



TAX POLICY CENTER
URBAN INSTITUTE & BROOKINGS INSTITUTION

A PROPOSAL TO REFORM THE TAXATION OF CORPORATE INCOME

Eric Toder and Alan D. Viard

June 2016

The authors are Institute Fellow, Urban Institute, and Resident Scholar, American Enterprise Institute. This report was funded by a generous grant from the Laura and John Arnold Foundation.

We are grateful to many of our professional colleagues in the tax policy community for helpful insights, discussions, and writings, including Alan Auerbach, Jerry Auten, Thomas Barthold, David Brazell, David Brockway, Laurie Coady, Tim Dowd, Itai Grinberg, Harry Grubert, Harry Gutman, Michelle Hanlon, Viva Hammer, John Kitchen, James Mackie, David Miller, Anne Moore, George Plesko, Laura Power, Richard Reinhold, Karl Russo, Michael Schler, Daniel Shaviro, Randy Weiss, and Jim Wetzler. We thank Joseph Rosenberg for help with the revenue and distributional estimates; Norton Francis, Richard Auxier, and Sarah Gault for help with analyses of effects on states and localities; and Lydia Austin, Chenxi Lu, and Adele Hunter for excellent research assistance. In addition, we thank Alex Brill, Len Burman, Harvey Galper, Donald Marron, Steve Rosenthal, and Richard Zeckhauser for helpful comments on earlier drafts of this report and Ann Cleven for editorial assistance.

The views in this paper are those of the authors alone and do not reflect the positions of the Tax Policy Center or the American Enterprise Institute or their funders.

ABSTRACT

This report updates and revises the authors' 2014 proposal to replace the corporate income tax with taxation at ordinary income rates of dividends and net accrued capital gains of American shareholders. The new proposal retains a 15 percent corporate income tax, gives taxable shareholders a credit for corporate taxes paid, imposes a 15 percent tax on interest income of non-profits and retirement plans, and addresses stock price volatility and shifts between private and publicly-traded status. The reform encourages domestic investment and sharply reduces incentives for corporate inversions. It is approximately revenue neutral and makes the tax system more progressive.

CONTENTS

INTRODUCTION	1
BACKGROUND: WHY THE CORPORATE SYSTEM IS BROKEN AND NEEDS MAJOR REPAIRS.....	4
BASIC BUILDING BLOCKS OF PROPOSAL.....	12
DESIGN ISSUES: BUSINESS AND OTHER ENTITY TAX ISSUES.....	19
DESIGN ISSUES: INDIVIDUAL TAX ISSUES	30
EFFECTS OF PROPOSAL.....	47
CONCLUSIONS	65
REFERENCES	66
APPENDIX 1. A PATH NOT TAKEN: REALIZATION-BASED TAXATION WITH DEFERRAL CHARGE	69
APPENDIX 2. CONSTITUTIONAL ISSUES RAISED BY MARK-TO-MARKET TAXATION	76
APPENDIX 3. REVENUE ESTIMATION: METHODOLOGY AND ISSUES.....	82
APPENDIX 4. FINANCIAL REPORTING AND CORPORATE TAX SYSTEM REFORM.....	85
REFERENCES TO APPENDIX 4	90

INTRODUCTION

This paper develops and modifies a proposal to reform the taxation of corporate income that we first presented in a 2014 paper sponsored by the Peter G. Peterson Foundation, “Major Surgery Needed: A Call for Structural Reform of the US Corporate Income Tax” (Toder and Viard 2014). That paper concluded that the US system for taxing corporate income was fundamentally broken and required major reforms.

The current corporate tax system is outdated because it has failed to adjust to four major developments: (1) the increased globalization of economic activity, (2) corporate tax rate reductions in other major economies and their shifts to territorial tax systems, (3) the increased share of business assets in the form of intangible property, and (4) the increased share of economic activity in the United States not subject to the corporate income tax. In particular, the system for taxing the income of multinational corporations is based on two concepts—the *source* of income and corporate *residence*—that are not well defined and can be easily manipulated without changing real economic activity. The result is a system that discourages investment in the United States and places US companies at a competitive disadvantage, while also enabling the erosion of the corporate tax base. Commentators cite corporate inversions, in which companies abandon their US residence to reduce tax liability, and shifts in reported profits of US multinational corporations to low-tax jurisdictions as two major symptoms of the failures of our corporate tax system.

