an inconsistent valuation that was closer to the value determined in litigation would receive a tax credit against wealth tax liabilities for that difference multiplied by the wealth tax rate of 2 percent. Taxpayers who reported an inconsistent valuation that was farther from the value determined in litigation would be subject to an additional individual-level tax equal to the difference in the values at the wealth tax rate.<sup>17</sup>

Finally, state or local governments that impose property taxes could elect to provide property assessments to the IRS. If the IRS determines that the rules governing these assessments would be expected to generate assessments that reasonably approximate market value, taxpayers could rely on the property assessments provided by the state or local government in filing their wealth tax return.

The information reporting regime proposed here requires additional information from large businesses and from financial institutions, which tend to operate at large scale. It includes an elective regime for state and local governments, which already collect the relevant information. The system avoids imposing broad new information reporting requirements on

smaller entities and does not require any wealth tax filings from individual taxpayers who are exempt from the wealth tax.

### *Administration*

The statute of limitations for any adjustments to tax resulting from disputed valuations for non-traded assets would run six years from the disposition of the asset, where the definition of non-traded assets is the same as that described below in the context of the realization-based wealth tax proposal.

For any non-traded asset with a value in excess of \$5 million when sold, the taxpayer would be required to provide an annual valuation for the asset from the time of purchase to the time of sale with their wealth tax return following the sale. The valuation in each year would be based on the information known at that time, not the information known at the time of sale. If the taxpayer chooses to adjust valuations for prior years, they would be required to pay any resulting additional tax or receive a refund of reduced tax with interest. Interest would be paid on overpayments at the federal government's 10-year rate. Interest would be charged on underpayments at the federal government's 30-year rate plus two percentage points.

To minimize the costs of valuation disputes and to encourage taxpayers to adopt more accurate valuations when initially filing their tax returns, courts would be required to choose either the taxpayer's valuation or the IRS's proposed alternative valuation in resolving valuation disputes (Soled 1997). In addition, if a court adopts the IRS's valuation for any year, the IRS could adopt an irrebuttable presumption that the value on the asset from purchase through that year accumulated in an equal dollar amount each year. However, the IRS would not be required to adopt this valuation.

Any underpayment of tax attributable to a substantial wealth tax valuation understatement—defined as a valuation of 65 percent or less of the fair market value (or the value resulting from litigation, if applicable) in one year or 80 percent or less of the value in more than one year—would be subject to a penalty equal to 100 percent of the underpayment of tax. Any other underpayment would be subject to a penalty equal to 20 percent of the tax. These penalties would not apply to underpayments of tax that were identified by the taxpayer and resolved through the voluntary reconciliation process discussed above.

### *Transition to a Wealth Tax*

A wealth tax encourages affected taxpayers to distribute assets to family members, charities, and others to reduce the wealth subject to tax. Thus,

the proposed wealth taxes would include provisions to police these types of transfers, including through increased gift taxes and exit taxes. A key issue in the transition to a wealth tax would be limiting the extent to which these transfers would occur prior to the effective date of the tax. Legislation enacting a wealth tax should apply higher gift taxes to any transfers made after the introduction of legislation in Congress and should apply the exit tax to any expatriations after that date.

Certain assets embed deferred tax liabilities. For example, a traditional individual retirement account (IRA) valued at \$1 million is worth less than a Roth IRA valued at \$1 million because distributions from the traditional IRA will be taxable but those from the Roth IRA will not be. Adoption of a wealth tax may encourage taxpayers to realize deferred tax liabilities today in order to reduce wealth tax liabilities. However, this acceleration of tax payments does not necessarily pose any problems, so policies to prevent it are largely unnecessary.

## **APPROACH 2: THE REALIZATION-BASED WEALTH TAX**

The realization-based version of the wealth tax would impose an annual 2 percent tax on publicly traded assets and a similar retrospective tax on non-traded assets when they are sold.

### *The Design of the Tax*

The realization-based wealth tax would impose an annual wealth tax with the features described above on publicly traded assets and would impose a separate tax on non-traded assets when they are sold. Taxing non-traded assets on a realization basis with an appropriate deferral charge avoids the need to estimate the value of these assets on an annual basis but creates a number of challenging design issues regarding the treatment of non-traded assets and additional scope for tax avoidance.

The tax due when a non-traded asset is sold would be computed as the wealth tax that would have been due over the duration of the investment in the asset if the return on that asset in each year had been equal to the 30-year Treasury rate plus 2 percent, accumulated over time at the after-tax rate of return in the top income tax bracket.<sup>18</sup> The use of a relatively low rate of return for these purposes is intended to discourage the conversion of publicly traded assets into non-traded assets as a means of tax avoidance.

For example, suppose a fully taxable investor held an asset for two years and sold it for \$1 million.<sup>19</sup> Assume the 30-year Treasury rate is 2 percent and the top federal income tax bracket is 40 percent. Then the wealth tax due

upon sale of the asset would be  $0.02 * (\$1 \text{ million}) + 0.02 * (\$1 \text{ million}) / 1.04 * (1 + 0.04 * (1 - 0.40)) = \$39,692$ . Because this is a wealth tax and not a tax on income, computation of the tax is based on the total realized value of \$1 million, and thus this asset sale would generate this tax liability whether the purchase price was \$900,000, \$1 million, or \$1.5 million.<sup>20</sup>

Since non-traded assets are taxed only when sold, additional taxes must be imposed on dividends and other distributions to prevent taxpayers from using such distributions to reduce the value of a non-traded asset prior to sale. Dividends and other distributions from non-traded C and S corporations would be subject to tax in the same manner as would proceeds from the sale of a non-traded asset. Distributions from other non-traded pass-through entities would be subject to tax to the extent they reflected a return on capital rather than labor income. Just as with the wealth tax itself, where taxpayers would need to value businesses independent of the future labor income of the owner, distinguishing distributions that reflect a return on capital from those that reflect a return on labor would be a central compliance and enforcement challenge of the realization-based version of the tax.<sup>21</sup>

Taxpayers would be required to make estimated tax payments equal to 2 percent of the basis in their non-traded assets. Estimated tax payments would accrue interest at the 30-year Treasury rate. The estimated tax that could be applied against the tax due on the sale of a non-traded asset, or the dividends paid by that non-traded asset, would be limited to the estimated tax paid on that asset. Refunds of estimated tax paid on a non-traded asset that declined in value would be available without limit.

The definition of traded assets would be modeled on the definitions used in the original issue discount regulations, and would include any assets traded on an exchange, mutual funds, real estate investment trusts, assets for which an issuer stands ready to sell or redeem any interests, and derivatives the price of which is determined by reference to any of the above.<sup>22</sup> Ownership interests in entities for which more than 20 percent of the value is attributable to publicly traded securities would be treated as two distinct ownership interests, one in a traded asset and one in a non-traded asset. However, publicly traded securities reasonably held in the conduct of a nonfinancial trade or business could be treated as part of a non-traded ownership interest in that business.

Taxpayers would be required to file a wealth tax return in any year in which the value of their assets exceeds \$25 million for married couples and \$12.5 million for single filers. However, only the value of publicly traded assets and sales of non-traded assets would be reported on the return.

Any taxpayer could elect to file a return. The retrospective tax would be due only in years in which the market value of a taxpayer's wealth exceeds the exemption threshold, effectively allowing taxpayers to adopt a market valuation of non-traded assets when that value is lower than the imputed value of non-traded assets if their total assets lie below the threshold. Some taxpayers near the thresholds may choose to incur the costs of a valuation of their non-traded assets to determine whether they need to file, and others may simply choose to file and report the value of their publicly traded assets.

### *Information Reporting and Administration*

The information reporting for and administration of the realization-based wealth tax would broadly follow that of the valuation-based wealth tax but would be simplified in two important ways. First, under the realization-based wealth tax, large businesses would not be required to report estimated valuations. Second, the requirement that taxpayers provide a series of historical valuations when assets are sold would not be imposed under the realization-based wealth tax. These features are unnecessary under the realization-based wealth tax because this approach relies on realized sales proceeds rather than valuations for non-traded assets.

### *Transition to a Realization-Based Wealth Tax*

The realization-based wealth tax would require a one-time valuation event for non-traded assets at the end of the taxable year before it takes effect. Tax on unrealized gains at the time of the transition would be calculated but could be deferred until the assets are ultimately sold. Interest would be imposed on the deferred tax until assets were sold.

## **APPROACH 3: ACCRUAL TAXATION**

The accrual tax would require mark-to-market accounting for all assets for married couples with more than \$16.5 million in gross assets and individuals with more than \$8.25 million in gross assets, subject to a phase-in described below. The preferential rates on capital gains and dividends would not apply to gains and losses taxed under the accrual system.

### *The Design of the Tax*

Taxpayers would include in their income each year mark-to-market gains and losses, defined as the change in the value of their worldwide assets and liabilities.



Married couples with less than \$16.5 million in gross assets and individuals with less than \$8.25 million in gross assets would be unaffected by the proposed accrual tax. These taxpayers would continue to pay tax under the current-law realization system of capital gains taxation. The inclusion of mark-to-market gains and losses in income would phase in between \$16.5 million and \$33 million of assets. Taxpayers would include in their income a share of mark-to-market gains and losses computed as the ratio of the excess of their assets over \$16.5 million to \$16.5 million. The value of assets used in computing the phase-in percentage would be the average of the taxpayer's current-year valuation and prior-year valuation of their assets.<sup>23</sup>

For taxpayers in the phase-in range, the basis of each asset would be increased (decreased) by the share of the gain (loss) included in income. In other words, if a taxpayer includes 50 percent of all gain in income given their position in the phase-in region, then the basis of each asset would be increased by 50 percent of the gain on that asset.

As with the wealth tax proposals above, the principle for valuation under the accrual taxes would be the fair market value of the assets and liabilities. No discounts for lack of marketability would be allowed for any asset for which at least 60 percent of the asset is owned by related parties, and the valuation of closely held businesses would exclude any value attributable to future labor income of the owner.

Taxpayers would be required to apply a consistent method of accounting for purposes of determining the value of different assets and liabilities but would have flexibility to choose accounting methods suitable for their assets and liabilities. Taxpayers could adopt different valuation dates for different assets. For assets that are traded on an exchange, mutual funds, real estate investment trusts, other assets for which a quotation is available from an issuer, and derivatives of these assets, taxpayers could elect to use the average value at market close in the last month of the tax year.<sup>24</sup>

Losses on personal-use property would not be deductible. Losses on all other property could be deducted against mark-to-market gains, interest, dividends, and income from pass-through businesses. Losses could be deducted against other forms of ordinary income up to the current \$3,000 limit and could be carried back one year or carried forward indefinitely. Put differently, this proposal would expand the types of income against which losses could be deducted without limit relative to current law to include interest, dividends, and pass-through income, but would retain the \$3,000 limit for other types of income.

As with the wealth tax, reforms to the taxation of trusts are required to prevent avoidance. Trusts would be subject to the requirement for mark-to-market accounting with no exemption. However, as with the wealth tax, trusts could exclude assets attributed to a beneficiary with an irrevocable interest and certain grantors. The accrual taxation proposals would be accompanied by the same reforms to the trust rules that accompany the wealth tax proposals, which disregard any retained interests for purposes of computing gift tax liabilities.

The taxation of pass-through entities under the accrual tax would be designed to ensure a consistent, single layer of tax on income earned through these entities. S corporation stock, partnership interests, and sole proprietorships would be included in the assets covered by the mark-to-market regime, and changes in the value of those interests would be included in income each year.<sup>25</sup> Taxpayers would receive a deduction against the change in the value of each interest equal to the income from that pass-through businesses included on their tax return and would include in their income any distributions from the pass-through business. Gains from the sale or exchange of property realized by the pass-through entity subsequent to the adoption of the accrual taxation system would be excluded from income for taxpayers under the accrual taxation regime, meaning that appreciation would be taxed on the pass-through owner's tax return when it occurs, and not when the assets are sold.<sup>26</sup>

In effect, the proposal would tax pass-through owners on the sum of pass-through income (as defined under current law but for the exclusion of post-transition gains on the sale of property) and net appreciation of the pass-through interest.<sup>27</sup> This approach would be equivalent to a tax imposed on distributions plus the change in value of the ownership interest, a definition of income that directly parallels the Haig-Simons definition. The alternative bucketing (pass-through income and net appreciation) is adopted under this proposal both because of the stronger connection to current-law practices and because the pass-through income concept is likely easier to administer and enforce.<sup>28</sup> In addition, the loss limitations described above would apply to changes in market value, but not to losses passed through directly from the business.

As with the wealth tax proposal above, this proposal would apply gift taxes to gifts to 501(c)(4), 501(c)(5), and 501(c)(6) organizations and would require donor-advised funds to distribute at least 5 percent of their assets each year, evaluated on an account-by-account basis.

As noted above, the accrual taxation proposal aims to deliver a single, uniform layer of tax on investment income as it accrues for wealthy

households. In keeping with this goal, the proposal would also limit the value of tax-preferred retirement accounts. Taxpayers would be required to take distributions from defined contribution retirement accounts and IRAs equal to the excess of the value of all defined benefit, defined contribution, and IRA balances over \$3 million per taxpayer. Any portion of the excess attributable to defined benefit balances once defined contribution and IRA balances have been reduced to zero would generate an income inclusion equal to the 30-year Treasury rate multiplied by the value of the undistributed excess.

For the same reason, taxpayers who are subject to the accrual tax regime would receive a credit against taxes on dividend income for corporate taxes paid, modeled on the proposal of Toder and Viard (2016). Corporate tax liabilities would generate tentative credits at the entity level. These credits would be paid out at 25 cents per dollar of dividends paid. Taxpayers would include in income the 25-cent credit and would apply the credit against their tax due. Tentative credits would be drawn down regardless of the identity of the recipient of the dividend. In other words, dividends paid to a nonprofit owner of corporate stock would reduce the stock of tentative credits available at the entity level.

In general, C corporations, S corporations, partnerships, and sole proprietorships would not be required to mark their assets to market for purposes of determining corporate taxable income or income to be passed through to their shareholders or partners. However, life insurance companies and financial institutions would be required to determine investment income under mark-to-market rules. This requirement is necessary to prevent these entities from effectively selling the benefits of deferral to their customers.<sup>29</sup>

Taxpayers covered by the accrual tax regime in one year whose assets fall below the minimum threshold for inclusion in the following year could choose to remain in the regime or to exit. They must make this choice prior to the filing deadline for the year in which the threshold is crossed.

### *Information Reporting*

The information reporting regime for the accrual taxation proposal would generally follow the regime for the wealth tax proposal discussed above for both financial institutions and businesses.

However, under the accrual taxation proposal, financial institutions would be required to report to each account holder the mark-to-market gains and losses on the publicly traded assets in their accounts rather

than the value of the account. As under the wealth tax proposal, financial institutions would be permitted to combine this information return with other required information returns for accounts that trigger information reporting obligations under current law.

In the case of businesses, the entities would still be required to report valuations, and the taxpayers would be responsible for reconciling the change in value with any purchases, sales, contributions, distributions, or other transactions during the year. As under the wealth tax proposal, the IRS would be able to litigate valuations with the business entity. Any adjustment to the value of the business would generate a misreporting penalty equal to the top statutory income tax rate multiplied by the change in the valuation. This payment would pass through to owners who could then reconcile on their own returns and would be able to claim a tax credit or would be required to pay an additional tax to the extent that they asserted a valuation different from that originally reported by the business entity.

### *Administration*

Parallel to the case of the wealth tax, the statute of limitations for reporting of mark-to-market gains and losses on assets other than publicly traded assets would run six years from the sale of the asset. For any asset with a value in excess of \$5 million at the time of disposition, the taxpayer would be required to provide an annual valuation at the time of sale that reconciles prior valuations with the ultimate sales price. As with the wealth tax, the taxpayer would pay any resulting additional tax or receive a refund of reduced tax with interest if they choose to adjust prior-year valuations at the time of sale. In litigation, courts would be required to choose either the taxpayer's valuation or the IRS's proposed alternative valuation in resolving valuation disputes (Soled 1997). The IRS would have the option to choose an irrebuttable presumption that the gain on an asset had accrued at an equal-dollar amount each year if the courts adopt its proposed valuation.

### *Transition to an Accrual Tax*

An accrual tax taxes investment gains that arise after the effective date. Taxpayers thus have an incentive to inflate asset values on the effective date, which would have the effect of deferring tax on gains until assets are sold and reducing the deferral charge. To reduce this incentive, taxpayers would be required to value assets at the end of the tax year that includes the date of enactment and then pay interest on the unrealized gains until the assets are sold or transferred via gift or bequest. At that point, the deferred tax would be due. This valuation event would also be required to allocate

gains on property held by pass-through entities into pre-transition gains and post-transition gains.

#### **APPROACH 4: THE REALIZATION-BASED ACCRUAL TAX**

The realization-based accrual tax would require mark-to-market accounting for publicly traded assets as described above and would impose a deferral charge on non-traded assets when they are sold. The preferential rates on capital gains and dividends would not apply to gains and losses taxed under the accrual system or those subject to the deferral charge.

##### *The Design of the Tax*

The realization-based accrual tax would tax gains and losses on publicly traded assets on an annual basis but would impose tax on the gains on non-traded assets only when they are sold. The set of traded assets would follow the definition proposed for the realization-based wealth tax, and would include any assets traded on an exchange, mutual funds, real estate investment trusts, assets for which an issuer stands ready to sell or redeem any interests, and derivatives the price of which is determined by reference to any of the above. Ownership interests in entities for which more than 20 percent of the value is attributable to publicly traded securities would be treated as two distinct ownership interests—one in a traded asset and one in a non-traded asset. However, publicly traded securities reasonably held in the conduct of a nonfinancial trade or business could be treated as part of a non-traded ownership interest in that business.

The tax due when a non-traded asset is sold would be computed assuming that there was a constant rate of return on the investment asset from the point of purchase to the point of sale, income tax imposed at the top marginal income tax rate in effect in each year plus the net investment income tax rate if applicable, and the resulting tax accumulated at the after-tax return in the top bracket, assuming the 30-year Treasury rate plus 3 percent.

For example, an asset purchased for \$1 million and sold for \$2 million two years later would be assumed to have appreciated at an annual rate of 41 percent, and thus have generated income in the first year of \$414,000 and in the second year of \$586,000. If the top marginal rate plus net investment income tax rate in effect were 40.8 percent in each year, and the 30-year Treasury rate 3 percent, the tax due upon sale would be  $0.408 \times 414,000 \times (1 + 0.06 \times (1 - 0.408)) + 0.408 \times 586,000 = \$414,000$ .

Since non-traded assets are taxed only when sold, additional rules specific to non-traded C corporations are necessary to prevent taxpayers from using dividends or other distributions to reduce the value of a non-traded asset prior to sale and thus avoid tax. When an ownership interest in a non-traded C corporation is sold, dividends and other distributions previously paid by the C corporation would be accumulated at the same rate used to accumulate tax under the deferral charge (the 30-year Treasury rate plus 3 percent) and would be added to the sales proceeds for purposes of computing the total gain under the realization-based accrual tax. Taxes paid on distributions would be credited against the tax due, assuming such taxes were paid at the top rate in each year and had accumulated over time at the same interest rate.

When an ownership interest in a non-traded pass-through entity is sold, owners would pay tax on the gain and compute the deferral charge as described above (without regard to the special rules for C corporations) based on the sales proceeds, basis, and timing of investments in the asset. In addition, when a pass-through entity sells a non-traded asset, the pass-through would compute a deferral charge on the asset and pass through that additional tax to owners as a tax surcharge.<sup>30</sup>

Taxpayers would be required to make estimated tax payments for their non-traded assets equal to 2 percent of the taxpayer's basis in their non-traded assets. Estimated tax payments would accrue interest at the 30-year Treasury rate. The estimated tax that could be applied against the tax due on the sale of a non-traded asset would be limited to the estimated tax paid on that asset. Refunds of estimated tax paid on a non-traded asset that declined in value would be available without limit.

The Treasury would have the authority to issue regulations to accelerate the timing of income when further investments in an asset are made shortly before sale that may serve to delay the timing of income under the constant return assumption.<sup>31</sup>

Under the realization-based accrual taxation proposal, death, gifts, and charitable contributions would be treated as realization events for all covered taxpayers. Thus, any unrealized gains on non-traded assets at the time of death, gift, or charitable contributions would be taxed at that time. Losses on non-traded assets could be carried forward without interest and could not be applied against ordinary income. In addition, trusts would be required to value assets and to realize gains no less frequently than once a decade.

Taxpayers whose assets fall below the minimum threshold for inclusion in the accrual taxation regime could choose to remain in the regime or exit. If they elect to exit, that exit would be treated as a realization event for non-traded assets and the tax computed as above. Taxpayers must make this choice prior to the filing deadline for the year in which the threshold is crossed.

### *Information Reporting and Administration*

The information reporting for and administration of the realization-based accrual tax would generally follow that of the valuation-based accrual tax with some simplifications, much as the realization-based wealth tax offered some simplifications relative to the valuation-based wealth tax. First, large businesses would not be required to report estimated valuations. Second, the requirement that taxpayers provide a series of historical valuations when assets are sold would not be imposed under the realization-based accrual tax. These features are unnecessary under the realization-based approach because this approach relies on realized sales proceeds rather than on valuations for non-traded assets.

### *Transition to a Realization-Based Accrual Tax*

The transition to a realization-based accrual tax would proceed in the same way as the transition to a valuation-based accrual tax. A one-time valuation would occur at the end of the taxable year prior to the enactment of the system. Taxpayers would compute tax on unrealized gains (without the deferral charge), could defer this tax until the asset is sold, and would pay interest on the tax while it is deferred.

## The Economic Effects of Taxing Wealth

Taxing wealth under any of the four approaches in this proposal would raise substantial revenues and increase burden. The burden imposed would be highly progressive and would overwhelmingly affect the wealthiest families. The ultimate impact of each approach would depend on the use of funds, and all four approaches could finance policies that would increase living standards for the overwhelming majority of the population.

This section first summarizes the revenues raised and burden imposed by the wealth tax and the accrual tax. It then considers the use of funds and evaluates the approaches through the lens of efficiency. Finally, it considers the choice between the wealth-based approaches and the income-based approaches and the choice between the valuation-based approaches and the realization-based approaches.

## REVENUES RAISED

The wealth tax and the accrual tax described above have been calibrated to raise \$3 trillion between 2021 and 2030, ignoring transitional revenues raised by the accrual taxation proposal and the cost of the proposal for corporate integration.<sup>32</sup> Appendix B provides additional methodological details and discussion of the uncertainties. Separate estimates of the revenues raised by the realization-based versions of each tax are not presented in this chapter due to the limited evidence on which to base an estimate of the differences between the valuation-based approaches and the realization-based approaches.

## BURDEN IMPOSED

Both the wealth tax and the accrual tax would sharply increase the tax burden on the wealthiest households. Table 1 provides a distribution analysis of the two proposals by wealth for 2021. The wealth tax proposal would increase tax burdens by \$450 billion in 2021, with essentially all of that burden being borne by the wealthiest 1 percent of households.<sup>33</sup> The accrual taxation proposal would increase tax burdens by \$376 billion in 2021, with 98 percent of that borne by the top 1 percent. However, the wealth tax would be more heavily concentrated among the very wealthiest households. In fact, 77 percent of the burden of the wealth tax would fall on the top 0.1 percent of households and only 63 percent of the burden of the accrual tax would fall on those households. The accrual tax would also affect more households (0.8 percent of all households) than the wealth tax (0.5 percent). Incomes for the wealthiest 1 percent, measured in accrual terms, would fall by 15 percent under the wealth tax and by 12 percent under the accrual taxation proposal.

Although a distribution by wealth is natural for evaluating proposals to tax wealth, most tax distribution analysis is conducted by income. Table 2 provides a distribution analysis for the two proposals by an accrual measure of income. As the table shows, almost 96 percent of the burden of the wealth tax would be borne by households in the top 1 percent of the income distribution, and almost 91 percent of the burden of the accrual tax would fall on these households. After-tax incomes in the highest-income 1 percent would fall by 13 percent under the wealth tax and by 10 percent under the accrual tax.

Importantly, this analysis uses an accrual measure of income rather than relying on a realization-based measure of income. An accrual measure of income includes investment gains as they accrue, whereas a realization-based measure of income includes investment gains only when they are



TABLE 1.

## Burden Estimates by Wealth

Wealth class	Wealth tax				Accrual tax			
	Share with tax increase	Average tax change	Share of total change	Change in after-tax income	Share with tax increase	Average tax change	Share of total change	Change in after-tax income
Bottom quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Second quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Middle quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Fourth quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
80th–90th percent	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
90th–95th percent	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
95th–99th percent	0.8%	\$33	0.0%	0.0%	3.2%	\$1,153	1.6%	–0.3%
Top 1 percent	46.3%	\$336,952	100.0%	–14.6%	71.6%	\$279,317	98.4%	–12.1%
All	0.5%	\$3,371	100.0%	–3.1%	0.8%	\$2,840	100.0%	–2.6%
Top 0.1 percent	100.0%	\$2,591,660	76.9%	–30.7%	94.0%	\$1,777,671	62.6%	–21.0%

Source: Author's calculations.

Note: Estimates are projections for 2021. Due to rounding, "Share of total change" may not sum to 100.

realized. Since the current tax system operates on a realization basis, most distribution analysis is conducted using realization-based measures of income. Doing so ensures alignment between the taxes collected and the income measure, and thus facilitates computation of tax rates. This analysis uses an accrual measure of income instead of a realization-based measure because both the wealth tax and the accrual tax are more tightly linked to accrual income. Notably, since the distribution analysis presented here is for a future year, the accrual income measure is effectively a measure of expected accrual income. In practice, accrual measures of income will be negative in many years.

Most traditional tax distribution analyses assume that behavioral responses to a tax change do not affect the welfare of the people making those changes, an assumption that can be justified by standard economic theory.<sup>34</sup> Thus, these behavioral responses do not affect the tax burden shown in a distribution analysis (Cronin 1999; Hendren 2019; Leiserson 2019; Leiserson and Looney 2018; Treasury 2015b). In other words, a taxpayer who avoids \$1 of wealth tax liability reduces revenues by \$1 but does not materially reduce their own tax burden in avoiding tax. Distribution analyses do, however, recognize that the incidence of a tax change is potentially shifted from the agent bearing the statutory burden of the tax to other actors. Together these assumptions mean that a distribution analysis provides an estimate of the impact of tax legislation on utility or well-being as opposed to income.

TABLE 2.

### Burden Estimates by Accrual Income

Wealth class	Wealth tax				Accrual tax			
	Share with tax increase	Average tax change	Share of total change	Change in after-tax income	Share with tax increase	Average tax change	Share of total change	Change in after-tax income
Bottom quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Second quintile	0.0%	\$2	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Middle quintile	0.0%	\$0	0.0%	0.0%	0.0%	\$0	0.0%	0.0%
Fourth quintile	0.0%	\$2	0.0%	0.0%	0.0%	-\$2	0.0%	0.0%
80th–90th percent	0.0%	\$39	0.0%	0.0%	0.1%	\$1	0.0%	0.0%
90th–95th percent	0.5%	\$531	1.0%	-0.2%	0.8%	\$374	0.7%	-0.2%
95th–99th percent	2.8%	\$2,727	3.2%	-0.6%	7.2%	\$6,356	9.0%	-1.4%
Top 1 percent	35.4%	\$321,867	95.6%	-12.7%	50.3%	\$256,524	90.6%	-10.1%
All	0.5%	\$3,371	100.0%	-3.1%	0.8%	\$2,840	100.0%	-2.6%
Top 0.1 percent	80.8%	\$2,129,272	63.3%	-21.2%	91.9%	\$1,493,858	52.7%	-14.8%

Source: Author's calculations.

Note: Estimates are projections for 2021. Due to rounding, "Share of total change" may not sum to 100.

This analysis assumes that the economic incidence of both a wealth tax and accrual taxation of investment income lies on wealth owners and the recipients of investment income, effectively assuming that wage rates and rates of return are unchanged by the reforms. This assumption amounts to the assumption that the taxes do not affect the capital-labor ratio because any reduction in wealth by the extremely wealthy is offset by increases in savings by the merely wealthy or foreign investors, because the decision-making of firms is assumed not to be sensitive to the tax rate in the tail of the investor wealth distribution, or some combination of these and other factors.<sup>35</sup>

This incidence assumption is consistent with the incidence assumptions used for individual income tax reforms—and thus changes in investor-level taxes on investment income—by the JCT and the Treasury. However, there are no existing analyses of wealth taxes from either agency that describe how the agencies would assess such a tax, though the underlying economic similarities between wealth taxes and taxes on investment income would argue for distributing them in a similar fashion.

The assumption that the economic incidence of taxes on wealth and investment income lies on wealth owners and the recipients of investment income contrasts with the common assumption that the economic incidence of the corporate tax is partially borne by workers. The JCT and the Treasury assume a relatively modest share of the incidence of the corporate tax lies on labor (about 25 percent) and the remainder lies on capital (JCT 2013; Treasury 2015b).

This difference in assumptions is appropriate given the economic differences between the taxes. Taxes on savers, including taxes on wealth and investment income, affect the supply of funds available for investment. Taxes on business entities, including the corporate tax, affect the deployment of capital in business activity. Targeted taxes on wealthy savers likely have little material effect on the financial market equilibrium and thus have little effect on investment decisions. As a result, the burden of such taxes is relatively less likely to shift from wealth owners and recipients of investment income to workers or other groups. On the other hand, general taxes on business activity are more likely to affect investment decisions, and thus the burden of such taxes is more likely to shift, in part, to workers or other groups.

As with revenues, separate estimates of the burden imposed by the realization-based versions of each tax are not presented in this chapter due to the limited evidence on which to base an estimate of the differences

between the valuation-based approaches and the realization-based approaches.

Traditional distribution analysis is well suited to changes in existing taxes, but it is less well suited to the creation of a fundamentally new tax or a major structural change like eliminating realization. For an incremental change in the tax rate, the private costs and benefits of the incremental change in avoidances are approximately identical and thus can be disregarded. However, for the creation of a new tax like the wealth tax or a major change in structure of the tax system like eliminating realization, the private costs and benefits of changes in behavior are not necessarily equal and thus can affect well-being.

In the case of the taxation of wealth there are four major possibilities worth considering:

- Taxpayers may stop engaging in costly avoidance of taxes through strategies relying on exploiting realization, since realization is no longer as important a trigger of tax liability.
- Taxpayers may start engaging in costly avoidance of the wealth and mark-to-market income taxes through strategies that were irrelevant under the realization-based tax system.
- Taxpayers may avoid tax through increased charitable contributions, reducing revenues while generating gains for beneficiaries and stakeholders of the recipient organizations.
- Taxpayers may transfer assets to other individuals to reduce or avoid tax, thus reducing revenues while generating gains for transfer recipients at relatively modest costs for the donor.<sup>36</sup>

Due to the limited evidence available on the behavioral responses to taxes on wealth and investment income, I do not attempt to quantify how these factors would affect the distribution analyses described above. However, these factors would not change the qualitative nature of the results. The proposed taxes on wealth would sharply increase burdens at the top of the distribution and would have only modest effects on the rest of the distribution.

Likely the most important caveat to the basic analysis is that the burden analysis presented here assumes that tax evasion affecting business assets reduces revenues but does not reduce burden. (See appendix B for additional discussion of the assumptions underlying the revenue estimates.) However, to the extent the costs of this evasion are incurred under the existing income

tax, this evasion would also be reflected in reduced burden. As a result, the burden impacts shown in tables 1 and 2 are likely somewhat conservative, in the sense of overstating the increase in burden that would result from the proposals.

A portion of the revenue loss due to avoidance would also, as a result of these adjustments, reduce burden. This adjustment would be largest for avoidance resulting from transfers to other taxpayers. The increase in charitable contributions also has the potential to reduce burden—offering an implicit tax cut—for low- and moderate-income households, making them better off even without considering the use of the revenues raised. This impact would almost certainly be modest relative to the impact resulting from the use of funds, however.

Finally, asset price effects could affect the distribution analysis. Should asset prices fall upon enactment of the tax, a portion of the burden shown above would shift from those holding assets in the future to those holding assets at the time of enactment. (To the extent such effects are anticipated, of course, these effects could occur even prior to enactment of the legislation and the burden could be borne by those holding assets at key moments in the legislative process when the probability of enactment increases.) Shifting via asset prices is not typically reflected in distribution analysis, though to the extent it occurs it should be reflected in the more fulsome modified analysis sketched here. However, as discussed in appendix B, asset price effects are likely to be modest in the case of the taxes proposed here.

## **COMPLIANCE AND ADMINISTRATIVE COSTS**

Adopting a wealth tax or accrual taxation of investment income would impose additional compliance and administrative costs. Compliance costs are costs borne by the public in fulfilling their tax obligations, and administrative costs are those incurred by the IRS in administering the tax. Although these costs are central in the public debate about taxing wealth, there is relatively little evidence on which to base an estimate of these costs.

The compliance costs most relevant for an assessment of proposals to tax wealth are those incurred in filing returns, such as the costs for legal, accounting, and appraisal services. Importantly, the net benefits and costs of the increase in planning to avoid a wealth tax or accrual taxation of investment income are already reflected in the revenue and tax burden estimates above. The costs of this planning are one of the reasons the dollar-valued burden in the distribution analysis exceeds the dollar-valued increase in revenues. However, the compliance costs associated with

fulfilling baseline obligations are not included in the burden estimates in the distribution analysis.

Relatively little evidence is available on which to base an estimate of the direct compliance costs for wealth or accrual taxation. I start by borrowing an approach from the literature on estate taxation, where a back-of-the-envelope estimate can be obtained from information about deductible expenses on estate tax returns (Davenport and Soled 1999; Gale and Slemrod 2000, 2001; Schmalbeck 2001). Estate tax returns filed in 2017 with gross estate in excess of \$20 million claimed deductions for attorneys' fees equal to 0.2 percent of the gross estate and deductions for other expenses (a catch-all category that includes appraisal fees) of 0.4 percent. If half of these costs are attributable to tax compliance obligations—the assumption made for estate tax purposes in the Davenport and Soled analysis—compliance costs would amount to 0.3 percent of wealth.

The proposed wealth tax here differs from the estate tax on two main dimensions. First, while the estate tax relies on self-reports, the proposed wealth tax would involve substantial information reporting. This would tend to increase costs by expanding the universe of affected assets and creating additional reporting obligations and would tend to reduce costs by facilitating shared reliance on a single valuation and concentrating valuation responsibilities where expertise is greatest. Second, the wealth tax would apply annually, offering scope for cost savings through economies of scale and repeated reliance on similar methods. Lacking direct evidence, I assume these two factors allow for a one-third reduction in compliance costs per dollar of gross wealth under the wealth tax relative to the estate tax, primarily as a result of the centralization of valuation costs due to information reporting.

Since the expense ratios mentioned above are computed using reported estate tax data, the value of the gross estate is already reduced by evasion and some forms of avoidance. In applying this cost ratio here, I therefore apply the expense ratio after evasion and with half of the assumed avoidance reflected in the wealth value.<sup>37</sup>

Comparing total compliance costs to wealth tax revenues yields a ratio of 19 percent. This ratio exceeds the ratio of the expense ratio to the tax rate because of the exemption and the assumption that compliance costs should be computed on a base that does not reflect all avoidance assumed under the wealth tax itself.

The ratio of compliance costs to revenues for the accrual tax could be larger or smaller than the ratio under the wealth tax. The accrual tax

imposes a smaller tax on more people, which would tend to increase the ratio of compliance costs to revenues because the primary driver of costs is the measurement of wealth and income. On the other hand, the accrual tax would eliminate compliance costs associated with the current-law realization-based system of taxation for those under the new system and would not require filing an additional return, both of which would tend to reduce compliance costs. Notably, as discussed in the revenue estimation section above, the more modest increase in rates under the accrual proposal results in a smaller avoidance response to the accrual taxation, highlighting one set of trade-offs between the various types of costs resulting from the different proposals.

One recent estimate of the compliance costs of the income tax suggests these costs are just over 10 percent of revenues (Marcuss et al. 2013). However, the authors suggest this is a lower bound since it does not include the costs of information reporting or withholding. This comparison suggests that the compliance costs of a wealth tax or accrual taxation of investment income would exceed those of the existing income tax, but not unduly so given the highly progressive nature of the proposed tax instruments and their focus on strengthening the taxation of income from wealth, one of the more challenging types of income to tax.

Since the primary driver of compliance costs is the measurement of income and, in particular valuation, the realization-based approaches would reduce compliance costs relative to the valuation-based approaches. In the extreme, if the realization-based approaches were to incur no additional costs for valuation, they would potentially cut compliance cost by more than half relative to the valuation-based approach, assuming all other expenses reported on estate tax returns are attributable to valuation costs. However, as discussed in greater detail below, adopting a realization-based system would open the door to additional tax avoidance strategies, and rules to prevent these types of avoidance strategies would come with their own attendant compliance costs. The relative merits of the two approaches depend on the costs and benefits of this trade-off.

A robust finding of the literature of tax administration is that the private compliance costs of tax collection far exceed the administrative costs incurred by the IRS. The IRS estimates that it incurred costs of 34 cents per \$100 of gross tax collected in fiscal year 2018, or 0.34 percent (IRS 2019). This cost has declined from a recent high of 53 cents in fiscal year 2010. However, the cost of administering a wealth tax or accrual taxation of investment income would likely exceed this average. Davenport and Soled (1999) estimate that the administrative costs for the federal estate

tax amount to 0.6 percent of revenues raised. Pichet (2007) reports that the French Ministry for the Economy and Finance estimated administrative costs of 1.6 percent for the French wealth tax in 1997. This was modestly higher than the 1.4 percent average for French tax collections.

As the recent decline in costs for the IRS indicates, there is no single level of administration costs for a single tax. Higher administration spending can reduce the tax gap, reduce private compliance burdens, or deliver other benefits, while lower administration spending reduces the need for revenues to pay for that spending. The same would be true of reformed taxes of wealth. To generate a ballpark estimate for appropriate spending on these reforms to the taxation of wealth, I scale the recent high-water mark for operating costs relative to revenues raised by the ratio of wealth tax costs to average costs for France in 1997, which yields a cost per dollar of revenues of 0.6 percent. Applying this percentage to the \$3 trillion revenue target for the next decade would suggest an increase in IRS appropriations of \$18 billion over that time period, or about 12 percent. Notably, IRS appropriations have declined by about 20 percent in real terms since the recent high-water mark in 2010. An increase in appropriations at more than this scale would likely be merited merely to enforce existing tax law (CBO 2018; Sarin, Summers, and Kupferberg 2020).

## **THE USE OF FUNDS**

The primary purpose of taxation is raising revenues to finance public expenditure. An analysis of the revenue and burden impacts of a policy is missing the beneficial impacts stemming from the use of funds and thus ignores the primary purpose of taxation. In cases where policymakers do not specify the use of funds, this is an unavoidable limitation of the analysis, but it remains useful to illustrate why funds are raised and what uses they are put to, and how that in turn affects the revenue and burden analyses.

This section presents welfare analyses of two hypotheticals for each proposal: a spending program that offers the same benefit to all adults, and a spending program that offers benefits proportionate to income. For illustrative purposes, spending under both programs is assumed to be lump sum in nature, causing no behavioral changes and generating no benefits beyond the pure transfer. As such, these analyses understate the proposal's benefits for low- and middle-income families to the extent that public programs are valued above cost.



Table 3 illustrates burden estimates of the dollar-valued gains or losses as a percent of income under each use of funds and for both proposals. Under either assumption about the use of funds, both proposals would deliver meaningful increases in living standards for the overwhelming majority of Americans and would be accompanied by declines in living standards for the wealthiest Americans.

TABLE 3.

### Burden Estimates with Spending

Wealth class	Wealth tax				Accrual tax			
	Per capita spending		Proportional to income spending		Per capita spending		Proportional to income spending	
	Average net transfer change	Change in after-tax income	Average net transfer change	Change in after-tax income	Average net transfer change	Change in after-tax income	Average net transfer change	Change in after-tax income
<b>Bottom quintile</b>	\$1,691	6.1%	\$443	1.6%	\$1,697	6.2%	\$444	1.6%
<b>Second quintile</b>	\$1,941	4.2%	\$800	1.7%	\$1,948	4.2%	\$803	1.7%
<b>Middle quintile</b>	\$2,026	3.2%	\$1,124	1.8%	\$2,033	3.2%	\$1,128	1.8%
<b>Fourth quintile</b>	\$2,114	2.4%	\$1,566	1.8%	\$2,121	2.4%	\$1,572	1.8%
<b>80th–90th percent</b>	\$2,258	1.6%	\$2,564	1.8%	\$2,266	1.6%	\$2,573	1.8%
<b>90th–95th percent</b>	\$2,367	1.2%	\$3,769	1.8%	\$2,375	1.2%	\$3,783	1.8%
<b>95th–99th percent</b>	\$2,340	0.6%	\$8,127	1.9%	\$1,228	0.3%	\$7,036	1.7%
<b>Top 1 percent</b>	–\$334,531	–14.5%	–\$292,510	–12.7%	\$276,887	–12.0%	–\$234,711	–10.2%
<b>All</b>	–\$1,340	–1.2%	–\$1,340	–1.2%	–\$801	–0.7%	–\$801	–0.7%
<b>Top 0.1 percent</b>	\$2,589,193	–30.6%	\$2,436,117	–28.8%	\$1,775,196	–21.0%	\$1,621,558	–19.2%

Source: Author's calculations.

Note: Due to rounding of the thresholds for each tax, the revenues raised by the two proposals do not match exactly and thus transfers to low-income families do not match exactly.

## **ASSESSING THE ECONOMIC IMPACTS THROUGH THE LENS OF EFFICIENCY**

An assessment of the proposals in terms of efficiency amounts to the aggregation of the welfare impact of the proposals (in dollar values) across taxpayers, assuming that revenues are returned to individuals through government spending valued at cost or lump-sum tax rebates. In other words, the efficiency impact of each proposal is the arithmetic sum of the dollar-value impacts presented in table 3, shown in the row labeled “All,” plus compliance costs.<sup>38</sup>

This analysis indicates that these proposals, when combined with lump-sum spending of the resulting funds, are examples of equity-increasing and efficiency-decreasing policies. Of course, this analysis, like most tax analyses, assumes that the spending has no spillover benefits. Were the spending to have such benefits, as many public programs do, these proposals could increase both equity and efficiency (Hendren and Sprung-Keyser 2019).

However, just as the traditional distribution analysis must be modified for the analysis of these taxes, this efficiency analysis also requires modification. Notably, both the reductions in burden attributable to inframarginal benefits from tax avoidance and the reduction in burden attributable to reduced costs of avoidance of existing taxes (in cases where these avoidance opportunities are no longer valuable after the proposal is implemented) would serve to reduce the costs borne by affected taxpayers. The increase and acceleration in charitable giving that would result from the proposal would deliver additional benefits.<sup>39</sup> Just as the increase in burden shown in tables 1 and 2 above is likely conservative, in the sense of slightly overstating the increase in burden, the reduction in efficiency implicit in table 3 is also likely conservative, in the sense of slightly overstating the reduction in efficiency.

## **COMPARING WEALTH-BASED APPROACHES AND INCOME-BASED APPROACHES**

Wealth taxes and accrual taxation of investment income are similar on many dimensions. They would both raise substantial revenues, overwhelmingly from the wealthiest Americans. And they would both reduce the reliance on realization under the current tax system. This section reviews some of the differences between the two approaches in more detail.

As proposed above—and consistent with most proposals in the public debate—the wealth tax is an add-on tax that is imposed in addition to the

income tax, and accrual taxation is a reform to the existing income tax. Although this difference is not fundamental to the two approaches, it is responsible for some of the major differences in the impacts of the two proposals on the revenue and burden effects presented above.

The wealth tax collects revenues from all assets while the accrual tax collects revenues only from those assets that are taxed relatively more lightly under the existing income tax and only to the extent they are lightly taxed. Thus, adopting an accrual tax would result in little or no tax increase on holders of debt securities and consumer goods such as vehicles and yachts. Debt securities are typically fully taxable, at least when held by taxable investors, and consumer goods generate untaxed consumption and rarely appreciate in price. On the other hand, an accrual tax would result in substantial revenues from publicly traded equities, which are lightly taxed at present, and some revenues from privately held businesses and rental real estate. The increase in tax on the latter two classes of assets would be moderated by the fact that they generate income that is already taxed under the income tax.

Suppose, for example, that publicly traded equities will return 8 percent and a work of art will experience 4 percent nominal appreciation while generating a 4 percent return in the form of consumption. Because the value of the work of art reflects the value of the consumption, a wealth tax will impose the same proportionate tax increase on the two assets, while an accrual tax will impose a larger tax increase on the equities than on the work of art.

These differences between the wealth tax and accrual tax presented here explain why—to raise the same revenue—the exemption for the accrual tax proposal is smaller than for the wealth tax. At the same time, the more modest increase in rates under an accrual tax is partially responsible for the higher ratio of revenues to aggregate burden under the accrual tax proposal. Of course, alternative policy designs are also possible. An accrual tax proposal combined with an increase in the top marginal income tax rate could raise additional revenues from those at the very top of the income distribution. A lower-rate wealth tax could be applied beginning at a lower wealth threshold to more closely approximate the distribution of the burden under an accrual tax.

Because the accrual tax is proposed as a reform to the existing income tax, it allows for more seamless integration with the existing income tax. Under this approach policymakers can align the rates on labor and nonlabor income more closely, which may offer advantages in reducing certain types of avoidance since it is often not possible for taxation authorities to perfectly

distinguish between the two types of income. (However, the need to value businesses independent of the human capital of the owner-employee means this type of issue will remain a challenge under both tax reforms.)

The fundamental economic difference between wealth taxation and accrual taxation is the treatment of risky or uncertain returns. Income taxes adjust in response to higher- or lower-than-expected returns, and thus implicitly share risk between the taxpayer and the government, while wealth taxes do not adjust in response to variation in (contemporaneous) returns. However, to the extent wealth taxes are paid out of wealth—consistent with the assumption made in the estimates presented above—the future wealth tax base would reflect the history of uncertain past returns.

This variation in returns could reflect both general market risk and implicit labor income reflected in asset values. Guvenen et al. (2019) argue that a wealth tax based on the book value of assets is efficiency enhancing relative to a capital income tax because it shifts the tax burden from those who use wealth productively to those who use wealth unproductively. In contrast, Kopczuk (2019) argues that accrual taxation would place a relatively greater burden on rents than a wealth tax, and this would be a primary advantage of the accrual taxation approach. One interpretation of the differences between these two arguments is that the authors are making different assumptions about the source of excess returns and the responsiveness of those returns to taxation, with correspondingly different implications for the relative merits of the two approaches to taxation.<sup>40</sup>

As a result of the different treatment of uncertainty, the income tax approach would generate more volatile tax payments. For the wealthy taxpayers who would be affected by taxes like those proposed in this chapter, simple volatility is of relatively little economic importance, given those taxpayers' ready access to financial markets to borrow and lend. However, volatility may have more significant effects for the political viability and sustainability of the tax. In addition, to the extent states conform to the federal income tax base, the increased volatility of revenues may have implications for their budgeting processes.

The wealth tax approach is more naturally applied only to the extremely wealthy through a simple exemption, while accrual taxation requires a more complicated phase in if it is to be limited to the extremely wealthy. That said, an exemption from the accrual tax could be structured as an exemption on lifetime or annual gains, which would mitigate this advantage of the wealth tax, although such approaches do not rule out the possibility of a taxpayer of more modest wealth paying the tax.

Finally, as discussed in greater detail below, the income tax approach would be clearly constitutional whereas the wealth tax approach would face greater risk of being declared unconstitutional. Though not an economic distinction between the two approaches, this is potentially the most important difference for policymakers.

## **COMPARING VALUATION-BASED APPROACHES AND REALIZATION-BASED APPROACHES**

Perhaps the most common criticism of wealth taxation and accrual taxation, apart from those criticisms grounded in opposition to increased taxation of the wealthy, is that valuation poses an insurmountable problem. As described above, if valuation is a chief concern, it is possible to impose both a wealth tax and an accrual taxation of investment income on a realization basis.

Valuation-based approaches, if successful, provide more accurate income measurement and thus deliver a more robust tax base that is less subject to avoidance and evasion. Realization-based approaches, if successful, reduce the frequency of required valuations and the associated cost without opening the door to excessive rates of avoidance or evasion.

The choice between the valuation-based approach and the realization-based approach thus depends primarily on the cost of the required valuations, the avoidance under a valuation-based system, the avoidance under a realization-based system, the costs of actions taken to avoid tax under a realization-based system, and the costs of litigation under both systems.

The realization-based approach avoids the costs of conducting valuations and eliminates the cost of litigation associated with valuation disputes. However, it does so by creating additional opportunities for tax avoidance. In this case, tax avoidance seeks to exploit the differences between the values resulting from annual valuations and the pattern of imputed values resulting from a deferral charge. Taxpayers might aim to artificially inflate basis shortly before a non-traded asset is sold to defer the timing of income, for example. Moreover, rules to prevent these types of avoidance would come with their own attendant compliance costs.

If the required valuations are expensive and costly to litigate and the realization-based system offers limited scope for avoidance, the latter would be preferable. If, on the other hand, the realization-based system would result in substantial tax avoidance, especially though not exclusively if the costs of that avoidance are also high, the valuation-based system would be preferable.

As discussed above, a back-of-the-envelope estimate of the compliance costs of the valuation-based versions of the tax is about 0.2 percent of wealth. The realization-based versions potentially could offer lower costs. In evaluating this trade-off, it is important to keep in mind the incidence of the changes. The reduction in compliance costs is a benefit for the taxpayers who would otherwise incur them. The reduction in revenue resulting from increased avoidance is borne by the beneficiaries of the spending that no longer occurs or the taxpayers who bear the burden of other taxes increased to offset the loss.

Thus, absent any offsetting policy changes, the shift from valuation-based approaches to realization-based approaches almost certainly benefits the wealthy, who face lower compliance costs and do not bear the burden of the resulting reduction in spending. If instead top income tax rates are increased to compensate for the potential revenue loss, a key question becomes how the compliance costs for the valuation-based version of the tax compare to the burden imposed by the higher tax rates under the realization-based version.

In addition to the core issues around valuations, the choice between valuation and realization raises a couple of more modest issues. First, any hybrid system that applies a realization-based approach to certain assets and a valuation-based approach to other assets would require rules to police this boundary.

Second, realization-based systems increase the scope for tax avoidance based on conjectures about future policy changes. Although all policy regimes are temporary, the possibility that a realization-based regime could be repealed, or the tax rates reduced substantially, would create a potentially strong incentive for wealthy taxpayers to hold on to assets under such a regime. The proposals described here would apply the tax rate in effect in each year to the gains accrued in that year, moderating this impact. However, policymakers could still change this provision itself when enacting future legislation.

## Questions and Concerns

### *1. Will illiquid taxpayers be able to pay taxes on wealth?*

A wealth tax or accrual tax on investment income would require taxpayers to pay tax in years where they may not realize substantial income. However, for taxpayers who are affected by the approaches to reform described in this chapter, this is not a significant concern. These approaches apply only to taxpayers with at least \$16.5 million in gross assets (\$8.25 million for

single taxpayers) and such taxpayers have ready access to financial markets to finance the tax payments. However, were this concern to be judged to be more significant, the realization-based versions of both taxes would align the timing of tax with the realization of income on non-traded assets. In addition, whereas the approaches in this chapter do not provide taxpayers with the opportunity to defer payment of tax with interest, such a provision could be added should policymakers deem it desirable.<sup>41</sup>

## *2. Will volatile asset prices impose too costly a burden under accrual taxation?*

A related concern is that asset prices are volatile, and thus taxpayers may find themselves with high incomes in certain years and negative incomes in other years under accrual taxation of investment income. If taxpayers are liquidity constrained, they may not be able to manage the resulting swings in tax liabilities. However, the practical relevance of this concern is limited for approaches like those detailed in this chapter that apply only to relatively wealthy taxpayers for the same reason that the liquidity concerns above are limited: The affected taxpayers generally are not liquidity constrained. To the extent volatile tax liabilities matter, it may be more for the political viability of the tax than for the economic viability.

On the other hand, volatile tax collections have the potential to be a more significant concern for state governments to the extent that they conform to the federal income tax base. However, to the extent this is a concern for state governments, they could adopt a smoothing provision either for taxpayers in computing tax payments or in government accounts, such as through increased use of rainy-day funds or inclusion of only a portion of the accrued gains in income each year.<sup>42</sup>

## *3. How does taxing wealth compare to increased taxation of business income at the entity level?*

Corporate profits are an important source of the capital gains and dividends received by individuals. Thus, one alternative to taxing wealth at the investor level would be to increase the taxation of business income at the entity level. In this sense, an increase in the corporate tax rate could be viewed as an alternative way to increase taxes on wealth.

Taxing wealth owners has several advantages relative to increased taxation of business income. First, although corporate taxes are highly progressive, targeted investor-level taxes are likely superior in focusing the burden more precisely on the wealthy and limiting the shifting to other actors, as noted in the discussion of the economic incidence of taxes on savers and firms above. Second, addressing tax avoidance strategies at the individual level requires reforms to taxation at that level, such as reforming the taxation

of wealth as discussed here. Third, corporate equity is only one source of capital gains. Capital gains can also arise from pass-through property, real estate, and other assets. Finally, corporate taxes raise their own challenges with avoidance via profit shifting (though these could in turn be addressed, at least to some extent, with other reform proposals).

Notwithstanding these advantages of investor-level taxation of wealth, there is a strong case for further increasing taxes on business income at the entity level, which could be combined with a shift to cash-flow taxation, to limit the extent to which income escapes taxation due to tax preferences at the investor level or because it is attributable to foreign investors.

#### *4. Why not increase estate and gift taxes in lieu of taxing wealth?*

The income tax is the primary source of federal revenues and the major driver of the progressivity of the federal tax system. However, the existing income tax fails to tax the income of the wealthy in an effective manner. As outlined in this chapter, taxing wealth through either a wealth tax or accrual taxation of investment income serves to address the limitations of the existing income tax, strengthening the income tax base. Reforms to estate and gift taxes could raise substantial revenues from a similarly wealthy population—and are merited in their own right—but they would not substitute for an effort to strengthen the income tax base.

#### *5. Should the income tax be indexed for inflation under the accrual tax?*

Though many provisions of the income tax, such as the tax brackets, are adjusted annually for inflation, the tax code makes no attempt to adjust the measurement of capital income for inflation. As a result, the capital income tax base is nominal income rather than real income. In principle, real income provides a superior measure of ability to pay. However, the technical challenges of comprehensively adjusting income flows for inflation across the entire tax code have traditionally discouraged any attempt to implement such adjustments.

As long as inflation remains low, the potential benefits of adjusting the tax code for inflation are modest. Such adjustment would reduce tax rates on investment income and potentially reallocate tax burdens from borrowers to lenders. However, especially under the approaches to reform set forth here, which apply only to the tail of the wealth distribution, indexing investment gains would be a costly, regressive tax cut (absent other offsetting policy changes). There is little reason to incur significant fiscal costs for that purpose.



## 6. *What constitutional issues are raised by taxing wealth?*

The U.S. Constitution grants to Congress a broad taxing power. It also requires that direct taxes be apportioned according to population, meaning that the revenues collected from each state must be proportional to the population of that state. However, the Constitution does not itself define what a direct tax is. Famously, during the Constitutional Convention a delegate asked what the precise meaning of direct taxation was, and no one answered (Ackerman 1999).

In 1895 the Supreme Court declared the United States' second federal income tax to be unconstitutional as an unapportioned direct tax. The country's first federal income tax had been upheld 15 years earlier, though the legal issues raised in that case had been somewhat different. Subsequently, Congress passed, and the states ratified, the 16th Amendment, granting Congress the power to create an income tax.

If enacted, a federal wealth tax would certainly be challenged in the courts as an unapportioned direct tax. Among other arguments, opponents of a wealth tax would likely argue that a tax on real property is a direct tax and thus a tax on wealth is a direct tax because it embeds a tax on real property. Proponents would argue that a wealth tax is not a direct tax and, potentially, that a wealth tax is an income tax (the motivation for the proposal in this chapter). There is case law that both proponents and opponents could point to as supporting their view, and the resolution of such a case would likely depend on the makeup of the Court at the time the case is heard.

Mark-to-market taxation would likewise almost certainly be challenged before the Supreme Court, but the case for constitutionality here is unambiguous (Miller 2016b). The 16th Amendment gave Congress the power to tax incomes, and a mark-to-market income tax is clearly a tax on incomes. Indeed, provisions for mark-to-market taxation already exist in the Internal Revenue Code in a variety of places, including Section 475 (for securities dealers), Section 1256 (for certain types of financial contracts), Section 877A (for certain expatriates), and Sections 1272 and 1273 (original issue discount for debt securities), among others.

Arguments for the unconstitutionality of mark-to-market taxation typically assert that realization is a constitutional requirement, not merely an administrative convenience. The Supreme Court upheld this reasoning in a 1920 decision (*Eisner v. Macomber*), ruling that a stock dividend in which the taxpayer did not receive cash was not income under the 16th Amendment. However, the Court has contradicted or limited this reasoning in subsequent cases at least four times (Miller 2016b) and has never applied it to any existing provision of the tax code that imposes accrual taxation.

## Conclusion

To keep past promises and finance new spending that meets the needs of the moment, the federal government will eventually need to collect more revenue. In light of high and rising inequality in both income and wealth, as well as the structural weaknesses of the tax system as it applies to the wealthy today, reforms to the taxation of wealth are a natural part of the solution. Four approaches to taxing wealth could all raise substantial sums from the wealthiest Americans: an annual wealth tax, a realization-based wealth tax, accrual taxation, and accrual taxation of publicly traded assets combined with realization-based taxation of non-traded assets.

## Appendix A. Taxation of Wealth and Investment Income Today

Understanding how wealth and investment income are taxed requires an understanding of the legal forms used to conduct business in the United States. Business activity is generally conducted in one of two forms: a traditional C corporation or a pass-through business, such as an S corporation, partnership, or sole proprietorship.

Traditional C corporations are responsible for paying an entity-level corporate income tax at a rate of 21 percent. Corporate taxable income consists of business receipts and investment income less the cost of goods, current expenses, interest payments, and depreciation of capital investments.

Dividends paid by C corporations are subject to investor-level dividend taxes, generally at preferential rates of 0, 15, or 20 percent (depending on income level). Dividends not eligible for these preferential rates are taxed according to the ordinary rate schedule, up to a maximum of 37 percent. In addition, dividends are also subject to the net investment income tax of 3.8 percent for married taxpayers with incomes above \$250,000 (\$200,000 for single taxpayers).