One option we suggested in our 2014 paper was to replace the corporate income tax with a tax at ordinary income tax rates on the accrued, or mark-to-market, income of corporate shareholders. Individuals holding shares in publicly traded corporations would pay tax annually on their dividends plus net accrued capital gains (gains less losses). US residents would be taxable on their accrued income from shares in both US-resident and foreign-resident corporations at the rates applied to ordinary income. All businesses not publicly traded would be taxed as flow-through entities, with business income attributed to shareholders or partners; capital gains on shares of these businesses would continue to be taxed on a realization basis and at current-law preferential rates.

Our 2014 proposal would have had important economic benefits. It would have largely eliminated long-standing distortions of the corporate income tax, such as the tax penalties on equity finance and dividend payments, and reduced the tax penalty on companies organized as taxable corporations. It would have removed incentives to shift reported income and investments overseas and incentives for companies to establish residence outside of the United States. At the same time, the proposal would have fully taxed the income US residents receive from corporate share ownership at ordinary income rates, without creating the lock-in problem

(the tax incentive to defer sales of assets with gains) that would arise under ordinary income taxation of realized gains.

However, commentators and reviewers raised a number of concerns about our 2014 proposal. One major challenge was the proposal's significant net revenue loss. In this paper, we address many of those concerns and develop a more complete, better designed, and more realistic proposal that is approximately revenue neutral.

In performing our research, we consulted with leading tax experts, including academic economists, accountants and lawyers, tax practitioners, and tax experts at the US Treasury Department and the Joint Committee on Taxation. As a result of these discussions and our own further thinking, we have expanded and modified the original proposal in four principal ways.

First, we retain a 15 percent corporate income tax. The low-rate corporate tax makes it possible to continue to collect some revenue from foreign investors, makes it easier to collect revenue from tax-exempt institutions and retirement plans that hold corporate stock, makes a significant contribution toward revenue neutrality, and facilitates maintenance of state corporate income taxes by states that might wish to retain them. Yet, the 15 percent rate is low enough to substantially relieve most of the problems the corporate income tax produces in the globalized economy. We propose a new shareholder tax credit to relieve the double taxation caused by the combination of a low corporate income tax rate and ordinary income taxation of shareholders' accrued income.

Second, we include a smoothing provision that dramatically reduces the year-to-year variability of shareholders' taxable income under mark-to-market taxation. The smoothing provision will reduce the likelihood that shareholders have to liquidate assets because they have insufficient funds to pay the tax in years when asset values increase sharply. The smoothing provision also reduces revenue volatility for state governments that conform to the proposal and that must meet balanced-budget requirements.

Third, we propose a new 15 percent tax on interest paid to tax-exempt institutions and retirement plans to limit the net tax benefit these taxpayers receive from a lower corporate tax rate.

Fourth, we develop transition rules both for firms' movements between closely held and publicly traded status and for the changeover to the new tax system.

We also analyze in more detail our proposal's effects long-term economic output, short-term economic stabilization, states and local governments, corporate financial reporting and planning, federal revenue, and the distribution of federal tax burdens by income group. We then discuss why constitutional challenges to mark-to-market taxation are unlikely to succeed and how to respond if they do.

The next section provides a brief review of the current system for taxing corporate income and the reasons we believe fundamental restructuring is needed. The following sections describe our proposal and discuss its likely effects.

BACKGROUND: WHY THE CORPORATE SYSTEM IS BROKEN AND NEEDS MAJOR REPAIRS

In our earlier paper (Toder and Viard 2014), we argued that the US system for taxing corporate income is fundamentally broken and major restructuring is required to fix its problems. In this section, we briefly recapitulate the material in the earlier paper. We summarize how the corporate tax system works, review its main problems, and explain why reforms currently under consideration won't fix them.

THE CURRENT SYSTEM

The United States imposes a tax on corporate income at graduated rates ranging from 15 to 35 percent. Businesses subject to the corporate income tax are referred to as C corporations. The benefits of the lower rates phase out for incomes above fixed-dollar threshold amounts, making the top marginal and average federal rates equal to 35 percent. Most C corporations' income is taxed at the top rate.

States also tax corporate income, at rates ranging from 0 to 12 percent. The average state rate is about 6.15 percent. Accounting for the deductibility of state taxes from the federal tax base, the combined federal-state corporate tax rate averages to be about 39.0 percent, the highest in the Organisation of Economic Cooperation and Development (OECD).¹

The base of the corporate income tax is revenue minus costs. Wages and interest payments, but not dividends paid to shareholders, are deductible from corporate income in computing tax liability. Investments in machinery and equipment are generally not immediately deductible but are instead recovered over time through depreciation deductions, which are meant to measure the decline in assets' values over time due to wear and tear and obsolescence.

An important feature of the current US corporate income tax is the double taxation of corporate equity income. Dividends US shareholders receive are taxable even though there is no corporate deduction for dividends paid. Retained earnings are also taxable at both the corporate and shareholder levels, to the extent that they raise the value of corporate shares and taxpayers realize the gains by selling the shares. Both dividends and capital gains face preferential tax rates, with a maximum of 23.8 percent (including the 3.8 percent high-income surtax on net investment income enacted as part of the Affordable Care Act), compared with the top rate of 43.4 percent (also including the surtax) on interest income. The two levels of tax make the combined federal corporate-shareholder top statutory tax rate on dividends equal to 50.47 percent for a shareholder in the top tax bracket ($0.35 + (1-0.35)*0.238$).

¹ See OECD data reported at https://stats.oecd.org/Index.aspx?DataSetCode=TABLE_I11.

Many businesses do not pay corporate income tax. Instead, their income is allocated to owners and subject only to individual income tax (and, in some circumstances, self-employment tax). Owners of these “flow-through” businesses, which include partnerships and limited liability companies, subchapter S corporations, and many businesses organized as sole proprietorships, pay individual income tax on their business profits at rates of up to 39.6 percent. Although there are two separate flow-through tax regimes, one for partnerships (including limited liability companies taxed as partnerships) and another for S corporations, both regimes follow the same general principle of flowing the business’s income through to the owners.

In 2012, 95 percent of US business taxpayers were organized as flow-through businesses not subject to corporate income tax. Most were small businesses, but many were large and medium-sized businesses. In all, flow-through firms accounted for 39 percent of gross business receipts and 64 percent of net business income.² Publicly traded businesses are generally required to operate as C corporations and pay corporate income tax, while businesses that are not publicly traded generally operate as flow-through businesses. However, as further discussed later in this paper, some publicly traded businesses are allowed to operate as flow-through businesses and some businesses that are not publicly traded choose to operate as C corporations.

Some tax preferences make the effective tax rate on corporate investments in the United States lower than the statutory rate. These preferences are also generally available to flow-through businesses. The largest preference is accelerated depreciation of machinery and equipment, enhanced by bonus depreciation, which allows 50 percent of the costs to be deducted immediately when the investment is made. (Accelerated depreciation was recently extended through the end of 2019 in the Protecting American from Tax Hikes (PATH) Act of 2015.) Other major preferences are a 9 percent deduction for domestic manufacturing, construction, and some other activities, which effectively reduces the top corporate rate on this source of income to 31.85 percent (91 percent of 35 percent), and targeted preferences for narrower activities and sectors. The latter include a credit for research and experimentation expenditures (made permanent in the PATH Act), a credit for low-income housing investments, expensing of some investments by small businesses (with higher limits made permanent in the PATH Act), and selected tax benefits for domestic energy sectors (both fossil fuels and renewables).

² Authors’ calculations, based on data reported by Internal Revenue Service, Statistics of Income Division (2016).

BASIC STRUCTURE OF INTERNATIONAL PROVISIONS

US-resident multinational corporations pay tax on their worldwide income, with a credit for foreign income taxes paid. Foreign tax credits are limited to the amount of US tax applicable to the foreign-source income.