Although the income of C corporations is potentially subject to tax at both the entity level and the investor level, empirical estimates suggest that double taxation is more the exception than the norm, and income is likely taxed less than once in many cases. Only about one-quarter of corporate stock is held by taxable investors (Burman, Clausing, and Austin 2017; Rosenthal and Austin 2016). Tax-exempt investors include pension funds, nonprofits, and foreign investors. Moreover, about 40 percent of corporate investment is debt-financed, which largely escapes taxation at the entity level. Finally,

businesses have been able to deduct 50 percent or more of the value of equipment investment since 2008 and are able to deduct 100 percent of the value of equipment investment placed in service after September 27, 2017, and before January 1, 2023.

Pass-through businesses are not subject to an entity-level tax. Instead, the items of income, gain, deduction, and credit are passed through to the owners, who include those items on their individual income tax returns. These items are taxed under the same rules that apply to other sources of income, subject to certain exceptions, and thus are subject to progressive tax rates up to a maximum of 37 percent in the case of ordinary income. Capital gains and dividend income received by a pass-through business are passed through to the owner and taxed at the preferential rates that would apply had those forms of income been received by the taxpayers themselves. Income from a pass-through business may be subject to the net investment income tax of 3.8 percent. In addition, income from a pass-through business may be eligible for a deduction of up to 20 percent that reduces the top income tax rate to 29.6 percent (33.4 percent including the net investment income tax).

In contrast to C corporations, distributions from pass-through businesses are generally exempt from tax. S corporation shareholders' and partners' basis increases in accordance with income passed through from the business and decreases with distributions from the business. These adjustments in basis prevent double taxation of income retained in the pass-through business when a pass-through business is sold.

C corporations and S corporations are required to pay reasonable compensation to employee owners, whereas owners of other types of pass-through businesses are not required to distinguish between labor income and capital income. Profits from these types of businesses thus reflect a mix of both labor and capital income.

Historically, C corporations accounted for the vast majority of business activity, but pass-throughs have grown markedly since the early 1980s and now account for 40 percent of all business receipts (appendix figure A1).

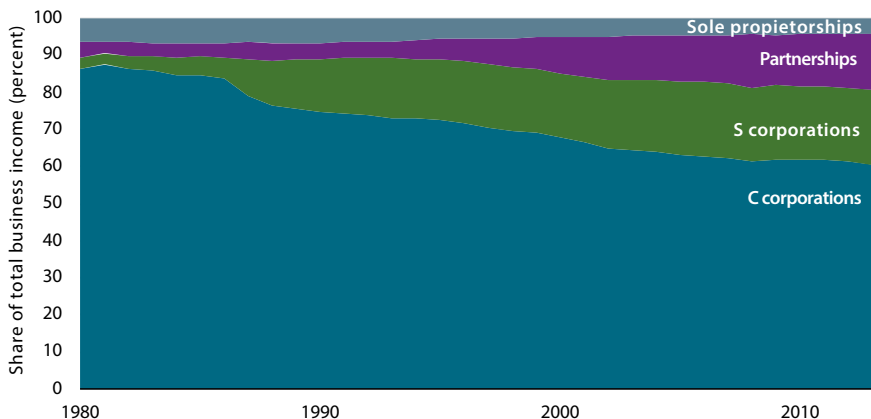
As noted above, businesses may deduct interest paid from their taxable income. Individuals pay tax on interest income at ordinary tax rates, up to a maximum of 37 percent plus the net investment income tax of 3.8 percent. Taxpayers who own debt securities that do not pay interest on an annual basis but pay implicit interest (because their price is less than face value) must include imputed interest in their income each year.

Owners of any asset, whether stock in a C or S corporation, a partnership interest, personal use property, or otherwise, are potentially subject to capital gains taxes when they sell the asset. The capital gain is the excess of the sales proceeds over the basis. The basis of an asset is the purchase price adjusted for certain subsequent transactions, such as further investments in the asset. Long-term capital gains, defined as gains resulting from assets held for more than one year, are typically subject to preferential rates of 0, 15, or 20 percent (depending on income level). Short-term capital gains, defined as gains on assets held for one year or less, are taxed at ordinary rates. Capital gains are also subject to the 3.8 percent net investment income tax for taxpayers with incomes above \$250,000 (\$200,000 for single taxpayers). As noted above, a capital gain is said to be realized when the asset is sold. Thus, capital gains are said to be taxed on a realization basis.<sup>43</sup>

The tax code offers an array of preferences for investment income. Employer retirement plans and individual retirement accounts provide taxpayers with the opportunity to avoid paying tax on their investment income. Retirement accounts are one of two types: traditional or Roth. In a traditional account, taxpayers receive a deduction for contributions, pay no tax on accruing income within the account, and pay tax at ordinary rates on distributions. In a Roth account, taxpayers receive no deduction for contributions and pay no tax on both income accruing within the account and distributions.

APPENDIX FIGURE A1.

## Share of Business Receipts by Entity Type, 1980–2013



Source: Internal Revenue Service (IRS) 1980-2013; author's calculations.

Note: Excludes mutual funds and real estate investment trusts.

Owner-occupied housing is also tax preferred. Taxpayers pay no tax on imputed rent (i.e., the rent the taxpayer would have received had they rented out the house rather than live in it themselves) but may deduct mortgage interest. Taxpayers may also exclude the first \$500,000 of capital gains on the sale of a primary residence (\$250,000 for single individuals).

Unrealized capital gains on assets held by a taxpayer at death are exempt from tax under the provision for step-up in basis at death. Under this provision, the basis of a taxpayer's assets is increased, or stepped up, to the market value at the time of death thus exempting such gains from income taxation. Heirs then pay tax only on gains that occur after the step-up in basis. Prior gains are wiped out for purposes of the income tax.

Owners of real estate may also swap one real-estate asset for another in what is known as a like-kind exchange. If this transaction meets certain restrictions, the swap is not treated as a sale and thus it does not result in capital gains taxes.

## Appendix B. Methodology for Revenue Estimates

Estimates of the revenue raised by reforms to the taxation of wealth rely on estimates of the value of wealth, the value of unrealized appreciation on investment assets, and the behavioral responses to the proposed reforms.<sup>44</sup> The United States does not presently have a wealth tax, so there is no existing administrative assessment of wealth. Estimates of wealth generally rely on one of three methods: survey data on wealth, inferences about wealth from estate tax data, and inferences about wealth from income tax data (Batchelder and Kamin 2019; Bricker et al 2016; Kopczuk and Saez 2004; Saez and Zucman 2016, 2019; Smith, Zidar, and Zwick 2019; Zucman 2019). The estimates presented here rely on the Survey of Consumer Finances (Board of Governors of the Federal Reserve System [Federal Reserve Board] 2016), augmented with information from the 2018 Forbes 400.<sup>45</sup>

In estimating wealth tax revenues, I first reduce the value of private business wealth by 16 percent as an estimate of tax evasion based on estimated evasion rates under the income tax for the income of S corporations and partnerships (Dubois et al. 2016).

To reflect tax avoidance, I further reduce the value of all wealth (including the already reduced private business wealth) by 16 percent. This estimate reflects an underlying assumed semi-elasticity of avoidance of 8 percent with respect to the wealth tax rate. This estimate of avoidance includes responses such as charitable giving, expatriation, increased consumption spending, and any form of legal tax planning.<sup>46</sup>

I assume both the wealth tax and private compliance costs of the wealth tax are paid out of wealth. Although limited evidence is available on the consumption spending of the very wealthy, the evidence that does exist suggests the ratio of consumption spending to wealth is small (Fisher et al. 2018). The assumption that the tax is paid entirely out of wealth would be slightly conservative—in the sense that it underestimates tax revenues—relative to an assumption that a portion was paid out of consumption spending. The assumption that the tax is paid out of wealth not only has a direct effect on future wealth tax liabilities, but also reduces future income tax liabilities resulting from current-law taxes on investment income.

I compute revenue estimates for the 2021–30 period using the revenue estimates for 2021 and a simplified off-model calculation rather than an explicit panel tax model. I inflate the net-of-avoidance 2021 wealth tax revenues by a factor of 11.9, reflecting a baseline wealth growth rate of 6 percent reduced by the 2 percent wealth tax rate and the 0.2 percent ratio of compliance costs to wealth, compounded over nine years.<sup>47</sup> I then subtract an income tax offset equal to 0.70 times 2021 revenues reflecting erosion of the income tax base due to the wealth tax payments and to compliance costs.<sup>48</sup>

Under these assumptions, the absolute wealth of the affected population would continue to grow without limit. However, as a share of baseline wealth, it would decrease geometrically. In part, this reflects the absence of any churn in the affected population, including the absence of any explicit role for mortality, savings, or entrepreneurship in the evolution of wealth. The exclusion of these factors would likely result in a modest understatement of revenues in the first decade. These factors would be essential in the development of longer-term revenue estimates.

Estimates of the revenue raised from accrual taxation rely on the same estimates of wealth. This analysis focuses on three types of assets that likely account for the majority of potential revenues under such an approach: (1) publicly traded equities, (2) private business, and (3) real estate. Publicly traded equities are assumed to return 8 percent. Private businesses are assumed to generate nominal capital gains of about 3 percent. This capital gain is in addition to the ordinary income that flows through to the owner on schedules C, E, and F on the tax return. The return assumption is based on the nominal gains on real estate assets held by nonfinancial noncorporate businesses in the Integrated Macroeconomic Accounts. Finally, directly held real estate assets are assumed to generate nominal capital gains of 3.8 percent based on the rate of return on household real estate holdings in the Integrated Macroeconomic Accounts.

As under the wealth tax, I reduce mark-to-market incomes to reflect evasion and avoidance. I reduce the estimate of accrual income from private businesses by 16 percent to account for evasion, parallel to the reduction in private business wealth under the wealth tax. I then reduce the three sources of accruing investment income (corporate equities, private businesses, and real estate) by between 8 and 18 percent. To achieve greater internal consistency between the wealth tax and accrual taxation revenue estimates, I compute a wealth-tax-equivalent rate for the accrual tax for each of the three covered asset types and apply the same 8 percent semi-elasticity of avoidance used for the wealth tax estimate.<sup>49</sup>

Based on the assumed levels of wealth and income, income tax revenues are calculated using the National Bureau of Economic Research (NBER) Internet TAXSIM model (NBER 2019). I convert the 2021 revenue estimate for the accrual tax to an estimate of revenues for the 2021–30 period using the same methods used for the wealth tax above. As with the wealth tax, I assume that the increased tax liabilities and compliance costs are paid out of wealth, and that these reductions in future wealth have a corresponding effect on income tax revenues.<sup>50</sup>

These revenue estimates are intended to correspond to conventional revenue estimates in the sense of the term used by the congressional JCT. Conventional revenue estimates are estimated under an assumption that GNP does not change. Conventional revenue estimates thus reflect avoidance and evasion responses that cause income to shift across tax bases or outside the tax base entirely, but do not reflect responses that cause total income to change and, through that channel, cause the tax base to change.

Under a fixed GNP approach, any reduction in capital income among those affected by the wealth tax or the accrual tax must be offset by an increase in capital income among those unaffected by the proposals. Because this income would, at least potentially, be subject to income taxes, this could reduce the revenue losses attributable to avoidance in a conventional revenue estimate. However, the revenue estimates above do not include an estimate of this potential offsetting effect motivated by the evidence suggesting that the majority of C corporation equity is held by tax-exempt investors, and thus that the average effective tax rate on capital at the investor-level is low (Burman, Clausing, and Austin 2017; Rosenthal and Austin 2016).<sup>51</sup>

Dynamic revenue estimates relax the assumption that GNP is unchanged. However, there would be little difference between the conventional revenue estimates presented above and a dynamic revenue estimate. To the extent foreign investors would become a more important source of financing for domestic investment under these proposals, analysis under the fixed

GNP assumption might overstate the increase in capital income received by domestic investors that results from these reforms and understate the increase in capital income by foreign investors. However, since the estimate above assumed the increase in capital income received by domestic investors was unaffected by the wealth tax and the accrual tax generated no additional revenues, any shift from domestic investors to foreign investors would have no effect on the estimate.<sup>52</sup>

The mark-to-market system would raise additional transitional revenues from the realization of pre-enactment gains when assets are sold and from repealing stepped-up basis for past gains. These transitional revenues are excluded from the revenue estimates in the effort to put the wealth tax approaches and the income tax approaches on an even footing. Finally, the revenue estimates for the accrual proposal exclude the cost of the dividend imputation credit and some of the more narrowly targeted provisions, such as the limitation on retirement account balances, the effects of which would be modest relative to the overall revenue impact.

## **SOURCES OF UNCERTAINTY**

The estimates presented above are highly uncertain. The value of wealth, the value of unrealized appreciation on investment assets, and the behavioral responses to the proposed taxes are all subject to substantial uncertainty. In addition, this chapter relies on the publicly available Survey of Consumer Finances (Federal Reserve Board 2016), which provides a high-quality and internally consistent set of income and wealth information for U.S. households. However, this data differs in some respects from the income data collected in the administration of the income tax.

An additional source of uncertainty in the revenue estimates is the potential for asset price effects resulting from the increased taxation of wealth. To the extent that the marginal investor is subject to higher taxes on their asset holdings, their willingness to pay for an asset may fall. In addition, taxpayers who are subject to the tax would have reduced demand for asset holdings resulting from their direct tax payments and, potentially, from their avoidance strategies depending on what those avoidance strategies are. (Assets shifted from a taxable investor to an exempt foundation would not necessarily reduce overall asset demand, whereas assets sold to finance increased consumption spending would.)

A decline in asset prices would have different impacts on the wealth taxes and the accrual taxes. Since the wealth taxes are based on asset values, a decline in assets prices would reduce revenues. However, since the accrual taxes are based on the return, a decline in asset prices associated with



higher returns (to offset taxes) would result in increased revenues. The benchmark estimates above assume no immediate asset price effects since the proposal applies to only a small portion of domestic investors. This decision to assume no asset price effects could overstate wealth tax revenues and understate accrual taxation revenues.

An additional set of uncertainties in the revenue estimates is those that relate to the more nuanced differences in the potential for avoidance and evasion under a wealth tax and an accrual tax. At present, this analysis assumes that avoidance under the two systems is broadly similar. Indeed, one contribution of this analysis lies in the attempt to generate internally consistent estimates of the revenues that would result from a wealth tax and accrual taxation of investment income. However, there are some important reasons that the two regimes might be different.

First, and perhaps most importantly, the wealth tax does not vary with variation in investment returns whereas the income tax owed under accrual taxation of investment income does. In other words, under the accrual tax the taxpayer and the government share investment risk, and under the wealth tax the taxpayer bears all of the risk. Thus, for a given expected tax payment, the cost of the wealth tax payment may exceed the cost of the income tax payment. As a result, taxpayers' wealth holdings may be more sensitive to a given level of payments under the wealth tax than under the income tax. This difference might affect not just investors' portfolio and savings decisions, but also labor supply and other decisions like those relevant for the taxation of rents under the two systems.

Second, although the principles underlying the determination of tax liabilities in an accrual tax and a wealth tax are similar in many respects—including relying on valuations of potentially hard-to-value assets—the computation of tax would be quite different. Notably, a portion of the income accruing to pass-through owners under the income tax would remain a measure of profits as under current law. Only a residual would be taxed as a change in market values, reflecting changes in expectations of future profits and unrealized capital gains held by the pass-through entity. The continued reliance on income to impose tax may facilitate higher compliance.

Third, under the accrual proposals taxpayers who earn no return on their assets will pay no tax. This raises the possibility that taxpayers, even for what is economically a similar tax, will be more inclined to retain assets in their possession than to shift them into tax-preferred entities, such as a nonprofit or a relative in a lower tax bracket.

## REVENUE ESTIMATES FOR THE REALIZATION-BASED WEALTH AND ACCRUAL TAXES

Separate estimates of the revenues raised by the realization-based versions of each tax are not presented in this chapter due to the limited evidence on which to base an estimate of the differences between the valuation-based approaches and the realization-based approaches. The primary consideration in estimating the difference in the revenues raised under the valuation-based approaches and under the realization-based approaches is the differential ability to avoid tax under the two. To the extent the realization-based approaches allow taxpayers to exploit the precise structure of the deferred tax computation to avoid tax, these approaches could raise less revenue. To the extent they would reduce the scope for taxpayers to understate asset values or gains and thus avoid tax, they would increase revenues.

## Acknowledgments

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## Endnotes

1. Throughout this chapter, maximum tax rates include the 3.8 percent additional Medicare tax and the 3.8 percent net investment income tax when appropriate.
2. The estimates presented here rely on the Survey of Consumer Finances (Federal Reserve Board 2016) and thus report the distribution by households rather than by tax units. An analysis by tax units, as is standard in tax analysis, would show each proposal to be more concentrated among the wealthiest and highest-income families since there are more low-income tax units than there are low-income households.
3. Proposals for wealth taxes have been set out by Shakow and Shuldiner (2000), Piketty (2014), Shakow (2016), and Saez and Zucman (2019), among others. Proposals for accrual taxation, some of which rely on realization and some of which do not, include Shakow (1986), Glogower (2016), Grubert and Altshuler (2016), and Miller (2016a). Auerbach (1991) proposes retrospective taxation of capital gains, though, in the terminology of this chapter, his proposal is more closely related to the realization-based wealth tax than it is to the realization-based accrual tax. Batchelder and Kamin (2019) provide a recent review of proposals to tax high-income and high-wealth households.
4. A like-kind exchange allows a taxpayer to exclude from income the gain on the sale of the asset that would otherwise be taxable. The taxpayer's basis in the newly acquired asset is set equal to their basis in the original asset. The provision therefore allows a deferral of tax but not an exemption from tax unless it is combined with other planning strategies.
5. The revenue estimate for the Obama administration's proposal to tax gains at death was only about \$200 billion (Treasury 2016). However, in large part this difference reflects a lag in the timing of

revenues collected under this proposal following enactment, though it also reflects a shift in the budget window, a modest exemption, and some avoidance through charitable giving, because gains on assets donated to charitable organizations would not have been taxed under the proposal. Since the shortfall in revenues relative to the tax expenditure is substantially due to timing, the revenue estimate would rise closer to the tax expenditure estimate in later years.

6. A modest but noticeable fraction of the revenues raised by this package of incremental options would come from families with incomes outside the top 5 percent of families. To the extent that policymakers exempt these families (or even more families) from the incremental reform packages, the revenues raised would be further reduced.
7. Additional gift taxes on high-income taxpayers who are not subject to the wealth tax may be appropriate to discourage taxpayers who anticipate paying the wealth tax in future years from giving during the years just before they would otherwise become subject to the tax. These taxes should be based on information collected on current income and gift tax returns.
8. In the case of dependents who could potentially be claimed by multiple taxpayers, the dependent would be assigned to the return with the highest taxable wealth. In addition, if a dependent's wealth exceeds \$1 million, that dependent's support (including cumulative gifts and inheritances) comes from another tax unit, and that tax unit has higher wealth, then the dependent would be included in that tax unit for wealth tax purposes.
9. The federal income tax applies to all resident aliens. The proposed wealth tax applies to a somewhat narrower base to avoid imposing the compliance costs associated with valuations on taxpayers whose wealth has been accumulated outside the United States and who would not be subject to the tax on an ongoing basis.
10. Defined benefit pension entitlements would be valued based on actuarial assumptions prescribed by the Treasury and IRS. Funded status would not be considered in determining the value of pension entitlements.
11. The fair market value of the interest would be computed using discount rates that reasonably reflect any risk of nonpayment for future payments.
12. See Dodge (2016) for an alternative approach that seeks to address some of the same underlying issues.
13. Pension entitlements would be included in the wealth tax base as assets of the participant or beneficiary as noted above.
14. See Galle (2019) for additional discussion of the treatment of nonprofits under a wealth tax.
15. No allowance for consumption would be provided. The assumed inflationary rate of return and the absence of allowance for consumption together aim to balance the goal of taxing wealth owners on the present value of their wealth at the time they expatriate. The Treasury and the IRS would prescribe the mortality assumptions.
16. In the case of a business with substantially identical ownership stakes, such as an S corporation with a single class of stock or a C corporation with a limited number of classes of stock, these valuations may be expressed in terms of the value of each class of stock.
17. Business entities required to file an information return would be required to disclose to the IRS if they receive an information return from a subsidiary that is substantially inconsistent with the valuation that they report to the IRS. This requirement would not apply to publicly traded entities who receive such inconsistent returns.
18. This realization-based wealth tax is motivated by the proposal for retrospective capital income taxes of Auerbach (1991). In the spirit of that proposal, the proposed approach depends on an assumed return rather than on the observed return, and the tax depends on the holding period. In contrast to the Auerbach proposal, it is a tax based on wealth rather than income. If the wealth tax rate is set equal to the income tax rate multiplied by the assumed return, this proposal would be equivalent to one formulation of the retrospective income tax proposal.
19. For purposes of computing this realization-based wealth tax liability, a taxpayer would be treated as if they held the asset for the entire year if they held the asset on the date at which it would have been valued for wealth tax purposes according to their accounting methods. In other words, if a taxpayer invests in a non-traded asset on December 1 and the asset would be valued on December 31, they would be treated as having held the non-traded asset for the entire year.
20. An important design challenge for the realization-based wealth tax is the determination of the

holding period for self-created assets. One potential approach would be to value the labor invested in creating such assets and use the value of those investments to create a series of notional assets with different holding periods. Further development of the rules specific to the case of self-created assets is an important area for additional work. (A similar challenge applies to the realization-based accrual tax.)

21. Note, however, that this challenge is not entirely new to the tax code. Determining reasonable compensation for C and S corporation owners under the existing income tax poses a related challenge, albeit one with much lower stakes.
22. This definition is motivated by the definition proposed in Miller (2005) and is intended to follow the same general idea, recognizing that the referenced regulations were substantially modified in the interim.
23. An alternative approach would exempt a specific quantity of lifetime gains, rather than rely on asset thresholds. The lifetime exemption approach avoids the need to value assets and eliminates the possibility that taxpayers would enter and exit the mark-to-market regime multiple times but does not guarantee an asset level below which taxpayers are not subject to the tax.
24. Additional rules to deal with publicly traded companies in which a dominant set of shareholders or owner-employees own a substantial majority of shares may be appropriate.
25. Sole proprietors (and owners of other disregarded entities) could elect to mark all assets and liabilities of the sole proprietorship to market rather than treat the sole proprietorship itself as an asset. Arguably, a proposal like this one amounts to a new concept of what an entity is for tax purposes. Further refinement of this concept would be a valuable area for additional work.
26. In principle, it would be desirable to limit the exclusion of post-transition gains from income to the quantity of appreciation previously included in income. However, doing so would create challenges in tracking these inclusions across owners.
27. Outside basis would adjust according to the sum of pass-through income and the net appreciation of the ownership interest.
28. The tax rate applied to pass-through income and the net appreciation of the pass-through interest would be the same, but taxpayers might still seek to convert income from the former form to the latter if it is easier to understate the latter form of income.
29. Current law rules for the depreciation of business-use property would continue to apply for businesses that are not required to use mark-to-market accounting (i.e., nonfinancial businesses). For a business financed entirely with equity and that is owned exclusively by investors subject to the accrual system, the accrual proposal would effectively repeal accelerated depreciation. This would occur even though accelerated depreciation would remain in effect for purposes of computing the business' taxable income. Accelerated depreciation would remain economically relevant for businesses with a more diverse ownership base and for businesses in which entity-level decision-making does not fully incorporate investor-level incentives.
30. Outside basis would adjust in accordance with pass-through income and realized gains on sales from assets held by the pass-through entity. The deferral charge itself would not affect outside basis. Inside basis could be adjusted for changes in outside basis under procedures modeled on those of Section 754. Additional refinement of the procedures for aligning inside basis and outside basis would be a valuable area for future work. Since distributions to pass-through owners reduce the owners' basis, there is not the same need for an additional tax on distributions under the realization-based accrual tax to reduce the incentive for taxpayers to use distributions to reduce the value of a non-traded asset shortly before sale as there is under the realization-based wealth tax.
31. An alternative to the hybrid approach under which certain assets are taxed annually on a mark-to-market basis and other assets are taxed when sold with a deferral charge is a uniform system in which all taxes are imposed when assets are sold. Glogower (2016) outlines such a system. An advantage of this approach is that it eliminates any inconsistencies in the treatment of different assets. A disadvantage is that it increases the sensitivity of taxes to legislative changes and thus increases the option value of deferral.
32. The revenue estimates presented here rely on the National Bureau of Economic Research's (NBER) `taxsim27` program (NBER 2019), and thus implicitly assume 199A has been repealed. Impacts are measured relative to current policy (i.e., they assumed the 2017 tax cuts have been made permanent). Estimates are on a calendar year basis. Fiscal year estimates would be slightly lower.

The estimates also exclude some of the more narrowly targeted provisions, such as the limitation on retirement account balances under the accrual taxation approaches, the effects of which would be modest relative to the overall revenue impact.

33. The distribution analysis presented here relies on the Survey of Consumer Finances (Federal Reserve Board 2016) and thus reports the distribution by households rather than tax units. An analysis by tax units, as is standard in tax analysis, would show each proposal to be more concentrated among the wealthiest and highest-income families since there are more low-income tax units than low-income households.
34. JCT (1993) developed this approach to distribution analysis in detail but has subsequently moved away from it in its official work.
35. Were revenues used for deficit reduction rather than spent, the increase in government savings could also substitute for wealth previously held by the wealthy.
36. A portion of the reduction in wealth resulting from the proposed taxes on wealth reflects the mechanical effect of increased tax payments. This reduction in wealth would be appropriately excluded from a traditional distribution analysis as well as the modified distribution analysis described here.
37. I assume these costs are not explicitly deductible under either the wealth tax or the accrual tax. However, they would be effectively deductible with a one-year lag since the costs incurred in one calendar year to pay the prior year's wealth tax would reduce wealth or investment income when the subsequent year's tax liability is determined, consistent with the assumption above that the tax liabilities are paid out of wealth. This effect is reflected in the estimates of revenue and burden above.
38. Notably, under the assumption that the spending is valued dollar for dollar, this aggregation means the assumption about the use of funds is unimportant.
39. See Chetty (2009) for a discussion of related issues.
40. Relatedly, as noted above, the wealth tax is better able to tax income generated by wealth in the form of services, such as the housing services provided by owner-occupied real estate and the enjoyment provided by works of art, yachts, and the like.
41. A similar provision for the deferral of tax payments exists under the estate tax.
42. As part of their proposal for mark-to-market taxation of publicly traded C corporation securities, Toder and Viard (2016) propose a smoothing mechanism that would include 20 percent of the cumulative quantity of accrued gains and losses each year.
43. Owners of business-use property are subject to tax if they dispose of that property at a gain. A complex set of rules determines whether the gains are subject to ordinary tax rates, the preferential capital gains tax rates noted above, or alternative tax rates.
44. For additional discussion of the revenue potential of a wealth tax in the United States see Saez and Zucman (2019) and Ricco, He, and Huntley (2019).
45. Incomes for the Forbes 400 are imputed using the estimates of Bourne et al. (2018).
46. I assume that half of this avoidance erodes the income tax base, as in the case of charitable contributions and expatriation, and half of this avoidance does not, as in the case of a transfer to another taxpayer in the top income tax bracket to whom the wealth tax does not apply. This estimate assumes that avoidance occurs immediately and is constant over time. To the extent that it takes time to develop or implement new planning strategies or to take advantage of avoidance opportunities, it may be that avoidance increases over time.
47. Among other factors, this calculation implicitly ignores the wealth tax threshold, which would likely cause the resulting estimate to slightly understate revenues, provided the threshold grows relatively slowly, such as if indexed to inflation.
48. I ignore the potential for an offset reflecting the increase in wealth from the reduction of income tax liabilities paid in the baseline and the potential for an offset of estate tax revenues. The former would likely cause the estimate presented here to slightly understate revenues and the latter to slightly overstate revenues.
49. For purposes of computing the phase in, I assume that private business wealth is reduced by the 16 percent evasion adjustment and the resulting value of net worth understated by an additional 8 percent.
50. This adjustment is arguably nonstandard in the analysis of changes in the taxation of capital gains.

However, such analyses would assume a realization elasticity much larger than the avoidance elasticities assumed here; that realization elasticity would swamp this effect and thus could be construed to tacitly include this effect.

51. One alternative approach to constructing conventional revenue estimates assumes that any change in tax results in a change in consumption. Under this approach, the wealth tax payments and compliance costs would not reduce future wealth, and thus the revenue estimate would be higher than the estimate presented here.
52. To the extent that revenues from taxes on wealth and investment income were not spent but instead were used to reduce the deficit, this could generate a small positive impact on revenues from reduced crowd out. However, for the present purposes I assume the revenue is spent.

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# A Proposal to Tax Financial Transactions

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## Abstract

We propose a tax instrument that is not currently used to any significant degree by the United States: a financial transaction tax (FTT). An FTT—if carefully designed and implemented—would raise substantial revenues in a progressive manner. We propose an FTT of 10 basis points that would apply to trading in stocks, bonds, and derivatives. We do not believe an FTT at this level would hinder market functioning or impede price discovery, and in fact it would be less than the recent declines in transaction costs that have occurred in many markets. The Urban-Brookings Tax Policy Center estimates that the proposal would raise approximately \$60 billion in annual revenue once it is fully phased in. Because the United States does not have recent experience with a nontrivial FTT, some aspects of its effects—including the precise amount of revenue that would be raised—remain uncertain. For this reason, we propose a staged implementation over four years, with the FTT starting at 2 basis points, to allow policymakers to monitor market functioning, address avoidance techniques that will undoubtedly arise, and, if necessary, more carefully calibrate the level of the tax.

## Introduction

No single tax instrument, by itself, can efficiently and fairly raise the funds needed to provide public services at different points throughout the business cycle. Our tax system reflects this reality, relying on a mixture of taxes that have different behavioral impacts, economic incidences, and effects on economic output. Relying on a diversity of taxes is more likely to minimize the efficiency costs of raising a given amount of revenue, while broadly distributing the burden of taxation among those with the means to pay. In addition, addressing the current gap between government revenues

and outlays needed for vital programs will likely require a number of incremental tax measures.

In this spirit, we propose a tax instrument that is not currently used to any significant degree by the United States: a financial transaction tax (FTT). An FTT—if carefully designed and implemented—would raise substantial revenue in a progressive manner. We do not believe an FTT at the level we propose would hinder market functioning or impede price discovery. In addition, some of the financial activity it would discourage, including some high-frequency trading and algorithmic trading, may provide limited marginal economic benefit to the country as a whole.

Like all taxes, an FTT would have associated efficiency costs. The potential amount of revenue raised and the magnitude of an FTT's associated deadweight losses depend crucially on the size of the tax, the responsiveness of market participants to the new tax, and the economic value of any lost activity, which we address below. While critics often suggest that an FTT would have dramatic adverse effects on asset prices, the cost of capital, and financial market functioning, these arguments appear overstated when placed in the context of total transaction costs and prior changes in the tax code. The FTT we propose would be smaller than the decline in transaction costs that has occurred in recent years in many markets. Opponents of an FTT argue that even small increases in transaction costs will significantly increase the cost of capital, but there is a lack of convincing empirical evidence that the recent reduction in transaction costs has had the opposite effect. Moreover, U.S. financial markets have functioned well through a variety of changes to relevant tax policies,<sup>1</sup> and it is unclear whether a small FTT would be any more significant.

While we believe the merits of an FTT are compelling, we do not want to overstate what it would accomplish. For example, there is no strong evidence that an FTT would reduce financial market risks or the probability of future asset price bubbles. An FTT is also unlikely to significantly increase investors' long-term focus. While it would reduce some high-velocity, short-term trading strategies, we do not expect a small fee to be sufficient to motivate end investors to adopt a longer-run perspective. Additionally, although an FTT would be progressive, the tax burden would not exclusively fall on the financial sector or the wealthiest households. A small portion of the FTT would fall on those in the middle of the income distribution, either through trades they make directly or through funds in which they invest. Lastly, some advocates suggest that an FTT could raise exorbitant amounts of tax revenue that are unlikely to be achieved. Rather, we suggest that an FTT could prove a useful component of a more comprehensive tax program.

The FTT we propose would be phased in over four years, starting at 2 basis points (0.02 percent) and increasing annually until it reaches a target rate of 10 basis points, and it would apply to trading in stocks, bonds, and derivatives.<sup>2</sup> According to revenue and distributional estimates of our proposed FTT by the Urban-Brookings Tax Policy Center (TPC), it would raise annual revenue of approximately \$60 billion once fully phased in, with cumulative estimated revenue in excess of \$500 billion between 2020 and 2030. The tax would also be progressive. Nearly 70 percent of the tax burden would fall on those in the top income quintile, with 23 percent on those in the top 1 percent and approximately 85 percent on those in the top 40 percent of the income distribution. The proposal is even more progressive when calculating the tax burden across the wealth distribution, where financial asset holdings are more concentrated.

In this chapter, we discuss the many design and implementation parameters that are central to making an FTT a useful tax instrument. Our choices attempt to balance the objectives of raising revenue while preventing punitive effects on financial markets and long-term savings vehicles. We also define the FTT base to minimize the potential for shifting investments offshore or to untaxed instruments. We propose a gradual phase-in of the FTT to allow policymakers to monitor market functioning, address avoidance techniques that will undoubtedly arise, and more carefully calibrate the level of the tax—higher or lower—based on the data that are gathered. Because the United States does not have recent experience with a nontrivial FTT, some questions about its effects—including the degree of responsiveness of market participants and the precise amount of revenue that would be raised—remain unanswered. Careful monitoring and data analysis during the implementation period can help to address these knowledge gaps and inform future adjustments of the FTT to achieve desired policy outcomes.

## Background

Financial transaction taxes have a long history, both in theory and in practice. The theoretical basis for an FTT dates back at least to Keynes (1936), who conceived of an FTT as a way to discourage short-term speculation in stock markets. The idea was then reintroduced by Tobin (1978), Stiglitz (1989), and Summers and Summers (1989).

Though the United States does not currently have a significant FTT, the Securities and Exchange Commission (SEC) collects a fee on equities, securities futures, and options that is used to fund the agency (the SEC Fee). As shown in table 1, the SEC Fee, currently 0.203 basis points on equities,

is small and does not raise much revenue. The United States had a more significant FTT in the past. Beginning in 1914, the United States taxed all stock sales at a rate of 2 basis points of the par value and doubled that rate in 1932 to raise revenue in the midst of the Great Depression (Burman et al. 2016). However, the tax was phased out in 1965 as part of a broader package repealing a number of Depression-era excise taxes (Keightley 2010). Similarly, New York State and New York City imposed a tax on stock transfers from 1905 to 1981 (Pollin, Baker, and Schaberg 2003).

## **EXISTING FTTS**

A number of contemporary FTTS are used abroad. Table 1 summarizes five illustrative existing FTTS: the small SEC Fee and those in France, Italy, the United Kingdom, and Hong Kong. The Hong Kong FTT is notable as a relatively effective example in terms of both market context and the amount of revenue raised. The tax is currently 20 basis points (10 basis points levied on both the buyer and seller), after being reduced several times between 1991 and 2001, and is applied to stock transactions. Unlike many other international FTTS, the Hong Kong tax has been quite successful at generating revenue, raising annual proceeds equivalent to approximately 1.2 percent of gross domestic product (GDP). The tax also has not prevented Hong Kong from serving as a major financial center.<sup>3</sup>

## **MAGNITUDE OF PROPOSED FTT RELATIVE TO HISTORICAL TRANSACTION COSTS**

One way to evaluate the potential effects of an FTT is to put it in the context of other transaction costs. An FTT that represents a dramatic increase in transaction costs is likely to have a larger effect on market activities and generate higher economic costs than one that results in only a modest increase. We describe the state of transaction costs for buying and selling equities and fixed income securities and discuss how they have evolved over several decades.

In equities, trading costs such as the SEC Fee, exchange fees, and broker commissions result in aggregate direct costs of approximately 3 to 5 basis points on average for institutional transactions and 1 to 10 basis points for retail transactions.<sup>4</sup> There are also indirect transaction costs because investors may need to pay more than the market price for on-demand liquidity (the ability to buy and sell immediately). One such measure of this cost is the bid-ask spread, which is often as little as \$0.01 per share for the most liquid stocks but can be significantly higher for smaller-cap companies. Larger institutional orders may incur more significant indirect costs because they move the stock price, with the difference between the

TABLE 1.

## Summary of Selected Existing FTTs

	SEC Fee	France FTT	Italy FTT	UK Stamp Tax	Hong Kong Stamp Tax
Revenue raised	0.01% of GDP (\$1.7 billion to cover SEC budget)	0.03% of GDP	0.04% of GDP	0.2% of GDP	1.2% of GDP
Stocks	Currently 0.203 basis points on the value of a covered sale; set annually to recoup SEC budgetary cost	30 basis points on the net intraday purchase of equity of French companies with greater than €1 billion market cap	10 basis points for on-exchange and 20 bps for over-the-counter (OTC) intraday purchases of equity of Italian companies with greater than €500 million market cap	50 basis points on purchases on securities issued by UK-incorporated companies or registered in the United Kingdom	20 basis points total (10 basis points each on the buyer and the seller)
Bonds	Excluded	Excluded	Excluded	Excluded	Qualified bond arrangements exempt
Derivatives	\$0.0042 per transaction on securities futures and options	Excluded	Fixed fee (based on type of contract and notional value) applied to equity derivatives with underlying Italian shares	Excluded other than exercise of options	Excluded
New equity and debt issuance	Exempt	Exempt	Exempt	Exempt	Exempt
Market makers	No exemption	Acquisitions in the course of market making are exempt	Market makers and liquidity providers, as defined by EU regulations, are exempt	Purchases by recognized brokers and other securities dealers are exempt	Applicable market-making transactions of a securities market maker is subject to stamp duty refund

	SEC Fee	France FTT	Italy FTT	UK Stamp Tax	Hong Kong Stamp Tax
Collection	Collected by national securities exchange and by national securities associations (or through their members)	Collected via executing broker if present, or via custodian if not	Generally collected via the financial intermediary closest to the client or directly from the purchaser if no financial intermediary is present	Reporting and payment through the Central Securities Depository (CREST); for transactions outside CREST, tax calculated, reported and paid directly	Stamp duty payable to the exchange for exchange transaction
Scope	Sale of a security occurring on a national securities exchange or by or through any member of a national securities association	Purchases of securities of French issuers with greater than €1 billion market cap (regardless of where trade occurs)	Purchases of securities of Italian issuers with greater than €500 million market cap (regardless of where trade occurs)	Purchases of shares in UK companies (regardless of where trade occurs)	Payable on equity trades whenever there is a change in beneficial ownership, irrespective of where the transfer was settled



initial price and the average execution price known as the implementation shortfall. Estimates of the average implementation shortfall for institutional orders in recent years range from approximately 10 basis points (Frazzini, Israel, and Moskowitz 2018) to 30 basis points (Virtu Financial 2019). In total, the average transaction-related costs are estimated to be between 15 and 35 basis points for larger institutional orders and 2 to 15 basis points for retail orders.<sup>5</sup>

Current equity transaction costs are low by historical standards. Quoted bid-ask spreads were significantly higher during the 1980s and 1990s, averaging between 20 and 60 basis points (Jones 2002). Commissions were also much higher, with average levels near 90 basis points prior to their deregulation in 1971. By one measure, combined transaction costs were more than 100 basis points in the early 1980s (French 2008). Since then, both direct and indirect transaction costs have declined significantly, driven by commission deregulation, stock price decimalization in 2001, and technological and market structure changes. The proposed FTT of 10 basis

points per transaction is less than half of Virtu Financial’s (2019) estimate of the decline in average institutional trading costs over the past decade.<sup>6</sup>

In fixed income markets, transaction costs vary significantly by type of security. Corporate bonds and municipal securities generally face higher costs: estimated corporate bond transaction costs are approximately 80 basis points for retail-sized trades and 5 to 50 basis points for larger institutional trades (Edwards, Harris, and Piwovar 2004; Harris 2015; Mizrach 2015), while estimated municipal security transaction costs are roughly 80 basis points for retail-sized trades and 20 to 70 basis points for larger trades (Wu 2018). Benchmark U.S. Treasury securities, on the other hand, have much lower transaction costs. Adrian, Fleming, and Vogt (2017) found narrow bid-ask spreads on institutional trading platforms: 0.8 basis points for the 2-year note, 1.0 basis points for the 5-year note, and 2.0 basis points for the 10-year note. They also found average price impacts, an alternative measure of liquidity, of 10.8 basis points per 100 net trades for the 2-year note, 24.2 for the 5-year note, and 41.8 for the 10-year note. Historical transaction cost data are more limited for fixed income markets, but they also appear to show some decline in costs over recent decades.<sup>7</sup>

## The Challenge: Assessing the FTT Based on Tax Principles

The core challenge for tax policy is to raise a given amount of revenue in an equitable, efficient, and administratively simple manner. In this section, we apply these considerations to an FTT and discuss implications for its design.

### **EQUITY**

Any tax is ultimately paid by individuals, whether in their capacities as consumers, workers, or owners of capital. Fairness requires that the resulting tax burden be *equitable*, which is generally understood in terms of how it is distributed across individuals. A tax is vertically equitable if those with greater financial resources pay a larger fraction of their resources. This concept is usually discussed in terms of whether (and to what extent) a tax is progressive. The progressivity of an FTT is determined by its economic incidence, or who actually bears the burden of the tax.

The initial impact of introducing an FTT would be highly progressive. Using financial asset ownership as a proxy for financial transactions, the direct effects of introducing an FTT would disproportionately fall on those with high levels of wealth. Although some assets—particularly 401(k) and



pension plans—are held by those with moderate wealth, figure 1 shows that the top 10 percent of the wealth distribution accounts for 86 percent of household holdings of corporate equities and mutual fund shares, 81 percent of corporate and foreign bonds, and 79 percent of U.S. government and municipal securities holdings. The bottom 50 percent of the wealth distribution holds very little of the financial wealth of the United States (see figures 1 and 2). Foreign investors are also significant holders of U.S. financial securities and would be a meaningful source of FTT revenue.<sup>8</sup>

For families in the middle of the distribution, their most significant financial assets are often held indirectly, through retirement funds and pooled vehicles like mutual funds (Board of Governors of the Federal Reserve System [Federal Reserve] 2017). The average mutual fund has annual turnover of approximately 32 percent (Investment Company Institute 2019), which suggests that the FTT would result in a relatively modest increase in fund expenses (e.g., a 10 basis point FTT implies approximately 3 basis points of annual costs at the average turnover). Direct trading within retirement accounts also appears to be limited: Mitchell et al. (2006) found that 80 percent of 401(k) participants initiated no trades in a two-year period. Moreover, Ameriks, Wraniak, and Salovey (2009) document that among investors between ages 40 and 64 with an IRA or 401(k) account, those with lower financial wealth tended to trade less frequently, suggesting minimal direct FTT costs in these accounts.

Defined-benefit plans also represent a significant financial asset for some in the middle of the wealth distribution. The effect of the FTT on the future returns of plans would depend on the investment strategies employed. For example, investments in passive index funds<sup>9</sup> or illiquid strategies that have low levels of trading should have limited direct FTT costs. On the other hand, an FTT may reduce the returns on investments in funds that employ high turnover strategies, in which many plans invest to some extent.

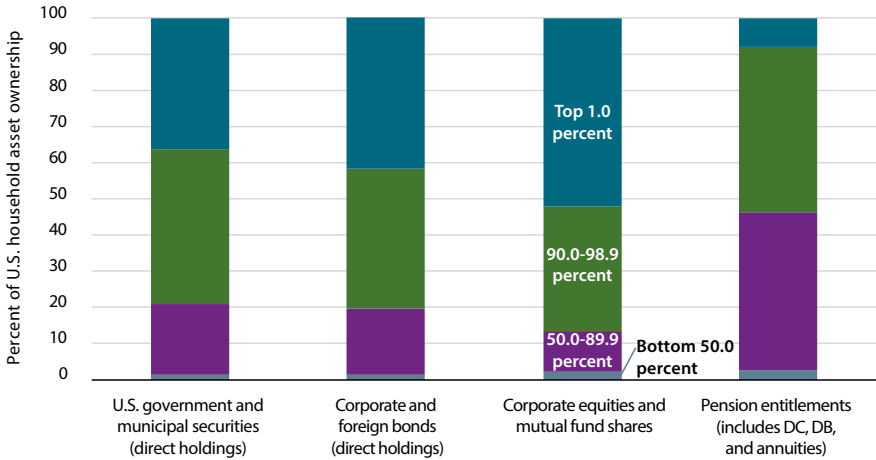
As described later in this chapter, the distributional analysis of our proposal conducted by TPC projects that the tax incidence 10 years after implementation would be highly progressive.<sup>10</sup>

## **EFFICIENCY**

An FTT, like all taxes, will distort economic activity to some extent. Assessing the efficiency implications of these distortions is complex, however, because they depend crucially on how various financial market participants will respond and the optimal level of financial activity. In this subsection, we review key efficiency considerations associated with an FTT, along with the current state of research on these topics. We later discuss the

FIGURE 1.

## Ownership Share of Selected Assets by Household Wealth Group



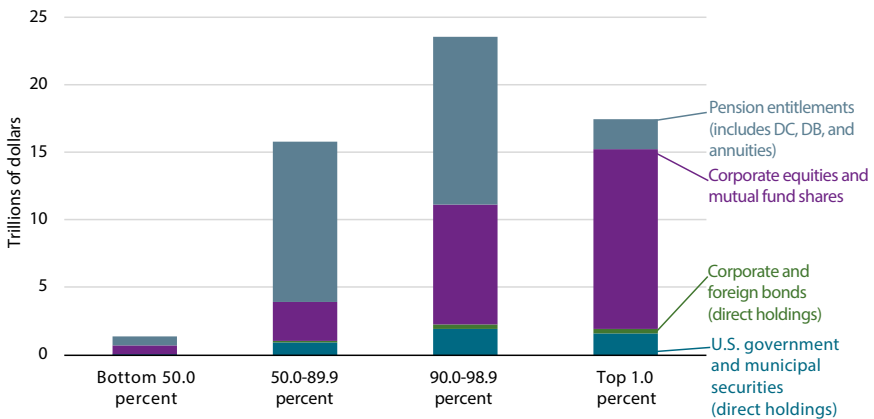
Source: Board of Governors of the Federal Reserve System (Federal Reserve) 2019a.

Note: U.S. government and municipal securities and corporate and foreign bonds include direct holdings only. Corporate equities and mutual fund shares comprise direct holdings and the portion of investment vehicles, such as IRAs, trusts, managed investment accounts, 529 plans, and Health Savings Accounts, that are invested in equities; the category excludes holdings through defined-contribution retirement plans, such as 401(k) and 403(b) plans. "DC" refers to defined-contribution retirement plans, and "DB" refers to defined-benefit retirement plans.



FIGURE 2.

## Total Value of Selected Assets by Household Wealth Group



Source: Board of Governors of the Federal Reserve System (Federal Reserve) 2019a.

Note: U.S. government and municipal securities and corporate and foreign bonds include direct holdings only. Corporate equities and mutual fund shares comprise direct holdings and the portion of investment vehicles, such as IRAs, trusts, managed investment accounts, 529 plans, and Health Savings Accounts, that are invested in equities; the category excludes holdings through defined-contribution retirement plans, such as 401(k) and 403(b) plans. "DC" refers to defined-contribution retirement plans, and "DB" refers to defined-benefit retirement plans.



potential impacts our proposed FTT would have on U.S. financial markets and the resulting implications for the associated efficiency costs.

### *Efficiency Considerations*

Because FTTs are a tax on the gross, rather than net, value of financial transactions, the same economic value can be taxed multiple times—once at each trade (see box 1 for an alternative way to tax financial activity).<sup>11</sup> Thus, the tax can cascade as more frequently traded assets are subject to the tax for each transaction, resulting in differences in effective tax rates across trading strategies, assets, and sectors. This differential tax treatment could lead to distortions in trading and portfolio decisions. For example, investors with passive trading strategies with infrequent trades would incur little tax compared with those who use more active strategies with higher turnover (incurring a tax on each occasion).<sup>12</sup> Companies and sectors more reliant on the issuance of publicly traded securities also would be more affected by the FTT, with potential implications for resource allocation and economic efficiency.

A large empirical literature demonstrates that, by increasing transaction costs, an FTT will reduce trading volumes. Estimates of the magnitude of the effect, however, vary widely.<sup>13</sup> Trading responses to historical changes in FTTs and other transaction costs range from a sharp decline in trading (i.e., an elasticity of  $-1.7$ ) to no response (Matheson 2012). More recent studies of the French FTT implemented in 2012 estimated trading volume declines of 15 to 30 percent (Capelle-Blancard and Havrylchuk 2016; Colliard and Hoffmann 2017; Haferkorn and Zimmermann 2013), while the estimated volume decline following Italy's FTT implementation in 2013 was more modest (Cappelletti, Guazzarotti, and Tommasino 2016). To the best of our knowledge, evidence on the effects of some other FTTs, such as Hong Kong's (which is generally considered to be among the more successful), is limited.

Opponents of an FTT argue that the reduced trading and higher transaction costs associated with the tax would harm liquidity and increase the cost of capital, with a resulting reduction in asset prices (Bond, Hawkins, and Klemm 2004; Habermeier and Kirilenko 2003; Schwert and Seguin 1993). They argue that, even if initial issuances are untaxed, an FTT could increase the cost of capital through investor expectations about future resale prices. From a theoretical perspective, Coelho (2016a) estimates that a 20 basis point FTT would increase the cost of capital by 0.8 percent, whereas Amihud and Mendelson (1992) suggest that a 50 basis point FTT would increase the cost of capital by 1.33 percent. Estimates based on empirical data have

## BOX 1.

## Financial Activity Taxes: An Alternative to an FTT

An alternative to the FTT is a financial activity tax (FAT) that would tax the net value, much as a value-added tax (VAT) does broadly for value added. Because an FTT taxes gross proceeds, the burden falls disproportionately on transaction-intensive businesses. A FAT, by contrast, taxes net proceeds and does not have this feature (Burman et al. 2016). However, a FAT may be infeasible given the difficulty of measuring financial value added. Indeed, the financial sector is almost always exempt from a VAT in countries that use it (Burman et al. 2016; Merrill 1997). The efficiency gains from reducing rent-seeking trading may also justify implementing an FTT even when a FAT is in place (Shaviro 2012). Moreover, if some variant of a FAT is infeasible, politically or otherwise, then a well-designed FTT is an attractive alternative for raising tax revenues in a progressive way.

also shown the potential for FTTs to reduce asset prices (Bond, Hawkins, and Klemm 2004; Hu 1998; Umlauf 1993),<sup>14</sup> with larger price reductions seen in more liquid securities (Amihud and Mendelson 1992). More recent estimates of asset price responses to changes in transaction costs have found smaller effects (Coelho 2016a; Deng, Liu, and Wei 2018).<sup>15</sup> The magnitude of any change to the cost of capital and its associated efficiency costs depends on a range of factors including the design of the tax and the underlying market ecosystem, for which our proposal may differ from past empirical analyses. As we discuss later in more detail, the efficiency implications of the proposal will crucially depend on the size of the tax, the types of trades that are discouraged by the increase in transaction costs, and the resulting incidence of the tax.

While some have argued that an FTT could produce efficiency gains by reducing volatility, the evidence on this point is inconclusive both theoretically and empirically. Song and Zhang (2005) suggest that the volatility effect depends on the composition of traders in the market, whereas Vayanos (1998) shows that FTTs may have ambiguous volatility effects even in a market with only fundamental-based traders.<sup>16</sup> Empirically, FTTs have been found to be associated with decreases (Hanke et al. 2010;

Liu and Zhu 2009), increases (Capelle-Blancard and Havrylchuk 2016; Colliard and Hoffmann 2017; Jones and Seguin 1997; Umlauf 1993), and no change (Hu 1998) in volatility.

An efficiency argument can be made in favor of an FTT if some of the activities that would be most affected add little to the allocative efficiency of financial markets and broader productivity and economic growth. Some financial trades are merely zero-sum games whereby profits are delivered to the first person to trade on new information. Summers and Summers (1989) and Stout (1995) showed that the amount of resources devoted to capturing trading profits is large.

In recent decades, the economic resources devoted to capturing trading profits have been significant. The advent of high-frequency trading (HFT) and algorithmic trading has resulted in large investments in human capital, physical infrastructure, and proprietary data to develop faster and more advanced trading algorithms.<sup>17</sup> Trading activity has increased dramatically, with U.S. equity trading volumes eight times higher than pre-2000 levels (Avramovic 2017). Yet, there is little evidence to suggest that the added investment in trading and related infrastructure has increased economic growth.<sup>18</sup> Despite the decline in certain measures of trading costs over this period, productivity and business investment growth has been relatively low.<sup>19</sup>

Under an FTT, some trading activity would be discouraged, rendered less profitable, or eliminated. The associated efficiency costs depend on the types of financial transactions that are discouraged and their implications for the allocative efficiency of capital across the economy. The affected activities would likely include both trading that benefits overall market liquidity and price discovery, as well as some trading that has low to negative marginal value. Separating socially beneficial trading from unproductive trading is a difficult—perhaps infeasible—task, and there is no obvious way to exempt from an FTT only the types of transactions that potentially provide value. Yet, current levels of trading are not necessarily optimal, nor is it clear that a decline in trading volume to, for example, levels that existed a decade ago would render financial markets unable to perform their intermediation functions of aiding price discovery and allocating capital efficiently. It seems likely that a meaningful share of the new trading activity that has evolved in recent decades has not significantly enhanced these financial market functions or economic growth. To the extent that some of the discouraged activity consists of zero-sum transactions or acts simply as an additional layer of intermediation, and in some cases rent-seeking, not

all the distortions imposed by an FTT are in fact problematic. This would mitigate efficiency costs of an FTT.

### *Limiting Efficiency Losses*

An FTT should be designed to minimize efficiency losses and the potential for significant tax avoidance. The historical evidence suggests that an FTT that is too high could have adverse effects on financial markets. In addition, depending on how an FTT is designed, there could be significant scope to avoid the tax based on (1) the location of transactions and (2) the particular instruments and institutions that are subject to the tax.

For example, Sweden's failed FTT aptly demonstrates the implications of a poorly designed FTT and the importance of addressing the location of transactions subject to the tax. In 1984, Sweden's introduction of a 100 basis point FTT (increased to 200 basis points in 1986) led to a 5 percent decline in the Stockholm Stock Exchange and significant erosion of trading on Swedish markets (Campbell and Froot 1994; Umlauf 1993). Because the Swedish FTT was imposed only on transactions requiring Swedish brokerage services, market participants could easily avoid the tax by eliminating the use of Swedish brokers and trading on UK and U.S. exchanges. The dramatic declines in trading volume on Swedish exchanges led to tax revenues well below projected levels, and Sweden's FTT was eliminated in 1991.

Many of the problems experienced by Sweden can be addressed through the FTT design, including by applying a lower rate and preventing, as much as possible, the shifting of transactions offshore to avoid the tax. In France and Italy, for example, the FTT applies to trading in shares issued by local companies whether traded onshore or offshore, including trading in American depository receipts (ADRs).<sup>20</sup> To date, analyses of these FTTs have not found significant increases in offshore trading to avoid the tax (Coelho 2016a). In addition, the size and scope of the U.S. financial markets likely makes it more difficult for market participants to shift offshore as they did in Sweden.

It is also important for the FTT design to minimize the potential for investors to shift from taxed to untaxed financial instruments. This is a particular concern for derivatives. Some existing FTTs—such as those in the United Kingdom, France, and Hong Kong—do not apply to derivatives, the taxation of which presents difficult conceptual and administrative issues. However, if derivatives are untaxed, they can be structured to be economically equivalent to the purchase of an underlying security, allowing market participants to avoid the FTT (Shaviro 2012). Contracts

for difference (CFDs), which are widespread in Europe, allow one party to pay the other party the difference between the current value of an asset and its value at a future date. If untaxed, this type of arrangement can be used as a way of escaping the FTT, as has occurred in the United Kingdom and France.

When describing our proposed FTT, we discuss the design choices made to address these potential modes of tax avoidance. More generally, tax enforcement agencies will likely require strong authority to respond effectively to avoidance and evasion. Not all structures that could be used to avoid the tax can be identified at the outset (as evidenced by UK CFDs, which were developed in the 1990s), hence the importance of the annual review we propose during the phase-in period of the tax.

### **ADMINISTRATIVE SIMPLICITY**

An FTT would be relatively simple to administer. While aspects of the design, such as how certain instruments are taxed, require careful calibration, a small tax on each transaction is easy for taxpayers to comply with and straightforward for the tax authority to administer. The significant infrastructure that is already in place to facilitate and report financial market transactions can be used to collect the FTT and decrease compliance costs. Moreover, this financial market plumbing, which includes exchanges, clearinghouses, settlement systems, and intermediaries that facilitate execution, is concentrated in a small number of firms. International FTTs have used this infrastructure in the collection and administration of the tax and generally have low compliance costs relative to the revenue raised (Brondolo 2011).

In the United States, processes that are already in place to collect the SEC Fee for equities could be expanded to collect a broader FTT. For exchange-traded instruments, the small number of exchanges could be responsible for collecting the FTT on all transactions on their platforms. Collecting the FTT on over-the-counter (OTC) transactions likely entails somewhat higher compliance and administrative costs. But, again, processes already in place for equities can likely be expanded to other instruments, with the broker-dealers that execute client transactions assuming primary responsibility for collecting the FTT. Notably, the FTT would not be the only tax for which broker-dealers act as collection agents; for example, they withhold taxes on certain types of investment and dividend income of foreign investors. Though some have suggested excluding OTC transactions from the FTT, doing so could open significant opportunities to avoid the tax.<sup>21</sup>

## The Challenge: Assessing the Effects of an FTT on Financial Markets

The framework outlined above is an appropriate starting place for evaluating the potential role of an FTT in the U.S. tax system. In this section, we supplement that analysis by describing the current state of financial markets and assessing the likely impacts of the introduction of an FTT given the existing market structure and ecosystem. To achieve its objectives, an FTT should be tailored to avoid unnecessary economic and financial market disruption.

### **CURRENT MARKET ECOSYSTEM**

To assess the potential effects of an FTT, it is important to understand changes that have occurred in financial markets over the past several decades. Many markets have shifted from manual trading conducted over the phone or on exchange trading floors to automated electronic systems interacting across a network of trading venues (Joint Staff Report 2015; SEC 2010). In the most liquid markets, technology has increased both the speed and sophistication of trading and has allowed many functions to be automated through computer algorithms responsible for trading decisions, execution, and booking.