Taxation of most profits of US multinationals' foreign subsidiaries is imposed only when the profits are repatriated through a dividend payment to the US parent company. This ability to delay tax payments is known as deferral. Some of US multinationals' foreign-source profits are taxable as earned without deferral. First, foreign branches' income is currently taxable, although most US multinational corporations operate overseas through separately chartered foreign subsidiaries rather than through branches. Second, some foreign subsidiaries' income is taxable on a current basis under the "subpart F" rules (set forth in subpart F of Part III of Subchapter N of Chapter 1 of the Internal Revenue Code). Subpart F rules apply primarily to passive income that can easily be shifted between countries, and they are intended to prevent erosion of the domestic tax base (or, in some cases, foreign tax bases).

The US corporate income tax base generally includes US-source income earned by both US and foreign-resident multinational corporations, although, under tax treaties, US tax generally applies to foreign-resident corporations only if they have a permanent establishment in the United States. A multinational corporation's allocation of income between the United States and foreign countries depends on the prices the company sets on transactions between affiliates within a corporate group. Regulations issued under Internal Revenue Code section 482 and similar provisions in other countries require that these intragroup prices (called transfer prices) reflect the prices that would be charged in comparable arms-length transactions between independent parties. It is often difficult, however, to find comparable transactions to establish a correct transfer price, particularly for unique intangible assets.

The Internal Revenue Code generally defines a multinational corporation's country of residence as its place of incorporation. Corporate residence, therefore, need not reflect where a company's shareholders reside, where its production and sales occur, or where its central place of management is located. Corporate residence has tax consequences because foreign-resident corporations do not face US corporate income tax on non-US-source profits distributed to the parent company and are not subject to the subpart F rules.

COMPARISON WITH OTHER COUNTRIES' TAX SYSTEMS

As mentioned, the United States has the highest statutory corporate tax rate in the OECD. The top federal US tax rate has been set at 35 percent since 1993, up from 34 percent after the Tax Reform Act of 1986, while other countries have steadily reduced their corporate tax rates over the past three decades.

Although the United States has a “worldwide” system for taxing its resident multinational corporations, as described above, most countries have “territorial” systems (Altshuler, Shay, and Toder 2015). In a territorial system, foreign-source profits of resident multinational corporations are generally exempt from tax. In practice, however, the difference between worldwide and territorial tax systems is less dramatic than it may seem. Deferral substantially reduces the effective corporate tax rate that US multinationals pay on their foreign-source incomes under the US worldwide system; conversely, most countries with territorial systems have anti-avoidance provisions (similar to the US subpart F rules) that tax some forms of foreign-source income by their multinational companies.

LONG-STANDING PROBLEMS WITH THE CORPORATE INCOME TAX

The corporate income tax has long-standing problems that would apply even if the US economy were closed to international trade and investment. The corporate income tax, in interaction with the individual income tax, causes significant economic distortions.

The corporate income tax penalizes equity-financed corporate investment relative to both debt-financed corporate investment and investment by flow-through businesses. The latter two investments are taxed only at the individual level while equity-financed corporate investment is taxed at both the corporate and the individual levels and therefore faces a higher total tax burden.

Because interest payments are deductible from corporate taxable income, debt-financed investments face no tax at the corporate level. They face tax only at the individual level, as the bondholders pay tax on their interest income. A similar treatment applies to investment by flow-through businesses because the businesses are exempt from corporate income tax and their owners pay individual income tax on their shares of the businesses' income.

In contrast, as discussed above, equity-financed investment is taxed at both the corporate and the individual levels. Because corporations cannot deduct dividend payments, both distributed and reinvested profits are subject to corporate income tax. Both types of profits also give rise to individual income tax. Shareholders are taxed on their dividends and they are taxed

on capital gains arising from reinvested corporate profits, without being able to deduct the corporation's reinvested profits as part of their cost. The tax penalty is partly, but not fully, offset by the preferential individual income tax rates that apply to qualified dividends and long-term capital gains and by the deferral of tax on capital gains until they are realized.

The corporate income tax also distorts corporate payout decisions because shareholders are taxed on dividends as they are received. Capital gains, however, are taxable only when they are realized, and they escape tax if the gains are still unrealized when the shareholder dies or donates the assets to charity.³ As a result, the tax system penalizes corporations that pay dividends while issuing new equity, relative to corporations that reinvest corporate earnings.

PROBLEMS IN A GLOBAL ECONOMY—DEFINING SOURCE AND RESIDENCE

The current corporate income tax has much more serious shortcomings in the context of the global economy. Neither a worldwide system nor a territorial system can achieve full neutrality on all the important margins of choice. A worldwide system would tax on a current basis all profits of US multinationals and their foreign affiliates, with a credit for foreign income taxes paid, and would generally equalize the (combined domestic and foreign) tax burdens on domestic and foreign investments of US-resident multinationals. However, it would place US resident corporations at a disadvantage compared with foreign-resident corporations that do not pay their home governments any residual tax on profits they report in low-tax foreign countries. A territorial tax system would tax US-resident corporations only on their US-source profits and would in general treat US- and foreign-based corporations equally (depending on the relative scope of anti-avoidance rules such as subpart F in the United States). It would, however, encourage US multinationals to invest overseas in low-tax countries instead of in the United States or other high-tax countries. Full neutrality on both margins—between investments in different locations and between companies based in different countries—cannot be achieved because the United States cannot tax profits of foreign-based multinationals earned outside the country.

The United States has attempted to address the trade-off between these conflicting objectives by adopting a hybrid tax system that is neither purely worldwide nor purely territorial. By allowing US-based multinationals to defer tax on most profits until these profits are repatriated, the United States taxes foreign-source income, but at a much lower effective rate than domestic-source income.

³ Under current law, unrealized gains are not taxed at death. Moreover, the heirs benefit from basis step-up, which allows them to claim a cost basis equal to the assets' market value on the date of the original holder's death, so that they are not taxed on the gain that accrued during the original holder's lifetime. Similarly, if an asset with unrealized gains is donated to charity, the donor may claim a charitable deduction equal to the value of the asset without paying any tax on the gain.

The US method of imposing a hybrid tax creates an additional problem, however, because it encourages US multinationals to retain foreign profits overseas instead of repatriating them to the US parent company. The combination of deferral, the ability to shift the source of reported profits to low-tax countries, and the requirement that tax be paid when profits are repatriated to the United States has caused US-multinational corporations to accumulate substantial unrepatriated profits. American Fortune 500 companies report holding \$2.4 trillion of unrepatriated profits permanently invested abroad (Citizens for Tax Justice 2016). This buildup of unrepatriated profits has been one important motivation behind recent calls to reform the US corporate tax system. Although the buildup of unrepatriated profits has not necessarily caused US-based multinationals to significantly reduce investments in the United States, it has likely increased their financing costs.

In designing international tax rules, choosing between competing neutrality concepts would be difficult even in a system in which the concepts of source of income and corporate residence could be meaningfully defined. The choice is vastly more difficult in the real world because the concepts of source and residence have little economic meaning and therefore can be easily manipulated by companies to avoid taxes. This makes it increasingly difficult for countries to administer a corporate income based either on the source of income or on the residence of corporations.

The *source* of profits was more meaningful when most business wealth was in fixed assets, such as plant and equipment, whose location was easily defined. Today, however, a substantial share of business wealth is in intangible assets that are not location specific, such as patents, goodwill, business reputation, and corporate governance. Multinationals can and often do shift ownership of intangibles to affiliates in low-tax jurisdictions—where little actual production, employment, or sales occur—thereby lowering their tax liability on a substantial share of their global profits. In theory, the United States could tax the value of intangible assets when their ownership is initially transferred to a foreign affiliate, but it is often very difficult to value intangible assets at the time of transfer, when their contribution to future profitability is not yet known.

The difficulty of defining source has enabled multinationals based in the United States and elsewhere to reduce their corporate tax liability by transferring ownership of their intangibles and sourcing the income they generate to their affiliates in low-tax jurisdictions. Of course, US multinationals still must pay US tax on these profits when they are repatriated to the parent company. However, companies can avoid this repatriation tax on future profits (and, in some cases, existing profits) and can escape the subpart F rules by establishing foreign residence. As discussed above, a US corporation's residence is based on its place of incorporation, which need not correspond to the location of corporate economic activity, such as assets, employment, sales, or their shareholders' residence.