The roles and types of financial intermediaries have also evolved. Principal trading firms (PTFs), which typically rely on low-latency, automated trading strategies (i.e., HFT) and take on little net exposure, now represent a significant portion of trading activity in most liquid markets. In standardized asset classes, these firms have become the primary market makers. However, they also employ a variety of strategies beyond liquidity provision, including attempting to capture small arbitrage opportunities between related products, leveraging structural advantages in speed or data, and seeking to anticipate and trade ahead of large orders (SEC 2010). PTFs are primarily prevalent in the most liquid markets, including in on-the-run Treasury securities, large-cap equities and exchange-traded funds (ETFs), futures, and foreign exchange markets.

Automated trading has also facilitated the creation of new investment funds—frequently structured as hedge funds—that focus on algorithmic and quantitative strategies (referred to herein as “algorithmic funds” or AFs). AFs generally rely on sophisticated data and complex models to create automated trading strategies, and they often exploit relatively small price discrepancies. Unlike PTFs, AFs frequently manage outside capital and



take directional positions over longer periods, though their holding periods may still be only days or weeks.

Changes in trading are not limited to these new classes of intermediaries. Large financial firms use HFT and other algorithmic trading in their market-making and trade execution strategies, and long-term institutional investors use algorithms to break up orders and send them across different trading centers to minimize implementation shortfalls. Note that the transformation in trading varies across markets. Less liquid markets, including off-the-run Treasury securities, corporate bonds, municipal debt, and swaps, continue to rely on significant manual trading.

The evidence on the effects of HFT and algorithmic trading on market liquidity, efficiency, and volatility is mixed. Assessing market liquidity itself is complex, and no single definition or all-encompassing metric is available. Most research suggests that HFT and algorithmic trading have improved some measures of market liquidity, such as lowering bid-ask spreads, and have enhanced short-term price discovery (SEC 2014). However, other studies have found that HFT can increase transaction costs, including implementation shortfalls, for larger institutional orders (Tong 2015). HFT and algorithmic trading may also have played a role in recent so-called flash events in key markets including equities, U.S. Treasuries, and foreign exchange (Easley, López de Prado, and O'Hara 2011; Federal Reserve 2019c; Joint Staff Report 2015; Kirilenko et al. 2017).

## **EFFECTS OF AN FTT**

As noted, both theory and historical evidence suggest that an FTT will lower trading activity. The most pronounced effects are likely to be on low-margin, high-volume activity, such as PTF activity, certain AF strategies, and some other forms of intermediation, because they often rely on exploiting relatively small profit opportunities over short holding periods. As a result, even a small FTT may exceed the expected profit or hurdle rate on many of these trades. While comprehensive empirical data on the effects of FTTs in the modern market ecosystem are limited, Colliard and Hoffmann (2017) found that HFT firms (i.e., PTFs) experienced a 35 percent reduction in trading volume following the implementation of France's FTT.<sup>22</sup> This reduction occurred despite design features intended to exempt much of their activity from the tax.<sup>23</sup>

Other forms of intermediation activities also may be affected by an FTT. For example, large broker-dealers make markets in a variety of derivative and other financial products by entering into offsetting transactions to mitigate their risks. These activities can include dynamic hedging, in which they

adjust their position in the offsetting stock, bond, or other instrument as prices change over the life of the contract. If each transaction in a dynamic hedging strategy is subject to an FTT, providing these products could become more costly. These costs may be passed on to institutional investors and corporations hedging their own risks or may reduce the availability of certain derivative products.<sup>24</sup>

The pricing of ETFs would also be affected. ETFs maintain a market price that seeks to replicate the value of the underlying assets they hold by allowing traders to exploit any deviation: if the price of the ETF increases above (or falls below) the value of the underlying securities, market participants buy (or sell) the securities to create (or redeem) the ETF. This arbitrage activity would become more expensive because of the FTT associated with buying or selling securities and as a result would likely require a larger gap between an ETF price and its underlying value before becoming profitable. In addition, PTFs and AFs account for a significant portion of ETF trading. That said, a well-designed FTT would not be expected to prevent continued investment through ETFs.

Finally, investment strategies that encompass more frequent trading may be disproportionately affected by an FTT. For example, factor-based investing, which targets specific return drivers (such as size, value, or momentum) across asset classes, may become less competitive because these investments generally have higher turnover than other funds and as a result would incur more FTT costs.

Importantly, the extent to which the above activities, and markets more generally, would be affected by an FTT is uncertain and depends on the rate and design of the FTT. U.S. equities are already subject to a very low FTT in the form of the existing SEC Fee. At this level of approximately 0.2 basis points, the trading elasticity appears to be relatively low (Auten and Matheson 2010) and the effect on market activities seems to be limited, even among the most sensitive participants, such as PTFs. As the FTT rate increases, progressively more activity would be curtailed: first the highest frequency PTF activity would become unprofitable, followed by other intermediation and short-term AF trading strategies. There is some FTT rate at which the reduction in activities would be harmful to markets, such as Sweden's 200 basis point FTT, yet there is little empirical evidence to pinpoint where between 0.2 and 200 basis points this breakpoint resides. Given current and historical transaction costs, as previously described, the proposed 10 basis point FTT appears unlikely to increase costs beyond manageable levels.

The effect of an FTT on financial markets, the magnitude of efficiency costs, and how those costs are distributed will depend on the relative elasticities of market participants with respect to the tax. For an end investor,<sup>25</sup> the costs of an FTT will include (1) the direct costs of the FTT on their trading activity, (2) any increase in indirect transaction costs as a result of changes in intermediation, and (3) the costs of any broader effects on the availability and cost of capital as well as the allocative efficiency of financial markets that have negative consequences for asset prices, productivity, and economic growth.

Regarding end investor direct costs, a 10 basis point FTT relative to the total expected return of a long-term investment should be relatively small. For example, an individual invested in mutual funds would not incur a direct FTT on the purchase or sale of fund shares. The fund may pass on the FTT costs associated with its trading to the investor, which for a mutual fund with an average level of turnover would imply 3 basis points of additional costs per year, quite small relative to the fees many funds charge.<sup>26</sup>

The indirect costs are less certain and depend on the response of other market participants and the incidence of the tax. Some have speculated that reductions in market making and in trading volume more generally could result in significantly higher transaction costs, such as increases in bid-ask spreads (Securities Industry and Financial Markets Association [SIFMA] 2019a). But, in part, this will depend on how much of the FTT is passed on from intermediaries to end investors. For example, market makers that provide liquidity to other investors could respond to an FTT by (1) increasing bid-ask spreads to offset the cost of the FTT, (2) partially absorbing the cost through lower profits or compensation, or (3) reducing trading activity. The result would likely involve some combination of the three, as the ability to fully pass on these costs has limits due to the competitive nature of financial markets. As bid-ask spreads increase, the value of this intermediation declines, and direct transactions between natural buyers and sellers (i.e., without intermediation by a market maker) may increase, particularly for heavily traded securities.

In addition, much of the activity that would be most affected by an FTT is not dedicated to market making. As a first-order effect, reductions in these activities would be expected to decrease the profits and compensation flowing to the associated firms. Whether these foregone activities would also have indirect costs to end investors through reduced liquidity and higher transaction costs is less clear. Even within PTFs and AFs, there is heterogeneity among strategies that likely affects their potential exposure and response to an FTT as well as their marginal contribution to market

efficiency and liquidity. While some affected activities likely contribute to reducing the cost of transacting and improving price discovery, others may provide limited economic benefit while requiring investments in infrastructure, people, and data that exceed socially optimal levels. Even if a 10 basis point FTT curtails significant trading activity, it would not necessarily materially reduce the efficiency of capital allocation or impose meaningful indirect costs on end investors.

Finally, as noted, some historical studies argue that the direct and indirect increases in transaction costs associated with FTTs could have significant adverse effects on the cost of capital, asset prices, and economic growth. However, the empirical evidence is often based on much higher FTTs than the level proposed here (including flawed FTTs such as the one implemented in Sweden) and relies on data from before the evolution of the modern market ecosystems. Moreover, despite some theoretical models linking liquidity and asset prices (Acharya and Pedersen 2005), little evidence indicates that the magnitude of the change in transaction costs contemplated here would have meaningful effects.

However, the responses of market participants to the proposed FTT are admittedly uncertain, and that is why we propose an incremental implementation. By starting at low levels and phasing the FTT in over several years, a data-driven approach can be employed to assess these key questions and determine the appropriate ultimate FTT level.

## The Proposal

We propose an FTT that would begin at 2 basis points and increase by 2 basis points each year until it reaches a target rate of 10 basis points.<sup>27</sup> This gradual implementation would allow Congress to monitor the effects of the FTT and potentially modify scheduled increases. To support this Congressional review, the U.S. Department of the Treasury, in consultation with market regulators (the SEC and the Commodity Futures Trading Commission) and banking regulators (the Federal Reserve, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation), would be responsible for submitting an annual report assessing market functioning, avoidance activities that arise, and the appropriate calibration of the FTT.

Table 2 describes the key features of the proposal. The FTT would apply to a broad base of financial transactions of stocks, bonds, and derivatives, both on exchanges and OTC, and would be remitted by sellers. It would apply to all transactions involving securities issued in the United States and derivatives linked to securities issued in the United States, as well as

both onshore and offshore trading by U.S. persons to prevent tax avoidance responses.

New equity and debt issuance would be exempted, as would repo and securities lending transactions, money market instruments with terms of less than 90 days, and trading in U.S. Treasury securities. The issuance and redemption of both ETF and mutual fund shares would not be subject to the FTT, though assets sold by mutual funds and trading in ETF shares would be taxed.

For stocks and bonds, the FTT rate would apply to the market value of transactions. For derivatives, both the tax rate and the tax base would need to be tailored to the nature of the contract, as described below in the section on FTT implementation.

Primary responsibility for collecting the FTT would fall to exchanges and—for OTC transactions—broker-dealers.

## **DESIGN**

The two core questions for FTT design are (1) the specification of the tax base and (2) the choice of the tax rate. We discuss the considerations that inform both choices below.

### *Tax Base*

A broad base is desirable in order to limit tax avoidance responses. For this reason, we propose the inclusion of (1) OTC transactions, which are admittedly more difficult to tax than transactions on exchanges; (2) debt instruments, the exclusion of which could, on the margin, increase the existing bias toward debt financing; and (3) derivative transactions, as excluding them would present significant avenues to avoid the FTT. Of note, FTTs in other developed countries have generally excluded debt and most derivative transactions. While their inclusion adds complexity to the FTT, we believe their inclusion is warranted to limit distortions and increase the revenue raised. That said, while the proposed FTT does not appear excessively high relative to transaction costs in non-Treasury fixed income markets, it may be a significant cost relative to expected investment returns. Thus, the effect on these securities would warrant special scrutiny during the implementation phase.

We also propose to include market-making activities in the FTT. Many countries with FTTs (e.g., United Kingdom, France, Italy, and Hong Kong) have included a market-making exemption, but such an exemption is

TABLE 2.

## Key Features of the FTT Proposal

Category	Proposal
<b>Equities<sup>a</sup></b>	<p>The tax rate would initially be 2 basis points of the market value of the transaction (“base rate”).</p> <p>The base rate would be scheduled to increase by 2 basis points each year until the tax rate reaches 10 basis points.</p>
<b>Bonds</b>	Tax would be based on the base rate and the market value of the transaction.
<b>Derivatives</b>	<p>Given the complexity, the FTT rate and base will likely differ by type of instrument to limit differences between economically equivalent transactions (e.g., between purchasing a swap or purchasing the underlying security) and avoidance opportunities. For the purposes of scoring our initial proposal, we assume the following:</p> <p>Options would be taxed at the base rate, based on the premium paid; the base rate would also apply to the value of the strike price if exercised.</p> <p>Security-based swaps would be taxed at the base rate, applied to the notional value.</p> <p>Interest rate swaps would be taxed at the base rate, applied to all cash payments made (excluding interim collateral exchanges).</p> <p>For futures and forwards, rates would vary based on asset class.</p> <p>Certain derivatives, such as those that are functionally equivalent to short-term financing (e.g., foreign exchange swaps with short maturities), would be exempt.</p>
<b>OTC transactions</b>	The FTT would apply to OTC transactions in addition to those on exchanges.
<b>Application</b>	The cost of the FTT would be paid by the seller, as is the case with the SEC Fee.
<b>Equity and debt issuance, redemptions, and repurchases<sup>b</sup></b>	Exempt
<b>Repo and securities lending transactions</b>	Exempt
<b>U.S. Treasury securities and futures</b>	Exempt

<b>Central bank purchases and sales</b>	Exempt
<b>Municipal debt</b>	Not exempt
<b>Money market instruments</b>	Instruments with terms of less than 90 days would be exempt.
<b>Market makers</b>	Not exempt
<b>Direct issuance of annuities and life insurance</b>	Exempt
<b>Mutual funds and ETFs</b>	<p>Issuance and redemption of mutual fund shares would not be subject to the FTT, but the sale of investments by mutual funds would be subject to the FTT.</p> <p>Mutual funds would have the right to charge redemption fees to investors to recoup the FTT costs associated with selling securities when shares are redeemed.</p> <p>The creation and redemption of ETF shares would not be subject to the FTT, but trading in the underlying ETF shares and buying or selling securities by authorized participants (or other market participants acting through ETF authorized participants) to create or redeem the ETF basket would also be subject to the FTT.</p>
<b>Collection</b>	Primary responsibility for collecting the FTT would fall to exchanges and, for OTC transactions, broker-dealers.
<b>Scope</b>	<p>The FTT would apply to all of the following:</p> <p>Onshore and offshore transactions by all investors, including foreign investors, in securities issued by U.S. persons and securities issued by foreign persons in the United States</p> <p>Onshore and offshore transactions by all investors, including foreign investors, in derivatives linked to securities issued by U.S. persons and derivatives linked to securities issued by foreign persons in the United States</p> <p>Onshore and offshore trades by U.S. persons (and their controlled foreign entities) in securities issued by foreign persons</p> <p>Onshore and offshore trades by U.S. persons (and their controlled foreign entities) in non-securities-based derivative transactions</p>
<b>Implementation</b>	The Department of the Treasury, in consultation with the regulatory agencies, will monitor the effects of the FTT and submit an annual report to Congress during the implementation period. The report may include recommendations to modify scheduled increases in the base rate or application to certain financial instruments based on an assessment of the effect of the FTT on financial market functioning, avoidance activities that arise, and revenue raised by the FTT.

a The FTT would apply in same manner and at same rate to publicly traded partnership (PTP) interests of U.S. partnerships.

b Exemption would not apply to a broker-dealer that makes a market in its own debt or equity securities or those of any of its affiliates.

difficult to tailor narrowly and can reduce effectiveness and revenue raised. The lack of a market-making exemption could lead to some cascading of the FTT, with market makers and other intermediaries passing on some portion of the FTT in the form of higher transaction costs. Some experts have also pointed to the risk of more dramatic cascading, with the tax applied multiple times to the set of intermediating transactions involving a broker-dealer, a clearing agent, and a clearinghouse in what is effectively a single transaction. These technical issues can be addressed with a careful definition of the FTT-relevant transaction and through narrow exemptions. For example, under the current SEC Fee, a single trade involving multiple parties, such as a third party that assumes settlement obligations for the trade, is considered only one transaction for purposes of the fee. The SEC Fee rules also exempt a recognized riskless principal sale in which a broker-dealer engages in two contemporaneous offsetting transactions. Similarly, brokered transactions made in the name of a client or that have the sole purpose of executing and clearing the transaction would not be considered individual transactions subject to the FTT.

Some exemptions to the FTT are necessary. We describe these exemptions in table 3.

Two exemptions warrant extended discussion. First, several features of the market for U.S. Treasury securities and futures argue against imposing a 10 basis point FTT. Bid-ask spreads for benchmark U.S. Treasury securities have averaged 1 to 2 basis points over the past several decades. Therefore, an FTT would result in a more significant increase in transaction costs for these markets than for other fixed income markets. This increase could be particularly disruptive given the critical role that Treasury securities serve in the global economy. If the FTT were to affect the value of U.S. Treasury securities, then federal government borrowing costs would increase, offsetting the revenue raised from an FTT.<sup>28</sup>

Second, excluding the issuance and redemption of mutual fund and ETF shares from the FTT prevents the double taxation that could otherwise result.<sup>29</sup> Absent this exemption, in the case of mutual funds, investors would pay an FTT when redeeming fund shares while the fund also would potentially face FTT costs if it needed to sell securities because of changes in its net assets. This exemption is also consistent with the application of the SEC Fee. Admittedly, because of differences in the structures of ETFs and mutual funds, it could result in the FTT being more or less favorable to one structure over the other. But excluding fund issuance and redemption is consistent with the objective of ensuring that an FTT does not have a punitive effect on long-term savings vehicles nor inhibit the ability to



provide low-cost passive investment options.<sup>30</sup> Excluding all mutual fund and ETF trading, on the other hand, would allow funds to become vehicles to avoid the FTT. While the effect on mutual funds and ETFs will need to be monitored as part of an FTT implementation, in an analysis of a proposed European Commission FTT of 20 basis points, BlackRock (2013) estimated that the direct cost would be modest (1 to 4 basis point annual increase in fund expenses) for ETFs replicating the largest equity indices.

### *Tax Rate*

Because the FTT is a gross tax, potentially applying many times to the same asset, the optimal rate (and indeed the revenue-maximizing rate, which is not necessarily the same) is likely to be small. We propose that the rate (applicable to equity, debt, and most derivative transactions) be phased in until it reaches 10 basis points. There is limited empirical evidence to determine the ideal rate, and additional analysis during the implementation period will be beneficial.<sup>31</sup> In the absence of such data, we recommend a rate

TABLE 3.

## Transactions Exempted from the Proposed FTT

Type of exemption	Rationale
Equity and debt issuance, redemptions, and repurchases	These exemptions are consistent with other FTTs as well as the desire to limit the effect on cost of new capital.
Treasury securities and futures	They have consistently low transaction costs, affect government funding costs, and serve a critical role in the global economy, including providing the world's risk-free benchmark.
Money market instruments (with terms of less than 90 days)	They are likely to be highly sensitive to incremental costs or frictions, which could disrupt market functioning. Certain derivatives that are functionally equivalent to short-term financing (e.g., foreign exchange swaps with short maturities) would also be exempt.
Repurchase agreements and securities lending transactions <sup>a</sup>	They play an important role in financial market plumbing and generally have relatively short duration and low absolute return, making them more sensitive to an increase in transaction costs.
Mutual fund and ETF issuance and redemption <sup>b</sup>	This exemption is consistent with the current SEC Fee and avoids double taxation that could otherwise result from end investors buying or selling fund shares.

<sup>a</sup> The FTT would apply to any transactions facilitated by repurchase agreement or securities lending, such as a short sale of a security.

<sup>b</sup> Underlying transactions by mutual funds and trading in ETF shares would be subject to the FTT.

of 10 basis points to strike an appropriate balance between raising revenue and minimizing the efficiency costs of the tax.

While we have proposed that the same rate would apply to equity and debt transactions, the appropriate rate for each, and whether they should differ, will require further study during the implementation period. For many debt investments, a 10 basis point FTT would represent a higher portion of the expected cumulative return than would likely be the case for an equity investment of similar duration. This may be particularly true in the current low interest rate environment and for lower-risk municipal and investment grade securities. Therefore, it may be the case that the rate for debt securities, after the phase-in period, should be less than 10 basis points.<sup>32</sup>

Regarding derivatives, a sensible aspiration for an FTT is to subject economically equivalent transactions to the same tax rate, thereby avoiding any distortions in the composition of financial transactions. In particular, the FTT rate (or schedule of rates) would need to avoid creating an incentive to shift activity between cash and derivative instruments. As Matheson (2012) points out, because financial products that represent the same economic value can be structured in myriad ways with different transaction intensities, it is generally not possible to design an FTT that taxes all economically equivalent contracts identically. There are multiple ways to structure the same economic payout through derivatives, and it would not be possible to capture all such differences in a functional tax regime.

However, attempts can be made to design the tax rate and base applied to derivative transactions to limit distortions and opportunities for tax avoidance. Some FTT proposals focus on the notional value of derivatives, often applying a lower tax rate to derivatives on this basis. Others only tax the amount of any payments made under the derivative contract. However, both methods present potential problems if applied to all types of derivatives. Notional values can be manipulated to reduce the tax, and applying a lower rate on certain products (or applying the FTT only to the payments made under the contract) can result in a lower FTT on certain derivative products (e.g., a total return swap) relative to equivalent stock and bond purchases.

Given the complexity of derivatives, the FTT rate and base will likely need to be differentiated by type of instrument to limit differences between economically equivalent transactions. In some cases, such as total return swaps and other securities-based swaps, it is appropriate to apply the base rate to notional value so that the FTT levied on such transactions is comparable to that of acquiring the underlying securities. In other cases,

such as interest rate swaps in which the magnitude of the notional value is significantly larger than the expected cash flow, the cash payments made under the contract may be a more accurate representation of value exchanged, and thus applying the FTT to these amounts may be more appropriate.

A well-functioning FTT will also require strong enforcement and anti-evasion powers.<sup>33</sup> For example, an anti-abuse rule could specify that if a derivative transaction were “substantially equivalent” to owning the underlying securities, the transaction would be taxed at the same level.<sup>34</sup>

## **ADMINISTRATION**

Primary responsibility for collecting the FTT would fall to exchanges and—for OTC transactions—broker-dealers. In implementing its current fees on equities, options, and security futures, the SEC has already identified mechanisms to measure transaction volume and collect the fee through exchanges and broker-dealers and their self-regulatory organizations.

Extending the FTT to bonds and all derivatives would likely require the development of new systems and processes but could also leverage the existing roles played by exchanges, clearinghouses, settlement systems, and broker-dealers to facilitate collection and compliance. Even for OTC transactions, many are cleared, settled, and often intermediated by large broker-dealers.

## **IMPLEMENTATION**

Our proposal is designed to accommodate implementation issues, foreseen and unforeseen, through a gradual transition process. Implementation of an FTT in the United States should be incremental, starting at low rates, so that its effects on financial markets can be measured and assessed.<sup>35</sup> The U.S. Department of the Treasury, in consultation with the regulatory agencies, should provide an annual assessment to Congress so that any necessary adjustments can be enacted. This assessment is especially important because of the limited empirical evidence about the effects of a significant, broad-based FTT. Most of the historical experience is with much smaller FTTs (e.g., the SEC Fee) or FTTs with significant exemptions (e.g., the UK Stamp Duty and FTTs in France and Italy). The implementation period would also allow Congress to make adjustments to address avoidance techniques that will undoubtedly arise and make more precise and data-driven assessments of the optimal FTT level, which may ultimately be above or below 10 basis points.

Another key implementation concern is that of harmonization with foreign markets and governments. Ideally, an FTT would be implemented in coordination with other countries, and we recommend that U.S. policymakers actively work with foreign counterparts to implement FTTs in line with that proposed here. Given the size and scope of U.S. financial markets, an FTT in the United States could pave the way for adoption more broadly.

In the absence of global coordination, the United States could take several steps to minimize offshore shifting and any negative effects on the competitiveness of U.S. capital markets. The tax could apply to all trading in securities issued in the United States and derivatives linked to securities issued in the United States, regardless of whether the trade is executed onshore or offshore. The FTT also could be applied to all onshore and offshore trades by U.S. persons (and their controlled foreign entities) in securities issued by foreign persons to prevent incentives to shift investments from taxable U.S. securities to nontaxable foreign securities. Similarly, for derivative transactions that do not reference a security (e.g., interest rate swaps), the FTT could apply to all transactions involving a U.S. person.<sup>36</sup>

While there would undoubtedly still be some efforts to shift trading offshore in order to avoid an FTT, this concern is likely overstated in the case of the United States. The United States accounts for over 40 percent of global equity and corporate bond markets (SIFMA 2019b) and is home to many of the largest global financial intermediaries. Given the size and centrality of U.S. markets, market participants have a limited ability to avoid trading on U.S. exchanges, in products cleared and settled over U.S. financial utilities, or with large U.S. intermediaries.

FTT compliance for offshore trading by U.S. persons could be facilitated by requiring collections by broker-dealers, clearing agencies, custodians, transfer agents, and other intermediaries. For example, large broker-dealers that intermediate most global OTC transactions would be responsible for collecting the FTT for offshore transactions with U.S. persons, even if the transaction is conducted through their non-U.S. subsidiaries.

Importantly, the proposed FTT also would apply to transactions by foreign investors in U.S. markets.<sup>37</sup> As a result, the FTT from foreign investors would likely represent a significant source of revenue.

## POTENTIAL REVENUE RAISED

Previous estimates suggest that an FTT could raise substantial sums. Assessing a 10 basis point tax on most financial transactions, the Joint Committee on Taxation projected that it would raise \$777 billion over 10 years (Congressional Budget Office 2018). Burman et al. (2016) estimated slightly lower revenue—\$705 billion over 10 years for a 10 basis point FTT—and found that a much larger 50 basis point FTT would raise only \$806 billion over 10 years, with behavioral responses that lead to reduced trading volumes limiting the incremental revenue. Some have estimated more significant, but likely overstated, revenues from a higher FTT. For example, Pollin, Heintz, and Herndon (2018) estimated that a 50 basis point FTT would raise approximately \$220 billion per year, or more than \$2 trillion over 10 years, due to much lower elasticity and higher trading volume assumptions.<sup>38</sup>

Table 4 provides revenue estimates for our proposal developed by TPC.<sup>39</sup> The proposal would yield approximately \$60 billion in annual revenue once the tax is fully phased in, and it would generate over \$500 billion between 2020 and 2030.<sup>40</sup> The revenue estimate is based on a dynamic analysis that includes the effects of declines in trading volumes, assuming an elasticity of  $-1.25$ , and other responses to the implementation of the FTT.<sup>41</sup> A lower

TABLE 4.

### Federal Revenue Estimates

Fiscal year	Revenue raised (in billions)
2020 <sup>a</sup>	-\$31.9
2021	\$10.2
2022	\$41.7
2023	\$52.3
2024	\$59.0
2025	\$61.4
2026	\$61.2
2027	\$61.8
2028	\$62.9
2029	\$64.0
2030	\$65.2
<b>Total</b>	
2020–30	\$507.7

Source: Urban-Brookings Tax Policy Center (TPC) calculations.

<sup>a</sup>To be consistent with the methodology utilized by the Joint Committee on Taxation, the estimates assume an asset price decline following enactment of the FTT in 2020 that reduces capital gains tax revenue.

elasticity assumption of  $-1$  (i.e., less decline in transaction volumes) would result in 2020–30 estimated revenue of \$628 billion, while the estimated revenue under a higher elasticity assumption of  $-1.5$  is \$412 billion.

Table 5 presents estimates of the distribution of the FTT burden in 2030 based on the TPC Microsimulation Model. As noted, the tax would be highly progressive: nearly 70 percent of tax burden would fall on taxpayers in the highest income quintile, and 23 percent falls on the top 1 percent.

These estimates may understate the concentration among those at the top of the income spectrum if the FTT reduces financial sector rent-seeking (Burman et al. 2016). The proposal also is even more progressive when calculating the tax burden across the wealth distribution. As noted in figures 1 and 2, the distribution of financial asset ownership by household wealth is extremely concentrated—even more so than the distribution by household income that underlies Table 5.<sup>42</sup> Nevertheless, the analysis shows that our proposed FTT is a highly progressive tax with a burden of over \$12,000 for households in the top one percent of the income distribution compared to just \$10 for those in the bottom quintile. Those with no financial assets outside of bank accounts would pay nothing at all.<sup>43</sup>

TABLE 5.

## Distribution of Federal Tax Change by Cash Income Percentile

Expanded cash income percentile <sup>a,b</sup>	Share of total		
	federal tax change	Change in after-tax income <sup>c</sup>	Average federal tax change
Lowest quintile	0.8%	-0.1%	\$10
Second quintile	3.8%	-0.1%	\$60
Middle quintile	9.5%	-0.2%	\$160
Fourth quintile	16.2%	-0.2%	\$330
Top quintile	69.1%	-0.4%	\$1,690
All	100.0%	-0.3%	\$350
80th–90th percentiles	13.3%	-0.3%	\$630
90th–95th percentiles	13.1%	-0.4%	\$1,290
95th–99th percentiles	20.1%	-0.5%	\$2,600
Top 1 percent	22.6%	-0.5%	\$12,110
Top 0.1 percent	9.1%	-0.5%	\$47,650

Source: Urban-Brookings Tax Policy Center (TPC) calculations.

Note: Estimates are for 2030. Baseline is the law in place as of January 1, 2019. Distribution is based on a dynamic estimate including behavioral responses. The dynamic estimate understates the burden of the FTT because the behavioral change itself imposes costs on taxpayers.

<sup>a</sup>Includes both filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but are included in the totals. For a description of expanded cash income, see Urban-Brookings Tax Policy Center (2019).

<sup>b</sup>The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are as follows (in 2019 dollars, based on tax year 2030): 20%, \$30,200; 40%, \$59,200; 60%, \$103,500; 80%, \$183,200; 90%, \$264,000; 95%, \$382,500; 99%, \$915,400; and 99.9%, \$4,199,600.

<sup>c</sup>After-tax income is expanded cash income less the following: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); estate tax; and excise taxes.

## Questions and Concerns

### *1. Would exempting Treasury securities from the FTT distort debt markets?*

The U.S. Treasury market is already distinct from other fixed income markets. It is the deepest and most liquid government securities market in the world and plays a critical role in the global economy. It provides the world's risk-free benchmark, facilitates the implementation of monetary policy, provides the financial system high-quality collateral, helps businesses to manage their risks, and finances the federal government. Treasuries already enjoy significant liquidity advantages, including much lower transaction costs, relative to other debt securities. The FTT proposed here is unlikely to meaningfully change these dynamics.

### *2. Would a 10 basis point FTT be too high for debt securities given the current low interest rate environment?*

The implementation period is intended to allow further assessment of optimal FTT rates, including whether a lower rate may be warranted for debt securities. For secondary investments in debt securities, a 10 basis point FTT would represent a higher portion of the expected cumulative return than for an equity investment of similar duration, particularly given current low interest rates. By initially applying an FTT of 2 basis points and gradually increasing the rate, this proposal allows the effect on secondary debt markets and borrowing costs to be monitored to assess whether changes in the scheduled FTT rate increases, and a differentiated rate for debt securities, are needed.

A lower FTT rate may be more appropriate for shorter-term debt securities. The proposed FTT would not apply to money market instruments with terms of less than 90 days or the issuance or redemption of securities. However, for secondary sales of short-term debt that does not fall under the exemption, the FTT would represent a higher portion of the expected cumulative return until maturity than for longer-term debt. To address this concern, some have called for the FTT tax rate applied to debt instruments to be scaled on the basis of the time remaining until maturity. While this gradation would add complexity to the FTT and has not been incorporated in this proposal, these dynamics should be monitored during the implementation period to assess any disproportionate effect on short-term securities or changes in issuance practices.

### *3. Would applying an FTT to municipal securities raise borrowing costs?*

The proposed FTT does not appear to represent a dramatic increase in transaction costs for municipal securities. However, the addition of a 10



basis point FTT, particularly in the current low interest rate environment, could result in investors demanding higher yields. Therefore, the effect on municipal securities should be monitored during the implementation phase to assess whether changes in the FTT rate are warranted.

*4. Does the proposal sufficiently differentiate between types of derivative transactions to avoid increasing hedging costs?*

The proposal includes examples of areas in which the application of the FTT may differ by derivative product. For example, the FTT may be applied to the notional value for products linked to securities (e.g., total return swaps) while for other products it may be more appropriate to apply the FTT to cash payments made under the contract. However, given the complexity of derivatives, further differentiation by type of instrument, which goes beyond the scope of this paper, will likely be needed.

The proposal envisions the application of the FTT to a broad range of derivative products, including those that may be used in hedging transactions. At a high level, we propose that the types of products used in hedging transactions, such as those linked to interest rates, would be subject to the FTT based on the actual payments made under the contract. These payments may be a more accurate representation of value exchanged, and they may be much lower than the notional value. Along with the low rate of the FTT, this design is intended to prevent an excessive increase in the costs of these products. However, the effect of the FTT on the cost of hedging products and other derivatives should be monitored during the implementation phase.

*5. Should pension funds receive an exemption, such as a tax credit for long-term holdings?*

The direct cost of the FTT on low-turnover, long-term investment strategies would be expected to be low (i.e., 10 basis points amortized over multiple years). Thus, the value of an exemption tied to long-term holdings is likely limited. In addition, as noted above, additional exemptions may add to the administrative complexity of the tax.

*6. Would middle-income families face significant FTT costs?*

Most households do not make large direct investments in stocks or bonds<sup>44</sup> or trade frequently, and as a result they would face limited direct FTT costs. Even if a household made a \$10,000 stock purchase, the fully phased-in FTT cost of the transaction would be only \$10.

A number of factors also would likely limit the direct FTT costs associated with investments in funds and retirement accounts, through which

the majority of middle-income household financial assets are held. The purchase and redemption of mutual fund shares would not be subject to the FTT.<sup>45</sup> While the sales of securities held by the funds would be subject to the FTT, the ultimate cost borne by investors will depend on the trading frequency and strategy employed. For a mutual fund with an average level of turnover, the direct FTT cost would represent approximately 3 basis points per year. Many index funds have even lower turnover levels: an S&P 500 index fund with 4 percent turnover would face direct FTT costs of 0.4 basis points per year. For an average family in the middle quintile, with \$47,000 in combined pooled investment fund and retirement account financial assets,<sup>46</sup> this incremental annual FTT cost would amount to \$14 if its investments were in mutual funds with average turnover and \$2 if its investments were in low-turnover index funds.<sup>47</sup>

In addition, any savings held through bank accounts, certificates of deposit, or insurance products such as annuities would not be subject to the FTT.

## Conclusion

The desire of policymakers to raise more revenue in a progressive way has led to a number of tax reform proposals, some of which entail the creation of new tax instruments. Our proposal for an FTT is another such option.

While some financial market activity would be discouraged by an FTT, we do not believe an FTT would hinder market functioning or impede price discovery. Moreover, some of the foregone activity may be of limited marginal economic benefit. Because the precise responses of market participants to the proposed FTT are admittedly uncertain, we propose that the tax be phased in over a four-year implementation period. This plan would allow policymakers to monitor market functioning, address avoidance techniques that will undoubtedly arise, and further refine and adjust certain elements of the proposal, supported by the data that would be collected.

At the moderate rate we propose, an FTT would raise substantial revenue, and the burden would fall overwhelmingly on high-income taxpayers. As part of a broad portfolio of progressive tax reforms, such an FTT can help pay for existing public obligations as well as the public investments that underlie future economic growth.

## Glossary of Terms

**Algorithmic fund (AF):** Funds that rely on sophisticated data and complex models to create automated trading strategies and often take directional positions to exploit relatively small price discrepancies over days or weeks.

**American depositary receipt (ADR):** A certificate issued by a U.S. depository bank representing shares of a non-U.S. company deposited in a foreign bank. ADRs are traded in U.S. markets and were created to make it easier for U.S. actors to invest in foreign companies.

**Contract for difference (CFD):** A contract where one party agrees to pay the other party the difference between the current value of an asset and its value at a time specified in the contract.

**Derivative:** A contract between two or more parties, the value of which is based on an agreed-upon underlying financial asset or set of assets.

**Exchange-traded fund (ETF):** An investment fund that invests in a basket of stocks, bonds, or other assets and is traded on a stock exchange.

**Futures contract:** A derivative contract traded on an organized exchange to buy or sell assets at a fixed price, to be delivered and paid for on a designated date in the future.

**High-frequency trading (HFT):** A form of automated trading that uses extraordinarily high-speed and sophisticated computer programs for generating, routing, and executing orders across a variety of trading venues to maximize trading efficiency.

**Option:** A type of derivative contract that gives the holder the opportunity but not the requirement to buy or sell the underlying asset at a set price.

**Over-the-counter (OTC) trading:** Trading that takes place off of official exchanges, including trades through alternative trading systems; it can involve instruments that are listed on exchanges or those that are not listed on any exchange.

**Principal trading firm (PTF):** A firm that typically relies on proprietary, low-latency, automated trading strategies, takes on little net exposure, and often manages limited outside funds.

**Swap:** A derivative contract through which two parties exchange cash flows or liabilities from two different financial instruments.

**Value-added tax (VAT):** A consumption tax that is collected as a percentage of the value added at each step in a product's supply chain.

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## Endnotes

1. For example, the Tax Cuts and Jobs Act of 2017 reduced the corporate income tax rate and increased the estate tax exemptions, while the Patient Protection and Affordable Care Act of 2010 included an incremental 3.8 percent tax on net investment income, including capital gains, for individuals with high income.
2. It would not apply to initial equity and debt issuances.
3. Several factors may limit the applicability of Hong Kong's FTT to the United States, including Hong Kong's significantly smaller economy and the benefits it may realize from having a more predictable regulatory environment than other financial markets in its region.
4. This includes the SEC Fee of 0.207 basis points, exchange fees of up to \$0.0030 per share (i.e., 0.30 basis points on a \$100 share of stock), and commissions. For institutional transactions, commissions over recent years have averaged 3 to 5 basis points (Virtu Financial 2019). For retail transactions, until recently many online brokers charged approximately \$5 per trade (e.g., see Huang 2018), which would equate to approximately 10 basis points for a trade of \$5,000. However, recently several retail brokerages have eliminated trading commissions (e.g., see Baer 2019).
5. This includes both direct costs (e.g., SEC Fee, commissions) and indirect costs (e.g., implementation shortfall). Institutional orders of smaller-cap stocks have higher transaction-related costs: Virtu Financial (2019) estimates total average costs of 50 to 60 basis points for mid-cap and 80 to 90 basis points for small-cap stocks. Retail estimate based on commissions of \$0 to \$5 per trade and half of estimated bid-ask spreads of 1 basis point for large-cap stocks (authors' calculations based on S&P 500 stocks) and 5 basis points for small- to mid-cap stocks (authors' calculation based on shares of stocks with market cap between \$500 million and \$10 billion).
6. Virtu Financial (2019) estimates a decline in institutional costs per transaction of approximately 15 basis points, or 30 basis points combined to buy and later sell a security (a "round-trip" transaction), compared with the proposed FTT of 10 basis points per round-trip transaction.
7. Mizraich (2015) estimated a decline in corporate bond bid-ask spreads of 40 to 60 basis points from 2003 to 2015. Wu (2018) estimated significant declines in effective spreads for municipal securities transactions between 2005 and 2018, particularly for smaller trades. Adrian, Fleming, and Vogt (2017) found average bid-ask spreads from 1991 to 2000 to be fairly comparable to those for 2001 to 2017 but found higher price impacts (16.8 basis points per 100 net trades for the 2-year note, 31.3 for the 5-year note, and 54.5 for the 10-year note).
8. For example, foreign holders own approximately 15 percent of U.S. corporate equities (Federal Reserve 2019b).
9. For example, in 2018 Vanguard had annual portfolio turnover of 3 percent for its Total Stock Market Index Fund, 4 percent for its S&P 500 Index Fund, 9 percent for its Total World Stock Index Fund, and 54 percent for its Total Bond Market Index Fund.
10. Understanding the longer-run distribution of the FTT burden is complex and will depend on a

number of factors, including effects on cost of capital and relative elasticities of supply and demand for capital and labor (see, e.g., Baker and Woo (2015) for a discussion of the issues around the economic incidence of an FTT). To the extent that an FTT raises the cost of capital, some of the tax burden will fall on owners of capital. Any reduction in the after-tax return on capital investments would reduce the capital stock in the economy. As a result, some of this tax burden would be passed on to workers as they become less productive. How these tax burdens are allocated depends on the relative elasticities of supply and demand for capital and labor, in addition to the extent to which financial intermediaries pass on the tax to investors.

11. Diamond and Mirrlees (1971) show that, under certain conditions, taxes on intermediary inputs to production are less efficient than taxes on final outputs or taxes on intermediate inputs that are creditable (e.g., a value-added tax).
12. The FTT would compound the costs of existing taxes on complementary activities, such as corporate investment and savings. An additional tax on securities transactions would also compound the investor “lock-in” effect by increasing the disincentive to sell assets that appreciated in value. Depending on its design, an FTT could also contribute to debt bias, in which debt receives more favorable tax treatment than equity. Our proposed FTT would apply equally to debt and equity, though a differential effective tax rate could arise through differences in trading frequencies across asset classes.
13. See, for example, Jackson and O’Donnell (1985) in the United Kingdom; Lindgren and Westlund (1990), Umlauf (1993), and Campbell and Froot (1994) in Sweden; and Buchanan (2012), Colliard and Hoffmann (2013), Haferkorn and Zimmermann (2013), Meyer, Wagener, and Weinhardt (2013), and Coelho (2016a) in France.
14. The theoretical effect of an FTT on asset prices is ambiguous, as an FTT would generally increase both the liquidity premium and rate of return required by investors to hold stocks, putting downward pressure on stock prices (Habermeier and Kirilenko 2003; Kupiec 1996; Matheson 2012; McCrae 2002; Schwert and Seguin 1993). However, if an FTT reduces excessive volatility, the required risk premium would fall and could lead to higher stock prices (Vayanos 1998).
15. For example, a partial equilibrium model, such as that presented in Matheson (2012).
16. Others have suggested that if there is a sufficient proportion of noise traders that creates a wedge between the fundamental value of a stock and its market price, an FTT could reduce short-term speculation and, as a result, the noise-to-fundamental ratio in market prices (Stiglitz 1989; Summers and Summers 1989; Tobin 1978). These taxes may, instead, discourage a sufficient amount of fundamental-based trades, reducing price discovery and increasing volatility (Edwards 1993; Grundfest and Shoven 1991; Kupiec 1996; Schwert and Seguin 1993). Dávila (2013), however, suggests that volatility effects are uninformative as a metric for the efficiency costs of an FTT.
17. This is not to say that significant resources were not devoted to trading, or large market-making profits, prior to the development of HFT and algorithmic trading. In many cases, automated processes replaced functions that had been previously performed manually, reducing the required human capital.
18. Cecchetti and Kharroubi (2012) show that in advanced economies, a fast-growing financial sector has been detrimental to aggregate productivity growth.
19. Philippon (2015) finds that despite the advancements in data and technology, the per-unit cost of intermediation has remained stable since the 1900s.
20. An ADR is a negotiable certificate for shares of a non-U.S. firm that are deposited in a foreign bank. ADRs were created to enable U.S. investors to more easily trade shares in foreign companies.
21. To limit tax avoidance the proposed FTT would also require tax collection for offshore trades made by U.S. persons. This requirement could be facilitated by requiring collections by broker-dealers, clearing agencies, custodians, transfer agents, and other intermediaries.
22. Consistent with the notion that a small FTT would cause larger behavioral responses for HFTs, Coelho (2016a) finds a much larger lock-in elasticity for HFTs than for traditional traders (−9 versus −0.8).
23. For example, France’s FTT exempts market-making activity and only applies to net daily position changes. While France also implemented a 1 basis point tax on the notional amount of modified or cancelled messages by HFTs exceeding an order-to-trade ratio of 5:1, it applies only to HFTs residing in France and excludes market-making activity, and as a result it is believed to have had

- minimal impact (Colliard and Hoffmann 2017).
24. It is also possible that an FTT could result in greater concentration in intermediation and other market making if larger intermediaries have greater capacity to manage these costs.
  25. That is, the individuals and institutions that are the ultimate beneficiaries of financial investments.
  26. For example, based on average annual turnover of 32 percent (Investment Company Institute 2019) and \$47,000 of average combined pooled investment fund and retirement account financial assets for a middle-income family (calculated based on Federal Reserve 2017), this would represent approximately \$14 per year.
  27. Bernstein (2015) also proposed a multiyear phase-in period, though with a lower final FTT rate of 3 to 5 basis points.
  28. Burman et al. (2016) estimated that a 10 basis point FTT on U.S. Treasury and Agency securities would increase federal borrowing costs by \$390 billion over 10 years.
  29. To prevent mutual funds from being used as a means of avoiding the FTT, by for example establishing a single-stock mutual fund with the purpose of allowing trading in the security without incurring the FTT, this exemption could be limited to “diversified” funds (as defined in the Investment Company Act), which cannot hold more than 5 percent of their assets in a single security and cannot hold more than 10 percent of the securities of a single issuer.
  30. Mutual funds would also have the ability to pass on any expected redemption-related FTT costs through redemption fees rather than absorbing them through higher fund expenses that affect the remaining investors.
  31. In a simple linear tax model, Coehlo (2016b) finds that the overall implied revenue-maximizing FTT is 67 basis points, and that for high-frequency trading is lower, at 2.2 basis points. The lower 2.2 basis point rate is unlikely to generate meaningful levels of revenue, while the implied rate based on revenue considerations alone is likely to significantly distort real economic activities.
  32. Similarly, some have called for the FTT tax rate applied to debt and some derivative instruments to be scaled on the basis of time until maturity. While this gradation would add complexity, it also warrants further study.
  33. Some countries also require financial instruments to be “stamped” to demonstrate payment of the FTT. An unstamped document cannot be relied upon nor can it be used for legal purposes, such as registering a transfer of ownership.
  34. This is analogous to how the United States treats tax withholdings for nonresidents with regard to payments on derivatives that are substantially equivalent to dividends on the underlying securities.
  35. We also anticipate a period between enactment of the FTT and its initial implementation to allow the financial services industry to establish the necessary systems and procedures.
  36. “U.S. person” is defined in existing Commodity Futures Trading Commission regulations for swap markets.
  37. Unlike capital gains taxes, FTTs are not covered under U.S. tax treaties.
  38. The plan analyzed by Pollin, Heintz, and Herndon (2018) assumed a 50 basis point FTT on equity securities, a 10 basis point rate on bond transactions, and 0.5 basis points on the notional value of derivatives transactions. TPC revenue estimates of the same plan are significantly lower (i.e., \$52 billion in the first year, relative to the \$220 billion estimate in Pollin, Heintz, and Herndon 2018). For details on the differences between the two estimates, see Nunns (2016).
  39. We thank Chenxi Lu, Thornton Matheson, and Eric Toder for providing estimates of the proposal using the Urban-Brooking Tax Policy Center Microsimulation Model.
  40. As a point of comparison to other avenues to increase federal revenues, the Joint Committee on Taxation estimated that increasing income tax rates on the two highest brackets 1 percentage point would raise \$123 billion over 10 years, and increasing tax rates on capital gains and dividends 2 percentage points would raise \$70 billion (Congressional Budget Office 2018).
  41. The dynamic estimates account for the following effects: taxpayers’ behavioral responses, including reductions in transactions based on an elasticity estimate of  $-1.25$ ; income and payroll tax offset; delay in reporting systems; ongoing capital gains revenue loss; and capital gains capitalization effect.
  42. Another factor affecting the tax distribution is that high-income households are more likely to have investments in privately held businesses, which would not incur FTT costs because they are not regularly traded. TPC excluded investments in privately held businesses and real estate for the purposes of distributing the FTT tax burden.

43. It may be surprising that the distribution of the tax burden is not even more progressive than shown in table 5. There are three main reasons for this: First, not all wealth is held in financial assets. For example, some high-income households' principle assets consist of real estate and/or privately held businesses that are not affected by the FTT. The distribution of total wealth is slightly more progressively distributed than that of financial wealth: The top one percent hold 26 percent of total wealth, as contrasted with 23 percent of noncash financial wealth. Second, noncash financial assets is a broad measure, and there is considerable variation in the distribution of its component assets. While bonds—particularly tax-exempt bonds—and directly held stock are distributed quite progressively, other components, such as pension and life insurance assets, are much less so. Third, income and wealth are imperfectly correlated. To illustrate, some high-income households hold little financial wealth (e.g., young high-income households who have not saved much yet in their lifetimes) and some middle-income households have sizable financial assets (e.g., retired households with assets that generate relatively little income in a given year). The distributional analysis includes these costs, distributed to households on the basis of their noncash financial assets.
44. The average family in the middle-income decile has direct stock holdings of approximately \$7,000 (calculation based on Federal Reserve 2017).
45. The mutual fund would have the ability to charge investors redemption fees to pass on the FTT costs associated with any necessary selling of securities. Trading in ETF shares would be subject to the FTT.
46. Calculation based on Federal Reserve (2017).
47. The small impacts on the middle class shown in the distributional analysis come from those middle-income households with larger asset holdings or those with substantial pension and insurance assets that would face indirect costs.

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# Raising Revenue with a Progressive Value-Added Tax

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## Abstract

To raise revenue in a progressive, efficient, and administrable manner, this chapter proposes a new national consumption tax: a broad-based credit-invoice value-added tax (VAT). The proposal comes with several qualifications: the VAT should complement, not substitute for, new direct taxes on the wealth or income of affluent households; to ensure the policy change is progressive, the VAT should be coupled with adjustments to government means-tested programs to account for price level changes, and with a universal basic income (UBI) program; to avoid having the VAT depress the economy, revenues should be used to raise aggregate demand in the short run and the Federal Reserve should accommodate the tax by allowing prices to rise. A 10 percent federal VAT that funded a UBI equal to 20 percent of the federal poverty line would be highly progressive (with net income rising among the bottom forty percent and not changing in the middle quintile) and would still raise more than 1 percent of GDP in net revenue. VATs are a proven success, existing in 168 countries. VATs have been proposed by both Democrats and Republicans in recent years. Concerns about small businesses, vulnerable populations, and the states can be easily addressed.

## Introduction

The future fiscal and economic health of the United States depends on its ability to increase revenues.<sup>1</sup> With high and rising public debt, an aging population that will place increasing demands on federal spending, and a need for new investments in infrastructure, research and development, and human capital, the federal government requires more funding to improve its finances and promote future economic growth and opportunity. Recent fiscal actions that raised current and future budget deficits, including the

Tax Cuts and Jobs Act of 2017 and the Bipartisan Budget Acts of 2018 and 2019, make these matters worse.

One way to collect more revenue is to reform existing taxes. Instead, or in addition, policymakers could create new revenue sources.

This chapter proposes a new progressive, national consumption tax: a broad-based, credit-invoice value-added tax (VAT), sometimes referred to as a “goods and services” tax. The most intuitive way to understand the VAT is that it is like a retail sales tax, but with tax revenue that is collected in parts at each stage of production rather than all at once at the retail level.<sup>2</sup> Similar to a tax imposed in New Zealand, this VAT would tax a broad base that includes items that other countries’ taxes typically omit: education, health care, financial services, and nonprofits. To maintain parity with the private sector, federal, state, and local government spending would be taxed too, but this taxation of government spending would not raise net revenues, because the federal government cannot raise net revenue by taxing itself and because the proposal would reimburse subnational governments for the VAT they pay. Coupled with a universal basic income that varies with family size and composition, the VAT can raise substantial amounts of revenue in a progressive fashion.

The proposal comes with five important provisions and considerations. First, the VAT proposed here is intended to work in conjunction with other, highly progressive policies, like an ongoing direct wealth tax, capital gains reforms, or other policy changes that raise taxes on well-to-do households. As noted throughout this volume, there are important reasons to raise tax burdens on high-income and high-wealth households relative to others, so this proposal should be read as a complement to—not a substitute for—other ways to raise taxes on the rich.<sup>3</sup> This is because taxes on high-income and high-wealth households, by themselves, are not likely to raise sufficient revenue to allow the federal government to control debt, invest in the economy, and provide payments to the elderly (Gale 2019). In addition, pairing a VAT with these policies is likely to make them more effective. One of the easiest ways for higher-income households to avoid wealth taxes or income taxes is to consume more—an avenue that a VAT makes less attractive. Finally, and perhaps most importantly, in light of secular increases in income and wealth inequality, it is inappropriate to ask the middle class to pay the higher taxes a VAT entails without also enacting substantially higher levies on high-income and high-wealth households.

Second, to ensure that the VAT is on balance a progressive reform, it should be coupled with several policies that relieve the burdens on low- and middle-income households. Means-tested government transfers should

be adjusted for any increase in the price level (including the VAT) so that the real after-tax value of these benefits remains unchanged. In addition, Congress should stipulate a one-time change in how Social Security benefits are calculated to counteract what would otherwise be an after-tax benefit reduction imposed on new generations of beneficiaries by the VAT. A VAT with these two adjustments is progressive—it reduces after-tax income of lower-income households by a smaller proportion than it does for higher-income households. The reason is that protected forms of income—Social Security and means-tested transfers—constitute a much larger share of income for lower-income groups.

This policy package can be made even more progressive by using a portion of VAT revenues to provide each household with a universal basic income (UBI) based on family size and composition. This benefit would be provided through quarterly payments to each family, for an annual reimbursement equal to two times the poverty line times the consumption tax rate. For example, with a 10 percent VAT, a family of four would receive about \$5,200 back each year, compensating them for taxes paid on about \$52,000 of consumption.<sup>4</sup> Families that spend less than two times the poverty line would receive more from the UBI than they would pay in VAT. Families with higher spending would only face a net tax burden when they consume above two times the poverty line. Including the UBI, the VAT is remarkably progressive by conventional standards: after-tax income would *rise* by almost 17 percent in the lowest income quintile, remain virtually unchanged in the middle quintile, and fall by 5.5 percent among the top 1 percent of households.

Third, to avoid the VAT depressing the economy in the short run, most or all of the revenues collected in the years immediately following enactment should be spent on programs that stimulate the economy. For example, revenue from a VAT (after the adjustments described above) could be used to expand the UBI, restructure or reduce other taxes, pay for health care (Burman 2009), fund work incentives (Burman 2019), boost necessary government investments, or provide temporary stimulus, all of which would help offset any demand reduction from the introduction of the VAT. Over time, some of those uses could be scaled back so that revenues from the VAT could be used to reduce the federal debt.

Fourth, in the enabling legislation, Congress should direct the Federal Reserve to accommodate the VAT by allowing the nominal price level to rise by the full extent of the tax. If the price level rises by less than this amount, some of the adjustment to a VAT would take place through declines in nominal wages, which could be a costly and lengthy process.

Fifth, while I am not wedded to a particular tax rate, I use a 10 percent federal VAT in the analysis below. If states converted their existing retail sales taxes to conform with a federal VAT base, they would need to set a VAT rate of 6.6 percent, on average, to raise current levels of revenue in a manner that is more generous to the bottom 40 percent of the income distribution than current sales taxes. The average combined federal-state VAT, 16.6 percent, would be significantly below the 2018 OECD average VAT rate of 19.3 percent.

Taking these five considerations into account, the broad-based credit-invoice VAT this chapter proposes would bring to the United States a progressive and growth-friendly version of the revenue source that so many other nations rely upon. America has never had a national broad-based consumption tax of any kind, but the VAT is the world's most common consumption tax, used by more than 160 countries, including every economically advanced nation except the United States. In 2016, consumption taxes raised just 3.7 percent of GDP in the United States, mainly through state and local sales taxes, compared with 10.5 percent in other OECD countries, mostly through VATs.<sup>5</sup>

VATs are popular for many reasons. First, and most importantly, VATs raise a lot of money. Asked why he robbed banks, Willie Sutton supposedly said, "Because that's where the money is" (Federal Bureau of Investigation 2015). As a tax on a broad measure of consumption, VATs are "where the money is" in tax reform. In other OECD countries, VATs are the third largest revenue source, behind social security and personal income taxes.<sup>6</sup> A VAT initiated in 2020 at a 10 percent rate would raise \$247 billion, or 1.1 percent of GDP, even after funding a UBI that provides families payments equal to the VAT rate times twice the poverty line. Over the course of 2020–29, the policy would raise \$2.9 trillion. If a UBI were not implemented, the VAT would raise revenue by a whopping \$842 billion in 2020, or about 3.8 percent of GDP.<sup>7</sup> The 10-year total is about \$10 trillion. The revenue generated by a VAT would provide an enormous pool of resources to address social and economic problems.

Second, VATs are consistent with an efficient and prosperous economy. Future consumption is funded by existing wealth, future wages, or future excess returns on investments. As a result, a consumption tax effectively imposes a one-time implicit lump-sum tax on a broad measure of wealth existing at the time of implementation. The burden of this component of the VAT is imposed immediately upon enactment because the value of wealth changes. This outcome is easiest to see if the consumer price level, which includes the VAT, rises by the full VAT rate. In that case, existing

assets can then be exchanged for less after-tax consumption than before the VAT was imposed.<sup>8</sup>

The burden a VAT places on existing wealth avoids three key pitfalls of a direct wealth tax: The VAT's wealth tax is extremely efficient because it is very difficult to avoid or evade; it does not require explicit valuation of particular assets; and it taxes excess returns, which is not distortionary, rather than taxing all returns, which is. But while this wealth tax is progressive by conventional standards, because the distribution of wealth is skewed toward the top, the burden imposed by the VAT is substantially less progressive than that of a direct wealth tax with a high exemption. While the burden of a VAT on existing wealth is imposed immediately upon enactment through a decline in the purchasing power of existing assets, the explicit tax payments arising from future consumption of existing wealth accrue only over potentially long periods. Still, the present value of long-term revenue from the burden a VAT imposes on wealth is at least equal to—and may well exceed, under plausible assumptions—the 10-year (undiscounted) revenue yield of the wealth tax proposed by Senator Elizabeth Warren.

A VAT also has important efficiency advantages over other types of taxes. Because VATs do not distort saving, investment, or financial decisions, they are more conducive to economic growth than income taxes or wealth taxes are. Because of the unique crediting structure that they employ, VATs are easier to administer and enforce than retail sales taxes. And by using border adjustments that remove taxes on exports but impose taxes on imports, VATs are consistent with other countries' tax systems and avoid creating distortions in international trade.

Critics argue that a VAT could hurt small businesses, low-income households, the elderly, and state and local governments. These concerns are either overblown or easily addressed:

- The United States should exempt small businesses from the tax as most countries do; the administrative burdens of taxing small businesses under a VAT may not be worth the revenue gains.
- Concerns about low-income and elderly households should be addressed by the UBI and by the adjustments to Social Security benefit calculations and means-tested transfers described above.
- No state would have to convert its sales tax to a VAT, but states that convert to a base that conforms with a federal VAT could more effectively tax services and interstate consumer purchases and avoid taxing business purchases, all with reduced administrative costs.



Critics also assert that a VAT would increase government revenues and thus inappropriately raise government spending. Yet in European countries, VATs did not boost government spending much, even when long-term debt was not an issue. Instead, the vast share of VAT revenue went to reducing outdated or poorly working sales and turnover taxes (the latter defined as taxes on transactions of intermediate goods rather than on value added). The United States is most likely to adopt a VAT in the context of a long-term debt reduction agreement that would presumably also impose limits on spending.

Fears about the United States adopting a VAT can be further assuaged by looking at Canada's experience. The Canadian VAT has features to provide progressivity, and it has not swelled the government. Some of the provinces have kept their previous sales taxes, and some have conformed their provincial tax base with the federal VAT; all of the provinces retain the power to set their own rates.

So why don't we already have a VAT? More than 30 years ago Larry Summers summarized the VAT's political prospects by saying that "liberals think it's regressive and conservatives think it's a money machine," predicting that policymakers will enact a VAT only when liberals realize that it is a money machine and conservatives realize that it is regressive (Rosen 1988).<sup>9</sup> There is no better description of the political problem.

But Summers' statement also holds the key to reaching a political accord. Although liberals fear it would be regressive, a VAT can be part of a progressive strategy. For example, European countries impose VATs but also spend more generously than the United States on social policy priorities like universal health care, paid family leave, assistance for low-income households, and investments in children. And though conservatives fear it's a money machine, the VAT is efficient and can be part of a compromise with liberals that limits spending and highlights the need to pay for any new spending increases (as in Gale 2019).

In recent years the VAT has received support from a variety of quarters. More than 20 years ago, leading legal scholar Michael Graetz proposed a VAT as part of a broader restructuring of the tax system, a proposal recently endorsed by Benjamin Cardin, the Democratic senator from Maryland (Graetz 1997, 2008, 2013; Cardin 2015). Numerous Republican political leaders—including Paul Ryan, Rand Paul, and Ted Cruz—have proposed that the United States adopt a VAT (though they do not call it that) as a way of reforming taxes (Ryan 2008; Paul 2015; Cruz Campaign 2015). The Domenici-Rivlin commission proposed a VAT (called a "debt reduction sales tax") for the purpose of paying down the federal debt (Debt Reduction

Task Force 2010). The key point is that—regardless of how political leaders would like to use the revenue—there is widespread agreement on the value of the VAT: it raises revenue in an efficient, equitable, and administrable manner that is consistent with an open economy. As noted, I do not specify the use of VAT revenues, but to make sure the VAT does not restrict aggregate demand in the short run, a sensible approach would use the revenues to fund economic stimulus, government investment or tax reform, and would only phase in federal debt reduction over longer horizons.

To motivate and justify the proposal for a VAT, the chapter proceeds as follows. The first section discusses the overall fiscal challenge facing the country and why a VAT would be a constructive part of the solution. The second section provides background information on the history and workings of the VAT. The third section outlines a proposed VAT for the United States. The fourth section provides an economic evaluation of the VAT, elaborating on its properties as a tax on wealth and discussing its effects on revenue, growth, distribution, and tax administration. The fifth section addresses questions and concerns, including the money machine argument, the impact of a VAT on the states, the politics of a U.S. VAT, and the Canadian experience.

## The Challenge

The justification for a credit-invoice VAT is threefold: (a) the government needs to raise revenues as part of the response to the long-term fiscal outlook, (b) consumption taxes contain attractive features as sources of additional revenue, and (c) the credit-invoice VAT is advantageous relative to alternative consumption taxes.

### **REVENUES AND THE LONG-TERM FISCAL OUTLOOK**

Under the most recent Congressional Budget Office (CBO 2019) projections, the debt-to-GDP ratio will rise steadily from 79 percent today—already the highest in U.S. history except for a few years around World War II—to about 143 percent in 2049, assuming that current laws remain in place (which also imply tax increases that are likely to be politically unrealistic and constrained spending growth). In a more realistic scenario that follows current policy, the debt will rise to 177 percent over that same period (Auerbach, Gale, and Krupkin 2019).<sup>10</sup> At that time, net interest payments, which peaked at 3.2 percent of GDP in 1991, would be 4.6 percent and 5.6 percent of GDP, respectively, under the two scenarios. Under either scenario, debt and interest payments will continue to rise relative to GDP after 2049. These trends occur even though the projections assume that

over the next 30 years the economy will remain close to full employment and government interest rates will remain far below the output growth rate. Rising debt will make it harder to grow the economy, boost living standards, deal with national security challenges, respond to recessions, address social needs, and maintain the country's status as a global leader.

As a matter of accounting, debt is projected to rise because spending will increase faster than revenues. But this does not make rising debt a “spending problem” that must be addressed solely by spending cuts, for two reasons. First, much of the projected increase in spending as a share of the economy is due to rising net interest payments—burdens created by deficits from previous years. These burdens are not obviously better borne by spending cuts than by revenue increases. Second, the rest of the spending increase is due to an aging population and rising health-care costs, which will place more demands on Social Security, Medicare, and Medicaid. Neither source of higher spending is the result of new government programs; rising spending is simply policymakers' earlier commitments coming due, commitments that, to date, they have chosen not to fund with sufficient tax revenues.

In short, the debt problem is not either a spending problem or a tax problem any more than one side of the scissors does the cutting. Rather, the problem is the *imbalance* between spending and revenues. Addressing the debt challenge will require both slowing the spending trajectory and raising taxes.

## CONSUMPTION TAXES

Consumption taxes in general—and VATs in particular—can, if properly designed, provide an impressive combination of substantial revenue, progressivity, and efficiency. Policymakers and researchers often consider the tax system's revenue potential separately from its efficiency or progressivity. The issues, however, are closely related. If the overall revenue from the tax system needs to rise, it becomes even more important that the new taxes be efficient and progressive.

The VAT can raise substantial amounts of revenue. Among OECD member countries in 2016, VATs were the third largest source of revenue behind the individual income tax and social security contributions and raised about 7 percent of GDP on average.

Consumption taxes are efficient, relative to other taxes. As discussed later in this chapter, introducing a consumption tax imposes an implicit lump-sum tax on wealth that existed before the introduction of the tax. This implicit

tax on existing wealth tax does not distort behavior, cannot be avoided or evaded, raises substantial revenue over time, and does not require that value be assessed (Altig et al. 2001; Auerbach and Kotlikoff 1987). Unlike income taxes, consumption taxes do not distort the return on new saving or investment: they do not affect the decision to consume today or save for the future. They also do not distort choices related to organizational form, debt or equity financing, or dividend payments. However, like income taxes, consumption taxes do encourage leisure (which is untaxed) at the expense of labor.

Consumption taxes can be part of a progressive reform package, depending on the rate structure of the tax and the presence of offsetting policies like the UBI proposed here or cuts to regressive payroll taxes.

### **THE CREDIT-INVOICE VAT RELATIVE TO OTHER CONSUMPTION TAXES**

Consumption taxes come in many forms (see the appendix). Some are explicitly transaction-based (e.g., the credit-invoice VAT and the retail sales tax). Some are essentially personal consumption taxes—income taxes with an exemption for net saving, such as the USA tax proposed in the 1990s by Senators Sam Nunn (D-GA) and Pete Domenici (R-NM)—that rely on the fact that all after-tax income is either consumed or saved. Some are streamlined business income taxes (e.g., a subtraction-method VAT). Others are a combination of cash-flow business taxes and personal taxes on wages (e.g., the “flat tax” and the X-tax, described in the appendix).

This chapter focuses on a credit-invoice VAT, which offers significant administrative and compliance advantages over other transaction-based taxes (such as the retail sales tax, as discussed further below).

The credit-invoice VAT would also work well as a supplement to the existing tax system, whereas personal consumption taxes, streamlined business income taxes, and cash-flow business taxes are usually proposed as replacements for existing personal and corporate income taxes. In addition, the credit-invoice VAT is a proven revenue mechanism used in 167 countries worldwide. Only Japan uses a system similar to a subtraction-method VAT, and no country uses a large-scale retail sales tax, a flat tax, an X-tax, or a tax similar to the USA tax.

## VAT Basics

A business's "value added" is the difference between its gross sales and its purchases of goods and services from other businesses. It is equal to total worker compensation plus cash flow.

Suppose a farmer grows wheat and sells it to a baker for \$40. The baker turns the wheat into bread and sells it to consumers for \$100. The baker's value added is \$60—the difference between sales and purchases. For simplicity, we will assume that the farmer has no input costs, so the farmer's value added is \$40. The total of the values added at each stage of production is equal to the retail sale price of the good, in this case \$100.

Governments can tax value added in different ways. (See box 1 for a brief history of VATs). In the credit-invoice method, each business pays the government the VAT collected on its sales minus a credit for the VAT it pays on its input purchases (see table 1). If the VAT were 10 percent in the previous example,<sup>11</sup> the farmer would charge the baker \$44 overall, pay \$4 in VAT to the government, and keep \$40, which is equal to the farmer's value added.<sup>12</sup> The baker would charge consumers \$110, pay \$6 in VAT (the difference between the \$10 the baker owes on sales and the \$4 credit paid to

TABLE 1.

### Taxes, Sales, and Value Added Under Alternative Taxes

		(1)	(2)	(3)	(4)	(5)	(6)
		Value added	Tax collected on sales	Total sales (including tax)	Tax credits	Net tax payments (2) – (4)	Net receipts
<b>No taxes</b>	Farmer	40	0	40	0	0	40
	Baker	60	0	100	0	0	60 (i.e., 100 – 40)
<b>Retail sales tax</b>	Farmer	40	0	40	0	0	40
	Baker	60	10	110	0	10	60 (i.e., 110 – 40 – 10)
<b>Credit-invoice VAT</b>	Farmer	40	4	44	0	4	40 (i.e., 44 – 4)
	Baker	60	10	110	4	6	60 (i.e., 110 – 44 – 10 + 4)

## BOX 1.

## History of Value-Added Taxes

The VAT is a relatively new tax. While tariffs, excise taxes on alcohol, and other taxes have existed for centuries, the VAT was designed in the early 20th century and began to be implemented on a wide scale only about 50 years ago. Wilhelm von Siemens, a German businessman, designed the VAT to resolve problems that arose in implementing sales taxes. Independently and roughly contemporaneously, Thomas S. Adams, an American, conceived of the VAT as a better version of the corporate income tax. In practice, in economically advanced countries, VATs have been introduced largely as improved versions of consumption taxes, replacing excise, turnover, and retail sales taxes, rather than as replacements for the corporate income tax. Almost all advanced countries maintain separate corporate income taxes.

Many European governments adopted VATs in the 1960s and 1970s, motivated by European Economic Community (EEC) directives requiring a harmonized VAT as a condition for entry into the European Union. Several Latin American governments also implemented VATs over this period. Starting in the late 1980s, several economically advanced non-EEC countries, including New Zealand (1986), Japan (1989), Canada (1991), South Africa (1991), Singapore (1994), Switzerland (1995), and Australia (2000), implemented VATs, as did many countries with developing economies.

The VAT now exists in a vast majority of countries and in 2016 accounted for more than 20 percent of OECD tax revenue. The diffusion of the VAT was “the most significant development in the field of taxation in the past 50 years,” according to Sijbren Cnossen, a leading tax expert from Maastricht University in the Netherlands (Cnossen 2011, 34).

the farmer), and keep \$60 (\$110 minus \$44 minus \$6), which is equal to the baker's value added. Consumers pay \$110 for the bread, and the government receives \$10 in taxes.

Consumer payments, tax revenues, and after-tax revenues received by each producer are the same under a 10 percent VAT as under a well-functioning 10 percent retail sales tax (table 1).

## The Proposal: Designing an American VAT

An American VAT would retain the signal advantages of the tax—revenue potential, efficiency, and administrability—and add progressivity to that list of qualities. The core elements of an American VAT would be as follows:

- a broad base, including essentially all consumption that is associated with explicit payments;
- a base that includes all government wages and purchases, with state and local government VAT payments rebated to them by the federal government;
- a standard rate that applies to all taxable purchases;
- an exemption for businesses with gross annual revenue below \$200,000, although they would be allowed to opt in;
- adjustments to preserve the real value of federal means-tested transfers and Social Security benefits; and
- a UBI based on household size and composition.

### **BASE**

The VAT should rest on the broadest consumption base possible. Focusing on consumption avoids distorting choices regarding saving, investment, organizational form, financing, and dividend payouts. It also avoids having business taxes “cascade” with each stage of production, which would have the undesirable feature of more heavily taxing goods with more stages of production.

Setting the base as broadly as possible has numerous attractive features. It reduces opportunities for tax avoidance and limits distortions in production and consumption. It reduces wasteful administrative efforts to define which products are taxable—for example, whether a Halloween costume is clothing (which might be exempt) or a toy (which might not be

exempt). It reduces the need and expense for firms to allocate their costs between sales that are and are not subject to VAT. It also reduces political pressure to generate ever more exemptions.

Nevertheless, almost all VATs exclude some goods or services, doing so in one of two ways: zero rating and exemption. When a retail good (food, for example) is zero rated, the seller does not have to pay taxes on the retail sale but still receives credits for the VAT paid on input purchases. This reduces the final sale price of the good compared with what it would have been if the item were taxed at the standard rate. A business that is exempt does not pay tax on its sales, but in contrast to zero rating, it does not receive credits for the VAT it paid on inputs. This breaks the VAT's chain of credits and can end up raising prices, depending on how much of the value added was provided by input suppliers.

Countries tend to zero rate particular goods with the intent of enhancing progressivity and tend to exempt goods that are hard to tax. VATs in the European Union typically exclude hospital and medical care, noncommercial activities of nonprofits, sporting services, cultural services (except radio and television), residential rents, financial services, supply of land and buildings, and other items. As a result, European VATs tax less than 60 percent of overall consumption (OECD 2018). They also do not tax government purchases. In contrast, newer (second-generation) VATs—such as in Australia and New Zealand—tend to tax a broader base. In New Zealand, for example, the base includes essentially all consumption and government spending.

### *Taxing Consumption*

As noted, the VAT should apply to as much consumption as possible. Applying the VAT to food consumed at home is particularly important. Food accounts for a large share of overall spending and, of course, a larger share of the budget of low-income households than of high-income households (U.S. Department of Agriculture 2019). Still, taxing food makes sense for several reasons. First, from an administrative perspective, zero rating food consumed at home leads to difficult line-drawing situations. Table 2 provides examples from the United Kingdom's VAT. Second, from an equity perspective, taxing food and providing universal payments based on household size and composition is more progressive than zero rating food, because food expenditures rise in absolute terms as income rises, even though they decline as a share of spending (Benge, Pallot, and Slack 2013). Third, from a political perspective, if the tax applies to a necessity like food, policymakers will be hard-pressed to make a case for giving other goods preferential treatment.



TABLE 2.

## United Kingdom VAT Treatment of Food

Food item	Zero rated	Full VAT
Cakes/cookies	All cakes and some cookies	Cookies covered in chocolate
Chips	Vegetable-based	Potato-based
Chocolate	For cooking and baking	For direct consumption
Dog food	For working dogs	For pets
Drinks	Alcoholic bitters	Alcoholic beverages
Frozen treats	Frozen yogurt, frozen cakes	Ice cream, ice cream cakes
Fruit	Dried fruits for cooking and baking	Dried fruits for snacking
Herbs	For culinary use	For medical use
Hot food	Made on site	Reheated or kept warm
Nuts	Raw, in the shell	Roasted, shell removed
Peanuts	Raw, shell removed	Roasted, shell removed

Source: Her Majesty's Revenue and Customs. Internal Manual, VAT Food 2018.



Education expenses, to which the proposed VAT would apply, are another thorny issue. The case for excluding education is that it is an investment and so could plausibly be excluded from a VAT. On the other hand, not all education expenditures are themselves investments (Gong et al. 2019). Zero rating education expenses would create inevitable line-drawing problems, especially since the VAT does not necessarily give preferential treatment to other consumption that supports human capital—for example, buying a book or an educational toy for a child. In addition, higher-income households consume a disproportionately large share of education, so zero rating its associated expenses would be regressive.<sup>13</sup> Other policies already subsidize education, so making these policies more generous (with revenues from a VAT), in ways that are targeted to social objectives, would be a better way of supporting human capital investments than excluding education from a VAT. The VAT should apply to the net price of education, not the sticker price. In many cases students receive considerable discounts in the form of financial aid and grants from universities. Taxing the sticker price would ignore the heavy effective price discounts many students receive.

Similar to the treatment of nonprofits in the United Kingdom, Australia, and New Zealand, the activities of nonprofit organizations would be subject to the VAT. Although these organizations are exempt from income taxation in those countries and in the United States, that exemption in itself is not justification for exemption from a VAT (Gendron 2011; Morris

2011). Preferential status under a VAT would generate a strong incentive for individuals to shift their consumption to nonprofits, creating more regulatory and line-drawing difficulties.

Most VATs exempt some or all financial services. Many financial services are provided without explicit fees (e.g., checking account services often are paid for through lower interest rates on the accounts), making it difficult to calculate value added. Exemption of financial services, however, creates the usual line-drawing problems and makes it difficult for firms to allocate costs between exempt and nonexempt transactions. In addition, it overtaxes business-to-business transactions, since it breaks the VAT crediting chain, and it undertaxes business-to-consumer transactions because it imposes no tax on the value added for the consumer (Merrill 2011). To the extent that the creation of financial services uses real resources, those services should be taxed under a VAT, just like any other activity (Auerbach and Gordon 2002). And, for political reasons, if the VAT applies to food, it needs to apply to financial services. New approaches and technology have made it more straightforward to tax financial services, so these methods should be used to assess VAT in the United States.<sup>14</sup>

Several countries, including South Africa and Australia, already tax a significant share of financial transactions through a VAT. Alternatively, many countries use a financial transactions tax—which, as a tax on gross turnover, is conceptually different from a VAT—as is proposed by Weiss and Kawano (2020) in this volume and discussed by Burman et al. (2016).

Because a VAT is collected when consumption transactions occur, it cannot easily be applied to consumption that occurs without explicit payments. For example, people who own their home do not pay themselves explicit rent. As a result, most VATs do not tax the implicit rent that owner-occupiers pay themselves. Instead, for administrative reasons, VATs typically adopt the prepayment approach: the VAT is applied to the purchases of *new* owner-occupied housing (which occurs when the house is sold from a business to a household, but not when a household sells a house to another household). Any improvements to owner-occupied housing should also be subject to a VAT. To avoid distorting households' choice to be an owner-occupier versus a renter, the VAT should exempt rental payments as well, and instead charge VAT on the purchases of new housing meant for rental use as well as improvements to rental housing. As discussed later, use of the prepayment method means that when a VAT is imposed, the existing housing stock is excluded from the tax.

The same logic applies to the existing stock of nonhousing durables—cars, boats, furniture, collectibles, and so on. The benefits derived from durables

that already exist would not be taxed under the VAT, but purchases of new assets would be taxed.

### *Taxing Government*

To maintain price parity with the private sector, the VAT would tax federal purchases of goods and services and employee compensation. This avoids creating the (incorrect) appearance that the federal government can make purchases more cheaply than the private sector. However, taxation of federal purchases would not raise any net revenue, since it would raise federal spending by the exact amount that it raises revenues (Gale 2005).

The VAT would tax state and local government purchases of goods and services and employee compensation, again to maintain parity with the private sector. But because the federal VAT should not burden people in their role as state and local taxpayers, it should include a rebate for VAT paid by state and local governments. As a result, taxing state and local governments' purchases and employee compensation would not raise any net revenue.<sup>15</sup> The VAT would also exempt state and local sales taxes, to avoid cascading.

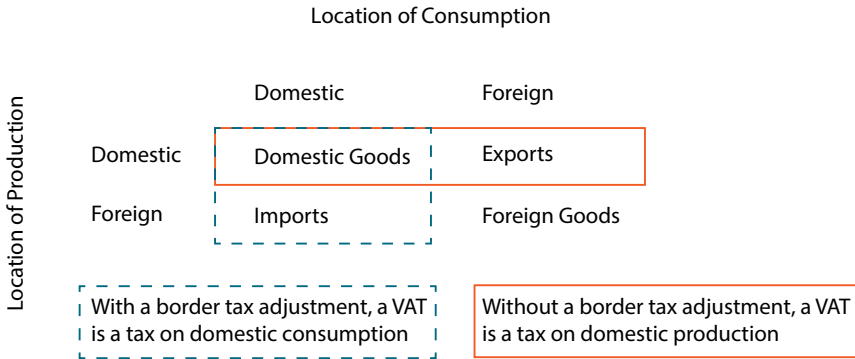
### *Border Tax Adjustments*

The tax should be administered on a destination basis, as is standard practice in the rest of the world. That is, it should tax imports and zero rate exports. These border tax adjustments (BTAs) allow the VAT to operate across countries in a harmonized manner. Contrary to popular belief, BTAs do not subsidize exports (Slemrod 2011). Instead, they allow VATs to function as consumption taxes rather than production taxes. They impose the same tax on all goods consumed in the host country and exclude all goods not consumed in the host country, regardless of where the goods are produced. Figure 1 shows that BTAs convert what would be a tax on domestic production to a tax on domestic consumption. With no BTA, the VAT would tax all goods produced domestically, as shown in the first row of the figure. The BTA eliminates the tax on exports and adds a tax on imports. This results in the VAT taxing all goods consumed domestically, as shown in the first column.

Recent policy discussions about replacing the corporate income tax with a destination-based cash-flow tax (which is shown in the appendix to be simply a subtraction-method VAT that also allows deductions for wages) created controversy. One issue was whether the nominal exchange rate would adjust fully. However, if the Federal Reserve fully accommodates a VAT by allowing prices to rise, the equilibrium nominal exchange rate

FIGURE 1.

## Border Tax Adjustments Convert a Production Tax to a Consumption Tax



remains unchanged, leaving cross-border transactions unaffected. A second concern was that exporters would receive large net subsidies under the destination-based cash-flow tax. In contrast, under the VAT, exporters would not be able to deduct wages, so virtually all exporters would have positive value added and be liable for tax.<sup>16</sup>

### *Small Businesses*

Most countries exempt some small businesses from value-added taxation but allow them to register if they choose to (Gale, Gelfond, and Krupkin 2016). This is partly because small-business owners form a powerful political constituency and partly because the administrative costs of taxing small businesses are high relative to the revenue they generate. Although the definition varies, a small business is usually defined by gross revenues below a certain level, ranging from close to zero to almost \$120,000 among OECD countries in 2018.

Because the optimal exemption threshold trades off administrative costs and revenue earned, the higher the VAT rate, the lower the exemption threshold should be (Keen and Mintz 2004). The logic supporting this conclusion is that the expected VAT revenue rises as the tax rate rises, while compliance costs for businesses stay constant as the rate rises. For example, Brashares et al. (2014) estimate that the optimal threshold would be \$200,000 under a 10 percent VAT and would fall to \$90,000 under a 20 percent VAT. That exemption would be higher than in most other countries, but the 10 percent rate would be lower than in most other countries.

Exemption is a mixed blessing. It reduces firms' compliance costs and taxes owed on sales but eliminates their ability to claim the VAT they pay on input purchases (and receive accompanying rebates from the government). An exemption may also reduce the demand for a business's product if it sells to other businesses, since other companies prefer to buy their inputs from firms that are in the VAT system so that they can claim credits for the taxes they pay. Evidence suggests that small-business exemptions lead to segmentation of the economy, with VAT-eligible firms tending to conduct business only with other eligible firms and ineligible firms working with other ineligible firms (Gadenne, Nandi, and Rathelot 2019; De Paula and Scheinkman 2010). Finally, an exemption may create increased tax avoidance opportunities. Nevertheless, a 10 percent VAT should provide an exemption for companies with gross revenue under \$200,000 and allow them to opt in if they wish. Estimates indicate that this exemption level would save 43 million businesses from having to file VAT if they chose not to (Brashares et al. 2014).

## **THE STANDARD RATE**

The VAT should have a single standard rate that applies to all purchases under the VAT. European countries often have a variety of preferential rates, a practice that experts have described as "increasingly quaint" (Crawford, Keen, and Smith 2010). Standard VAT rates vary substantially across countries. In the 35 OECD member countries apart from the United States, the average standard rate in 2018 was 19.3 percent but varied widely—from 5 percent in Canada (not counting provincial VATs) to 27 percent in Hungary.

Having a standard rate on all goods and services has several advantages. Taxing different goods at different rates creates opportunities for avoidance, raises administrative costs, and would create an endless stream of arguments in favor of subsidizing additional goods. In contrast, taxing everything at the same rate may miss some opportunities to moderately improve the efficiency of the tax code under ideal circumstances, but it will prove fairer and simpler and will reduce avoidance.<sup>17</sup>

## **SUBSIDIES TO PROTECT THE VALUE OF SOCIAL SECURITY AND MEANS-TESTED TRANSFERS**

The VAT will drive a wedge between wages and prices equal to the size of the tax. Either nominal wages will fall, prices will rise, or some combination of the two will occur. Either way, real wages will fall. (As discussed further below, the preferred outcome would be for the Federal Reserve Board to accommodate the VAT and allow prices to rise by the full extent of the tax

so that nominal wages would not have to fall, thus avoiding the wrenching macroeconomic consequences of declining nominal wages).

Higher VAT-inclusive prices will reduce the value of means-tested federal benefits. To avoid this unintended reduction in benefits, Congress should stipulate that those benefits would be adjusted upward to maintain their real purchasing power.

The drop in real wages (i.e., the fact that consumer prices inclusive of the VAT will rise relative to wages) will also have unintended consequences for Social Security. Each birth-year cohort's real Social Security benefits are proportional to the real value of the National Average Wage Index in the year that the cohort turns 60. Thus, without further adjustments, the proposed VAT would cut real benefits for cohorts younger than age 60 at the time the tax was implemented. To maintain real benefits, Congress should require the Social Security Administration to make a one-time adjustment to the National Average Wage Index to offset the reduction caused by the VAT (Carroll and Viard 2012).

## **UNIVERSAL BASIC INCOME**

Almost all countries implement progressive adjustments by providing product-specific subsidies (e.g., by zero rating food or utilities).<sup>18</sup> Since these items represent a greater share of the budget for low-income families than for high-income families, zero rating these goods makes the tax more progressive than it otherwise would be. The effect on progressivity, though, is weaker than it could be, because high-income families spend more in absolute terms on these items than low-income families do.

A per-person or per-family allowance more effectively targets the funds toward low-income households. In the proposal, each family would receive a UBI, paid quarterly and equal to the VAT rate multiplied by twice the poverty line. A family that consumed less than twice the poverty line would thus receive a net benefit under this proposal. A family that consumed at twice the poverty line would pay no net tax once the VAT and UBI are taken into account. Families with higher income would face net tax burdens, but only in proportion to the amount of their consumption above the poverty line. The UBI would vary by family size (as does the poverty line) and be about \$5,200 for a family of four. The average UBI across all households would be just over \$3,400 per year.

## THE NET TAX BASE

Table 3 shows the calculation of the VAT effective tax base.<sup>19</sup> Starting from aggregate consumption expenditures, the base is adjusted to reflect the prepayment status of housing. No adjustment is needed to accommodate the prepayment status of durables or collectibles because aggregate consumption expenditures already include new purchases of those items and exclude benefits (i.e., “consumption services”) that flow from those existing assets. The effective tax base—the base available to generate net VAT revenue—is reduced by excluding government spending on health care (which is part of consumption), given that the federal government cannot raise money by taxing itself. Further adjustments are made for state and local sales taxes on final consumption, the small business exemption, avoidance, evasion, and miscellaneous factors. This leaves an aggregate effective tax base of \$9.8 trillion, which equals about 64 percent of aggregate consumption or 44 percent of GDP.

TABLE 3.

### Broad VAT Base in 2020

	Level (billions of \$)	Percent of consumption	Percent of GDP
<b>Consumption</b>	15,374.0	100.0	68.9
<b>Less:</b> Government health expenditures	1,795.0	11.7	8.0
<b>Less:</b> Net housing adjustment	1,610.4	10.5	7.2
<b>Less:</b> Imputed rent on owner occupied housing	1,809.5	11.8	8.1
<b>Less:</b> Rental of tenant-occupied housing	660.0	4.3	3.0
<b>Plus:</b> New housing purchases	579.5	3.8	2.6
<b>Plus:</b> Improvements of existing housing	279.6	1.8	1.3
<b>Less:</b> Other adjustments <sup>a</sup>	149.1	1.0	0.7
<b>Equals: Consumption in VAT base</b>	11,819.5	76.9	52.9
<b>Less:</b> State and local general sales taxes on final consumption	294.6	1.9	1.3
<b>Less:</b> Noncompliance/small business exemption	1,728.7	11.2	7.7
<b>Equals: Effective broad VAT base</b>	9,796.1	63.7	43.9
<b>GDP</b>	22,326.1	145.2	100.0

Source: Bureau of Economic Analysis (2019); Congressional Budget Office (2019); and Urban-Brookings Tax Policy Center estimates.

<sup>a</sup> Net purchases of used cars and net foreign travel and expenditures by U.S. residents abroad.

## Evaluating a VAT

The VAT can raise significant amounts of revenue in a manner that is progressive, administrable, and conducive to growth.

### BUDGETARY EFFECTS

Table 4 shows that, with adjustments for Social Security and means-tested transfers, and with a UBI equal to the VAT rate times twice the poverty line, the VAT would raise \$247 billion in 2020 or about 1.1 percent of GDP. Over the 2020–29 period the VAT would generate about \$2.9 trillion in revenues. If the UBI were cut in half, the VAT would raise \$545 billion in 2020 and \$6.5 trillion by the end of 2029 (not shown). With no UBI, the VAT would still be progressive (because of the protection of real Social Security benefits and means-tested transfers, discussed below) and would raise \$842 billion in revenue in 2020, rising to \$10.0 trillion over the next decade.<sup>20</sup>

### THE WEALTH TAX COMPONENT OF A VAT

A consumption tax imposes a burden on wealth that exists at the time the tax is introduced. Households finance their consumption from one of three sources: existing wealth, future earnings, and returns on future

TABLE 4.

### Effect of VAT on Federal Revenue, Spending, and Deficit in 2020 with and without Universal Basic Income (UBI)

	VAT (no UBI) (billions of \$)	VAT (with UBI) (billions of \$)
<b>Gross VAT revenues</b>	979.6	979.6
<b>Less: Increase in federal cash transfer payments</b>	137.2	137.2
<b>Less: Rebate (rate × 2 × FPL)</b>	—	595.8
<b>Net revenue, 2020</b>	842.4	246.6
<b>Net revenue, 2020–29</b>	10,023.3	2,934.4

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

Note: The proposal would introduce a VAT of 10 percent and provide a rebate in the form of a universal basic income for each household equal to 10 percent times twice the federal poverty level. The analysis shows the long-run impact on revenues and spending at 2020 levels of income and consumption. The analysis assumes that the Federal Reserve allows consumer prices to rise and that federal cash transfer benefits are increased to maintain real purchasing power.



investments.<sup>21</sup> Thus, one component of a pure consumption tax is a tax on all pre-existing wealth, which will be liable for the tax whenever it is used for consumption. Crucially, the consumption tax is capitalized immediately into the value of assets, even if it is paid to the government over a potentially lengthy period. By lowering the after-tax income stream generated by an asset existing at the time the tax is introduced, the consumption tax causes an immediate reduction in its real price.<sup>22</sup>

The easiest way to understand this effect is to assume that, after the implementation of a consumption tax, the price level rises by the full extent of the tax. Then existing wealth is worth less; a decrease in wealth will translate into less consumption in the future. For example, if a 10 percent tax on all consumption raised the consumer price level by 10 percent, it would reduce the value of existing wealth by 9.09 percent (10 divided by 110). (In contrast, if the price level remained constant, the entire burden would fall on equity holders and show up as a nominal decline in equity values; the value of nominally denominated debt would not change.)

But, as noted, the proposed VAT would only tax consumption associated with explicit transactions. Under the proposed prepayment approach described above, a VAT would not tax the consumption services that households obtain from existing owner-occupied housing, rental housing, durable goods, or collectibles, though it would tax new purchases (and improvements) of these items. As a result, the VAT would impose an implicit one-time lump-sum tax, not on all pre-existing wealth, but rather on pre-existing wealth not held in housing, durables, or collectibles.

This component of the VAT has enormously positive properties (see box 2). A lump-sum tax on the relevant wealth raises significant amounts of revenue. It is likely to create minimal distortions, avoidance, evasion, and deadweight loss. Because it is not imposed directly, it does not require assessments of the value of specific items of wealth. And it is extremely progressive, given the unequal distribution of existing wealth.<sup>23</sup>

## **LONG-RUN EFFICIENCY AND GROWTH**

It is hard to think of a tax that could raise as much revenue as a VAT and have better efficiency effects, except perhaps for other forms of a consumption tax. The implicit lump-sum tax on pre-existing wealth (other than housing and durables) is one reason: a one-time tax on existing wealth can raise considerable revenue without economic distortions (Auerbach and Kotlikoff 1987).<sup>24</sup> More generally, a VAT that is levied uniformly over time on all noninvestment goods and services has several key attributes. It does not distort relative prices or consumer choices among taxed goods, nor does

## BOX 2.

## Comparing a VAT to a Direct Wealth Tax

This chapter views the VAT as a complement, not a substitute, for direct taxes on the well-to-do, such as the wealth tax proposed by Warren (2019) or discussed in Saez and Zucman (2019a). Compared with these other taxes, the VAT has different goals, different efficiency properties, and different distributional effects. Still, comparing the one-time wealth tax embodied in the VAT to an annual wealth tax on extremely wealthy households can help inform the debate.

The VAT's implicit wealth tax has several obvious differences from direct wealth taxes. First, the VAT does not require explicit valuation of assets. Second, the wealth tax imposed by the VAT is essentially a lump-sum tax and would be difficult to avoid. Third, the VAT burdens future excess returns, whereas the direct wealth tax burdens the normal return in addition to excess returns (Guvenen et al. 2019). Fourth, the wealth tax imposed by the VAT would be quite progressive, imposing 21 percent of the burden on the top 0.1 percent of households, 70 percent on the top 5 percent, and 93 percent of the burden on the top quintile.<sup>25</sup> But the wealth tax component of the VAT would still be far less progressive than a tax on individual wealth above \$40.6 million, which would be paid only by households in the top 0.1 percent of the wealth distribution.<sup>26</sup>

The revenue differences between the two taxes are also of interest. The lump-sum wealth tax component of the VAT would fall on all wealth other than existing owner-occupied housing, rental housing, durable goods, and collectibles. A lower bound of the value of such wealth can be obtained by summing the value of financial assets and privately held businesses and subtracting associated debt—about \$70 trillion in 2019.<sup>27</sup> Applying a 15 percent adjustment for evasion and avoidance (which is probably an overestimate, due to the difficulty of escaping a VAT), the base would be about \$60 trillion. Since the VAT would apply to about 64 percent of consumption, the effective base would be about \$38 trillion. The VAT would impose the wealth tax at the rate of consumption taxation (10 percent), generating about \$3.8 trillion in revenue in

present value. This is almost exactly equal to the (undiscounted) 10-year revenue gain, \$3.75 trillion, reported by Senator Warren's campaign for her wealth tax (Warren 2019), though estimates for this aspect of the VAT and the wealth tax are both uncertain.<sup>28</sup>

Comparing the long-term revenue of a VAT and Senator Warren's wealth tax is not simple. The burden on wealth from a VAT would be a one-time source of revenue but would be paid over a potentially extremely lengthy period. In contrast, estimates of the present value of the revenue from a wealth tax as described in Saez and Zucman (2019a, 2019b) or proposed by Warren (2019) could generate a wide range of values, depending on the assumed growth rate of the economy and the appropriate rate of discount. Thus, while the present value of the burden on wealth from the VAT is about 19 times the initial annual revenue collected from the wealth taxes described above, it is more difficult to compare their long-term relative revenue yields.

it affect household saving choices or business investment, organizational, financing, or payout choices. But as with income and payroll taxes, the VAT distorts household labor supply choices because it creates a wedge between what one earns and how much consumption one can afford.

A VAT is designed to operate in an increasingly globalized world. Border adjustability is consistent with world trade agreements and other countries' practices and would not disrupt the global supply chains that modern corporations rely on. Evidence suggests that the VAT does not reduce trade flows (Benartzi and Tazhitdinova 2018).

The effects of a VAT on long-term economic growth depend, of course, on how the revenues are used, and thus quantitative estimates are beyond the scope of this chapter. One use of revenues is to partially replace the income tax. A large literature has addressed this topic, showing positive but generally small long-run effects, especially once personal exemptions and transition relief are included (see Altig et al. 2001). Huntley, Prinsziano, and Ricco (2019) use the Penn Wharton Budget Model to estimate that a 1 percent VAT, on a base somewhat smaller than that proposed in this chapter, with a refundable tax credit that is substantially smaller than the UBI proposed here, and applied to deficit reduction, would raise GDP by 0.1 percent by 2030 and by 0.8 percent by 2050. More generally, higher tax revenues need not reduce growth: neither time series analysis nor cross-

section samples suggest a strong association between tax revenue levels and growth rates.<sup>29</sup>

### **SHORT-RUN EFFECTS**

Imposing a VAT would likely depress consumption, at least temporarily (Alm and El-Ganainy 2012; Carroll, Cline, and Neubig 2010). As noted, it may therefore be appropriate, in the short run, to use VAT revenues to fund programs that generate demand in the economy to the greatest extent through stimulus payments, government investments, or reform and restructuring of existing taxes. Over the longer term, as the economy adjusts, the revenues could be used for debt reduction.

An alternative policy not proposed here but worth considering is phasing in the VAT, for example, starting at a 5 percent tax rate and then raising the rate one percentage point a year until it reaches 10 percent. A phase-in would raise the price of consumption gradually over time, giving people and businesses time to adjust their plans and incentives to accelerate consumption spending (to avoid higher tax rates in subsequent years). The increased consumption could provide direct stimulus to the economy, and the funds could also be used to stimulate the economy further (Gale 2019).

If the VAT were to replace an equal-yield retail sales tax, the price level would be a nonissue. However, a VAT created in the absence of other policy changes would drive a wedge between wages and prices: either prices would go up or wages would go down (Gale 2005).

Monetary policy, presumably, will determine whether the adjustment occurs through nominal wages or prices. Congress should stipulate that the monetary authorities should accommodate the VAT and allow for a one-time increase in the consumer price level (which includes the VAT) equal to the VAT rate. If instead, the Federal Reserve aims to keep consumer prices constant before and after the VAT is created, wages will (eventually) fall by the VAT rate, which would likely create significant adjustment costs and job losses.<sup>30</sup>

Implementing a one-time or gradual price level adjustment to accommodate the introduction of the VAT should not create continuing inflation. Indeed, the presence of an additional revenue source would reduce the likelihood that the Federal Reserve will need to monetize deficits.<sup>31</sup>

## LONG-TERM DISTRIBUTIONAL EFFECTS

As noted, the VAT is a combination of a non-distorting tax on (most) pre-existing wealth and future supernormal returns (that is, returns above the normal rate prevailing in the economy) and a distortionary tax on labor income. As a result, the burden of the VAT will change over time, as the implicit tax on wealth is eventually paid off. I focus on the long-term distributional effects, essentially after the tax on wealth has been fully paid. In practice, it would take a long time to reach this situation, so the results should be thought of as bounding the long-term distributional effects. In the lengthy period before the wealth tax revenues are fully collected, the proposal will be *more* progressive than shown below, because taxes on pre-existing wealth will continue to be paid and because pre-existing wealth is clearly distributed more unevenly than wages, which are much larger than supernormal profits.

In the long term, after the initial period of adjustment, a consumption tax's burden falls on wages and on supernormal returns to capital (that is, it exempts the normal return to capital). In contrast, an income tax falls on wages, the normal return, and supernormal returns. As a result, when the rate structure is held constant, a VAT is slightly less progressive than an income tax and more progressive than a payroll tax (Gentry and Hubbard 1996).

To bound the long-term distributional effects of the VAT, I follow Urban-Brookings Tax Policy Center standard protocol. Households are classified according to their annual expanded cash income.<sup>32</sup>

Table 5 shows that the VAT without a UBI, with adjustments for Social Security benefits and means-tested transfers, is somewhat progressive. After-tax income falls by 3.7 percent in the bottom quintile versus 6.1 percent in the top quintile. The reason for the smaller decrease for low-income households is that a large fraction—more than one-third—of their income is in the form of Social Security benefits or means-tested transfers and thus is protected from the VAT. Under this specification, the bottom quintile pays about 3 percent of the overall tax, while the top quintile pays more than half of all VAT payments. The middle quintile bears significant net tax burdens in this specification: after-tax income falls by 5.3 percent.

The results become sharply more progressive in the presence of a UBI set at the VAT rate times the poverty level times two. In this case, the bottom quintile sees an *increase* in after-tax income of almost 17 percent, while the top quintile faces a reduction in after-tax income of 4.7 percent. The top quintile bears more than 100 percent of the tax—142 percent, to be

TABLE 5.

## Distribution of 10 percent VAT by Income Percentiles, with and without Universal Basic Income (UBI)

Expanded cash income percentile <sup>a,b</sup>	Percent change in after-tax income <sup>c</sup>		Share of total federal tax change <sup>d</sup>	
	No UBI	UBI	No UBI	UBI
<b>Lowest quintile</b>	-3.7	16.9	2.9	-46.0
<b>Second quintile</b>	-4.5	4.6	7.4	-26.0
<b>Middle quintile</b>	-5.3	0.1	14.1	-0.8
<b>Fourth quintile</b>	-5.9	-2.4	21.9	30.6
<b>Top quintile</b>	-6.1	-4.7	53.3	142.6
<b>Total</b>	-5.7	-1.7	100.0	100.0
<b>80th–90th percentiles</b>	-6.3	-3.8	15.6	32.9
<b>90th–95th percentiles</b>	-6.3	-4.5	10.6	26.3
<b>95th–99th percentiles</b>	-6.2	-5.1	13.3	37.6
<b>Top 1 percent</b>	-5.8	-5.5	13.8	45.8
<b>Top 0.1 percent</b>	-5.4	-5.3	6.0	20.4

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

<sup>a</sup> Includes both filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but are included in the totals. For a description of expanded cash income, see Urban-Brookings Tax Policy Center (2019).

<sup>b</sup> The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are as follows (in 2019 dollars, based on tax year 2020): 20%, \$25,700; 40%, \$51,300; 60%, \$92,300; 80%, \$167,000; 90%, \$245,000; 95%, \$348,000; 99%, \$828,000; and 99.9%, \$3,708,100.

<sup>c</sup> After-tax income is expanded cash income less the following: individual income tax (net of refundable credits), corporate income tax, payroll taxes (Social Security and Medicare), estate tax, and excise taxes.

<sup>d</sup> The sum shares figures may not add to 100 percent because of rounding errors and other factors.



precise. With the UBI, the households in the middle quintile are essentially unaffected on average—their after-tax income is virtually unchanged.<sup>33</sup>

A lingering concern is that imposing a VAT would hurt low- or moderate-income elderly households. In practice, however, to the extent that a VAT raises prices, low-income elderly households will not be affected very much. Social Security, Medicare, and Medicaid, the main sources of income for low- and moderate-income elderly households, are effectively indexed for inflation. Social Security benefits for current retirees—which provide 90 percent of income for a third of the elderly, and more than half of all income for two-thirds of the elderly (Social Security Administration

2016)—would adjust with the consumer price level. Benefits for new retirees would be adjusted on a one-time basis, as described above, so that their inflation-adjusted benefits remain unchanged under the proposal. Unlike Social Security, Medicare and Medicaid cover specific services and would thus be unaffected by the proposal. Finally, everyone would receive the UBI described above. Distributional results (not shown) indicate that both the VAT and the VAT with the UBI are progressive among elderly groups, and that the net burden imposed on elderly households by the VAT plus UBI is essentially zero. Thus, we can inoculate the low-income elderly from the burden of a consumption tax while increasing the burden on the high-income elderly, who can more easily afford it.

## TAX ADMINISTRATION

Designing, administering, and enforcing a VAT and issuing regulations would create new burdens for government. It would create new compliance costs for taxpayers as well, but they would likely be far smaller than those associated with the income tax, especially if the VAT has a broad base and taxes all items at the same rate (Bickley 2012). Firms already collect the information needed to file VAT (sales minus input purchases) in the normal operation of business.

A VAT's chain of crediting has administrative advantages over retail sales taxes because it creates a natural audit trail. Under the VAT, in a transaction between two businesses, the seller knows that the buyer is reporting the transaction to claim a credit, so the seller has more incentive to report the transaction and pay its tax. In contrast, a retail sales tax contains no similar incentive to report transactions.<sup>34</sup> A retailer responsible for sending its collected sales tax revenue to the government knows that the government may not have a record of the transaction. Also, the retailer cannot always tell whether a buyer is a consumer who should pay the tax or a business that should not—and has little incentive to find out. If the retailer does not impose a sales tax on consumer purchases, it commits tax evasion. If the retailer imposes a tax on business purchases, the tax “cascades,” building up over successive stages of production, raising and distorting prices, depending on the number of stages of production. The VAT avoids cascading by providing a credit for taxes paid. Lastly, when evasion occurs at the retail level, all tax revenue on the sale is lost under a retail sales tax, whereas under a VAT, only the tax on value added by the retailer is lost.<sup>35</sup> As a result, most countries, states, and localities have found that retail sales tax rates of 10 percent or higher are not enforceable. All of this helps explain why so many countries have replaced their sales and turnover taxes with VATs (Tanzi 1995).<sup>36</sup>

VATs are still subject to avoidance and evasion, of course, but these opportunities are limited in a broad-based, single-rate tax. VAT (and sales tax) lore is full of colorful examples of tax avoidance created by zero rating and exemptions.<sup>37</sup> Underpayment in a VAT can arise from many sources, including under-reported sales (although this is a bigger problem with a retail sales tax for the reasons noted), misclassification of goods (when rates vary), tax collected but not remitted to the government, and false claims for VAT credits or refunds.<sup>38</sup>

In European countries, where open borders are a top priority for non-tax reasons, a phenomenon called carousel fraud is a significant problem. It occurs when a good is imported, then is sold domestically by a business that collects VAT and vanishes, and lastly is exported. The fraud exploits the fact that exports are zero rated and import taxes are not due immediately upon importation.<sup>39</sup> Carousel fraud is most common with high-value goods sold across borders, such as cell phones and computer chips, and with intangible goods, such as carbon credits and cloud computing (European Parliament 2018).<sup>40</sup>

The adoption of a VAT in the United States would likely not see rampant carousel fraud. International trade is less important here: in 2016, imports and exports summed to 26 percent of GDP in the United States, compared with 84 percent of GDP on average for members of the European Union (OECD 2019). In addition, the United States does not prioritize having open borders the way the European Union does. Several proposed administrative solutions to carousel fraud could easily be adopted by the United States (e.g., making exports zero rated only after the tax has been collected on the import, or not allowing a good to clear customs until taxes have been paid).<sup>41</sup>

The overall evasion rate for VATs appears to be lower than for income taxes but varies widely among countries. In 2017, unpaid tax liabilities were about 11 percent of total VAT liability in the European Union, varying within member states from 0.6 percent in Cyprus to 35.5 percent in Romania (Center for Social and Economic Research 2019). The evasion rate would likely be significantly lower under the proposed VAT in the United States both because of the broad-based, single-rate structure and because of the vastly lower prevalence of carousel fraud, which accounts for 29 to 44 percent of all VAT evasion in the European Union (European Parliament 2018).

Finally, businesses under a VAT essentially serve as unpaid tax collectors (Robinson and Saviano 2011). They could be compensated for these services with a small tax credit.



## Questions and Concerns

### *1. Will a VAT fuel growth of government?*

Some conservatives and libertarians fear that a VAT will fuel the growth of government. Anti-tax activist Grover Norquist says, “VAT is a French word for ‘big government’” (Cassidy 2005). According to Daniel Mitchell, a conservative tax commentator, giving policymakers a VAT would be like “giving keys to a liquor store to a bunch of alcoholics” (Mitchell 2010).

Critics argue that the VAT is a “hidden tax” buried in the price of a good and that policymakers could raise the rate without public awareness. In fact, some evidence shows that policymakers can more easily raise rates on hidden taxes, and VATs have been “hidden” in some countries in the past (Finkelstein 2009). But they do not need to be hidden. American state sales taxes are reported visibly on receipts, and there has been no massive expansion of such taxes over the years. Policymakers should require that American VAT charges be reported clearly on receipts, as is the practice in Canada, France, and other countries currently.

A related concern is that the creation of a VAT will raise revenues (the tax becomes a “money machine”), encouraging excessive government spending. The argument, essentially, is that the VAT is too efficient, raising revenue with such minimal economic distortion and administrative costs that it prompts the public to demand higher revenue and higher spending (Mitchell 2011). Conservative critics fear that such spending would be damaging and prefer that the process of taxing and spending be less efficient.

The record largely belies concerns that VATs have fueled significantly higher revenue levels. Although overall revenues have risen significantly in European countries with VATs, VATs do not seem to be the main reason. For example, figure 2 shows that tax revenues in OECD countries have risen substantially over time from 24.9 percent of GDP in 1965 to 34 percent of GDP in 2016. But revenue as a share of GDP from all consumption taxes (including VATs, retail sales taxes, and excise taxes, among others) has risen by only 1.6 percentage points over the same period. So while VAT revenue as a share of GDP has risen by 6.1 percentage points, it has been largely offset by a 4.5 percentage point average decline in revenue as a share of GDP from other forms of consumption tax.<sup>42</sup>

In formal econometric analysis, Keen and Lockwood (2006, 925) find that the “association between the presence of a VAT and total tax revenue is not simple, is not always statistically significant . . . and may in any event

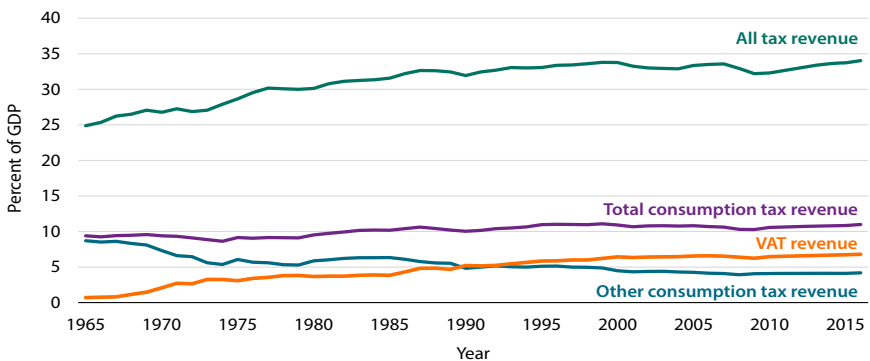
be small.” They do not find evidence that a VAT directly causes growth of government. They point out that any effect of the VAT on total government spending has been diluted substantially by countries choosing to use VAT revenues to reduce other taxes. In addition, some evidence suggests that the causation runs the other way: the public’s demand for higher spending fuels demand for a VAT, an efficient revenue source (Lee, Kim, and Borchering 2013). Thus, the OECD countries’ experiences with a VAT do not suggest that the VAT causes sustained growth in government spending.

The context for implementing a VAT in the United States—namely, that the long-term fiscal shortfall facing the country necessitates tax increases—makes it even more unlikely that an American VAT would simply boost spending.

To be fair, some evidence suggests that the more revenue the government has, the higher spending will be (Becker and Mulligan 2003). But U.S. history suggests that the opposite is more often the case. Every major tax cut of the past 60 years was accompanied or followed by an *increase* in spending, not a reduction.<sup>43</sup> In contrast, the budget deals enacted in 1990 and 1993 raised taxes and cut spending at the same time. So, in fact, U.S. policymakers tend to cut taxes and increase spending simultaneously; they also tend to raise taxes and cut spending simultaneously (Bartlett 2007; Gale and Orszag 2004; Romer and Romer 2009). Thus, when policymakers are ready to address the long-term fiscal challenge and create a VAT, they will likely couple it with spending cuts.

FIGURE 2.

## OECD Tax Revenue as a Percent of GDP, 1965–2016



Source: OECD Consumption Tax Trends 2018.

Note: Total consumption tax revenue is the sum of the VAT and “Other consumption tax revenue”, which includes retail sales taxes, turnover taxes, and other taxes on goods and services.

## *2. How would a VAT affect the states?*

A national VAT would have significant implications for the sales taxes on which most states and many localities rely, but that is a feature, not a bug. Sales taxes are the second largest state and local revenue source. Some policymakers and experts view consumption taxes as the states' prerogative and express concern that a national VAT would impinge on states' ability to administer their own sales taxes. Their concerns are understandable, though states could retain their current retail sales taxes even in the presence of a federal VAT. But repealing their current sales taxes and replacing them with VATs that conform to a federal VAT base would offer many advantages for states.

Currently, state sales taxes are poorly designed. McLure (2002, 841) refers to the “nutty” world of state sales taxes. The taxes exempt many goods and most services, which makes them unfair and inefficient. Forty-five states and DC have a sales tax; 34 of them exempt food consumed at home, and almost all exempt some component of health-care consumption. Business-to-business transactions should also be exempt (to avoid tax cascading), but these transactions actually constitute around 40 percent of state sales tax revenues (Ring 1989; Phillips and Ibaid 2019; Gale 2005). State and local governments also have difficulty taxing out-of-state, mail-order, or internet purchases made by residents. States that impose their own VATs that conform to the federal VAT could solve these problems. They could raise revenue with minimal economic distortion and vastly reduced administrative costs.<sup>44</sup>

If the federal and state VAT bases were identical, the federal government could even collect revenue on behalf of the state, remit the funds to the state, and relieve the state of most VAT administrative costs altogether. At the least, states could piggyback on federal VAT administration as they currently do with the income tax, easing taxpayer compliance costs and government administrative costs.<sup>45</sup> If states and localities adopt the federal VAT structure, they could replace existing sales tax revenues and protect the bottom 40 percent of households even more effectively than their current product exemptions do, with an average VAT rate of about 6.6 percent and a UBI equal to the state VAT rate times the federal poverty line.<sup>46</sup> The combined federal, state, and local average VAT rate, which would be 16.6 percent, would still be lower than the OECD average national rate of 19.3 percent.

The experiences of the European Union member countries and Canada demonstrate that countries can successfully implement multilevel VATs (i.e., encompassing both the national and subnational tax authorities),

but the issue of interstate commerce merits further discussion. Without coordination among states, goods and services would have to be zero rated as an export every time they crossed a state border and then taxed as an import to the new state. Interstate commerce would be cumbersome and confusing. Keen (2001) highlights a simple solution to this problem: tax all business-to-business sales at the federal VAT and let states set their VAT on final sales at whatever rate they would like. This solution would retain the character of the VAT as a sales tax, would eliminate the need to make state-by-state border adjustments for business-to-business transactions, and would allow states to retain control over their own tax rates on final sales.

### *3. What are the political prospects for a VAT?*

The political obstacles to enacting a VAT in the United States are considerable. Policymakers mulled broad-based consumption taxes in the 1930s to plug the budget, in the 1940s to fund World War II, in the 1970s to share revenues with states and localities, and in the 1980s and 1990s as part of overall tax reform—all to no avail. That makes the VAT, as one expert noted, “the most studied tax system that has never been seriously considered by Congress” (Schenk 2011).

Politicians have notoriously long memories, and, consequently, former Democratic House Ways and Means Committee chairman Al Ullman looms large. He proposed a VAT in 1979 and lost his reelection bid a year later. Many factors contributed to his loss—he was often away from his district, where his only residence was a hotel room, and 1980 was a big year for Republican candidates. His experience, though, has served as a warning to politicians who may be considering a VAT. So, too, does the experience of Canada’s Conservative Party, which was decimated in the election after it enacted a VAT.<sup>47</sup>

In that regard, it is somewhat remarkable that leading policymakers of both parties have proposed VATs in recent years. Conservatives may decry the VAT as an instrument of European socialism, but they have proposed VATs themselves, just under alternative names. They speak of the VAT like the wizards in the *Harry Potter* stories speak of Voldemort—careful never to say the name. But the destination-based cash-flow tax that House Speaker Paul Ryan and Ways and Means Committee chair Kevin Brady proposed in the 2016 Republican “Better Way” blueprint is just a VAT with a wage deduction (Ryan and Brady 2016). VATs are embedded in Ryan’s “business consumption tax,” libertarian Kentucky senator Rand Paul’s “Fair and Flat Tax,” 2012 Republican presidential candidate Herman Cain’s “9-9-9” proposal, and Republican senator Ted Cruz’s “Business Flat Tax” (Ryan

2008; Paul 2015; Urban-Brookings Tax Policy Center 2011; Cruz Campaign 2015).

VATs have also been proposed (and renamed) in Senate Finance Committee Democrat Ben Cardin’s “progressive consumption tax” and the Bipartisan Policy Center’s 2010 Domenici-Rivlin commission report, which called it a “deficit reduction sales tax” (Cardin 2015; Debt Reduction Task Force 2010). Although these leading policymakers proposed to use the resulting revenues differently, they all viewed the VAT favorably for three reasons: it raises lots of money, it creates few negative economic incentives, and it is administratively sound.

The Taxpayer Protection Pledge, also known as the “no new taxes” pledge, will be a significant obstacle to enacting a VAT (or any other tax) that raises net revenue. Created by the lobbying group Americans for Tax Reform, which is headed by Grover Norquist, the pledge has been signed by 88 percent of Republicans in the 116th Congress (2019–21), including almost all of the party’s leaders (Americans for Tax Reform 2019). No Democrats have signed on, and only one independent has. But in some situations, the country needs to raise taxes. World Wars I and II come immediately to mind. Even Ronald Reagan saw fit to raise taxes on numerous occasions (Bartlett 2011). The pledge has been criticized by both the right and the left, is unpopular with voters, and makes negotiations about reaching a fiscal solution almost impossible: if one side will not consider tax increases, why should the other side consider spending cuts (Gale 2019)?

#### *4. What can we learn from Canada’s experience?*

The VAT operates in 168 countries and raises an average of almost 20 percent of all revenue in OECD member countries, suggesting that many countries find the VAT to be a useful tool. But sometimes a simple example can speak as compellingly as reams of data. For example, we can assuage concerns about regressivity, government growth, transparency, and state-level impacts by focusing attention on Canada’s VAT (Sullivan 2011).

In 1991, Canada implemented a 7 percent national VAT to replace a tax on sales by manufacturers. It was introduced by the Conservative Party, which sought to address concerns about competitiveness and the government’s fiscal situation. To address distributional concerns, Canada applied a zero rate to certain necessities (e.g., groceries, medicines, and rent), and added a refundable credit to the income tax for lower-income people. Transfer payments were already indexed for inflation and highly progressive, which further offset the VAT’s regressivity. As noted, Canada’s VAT is completely transparent: it is listed separately on receipts and invoices, just like state and local sales taxes in the United States.

At least in Canada, fears about a VAT have proved unfounded:

- It did not decimate provincial consumption taxes; some provinces have converted their sales taxes to the VAT base, while others have not. Provinces set their own VAT rates, which either they or the Canadian government can administer. Of Canada's 13 provinces and territories, nine have a provincial sales tax—four administered in addition to the Canadian Goods and Sales Tax (GST) and five harmonized to the GST (Sullivan 2011).
- The rate has not risen inexorably; it has actually fallen over time. Policymakers cut the standard VAT rate to 6 percent in 2006 and then to 5 percent in 2008 (Sullivan 2011).
- It has not fueled government spending; Canada's general government tax revenue and spending have generally fallen as a share of its economy since 1991 (OECD 2017).

The political concerns are partially valid; the Conservative Party took a beating in the election following the creation of a VAT. But the Liberal Party, which had promised to repeal the VAT, did not do so upon taking the reins of power, and the VAT has survived (Sullivan 2011).

## Conclusion

The VAT has a lot to offer to policymakers and the American public. The tax can raise revenue in a relatively efficient, relatively progressive, and administrable manner. Given the long-term fiscal shortfalls facing the country and the need for more government investment in crucial social priorities, it seems to be only a matter of time until policymakers will be forced to consider a VAT more seriously than in the past.

## Appendix. Alternative Forms of Consumption Taxation

Consumption taxes come in many forms. At a high level of abstraction, the taxes are clearly related (and indeed equivalent in some respects).

For example, in the credit-invoice VAT (sometimes called a goods and services tax), each business pays the government the VAT collected on its sales minus a credit for the VAT it pays on input purchases (as shown in table 1 earlier). The credit-invoice VAT can be thought of as similar to a retail sales tax, with revenue collected at each stage of production rather than in one fell swoop at the retail level. This comparison only holds, though, if

the VAT has two additional features. First, it must allow a full deduction for new investment in the year it was made (“expensing”). Second, it must provide border adjustments. Almost all real-world VATs possess these two features, which make a VAT a destination-based consumption tax, like the retail sales tax.

Recall that a business’s “value added” is the difference between its gross sales and its purchase of goods and services from other businesses. It is equal to cash flow plus total compensation to workers (for simplicity, wages), or

$$\begin{aligned} (1) \text{ Value added} &= \text{Sales} - \text{Purchases} \\ &= (\text{Sales} - \text{Purchases} - \text{Wages}) + \text{Wages} \\ (2) &= \text{Cash flow} + \text{Wages} \end{aligned}$$

Under the subtraction-method VAT (sometimes called a business transfer tax), an alternative way to tax value added, businesses pay VAT on the aggregate difference between their sales to businesses and consumers, and their purchases from businesses, as shown in equation 1. Under many conditions, the subtraction-method VAT gives the same outcomes as a credit-invoice VAT.

Hall and Rabushka (1985) developed the “flat tax” based on the subtraction-method VAT. A flat tax divides the base into two parts. Businesses pay taxes on their cash flow. People pay taxes on their wages at a flat rate with personal exemptions (see equation 2). The X-tax (Bradford 1986) is similar to a flat tax but imposes graduated rates on wages and sets the business tax rate equal to the top tax rate on wages.

Neither the flat tax nor the X-tax contain border adjustments. As a result, they would tax goods produced in the United States rather than goods consumed in the United States (see figure 1 and appendix table 1). Representatives Paul Ryan and Kevin Brady (2016) proposed a destination-based cash-flow tax that is just a VAT with a wage deduction (appendix table 1). It would tax the same business cash-flow base as the flat tax and X-tax and would also implement border adjustments.

The business taxes described above are not so different from the existing corporate tax. If one starts with the flat tax or X-tax business tax structure, the current corporate tax is largely recouped by allowing firms to take deductions for interest payments and by requiring firms to depreciate rather than expense their investments in structures (appendix table 1).

APPENDIX TABLE 1.

## Comparison of Tax Bases

	Business base	Individual base	Border adjustment
Subtraction-method VAT	Cash flow + wages	—	Yes
Flat tax	Cash flow	Wages (with exemption)	No
X-tax	Cash flow	Wages (graduated rates with exemption)	No
Destination-based cash flow tax	Cash flow	—	Yes
Current corporate rate	Profits <sup>a</sup>	—	No

<sup>a</sup> Profits = cash flow + investment – depreciation – net interest



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## Endnotes

1. This paper is adapted from a chapter in *Fiscal Therapy: Curing America's Debt Addiction and Investing in the Future* (Oxford University Press, 2019).
2. As discussed in the appendix, the equivalence between a VAT and a retail sales tax requires a few additional conditions, namely that the VAT expenses current investment and provides border tax adjustments. In practice, virtually all VATs in existence satisfy these requirements.
3. See Batchelder and Kamin (2019), Gale (2019), and Saez and Zucman (2019a, 2019b) for further discussion of taxing the rich.
4. These payments would not be considered in determining eligibility for federal, state, or local government means-tested programs.
5. All references to VAT data from OECD countries are from OECD (2016, 2017, 2018) and are weighted by GDP, unless otherwise noted.
6. OECD (2019) defines social security contributions as “compulsory payments paid to general government that confer entitlement to receive a (contingent) future social benefit. They include



unemployment insurance benefits and supplements, accident, injury and sickness benefits, old-age, disability and survivors' pensions, family allowances, reimbursements for medical and hospital expenses or provision of hospital or medical services. Contributions may be levied on both employees and employers. Such payments are usually earmarked to finance social benefits and are often paid to those institutions of general government that provide such benefits."

7. The proposed tax rates are equivalent to a markup at the cash register, in the same way that retail sales taxes are typically quoted. In technical terms, the proposed VAT rate is a tax-exclusive rate (Gale 2005).
8. If the price level, including the VAT, did not rise, equity holders would bear the full burden of the wealth tax. Holders of nominal debt would not see any change in the value of their assets.
9. Keen (2001, 198) notes that both the liberal and conservative views "are probably wrong."
10. The current policy outcome adjusts CBO's current law projections to show the effects of alternative policies. Major temporary provisions in the tax code are assumed to be permanent, and delayed provisions are assumed to be permanently delayed (i.e., eliminated). The current policy adjustments also allow nondefense discretionary spending, already indexed to increase with inflation, to grow with population as well.
11. This is meant to represent a tax-exclusive tax rate. That is, the VAT would be 10 percent of the price not including the tax. For example, if the good sold for \$100 before the VAT is applied, a 10 percent tax-exclusive VAT would result in a levy of \$10. Any tax can be represented with a tax-exclusive or a tax-inclusive rate. For example, if the good sold for \$100 pre-VAT, a \$10 tax would represent a tax-inclusive rate of 9.1 percent (10 divided by 110).
12. The prices given in this example assume that consumers bear the full incidence of the tax.
13. In 2016, 78 percent of children from the top income quartile enrolled in college, compared with 46 percent of children from the bottom income quartile (Cahalan et al. 2018).
14. One option is to tax financial firms on a cash-flow basis. The International Monetary Fund has proposed a financial activities tax that is essentially a tax on the sum of worker compensation and profits in the financial sector, which is another way to calculate value added (see Keen, Krellove, and Norregaard 2016). Merrill (2011) advocates a tax calculation system that determines VAT liability on an account-by-account basis. Another option is the mobile-ratio approach, which allocates the financial margin of a firm to each financial transaction and hence taxes almost all value added by the financial sector (López-Laborda and Peña 2018).
15. See Gendron (2011) for further discussion.
16. Border adjustment implies that the wealth tax imposed by the VAT is absorbed by Americans. Without border adjustment, foreign wealth holders bear some of the burden of that levy because U.S. exports would include the tax. But, such a process would also make U.S. exports more expensive and possibly harm exporting firms and workers.
17. Taxing everything at the same rate is not always the optimal choice in theory. Under certain assumptions, the Ramsey rule implies that inelastically demanded goods should be taxed at higher rates. Under different circumstances, optimal commodity taxes should be higher for goods that are complements to leisure, which is untaxed. See Corlett and Hague (1953).
18. State sales taxes in the United States also provide product exemptions rather than per-household payments.
19. The table does not include the effects of higher federal government spending or revenues due to the tax the federal government owes to itself. Nor does the table include receipts from state and local government wages and purchases or the rebates those governments would receive from the federal government. All these effects, taken together, would not change the impact of the VAT on the deficit.
20. These figures assume that the monetary authorities accommodate the VAT and let prices rise by the full extent of the VAT (i.e., by 10 percent). If the consumer price level rises by less than the full extent of the VAT, some of the effect would involve lower government spending and a revenue decrease via lower revenues from other taxes. In contrast, when prices rise by the full extent of the VAT, there is no offsetting response in the form of lower revenues from other taxes (see Toder, Nunns, and Rosenberg 2011). In a first-order approximation abstracting from the impact of different price level patterns on the economy, the effect on the federal budget deficit and debt would be the same under any aggregate price level adjustment. The assumption that the nominal price level will rise differs

- from the standard assumption in distributional analyses (of income tax changes) undertaken by the Joint Committee on Taxation, CBO, and the Urban-Brookings Tax Policy Center that nominal prices stay fixed. But it makes more sense in the context of a VAT, since the alternative is that nominal wages have to fall, a process that could trigger an economic downturn.
21. The return to capital can be decomposed into a “normal” return (that is, the return on waiting) and excess or “supernormal” returns, which can consist of the returns on risk, skill, monopoly power, etc. A consumption tax does not burden the normal return because waiting to consume does not affect the present value of consumption. Some households may also finance consumption out of public or private transfers, but those transfers ultimately stem from one of the three sources listed in the text.
  22. This does not require that the wealth be eventually consumed. It just requires that some of the income from the wealth be consumed (i.e., that wealth ultimately grows more slowly than the interest rate). See Auerbach and Kotlikoff (1987) and Auerbach (2006).
  23. An alternative viewpoint rejects the one-time implicit wealth tax and argues instead that “deliberate attempts to impose such unexpected taxes are inappropriate” and “pernicious” (Carroll and Viard 2012, 126–27) See Carroll and Viard (2012) and Kaplow (2008) for a more detailed exposition. One reason a tax on existing wealth is considered inappropriate is the concern that it could be repeated. In this regard, imposing a one-time wealth tax through a consumption tax (rather than, say, through an explicit wealth levy) offers some reassurance, since the consumption tax can only be imposed once (though the tax rate could be raised).
  24. Altig et al. (2001) show that, even in the long term, more than 60 percent of the growth effect of substituting a VAT for the income tax is due to the lump-sum tax on existing wealth.
  25. Urban-Brookings Tax Policy Center calculation.
  26. If the general equilibrium effects of the wealth tax are considered, some of the effects of a direct wealth tax are likely to be borne by households below the top 0.1 percent. A lower capital stock would reduce wages, but a reduced amount of rent-seeking on the part of executives and firms could raise wages. For further discussion, see Penn Wharton Budget Model (2019).
  27. Urban-Brookings Tax Policy Center calculation using data from the 2016 Survey of Consumer Finances aged to 2019 (Board of Governors of the Federal Reserve 2016).
  28. Understanding the avoidance, evasion, administrative, and revenue effects from Warren’s wealth tax is a work in progress. No such tax or anything similar to it has ever been imposed in the United States. A study by the Penn Wharton Budget Model estimates that Warren’s proposal would raise \$2.7 trillion, nearly 30 percent less than the campaign’s claims. Accounting for macroeconomic effects, the Warren wealth tax would bring in \$2.3 trillion (Penn Wharton Budget Model 2019). Some commentators deemed the revenue estimates from a previous version of Warren’s wealth tax to be overly optimistic (see Holtzblatt 2019 and Summers and Sarin 2019). See also Rubin (2019).
  29. See Gale and Samwick (2016) for a more extensive discussion of the relationship between taxes and long-term growth.
  30. Downward nominal wage rigidity can lead to increased employment losses from a negative labor demand shock relative to the losses that would be expected if nominal wages were fully flexible (Devereux and Altonji 2000; Elsby and Solon 2019).
  31. Gale and Harris (2013) note that “research has found only a weak relationship between the VAT and continually increasing prices. In a survey of thirty-five countries that introduced the VAT, Tait (1991) finds that 63 percent exhibited no increase in the consumer price index (perhaps because they were replacing existing sales taxes) and that 20 percent had a one-time price rise. In the remaining 17 percent of cases, the introduction of the VAT coincided with ongoing acceleration in consumer prices, but in Tait’s view, it is not likely that the VAT caused the acceleration.”
  32. Expanded cash income is a broad income measure equal to adjusted gross income plus (1) above-the-line adjustments, (2) employee contributions to tax-preferred retirement accounts, (3) tax-exempt interest, (4) nontaxable Social Security and pension income, (5) cash transfers, (6) the employer share of payroll taxes, (7) imputed corporate tax liability, (8) tax-exempt employee and employer contributions to health insurance and other fringe benefits, (9) employer contributions to tax-preferred retirement accounts, (10) income earned within retirement accounts, and (11) nutrition benefits (food stamps). For further background and explanation, see Urban-Brookings Tax Policy Center (2019).

33. The distributional consequences and characterization of the VAT depend on how taxpayers are classified (consumption or income) and how the tax is allocated—either to sources of income (wages and capital) or uses of income (consumption). The results discussed in this chapter represent a middle ground between alternative ways to estimate the distributional effects. For example, if households were classified by annual income, as they are here, but the tax were allocated on the basis of household consumption (rather than according to wages and supernormal returns on capital), the VAT (without UBI) appears to be very regressive in the long-run steady state. Because the VAT is a proportional tax on consumption, and because lower-income households consume greater shares of their income than do high-income households, the tax burden is a larger share of income for lower-income households than for high-income households (Burman, Gravelle, and Rohaly 2005; Feenberg, Mitrusi, and Poterba 1997). Alternatively, if households were classified by annual consumption and the tax were allocated on the basis of household consumption, the tax is proportional across income groups in the long-run steady state. Likewise, to the extent that current consumption reflects average lifetime income, the VAT is also proportional with respect to lifetime income (Casperson and Metcalf 1994; Metcalf 1994).
34. See Cnossen (2011) and Pomeranz (2015) for discussion of these incentives under a VAT. In the income tax, businesses withhold income and payroll taxes on behalf of workers and send the money to the government. As a result, evasion rates for wage income are quite low (Gale and Holtzblatt 2002). Naritomi (2019) discusses ways to incentivize consumers to report retail sales to the government, which then can use the reports to check whether firms are paying taxes appropriately.
35. A national retail sales tax has other problems (Gale 2005; President's Advisory Panel on Federal Tax Reform 2005). Advocates have argued that a 23 percent national sales tax rate would be sufficient to replace virtually all federal taxes, but the calculation is flawed, and the actual rate would need to be much higher to maintain real government spending and revenues.
36. VATs do have some administrative problems of their own. While tax evasion is typically lower under a VAT than under an income tax, it is not always low; one study estimated a 40 percent evasion rate in the Italian VAT (Tanzi 1995). Informal sectors of the economy, such as tip income or babysitting, will escape a VAT as well as income or sales taxes. Taxing certain sectors, like financial services, has proven difficult under a VAT because it is hard to identify the value added. New types of fraud, involving businesses that collect the VAT on their sales and then disappear with the proceeds, have emerged in recent years in Europe.
37. A famous case in Britain in the 1990s revolved around whether Jaffa Cakes were actually cakes or biscuits (cookies), which were taxed at different rates. More recently in the United Kingdom, the taxation of nuts has become an issue. Nuts are zero rated unless they are roasted, salted, and removed from the shell, in which case they are subject to 20 percent VAT. The rule for peanuts is slightly different: they are zero rated if they are removed from the shell but not roasted or salted. Further complications arise in nut mixtures. A recent court ruling regarding a dark chocolate bar, which could have been treated as a confectionary (taxed) or a baking ingredient (zero rated) hinged in part on the aisle in which the good was placed in supermarkets. These types of rules are recipes for disaster in tax administration. In the United States, differences in sales taxes on pumpkins, depending on their use, and on candies, depending on their ingredients, have attracted attention in recent years. See Kaeding (2019). States' policies for taxing doughnuts highlight the complexity of sales taxes: North Carolina and Washington tax doughnuts sold with eating utensils, and New York and Wyoming tax doughnuts on the basis of the quantity sold. See Erb (2019).
38. Missing trader intra-community fraud, a prevalent form of VAT fraud in the European Union, occurs when a business imports a good, sells it domestically, collects VAT on the sale, and simply never remits it to the government. The business disappears or closes, becoming a "missing trader." In this type of fraud, criminal organizations take advantage of the lag between when VAT is collected (during a sale) and when the tax must be remitted to the government (in periodic tax returns).
39. A simple description of carousel fraud, based on Keen and Smith (2006), is as follows: (1) Firm A, in country 1, sells a widget to company B in country 2 for \$100. Company A appropriately receives a full refund from country 1 of any input VAT it paid. (2) Firm B is not required to pay VAT to country 2 until its next periodic return. Let the VAT rate in country 2 be 10 percent. Firm B sells the widget for \$110 (including VAT) to firm C, also in country 2, showing \$10 as VAT. Firm B does not remit the tax to the authorities. Instead, it disappears before its next periodic return is due, and simply

keeps the money (this is where the “missing trader” terminology comes from). (3) Meanwhile, the invoice issued to firm C entitles it to a \$10 credit. Firm C sells the widget back to company A in country 1 (the return feature is where the “carousel” terminology comes from) for \$100. Because exports are zero rated, firm C gets a full rebate of its \$10 in VAT payments. (4) The cycle starts over. For each cycle, the loss to the government of country 2 is \$10. There is no value added in country 2, so there should be no net revenue. The government should have received \$10 from firm B and then refunded that amount to firm C. Instead, the government pays the \$10 to firm C but never collects the money from firm B. In practice, of course, the schemes can be much more complex, involving multiple layers of companies (not all in on the scam) located in different countries.

40. Indeed, at one point, a single person appeared to account for 10 percent of worldwide sales of one type of computer chip. In fact, however, he had only a single box that was rapidly making round trips across the Ireland–UK border (Ainsworth 2006).
41. See the discussion in Keen and Smith (2006).
42. Among 16 Western European countries from 1965 to 2015, VAT revenue rose by 5.6 percent of GDP, but excise and other sales taxes offset almost all of that change, falling by 5.2 percent of GDP. Indeed, in many instances, policymakers in those countries enacted a VAT with the explicit goal of replacing less efficient sales and other taxes. Total revenue in those 16 countries rose substantially over time—by about 10 percent of GDP—but the VAT increase in excess of other consumption tax reductions (0.4 percent of GDP) was only a tiny fraction of the total tax increase. These figures update calculations in Sullivan (2012), using data from OECD (2017). All 16 countries are included in the analysis, regardless of whether they had a VAT in 1965.
43. Major cuts were passed in 1964, 1981, 2001, 2003, 2009, and 2017.
44. In light of *South Dakota v. Wayfair*, states have the authority to collect sales taxes on transactions in which the seller does not have a physical presence in that state, also known as “nexus” (Supreme Court of the United States 2018). If there were a national VAT, states that aligned their own VAT base with the national VAT base would be able to more easily collect tax on sales within their states by businesses that had no nexus.
45. Of course, a federal VAT would also have direct effects on states if it were to tax purchases by state governments. Nunns and Toder (2015) show, however, that if the federal VAT exempts state and local government spending, as proposed, the effects on state budgets would be either neutral or positive.
46. With a UBI equal to the poverty line times the VAT rate, the bottom quintile would receive a net increase in after-tax income, and the second quintile would face a net burden of zero (Urban-Brookings Tax Policy Center calculation). Under even the most progressive current state or local sales tax, those two groups would face positive effective tax rates. The 6.6 percent rate is calculated by setting the \$414 billion in state and local sales tax revenue in 2018 (U.S. Census Bureau 2019) equal to gross revenues from the VAT (the \$9,796 billion base times the tax rate) less the cost of the UBI (the tax rate times \$2,975 billion, the cost of the poverty level summed over all tax units). Note that a state VAT that substitutes for existing sales taxes would not affect the price level or other tax burdens.
47. In 2010, the U.S. Senate went out of its way to disparage the VAT, voting 85–13 to support the statement “The Value Added Tax is a massive tax increase that will cripple families on fixed income and only further push back America’s economic recovery.” Such “sense of the Senate” resolutions, however, are not binding. For example, in 1981 a resolution expressing the sense of the Senate against taxing Social Security benefits passed 98–0. Under the provisions of the Social Security reforms passed two years later, Congress started taxing Social Security benefits (see Avi-Yonah 2011 and Carroll and Viard 2012).

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# Taxing Multinational Companies in the 21st Century

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## Abstract

The corporate tax remains a nearly indispensable feature of the U.S. tax system, since 70 percent of U.S. equity income is untaxed at the individual level by the U.S. government. Yet taxing multinational companies presents policymakers with conflicting goals. Although lower tax rates and favorable regimes may attract multinational activity, such policies erode the corporate income tax as a revenue source. Unfortunately, the Tax Cuts and Jobs Act of 2017 did not resolve this policy dilemma. Despite big reductions in corporate tax revenue due to lower rates, the 2017 tax law does not adequately address profit shifting or offshoring incentives within the tax code, nor does it improve the competitiveness of United States-headquartered multinational companies. This chapter proposes a rebalancing of U.S. international tax policy priorities. Starting from current law, there are several simple changes that can raise corporate tax revenue and adequately address profit shifting and offshoring; these changes can be implemented almost immediately within the architecture of current law. In the medium run the United States should partner with other countries to pursue a formulary approach to the taxation of international corporate income. By dramatically curtailing the pressures of tax competition and profit shifting, such an approach allows policymakers to transcend the trade-off between a competitive tax system and adequate corporate tax revenues. There is widespread international recognition of these problems; the current Organisation for Economic Co-operation and Development/Group of 20 process can serve as a steppingstone toward a fundamental rethinking of how we tax multinational companies in the 21st century.

## Introduction

The U.S. system of taxing multinational companies is broken. It was broken before the 2017 tax legislation and it remains broken today. The U.S. corporate tax system raises less revenue than the revenue raised in peer nations, despite the fact that U.S. corporate profits are a historically high share of GDP. The international elements of our corporate tax system are mind numbing in their complexity. There is a clear tilt of the economic playing field toward earning income abroad rather than in the United States. The 2017 Tax Cuts and Jobs Act (TCJA) built on a flawed system and, in many respects, made that system worse.

In some respects, the persistent dysfunction of our international tax system is unsurprising. Throughout the world policymakers have been put in an impossible position, facing serious pressures from international tax competition while also attempting to protect the corporate tax base. At the same time, multinational companies are more powerful than they have ever been. They command larger profits and larger market shares than in prior decades, control a large part of the economy, and undertake the vast majority of all international trade. This economic power makes these political actors difficult to resist, especially when companies raise concerns about competitiveness and threaten to take the tax base, investments, and jobs abroad.

In many countries policymakers have responded to tax competition pressures by slowly and steadily lowering corporate tax rates and shifting more of the tax burden onto labor and consumption. These trends are troubling for a number of reasons. In a larger economic context of increasing economic inequality and a declining labor share of income, such tax policy trends risk both exacerbating income concentration and reducing possible public revenue sources. There are also risks to the larger integrity of income tax systems.

In the United States the tax cuts of the 2017 tax law did not resolve the essential tension between making the United States a competitive location for economic activity and protecting the corporate tax base. The law sacrificed large amounts of corporate tax revenue without achieving much (if anything) in terms of competitiveness. At the same time, the system became even more complicated.

Beginning from current law, there are simple changes that would rebalance our international tax system. In this chapter I suggest several useful steps that fit within the architecture of the current law. However, these proposals will be politically contentious, and companies will argue that

their competitiveness is being sacrificed in order to protect the corporate tax base.

While such arguments are vastly overstated, a more-fundamental reform of the U.S. international tax system can put an end to the trade-off between competitiveness and tax base protection, allowing both to be achieved at the same time. This reform would tax multinationals on the basis of their global profits, which would be allocated to countries by the distribution of sales rather than by the ostensible distribution of profits. By moving toward a sales-based formulary system, the tax base will become insensitive to profit-shifting motivations, and policymakers can choose a corporate tax rate without worries about fierce tax competition or profit shifting.

Formulary apportionment of corporate income has many advantages relative to the current system. It curtails conventional profit shifting, it is administratively simpler, it is suited to the global nature of business activity and the modern nature of economic value, and it can become the basis of a stable international tax regime. However, there are also implementation issues, and this system would benefit from efforts toward international consensus building. While such consensus need not be complete, the current political environment, while challenging in many respects, provides a better starting point for international cooperation than many other periods. At present many countries have shown the requisite political will to tackle this problem. The years ahead may provide a rare opportunity to push for an internationally coherent system.

While other reform suggestions have many merits, they also have important drawbacks. The Organisation for Economic Co-operation and Development (OECD)/Group of 20 (G20) framework is too incremental; it is unlikely to fundamentally change the pattern of multinational company tax avoidance. The destination-based cash flow tax (DBCFT) is conceptually straightforward but comes with substantial practical problems, especially surrounding the necessity of a border adjustment tax. Residual profit split methods have key advantages but retain aspects of the current problems associated with the arm's-length standard. Coordinated adoption of minimum taxes is promising, but it leaves open questions about the impact of non-adopting countries.

Formulary apportionment will take work, but it stands the best chance for building an efficient and stable international tax regime. Like democracy, and like capitalism, formulary apportionment could be the worst possible system, except for all the others.

## The Challenge: Competing Policy Aims of Multinational Company Taxation

Policy decisions regarding the taxation of multinational companies frequently expose a tension between two competing goals: first, enhancing the competitiveness of the location for multinational company activity; and second, protecting the corporate tax base as a revenue source. In most tax systems these goals are in tension. Countries making their tax system more favorable to multinational companies by lowering their tax rates, or by instituting favorable regimes for particular activities or companies, typically erodes their corporate tax revenues.<sup>1</sup>

On the other hand, raising additional revenue through the corporate tax—by raising rates, clamping down on international profit shifting, or other measures—risks reducing the attractiveness of the location for mobile multinational activity. While booked profits are *far* more tax sensitive than physical investment or employment, the latter activities also respond to tax incentives. Policymakers are particularly reluctant to be aggressive in their corporate tax collection efforts for fear of discouraging jobs or investment.

Corporate tax rates have declined steadily among OECD countries since the mid-1980s: In 1985 the average statutory tax rate among OECD countries was 43 percent; in 2000 it was 30 percent; and in 2019 it was 21.7 percent.

Arguably, corporate taxation has been inhibited by a prisoner's dilemma situation. Absent coordination, countries have an incentive to lower their tax rates to try to gain tax base at other countries' expense. But if countries were to coordinate, they could sustain higher tax rates and a similar distribution of economic activity. (The aggregate amount of investment is far less tax sensitive than investment in any particular location.)

### **WHY TAX CORPORATE INCOME AT ALL?**

One seemingly simple solution to this dilemma is to merely give up on corporate taxation, and to move capital taxation to the individual (shareholder) level. However, this approach encounters several serious problems. First, the lion's share (about 70 percent) of U.S. equity income goes untaxed at the individual level by the U.S. government, as shown in Burman, Clausing, and Austin (2017). It is unclear that there is political will to remove long-held tax preferences for endowments, pensions, retirement accounts, 529 accounts, and so forth, so this lack of individual-level equity-income taxation will remain a sizable consideration.

Second, absent corporate taxation, the corporate form becomes a tax shelter, enabling tax-free growth in investments. The absence of mark-to-market taxation of capital gains, and the highly favorable step-up in basis at death, are important aspects of that problem.<sup>2</sup> At present, both capital gains and dividends are taxed preferentially relative to labor income.

Third, there is reason to think that capital income is undertaxed at present, especially considering the rise of market power and the share of capital income that is not the normal return to capital, but instead some sort of rent or excess profit.<sup>3</sup> Indeed, as of this writing in late 2019, the normal return to most equity-financed investments is exempt from taxation due to full expensing, and the normal return to debt-financed investments receives a net tax subsidy. Corporate tax at present falls nearly entirely on returns above the normal return.<sup>4</sup>

Thus, protecting the corporate tax base is integral to taxing capital (including excess returns), and taxing capital is an important part of the larger income tax system. Since it is far from trivial to simply move capital taxation to the shareholder level, that leaves policymakers with important corporate tax policy trade-offs.

## **COMPETITIVENESS**

Competitiveness is an elusive concept. Even those focusing on the tax elements of competitiveness often have more than one worry in mind. The typical worry concerns the competitiveness of the United States as a location for economic activity. A relatively high domestic corporate tax rate could encourage companies to shift economic activities abroad. Of course, beyond the factor of tax many other factors are important for making the United States a competitive economic location. These factors include the education of the U.S. workforce, the stability of U.S. institutions, research and development funding, infrastructure, and other important considerations.

In addition, many U.S. multinational companies worry about the tax competitiveness of the United States as a headquarters location. In those companies' view, a competitive tax system is one that does not unduly hamper their ability to compete with companies based in other countries. From this perspective, the lighter the tax burden placed on the foreign income of U.S. multinational companies, the more likely they can compete with companies based abroad in foreign markets. Indeed, this concern provides a logical motivation for exempting foreign income from taxation through a so-called territorial system of taxation.

Notice first that there is a tension between these two ideas of competitiveness. Exempting foreign income from American taxation may help United States–based companies compete abroad, but it also means that domestic companies may not view the U.S. as a tax-competitive location for economic activity in comparison with the lowest-tax-rate countries, even if they remain headquartered in the U.S.

Furthermore, the home tax rate being greater than the tax rate abroad provides an incentive to book profits abroad; the greater the difference between the domestic and the foreign tax rate, the larger that incentive. This leads to corresponding erosion in the corporate tax base due to profit shifting (see box 1). An important downside of a territorial tax system is that, without safeguards, it risks eroding the corporate tax base through international profit shifting.

#### BOX 1.

### How Profit Shifting Works

Companies have many different ways to shift profits offshore. Simple methods include mispricing international trade transactions that occur within the multinational company, such that purchases from low-tax affiliates are overpriced and purchases from high-tax affiliates are underpriced. Such techniques make the low-tax affiliates appear disproportionately profitable. Although companies are supposed to price such transactions as if they were occurring at arm's length with unaffiliated companies, there is often substantial leeway regarding transfer prices that can be used to minimize global tax burdens.

Companies may also structure their finance such that interest deductions are more likely for those affiliates in high-tax countries, reducing taxable income accordingly. Companies may also use cost-sharing arrangements or other methods to transfer intellectual property to low-tax foreign jurisdictions, where the resulting profits can then be reported. Finally, companies have been adept at creating opaque chains of ownership and hybrid organizational structures to generate so-called stateless profit that goes untaxed in any jurisdiction.

Prior to the 2017 TCJA legislation, the United States had a purportedly worldwide system of taxation that taxed the foreign income of United States–based multinational companies at the U.S. rate, with two important caveats. First, U.S. tax was not due until the income had been repatriated from abroad, and if the income was held abroad indefinitely, tax was deferred indefinitely, providing a substantial incentive to book income in tax havens. While such income could not be used for U.S. investments or be returned to shareholders, it could (and frequently was) held in U.S. assets, thus making the funds available to U.S. capital markets. In addition, companies could borrow against these funds, achieving the equivalent of a tax-free repatriation.<sup>5</sup>

Second, cross-crediting was allowed, such that tax payments to high-tax countries could offset U.S. tax due on income earned in low-tax countries. However, as the years went by and foreign countries cut their tax rates below the U.S. statutory rate, fewer and fewer companies had excess foreign tax credits, so funds were often held abroad in the hope of more-favorable future tax treatment when the funds were eventually repatriated. And, indeed, more-favorable treatment arrived: first in 2004 as a 5.25 percent repatriation tax holiday within the American Jobs Creation Act, and later in 2017, when Congress enacted special low rates (8 or 15.5 percent) for deemed repatriation (i.e., mandatory repatriation of past earnings) as part of the 2017 tax legislation.

Despite the high statutory tax rate and the purportedly worldwide tax system, there was no evidence that U.S. multinational companies were at a disadvantage prior to the TCJA. That is not to say that the prior system functioned well, or that it did not need reform. But U.S. multinational companies were thriving by every possible measure.

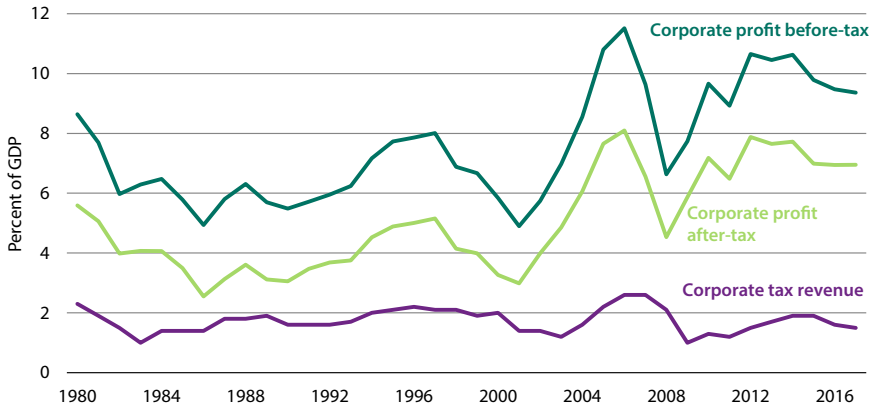
In recent years corporate after-tax profits have soared as a share of GDP (see figure 1). At the same time, U.S. corporate tax revenues have remained flat and are much lower than those of peer nations.<sup>6</sup> In part, low U.S. revenues reflect the profit-shifting abilities of U.S. multinational companies; many multinational companies achieved single-digit effective tax rates as a result of aggressive profit shifting. This combination of historically high corporate after-tax profits and low corporate tax revenues gives pause to the idea that U.S. multinational companies are tax disadvantaged.

Other assessments of the competitiveness of U.S. multinational companies tell a similar story. For example, it is clear that U.S. companies have an outsized presence in the world economy. Consider the list of the world's largest and most successful global companies compiled by Forbes in 2017, the *Global 2000* (Journey 2017). The U.S. economy is less than one-quarter



FIGURE 1.

## U.S. Corporate Profits and Corporate Tax Revenues, as a Share of GDP, 1980–2017



Source: U.S. Congressional Budget Office (CBO; 2019), 1980–2017; U.S. Bureau of Economic Analysis (BEA), 1980–2017.

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the size of the world economy in 2017: 24 percent in U.S. dollar terms, or about 15.5 percent if adjusted for purchasing power.<sup>7</sup> But the United States accounts for 28 percent of *Global 2000* firms by count, 31 percent by sales, and 43 percent by market value; these outsized U.S. shares have been relatively steady in recent years.

And while there have been a few high-profile instances of corporate inversions in recent years—such as a merger that converts a U.S. multinational into a foreign corporation—there is no evidence that corporate inversions were a sizable economic problem on the eve of the 2017 TCJA. Regulatory changes in 2014 and 2016 substantially reduced the incentive for corporate inversions, and observers credited these regulations for stopping several possible corporate inversions.<sup>8</sup>

From this starting point, the 2017 tax legislation cut corporate taxes by more than \$650 billion in 10 years, presumably further enhancing the competitiveness of U.S. multinational companies by lowering their tax burden. However, as discussed in this chapter's appendix, the impact of the 2017 tax law on the competitiveness of U.S. multinational companies is, in fact, ambiguous. What is far less ambiguous are the large reductions in U.S. corporate tax revenue.

## EFFECTS ON OFFSHORING

If companies can offshore profits without offshoring real investment, then the tax system might not distort the location of production activity. Companies can simply put jobs and investments in their most productive locations, and shift the resulting profit to the most lightly taxed jurisdiction. However, if profit shifting is limited, or if profit shifting is facilitated by having a real economic presence in tax havens, tax rate differences across countries will encourage not only profit shifting, but also the movement of jobs and investments to locations that are taxed more lightly.

While real economic activities are less responsive to tax rate differences across countries than the tax base itself (due to profit shifting), real economic activities still respond to tax rate differences, and the perceived mobility of real economic activity has been a big impetus toward competitive tax rate reductions over previous decades.

Concerns about offshoring generate the same trade-offs that were discussed above. To keep your location as tax competitive as possible, lighter tax rates are desirable; however, lowering corporate tax rates (at current levels) lowers corporate tax revenues, unless rate reductions are offset with other changes in tax rules that broaden the tax base.

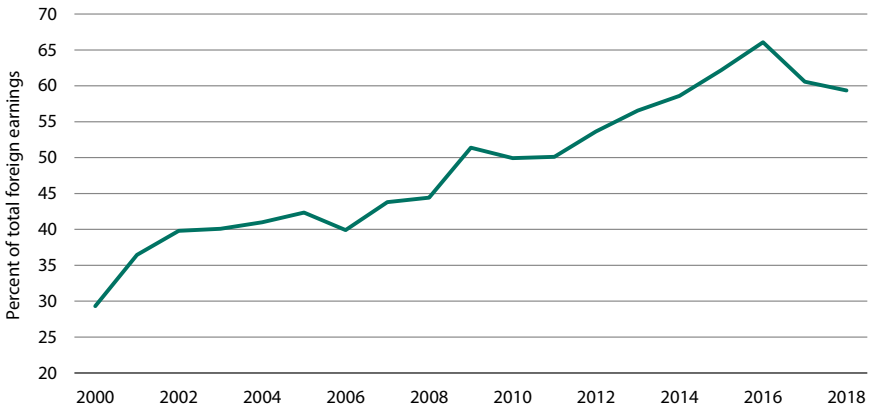
## CORPORATE TAX BASE EROSION FROM PROFIT SHIFTING

There is no question that the United States loses a great deal of corporate tax revenue due to the international profit shifting of multinational companies. Depending on the data source used, between 45 percent and two-thirds of all foreign income is booked in just a small group of tax havens, tax havens that together have a population less than that of California.<sup>9</sup> Figure 2 illustrates this with BEA data on direct investment earnings by U.S. companies abroad.<sup>10</sup> In recent years a rising share of foreign profits have been booked in these top tax havens, an amount totaling \$307 billion in 2018.

Other excellent data sources come from the tax authorities.<sup>11</sup> The U.S. Internal Revenue Service Statistics on Income database indicates large shares of foreign income in haven countries. The form 5471 data (a controlled foreign corporation information return) show 57 percent of foreign income in these seven havens in 2014, after adjusting for intra-company dividends. Recently, new country-by-country reporting tax data (form 8975) have been released for 2016. While these data are incomplete since filing was not mandatory in 2016, they also indicate large amounts of profit in the big havens.<sup>12</sup>

FIGURE 2.

## Share of U.S. Multinational Companies' Foreign Earnings in Big Seven Tax Havens, 2000–18



Source: U.S. Bureau of Economic Analysis (BEA), 2000–18.

Note: The “big seven” havens are Bermuda, the Cayman Islands, Ireland, Luxembourg, the Netherlands, Singapore, and Switzerland. Foreign direct investment earnings are measured after-tax, which increases the share of total income in havens since tax rates in those havens are lower than those in other countries. The BEA data reported here reflect the U.S. ownership share of the underlying profit.

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In prior work (Clausing 2019b, 2019c), I estimate that profit shifting by multinational companies is costing the U.S. government about \$100 billion a year in lost revenue at pre-TCJA tax rates. (The revenue cost is lower at current tax rates.) These estimates are broadly compatible with Joint Committee on Taxation (JCT) estimates of the cost of deferral by the JCT (2014) as well as work by Guvenen et al. (2018), OECD (2015), Zucman (2015), and others.<sup>13</sup> These large revenue losses due to profit shifting fit with a changing corporate landscape where market power is increasingly concentrated, corporate profits are rising steadily, and corporate profits are increasingly booked offshore.

These magnitudes are also compatible with the large stocks of accumulated earnings reported in the early country-by-country reporting data. As of 2017, U.S. companies show about \$3.2 trillion of accumulated earnings in tax havens.<sup>14</sup>

### THE 2017 TAX CUTS AND JOBS ACT

In late 2017 Congress enacted Public Law 115-97, commonly referred to as the TCJA; the law took effect in 2018. The legislation combined large tax cuts for individuals, estates, many pass-through businesses, and corporations, and included sweeping changes in the international taxation

of multinational companies.<sup>15</sup> Overall, the JCT projected the legislation would lose about \$1.5 trillion in revenue over the 10-year budget window.

Indeed tax revenues fell sharply relative to GDP in the first year of the legislation, falling from 17.2 percent of GDP in 2017 to 16.2 percent of GDP in 2018.<sup>16</sup> Federal corporate tax revenues fell particularly sharply.<sup>17</sup> Since federal receipts typically increase as a share of GDP during strong economies, the reduced tax revenues are clearly attributable to changes in tax law.

The main provisions that affect the taxation of multinational companies are summarized in table 1, alongside their expected revenue cost (or gain) from the JCT estimates. First, the corporate tax rate is cut permanently, from 35 to 21 percent. Second, the foreign income of corporations is permanently exempt from taxation through the adoption of a territorial tax system, although territorial treatment is subject to the constraints of base protection measures. Under the prior worldwide system, foreign income was taxed at the domestic tax rate (35 percent) upon repatriation, with foreign tax credits for tax paid abroad.

Third, there are two novel base protection measures, including a minimum tax (set initially at half the U.S. rate) known as the global intangible low-taxed income (GILTI). This tax applies to United States–based multinational companies, and it is payable only on returns (relative to physical assets) that exceed 10 percent. Minimum tax is due if companies' foreign income is not sufficiently taxed abroad, but the minimum tax is assessed on a global basis, so foreign tax credits from tax paid in higher-tax countries can offset the minimum tax arising from operations in low-tax countries. (Foreign tax payments are 80 percent creditable.) There is also a second minimum tax known as the base erosion and anti-abuse tax (BEAT) that affects all multinational companies; it is triggered by excessive deductible payments to related parties.

Fourth, there is a deduction for foreign-derived intangible income (FDII). While this will benefit existing companies with large amounts of export income, many doubt this provision will have a large impact on multinational company decision making. First, the provision is likely to be challenged by trading partners as an export subsidy, so the long-term stability of the provision is in doubt. In addition, since the provision only provides a subsidy for profits from exports, companies that also have substantial domestic sales receive more favorable tax treatment under the GILTI than under FDII. Thus, there is little reason to move mobile intangible income to the United States in response to this provision.

TABLE 1.

## International Tax Provisions Before and After the TCJA

	Before the TCJA	After the TCJA	10-yr JCT score, in USD billions
<b>Statutory corporate rate</b>	35	21	-1,349
<b>Tax treatment of foreign income</b>	No tax until repatriation, then 35 less foreign tax credit <sup>a</sup>	Not taxable unless subject to minimum tax	-224
<b>Global minimum tax</b>	N/A	0 until threshold, then 10.5; up to 13.125 if blended with income from higher-tax countries <sup>b</sup>	112
<b>Base erosion and anti-abuse tax (BEAT)</b>	N/A	Add-on minimum tax when payments to foreign-related parties exceed threshold	150
<b>Foreign-derived intangible income (FDII) deduction</b>	N/A	Tax preference for profits from export sales above threshold return on assets	-64
<b>Deemed repatriation tax</b>	N/A	Tax on prior earnings held abroad payable over 8 years; 15.5/8% (depending on liquidity)	338

Source: Joint Committee on Taxation (JCT) 2017.

a. Lighter rates may apply, or be anticipated, due to holidays, anticipated holidays, or expectation of future favorable treatment upon transition to a new tax system. Permanently reinvested earnings are not taxed in the United States but might be expected to encounter deemed repatriation tax upon transition to a territorial system.

b. These rates are scheduled to increase after 2025, to 13.125 and 16.4 percent. Only 80 percent of foreign tax payments can be credited. This analysis ignores interaction effects between the provisions.

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Finally, under the TCJA there is a one-time tax on prior unrepatriated foreign earnings of U.S. corporations. These earnings are taxed at a rate of either 8 or 15.5 percent, less foreign tax credits. Since those earnings have already been earned, this provision should not affect future multinational company behavior. The tax rates on the deemed repatriation represent a tax break relative to the tax treatment of repatriated earnings under prior law.

## THE EFFECTS OF THE NEW TAX LAW

An appendix to this chapter considers the effects of the new tax law in greater detail. It is clear that the TCJA provided large corporate tax breaks. The net revenue loss due to the corporate provisions was forecast by JCT to exceed \$650 billion.<sup>18</sup> However, the effects of the new law on competitiveness, offshoring, and profit shifting are less clear. In summary,

the new law does not appear to substantially improve on prior law in any of these areas for the following three reasons.

First, while domestic companies undoubtedly benefited from the large statutory tax rate decrease, some of the most mobile multinational companies faced increased tax burdens on foreign income, due to the GILTI and the BEAT, potentially harming their competitiveness. Second, there are troubling new offshoring incentives in the law due to the structure of the GILTI and FDII provisions. Third, the law contains conflicting incentives regarding profit shifting, with some provisions increasing the incentive to shift profits offshore, and others reducing this incentive. Only time will tell us the full impact of the legislation, but early evidence (figure 2) shows an unchanged share of U.S. multinational income in tax havens as well as large corporate tax revenue losses for the U.S. government.

## The Proposal

### **STRENGTHENING THE INTERNATIONAL TAX REGIME IMMEDIATELY**

The next section describes a fundamental reform of the system of taxing multinational companies that would make the policy dilemma between competitiveness and tax base protection almost moot. However, fundamental reforms take years of careful work on technical implementation issues, and although building international consensus is ideal, it is time consuming.

In the meantime, policymakers should not sit idly by while corporate tax revenues fall precipitously, enormous profits are shifted to havens, and new offshoring incentives take hold. The TCJA was fundamentally flawed, but it can be improved within the basic architecture of current law.

One question is whether to simply repeal the law in its entirety. That has some optical advantages: Congress is simply undoing a mistake. However, in international taxation current law provides a better starting point for reform than prior law in several key respects. First, the TCJA solved concerns about the prior worldwide system by ending the tax due upon repatriation. Today all foreign income is either untaxed or is taxed immediately. Previously, the tax upon repatriation generated immense taxpayer dissatisfaction as well as distortions in multinational company financing. (As explained above, it had fewer real economic consequences, since companies could borrow against their offshore funds, creating the equivalent of a tax-free repatriation. Funds could also be invested in U.S. assets.)

Indeed, moving to a territorial system was a crucial objective of the multinational community with the TCJA. The law addressed the criticism that the U.S. system, unlike that of most peer countries, was not territorial. Now, complaints focus instead on the burdens associated with the GILTI and the BEAT.

Yet the GILTI and the BEAT provide a far better starting point for international cooperation than a toothless territorial tax system. As detailed in this chapter's appendix, the GILTI helps protect foreign tax bases as well as the U.S. tax base, since it lowers the marginal incentive for U.S. multinational companies to shift profits to havens, and it also reduces the sensitivity of U.S. multinational companies to non-haven foreign tax rates.

The BEAT targets, in part, foreign multinational companies, and it is therefore less welcome in the international community. However, it discourages the profit shifting of all companies operating in the United States through a minimum tax that applies when there are excessive deductible payments to related parties abroad. Although it does not support foreign tax bases, the BEAT does signal a U.S. shift away from a nearly unlimited tolerance of profit shifting. In this respect, the BEAT may also be a useful starting point for international reform efforts.

However, in one crucial respect the TCJA is a poor starting point for a reform of multinational company taxation. The massive revenue loss under the legislation, with more than \$650 billion in net corporate tax cuts under the law (not including the tax cut on deemed repatriation), makes it difficult to bring the corporate community to the table in favor of future tax reform. In particular, the legislation has already given away the carrot of tax cuts. All that is left are the sticks of higher tax rates and/or more-serious base protection.

Still, a revenue-raising corporate tax reform is the ideal path forward. I propose the following incremental reforms that all fit within the framework of today's corporate income tax. The net revenue consequence is a gain of about \$1.4 trillion over 10 years.

- Increase the corporate rate from 21 percent to 28 percent. This should raise about \$700 billion over 10 years. A JCT revenue score would likely be higher for 2021–30 due to nominal growth in corporate profits.
- Strengthen the GILTI minimum tax by either moving to a per country version at 21 percent or keeping a global version but harmonizing the

rate to the U.S. rate of 28 percent. The first option is estimated to raise about \$510 billion over 2021–30.<sup>19</sup>

- Reform the GILTI by removing the 10 percent exemption for returns on foreign assets. This would raise an unspecified amount of revenue.
- Repeal FDII. This will raise \$170 billion over 2021–30.<sup>20</sup>

The rationale for increasing the corporate tax rate is simple: We could not afford the large corporate tax revenue losses under the TCJA, and there are better uses of the forgone revenue (including tax cuts for others or spending on urgent fiscal needs). One argument for the lower corporate tax rate (of 21 percent) is that it is necessary to avoid profit shifting, corporate inversions, and the relocation of activity abroad for tax purposes. However, adequate minimum tax backstops are a better protection against profit shifting, since the vast majority of profit shifting is destined for countries with tax rates below our minimum tax rate.<sup>21</sup> Inversions can be prevented with simple legislative measures, discussed shortly. And, finally, there is little evidence that investment, employment, or wages are sufficiently sensitive to corporate tax rates to justify such a massive cut.<sup>22</sup>

There is more than one way to improve the GILTI minimum tax. One option is a per country minimum tax at three-fourths the new U.S. rate (21 percent, with a new U.S. rate of 28 percent); another option is a global minimum tax at the U.S. rate. Either reform should remove the tax exemption for the first 10 percent return on foreign assets, since that provision directly encourages the offshoring of U.S. assets.

A per country minimum tax would remove a perverse feature of the GILTI that leads some multinationals to prefer high-tax foreign country income to U.S. income. In addition, no companies would be unaffected by the minimum tax, since there would be no ability to shelter haven income from the GILTI tax with tax credits from payments to higher-tax countries. Since *all* haven income would trigger immediate U.S. tax, there would be a more-serious deterrent to profit shifting. The rate is set at three-fourths of the domestic rate. A lower rate than the domestic rate is suggested as a compromise, in order to reduce concerns about competitiveness.

One concern with a per country tax is that it would unduly increase administrative burdens due to the complexity of compliance and administration. Although such concerns are overstated, an alternative is to simply leave the tax as a global minimum but raise the rate to the U.S. rate. A harmonization of the foreign rate with the U.S. rate would remove the tax advantage associated with foreign income relative to domestic income.



This approach would also raise substantial U.S. revenue, and would also help protect foreign non-haven tax bases.<sup>23</sup>

The FDII is unlikely to be effective in its stated aims, as discussed above, and also encourages the offshoring of physical assets, so it should be repealed. Together with the proposed changes in the GILTI, repeal of FDII will eliminate the incentive to offshore physical assets that was introduced by the TCJA.

However, either type of reform to the minimum tax would increase the incentive for corporate inversions, since U.S. tax residence triggers the minimum tax.<sup>24</sup> Thus, a stronger minimum tax should be accompanied by stronger anti-inversion measures. Anti-inversion measures could include a management and control test, an exit tax, and/or a higher ownership threshold for determining foreign ownership.<sup>25</sup> In addition, the BEAT should be retained, and perhaps improved, to further reduce such incentives.<sup>26</sup>

While it will be politically difficult to implement the reforms suggested here, it is important to raise revenue through the corporate tax. The TCJA, unlike prior corporate tax reform proposals from both Democrats and Republicans, was not revenue neutral, and instead lavished net corporate tax cuts on companies without any evidence that these tax cuts were wise policy.<sup>27</sup> Although the administration made rosy predictions that the corporate tax cuts would ultimately favor workers, raising workers' wages by thousands of dollars, both prior experience and the early evidence under the TCJA clearly indicate either very modest or nonexistent benefits for workers.<sup>28</sup>

Indeed, the TCJA has many serious flaws that are detailed elsewhere.<sup>29</sup> The reforms suggested here would respond to several of these flaws. First, they would raise revenue, allowing room in the legislation to undo the regressive effects of other provisions in the law.<sup>30</sup> Second, the reforms would seriously address profit shifting and corporate tax base erosion, making a far larger impact on that problem. Third, the reforms would eliminate the bias in current tax law toward offshoring real economic activity.

On net, these tax changes will also make the tax system more progressive, countering the bias in our tax system in favor of capital (and against labor) and asking more from those at the top of the income distribution. These changes, while not revolutionary, will still require enormous political will. Clausing (2019a) discusses a more-systematic tax reform package that could help build political support for such changes, by pairing the net revenue

increases discussed here with net tax cuts for lower- and middle-income Americans.

## **FORMULARY APPORTIONMENT**

This chapter opened with a discussion of the seemingly inevitable trade-off between a robust corporate tax and the concern that the U.S. tax system not disadvantage either U.S. production or U.S. headquarters. The tax policy proposals of the prior section accept this trade-off but place greater emphasis on corporate tax base protection than the competitiveness of the United States as a headquarters location, which can be mitigated with anti-inversion legislation.

In some respects, the policies of the prior section actually increase the attractiveness of the United States as a production location relative to the TCJA by reducing the tilt of the playing field toward foreign income and operations. Offshoring incentives under the TCJA are removed, and foreign locations are less tax advantaged due to the more-robust minimum tax. Still, companies will argue that the higher tax burdens envisaged in this proposal will lead to less U.S. economic activity and an erosion of the United States' competitive position.

In this author's view, such arguments are exaggerated: Prior to the TCJA there was no evidence of a competitiveness problem, whereas corporate tax base erosion was an increasingly pressing concern. The TCJA furthered this imbalance, giving away \$650 billion in net corporate tax cuts without substantially improving the competitive position of the U.S. economy.

Yet, in the end, the merits of the changes suggested above illustrate a fundamental corporate tax policy trade-off between corporate tax base protection and the desires of multinational companies for a competitive tax environment. Observers will differ in their opinion of how to weigh these two key objectives.

In contrast, this section offers a reform that can achieve both objectives at once: the adoption of sales-based formulary apportionment for the taxation of multinational company corporate income.

Under the proposed system of formulary apportionment:

- A multinational company would be taxed based on its global income.
- Some fraction of that company's global income would be assigned to the United States based on a formula. I recommend a sales-only formula: The U.S. tax base would be the product of a company's worldwide

income and the share of its worldwide sales that were destined for U.S. customers.<sup>31</sup>

- Any company with at least \$1 million of sales in the United States (indexed for inflation) would pay tax to the U.S. government.<sup>32</sup>
- The tax base would be defined based on the U.S. definition of taxable income. This retains compatibility with any possible U.S. tax base reform, including the reforms suggested by Furman (2020) in this volume.<sup>33</sup>
- Formulary apportionment would be applied to affiliated companies when there is common control of the companies.<sup>34</sup>
- Anti-abuse rules would be included.

More than a decade ago, in an earlier Hamilton Project paper, I suggested a similar reform with coauthor Reuven Avi-Yonah (Clausing and Avi-Yonah 2007). This discussion updates that earlier paper in light of several important changes in the international tax environment. First, corporate tax base erosion problems have dramatically increased in recent years, leading to serious international efforts aimed at stemming the problem. In addition to the OECD/G20 efforts, many countries have pursued their own unilateral policy responses; India has even considered a proposal for unilateral adoption of formulary apportionment.<sup>35</sup> At the same time, policymakers in the United States and elsewhere continue to succumb to tax competition pressures, lowering tax rates and providing loopholes in an attempt to attract mobile multinational activity.

Second, comprehensive new proposals have been offered, including the DBCFT and the residual profit allocation by income proposal (RPA-I); these can be contrasted with the present proposal. Third, we have a greater understanding of the functioning of formulary apportionment in subnational contexts. And, finally, work has continued on the implementation issues surrounding formulary apportionment.

This section will make an argument for a medium-term adoption of sales-based formulary apportionment, after sufficient time has been allowed to handle technical implementation issues and to work on building international consensus. Consensus need not be complete, but ideally some other major countries would choose to adopt the policy along with the United States. Once formulary apportionment has been implemented by some major countries, non-adopters will have a strong incentive to join. I next discuss how such a system would work, explain its key advantages, discuss possible drawbacks and how they might be addressed, compare the

proposal to others that have been offered, and suggest incremental steps forward.

### *How Does Formulary Apportionment Work?*

Under the present system of separate accounting, companies account for income and expenses in each country in which they operate independently. Under formulary apportionment, a multinational company would instead be taxed based on its global income, and some fraction of its global income would be assigned to the United States based on a formula.<sup>36</sup> (See box 2 for a discussion of how formulary apportionment works in U.S. states.)

With a sales-based formula, any company with a threshold amount of sales in the United States (\$1 million, indexed for inflation), would pay tax to the U.S. government based on a tax base that was the multiple of its worldwide

#### BOX 2.

### Formulary Apportionment in the States

U.S. states have long used formulary apportionment to tax the companies that have nexus in their states. In large part, this choice reflects the near impossibility of asking companies to separately account for income and expenses in each state where they operate, given the substantial economic integration across U.S. states. A similar argument applies to the multinational operations of intensely global companies; it is not clear where profit is truly *earned* for a multinational company, and these ambiguities generate ample room for tax avoidance.

While some U.S. states use multifactor formulas (including assets, payroll, and sales), over time, more and more U.S. states have increased the sales weight in their formulas in response to concerns that states would lose employment or assets to states with lower tax burdens on those factors. As it turns out, these concerns were typically unfounded: States that increased sales weights did not gain employment or assets at other states' expense, as discussed in Clausing (2016). But, state governments—often lobbied by local companies with large local production—were nonetheless obliging, and state tax competition took the form of increasing formula weights on sales or adopting sales-only formulas.

In 1986, 80 percent of the 46 jurisdictions (45 states and the District of Columbia) that taxed corporate income used an equal three-factor formula, 20 percent had higher weights on sales, and no states used a single-factor sales formula. Today, only 11 percent of jurisdictions use an equal three-factor formula, 35 percent have a higher (but not sole) weight on sales, and 54 percent have a single-factor sales formula. This steady increase of the sales weight demonstrates the strength of the tax competition dynamic with respect to formula factor choices.

income and the share of its worldwide sales that were destined for U.S. customers. Thus, if a company earned \$10 billion worldwide, and half of the company's sales were destined for U.S. consumers, then \$5 billion would be taxable in the United States.

Notice that this system transcends the trade-offs that were discussed above. Even if the United States taxed multinational companies at a high statutory rate (say, the 35 percent rate in effect before 2018), companies would still pay tax in the United States *as long as they had U.S. customers*, regardless of their headquarter locations, their production locations, their financial structures, or any other decision they might make. There is simply no way to avoid the tax other than to arrange to have fewer customers in the United States, or more customers abroad, or lower global profit. (Below I discuss how related gaming could be minimized.)

One advantage of beginning with a sales-only formula—as opposed to one that includes assets and/or payroll—is that it resists the political temptation to adjust formula weights in an attempt to attract mobile jobs or investments. If adoption is not multilateral, that would be a particularly important consideration. However, there are also disadvantages to a single-sales formula. First, there are higher stakes associated with the sales factor, so anti-avoidance efforts must be directed at artificial attempts to increase the sales based in low-tax countries; these are discussed further below. Second, there may be fairness or revenue-sharing issues associated with assigning the tax revenue to the market jurisdiction rather than to the production jurisdiction.

To some extent, such concerns might be less important than they seem. If a country consumes about as much as it produces from the corporate sector, then taxing the supply side or the demand side of the market should

provide equal revenues. However, for countries that host highly profitable production locations, but sell throughout the world, they may fear that such a system would put them at a disadvantage. There are also concerns that less-developed countries will be disadvantaged if their production in multinational companies is greater than their consumption of those companies' products. However, since poorer countries have greater losses due to profit shifting (as a share of GDP) than do rich countries, they stand to particularly benefit from international tax reforms that stem profit shifting.<sup>37</sup> In addition, natural resource-intensive industries can be taxed through a separate system in order for local economies to tax location-specific rents from resources like oil and precious metals.

Still, and especially in the presence of an international agreement, other formulas might usefully be considered, such as a formula that would equally weigh both the market of the jurisdiction (sales) and the production activity of the jurisdiction (via payroll and/or employee headcount). It is more difficult to measure and value assets, so in this case I propose that the production side of the market be captured by employment, where we could use either headcount or payroll, or a one-quarter weight on each.

### *What Are the Advantages of Formulary Apportionment?*

1. As already described, the most important advantage of well-designed sales-based formulary apportionment is that it would vastly lessen both tax competition and profit-shifting pressures. There is a long and vast literature in public finance that emphasizes that *real* decisions (e.g., decisions about which consumer markets to serve) are far less tax sensitive than *financial* decisions (e.g., decisions about where to book profits), overviewed in Auerbach and Slemrod (1997), Saez, Slemrod, and Giertz (2012), and Slemrod and Bakija (2008). That difference in tax sensitivity is at the heart of the argument for formulary apportionment. While formula factors like sales will be discouraged by formulary apportionment, it is far more difficult to rearrange these factors than paper profits.

Furthermore, actual experience under formulary apportionment confirms this lower elasticity of formula factors. In the case of the United States, careful analysis overviewed in Clausing (2016) shows that formula factors do not respond to tax burden differences across states. In other words, employment and assets do not shift toward lower-tax states. While U.S. state tax rates are lower than national tax rates, suggesting this comparison should be viewed with caution, one might also expect tax bases to be more mobile across state boundaries

than across national borders, due to the absence of the many frictions that are associated with international borders. (These frictions include language barriers, exchange rate differences, regulatory differences, cultural factors, larger average distances, and myriad other factors.) Drawing from the Canadian experience, Mintz and Smart (2004) also provide compelling evidence of the reduced tax sensitivity of taxable income under formulary apportionment.

2. In contrast to separate accounting, formulary apportionment is far more suited to both the global nature of multinational companies and the intangible nature of modern economic value. Separate accounting maintains an odd fiction: Affiliated companies should transact with each other as they would with companies that were unrelated, the arm's-length standard. However, the very nature of multinational companies implies that there are higher profits associated with the common ownership of affiliated entities, so that they will together earn more than separate companies would if they were operating at arm's length. Thus, where does this additional profit belong? This ambiguity is more than just a philosophical question: It provides ample opportunities for tax avoidance, as companies arrange matters so that the true source of such value is often an island with a zero-tax rate.

Similarly, the source of value itself is often ripe for disagreement. In a simple factory with capital and labor, value creation may be easy to spot. But for companies that are producing goods or services that are intensive in intellectual property, or where the customers themselves provide data that adds value, ambiguities in the source of value create ample tax avoidance opportunities. While a formulaic approach might reasonably be viewed as only rough justice, it will prove more accurate than letting accountants and lawyers arrange matters such that the lion's share of foreign profits ends up in tax havens.

3. While there will be many implementation issues to be worked out with formulary apportionment, it has the potential to be far simpler than the present system. The arm's-length standard generates tremendous complexity, large compliance costs, and almost impossible administrative enforcement burdens. The OECD/G20 process that aimed to reduce corporate tax base erosion and profit shifting (BEPS) generated close to 2,000 pages of suggested guidelines. Yet most observers expect profit shifting to continue nearly unabated, and even the most sophisticated tax officials struggle with the enforcement and implementation of BEPS guidelines.

Countries have turned to their own unilateral measures, but that hardly simplifies matters. In the case of the United States, interactions between the GILTI, the BEAT, the FDII, and existing rules only add complexity to an already byzantine system. Abroad, there are myriad efforts that also complicate matters, including the United Kingdom's diverted profits tax, Australia's anti-avoidance law, India's equalization levy, and the recent digital services taxes of Italy and France, as well as others that are still in the proposal stage.

4. Adoption of a sales-based formulary apportionment system, even without complete international consensus, holds out the prospect of becoming a stable regime for the international taxation of multinational companies, by changing the dynamic of international tax competition. While unilateral adoption by a large country can also generate this outcome, it would be ideal if several large countries were to forward together. Imagine, for example, a coalition of the European Union (EU), India, and the United States. Once these countries adopt formulary apportionment, there will be an enormous incentive for other countries to follow. Not only would it ease the compliance costs of their home companies, but also, absent adoption, non-adopting countries will lose tax base to adopters. Shifting profit to the EU, India, or the United States (in this example) would not increase tax liabilities in such jurisdictions (since liabilities are based on formulary apportionment of global income, and paper profit shifting does not affect formula factors), but it would reduce profits at home or in third countries. As far as non-adopting countries are concerned, it would be as if the adopting areas were a giant Bermuda; profit shifting to formulary countries will be an attractive strategy for companies in non-adopting countries.<sup>38</sup>

Many governments share the goal of building a stable international regime that minimizes tax base erosion. There is now an international recognition that tax base erosion is a serious problem: the OECD/G20 efforts have recognized the importance of this problem, and many countries have summoned serious political will to address these issues unilaterally.

### *What Are Downsides of Formulary Apportionment and How Could They be Combated?*

1. The first downside is the potential for double taxation or double nontaxation. This problem is mitigated as more countries adopt, and there would be a strong incentive to adopt. However, in the interim, there would likely be many instances of both double taxation and



nontaxation. Of course, at present the problem of profit shifting to tax havens makes double nontaxation a clear danger of the arm's-length standard. Under-taxation of corporate income will persist as long as large amounts of profit shifting are tolerated.

2. Formulary apportionment may encourage the manipulation of formula factors. In the case of asset or employment weights in the formula, companies may respond by moving assets or employment toward locations that are more lightly taxed. In some respects, this may seem worse than paper profit shifting, since jurisdictions lose not just tax revenue, but also economic activity. On the other hand, as noted above, real economic activity is far less tax sensitive than financial accounting, which indeed is a major advantage of formulary apportionment.<sup>39</sup> Moreover, a sales factor is even more difficult for companies to manipulate, given that customers are virtually immobile.

However, companies could seek to game the sales-based factor in a number of ways. One option is to sell to a low-margin distributor in a low-tax country; in that case, the low-margin distributor would then sell into the higher-tax market. In this event, the firm would make its profit on sales to a firm in a low-tax country, owing no U.S. tax, and the distributor would make sales in the United States, but would have very little profit. However, even if companies were willing to cede control of the distribution of their products, there are possible legal solutions to this problem, including setting rules that look through the distributor to attribute the sales to the destination market. Specific rules of this nature are proposed in Avi-Yonah and Clausing (2019).<sup>40</sup>

Others have argued that companies might merge in order to minimize their tax burdens. For example, the company Apple could buy a grocery store chain on an island haven. While such responses are theoretically possible, and while tax-motivated mergers are a real concern, this is another case where real corporate behavior is far less sensitive to tax incentives than are financial decisions.<sup>41</sup>

3. Finally, there are many important accounting and technical issues that would need to be addressed. In Avi-Yonah and Clausing (2019), we suggest some simple solutions to common problems, but it will take time to work out additional technical issues. Regarding the application of formulary apportionment, it could be based on a simple threshold of market presences (such as \$1 million in sales), replacing the need for a permanent establishment threshold. Instead of defining the nature of unitary enterprises, formulary apportionment could be based solely on common control. The definition of the destination of sales could be

built around the experience with the value-added tax (VAT). And, more generally, the experience of other jurisdictions can provide substantial expertise, including the experience of subnational jurisdictions such as Canadian provinces and U.S. states.

4. As with the incremental proposals of the previous section, many multinational companies will pay much more in tax under formulary apportionment than they would under current law (as of 2019). Due to the large corporate tax cuts of the TCJA, very few companies will have lower tax liabilities under the new system, and therefore companies are likely to object to these changes. Since formulary apportionment effectively shuts down profit shifting and tax competition pressures, political opposition is likely to be particularly vociferous for those companies that have shifted large amounts of profit toward havens and achieved very low effective tax rates on their foreign income.<sup>42</sup>
5. Some observers have expressed concerns about interactions with tax treaties and World Trade Organization (WTO) rules. These concerns have been discussed extensively elsewhere, but they do not present insurmountable obstacles.<sup>43</sup>

### *How Does This Approach Compare to Other Reform Suggestions?*

In recent years there has been increased public scrutiny regarding the large and growing problem of international profit shifting, as sustained attention by journalists focused attention on this issue. Public and NGO pressure culminated in a multiyear effort by the OECD/G20 to address the problem, resulting in the OECD/G20 Inclusive Framework on BEPS. This section will review these efforts and will also discuss three additional academic proposals: the DBCFT, the RPA-I, and a proposal for a coordinated minimum tax suggested by Saez and Zucman (2019).

1. The OECD/G20 BEPS framework is an ambitious attempt to tackle corporate tax BEPS problems. It involves 15 action items that include taxation of the digital economy, hybrid mismatch problems (blamed for the large problem of stateless income discussed by Kleinbard 2011), and country-by-country reporting. The BEPS process was an enormous effort and culminated in close to 2,000 pages of reports and guidelines as well as a multilateral convention to implement tax treaty-related measures to prevent BEPS and was signed by 89 countries between July 2017 and August 2019 (with the notable exception of the United States).

This sort of cooperation aimed at combatting international tax avoidance is both welcome and laudable and will have a noticeable

impact in several areas. Country-by-country reporting should improve tax transparency and help tax authorities assess possible enforcement issues surrounding profit shifting. While this action item is focused solely on large companies, those are the entities that undertake the vast majority of profit-shifting activity, and country-by-country reporting should help tax authorities gather helpful information.<sup>44</sup> The BEPS process has also helped countries combat hybrid mismatches that create income that is truly stateless and therefore taxed nowhere.

Several areas have been difficult to tackle, and the OECD is presently wrestling with issues surrounding digital taxation and working on a variety of paths forward. In February 2019 the OECD suggested an approach that would simultaneously consider issues of profit allocation (addressing which jurisdictions have taxing rights) and would ensure that multinational companies pay some minimum amount of tax (OECD 2019a).

That work is still continuing, but in October 2019 the OECD proposed reforms that would substantially increase the use of formulary apportionment for digital or consumer-facing companies (OECD 2019b). The proposal establishes a sales threshold (to be determined) as sufficient for taxing such firms, rather than requiring a physical presence.

The proposal would distinguish between routine profits and residual profits; some fraction of residual profits would be assigned to market countries based on a sales-based formula. Profit would be based on consolidated financial accounts. The level of routine profit might be assessed on a business line basis; this is yet to be determined. The proposal includes dispute settlement provisions.

OECD's approach is a hybrid in several respects, which adds substantial complexity. Some companies are included, whereas others (including those in extractive industries) are explicitly excluded. Routine income is taxed under the conventional arm's-length standard that treats affiliated companies as if they were separate entities, whereas residual profits (above some threshold) are taxed based on formulary apportionment. Some (to be determined) fraction of the residual income is assigned to the market jurisdiction, and the remaining fraction is attributed to other factors (to be determined). These fractions may even vary by industry.

These particular policy suggestions are somewhat revolutionary for the OECD, which has traditionally been unwelcoming to the idea of

formulary apportionment. More typically, the approach of the OECD/G20 framework has been one of incremental improvement rather than fundamental change. The arm's-length standard, long sacrosanct at the OECD, remains at the center of most guidelines and recommendations, and it remains to be seen how consensus will evolve regarding these formulary methods.

In general, the OECD/G20 process provides hope of further international consensus building, but the efforts so far will not be enough to tackle the substantial problems surrounding tax competition. Although country-by-country reporting is underway, it has yet to pay large dividends. At present, the scope and magnitude of international profit shifting show no downward trends.

Unfortunately, many incremental steps to shut down international tax loopholes can become akin to the arcade game whack-a-mole. When one arrangement is shut down (e.g., the infamous double Irish with a Dutch sandwich technique of layering affiliates to create stateless income), another arrangement pops up in its place, and the large share of income in tax havens continues unabated, as seen in figure 2. That said, progress should be judged relative to the counterfactual, and the problem of international profit shifting would be even worse without the OECD/G20 framework. Still, this process remains a far cry from an end to profit shifting.

2. The DBCFT is a business tax that would be levied based on company cash flow, with no deductions for interest or imported inputs, but with deductions for labor costs and immediate expensing of investments. This tax proposal has many attractive elements that make it a favorite of some economists. It removes the debt-equity distinction in corporate finance, reducing the distortions associated with excessive leverage in the corporate system. It is both a true tax on rents and difficult to avoid, so it could be levied at higher rates without worries of either distortion or profit shifting. As is often pointed out, the DBCFT is equivalent to a VAT plus a wage deduction. While that sounds a lot like a VAT, it is actually quite different: The absence of tax on wages makes the tax a true tax on rents. Therefore, the DBCFT is a far more progressive way to raise revenue than a VAT.

The DBCFT was vaulted into the spotlight when it was considered as part of a Republican tax reform plan in early 2017.<sup>45</sup> During the debates surrounding the DBCFT, several weaknesses came to light. Some were idiosyncratic to the particular context of the Republican plan, which lost a lot of revenue in a highly regressive fashion. Such problems could

be fixed in future plans by choosing higher rates and packaging the DBCFT with different associated reforms.

However, other problems were inherent to a DBCFT. The largest problem by far was the need for a border adjustment tax, since taxing the full value of goods and services requires not allowing a deduction for imports.<sup>46</sup> This raises similar implementation issues as with a VAT. However, while a VAT is consistent with WTO rules, the DBCFT is not (in the view of most legal experts), due to the wage deduction component. The wage deduction component is, however, a crucial part of the DBCFT, and one that appears to give domestic production an advantage relative to imported goods. Given the scale of the DBCFT, it would likely entail large objections by trading partners, and risk undermining the world trading system. Moreover, this proposal came forward at a time (the early Trump administration) when the world trading system already faced serious political challenges.

Still, economic theory predicts that exchange rate adjustment would fully offset the apparent domestic advantage provided by a DBCFT. If exchange rate adjustments occur as predicted, that tax need not have real consequences on competitiveness, making the WTO issue one of legal concern but not one of economic substance. Still, a second problem arises if exchange rates do not fully adjust. In that event, since imports were taxed but exports were exempt, the DBCFT would harm U.S. importers and benefit U.S. exporters, generating large sector-specific shocks. Many economists were content to argue why, *in theory*, the exchange rate should perfectly adjust, and they were exactly right. That said, *in practice* there are many possible impediments inhibiting smooth exchange rate adjustment, including the importance of the U.S. dollar in trade invoicing, a large number of countries that peg their exchange rate, and the more-general problem of the utter unpredictability of exchange rate movements.<sup>47</sup> The major countries that have adopted VATs under floating exchange rate systems have not seen their exchange rates adjust as predicted. Thus, while it is tempting to dismiss the concerns of importers like Walmart and Target as the worries of those who do not understand economic theory, there was actually reason to suspect they understood their interests well, and the DBCFT risked subjecting them to large economic shocks. Regardless, these industries mobilized against the border adjustment tax, effectively killing it.<sup>48</sup>

Unlike the DBCFT, formulary apportionment does not require either a border tax or exchange rate adjustment. Under the DBCFT, all imports

are taxed at the border since there is no deduction allowed for imports. This is true regardless of whether the importing company earns any economic profits. Under sales-based formulary apportionment, only companies earning economic profits will pay a tax in the United States that is based on the destination of customers. Therefore, there are far fewer worries regarding either incomplete exchange rate adjustment or the disruption caused by such a substantial strengthening of the U.S. dollar.

Beyond these issues, it was clear that the groundwork had not been laid for the DBCFT to be quickly implemented. There were important questions regarding how to handle firms with losses, the potential for tax driven mergers, difficulties handling financial flows, nontrivial effects on U.S. state revenues, and other serious transition issues.

Finally, like sales-based formulary apportionment, DBCFT risks harming non-adopting countries. Since profit shifting to adopting countries would not affect tax liabilities in DBCFT countries (which are based on the locations of customers), but would reduce tax liabilities at home, other countries' profit-shifting problems could be expected to worsen. In the short run this would lead countries to oppose U.S. adoption (and strengthen those countries' resolve in WTO challenges). Still, if the United States went ahead, other countries would be left with a strong incentive to adopt DBCFT themselves. But, in the meantime, DBCFT would create problems of double-taxation and nontaxation, since tax base systems would be based on different principles in different countries.<sup>49</sup>

Thus, similar to formulary apportionment, it would be ideal if DBCFT were adopted multilaterally. Moreover, there are two additional reasons for multilateral adoption. First, the more countries adopt simultaneously, the less exchange rates have to adjust, and the lower the risk that mis-aligned currencies lead to large sector-specific shocks or other difficult adjustments. Second, the more countries adopt, the more likely that WTO issues could be handled harmoniously, rather than risking new reasons for trade wars.

3. A recent proposal by a group of researchers, Devereux et al. (2019), suggests a compromise between formulary apportionment and the arm's-length standard, a residual profit allocation by income method.

This RPA-I proposal builds on a residual profit allocation proposal from Avi-Yonah, Clausing, and Durst (2009). Under our proposal, a routine profit would be assigned to each country based on an estimated market

return on the tax-deductible expenses incurred by the multinational group in that country, and then any additional residual income would be divided among countries based on the group's relative sales in each country.

The RPA-I proposal improves on our proposal in detail, addressing several important issues such as interest allocation and losses. However, it differs from Avi-Yonah, Clausing, and Durst (2009) in two key respects. First, instead of adopting a benchmark for routine profits, RPA-I separates routine from residual profit by using the arm's-length standard, relying on comparable parties to calculate case-specific routine profits. This has the advantage of familiarity to practitioners, but it also has the disadvantage of retaining the vast complexity and administrative costs that are endemic to an arm's-length system.

Second, the RPA-I proposal allocates residual profits based on profit measurements that consider both sales and the allocable expenses attributed to those sales, as well as the routine profit. In contrast, our residual profit method simply relied on the destination of sales. While those two outcomes may often be similar, the RPA-I outcome is better suited to situations where profit/cost ratios vary substantially across countries. However, the choice to allocate residual profits in this manner raises complexity a great deal, and also provides avoidance opportunities.

Overall, the RPA-I proposal is a compromise. It uses both arm's-length and formulary methods to determine the tax base, and it allocates parts of the tax base to both the supply and demand sides of the market. The downside of the proposal is that it retains both the complexity of the arm's-length standard, and the tax avoidance opportunities lying therein, albeit in somewhat muted form.

4. In a recent book Saez and Zucman (2019) suggest that countries collaborate in adopting a minimum tax on corporate income. Similar elements have been included in proposals by Avi-Yonah (2015) and others, but the Saez and Zucman approach suggests combining a coordinated minimum tax with a formulary approach to address non-adopting countries.

This proposal is compatible with the immediate reforms suggested earlier in this chapter. In addition to the United States adopting a per country minimum tax, other countries would also adopt per country minimum taxes; Saez and Zucman (2019) suggest a minimum tax rate of 25 percent. Coordination would be encouraged through international

tax agreements like the OECD/G20 process.<sup>50</sup> Coordination would also be incentivized through the use of other international policy levers such as trade agreements and economic sanctions against tax havens.

Under such a system, companies headquartered in non-adopting countries may have a tax advantage relative to those in adopting countries. And inversions (or new incorporations in low-tax countries) may be tax-encouraged, although Saez and Zucman (2019) note that corporate inversions are small in recent years, and inversions can be effectively limited by regulations.

Still, to support the coordinated minimum tax, Saez and Zucman (2019) suggest a formulary system for taxing the tax deficit of multinational companies that are resident in non-adopting countries. Country-by-country reporting data could be used to calculate tax deficits—the tax that would have been paid in the event that the resident country had enacted a 25 percent minimum tax. A portion of that tax deficit would then be collected by adopting countries using sales-based formulary apportionment.

These reforms would substantially limit international tax competition and profit-shifting pressures. Still, this approach retains the complexity of current tax rules for taxing multinational companies while adding the additional complexity of adopting a formulary system for non-minimum-tax countries. It also puts pressure on the definition of residence for tax purposes, although there are useful legal and regulatory solutions to that problem.<sup>51</sup>

## Questions and Concerns

*1. What sorts of tax avoidance strategies would be available under sales-only formulary apportionment and how could those strategies be deterred?*

One important concern is that a multinational could sell to a low-margin distributor in a low-tax country and thereby lower the rate it faces. The low-margin distributor would then sell into the higher-tax market. It would face a higher tax rate, but on a much smaller total profit.

Avi-Yonah and Clausing (2019) describe one response to this strategy. The rule we suggest is,

“Goods, services or intangibles which are sold or licensed to an unrelated person will be presumed for purposes of this section to have been sold or licensed for use, consumption, or disposition in the country of destination of the property sold or services



or intangibles provided; for such purpose, the occurrence in a country of a temporary interruption in shipment of goods shall not constitute such country the country of destination. However, if at the time of a sale of personal property or services or license of intangibles to an unrelated person the enterprise knew, or should have known from the facts and circumstances surrounding the transaction, that the property, services or intangibles probably would not be used, consumed, or disposed of in the country of destination, the enterprise must determine the country of ultimate use, consumption, or disposition of the property, services or intangibles or the property, services or intangibles will be presumed to have been used, consumed, or disposed of in the United States” (849).

We have already discussed in the previous section other downsides of formulary apportionment, and possible responses.

*2. Are there incremental steps toward formulary apportionment that policymakers could take?*

In moving toward a formulary apportionment system, there are incremental approaches that we could take to increase reliance on easily calculated benchmarks instead of the judgments of tax-minimizing accountants. For example, profit-split methods have been long accepted by the OECD. While these apply formulary approaches at a transaction level, there are useful ways to extend similar methods to a broader arena, some of which have been explored in the context of the BEPS framework.

Building on these methods further may naturally lead us to favor a residual profit-split proposal, such as those suggested by Avi-Yonah, Clausing, and Durst (2009) or Devereux et al. (2019). As discussed above, the latter proposal uses both formulary and arm’s-length methods, whereas the former proposal assigns a fixed return on expenses, and then assigns the residual income based on formula. Both proposals lie on a continuum between the arm’s-length standard and a formulary system, although the 2009 proposal is closer than the 2019 proposal to the formulary end of the continuum.

Another possibility is to use a formulary system as part of a minimum tax regime, as suggested in a report from the Independent Commission for the Reform of International Corporate Taxation (ICRICT; 2018). Countries could apply a formula to multinational companies’ global income and compute the minimum tax payable at some fraction of the regular corporate tax rate. A formulary minimum tax would retain the complexity

of the present system, while layering additional complexity on top, but it might be a suitable rough justice solution for those tax authorities that lack the administrative capability to collect corporate tax from multinational companies under the arm's-length standard.

*3. Do sales-based formulas disadvantage the United States, since the United States is home to many profitable multinational companies?*

If a country consumes about as much as it produces from the corporate sector, then taxing the supply side or the demand side of the market should provide equal revenues. However, since the United States hosts the headquarters of many highly profitable multinational companies that sell their goods and services throughout the world, there may be fears that such a system would disadvantage the United States.

Still, under the arm's-length system of taxation, U.S. corporate tax revenues have been far lower (as a share of GDP) than those of typical peer nations, due in part to the aggressive profit shifting of U.S. multinational companies. Recent estimates in Clausing (2019b) suggest that the U.S. government loses more than \$100 billion each year due to the profit shifting of multinational companies. Thus, the U.S. government has a lot to gain from proposals that stem profit shifting.

Also, it is helpful to remember that U.S. consumers buy many imports. Profitable foreign-headquartered companies will also pay U.S. corporate tax based on sales that are destined for U.S. consumers, assuming they reach a modest \$1 million sales threshold.

## Conclusion

There is more than one path forward in reforming U.S. international taxation. In the short run, incremental steps are likely to be more practical than systemic reforms. I suggest a reform that raises the corporate tax rate to 28 percent, strengthens the minimum tax, and repeals the FDII deduction. Together, these changes provide substantial gains relative to current law: raising corporate tax revenues in a progressive fashion, curtailing the offshoring incentives caused by the TCJA, and countering profit shifting to tax havens.

In the medium run, a sales-based formulary apportionment system can better counter the pressures of international tax competition and profit shifting. Under such a system, there is no longer a trade-off between competitiveness and corporate tax base protection. Any company serving the U.S. market will pay income tax in the United States based on its global

income and the fraction of its sales that are destined for U.S. customers. Properly implemented, such a system is a major improvement relative to the arm's-length standard. A formulary system better suits the intangible nature of much modern economic value and the global integration of much modern business activity.

As discussed above, there is still important work that needs to be done on the details of implementing formulary apportionment, including both attention to technical and legal issues as well as, ideally, international consensus building with other countries. While such a major reform will benefit from allowing time for careful implementation and consensus building, policymakers can build on prior experience with formulary systems as well as the momentum created by the OECD/G20 BEPS process. In many countries, there is serious recognition of these policy problems as well as substantial political will aimed at solutions. Moving toward a system of formulary apportionment can provide the basis for a stable and sustainable international tax regime.

Regardless of the path chosen, protecting the corporate tax is especially important today. The corporate tax remains the only tool for taxing about 70 percent of U.S. equity income, which goes untaxed by the U.S. government at the individual level. And the individual taxation of capital income, when it exists, also creates important policy challenges.<sup>52</sup> After four decades of increasing income inequality, disappointing wage gains, a shrinking labor share of income, and increasing market power, it is more important than ever to have a tax system that effectively taxes capital.<sup>53</sup> Importantly, much capital income is not the normal return to capital, but rather some excess return, or rent.

In this context, strengthening corporate taxation is especially important. Formulary apportionment remains a very promising medium-term proposal, but there are also many useful steps that can be taken immediately to improve corporate taxation. All that is needed is political will.

## Appendix: The Effects of the 2017 Tax Cuts and Jobs Act

### **THE EFFECTS OF THE NEW TAX LAW ON COMPETITIVENESS AND OFFSHORING**

It is clear that the TCJA provided large corporate tax breaks, estimated by JCT at about \$650 billion over 10 years. The more than \$1.3 trillion in revenue cost from the statutory rate cut was offset in part by base expansion, due to

the repeal of the domestic production activities deduction, less-favorable treatment of net operating losses, amortization of research expenditures beginning in 2023, and the somewhat-less-favorable treatment of debt-financed investments.

The international provisions are more neutral in their revenue effects. While the deemed repatriation tax revenue comes in over the 10-year revenue window, it is a one-time provision, and it represents a tax cut relative to prior law. Although companies were sometimes disappointed that this repatriation tax cut was not even more generous, there is certainly no efficiency rationale for lighter tax treatment, since it is obviously difficult to encourage earnings that have already been earned. This provision is unlikely to have important incentive effects going forward.

As for the other international provisions, some raise revenue (the GILTI and the BEAT), whereas others lose revenue (territoriality and the FDII). On net, the international provision of the tax law (excluding repatriation) have a slight negative revenue consequence over 10 years (a loss of \$14 billion).<sup>54</sup> And, more-recent estimates by Horst (2019) suggest a greater negative loss from these provisions than originally estimated by the TCJA.<sup>55</sup>

Focusing on revenue alone, it seems clear that companies should be more competitive post-TCJA than pre-TCJA; the corporate community as a whole received very large tax cuts, netting more than \$650 billion, lowering the tax burdens associated with U.S. corporate income.<sup>56</sup> Still, the impact on competitiveness for multinational companies depends on individual company circumstances.

For example, consider a highly profitable multinational company that booked most of its income in tax havens prior to the TCJA. While the company could not access these funds without fear of a repatriation tax, it could borrow against them (and frequently did), creating the equivalent of a tax-free repatriation, as explained above. Thus, the tax treatment of foreign income was arguably already quite competitive. Under the new law, due the GILTI and the BEAT, such a company may find that its overall tax burden on foreign income has increased substantially, actually lowering its (tax) competitiveness relative to prior law.

Arguably, the new territorial tax system is more worldwide than the old one, since the older system raised very little revenue taxing foreign income (because U.S. tax due was either indefinitely deferred, offset with tax credits, or given holiday rates), whereas the new system subjects many multinational companies to immediate taxation on lightly taxed foreign income through the GILTI; also, some companies incur BEAT tax liability.

Because of these provisions, many observers argue that the new system could be less tax-competitive than the old one.

Of course, for purely domestic companies, corporate tax burdens have undoubtedly gone down, but since competitiveness concerns were typically focused on global companies facing foreign competitors, domestic companies were not generally the target.

Beyond tax competitiveness, there are also some troubling new incentives in the TCJA that will increase the offshoring of investment and jobs. Under the GILTI, the first 10 percent return on foreign assets is exempt from the minimum tax. This gives companies an incentive to increase *physical* investments of plant and equipment in low-tax countries in order to reduce the bite of the GILTI tax.

In addition, the FDII *also* encourages the offshoring of real investment. The FDII tax preference for export income applies only for income above a baseline return on assets. Thus, the more U.S. assets, the lower the tax benefit from FDII. For example, imagine moving an asset from the United States to a tax haven; that will lower your assets in the United States, increasing the return on the remaining assets and therefore the FDII deduction. In addition, now that the asset is abroad, it will result in more tax-free GILTI income, since the first 10 percent return on foreign assets is tax free. Together, these two provisions reward the offshoring of U.S. assets.

In general, if a company is indifferent between locating investments in the United States or in a low-tax country abroad, a comparison of the tax treatment under GILTI and FDII will bias the decision in favor of foreign investment. Although the FDII is meant to encourage U.S. activity, it may be perceived as a less reliable tax benefit due to uncertainties regarding its WTO compatibility that may subject it to legal challenges. Even beyond that concern, however, it is typically better for a company to serve the U.S. market from a tax haven, since both foreign and U.S. income receive a tax preference, whereas FDII rewards only U.S. export income. In addition, although increased physical assets increase the amount of tax-free income under GILTI, they reduce the tax benefits of FDII.

Indeed, early evidence from Beyer et al. (2019) shows that the multinational companies with the largest benefits from reducing the pre-TCJA repatriation costs actually have increased foreign, rather than domestic, investment in the wake of the TCJA. This finding is compatible with the new incentives for offshoring under the law.

## THE EFFECTS OF THE NEW TAX LAW ON PROFIT SHIFTING

The effects of the new tax law on profit shifting are, in theory, ambiguous. The territorial tax treatment of some income, and the absence of tax upon repatriation, should increase the incentive to shift profit abroad, since there will no longer be concerns about repatriation tax when returning profits to shareholders. The absence of U.S. tax for the first 10 percent return on foreign assets, and the lower tax rate that applies to GILTI income rather than U.S. income, both incentivize earning profits offshore instead of in the United States.

Still, both minimum taxes are targeted at reducing profit shifting. The BEAT does this directly, by taxing companies with excessive deductible payments to related parties. The GILTI has effects that depend on company circumstances. Companies with income earned in both high-tax (or medium-tax) and low-tax countries might not be subject to GILTI tax, since the tax credits from the higher-tax country will offset any GILTI liability on the low-tax income. In this case, the effects of the tax law are to encourage more shifting to tax havens: The excess tax credits shield haven income from the minimum tax, and there is no longer any concern of tax due upon repatriation due to the territorial treatment of foreign income.

In addition, for any company not earning returns of more than a 10 percent return on assets, the new regime would also encourage profit shifting, since the GILTI would not apply, nor would repatriation tax.

However, for companies that are not shielded from the GILTI tax by excess tax credits from their operations in higher-tax countries, profit shifting is discouraged. Relative to the prior tax treatment of haven income, the GILTI raises the tax burden on low-taxed foreign income, while blunting the negative effects of earning income in high tax countries. This reduces the incentive to earn income in low-tax countries, and it also reduces the deterrent of higher tax rates in foreign countries.<sup>57</sup>

Oddly for such companies, the United States is the *least* desirable place to book income. Haven income is the best, since it is taxed at half the U.S. rate.<sup>58</sup> But higher-tax country income is still preferred to U.S. income, since the tax payments abroad shield some haven income from GILTI tax, whereas U.S. income comes with no such benefits.<sup>59</sup>

Still, on net, for companies paying the GILTI, there should be a reduced incentive to shift income to havens, and that should help buttress the U.S. corporate tax base. Under the old regime, a dollar earned in Bermuda (which applies no corporate tax) instead of the United States saved 35 cents

in tax payments. Upon repatriation, that dollar would face some tax (e.g., 8 or 15.5 percent under the deemed repatriation regime), but until then, the income could grow tax free, and a tax deferred is a tax saved.

Now, for companies subject to the GILTI, a dollar earned in Bermuda instead of the United States saves only 10.5 cents in tax payments, which lowers the marginal incentive to shift income to Bermuda and other tax havens. In addition, the BEAT, by taxing companies with excessive deductible payments to related parties offshore, is also likely to weaken profit-shifting incentives.

Given the ambiguities in the law, it is ultimately an empirical question whether the TCJA will reduce profit shifting relative to prior law. Considering the JCT revenue estimates of table 1, it appears that the negative effect of territoriality on corporate tax revenues, as well as the FDII, narrowly exceed the positive effects of the BEAT and the GILTI, implying that the international provisions as a whole do not raise revenue. Still, these assessments depend on many uncertainties. Estimates based on early financial data from Horst (2019) imply larger revenue losses.

In Clausing (2019c), I consider the effects of the statutory rate change, together with the GILTI, on profit-shifting incentives. Based on analyses of U.S. multinational companies' tax responsiveness, I estimate that profit shifting will decrease in the long run, causing an approximately 20 percent reduction in the U.S. affiliate tax base in haven countries, which results in a modest increase in the U.S. tax base.

Of note, a per country minimum tax would have a much larger effect on profit-shifting behavior than the global minimum tax, since *all* companies would be disincentivized from booking income in havens, as tax credits from operations in high-tax countries would no longer cushion against the tax liability associated with haven income. Indeed, the positive U.S. revenue effects from the per country tax are estimated to be more than 2.5 times those of the global minimum tax. A per country tax would also remove the tax preference for foreign income relative to U.S. income due to the global-averaging feature of the GILTI.<sup>60</sup>

Early evidence from the first year of the tax law indicates little effect of the TCJA on the location of U.S. multinational companies' profits. As figure 2 shows, the share of foreign income booked in the seven most important tax havens is almost constant between 2017 (the last year under the old law) and 2018 (the first year under the new law).

To some extent, the constant nature of profit shifting is unsurprising, particularly in the short run. The companies that undertake the vast majority of profit shifting are large multinational companies with vast accounting and legal expertise. Once such companies have invested in the expertise required to minimize their global tax burden, it hardly makes sense for them to stop doing that just because the marginal rewards from profit shifting have diminished. The rewards are still substantial.

Still, over time we expect economic actors to respond to marginal incentives, and the marginal incentive for profit shifting has been reduced for some companies, so that should ultimately lead to some reduction in profit shifting. Of course, the details of implementing regulations and tax planning, as well as the tax laws of other countries, can make a big difference. In the end, only time will tell.

## **COMPLEXITY AND ADMINISTRATION**

The international tax provisions under the TCJA are mind-numbingly byzantine. In many respects the complexity is nothing new; the U.S. international tax system has always been enormously complicated. However, the new provisions (GILTI, FIDII, and BEAT) confound even legal and accounting experts. Furthermore, the provisions together are more complicated than any provision alone, since there are interaction effects between the provisions, as well as the additional complications of foreign tax credits, expense allocations, interest deduction limitations, and so forth.

In part this complexity originates with the inevitable conflicts between two of the competing tax policy goals discussed above: encouraging the competitiveness of U.S.-based multinational companies while also protecting the corporate tax base from profit shifting. Indeed, complexity is unavoidable if one is striving to couple a territorial tax system with corporate tax base protection. Thus, while the additional complexity is troubling, the TCJA should be commended for providing some limits on tax avoidance through the GILTI and the BEAT. Given the present imbalances in the U.S. international tax system, the legislation is better with these base protection measures than without them.

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## Endnotes

1. Some countries might be able to combine low tax rates and high corporate revenues (relative to GDP) by becoming one of the first few tax havens of choice. However, this is not a feasible strategy for most countries.
2. There are important policy proposals that would counter or eliminate these problems. However, these proposals face important political, legal, and/or technical obstacles. Overcoming these problems would make the taxation of capital income at the individual level more attractive, although it would not eliminate the importance of strengthening the corporate layer of taxation, given the large amount of U.S. equity income that is tax exempt.
3. There is ample evidence of an increased role of market power in the U.S. economy; see Philippon (2019) for a full treatment of this concern.
4. Expensing allows companies to write off the full cost of their investment in the year it was made, rather than asking those companies to depreciate the investment over time. Since the expense of making the investment is deductible, the only part of investment income that is taxed is the income above the cost of capital. Furthermore, since debt-financed investments also generate additional interest deductions, those investments receive a tax subsidy under current law.
5. While the interest earned abroad would be taxed, the interest paid at home would be deductible. Thus, if the interest rates are the same, companies would have tax-free access to their offshore funds for investment.
6. While the United States has a large pass-through business sector, corporate tax revenues have been steady despite soaring corporate profits.
7. The United States is 15.5 percent of the world economy in 2017 if we adjust for price-level differences across countries. These purchasing power parity measures account for higher price levels in richer countries, so rich-country purchasing power is lower than it would appear if we simply compare dollar measurements across countries. In contrast, countries like China and India have higher purchasing power than U.S. dollar measures of GDP indicate.
8. As one example, see the post by Steven Rosenthal on the Tax Policy Center's TaxVox blog (Rosenthal 2018).
9. For the purpose of this analysis, I focus on the seven havens of figure 2. With country-by-country income, I also include income that is described as stateless. Data sources paint a different picture of the relative importance of haven income, and no data source is perfect. They differ in terms of how income is defined, in terms of what companies are included, and in terms of potential sources of bias or measurement error. Nonetheless, the broad picture of large amounts of income in haven countries is undisputed.
10. Bureau of Economic Analysis (BEA) data are considered some of the best available data for analyzing multinational company profit shifting, as discussed in OECD (2015).
11. In contrast, analyses from accounting databases such as Orbis or Compustat omit most profit shifting since most income in tax havens is not observable.
12. See Clausing (2019b) for an analysis of the magnitude of profit shifting that uses these data.
13. Other studies that suggest very large magnitudes of profit shifting include Bilicka (2019); Crivelli, de Mooij, and Keen (2016); Tørslov, Wier, and Zucman (2018); and Wier and Reynolds (2018). Studies that use accounting databases such as Orbis frequently find smaller magnitudes of profit shifting due to the near absence of tax haven data in the analysis. Recently, Blouin and Robinson (2019) have called into question the large size of some profit shifting estimates. However, their method of adjusting the BEA data generates its own puzzles, including negative amounts of income in some important havens in recent years as well as total stocks of haven income that are incompatible with our knowledge regarding accumulated earnings in such countries. See Clausing (2019b) for a discussion of these issues.
14. Data are from 2017. This calculation includes the big seven tax havens referenced in this section as well as other jurisdictions showing effective tax rates below 10 percent in 2017. Half of the stateless income is counted in this total, to allow for potential uncertainties regarding how we should interpret that part of this data series.
15. Many provisions in the legislation are temporary, including the tax cuts for individuals, estates, and many pass-through businesses; these provisions expire after 2025, and they are not considered

- further here. The corporate provisions are permanent, although there are some changes in particular provisions over time.
16. Data are from the U.S. Federal Reserve FRED database (2017–18). Monthly receipt data through December 2018 are aggregated to generate annual totals, which are then compared to GDP.
  17. Revenue data are from the Department of the Treasury (n.d.). GDP data are from the Bureau of Economic Analysis (BEA) and accessed via the FRED database (BEA 1980–2018).
  18. This sets aside the revenue from the deemed repatriation tax, which raises revenue in the 10-year window but is a tax break relative to prior law.
  19. This estimate counts only incremental revenue relative to JCT estimates of revenue under GILTI for the same period. The estimate follows the method described in Clausing (2019b). I assume a 4 percent annual growth rate in foreign profits to scale to the 2021–30 budget window, and numbers are nominal following JCT convention. This is similar to the revenue estimate in Clausing (2019a), but there are both method and data set differences between Clausing (2019a) and Clausing (2019b). Still, much of the difference in the 10-year revenue number is due to scaling for nominal growth in foreign profits, since the Clausing (2019a) estimate of \$340 billion simply multiplied a 2016 number by 10, whereas this number accounts for 4 percent nominal growth between 2016 and 2030.
  20. There is a 10-year gain of \$127 billion, using JCT estimates for 2021–27 and adding three more years at the average of the 2026 and 2027 numbers. (That was also the method for calculating the lost GILTI revenue.) In addition, for FDII I multiply by the ratio (28/21) to account for the higher corporate tax rate.
  21. See Clausing (2019b, 2019c).
  22. See Clausing (2019a) for a thorough review of the evidence.
  23. A global minimum at 28 percent will increase U.S. revenue relative to a 21 percent per country minimum for those companies with many haven operations and little high-tax foreign income. However, since cross-crediting would reduce minimum tax due for companies with foreign profits spread across both high- and low-tax countries, their minimum tax payments to the U.S. government may be lower than under a 21 percent per country minimum. Thus, the relative revenue consequences of these two minimum taxes are unclear. One common criticism of minimum taxes is that they would encourage other countries to match the minimum tax rate. However, this is a feature of the policy: With rates harmonized, there would be no incentive to shift profits or business operations for tax purposes.
  24. Both prior Treasury regulations (in 2014 and 2016) and the TCJA have reduced the problem of corporate inversions. Under the TCJA there is no longer tax due upon repatriation, so one powerful motive for prior inversions is removed. In addition, the TCJA included other measures to limit inversions, although the GILTI and other features of the tax code still serve as an incentive for corporate inversions.
  25. See Clausing (2014); Kleinbard (2014, 2017); and Shay (2014) for a discussion of anti-inversion measures.
  26. The BEAT is a novel and previously untried provision. Experience will inform the path of possible improvements.
  27. Both the Obama administration and the House Ways and Means Committee under the Republican leadership of Chairman Camp suggested revenue-neutral business tax reforms. In fact, these two reforms had many common elements. Both paired a reduction in the corporate rate (to 25 or 28 percent) with revenue-raising provisions affecting the international income of multinational companies.
  28. Regarding the administration claims, see White House (2017). For a thorough review of the economics literature on this question, the evidence of other countries who have undertaken similar reforms, and the early evidence from the experience under TCJA, see Clausing (2019a).
  29. See Clausing (2019a) for a thorough discussion.
  30. For example, Congress should reverse the repeal of the health insurance mandate, which reduced the subsidization of health insurance for low-income Americans, thus increasing the uninsured population and raising insurance premiums throughout the health-care system.
  31. Other formula choices are discussed below.
  32. This replaces the need for a permanent establishment threshold to determine whether a company is taxable in the jurisdiction. The OECD has suggested similar changes, discussed below.

33. There are other options. For example, the tax base could instead be defined to follow companies' headquarters country tax base definitions, or it could be defined by multilateral agreement, perhaps following international accounting standards. See also endnote 36.
34. This is simpler than grouping companies based on lines of business. The distinction is discussed further below.
35. For a discussion of India's proposal, see Avi-Yonah (2019).
36. One approach is to define global income based on the home government of the multinational company in question. Thus, U.S. multinational companies would use the U.S. government definition of the tax base, applying it to the entire multinational enterprise. Since U.S. multinational companies already have to calculate earnings and profits of controlled foreign corporations for purposes of Subpart F and the foreign tax credit, there would be little additional administrative burden. In the presence of a multilateral agreement, countries could also agree to a common definition of the tax base, perhaps relying on international accounting standards. Use of international accounting standards would have the advantage of more closely aligning book and tax profit, reducing the overstatement of the former and the understatement of the latter.
37. See Crivelli, de Mooij, and Keen (2016) and International Monetary Fund (IMF; 2019) for more on developing-country revenue losses due to profit shifting. The IMF paper indicates that emerging and developing economies would gain from many, but not all, formulary approaches. In the case of U.S. multinational companies, 2015 BEA data on U.S. multinational companies indicate that developing countries gain under virtually any formula. The major developing countries in the survey include Argentina, Brazil, Chile, China, Colombia, Costa Rica, Dominican Republic, Ecuador, Egypt, Guatemala, Honduras, India, Indonesia, Malaysia, Mexico, Nigeria, Peru, Philippines, South Africa, Thailand, Turkey, and Venezuela. In 2015 the share of foreign direct investment earnings of U.S. affiliates in these countries was 8.5 percent after-tax and 12 percent before-tax. Such shares are far lower than the share of real activities in these countries; the less-developed countries host 22 percent of sales, 48 percent of employment, and 22 percent of employee compensation. (Asset shares are more in line with income shares, but they may be distorted by the influence of profit-shifting incentives on asset measurement.)
38. In fact, the same dynamic holds even if the United States is the sole adopter. But because such a move would put tremendous tax pressure on trading partner tax bases, and because there would be a greater risk of double taxation, or nontaxation, with unilateral adoption, it is both better economics and better politics to go forward with partner countries.
39. Altschuler and Grubert (2010) perform simulations that suggest that formulary apportionment could lead to tax responsiveness that is similar to the present system. However, data based on the actual past experience under formulary systems suggest that formula factors are far less tax-responsive than are paper profits. See Clausing (2016) and Mintz and Smart (2004).
40. In particular, the rule we suggest is, "Goods, services or intangibles which are sold or licensed to an unrelated person will be presumed for purposes of this section to have been sold or licensed for use, consumption, or disposition in the country of destination of the property sold or services or intangibles provided; for such purpose, the occurrence in a country of a temporary interruption in shipment of goods shall not constitute such country the country of destination. However, if at the time of a sale of personal property or services or license of intangibles to an unrelated person the enterprise knew, or should have known from the facts and circumstances surrounding the transaction, that the property, services or intangibles probably would not be used, consumed, or disposed of in the country of destination, the enterprise must determine the country of ultimate use, consumption, or disposition of the property, services or intangibles or the property, services or intangibles will be presumed to have been used, consumed, or disposed of in the United States" (849).
41. One possible response to this problem would be to apply formulary apportionment by line of business rather than by common control. This solution would lead to much additional complexity; if the underlying tax responsiveness of merger activity is low, such complexity may not be warranted. For this reason, I suggest basing formulary apportionment on common control.
42. Financial accounting data of particular companies indicate that both technology and pharmaceutical companies are particularly likely to see their effective tax rates rise in the wake of such reforms. For example, see Kiernan (2019).

43. See, e.g., Avi-Yonah and Clausing (2008, 2019). One item that has changed since the 2008 article is that there is now a consensus that treaties need to be changed to eliminate the permanent establishment requirement.
44. See Wier and Reynolds (2018) regarding the high concentration of profit shifting among the largest companies.
45. See Avi-Yonah and Clausing (2017) for a lengthier discussion of this DBCFT proposal.
46. This is not a small matter. The tax would not have worked as intended without the border adjustment. There would be large tax avoidance opportunities.
47. Gopinath (2017) argues that, even in theory, such border adjustment taxes are unlikely to be neutral in either the short run or the long run. For more on the utter unpredictability of exchange rates, see Rogoff (1999), who notes, “The extent to which monetary models, or indeed, *any* existing structural models of exchange rates, fail to explain even medium-term volatility is difficult to overstate. The out-of-sample forecasting performance of the models is so mediocre that at horizons of one month to two years they fail to outperform a naïve random walk model (which says that the best forecast of any future exchange rate is today’s rate). Almost incredibly, this result holds even when the model forecasts are based on actual realized values of the explanatory variables” (444).
48. Even *assuming* perfect exchange rate adjustment, such that the U.S. dollar appreciates exactly and instantly, that adjustment still poses serious threats to the world economy. Since many debts worldwide are dollar denominated, a large dollar appreciation harms many emerging economies as their debt burdens rise in domestic terms. In addition, since many countries target (implicitly or explicitly) the value of their currency relative to the dollar, dollar appreciation creates adjustment difficulties in other countries. Dollar appreciation would also cause a large redistribution of foreign asset wealth away from Americans and toward foreigners. The value of foreign-owned assets in the United States would rise, whereas the dollar value of U.S.-owned foreign assets abroad would fall for American investors.
49. For example, U.S. export income goes untaxed at home and may also be untaxed abroad, whereas foreign companies selling into the U.S. market may be double-taxed on that income.
50. The OECD (2019a) also envisions measures to ensure a minimum level of tax as part of its work addressing the tax challenges of the digital economy. That work is still in progress and is designed to focus on a subset of multinational companies.
51. For the United States, one possible rule is that a U.S. resident company would be defined to include both U.S.-incorporated firms and foreign firms with their mind and management in the United States. Foreign firms that have some managerial presence in the United States and that use the U.S. dollar as their functional currency would face a rebuttable presumption that they are U.S. firms. See Kleinbard (2017).
52. For example, raising capital gains tax rates does not raise much additional revenue since it generates an increased lock-in problem, whereby individuals are incentivized to hold assets too long, or even until death, to benefit from tax deferral and/or the step-up in basis at death. Mark-to-market taxation addresses that problem, but it comes with important technical difficulties regarding valuation, liquidity issues, and losses. A wealth tax provides another mechanism for taxing capital income, but in addition to similar technical difficulties, it will undoubtedly be challenged on constitutionality grounds (regardless of the merits), so back-up plans should be included in any such proposal, as suggested by Gamage (2019).
53. Capital taxation is not just about equity, but it is also about efficiency. The present corporate tax largely exempts the normal return to capital from taxation and even subsidizes debt-financed investment. In this context, much capital income actually reflects above-normal returns to capital due to risk, luck, rents, or some combination. There are strong efficiency arguments for improving the taxation of these above-normal returns to capital. Recent literature has also suggested good arguments for higher taxes on the normal return to capital. For example, see Conesa, Kitao, and Krueger (2009); Farhi et al. (2012); and Piketty and Saez (2012, 2013).
54. This number includes some minor international provisions that are not discussed here. Together, the four international provisions discussed here lose \$25 billion over 10 years.
55. This analysis is preliminary and based on an incomplete sample of companies’ 10-K financial statement data. Horst (2019) finds that the combined effect of the GILTI, FDII and BEAT is negative. If this finding proves generally true, this is a far more negative outcome than predicted by the JCT,

- which indicated a combined revenue effect from the three provisions of almost \$200 billion over 10 years. Horst (2019) finds that BEAT will raise far less revenue than expected, the FDII will cost more revenue than anticipated, and the GILTI will likely raises somewhat more revenue than anticipated.
56. This sets to one side the deemed repatriation revenue during the 10-year budget window, which is a tax cut relative to prior law, even if it raises revenue during the window.
  57. The effects of the GILTI can be complicated by the circumstances of individual companies regarding expense allocation rules, the effects of losses, and so on. There have been many instances of companies complaining that expense allocation rules caused them to fall prey to the GILTI minimum tax despite having relatively high foreign effective tax rates. However, it is important to remember that expense allocation rules themselves are meant to counter the artificial inflating of foreign income relative to U.S. income due to booking expenses in the United States rather than the foreign country. So, although expense allocation rules may reduce some companies' abilities to use foreign tax credits to offset GILTI, that result may follow from artificially high foreign income. In addition, Treasury regulations have been responsive to the concerns of companies and blunted these sorts of effects (Rubin 2019).
  58. Tax rates rise in 2026 from 10.5 percent to 13.125 percent. In addition, some haven income will be taxed at more than 10.5 percent (up to 13.125 percent) since foreign tax credits are only partially creditable. See Clausing (2019c) for a full description.
  59. For companies facing the GILTI, the marginal tax rate associated with non-haven income becomes  $10.5 + 0.2 t_f$ , where  $t_f$  is the foreign tax rate. This rate is lower than the new U.S. rate of 21 percent for all foreign tax rates below 52.5 percent. For example, consider the marginal effect of earning a dollar in Korea, where the tax rate is 25 percent. This dollar generates an additional 10.5 cents in GILTI liability, and 25 cents in tax payable to the Korean government. But 80 percent of the Korean tax payments are creditable against haven GILTI liability, reducing those taxes by 20 cents. The next effect is 15.5 cents in tax, or  $.105 + .2 t_f$ .
  60. However, the effects of the U.S. minimum tax on foreign non-haven tax countries are similar, regardless of whether a per country or global minimum tax is adopted. The global minimum tax helps foreign non-haven countries by blunting the tax responsiveness of U.S. multinational companies to their higher tax rates; a per country minimum tax does not have such an effect. However, the per country minimum tax reduces profit shifting to havens more effectively, which helps all non-haven countries recover tax base relative to havens.

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# How to Increase Growth While Raising Revenue: Reforming the Corporate Tax Code

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## Abstract

This chapter proposes reforms to business taxes that would address some of the challenges facing the current system. These challenges include historically low revenue collections, instability, distortions, failure to address positive spillovers from research and development, and failure to address the increased returns to corporations that derive from their monopoly power. The proposal would raise the corporate tax rate from 21 percent to 28 percent, require large pass-through businesses to file as C corporations, and close other loopholes. In addition, it would expand incentives for new investment by allowing businesses to expense all their investment costs and get a nearly 50 percent larger credit for their research and development spending. The proposal would raise the long run level of GDP by at least 5.8 percent, adding at least 0.2 percentage point to annual GDP growth over the next decade. The combination of tax increases and additional growth would raise \$1.1 trillion over the next decade and 1.1 percent of GDP in steady-state. The middle quintile of the income distribution would see a 3.5 percent increase in its after-tax income after taking into account the uses of the money raised. The overall gain to society in the long run would be about a 5.0 percent increase in well-being.

## Introduction

The U.S. business tax code was overhauled in the Tax Cuts and Jobs Act of 2017 (TCJA). Some changes were improvements and others created new problems. This chapter does not relitigate whether that overhaul improved or worsened the tax code on balance. Instead, it starts from today's business tax code and looks ahead to propose a specific set of reforms that, implemented together, would both raise more revenue and increase economic growth.

The key insight motivating this proposal is that much of the economic efficiency associated with the business tax code depends on the *tax base* and not on *statutory tax rates*. With a reformed tax base that expands incentives for new investment as well as for research and development (R&D), it is possible to increase statutory tax rates in a way that raises more revenue from past investment decisions and their future profit windfalls (i.e., the so-called “supernormal” return) while cutting the tax rate on the portion of the return that businesses use in evaluating whether to make new investments or undertake R&D (i.e., the so-called “normal” return). This is the opposite of the traditional tax reform mantra to broaden the base and lower the rates. Instead, going forward tax policy should improve the tax base, which would enable more efficient increases in tax rates.

The proposal has five elements: (i) allowing businesses to expense all of their investments in equipment, structures, and intangibles while eliminating the interest deduction; (ii) raising the corporate rate to 28 percent; (iii) requiring mandatory filing as C corporations for large businesses; (iv) eliminating other corporate loopholes, including the so-called extenders; and (v) expanding the research and experimentation (R&E) tax credit. The international aspects of the corporate tax code should also be reformed but the specifics of these reforms are outside the scope of this chapter, which focuses only on the domestic components of reform. For the international aspects, see Clausing (2020) in this volume.

The proposal would encompass both business income that is currently taxed through the corporate income tax as well as business income taxed through the individual income tax, which is used for pass-through corporations like sole proprietors, partnerships, and S corporations. Thus, the proposal addresses the taxation of business income broadly, and not just taxation of C corporation income. Given the current ability of companies to choose which system they are taxed under—an ability this proposal would remove—it is essential to consider business taxation as a whole, and not just corporate tax reform by itself. The remainder of this chapter uses the terms “corporate” and “business” interchangeably.

The proposed reform would increase the annualized GDP growth rate over the next decade by at least 0.2 percentage point, increasing the long run level of output in the economy by at least 5.8 percent (both relative to current law).<sup>1</sup> In addition, if enacted in 2021 it would raise \$300 billion in revenue from 2021 through 2030, not counting macroeconomic feedback, and \$1.1 trillion with macroeconomic feedback. In steady-state, revenue would increase by 1.1 percent of GDP (including macroeconomic feedback), the equivalent of \$3 trillion over the next decade. The business tax change

by itself would be very progressive. Taking into account the specifics of the tax proposal and the wage effects, the bottom four quintiles would all see increases in their after-tax incomes while the top 0.1 percent would see a 3.8 percent decline. Also taking into account the use of the revenue, assuming that it is given out in equal lump sum amounts to every tax unit, the bottom quintile would see a 9.9 percent increase in its after-tax income, and the middle quintile would see a 3.5 percent increase in its after-tax income. The total gains to society, measured by summing the percentage changes for individual households, would be about a 5.0 percent increase in well-being.

## The Challenge

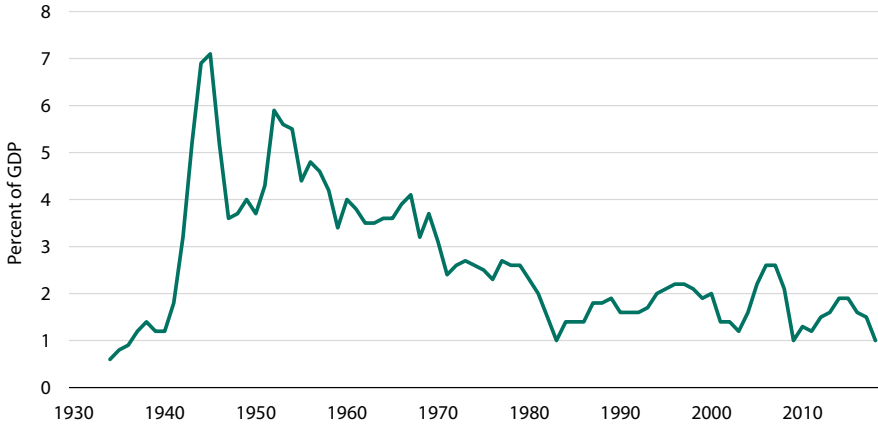
The business tax code has five significant shortcomings: (i) It is unstable in that it is part of an overall tax system that does not raise sufficient revenue to meet the current spending trajectory. (ii) It is unstable in that it has numerous provisions that are phasing in and out, complicating business planning and fiscal planning. (iii) It is distortionary, taxing different activities at very different rates depending on the form of investment, the financing of the investment, and other factors. (iv) It does not fully reflect the positive externality associated with R&D. And (v) it does not sufficiently address the rents associated with increased concentration and expanded monopoly power. These shortcomings are more fully described in turn in this section.

### **THE UNITED STATES COLLECTS ABOUT THE LOWEST CORPORATE REVENUE IN HISTORY AND AMONG THE ADVANCED ECONOMIES**

In 2018 the United States collected 1 percent of its GDP from corporate income taxes, a number that is projected to rise slightly over the next decade, assuming a number of tax increases phase in (see “The Proposal”). As shown in figure 1a, this is the lowest since the 1930s (outside of the recessions or their immediate aftermaths), and, as shown in figure 1b, it is lower than all but one of the advanced economies in the Organisation for Economic Co-operation and Development (OECD). U.S. corporate taxes are less than half their historic average and one third the unweighted average for other advanced OECD economies. Note that these figures do not account for tax revenue from pass-through businesses collected through the individual income tax code which is likely higher than it was in the past and is higher than it is in other countries.

FIGURE 1A.

## U.S. Corporate Income Tax Revenue, 1934–2018



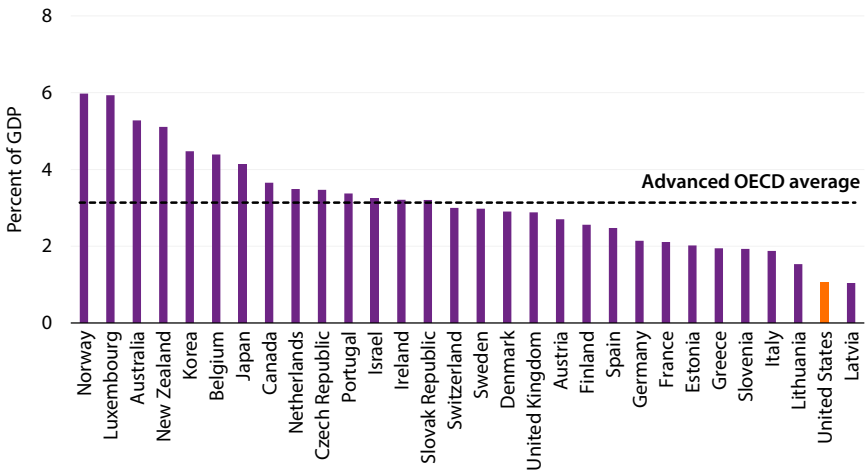
Source: Office of Management and Budget (OMB) 2019.

Note: Data are for fiscal years.



FIGURE 1B.

## Tax Revenue from Income, Profits, and Capital Gains of Corporates in Advanced OECD Countries



Source: Organisation for Economic Co-operation and Development (OECD) 2019b.

Note: Data are for 2018, with the exception of data for Australia and Greece from 2017.



The low levels of corporate tax revenue are a major reason why overall federal revenue is very low; at 16.5 percent of GDP in 2018 it was the lowest it has been in the past 50 years outside of recessions and their aftermaths. By 2029 revenue will be 4 percent of GDP lower than noninterest spending. If this gap did not change, it would be consistent with the debt eventually rising to about 400 percent of GDP.

It is likely that future policymakers would—and should—act to prevent debt rising to 400 percent of GDP. It is uncertain, however, what steps they will take, and whether they would include further changes to corporate or other business taxes. As a result, the fiscal imbalance itself is an indirect source of uncertainty about future business taxes.

### **NUMEROUS PROVISIONS OF THE BUSINESS TAX CODE ARE PHASING IN, EXPIRING, OR PHASING OUT**

Under current law, the taxation of business income will change almost every year between now and 2027. By itself, this is a source of complexity. This complexity is compounded by the political uncertainty associated with whether or not future Congresses will try to undo some or even all of these changes.

A partial list of scheduled changes in the taxation of business income include these:

- Currently businesses are allowed to expense their equipment investment—that is, to deduct 100 percent of the cost in the year they make the investment. For most investments, the percentage that can be expensed is reduced to 80 percent in 2023, 60 percent in 2024, 40 percent in 2025, 20 percent in 2026, and will be phased out completely starting in 2027.
- In the case of R&D expenditures, the current expensing provision ends after 2021. At that point businesses will have to amortize their R&D expenditures over five years in some cases and fifteen years in others.
- Currently households can take a 20 percent deduction on certain qualified business income from pass-through businesses. This provision expires after 2025.
- The tax rate on global intangible low-taxed income increases starting in 2026.

- Currently businesses are limited to a net interest deduction of 30 percent of earnings before interest, taxes, depreciation, and amortization, but starting in 2022, this limit applies to earnings before interest and taxes.
- Dozens of provisions in the tax code, the so-called extenders, expire at the end of 2020; these expiring provisions include the classification of certain race horses as three-year property, the seven-year recovery period for motorsports entertainment complexes (i.e., NASCAR), and numerous energy tax incentives.

As a result, starting in 2026 the business tax code is scheduled to be very different from what it is today. Past experience, however, shows that in some cases the government extends current practices and in other cases it does not, with the difference often reflecting questions of lobbying power and other arbitrary considerations rather than efficiency.

In sum, the business tax code as written creates substantial direct uncertainty, which is compounded by the indirect uncertainty that results from having revenue levels much lower than spending.

## **THE BUSINESS TAX SYSTEM DISTORTS DECISION MAKING WITH NON-NEUTRAL TAX RATES**

There is substantial debate over the total level of taxation and over the specific level of taxation on capital income. There is much less debate over the principle of neutrality in the tax code, the idea that whatever the level of taxes, it should be similar for similar activities.<sup>2</sup> If the tax system is not neutral, then it results in relatively too much of tax-favored activities and relatively too little of tax-disfavored activities. In this situation, moving the tax system toward neutrality with respect to different activities will improve efficiency for a given level of revenue collection. Currently the tax code is non-neutral with respect to the types of investment, the financing of investment, the form of business, and the location of investment. The following briefly discusses the first three forms of distortions; for an account of how the corporate tax system distorts choices about actual and reported business locations see Clausing (2020) in this volume.

The first form of distortion is when different types of investment are taxed at very different rates. Different industries face very different average tax rates in 2022, varying from a low of a 10 percent effective rate for holding companies and for accommodation and food services, to a high of a 23 percent tax rate for agriculture, forestry, fishing and hunting, and health care and social assistance (Penn Wharton Budget Model 2017; see table 1).

TABLE 1.

## Effective Corporate Tax Rates by Industry Under the 2017 Tax Act

Industry	2022	2027
All industries	17.3	18.3
Accommodation and food services	10.1	10.3
Administrative and support and waste management and remediation services	19.1	19.1
Agriculture, forestry, fishing, and hunting	23.4	24.5
Arts, entertainment, and recreation	22.0	23.0
Construction	22.5	23.5
Educational services	22.7	23.4
Finance and insurance	19.9	20.1
Health care and social assistance	23.1	23.8
Information	18.7	18.7
Management of companies (holding companies)	10.1	9.4
Manufacturing	15.4	15.8
Mining	11.3	10.8
Other services	22.8	23.7
Professional, scientific, and technical services	21.2	21.7
Real estate and rental and leasing	21.4	23.4
Retail trade	21.3	22.2
Transportation and warehousing	22.2	23.4
Utilities	22.2	23.8
Wholesale trade	19.8	20.5

Source: Penn Wharton Budget Model 2017.



Similarly, the tax rates on intangibles are generally lower than tax rates on tangible assets, with wide variations in the effective tax rates on different types of intangibles (Congressional Budget Office [CBO] 2018a; see table 2).

The second form of distortion is when effective marginal tax rates are lower for equipment than they are for structures, and lower for debt financing than for equity financing. See table 3, which is based on calculations from the model developed in Barro and Furman (2018).



TABLE 2.

## Effective Tax Rates on Capital Income Under the 2017 Tax Act, by Type of Asset

Type of Asset	2022	2027
All intangible assets	12	15
Purchased software	22	28
R&D with the R&E tax credit	11	11
R&D without the R&E tax credit	25	25
Entertainment, literary, and artistic originals	13	27
Mineral exploration and development	10	10
Brand identity arising from advertising	8	8
All tangible assets	21	24

Source: Congressional Budget Office (CBO) 2018a.

Note: All intangible assets includes the R&E tax credit.



TABLE 3.

## Effective Marginal Tax Rates on Corporate Investment

	100% Debt		100% Equity	
	Law as written	Provisions permanent	Law as written	Provisions permanent
<b>Equipment</b>	6%	-9%	13%	0%
<b>Structures</b>	19%	17%	23%	22%

Source: Author's calculations based on Barro and Furman 2018.



Finally, the third form of distortion is when tax rates on businesses organized as pass-throughs are much lower than tax rates on C corporations. The two rates are relatively similar at the entity level—in 2027 corporations face a 0.5-percentage-point higher tax rate than pass-throughs if all of the provisions of the TCJA are made permanent, and 1.8 percentage points lower rate if they are not (Foertsch 2018).<sup>3</sup> Moreover, corporate income faces a second level of individual taxation at a rate of 23.8 percent on dividends and capital gains for taxable shareholders that realize their gains, which, even after taking into account nontaxable shareholders, still results in a substantially higher tax rate on an integrated basis for corporate capital than for noncorporate capital.

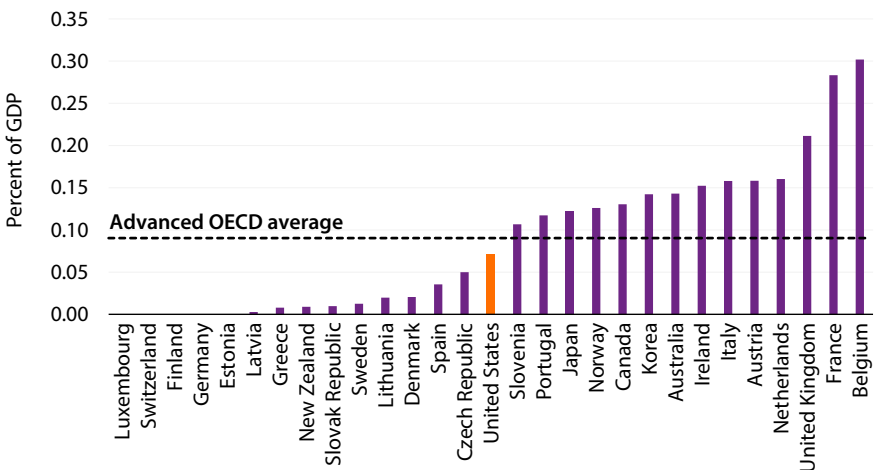
## THE EXISTING SYSTEM DOES NOT FULLY REFLECT THE POSITIVE SPILLOVERS ASSOCIATED WITH BUSINESS R&D

The principle of neutrality applies to activities that, *ex ante*, there is no reason for public policymakers to consider any differently than would investors making business judgements based on market rates of return. One activity, however, is likely to have very large returns that go beyond what is captured solely by investors: investments in R&D. In recognition of this evidence, the United States was the first country in the world to enact a tax credit for R&D, originally passing it in 1981. Since then, most other major economies have passed even more generous measures; as a result, government tax support for R&D is much lower in the United States than it is in many other advanced economies and falls below the (unweighted) average for the advanced OECD countries (see figure 2). In addition, the U.S. research credit is complicated, offering firms the options of two different calculations, with other calculations for different circumstances.

Recent empirical analyses that attempt to measure spillover effects suggest that the socially optimal level of R&D investment—the amount that would produce the greatest rate of economic growth—is two to four times greater than actual spending (Bloom, Schankerman, and Van Reenen 2013; Jones and Williams 1998). While much of this shortfall relative to the optimum

FIGURE 2.

### Government Tax Support for R&D in Advanced OECD Economies



Source: Organisation for Economic Co-operation and Development (OECD) 2019a.

Note: Data for United States are from 2014. Data for France and Greece are from 2016. All other country data are from 2017.

is in R&D, it is also in research by firms where asymmetric information prevents the ability to write private contracts that would allow firms to internalize their positive spillovers (Akcigit, Hanley, and Stantcheva 2019). While private solutions do not work, public ones can be highly effective. For example, research by Hall (1993) and Hines (1994), as well as Bloom, Griffith, and Van Reenan (2002) has found that research credits are highly effective at increasing research spending: Each dollar of forgone tax revenue due to the credit generally leads firms to invest at least one dollar in R&D, with some studies finding much larger effects. These studies, among others, find elasticities of roughly one and often as high as two. Akcigit, Hanley, and Stantcheva (2019) estimate the optimal subsidy for research; while their estimate differs from the current framework for the research credit, it justifies a substantial subsidy—one that appears to be larger than the one currently in the law.

### **THE TAX SYSTEM CAN PLAY A ROLE IN ADDRESSING THE CONSEQUENCES OF INCREASED CONCENTRATION IN THE ECONOMY**

Several economists have documented the degree to which concentration has increased throughout the economy as fewer and fewer companies have come to dominate an increasing number of industries (Furman and Orszag 2018; Grullon, Larkin, and Michaely 2018; Philippon 2019; Shambaugh et al. 2018; White House 2016). Increased concentration can reflect good causes such as greater efficiency, as well as bad causes such as increased permissiveness of mergers and acquisitions. One manifestation of the increase in concentration is the rise in the rate of return on capital relative to the safe rate of return on assets, a fact that is not fully explained by increases in intangible investment or other obvious factors (Eggertsson, Robbins, and Getz Wold 2018; Farhi and Gourio 2018).

The increase in concentration is contributing to slower productivity growth and potentially also increased inequality through lower investment, less innovation, and more inequality. The policy responses to increased concentration should be in a wide range of domains, like antitrust policy and regulatory policy. But this fact also has implications for tax policy. To the degree that firms are getting larger monopoly returns, taxing these will not distort the economy—they are “rents”. While a firm would like as much of them as possible, they are in excess of the amount needed to get to undertake the investment they did. In fact, this taxation might be a way to curb monopoly power, increase competition in the economy; as a result, higher tax rates *on the portion of the return associated with monopoly* could even be efficiency increasing.

## The Proposal

The proposal is designed to address these five challenges. It would raise additional revenue, helping to make the tax code more sustainable and thus more predictable. All of the elements of the proposal would be permanent, eliminating the uncertainty associated with phase-ins, phase-outs, and cliffs in the current code. It would make the tax system more neutral, especially with regards to decisions about financing with debt and equity. It would increase the tax benefits associated with investments in R&D, helping businesses to internalize the social benefits they currently create with their research and thus to undertake more of it. Finally, it would generally eliminate the taxation of the *normal* return to capital that all businesses require to make investments (by allowing for expensing of investment) but would greatly increase the taxation of the rents associated with monopoly profits or *supernormal* returns. This would help increase efficiency and would also raise revenue in a very progressive manner.

The proposal has five elements: (i) expanding expensing to include structures and all intangibles and making it permanent for all business investment while disallowing interest deductions associated with new investment; (ii) raising the corporate rate to 28 percent; (iii) requiring mandatory filing as C corporations for large businesses; (iv) eliminating other corporate loopholes, including the so-called extenders; and (v) expanding the R&E tax credit.

In addition, this reform to the domestic portions of U.S. business taxes should also be accompanied by a reform to the international portions, potentially along the lines of Clausing (2020) in this volume. Ideally, all five elements of the reform would be undertaken together since they form an integrated reform proposal. The problems associated with separating out some elements (e.g., doing expensing without disallowing interest deductions) and the possibility of separating out other elements (e.g., dropping the proposal for an expanded R&E tax credit) are discussed in “Questions and Concerns” later in this chapter. For the remainder of the section “The Proposal” and the next section, “Analysis of the Proposal,” the individual elements are treated as a single integrated proposal.

### **EXPAND EXPENSING AND MAKE IT PERMANENT**

Under current law, investment in equipment—which is about 45 percent of annual business fixed investment—can immediately be deducted from income for the purpose of calculating taxes. This provides an incentive for new investments in equipment without conferring any benefits on old capital, that is to say investments that have already been made. In fact, under

this provision the effective marginal tax rate on new business investment financed from equity is zero (box 1 explains the logic).

There are, however, four problems with the way expensing is currently implemented that would be rectified by this proposal. The first is that expensing currently applies only to equipment and does not include structures (23 percent of business fixed investment) and does not apply uniformly to intangible investments (32 percent of business fixed investment, using the Bureau of Economic Analysis's intellectual property products category). The proposal would extend expensing to all of these categories of investment to ensure that different types of investment are not taxed at different rates.

BOX 1.

## Why the Effective Marginal Tax Rate Is Zero When Businesses Can Expense Investment

To understand why expensing will result in an effective tax rate on marginal investment financed by equity of zero, consider a simple example. Assume that a business has the opportunity to spend \$100 to purchase a machine and put it in use to produce \$3 annually in profits net of other costs. For simplicity, assume the machine does not depreciate and that it produces \$3 annually forever.

If the business did not face any corporate taxes, then it would have to evaluate whether purchasing this machine was at least as good as the best alternative use of funds, which might be something like investing in U.S. Department of the Treasury (Treasury) bonds. If purchasing the machine was at least as good as the alternative, the business would proceed with the purchase, and otherwise it would not.

Consider several cases:

1. The business faces no corporate taxes. In this case its decision is, by definition, unaffected by the tax system, and if its alternative return is 3 percent or less it will purchase the machine.
2. The business faces a 33 percent corporate tax on its profits but does not get to expense or depreciate the machine. In this case, the business will keep \$2 annually in profits. As a result, it would undertake the investment only if Treasuries returned

2 percent or less, making it less likely for the business to make the investment. At a 50 percent corporate tax rate, it would only undertake the investment if Treasury bonds returned 1.5 percent or less, showing that the higher the tax rate, the more it would discourage investment in items like equipment and structures.

3. The business can deduct the full cost of its investment in the first year. Assuming the tax rate was 33 percent, this means that when it buys the machine, its taxes would go down by \$33, making the after-tax cost of the machine only \$67. The machine would then produce \$2 in after-tax profits a year. Getting \$2 a year from a \$67 machine is a 3 percent return. So, the business would buy the machine as long as it did not have alternatives with a greater than 3 percent return. This is exactly the same as the reasoning the business would undertake in the absence of taxes. The same logic applies regardless of the corporate rate. For example, at a 90 percent corporate rate it would cost the business \$10 (after taxes) to purchase the machine that would produce \$0.30 annually (after taxes), the same rate of return as without taxes. *In other words, with expensing, the corporate tax does not affect investment choices, which is the same as saying that the marginal effective tax rate is zero.*

The analysis above is for an equity-financed investment. For debt-financed investment the effective marginal tax rate is negative. In this case, assume that the business borrows \$100 to finance the investment and has to pay back \$3 annually in interest. Under current law, this interest is tax deductible, completely offsetting taxable profit on the investment. As a result, its after-tax rate of return is \$3. Assuming a 33 percent corporate tax rate, this \$3 after-tax return could be purchased for only \$67 in the after-tax cost of the machinery. As a result, it would undertake the investment even if it had alternative options offering as high as a 4.5 percent rate of return. This means it would undertake the investment, even when it may not make broader economic sense to do so, just for the tax benefits.

Alternatively, if a firm merges with another, thereby generating market power that will allow it to increase profits, there is no

investment to expense. In this case the additional profits, or supernormal profits, would all be taxed at the statutory rate.

The logic in this box captures the most important aspects of how the tax system affects choices about business investment, but some additional nuances and caveats are discussed in the subsection “Raise the Corporate Tax Rate to 28 Percent” on how to set the corporate rate.

The second problem is that expensing currently starts to phase out in 2023 and is gone entirely starting in 2027. The proposal would make expensing for all categories of equipment, structures, and intangibles permanent.<sup>4</sup>

Third, a firm that has no tax liability to use for expensing effectively gets a less valuable tax incentive because its deductions are carried forward without interest, which raises the cost of investment for start-ups and other loss-making businesses. This proposal would carry forward those deductions with the interest rate on Treasury bonds, which effectively makes them as valuable as getting upfront cash—which is necessary to make the effective marginal tax rate zero—while protecting against the possibility of abuse that could occur if businesses could get the cash upfront.

The final problem with expensing under current law is that the combination of expensing and the deductibility of interest leads to negative effective marginal tax rates, as explained in box 1 and as shown in table 3, where the effective tax rate on debt-financed investment in equipment assuming expensing is made permanent is -9 percent.

In recognition of this point, the TCJA included a limit on the extent of net interest deductions to 30 percent of earnings (with the definition of earnings changing under the law, as described above). Some businesses would have no interest deductions available for marginal investment and thus would not benefit from this negative effective tax rate. Other businesses would fall below this cap and as a result would get full deductibility of interest at the margin and thus very negative effective tax rates. If expensing is intended to be a temporary stimulus provision, as it was in 2010 and 2011, then this negative rate may not be as much of a problem. To make expensing permanent and extend it to all business investment, however, would make this a nearly fatal problem.

The solution is to limit the deductibility of interest, not to 30 percent of earnings but entirely limit it. This was proposed, together with expensing, as part of the Better Way plan developed by the House Republicans (Ryan 2016). Similarly, the Growth and Investment Tax Plan of the President's Advisory Panel on Federal Tax Reform (2005) included another version of expensing and limiting interest deductions.

## **RAISE THE CORPORATE TAX RATE TO 28 PERCENT**

Once a tax system has expensing and interest deductions have been eliminated, the corporate tax rate does not matter for business investment and thus increasing it has no adverse impact on economic efficiency or economic growth. Effectively, in an economy with expensing the tax rate on the “normal” portion of investment—the return equal to the next-best alternative the firm had—is zero. The entire tax falls on the “supernormal” portion of the return, which is to say the rents and returns to monopoly profits. Taxing this supernormal portion is a loss for the firm, which cares about its *average* tax rate for its overall profitability, but is not a loss that would affect its decision making for new investment, which is determined by its *marginal* tax rate. Relatedly, a portion of revenue from the increased tax rate applies to existing capital. This would have no distortionary effect because it is based on decisions that have already been made. In contrast, none of the cost of expensing is associated with tax cuts for past investments.

This logic also is reflected in the model that is used for the macroeconomic analysis in the next section, which is taken from Barro and Furman (2018). As Barro and Furman showed, a tax system with expensing plus higher tax rates results in *higher* growth rates than one without expensing but with lower tax rates.

What is the basis for picking a corporate tax rate? And why not raise the corporate tax rate to 90 percent or even higher? The concerns with a higher tax rate all lie outside the model itself. The incentives to undertake a costly and wasteful tax avoidance opportunity rise with the *statutory* tax rate not the *effective* tax rate. In the hypothetical example described in box 1, with a 90 percent tax rate the after-tax cost of the machine is \$10 and the firm pays a 90 percent tax on its \$3 annual return. Anything it could do to lower that tax, for example by making it appear to have only made a profit of \$2 annually, will have a potentially enormous impact on its after-tax rate of return.

Some of the avoidance strategies that firms could use involve shifting profits overseas to be taxed at the rates of other countries. To the degree that the U.S. statutory rate is very different from the statutory rate in other



countries, that would exacerbate these pressures. An effective international tax regime can minimize the ability of firms to shift income, but even the most effective system would likely break down in the face of huge statutory rate differentials. More effective international taxation creates some room for divergence in rates, but not unlimited room.

Even absent considerations of tax avoidance, there are some reasons to believe that actual business investment decisions could be affected by higher tax rates. Business leaders generally report ignoring the impact of the tax treatment on cost recovery in their decision making (Batchelder 2017; Neubig 2006). To the degree this is the case, in the example in box 1 they would perceive the machine as costing \$100, and not as having its after-tax cost. As a result, the higher the tax rate, the lower their perceived after-tax returns and the less likely they would be to undertake the investment.

Finally, there may be a rational basis for some business decisions to be based on average tax rates instead of effective marginal tax rates. Specifically, Devereux and Griffith (1998) analyze the case of large, lumpy international location decisions. Unlike the case where a firm is making a decision about a marginal adjustment in its investment, in this case the question is where it will get the highest after-tax profits from its location decision. Like the avoidance issues, this too depends on differences in average rates and also on the way that international income is taxed. Moreover, modeling (not shown in this chapter) finds that this effect is likely small compared to the effects of changing marginal rates. Nevertheless, as the statutory tax rate rose it would become larger.

In summary, the model that is used in Barro and Furman (2018) and that is commonly used for the macroeconomic analysis of tax plans gives no guidance on the tax rate—and, in fact, suggests that higher rates will result in higher revenue, enabling other productive spending or reductions in other distortionary taxes, and thus be welfare enhancing. Nevertheless, considerations from outside the model strongly suggest that there are downsides to higher tax rates. Taking this all together, there is no good scientific way to determine the optimal tax rate.

The 28 percent proposed in this plan is a reasonable guess but additional work could potentially refine this rate. It is not much higher than the 25 percent tax rate called for by the main large business lobbying association, the Business Roundtable. As shown in figure 3, 28 percent is similar to but on the high end of the tax rate in other large advanced economies, something that is appropriate for an economy the size of the U.S. economy. Moreover, if the rate increase were done in conjunction with more effective international tax rules, it might not raise any additional

issues. It is certainly plausible that a higher tax rate would be reasonable and would still mean the proposal was growth-increasing and welfare-enhancing. Nevertheless, the considerations above also make it plausible that 28 percent is a reasonable value for the corporate rate, which could then be adjusted based on the actual experience.

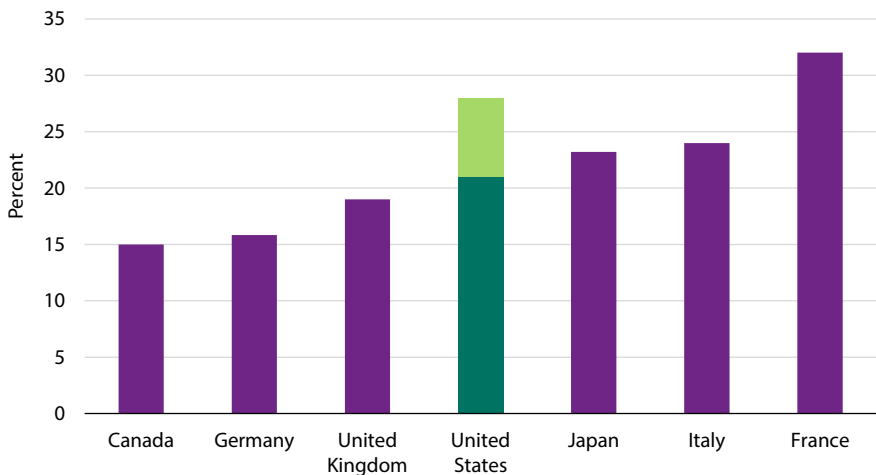
### ELIMINATE THE TAX PREFERENCE FOR PASS-THROUGHS

In the United States, companies can elect whether to be taxed through the corporate tax code—with an additional layer of taxes when they distribute profits to shareholders—or whether to be taxed at the individual level. As corporate and individual taxes have shifted over time this choice has resulted in companies shifting their forms to whatever is more favorable (Goolsbee 1998; Mackie-Mason and Gordon 1997; Prisinzano and Pearce 2018). This election reduces revenue, increases complexity, and results in companies making decisions about business form for tax reasons and not for economic reasons. Currently the tax rate is lower for pass-throughs than it is for C corporations.

One limited way to make progress on the disparity between the taxation of corporations and pass-throughs would be to repeal the 20 percent deduction for certain business income that was passed as part of the TCJA.

FIGURE 3.

### Statutory Central Government Corporate Tax Rate in G-7 Countries



Source: Organisation for Economic Co-operation and Development (OECD) 2019b.

Note: Data are for 2019. Light green segment for United States indicates statutory corporate tax rate under proposal.

This provision arbitrarily makes a distinction between different types of income, resulting in different tax rates for similar activities that differ only in their labeling. The provision originally cost \$415 billion (Joint Committee on Taxation [JCT] 2017). Repealing it would raise money through 2025 under current law and would prevent the additional revenue loss that would result from this provision being made permanent.

An even more fundamental solution would be to get to the root of the problem itself—the ability to choose between different tax systems. The President’s Advisory Panel on Federal Tax Reform (2005) convened by President Bush recommended, “For large businesses that currently are taxed as flow-through entities, such as partnerships, LLCs, and S-corporations, domestic earnings would be subject to tax at the business level. Passive investment vehicles, such as regulated investment companies (RICs) and real estate investment trusts (REITs), would continue to be treated the same as under current law” (President’s Advisory Panel on Federal Tax Reform, 129). Their proposal used a gross receipts threshold of \$10 million, which with inflation would be about \$13 million today. A higher threshold, say \$25 million, might be more reasonable. In addition, an owner’s income would need to be taxed as dividends are today. Assuming a corporate rate of 28 percent and the current 23.8 percent on dividends, this would yield a combined tax rate of 45 percent—similar to the top rate for individual income.

## **ELIMINATE OTHER WASTEFUL CORPORATE LOOPHOLES, INCLUDING TAX EXTENDERS**

The corporate tax code has numerous structural features that are very costly, such as the combination of expensing with interest deductions and the tax treatment of international income. It has far fewer egregious corporate loopholes, measured by their total cost, that are for specific interests. According to the JCT (2019), the largest tax expenditures for businesses include two international provisions, accelerated depreciation, small business expensing, the R&E credit, and the low-income housing tax credit. While all of these provisions have pros and cons, none of them meets the commonsense definition of “loophole.”

Nonetheless, the number of rifle-shot provisions in the tax code, even if they do not add up to a substantial amount of money, are bad public policy and undermine faith in the tax code. As a result, they should be systematically eliminated in any reform plan. Many of them are scheduled to end after 2020—such as the extenders that include favorable tax treatment for racehorses and NASCAR tracks—and they should end then, a step that

would not raise revenue relative to current law but would prevent further loss. In addition, any other loopholes should be eliminated.

## **EXPAND THE TAX INCENTIVE FOR R&D**

Finally, one way to both increase and simplify the research credit would be to expand one of the ways businesses can calculate the research credit by increasing the alternative simplified credit rate from 14 percent to 20 percent. At the same time, the research credit could be simplified by repealing other credits, including the regular base period calculation for the standard credit, the university and energy credits. In addition, the definition of research used for the credit should be aligned with the current definition of the research that qualifies for expensing, although this provision would be less important if expensing were expanded. Alternatively, other proposals of similar scale could be considered (see, e.g., Government Accountability Office 2009; Guenther 2016; Rao 2015; Tyson and Linden 2012; U.S. Department of the Treasury 2016).

## **Analysis of the Proposal**

Ultimately the assessment of any tax proposal should depend on its impact on the well-being of households, or welfare. Some of the critical intermediate information in assessing the effect on welfare is the macroeconomic analysis of the effect on growth, the analysis of the impact on revenue, and how the tax changes affect the distribution of income (Furman 2016; Leiserson 2017).

## **ECONOMIC GROWTH**

The proposal would lower the cost of capital for businesses, leading to more investment and thus a higher steady-state level of output. In the transition to this new steady-state, the proposal would also increase the rate of economic growth. The inclusive results of this plan for macroeconomic performance are shown in table 4, with a column comparing the growth effects to law as written and one comparing the effects to provisions permanent, which is a strong version of current policy that assumes all the provisions in the law today are made permanent.

Relative to current law, the proposal would raise the long run level of output by 5.8 percent. This would take time as businesses increased investments and capital adjusted to its new trajectory. Over the next decade the result would be about a 0.2-percentage-point increase in the annual growth rate. The proposal would also do more for growth than just extending everything in current law, including equipment expensing and the pass-

TABLE 4.

## Estimated Macroeconomic Effects of Proposal

	Relative to law as written	Relative to provisions permanent
Change in GDP: Long run	5.8%	3.9%
Change in GDP: 10 years out	2.3%	1.6%
Change in 10-year annual growth rate	0.24 p.p.	0.16 p.p.

Source: Author's calculations based on Barro and Furman 2018.

Note: "p.p." refers to percentage points. The proportionate changes in GDP after 10 years come from applying a convergence rate of 5 percent per year to the long run results.



through deduction. Relative to this alternative, it would also be about a 0.2-percentage-point increase in the annual growth rate. (Note in the unrounded numbers this is somewhat smaller than the change relative to current law.)

This analysis is based on the models and parameters in Barro and Furman (2018) and is similar to the estimated effects in that paper (Barro and Furman 2018, table 10, p. 38). The model divides the economy into five types of capital (equipment, structures, residential, R&D, and other intellectual property) and three sectors (corporate, pass-through, and government/household). The supply of capital is infinitely elastic, corresponding to a small open economy or a long run Ramsey model with offsetting effects from upward-sloping supply of capital and falling rate of time preference or intertemporal substitution. The demand for capital is based on user costs, which depend on the tax treatment of new investment, and the amount of capital is determined in competitive equilibrium. The model assumes perfect foresight and an unchanging tax code. The long run steady-state increase in the level of output is translated into an annual path for growth by assuming a 5 percent convergence rate to the new steady-state.

Most importantly, the corporate tax reform in this chapter is only part of the policy. The additional revenue it raises would also be used in some manner that could affect economic growth. It could be used for progressive transfers, for public investments, to offset other distortionary taxes, or for debt reduction—in lieu of other tax increases or spending cuts. For any non-revenue-neutral proposal, the way this half of the proposal is specified can matter as much for growth as the proposal itself matters. This analysis effectively assumes that the proceeds of corporate reform are used to finance lump sum transfers to households, which have no effect on economic growth. This could be a conservative assumption in that many uses of the funds would further add to growth, including if they were used

for public investment, investments in children, or incentives for work; or to reduce other forms of taxes.

This neoclassical model is simple, tractable, and yields similar estimates to other modeling strategies. It is also likely a lower bound on growth because it does not include any special role for R&D in the long run level of output or even the trend growth rate of output. In addition, it does not reflect the additional benefits from a more stable, predictable tax code that reduces uncertainty, improves the allocation of capital within categories, and eliminates the bias toward debt financing. On the other hand, it also does not include some of the potential costs of higher rates that were described in “The Proposal.” On balance, it is a reasonable and likely to be conservative estimate of the macroeconomic impact of the proposal.

This macroeconomic impact, by itself, does not tell us much about welfare. The additional growth is a result of people temporarily reducing their consumption (which reduces utility) or borrowing more from other countries (which must be repaid). This is not “free” growth but instead reflects a shift in how current trade-offs are made. The macroeconomic impact, however, is relevant, given that this is the analysis of a large discrete change in tax policy and also because it feeds into the revenue estimate.

## REVENUE

The proposal raises revenue because although it cuts the tax rate on the normal return to capital, it increases it on the supernormal returns to capital—which represent an increasingly large portion of the total return earned by corporations. This chapter does not offer a precise estimate of the gross revenue raised by this proposal but instead offers a rough, indicative analysis that should be improved by more complete modeling, taking better account of the interactions in the proposal, and fleshing out some of the details in the proposal.

The impact on revenue also includes the dynamic analysis that includes not just the direct effect of the tax change but also the macroeconomic feedback associated with the increase in GDP and thus other revenues. As in “The Proposal,” this dynamic analysis effectively assumes that the additional revenue is being rebated in a lump sum fashion—so this is an estimate of how much money this proposal generates for American households.

Table 5 shows the very rough revenue estimates for the proposal.

Excluding macroeconomic feedback, the proposal would raise \$300 billion the first decade. Taking into account the increase in economic growth,

the total revenue raised grows to \$1.1 trillion. Even this is a misleadingly small estimate of the total fiscal impact of the proposal. In steady-state the proposal would raise 1.1 percent of GDP in revenue, divided roughly equally between the direct effect and the macroeconomic feedback.<sup>5</sup> If this steady-state revenue level had been in effect from 2021 onward then the proposal would raise the equivalent of \$3 trillion over the next decade.

The steady-state increase in revenue as a percent of GDP is higher than the amount of revenue raised over the 10 years in part because permanent expensing and disallowing interest deductions loses money in the first decade but raises money over the longer run. This happens because the 10-year budget window shows much of the gross cost of expensing (which is immediate) but does not show much of the partially offsetting gross savings (lost depreciation deductions, many of which fall outside the window). Similarly, the disallowance of interest deductions applies only to new investments, so it grows over time. In addition, the macroeconomic feedback grows over time as the capital stock grows to its new, higher steady-state trajectory.

TABLE 5.

## Estimated Revenue Effects of Proposal

	Actual, 2021–30 (billions of dollars)	Fully effective, 2021–30 (billions of dollars)	Fully effective (percent of GDP)
Permanent expensing and disallow interest deductions	–700	700	0.3
Corporate rate to 28 percent	700	800	0.3
Pass-throughs file as C corporations	300	200	0.1
Corporate loophole repeal	100	100	0.0
Research and experimentation credit expansion	–100	–100	0.0
Macroeconomic feedback	800	1,200	0.4
<b>Total</b>	<b>1,100</b>	<b>3,000</b>	<b>1.1</b>
Memo: Total without macroeconomic feedback	300	1,800	0.6

Source: Author's calculations, estimates, and extrapolations based on Burman et al. 2017; Congressional Budget Office (CBO) 2016a, 2016b, 2018b, 2018c, 2019a, 2019b; Joint Committee on Taxation (JCT) 2016.

Note: Components may not sum to total due to rounding. Permanent expensing and disallow interest deductions is effectively stacked after corporate rate to 28 percent in the revenue table, so it reflects the interaction with the higher corporate rate.

## DISTRIBUTION

This proposal raises substantial additional revenue that could be used to fund additional spending, cut other taxes, or alleviate the need for additional spending cuts or tax increases to stabilize the debt. The distributional impact of the proposal depends as much on the uses of the revenue as it does on the collection of the revenue itself.

The distribution of the proposal itself would, by definition, be a tax increase. The incidence of this tax increase depends on the assumption of which individuals ultimately bear the corporate tax burden. The tables in this analysis follow the Urban-Brookings Tax Policy Center (TPC), which is similar to the Treasury, the JCT, and the CBO, in assuming that corporate taxes are passed through 60 percent to shareholders in the form of smaller dividends or capital gains, 20 percent to all capital owners in the form of lower returns on all economywide assets, and 20 percent to workers in the form of lower wages (Nunns 2012). Under these assumptions, 58 percent of the corporate tax is paid by the top 10 percent of households and 14 percent of the corporate tax is paid by the bottom 60 percent of households.

The first column of table 6 shows the percent change in after-tax income as a result of the business tax proposal alone, assuming it is distributed along the same lines as current corporate taxes and applying the steady-state 0.6 percent of GDP revenue increase (excluding dynamic effects) to the baseline for 2025. By itself the proposal is progressive, with the largest changes in after-tax income for the highest-income households, a 3.3 percent reduction in after-tax income for the top 0.1 percent as compared to a 0.6 percent reduction for the middle quintile, and a 0.3 percent reduction for the bottom quintile.

Using the generic distribution of the corporate tax understates the progressivity of this proposal because it reduces the tax rate on the normal return to shareholders, which is borne by owners of capital construed broadly and workers; and increases the tax rate on monopoly profits and rents, which is borne by shareholders (Cronin et al. 2012; Nunns 2012). As a result, the proposal would raise wages in the long run and shift the corporate tax burden to shareholders in a highly progressive manner. Relatedly, distribution tables are supposed to reflect changes in prices and the first column implicitly assumes that wages fall whereas the macroeconomic analysis shows that wages rise in proportion to GDP. Column 2 of table 6 attempts to reflect these effects under the ad hoc assumption that the entire burden of the corporate tax falls on holders of corporate equity and also incorporating the increase in wages, using the 2.3 percent increase in wages in 2030 as the basis for what is intended to be a long run, steady-



TABLE 6.

## Estimated Percent Change in After-tax Income from Proposal

	Corporate tax increase only		Corporate tax increase plus lump sum transfer per tax unit	
	Assuming burden of corporate tax change proportional to baseline corporate tax burden	Assuming shareholders bear the corporate tax change and counting wage increases	Assuming burden of corporate tax change proportional to baseline corporate tax burden	Assuming shareholders bear the corporate tax change and counting wage increases
Expanded cash income percentile				
Lowest quintile	-0.3%	1.1%	8.6%	9.9%
Second quintile	-0.4%	1.3%	3.3%	5.0%
Middle quintile	-0.6%	1.3%	1.6%	3.5%
Fourth quintile	-0.7%	1.3%	0.6%	2.6%
Top quintile	-1.4%	-0.1%	-0.9%	0.4%
Total	-1.0%	0.5%	0.7%	2.2%
80–90th percentiles	-0.8%	1.2%	0.1%	2.1%
90–95th percentiles	-1.0%	0.9%	-0.4%	1.5%
95–99th percentiles	-1.2%	0.4%	-0.9%	0.7%
Top 1 percent	-2.4%	-2.2%	-2.3%	-2.1%
Top 0.1 percent	-3.3%	-3.8%	-3.2%	-3.8%

Source: Author's calculations and extrapolations based on Congressional Budget Office (CBO) 2019a; Nunns 2012; Stallworth 2019; Urban–Brookings Tax Policy Center (TPC) 2018a, 2018b.

Note: Estimates are for 2025.



state estimate. Under this analysis, after-tax incomes actually rise for the bottom four quintiles as they see wage gains that exceed the increased share of corporate taxes they pay through their capital holding. The reduction in after-tax incomes for households at the very top of the distribution is slightly larger in this case as well.

This business tax proposal is only one part of a broader budgetary approach, and this chapter does not explicitly propose a use for the money. As an illustration, this distributional analysis will assume that it is used for lump sum transfers that are equal for each tax unit—the same assumption that was used in the macroeconomic analysis above. To the degree the proceeds were used more progressively, for example to fund income-related transfers, this may understate the progressivity of the proposal. Note that

the amount of revenue available for lump sum transfers exceeds the burden of the tax itself because it includes not just this burden (0.6 percent of GDP in steady-state) but also the additional revenue that results from the increase in GDP (0.4 percent of GDP in steady-state). The static revenue is used for the distribution table because this reflects the burden of the tax. The additional revenue associated with the dynamic analysis is not a burden because it comes as a result of higher incomes—but it can be a benefit when it is recycled. As a result, the average household is made better off when the revenue is recycled—with its after-tax income rising by 0.7 percent under conventional scoring and 2.2 percent counting the wage increases. Counting the wage increases and the specific distribution of the tax, the bottom quintile sees a 9.9 percent increase in its after-tax income and the middle quintile sees a 3.5 percent increase in its after-tax income. Meanwhile, the top 0.1 percent would see effectively the same reductions in its after-tax income as it would have absent the lump sum transfers because the transfers are negligible compared to their overall income.

## **WELFARE**

The distributional analysis with lump sum transfers gives a reasonable proxy for an analysis of the impact of the proposal on the well-being of households, as Greg Leiserson has argued (Leiserson 2017). This is because it reflects the direct changes of the tax, the changes in prices like higher wages and lower stock returns, and the impact of the additional revenue generated by the proposal through lump sum transfers. The analysis does not include the changes in efficiency, like the better allocation of capital, the potentially increased growth rate as a result of more R&D, and the benefits of a less leveraged tax change. For small tax changes these are negligible compared to the factors included in the distribution tables, but in this case it is a large proposal, so the efficiency improvements could be first order—and would mean larger gains than shown in the distributional analysis.

Overall, most people gain on average in the analysis reflecting the details of the proposal and the lump sum transfers. In this case, the average percentage gain across households totals 5.0 percent—much larger than the 2.2 percent gain for the average household, as shown in table 7.<sup>6</sup> This larger gain corresponds roughly to the improvement in total well-being (or utility) for society, assuming that utility is based on the logarithm of income and that everyone's utility is weighted equally without any special attention to those at the bottom of the income distribution. Effectively, averaging percent gains does not ascribe an arbitrary normative meaning to the average of income but instead says that an equal percent increase in income is equally valuable for different households (see Furman 2019). If society is risk averse, the gains are even larger than this.

TABLE 7.

## Long Run Aggregate Welfare Gains

Percent change for average household	2.2%
Average percent change for households	5.0%

Source: Author's calculations and extrapolations based on Congressional Budget Office (CBO) 2019a; Nunns 2012; Stallworth 2019; Urban–Brookings Tax Policy Center (TPC) 2018a, 2018b.

Note: Based on distributional estimates presented in the fourth column of table 6.



## Questions and Concerns

The proposal raises a number of questions and concerns that are addressed in this section.

### *1. Do all the parts of the proposal need to be passed together?*

Many of the parts of the proposal do need to be passed together. The most important link is that expensing must be accompanied by eliminating the deductibility of interest; if not, there will be a substantial favoritism for debt-financed investment that will face a lower tax rate. The expensing and interest deductibility proposal would raise money in the long run but would lose money over the first decade. As a result, it would at least temporarily compound the revenue problem, making it important to combine it with the proposal for higher corporate rates. All of these proposals raise taxes on C corporations, an effect that would be partly undone if companies could freely shift to becoming pass-through entities. As a result, it is important to combine these changes with something that affects the taxation of pass-through entities. The minimal proposal would be to eliminate the 20 percent deduction, but the ideal would be to eliminate the election entirely. The loophole closers are a relatively minor part of the proposal and the expanded research credit could be dropped from the proposal, resulting either in some additional revenue or a similar revenue gain with a smaller increase in the corporate rate.

### *2. Will this proposal open up new avenues for tax avoidance?*

Every change in the tax system creates new opportunities for companies to avoid taxes. In many ways, this proposal would minimize those opportunities relative to current law, including completely shutting down the exploitation of differences between tax rates on C corporations and pass-throughs. But this would not be a “set it and forget it” tax reform; instead, policymakers would need to be vigilant and pass follow-up legislation addressing any unintended loopholes that crop up.

*3. How would your proposal handle the ending of interest deductibility for financial institutions?*

The proposal would eliminate the deductibility of net interest, not gross interest, so it would still enable the business model of financial institutions. Additional study should be given to any other rules that would be necessary to reflect the role that interest plays in the financial sector.

*4. Does the proposal need transition rules to give existing businesses time to plan?*

The proposal would apply to businesses going forward, although the tax rate increase would effectively raise taxes on the proceeds of past investments. There is no reason that it would need to include any transition rules, phase-ins, or phase-outs. In fact, such rules can add additional complications and political uncertainty. Nevertheless, some of them might be a political price necessary to pass the proposal—as with the 1986 tax reform.

*5. What if the growth does not materialize because the cost of capital is already so low that businesses are not likely to increase their investment just because it is lowered further?*

This proposal is designed for the long-term and not as a response to the immediate economic conditions. Moreover, there is no evidence that businesses have changed the way they respond to changes in the cost of capital. Also, the growth effects would come not only from the cost of capital but also from increased efficiency in the allocation of capital across sectors, reduced overleveraging from debt financing, and increased R&D. It is more likely that the model estimates are a lower bound on the growth impact. That said, if little or none of the growth materializes, the proposal would still be net revenue increasing—both over the next decade and even more over the long run. It would still be progressive. And if the proceeds were used for lump sum transfers, it would still make the bottom several quintiles of the income distribution better off. So, the main qualitative effects would be similar but the magnitude of the benefits would be smaller.

## Conclusion

This proposal would reform the business tax system by improving the tax base and raising tax rates. This combination makes it possible to simultaneously increase growth, aggregate well-being and raise revenue. The scope of this chapter was limited to focus on the domestic components of business tax reform, but the international components are essential given the substantial scope for efficiency-increasing revenue raisers in

the international space and the importance of reducing international tax avoidance that could arbitrage the increased gap between U.S. and foreign rates under this proposal. Business tax reform could be done by combining the ideas in this chapter with an international reform, for example as in Clausing (2020). Ultimately, even larger gains would result from integrating these proposals with an overhaul of capital taxation at the individual level, but that is far beyond the scope of the present chapter.

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## Endnotes

1. As discussed below, this estimate just reflects changes in the cost of capital and associated changes in investment. It does not reflect the fact that increases in R&D could also increase total factor productivity growth or the benefits that reducing the debt-equity difference would have for macroeconomic stability and potentially the longer-run level of output as well. As such, these growth estimates are a lower bound.
2. If activities have positive or negative externalities associated with them then they should be taxed at different rates accordingly.
3. The formal name for the TCJA is "An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018."
4. For fast-growing profitable firms in particular, expensing can reduce or eliminate tax burden.
5. This steady-state uses 2030 for the level of GDP rather than the long run level, to more approximate something like the average steady-state. The steady-state for the tax provisions is generally around 2030 or 2030–40.
6. Averaging percent gains is like looking at the change in the mean of log incomes. This corresponds to a utilitarian social welfare function with the assumption of log utility. In reality, utility may have more curvature than this (reflecting greater risk aversion) and society may weight the utility of households at the bottom even more. These considerations would result in an even bigger welfare increase than the 5.0 percent shown in the table.

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# Tax Reform for Progressivity: A Pragmatic Approach

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## Abstract

Trends in demographics, national security, economic inequality, and the public debt suggest an urgent need for progressive approaches to raising additional revenue. We propose a suite of tax reforms targeted at improving tax compliance, rationalizing the taxation of corporate profits earned domestically and abroad, eliminating preferential treatment of capital gains, and closing tax loopholes and shelters of which wealthy individuals disproportionately avail themselves. We estimate that these proposals have the potential to raise over \$4 trillion in the coming decade. These proposals are comparable on the basis of both potential revenue raised and progressivity with newer and more radical proposals, like wealth taxation and mark-to-market reforms, that have been the focus of much recent attention. Importantly, our agenda is likely to enhance rather than reduce efficiency, is far less costly in terms of political capital, and hews more closely to basic notions of fairness than alternative approaches.

## Introduction

In the coming decades, federal spending will need to grow just to enable the government to continue to provide the services it does today (Summers 2017). This is the result of a confluence of economic forces: an aging society; price increases in the goods the government purchases, like education and health services; potential increases in national security expenditure to keep pace with adversaries; and the growth in inequality, which will require increased spending to ameliorate. Given these realities as well as issues of avoiding excessive federal debt accumulation, progressive tax reform is and should be high on progressives' agenda.

Our belief is that the best path forward is through a combination of deterring illegal tax evasion—by investing more in an underfunded Internal

Revenue Service (IRS)—and reducing legal tax avoidance by broadening the tax base and closing loopholes that enable the wealthy to decrease their tax liabilities. The combination of policies described in this chapter will increase both the efficiency and progressivity of the U.S. tax system. Our rough estimates in table 1 suggest that these approaches could raise \$4 trillion over the course of a decade, more revenue than more extreme alternatives advocated recently, including calls for a 70 percent marginal rate on top earners and wealth tax proposals.

Once revenue is raised by progressively broadening the tax base as we propose, more tax revenue may still need to be raised from the wealthy,

TABLE 1.

## Revenue Potential of Proposed Programs

Program	Revenue potential 2020–29 (billions of dollars)
<b>Compliance</b>	
Adequate enforcement resources	715
Information reporting	350
Information technology investment	100
<b>Corporate taxes</b>	
Per-country accrual of GILTI credits	170
Corporate tax rate increase to 25 percent	400
Minimum book income tax	200
<b>Capital gains taxation</b>	
Tax at ordinary income levels	350
Eliminate stepped-up basis	250
Eliminate carried interest loophole	20
Capping like-kind exchanges	50
End charitable giving tax advantage	150
<b>Closing individual loopholes and shelters</b>	
Eliminating payroll tax loophole	300
Capping tax deductions	250
Ending pass-through deduction	430
Broadening estate tax base	320
<b>Total</b>	<b>4,055</b>

Source: Authors' calculations.

Note: "GILTI" refers to global intangible low-taxed income.

requiring the consideration of alternative approaches. However, we believe that our proposals are the right place to start. Practically, closing loopholes will increase the efficiency of increases in top rates, or wealth taxes, by making it more difficult for individuals and firms to shelter income from tax liability.

The remainder of this chapter proceeds as follows. In the first section, we try to estimate what a progressive tax reform can reasonably expect to collect from those at the very top. We base this exercise on effective tax rates paid by the rich and large corporations, today and historically. In the second section, we discuss the substantial magnitude of the tax gap, propose means of shrinking it, and illustrate that an increased focus on tax compliance is a substantially progressive reform. Next, we make the case for other progressive base broadeners, including closing corporate and individual tax shelters, overhauling capital gains taxation, and capping tax deductions for the wealthy. We then compare our approaches to more radical alternatives, like wealth taxation, before concluding the chapter.

## How Much Can Be Raised from Those at the Top?

In recent months, progressives have debated how best to raise tax revenue from high-income individuals to fund necessary government expenditure and investment (Batchelder and Kamin 2019; Saez and Zucman 2019a; Sarin and Summers 2019). A first-order question is how much can be collected by tax reform focused on raising revenue from those at the very top.

In 2017, the total adjusted gross income (AGI) of those in the top 1 percent (making \$500,000 or more annually) was \$2.3 trillion. Total tax collection from this group—through federal income taxes, state and local taxes, and payroll taxes—was \$790 billion.<sup>1</sup> This constitutes an effective tax rate of 34 percent, with \$1.5 trillion in AGI that remains untaxed.

Auten and Splinter (2019) provide historical data on average effective tax rates by fractile from 1960 to 2015.<sup>2</sup> The Auten and Splinter series sheds light on the important difference between maximum marginal tax rates and effective tax rates historically. Top marginal federal income tax rates peaked at 91 percent in 1960, when the effective income tax rate was under 20 percent. Including other tax categories—like payroll and state and local taxes—the maximum effective tax rate on the top 1 percent was 47.4 percent in 2000. Raising the effective tax rate on the top 1 percent from its current 34 percent by 13.4 percentage points to return to this peak would result in an additional \$4.3 trillion in tax collection between 2020 and 2029, as shown in table 2. Similarly, raising the tax rate on those making \$1 million

or more annually from the 2017 level (36 percent) to the historical peak (49 percent) would increase taxes collected from this group by \$3 trillion from 2020–29.

Increasing corporate income tax liability is another progressive means of raising revenue. In 2017, corporations made \$1.4 trillion in taxable income, of which \$340 billion was collected through income taxation (a 24 percent effective tax rate after accounting for corporate tax credits). Since then, the Tax Cuts and Jobs Act of 2017 (TCJA) decreased the corporate tax rate from 35 percent to 21 percent, and corporate tax revenue fell by 0.5 percent of GDP (Office of Management and Budget 2019). The Congressional Budget Office (CBO) estimates that a 1 percentage point increase in the corporate tax rate would raise almost \$100 billion in a decade (CBO 2018). Extrapolating from this estimate suggests that returning to the 35 percent corporate tax rate would raise \$1.4 trillion in additional revenue over a decade. To validate this revenue estimate, note that in 2018 U.S. corporations paid \$90 billion less in taxes than they had in 2017 (IRS 2018a). Adjusting for growth and inflation, an extra \$90 billion in 2018 would translate to an extra \$1.16 trillion between 2020 and 2029.

TABLE 2.

## Revenue-Raising Potential of Increases in Individual Tax Rates, by Income Category (in Billions of Dollars)

	Income category			
	Over \$500,000	Over \$1 million	Over \$5 million	Over \$10 million
Total adjusted gross income	\$2,339	\$1,659	\$848	\$632
Total taxes	\$791	\$596	\$292	\$213
Total after-tax income	\$1,548	\$1,063	\$556	\$419
Auten-Splinter maximum rate <sup>a</sup>	47.4%	49.2%	52.8%	54.1%
Extra revenue in 2017 if maximum rate	\$317	\$219	\$156	\$129
Extra revenue in 2020–29 if maximum rate	\$4,286	\$2,964	\$2,100	\$1,742

Source: IRS 2019b, Auten and Splinter 2019, CBO 2019.

<sup>a</sup>Auten and Splinter (2019) report the average tax rate for the top 1 percent, top 0.5 percent, top 0.1 percent, and top 0.01 percent. These do not exactly correspond to our AGI buckets, but they are fairly close. Those making \$500,000 or more annually correspond to the top 1 percent, those making \$1 million or more annually correspond to the top 0.3 percent, those making \$5 million or more annually correspond to the top 0.03 percent, and those making \$10 million or more annually correspond to the top 0.01 percent.

We estimate that when this change in corporate tax liability is combined with a significant increase in top individual tax rates, more than \$4 trillion could be generated from increasing taxes on the individuals at the very top of the income distribution and on the corporations they own (table 3).

Returning top individual and corporate tax liability to historical peak levels would raise over 2 percent of U.S. GDP annually. By way of comparison, such an approach would increase tax collection by a larger amount (as a percentage of GDP) than any changes to the tax code enacted since 1950 (Committee for a Responsible Federal Budget 2016). The Clinton administration's 1993 tax increases were similarly focused at raising revenue from high-income earners: they increased the top income tax bracket to 39.6 percent, raised corporate taxes, and made permanent the highest estate and gift tax rates. Combined, these changes—at that time, among the largest tax increases in U.S. history—were estimated to raise 0.7 percent of GDP (Rosenbaum 1993). Raising \$4 trillion from high-income earners and corporations represents a tax hike three times as large and is at the upper edge of what we think is feasible.

In recent months, some presidential candidates have argued that the government's revenue needs can be met by even larger tax increases borne only by the very wealthy. Senator Elizabeth Warren, for example, proposes funding progressive programs like Medicare for All and debt-free college by means of tax increases on the very top, through a broad program that includes wealth taxation, mark-to-market taxation of capital gains, an increase in top tax rates, and payroll tax hikes. The cumulative result of these changes would be confiscatory: tax rates over 100 percent on those

TABLE 3.

### Revenue Raised in 2020–29 from Returning Income Tax Rates to Historical Levels

Tax source	Revenue (trillions)
Individual	
Tax hikes for those making \$1 million or more, or	\$3.0
Tax hikes for those making \$500,000 or more	\$4.3
Corporate	\$1.2
Total	\$4.2–5.5

Source: Authors' calculations; IRS 2018a, 2019b; Auten and Splinter 2019; CBO 2019.

at the top of the wealth distribution (Rubin 2019; Stankiewicz 2019). Even a main academic proponent of the Warren proposals concedes that their impact would place them on the wrong side of the Laffer curve (Frank 2019; Saez and Zucman 2019b), that is, a lower tax rate might actually raise more revenue than the rate proposed.

Our estimates show that returning top individual income tax and corporate tax rates to their historical peak would generate between \$4.2 trillion and \$5.5 trillion in a decade, depending on what share of high earners see tax increases. Senator Warren's campaign estimates that the proposed tax changes to be borne by this group will raise \$13.2 trillion in a decade, more than twice as much. This would represent a tax increase nearly 10 times as large as the Clinton-era reforms and the Obama administration's tax proposals pursued in this vein, which at the time were not successfully legislated. In light of historical experience, it seems unlikely to expect to generate this much revenue from tax increases on the top alone.

The base-broadening approaches proposed in the next two sections of this chapter meet a stringent test: they make the tax code more efficient and raise substantial revenue in a very progressive way. But our revenue estimates are less optimistic and involve taxing a broader swath of the population than other approaches that have been advocated.

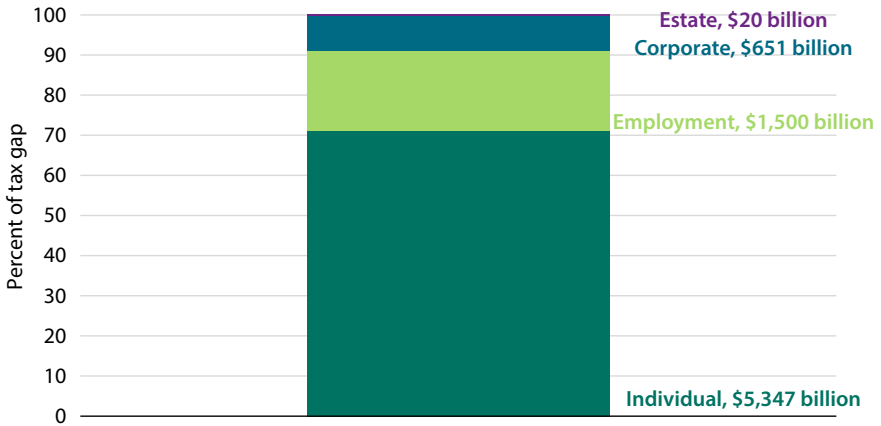
## Investing in Compliance to Create a More Progressive Tax System

The IRS estimates that between 2011 and 2013, it failed to collect more than \$380 billion in taxes per year—across all filing categories (individual income tax, corporate income tax, self-employment tax, estate tax, and excise tax).<sup>3</sup> Extrapolating this estimate to the present to allow for inflation and income growth, we find that in 2020 the IRS will fail to collect more than \$630 billion, or nearly 15 percent of total tax liabilities. Figure 1 shows that the tax gap will total an estimated \$7.5 trillion between 2020 and 2029. (See figure 2 for noncompliance rates by filing category.) Shrinking the tax gap by 15 percent would generate over \$1 trillion in revenue in the next decade.

It is hard to imagine a more equitable tax proposal than substantial investment in compliance to make sure that individuals and firms pay the taxes they owe. Distortions are also limited because these efforts will not add new taxes to an already overly complex and sprawling Internal Revenue

FIGURE 1.

### Projected Tax Gap in 2020–29 by Filing Category



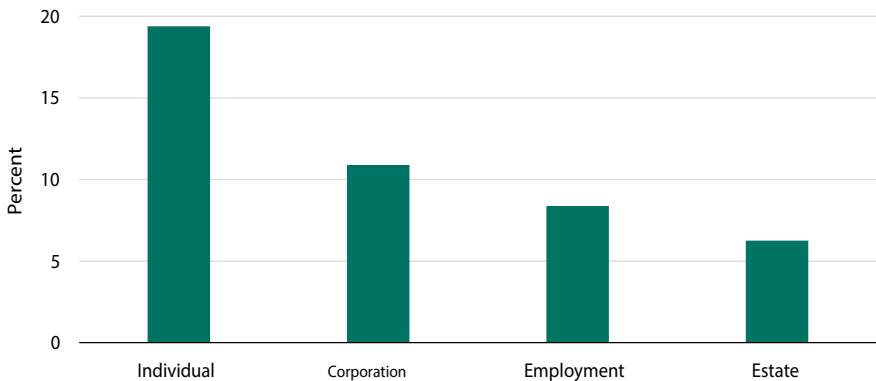
Source: Sarin and Summers 2019b; IRS 2019a.

Note: The employment tax gap includes both underpaid employment and self-employment taxes. To compute the tax gap for 2020–29, we first take the share of the gross tax gap for which the IRS reports each filing category was responsible in 2012. We apply those shares to our estimate of the overall net tax gap for 2020–29.



FIGURE 2.

### Average Noncompliance Rate by Filing Category, 2011–13



Source: Sarin and Summers 2019b; IRS 2019a.

Note: The employment tax gap includes both underpaid employment and self-employment taxes. To compute the tax gap for 2020–29, we first take the share of the gross tax gap for which the IRS reports each filing category was responsible between 2011 and 2013. We apply these shares to our estimate of the overall net tax gap for 2020–29.





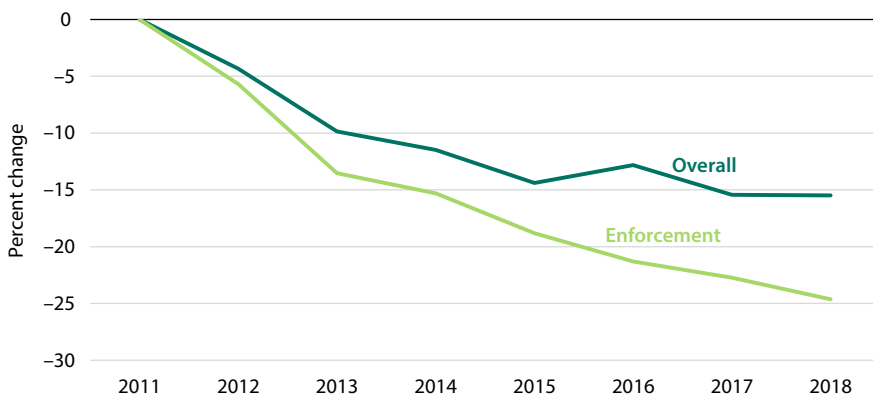
Code. Beyond being efficient and fair, these investments will also create a more progressive tax system.

Consideration of individual income tax filers illustrates this point clearly. Tax compliance decreases with wealth, because the categories of income that accrue to the richest Americans are the most opaque and thus least likely to be honestly reported and taxed: Over 80 percent of income that accrues to those who make under \$200,000 annually is salary and wage income, subject to both cross-party reporting and withholding requirements, with a resulting compliance rate of 99 percent. Less than 20 percent of the income that accrues to those making \$10 million or more is wage income. These high-income individuals are much more likely to report partnership income and rental income, with much higher rates of noncompliance.

While elimination of the tax gap is impossible, the magnitude of the gap is a function of the IRS's resources available to pursue and punish noncompliance. Today, these resources are at historic lows, as shown in figures 3 and 4. In the last decade, the IRS budget has declined (in real terms) by 15 percent (35 percent if measured as a share of collections reinvested into the IRS). This substantial decline is the consequence of a sustained attack on the IRS by special interest groups who benefit from a lax tax regime. The result is large direct revenue losses: as the rate of individual and corporate audits fell by half, additional tax revenue generated by these examinations fell by the same proportion.

FIGURE 3.

### Percentage Change Relative to 2011 in Real IRS Budget

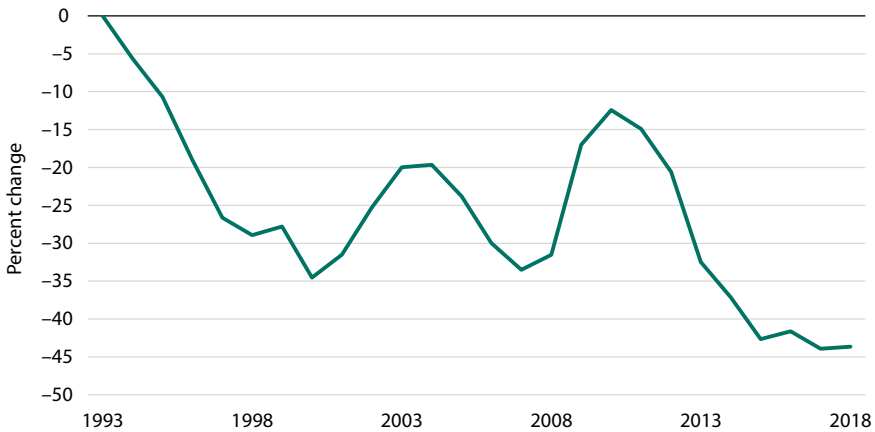


Source: Sarin and Summers 2019b; IRS 2012–18.

Note: All dollar figures were converted into 2018 dollars.

FIGURE 4.

## Percentage Change Relative to 1993 in IRS Budget as a Share of Gross Collections



Source: Sarin and Summers 2019b; IRS 2018b.

Note: Calculated as the ratio of reported IRS operating costs to gross collections.

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Returning the IRS budget to past levels would, we believe, pay for itself many times over. By focusing these additional resources on collecting owed but unpaid taxes from high-income individuals, such investment would likely shrink the tax gap by around 15 percent (table 4).

Our compliance proposals focus on three main areas: increasing examination resources, investing in technology infrastructure, and encouraging more cross-party reporting to verify that income is reported accurately and tax liabilities are appropriately assessed.

### INCREASE AND BETTER TARGET AUDIT EFFORTS

Our proposal involves both increasing the number of examinations—across filing categories—and focusing limited resources on audits that are most likely to generate substantial revenue: those of high-wealth individuals. The IRS enforcement budget has dropped by a quarter in real terms since the financial crisis, and as a result, the IRS today has fewer auditors than at any point since World War II. Tax enforcement efforts today are at their lowest level of the last four decades, despite the responsibilities of the IRS and the growing difficulty of ensuring tax compliance (Rubin 2020). See figures 5 and 6 for details.

TABLE 4.

## Summary of Revenue-Raising Potential of Compliance Efforts

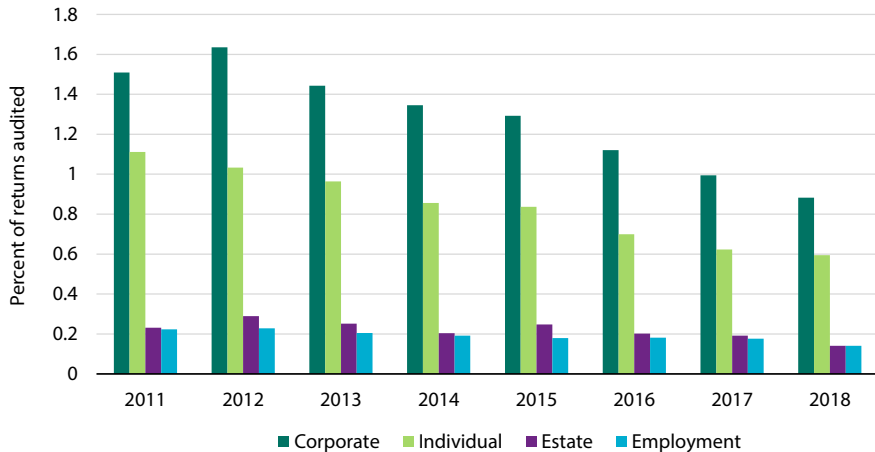
Tax gap	\$7.5 trillion
Approaches to shrink tax gap	
Enhanced enforcement resources	\$715 billion
Improved information reporting	\$350 billion
Information technology investment	\$100 billion
Approximate total revenue raised	\$1.15 trillion
Percent decrease in tax gap, net of costs	15%

Source: Sarin and Summers 2019b.

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FIGURE 5.

## Percent of Returns Audited by Filing Category



Source: Sarin and Summers 2019b; IRS 2011–18a.

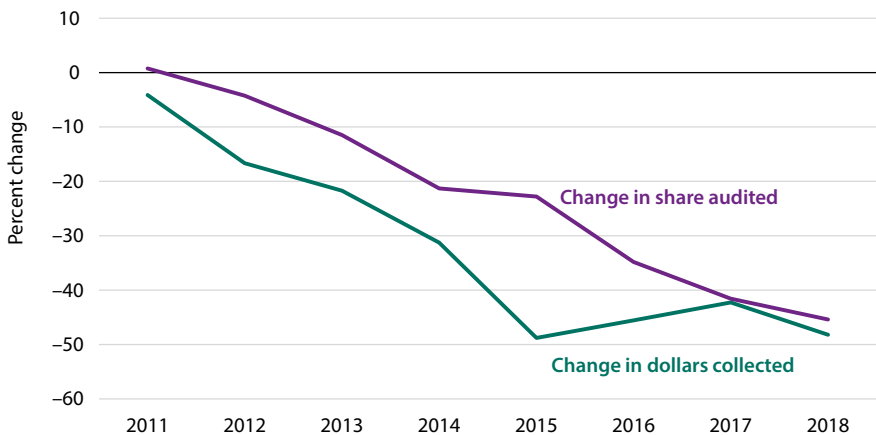
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The decrease in enforcement expenditure means that the likelihood of an individual return being audited has fallen by 50 percent in the last decade. And the share of millionaires audited has decreased from over 12 percent to around 3 percent. Individual audit rates have dropped for the last eight consecutive years, and the IRS reported that audit rates fell by over 20 percent in fiscal year 2019 alone (Rubin 2020). It is challenging to estimate how significantly this impacts tax collection, but it is telling that, as the share of millionaire audits declined by around 75 percent over this period, the additional taxes collected, following examinations of this group decreased by a similar amount.

In related work, we estimate the returns to a substantial investment in IRS resources (Sarin and Summers 2019). Had the IRS been able to conduct audits in 2018 at 2011 rates, it would have conducted nearly 800,000 more individual audits, nearly doubling actual 2018 audit rates; nearly 12,000 more corporate audits, increasing audit rates by around 66 percent;<sup>4</sup> more than 3,200 more estate tax returns, more than doubling estate tax examinations; and nearly 25,000 more employment tax returns, almost doubling employment audits (Sarin and Summers 2019). The increase in revenue from these additional examinations would have totaled nearly \$30 billion (\$360 billion in a decade).

FIGURE 6.

### Percentage Change Relative to 2010 in Audits and Additional Tax Liability Imposed

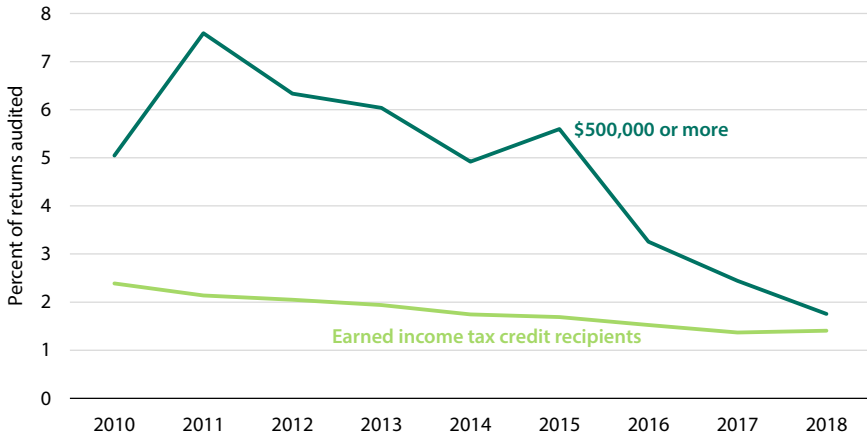


Source: Sarin and Summers 2019b; IRS 2011–18a.

Note: Yearly tax liability were converted to 2018 dollars. Estimates consist of additional tax liability imposed post-examination but do not include civil penalties assessed to tax evaders.

FIGURE 7.

## Audit Rates for Those Earning \$500,000 or More vs. Earned Income Tax Credit Recipients



Source: Sarin and Summers 2019b; IRS 2011–18a, 2011–18b.



Investment in examinations could be made even more progressive by targeting the enforcement resources on high-wealth returns. Tilting audit resources toward the wealthy would be more efficient in addition to being more progressive: An extra hour spent auditing an individual filer who earns \$200,000 annually generates only around \$600. An extra hour spent auditing someone who makes \$5 million or more a year generates nearly \$4,500 (George 2019). From an efficiency perspective, it is hard to justify why individuals who receive the Earned Income Tax Credit are as likely to have their filings audited as those who make \$500,000 or more annually (figure 7).

Our estimation suggests that by holding audit rates fixed for individuals who make \$200,000 or less annually and instead focusing new enforcement resources on the examination primarily of high-income individual filers, corporations, and estate tax filers, it would be possible to increase the revenue raised from greater compliance resources to around \$715 billion in a decade. This amount is perhaps an overestimate because our extrapolation ignores the fact that the average revenue generated from high-income audits is higher than the marginal revenue that would be generated from an additional audit. However, our estimate also ignores the indirect revenue generation that accrues from greater investment in tax compliance deterring errant filings, which according to U.S. Treasury estimates can be

more than three times the size of the direct benefits that are our focus (U.S. Department of the Treasury 2018a).

## HOW PROGRESSIVE ARE TAX GAP EFFORTS?

These estimates of returns to a progressive increase in examination levels may well be optimistic, and proper scoring by professional scorekeepers is imperative. Several points are worth highlighting. First, to estimate the returns on additional audits of high-income individuals, we rely on IRS data that provide net misreporting percentages for different income types. Wage and salary income is essentially perfectly reported (net misreporting percentage of 1 percent), whereas more opaque categories like capital gains (net misreporting percentage of 23 percent) and proprietorship income (net misreporting percentage of 55 percent) are less likely to be reported properly. We use these averages to calculate net misreporting percentages by income category for individuals at different categories of AGI, based on their income shares in different categories. Based on this approach, net misreporting rates are more than 5 times as high for those who make \$10 million or more annually as they are for those who make under \$200,000 (table 5). These estimates suggest that a substantial portion of noncompliance accrues from those who are in the top 1 percent of the income distribution, suggesting that efforts to curb noncompliance will be borne primarily by top earners and thus these efforts will be progressive.

Our estimates suggest that tax gap reduction efforts are borne primarily by the wealthy because their income accrues less in wage and salary income and more in opaque categories with high misreporting percentages.

TABLE 5.

### Average Underreporting Percentage by AGI Category

AGI category	Average share underreporting (percent)
Less than \$200,000	2.6
\$200,000 to \$500,000	4.5
\$500,000 to \$1 million	6.7
\$1 million to \$5 million	9.1
\$5 million to \$10 million	11.1
\$10 million or more	13.9

Source: Sarin and Summers 2019b, IRS 2019a, and authors' calculations.

Note: For each AGI bracket, the average share underreporting is calculated as the average of misreporting percentages by income category weighted by the share of income that the income category represents for that AGI bracket.

However, we fail to account for differences in misreporting rates *within income type* that may differ by income category.

Johns and Slemrod (2010) study the distribution of tax noncompliance based on an audit study of the individual income tax gap performed in 2001. They find that for opaque categories of income—like Schedule C business income, partnership income, and capital gains—noncompliance rates peak between the 90th and 99th percentiles of the income distribution, before falling for the top 1 percent of earners. The overall trend they document is that for each income category, misreporting rises with income level, peaking in a high *but not the highest* income group. There are reasons to be skeptical of this conclusion. First, this audit study was based on 2001 tax returns, and composition of the tax gap has shifted significantly since then. For one, misreporting rates for capital gains have doubled in this period. It is not obvious how this change in composition impacts the misreporting rates by income level that Johns and Slemrod estimated. Second, it is possible that the audit study methodology is not well tailored to capturing misreporting by the highest income earners, which implies that underreporting at the top is higher than estimated.<sup>5</sup>

In prior work, we extrapolate from the overall net misreporting rates in table 5 to estimate that 70 percent of the tax gap accrues to the top 1 percent (Sarin and Summers 2019). Those estimates suggest that in 2001 the top 1 percent accounted for nearly 30 percent of the tax gap (expanding to the top 5 percent of earners brings the estimate to 70 percent of the tax gap). The Johns and Slemrod approach suggests that the share of the tax gap that accrues to the top 1 percent is around half this, and that 70 percent is a better estimate for the share accruing to the top 5 percent.

It is impossible to know with precision what the distribution of noncompliance is. However, the suggested reforms focus on increasing the tax compliance of high-income earners by increasing audit rates primarily for millionaires, corporations owned primarily by these individuals, and their estates. As such, the additional income generated from the greater tax enforcement efforts outlined would likely accrue from the top 1 percent of earners.

## **INVEST IN INFORMATION TECHNOLOGY**

Beyond examinations, the outdated IRS technology offers substantial scope for a useful overhaul that will enable the IRS to better detect and address errant returns and will decrease costs of compliance efforts such as field audits. A few facts illustrate the extent to which the IRS has underinvested in technology: In 2018 the IRS spent only \$2.5 billion on new information

technology investments. That number seems large until we compare it to Bank of America's outlays, which were around \$16 billion—despite the company serving only 25 percent of American households (Sarin and Summers 2019).

One may believe that the IRS does not need substantial new technological investment because it has already developed state-of-the-art technology to address noncompliance. The magnitude of the tax gap suggests this is unlikely. Consider the following illustration of the deficiencies of the IRS's system: 97 percent of individual income tax filers receive at least one "information return" that contains information that can be used to identify misreported income. However, in 2010 (the last time these data were made available), the IRS identified five times as many mismatches as it was able to successfully resolve.<sup>6</sup> According to the U.S. Government Accountability Office (GAO), the IRS file systems date to 1960 and are among the oldest in the federal government (GAO 2018a), and the most recent Taxpayer Advocate report speculates that without an overhaul, there are "limitations on the functionality of a 60-year-old infrastructure, and at some point, the entire edifice is likely to collapse" (Office of the Taxpayer Advocate 2018, 351).

The IRS understands the substantial revenue benefits of investments in technology and has campaigned for additional resources that have allowed it to pilot programs that hint at the benefits of a technological overhaul. One success story is the return review program, which automates analysis of returns to prevent the issuance of invalid refunds. In 2017, this program saved the IRS \$4.4 billion and cost only \$90 million (GAO 2018b, U.S. Department of the Treasury 2018b). Greater investment in this and similar efforts have substantial potential to raise additional tax revenue in a progressive manner.

## **INCREASE INFORMATION REPORTING REQUIREMENTS**

Better technology to help address discrepancies through information returns solves only a piece of the puzzle. Many income categories are subject to little or no cross-party reporting, which means there is no way to check the accuracy of these returns against information reported from another source. Unsurprisingly, income subject to little reporting—like proprietorship income and rental income—is also the category of income where compliance rates are lowest: 45 percent at last estimate. Increasing the visibility of more opaque sources of income is likely to raise substantial revenue. Like our other proposals in the compliance arena, this too is a progressive reform, because opaque income accrues primarily to individuals



at the tail end of the income distribution: less than 4 percent of individuals who make \$200,000 or less a year report any rental or royalty income on their tax returns; over 40 percent of those who make \$5 million or more annually do. In related work, we estimate that an increase in information reporting could generate \$350 billion in additional revenue in a decade (Sarin and Summers 2019).

Increasing information reporting is generally regarded as an effective way to increase tax compliance. The GAO and the IRS suggest that reporting requirements are among the “few means of sizably increasing the compliance rate” (Herndon 2019, 3; see also McTigue 2019). Still, there are reasons to be skeptical about the promise of increased information reporting requirements. The most recent effort on this dimension was an expansion of reporting requirements for landlords and small businesses—requiring them to file 1099 forms for all purchases of goods and services over \$600 annually. This effort was quickly repealed because of the burden imposed on small business owners, hinting at the political obstacles to successful reforms on this dimension. Without comprehensive information reporting, there is also significant room to game requirements and take advantage of holes in reporting regimes. Beginning in 2011, electronic payments received by businesses operating as sole proprietorships (e.g., credit card payments) were reported to the IRS and businesses on forms processing these payments, via Form 1099-K. This increase in information reporting made taxpayers more likely to file business income returns, and reported receipts rose by up to 24 percent (Slemrod et al. 2017). However, taxes paid did not increase by a similar magnitude, because taxpayers largely offset the increased receipts with an increase in reported expenses, with no corresponding information reporting requirements. This experience gives guidance on the appropriate design for information reporting requirements: excluding certain categories of income from information reporting will encourage income to shift into these excluded categories when reporting requirements rise. It will be important to anticipate gaming possibilities and increase information reporting across categories of income.

## Other Progressive Tax Reforms

More can be done to rein in illegal tax evasion by the wealthy and the firms they control. But there is also a compelling case to be made to restrict the legal maneuvers that fortunate individuals, with the help of skilled tax advisors, avail themselves of to lower tax liabilities. As one of us has written elsewhere, “With respect to taxation, as so much else in life, the real scandal is not the illegal things people do—it is the things that are legal” (Summers

2014). Here, we make the case for some base-broadening and efficiency-enhancing reforms that will decrease opportunities for legal tax avoidance.

## **CLOSING CORPORATE TAX SHELTERS**

Firms shift revenues to countries with lower tax rates to avoid corporate tax liability. Economist Kimberly Clausing (2016) estimates that the cost to the United States from corporate tax base erosion is more than \$100 billion annually. Beyond revenue consequences here in the United States, the ability of firms to erode tax liability in this manner creates a destructive race to the bottom, as jurisdictions strive to attract large and mobile multinational firms by offering them the most attractive tax treatment. Corporate tax base erosion also adds to the regressivity of the tax system since empirical evidence suggests that corporate taxes accrue primarily to shareholders and not workers: the Joint Committee on Taxation and the U.S. Treasury estimate that 75 to 82 percent of the burden of the corporate tax falls on owners of capital (Cronin et al. 2013; Joint Committee on Taxation 2013).

A major tenet of the TCJA was its effort to reduce the incentives for and ability to engage in costly profit-shifting. As such, the legislation imposes a minimum tax on “global intangible low-taxed income” of foreign corporations. The basic idea is that foreign earnings are subject to a minimum tax rate of 10.5 percent (which will rise to 13.125 percent by 2025). Firms are provided tax credits for their foreign tax liabilities, but importantly, these credits accrue on a global (rather than per-country) basis. Paradoxically, the new regime incentivizes firms to locate investment in jurisdictions with both higher and lower corporate tax rates than the United States, because income can be blended from both groups of countries to decrease domestic tax liability. The result is an “America last” corporate tax regime.

Incremental changes can have a large impact: for example, transitioning to a regime where credits for corporations with investments abroad accrue on a per-country rather than a global basis will raise tax revenues by nearly \$170 billion in a decade. But more must be done. Needed reforms include more robust international cooperation to deter profit-shifting incentives, harsher penalties for firms and tax advisors who facilitate dubious sheltering, and penalties on tax havens. These reforms would have the dual benefit of encouraging the location of economic activity in the United States and discouraging the use of vast intellectual resources to design clever tax avoidance strategies.

## **CLOSING INDIVIDUAL TAX SHELTERS**

Individuals avail themselves of a number of legal tricks to lower individual tax liabilities. Many of these moves relate to the use of corporations and partnerships as shields to lower individual tax liability. Tax gaming opportunities based on using a corporation as a tax shelter are straightforward to understand: Since top individual tax rates are high (exceeding 40 percent in some cases), it pays to recharacterize one's income. The TCJA's changes increased the incentives for gaming on this margin by lowering corporate rates substantially and increasing the incentives to characterize income as earned through ownership of a corporation, rather than accruing to an individual employee. Although earning income through a corporation imposes a cost in the form of a "double tax" when that income is distributed, individuals can shield income from double taxation in a number of ways, such as by retaining the interest until death; holding corporate shares in retirement accounts that are tax-advantaged; or making use of loopholes that enable corporate distributions without tax, like Section 1202 of the Internal Revenue Code, which excludes from taxation the gains from small business stock (Kamin et al. 2018). In a world where the IRS's ability to enforce tax compliance has been diluted by budget cuts and the incentives to game these margins have increased with the decrease in the corporate tax rate, many of these loopholes, which have long been available to taxpayers, are increasingly attractive following the 2017 TCJA.

Individuals may also choose to organize their small businesses as S corporations for tax benefit. Most American workers have wages deducted to cover the cost of entitlement programs like Social Security and Medicare. However, payroll taxes apply only to income derived from wage labor, not to business profits, so small business owners and professionals who form S corporations can avoid payroll taxes by characterizing income as business profits rather than wage income (Hanlon 2012).<sup>7</sup> The Obama administration estimated that the gains from eliminating the payroll tax loophole alone would be around \$300 billion over a decade (U.S. Department of the Treasury 2016).

## **REFORMING CAPITAL GAINS TAXATION**

Reforms to capital gains taxation have received substantial academic and political attention. The central issue identified by reformers is that the current tax regime is ill equipped to collect revenue from the very wealthy, who earn and report income differently from the rest of the population. Wages and salaries constitute less than 10 percent of the income of the top 0.001 percent, while capital gains and dividends taxed at preferential rates

make up 71 percent, with business income (oft underreported and thus undertaxed) accounting for the remainder (Batchelder and Kamin 2019).

Capital gains are taxed at preferential rates, lower than ordinary income levels. Often, capital gains escape taxation altogether. For example, gains passed to an heir receive a “step-up” in basis and are thus untaxed. Additionally, when capital gains are donated to charity, the gains are untaxed and the donor receives an income tax deduction for the fully appreciated value of the asset.

We propose an overhaul of capital gains taxation. In our system, the death of the owner of a capital asset will be a realization event for tax purposes. Thus, the rationale for mark-to-market accrual of capital gains is substantially decreased, because the government will eventually be able to collect tax revenue on all gains. Although in many instances tax collection will not occur until death, in a world where long-term interest rates are currently near zero, the present value of annual tax collection and that of an end-of-life tax are comparable. Further, our proposal is administratively much less cumbersome, requires valuation only once in life, and does not require the IRS to deal with complexities around periods of capital losses. Our proposal has five components.

### *Taxing Capital Gains at Ordinary Income Levels*

Raising rates on capital gains and dividends to the same level as ordinary income would end the tax advantage that accrues to financial relative to labor income. But without more comprehensive changes (outlined later in this chapter), this approach is unlikely to reach its full revenue potential. The Joint Committee on Taxation and the U.S. Treasury assume that the capital gains rate that maximizes revenue is around 30 percent, because of the “lock-in” effect (Batchelder and Kamin 2019). This is because increasing the tax rate on capital gains would influence investment decisions and encourage people to defer the sale of capital assets until death, when they can be passed tax-free to heirs.

The CBO (2018) estimates that raising capital gains rates by 2 percentage points would generate \$70 billion in additional revenue in a decade, and thus it follows that raising capital gains rates such that the top tax bracket is taxed at the “revenue-maximizing” level would generate an additional \$350 billion in revenue over a decade.

But as part of a more comprehensive reform package, the revenue potential of higher rates for capital gains increases substantially. The Urban–Brookings Tax Policy Center estimates that the revenue-maximizing capital gains

rate rises to 50 percent if the stepped-up basis is repealed (Rubin 2019). For those in the top ordinary income tax bracket, taxing capital gains at ordinary income levels would increase the current rate by 17 percentage points; naïve extrapolation from the CBO estimate suggests that this would raise nearly \$600 billion in a decade.

### *Eliminating Stepped-Up Basis for Capital Gains*

Wealth tax advocates are right to point out that the current tax regime facilitates growing wealth inequality. This is because our tax laws allow substantial wealth to be passed down across generations without taxes ever being collected. To understand how this happens in practice, consider an entrepreneur who starts a highly successful company. She pays herself a small salary, and the company does not pay dividends, so it can invest in growth. Her tax liability is thus very low, despite her becoming substantially wealthy, as she does not pay taxes on the growing value of her ownership stake. These unrealized capital gains are only taxed upon a realization event, like their sale.

However, no capital gains tax is ever collected on appreciation of capital assets if they are passed down to heirs. When the entrepreneur dies and leaves the stock of her company to her beneficiary, the cost basis is “stepped up” so that the gain in value during the entrepreneur’s life is never taxed.

The beneficiaries of stepped-up basis are the wealthy: nearly 40 percent of the wealth of the top 1 percent is in the form of accrued but unrealized capital gains, and the top 1 percent holds around half of all such unrealized gains (Batchelder and Kamin 2019). In addition to decreasing government revenue, stepped-up basis is distortionary since it creates an incentive to hold on to underperforming assets purely for tax reasons, or to fail to sell these assets to be used in more productive ways while one is alive—because doing so would constitute a realization event.

Eliminating stepped-up basis would thus improve the productivity of the economy and be desirable even if it did not raise any revenue. However, the revenue benefits turn out to be substantial: implementing the Obama administration’s proposals for constructive realization of capital gains at death would raise nearly \$250 billion in a decade, and 99 percent of this revenue would be collected from the top 1 percent of filers (White House 2015).

### *Eliminating the Carried Interest Loophole*

Similarly, many wealthy individuals shelter income from taxation by taking advantage of the lower tax rates for partners of investment firms. Because income that flows through partnerships is often treated as capital gains and taxed at lower rates, private equity and hedge fund managers have an incentive to minimize the share of their compensation that is ordinary income and to maximize payouts received in the form of “carried interest.” The Joint Committee on Taxation estimates that taxing carried profits as ordinary income would generate \$20 billion in a decade (Joint Committee on Taxation 2016).

### *Eliminating Like-Kind Exchanges*

A Section 1031 like-kind exchange allows for the disposal of investment property and the purchase of a replacement, without tax liability generated from the sale of the asset. The initial objective of like-kind exchanges was to exempt from taxation small-scale transactions (e.g., livestock purchases by farmers), but today, like-kind exchanges help the wealthy avoid taxation on significant commercial real estate purchases, among other large transactions (Marr 2016). Wealthy investors can combine the tax exemption for like-kind exchanges with stepped-up basis at death to make highly profitable investments that avoid tax liability entirely. Like-kind exchanges average at least 6 percent of all commercial real estate sales based on dollar volume, which rises to 10–20 percent in high-tax jurisdictions (Ling and Petrova 2015). The Tax Reform Act of 2014 proposed the repeal of like-kind exchanges, which at the time were ranked by the Joint Committee on Taxation as the second-largest tax expenditure (Joint Committee on Taxation 2015), and estimated that this would raise \$40.9 billion between 2014 and 2023, which, adjusted for growth and inflation, translates to around \$50 billion today (Joint Committee on Taxation 2014). Outright elimination of like-kind exchanges would raise five times as much as the Obama administration’s more limited proposal to limit real estate and personal property exchanges to \$1 million annual gain deferral and to exclude art and collectibles exchanges.

Under the TCJA, Section 1031 now applies only to exchanges of real property and not to exchanges of personal or intangible property (e.g., machinery, equipment, vehicles, artwork, patents, and other intellectual property). We propose the repeal of Section 1031 entirely, which may generate less revenue than previously estimated due to the TCJA’s scaling back of this tax expenditure. It will be important to consider the behavioral effects of repeal in the context of the broader program around capital gains we propose and factor this analysis into official revenue scores. The Joint Committee on

Taxation's estimate of tax revenue loss from like-kind exchanges is only 9 percent of its corresponding tax expenditure estimate because it factors in such behavioral responses—specifically, that in the absence of like-kind exchanges, taxpayers would delay transactions, which would substantially diminish the potential revenue gains from repeal (Ling and Petrova 2015). This lock-in effect is muted by our broader set of reforms.

### *End Tax Advantages for Charitable Giving of Long-Term Appreciated Assets*

The tax code incentivizes charitable giving through the donation of long-term appreciated assets. This is because when an individual donates an asset—like a share of stock—that has appreciated in value, capital gains on that asset generally go untaxed and the individual receives a credit equivalent to the full value of the share, despite not paying any tax on the gains.<sup>8</sup> From the taxpayer's perspective, this approach is preferable to selling the asset (and paying capital gains) and making a monetary charitable donation, with a smaller deduction. It is also preferable to the charity, which receives the entire asset—rather than the cash that remains after paying capital gains taxes.

To understand the differences between these approaches for the individual and for the charity, consider a taxpayer in the top tax bracket who plans to make a \$10,000 donation to charity (table 6). This taxpayer has a 40 percent combined federal and state income tax rate and a combined 20 percent tax rate on capital gains. The stock has a cost basis of \$2,000.

We propose eliminating individuals' ability to use charity to escape capital gains liability. Practically, this means constructive realization of

TABLE 6.

### Tax Effects of Stock vs. Cash Charitable Contribution

	Stock donation	Cash donation
Combined federal and state income taxes	40%	40%
Tax rate and amount for selling stock	Not applicable	\$1,600 (20% tax rate on \$8,000)
Net amount to donate	\$10,000	\$8,400
Tax savings	\$4,000	\$3,360

Source: Authors' calculations. Note: Calculations assume a \$10,000 donation of an asset with a \$2,000 cost basis, which is either donated as stock or as cash.

capital gains when individuals give to charity. This will mean that that tax preferences for charitable gains will be equivalent whether individuals choose to donate assets or the cash that is generated from the sale of those assets. To our knowledge, the CBO has not scored this proposal directly, but it estimates the revenue gains from eliminating deductions for noncash charitable contributions at around \$150 billion over a decade (CBO 2018).

From both a behavioral and scoring perspective, it will be imperative to think about the interaction between the tenets of the proposed program, rather than to evaluate its components in isolation. Our naïve revenue estimation fails to account for the interaction effects of the various prongs of our proposal, but they are likely to be important. For example, taxing capital gains at ordinary income levels will have a lock-in effect that discourages the realization of capital gains. This lowers the revenue that the CBO estimates will be raised by the change. But the CBO estimate is independent of simultaneous changes to the tax code: combining an increase in capital gains tax rates with constructive realization of capital gains at death disincentivizes lock-in because taxes will eventually have to be paid on appreciated capital gains. Our elimination of the use of charitable giving to avoid taxes on capital gains further strengthens this effect.

Overall, we believe we have designed a program that eliminates the incentive to lock in capital gains because it eliminates loopholes to avoid eventual taxation on these assets. This change should mitigate concerns about illiquidity and distortions that arise from under-realization of capital gains. It also makes a program of mark-to-market capital gains taxation less attractive, especially given the administrative complexity. In today's world, with long-term interest rates near zero, there is little reason to insist on immediate realization of capital gains if we create a system requiring taxes eventually to be paid on these gains.

## **CAPPING TAX DEDUCTIONS AND EXCLUSIONS FOR THE WEALTHY**

A homeowner in the top tax bracket who makes a \$1,000 mortgage payment saves \$370 in taxes (37 percent top-rate deduction). Under an Obama administration proposal to cap these deductions at 28 percent across earners, this same write-off would save this wealthy taxpayer just \$280. Importantly, this change would raise tax burdens only for the rich who benefit from a deduction at top-rate levels. The change would apply to itemized deductions such as mortgage interest, charitable giving, and medical expenses. Those with marginal rates under the cap would still be able to claim the full value of their itemized deductions, making this reform progressive.



Our proposal would also apply to certain types of income currently exempt from any tax liability, such as municipal bond interest, workplace health insurance, and retirement savings contributions, as proposed in the fiscal year 2017 Obama budget (U.S. Department of the Treasury 2016).<sup>9</sup>

The TCJA decreased the deductibility of home mortgages, such as by allowing homeowners to claim a deduction for the interest on up to only \$750,000 of mortgage debt (previously, the limit was \$1 million) and by capping the deductibility of state and local real property taxes at \$10,000. Despite these changes, the Obama-era proposal to cap itemized deductions would still generate significant additional tax revenues, though exactly how much can be raised is unclear. At the time it was proposed, it was estimated to raise nearly \$650 billion in a decade (Sperling and Furman 2012). In earlier work, we speculate that following the TCJA, additional cuts in this vein are likely to raise \$250 billion in a decade (Sarin and Summers 2019).

## **ENDING THE 20 PERCENT PASS-THROUGH DEDUCTION**

Arguably the most distortionary of the changes brought about by the TCJA is the newly introduced 20 percent deduction for qualified business income. This deduction exacerbates the already significant problems that arise from a tax system that preferences noncorporate business income over individual earnings.

It is hard to identify any defensible policy rationale for this deduction. Perhaps it was a misguided attempt to decrease the incentives to shift business income into corporate structures following the decrease of the corporate rate to 21 percent (Kamin et al. 2018). But the structure of the deduction creates a complex framework with innumerable gaming opportunities. For example, certain lines of business are ineligible for the deduction, including professionals in health, law, athletics, and any trade or business in which the principal asset is the reputation or skill of owners or employees. There is no rationale for why some categories of income are favored with a tax break and others disfavored—indeed, some categories of professionals, such as architects and engineers, shifted categories as the conference bill evolved.

The most obvious gaming opportunity that this deduction enables is for individuals in preferred service industries who can be recharacterized from employees (ineligible for the deduction) to nonemployees (who benefit from it). Even those who are employed in exempt categories, like legal professionals, can benefit from the deduction by “cracking” income streams to take advantage of the tax break, for example by forming separate firms to hold their real assets in real estate investment trusts (REITs) eligible for

the deduction; or by “packing” income into qualified service categories, as described by Kamin et al. (2018).

Estimates suggest that this provision will reduce federal revenues by \$430 billion in the next decade (Joint Committee on Taxation 2017). Its elimination from the Internal Revenue Code will raise revenue primarily from taxpayers making more than \$1 million annually and eliminate the wasteful intellectual energy spent on trying to qualify for this deduction.

## **LOWERING THE ESTATE TAX THRESHOLD**

Before the TCJA, only 5,000 Americans were liable for estate taxation. The recent changes more than halved that small share by doubling the estate tax exemption to \$22.4 million per couple. The Joint Committee on Taxation estimates that this change costs \$83 billion (2017), with the benefits accruing entirely to 3,200 of the wealthiest American households. Repealing these changes and applying estate taxes even more broadly than before—for example, as the Obama administration proposed, by lowering the threshold to \$7 million for couples—would raise around \$320 billion in a decade, while still imposing estate tax liability on only 0.3 percent of decedents.

In addition to broadening the estate tax base, there is also significant room to attack the many loopholes that enable the well-advised ultra-rich to avoid estate taxation. The current estate tax rate is 40 percent; however, the effective estate tax rate (total tax collections as a share of the gross taxable estate) is less than 10 percent. Even after adjusting for the fact that many estates are nontaxable, since they are bequests to surviving spouses, the effective estate tax rate remains only around 20 percent, about half of the actual estate tax rate. This is because a great deal of wealth escapes estate taxation, such as through the establishment of trusts that enable division of assets among family members, planning devices that give income to charity while keeping the remainder for heirs, and other complex estate tax avoidance devices known to sophisticated tax advisors.

We support proposals that limit these loopholes and curb opportunities for estate tax planning. One approach with substantial merit is Lily Batchelder’s proposal to transition from an estate tax to an inheritance tax, imposing tax liability on the heirs who profit from inherited wealth, rather than the estate that provides it. This approach would have the benefit of rewarding estates that disburse wealth broadly, attacking wealth concentration directly. It is also likely to be more efficient than more progressive income taxation or wealth taxation because the available empirical evidence suggests that the wealthy, when making work and saving decisions, do not place as high a

value on the inheritance of their heirs as they do on taxes that impact them or their estates directly (Batchelder 2020).

### **INCREASING THE CORPORATE TAX RATE TO 25 PERCENT**

When corporations began lobbying for corporate tax reform, their stated object was a 25 percent tax rate. The TCJA delivered more than the business community asked, slashing the corporate rate to 21 percent. The CBO estimates that a 1 percentage point increase in the corporate tax rate would generate \$100 billion in the next decade (2018), so a 4 percentage point increase to 25 percent could generate an additional \$400 billion in revenue.

Raising the corporate tax rate would not increase the tax burden on most new investment, because it would raise in equal measure the valuation of the depreciation deductions that corporations can take when they undertake investments. This increase would primarily burden those earning excess rents from monopoly-like profits and those who have received enormous windfalls from the TCJA. This increase would be administratively straightforward given that the corporate tax infrastructure is well established. As discussed, since the costs of corporate taxation fall overwhelmingly on owners of capital rather than workers, increasing the corporate tax rate would also be very progressive. A higher corporate tax rate would also mitigate, at least somewhat, the incentives created by the TCJA to reclassify labor income as corporate income to minimize tax liability.

### **MINIMUM TAX ON BOOK INCOME**

In 2018 around 1,200 U.S. companies reported net income of more than \$100 million. Of these, nearly 25 percent paid zero or negative federal income taxes (authors' calculations using Standard & Poor's Compustat Services 2018). A minimum tax on book income would help ameliorate the regular failure to levy taxes on profitable firms. A minimum tax is preferable to an additional tax on book income—as has been proposed in the 2020 election cycle—because it does not create distortions from double taxation of firms that already bear substantial tax liabilities.

We estimate that a minimum tax of 10 percent on book income would raise nearly \$800 billion in a decade. However, it is important to adjust this total to account for taxes paid by large multinational corporations in foreign jurisdictions. Further, tax liabilities must be adjusted to allow for carryforwards, so that companies with variable tax liabilities are not treated unfairly. These adjustments decrease the revenue-raising potential of a 10 percent minimum tax to slightly over \$200 billion over a decade.

Importantly, these estimates are based on the number of firms liable for a minimum tax on book income in 2018; these are firms that, in this scenario after the passage of the TCJA, would be eligible for this tax because their total federal and foreign tax liabilities do not reach the 10 percent minimum threshold. We also propose increasing the corporate tax rate from the current 21 percent rate to 25 percent. This scaling back of the TCJA will mechanically decrease the number of firms paying a minimum tax on book income and thus will have the potential to raise revenue.

## Some Issues with Newer Alternatives

The measures that we propose in this chapter meet a stringent test. They are reforms that would be desirable even if the government did not have pressing revenue needs. They are progressive and reduce the ability of those at the top to make use of special breaks that have advantaged them at the expense of American taxpayers for too long.

It is useful to compare the approaches we advocate—increased investment in tax compliance as well as base-broadening reforms—to alternatives in the current tax reform debate, such as wealth taxation and accrual taxation of capital gains. From both an economic and a political economy perspective, we believe the approaches we describe are superior.

Economists tend to favor base-broadening tax reform. This is because broadening the tax base is more efficient than increasing tax rates. The logic is simple: increasing tax rates encourages inefficient behavior to avoid higher tax liability. In contrast, broadening the tax base decreases such inefficient behavior; for example, eliminating loopholes like the pass-through deduction decreases effort by individuals and the tax planners they employ to recharacterize income to exempt it from tax liability. This suggests that even if we decide that the government's revenue needs require substantial increases in top tax rates, such approaches should be pursued only after the revenue potential of base-broadeners is exhausted.

The question of what base should be used to evaluate tax progressivity requires further consideration. Conceptually, lifetime expenditure would be the ideal base, but traditionally economists have evaluated how progressive the tax code is with respect to individual income. Many believe that the concentration of wealth has risen faster than the concentration of income in the United States in recent decades. This line of study is complicated by the fact that the definition of wealth and measures of its concentration are far from obvious (Smith, Zidar, and Zwick 2019; Weil 2015). To make the case that measurement of progressivity should be based on wealth shares

rather than income shares requires confidence that wealth can be measured properly and a belief that wealth somehow confers benefits even if it is not spent. This case has yet to be made.

From an administrability standpoint, we are skeptical of wealth taxation and mark-to-market proposals. Recent estimates speculate that wealth tax proposals could generate nearly \$4 trillion in a decade and that mark-to-market accrual of capital gains could raise around \$2 trillion (Batchelder and Kamin 2019; Saez and Zucman 2019a). We believe these estimates are substantially overstated because both approaches raise practical questions—largely ignored by naïve revenue estimation—that any implemented policy will have to grapple with.

One issue for wealth taxation involves valuation: how will ownership stakes in private firms without market valuations be ascertained, for example? Wealth taxation is also complicated by the illiquidity of the assets held by the ultra-wealthy. An entrepreneur who has built a successful start-up may be liable for a wealth tax but unable to pay it since she cannot sell shares or borrow against the value of her own shares of the firm. Wealth tax advocates believe they have come to a “clean solution” around questions about liquidity that plagued wealth taxation in European countries by raising the exemption threshold so that fewer households are liable for the tax (Saez and Zucman 2019a). But given that the available empirical evidence shows that portfolio shares of the 0.1 percent are most heavily tilted toward illiquid asset classes, it is hard to see how this qualifies as a solution (Smith, Zidar, and Zwick 2019). Other issues around implementation include, for example, the fact that a given wealth exemption will encourage distortionary bunching to avoid wealth tax liability.

In earlier work, we make the point that on an optimistic read, the estate tax—a form of wealth tax that already exists in the United States—generates only 40 percent of the estimated revenue predicted by wealth tax advocates (Summers and Sarin 2019). This difference is attributable to estate tax avoidance strategies such as the use of trusts, tax-advantaged borrowing schemes, charitable contributions, valuation discounts, and the like. Furthermore, the wealth tax base is overstated, likely by a factor of two (Smith, Zidar, and Zwick 2019). In our view a more realistic estimate of the wealth tax’s revenue potential is around half of the estimated \$3.75 trillion over a decade. Thus, beyond its efficiency virtues, the approach we outline is likely to raise substantially more revenue than this alternative strategy.

Similarly, mark-to-market taxation of capital gains is administratively cumbersome and likely to raise less revenue than has been estimated. Should mark-to-market taxation be applied to both publicly traded and

private assets, then—as with wealth taxation—the valuation difficulties will pose an awesome challenge to the IRS each year. If, instead, taxation on private assets is deferred, then the tax code will contribute to the already increasing trend of firms to stay private for longer to avoid tax liability. Additional questions concern how current unrealized gains and losses will be treated in a mark-to-market regime. If mark-to-market applies only to gains and losses arising *after* the effective date, the result will be a hybrid system that exacerbates lock-in concerns by disincentivizing individuals from realizing gains and losses, lest these transactions trigger annual tax liability in the new mark-to-market regime.

As with a system of wealth taxes, implementation issues also arise from the mark-to-market threshold. Some have suggested that mark-to-market losses can be used to decrease future capital gains taxes (Leiserson and McGrew 2019). But what happens if losses are so large that individuals are no longer eligible for the mark-to-market regime?

On grounds of economic efficiency and administrability, we believe that an approach encompassing base broadening along with restoration of tax rates, like the one laid out in this chapter, dominates approaches based on new tax concepts like wealth taxation or mark-to-market capital gains taxation, or approaches that focus predominantly on increases in tax rates. It is capable of raising substantial sums, probably as much as is politically feasible from those in the top 1 percent of the income distribution.

Additionally, an approach like the one we have outlined is more likely to be implemented successfully than riskier, untested alternatives that are vulnerable to political attacks, legislative impasse, and legal challenges. For example, even if a wealth tax could be passed, it faces a large risk of being found unconstitutional by the current Supreme Court (Hemel and Kysar 2019).

Finally, there are important issues of fairness and equity that suggest base-broadening measures are preferable to alternative approaches. We suspect most Americans would regard tax reform that halved the wealth of the nation's 800 billionaires as being manifestly unfair and setting a worrisome precedent, both for those with less wealth and for those who might be successful in the future. Yet over 10 years, a 6 percent wealth tax does exactly that, even aside from the impact of current income and property taxes. The fact that this taking occurs over a decade rather than all at once does not strike us as all that meaningful a distinction. American experience does not provide a basis for judging the impact of such measures on incentives. Further, political theorists have long felt that government expenditures that most of the population is involved in paying for are more rigorously

scrutinized and better managed than those in which most citizens have no contributory role.

An important consideration is the broad question of whether the correct strategy for addressing inequality is to rely on tax strategies that soak the rich. More egalitarian societies than the United States, such as Sweden and Canada, maintain highly preferential taxation of capital gains and do not tax wealth or estates at all. Instead they pursue the objective of reducing inequality by using broad-based taxation methods, such as the value-added tax, which are borne by all citizens to finance universal entitlements and transfers to the poor.

To some extent our base-broadening tax reform strategy can be criticized along these same lines. But it can be justified on economic efficiency grounds, and it is much less likely to crowd out more universal taxes than a focus on new levies only on those with high income.

Ultimately, those concerned with inequality need to decide whether their greater concern is taking down the rich or raising up the middle class. We believe that a base-broadening strategy is much more conducive to the latter approach.

An objection to the strategy we propose is that many of our ideas, like taxing capital gains at death or limiting deductions, have been around for a long time and have never been enacted. Some argue that perhaps new, more unitary ideas like wealth taxation have a greater chance of enactment. We find the leapfrog idea that big transformative changes are easier to enact than incremental measures highly implausible. Our reading of American political history is that big, immediate transformation efforts like the Clinton 1993 health plan are rarely if ever successful. The success stories like Social Security and Medicare or even the introduction of the income tax all involved long implementation periods and much discussion. The fact that after a half century of discussion the deduction of state and local taxes was repealed in the 2017 tax reform effort illustrates that long-considered proposals can go from unacceptable to acceptable surprisingly quickly.

## Questions and Concerns

### *1. What role should horizontal equity play in determining tax policies?*

The principle of horizontal equity suggests that similarly situated individuals should be taxed equivalently. A wealth tax does not achieve this objective. Individuals above the wealth tax threshold will be taxed twice on the same returns: first as income and second as wealth. Those

with equivalent income streams, but who are right below the wealth tax threshold, will pay only income taxes. This is both unfair and creates significant gaming incentives. Further, even among those who face wealth tax liability, their illiquid assets will be taxed based on potentially arbitrary and likely inconsistent appraisals of their value.

Increasing compliance and base-broadening approaches, in contrast, will help ensure that all individuals with the same level of income, regardless of how it is accrued, face the same tax burden.

## *2. How would you sequence your reforms?*

We propose a range of policies from overhauling capital gains taxation, to increases in corporate tax liabilities, to much greater investment in the IRS' enforcement efforts. Since it is unlikely that such a wide range of changes can be implemented immediately, it is helpful to think through what reformers should prioritize first.

We believe that substantial investment in tax compliance is the appropriate place to start. This is practical, because it will take large outlays of both financial resources and time for the IRS to build up a workforce that is well-suited to the substantial increase in auditing and new data-driven enforcement efforts that we recommend. It is also sensible because at least some aspects of our compliance agenda can be implemented without new legislation: better targeting current IRS resources toward policing the returns of high-income earners and matching individual returns to existing information reports are examples of changes that can be implemented immediately. Finally, compliance investment has the fewest economic risks—it increases revenue without introducing any potentially distortionary changes to the tax code and is guaranteed to make the taxation more efficient, by decreasing the incentives for wasteful expenditure to dodge tax liability.

## Conclusion

Growing federal spending needs require that the government find ways to raise additional revenue. Given the growth in inequality, progressive tax reform is and should be high on progressives' tax agenda. Our belief is that the way forward involves changes to the tax code that increase compliance, close loopholes, and broaden the tax base. On grounds of economic efficiency and administrability, we believe such an approach dominates new tax concepts like wealth taxation or mark-to-market capital gains taxation.



The program that we lay out is capable of raising substantial sums: around \$4 trillion over the course of a decade. As a share of GDP, this total is more than was raised by any tax increase in the last half century, and we believe it represents as much as is politically feasible to raise from increasing taxes on those in the top 1 percent of the income distribution.

The challenges facing the United States today may mean that this base-broadening approach will not raise as much revenue as is needed, but it is clearly the place to start. Measures to increase tax compliance and decrease the ability of the wealthy and large corporations to take advantage of preferential tax loopholes comport with basic notions of fairness, and creating a more efficient tax system will increase the revenue potential of future reforms.

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## Endnotes

1. This is a lower bound, since we calculate the total tax liability of the wealthy using the deductions that they claim for taxes paid.
2. The Auten and Splinter (2019) income concept is broader than our focus on adjusted gross income. The authors add to adjusted gross income sources that are not captured on individual returns, including corporate retained earnings, corporate taxes, business property taxes, retirement account income, and other sources.
3. The compliance proposals referenced in this section are detailed at much greater length in Sarin and Summers (2019). The data presented and much of the discussion follow directly from our past work.
4. Note that this estimate is based on the rate of corporate audits, which decreased from 1.5 percent in 2011 to 0.9 percent in 2019. This does not correspond to the total dollars of corporate income that are audited—which is a substantially higher percentage. This is because audit rates for large companies are much higher than the audit rates by number of corporations. One way to see this difference is by looking at the share of large corporations (\$20 billion or more in assets) that were audited in 2018—49.3 percent. This is much higher than the general corporate audit rate of 1.5 percent. But the decline relative to the 2011 peak remains significant: in 2011, 95.6 percent of large corporations were audited.
5. One of the problems with the audit study approach is that the wealthy accrue income that is unobservable on their individual tax filings. Cooper et al. (2016) are unable to ascribe 30 percent of partnership income to individual filers, which they interpret as evidence that the tax code encourages firms to organize in opaque partnership forms to lower tax liability.
6. A 2015 Treasury Inspector General for Tax Administration report suggests a similarly low share, reporting that the Automated Underreporter Program that matches individual and information returns routinely identifies more than 20 million individual tax returns with discrepancies annually and typically reviews around 20 percent of the discrepancies it identifies (Treasury Inspector General for Tax Administration 2015).

7. In 2013, the last time the data were made available, the IRS estimated that nearly 70 percent of S corporations are noncompliant with tax rules and that the majority of these cases involved underreported income (GAO 2009). This loophole closure would increase the tax burden on high-paid professionals and small business owners who currently avoid payroll tax liability. S corporations are not large: only 0.12 percent have assets greater than \$100 million (IRS 2015). Further, because the Social Security payroll tax is capped at a maximum of employee's wages (\$132,900 in calendar year 2019), the gains from this avoidance strategy are limited. However, Medicare taxes are not capped, and the 3.8 percent tax on self-employment earnings for high-income taxpayers can be avoided by using the S corporation structure.
8. Up to an AGI cap of 30 percent (Fidelity Charitable n.d.).
9. An explanation of the workplace health insurance exclusion is provided by the Urban–Brookings Tax Policy Center (2016).

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*The Hamilton Project* seeks to advance America's promise of opportunity, prosperity, and growth.

We believe that today's increasingly competitive global economy demands public policy ideas commensurate with the challenges of the 21<sup>st</sup> Century. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments.

Our strategy calls for combining public investment, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first Treasury Secretary, who laid the foundation for the modern American economy. Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that "prudent aids and encouragements on the part of government" are necessary to enhance and guide market forces. The guiding principles of the Project remain consistent with these views.

BROOKINGS

## THE UNITED STATES NEEDS ADDITIONAL REVENUE SOURCES

for investments that support broadly shared growth, for fiscal balance, and for a more equitable tax code. The proposals in this volume respond to that need, focusing on the enduring questions about taxes—who pays them, what effects do they have on the economy, and how much revenue can they raise? But this volume is about more than taxes. It is about providing for a strong and effective government that promotes not only growth but widespread economic well-being and reduced inequality for all Americans.

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