For example, a US company can become a subsidiary of a foreign-resident corporation, a transaction called an inversion. US tax laws no longer recognize “naked” inversions in which a US multinational simply sets up a subsidiary in a tax haven and then makes it the parent company. But the tax law still allows a US company to become a US affiliate of a foreign-resident company if the US company merges with a foreign multinational whose shareholders end up owning at least 20 percent of the new combined company’s shares, or if there is substantial real economic activity in the new parent company’s country.

The US Department of the Treasury (2016b) recently issued new regulations to discourage inversions and deter some forms of income shifting. But even if inversions could be prevented, the US tax system could still induce a decline in the share of economic activity accounted for by US-resident multinational corporations through other channels, including mergers of US firms with larger foreign firms, foreign buyouts of either smaller US-resident companies or divisions of larger US-resident companies, the formation of startup companies with an initial foreign residence, and shifts in the shares of worldwide activity between existing US-resident and foreign-resident multinationals.

LIMITATIONS OF COMMONLY PROPOSED REFORMS

The widespread recognition of these problems, particularly the high US corporate tax rate and the buildup of unrepatriated earnings, has prompted calls for corporate tax reform. Leading proposals include reducing the corporate tax rate and enacting a territorial tax system to make the US corporate income tax more closely resemble those of other countries. At the same time, budgetary concerns and worries about growing income inequality have led policymakers to seek reforms that maintain current revenues from taxing business profits. Such reforms would eliminate the repatriation tax while adopting new provisions to limit income shifting by US multinationals.

Traditional 1986-Style Reform—Reduced Rate and Broader Base

Many recent reform plans would pay for a reduced corporate tax rate by scaling back business tax preferences, following the path of the Tax Reform Act of 1986 (Bipartisan Policy Center 2010; Committee on Ways and Means 2014; National Commission on Fiscal Responsibility and Reform 2010; US Department of the Treasury 2016a). Such reforms can increase economic efficiency if they make taxes more uniform across different investments and thereby encourage businesses to choose investments based on economic instead of tax considerations.

Nevertheless, the benefits of such reforms are likely to be limited. There are not enough business preferences to offset the long-run revenue loss of reducing the corporate rate to 25 or 28 percent, as leading political figures propose. Also, the common approach of lowering statutory

tax rates and offsetting the revenue loss by eliminating accelerated depreciation for tangible investments provides windfall gains to income from existing investments, while raising taxes on new investments. And that approach does not necessarily create a more level playing field, because the costs of most intangible investments would continue to be immediately deductible—the ultimate form of accelerated depreciation.

International Reforms—Replacing the Repatriation Tax with a Minimum Tax on Foreign-Source Income

There is a developing consensus in both parties on the conceptual basis, but not the details, of international tax reform. Proposals by former Chairman Dave Camp (Committee on Ways and Means 2014), President Barack Obama (US Department of the Treasury 2016a), former Senate Finance Chairman Max Baucus (2013), and Senators Rob Portman and Chuck Schumer (2015) all include three elements: (1) elimination of the tax on repatriated dividends, (2) imposition of a low-rate tax, without deferral, on foreign profits attributable to intangibles, and (3) imposition of a low-rate transition tax, collected over a number of years, on overseas profits accrued before the date of enactment. A low-rate tax without deferral would be a more efficient way to lower the tax burden on foreign-source income than the current practice of imposing the full-rate tax with deferral, because the new approach would not encourage the accumulation of unrepatriated profits.

These reforms, however, would still rely on ill-defined concepts of source of income and residence of corporations. Therefore, unless other provisions lower the corporate tax rate, the reforms would not reduce tax incentives to shift income overseas or to engage in inversions.

In this paper, we consider a more far-reaching reform.

BASIC BUILDING BLOCKS OF PROPOSAL

We propose a reduction in the corporate income tax rate to 15 percent, which would greatly alleviate problems posed by the attempts to define and tax source and residence. In isolation, however, the rate reduction would also significantly reduce tax burdens on high-income individuals, who own a substantial fraction of corporate shares.

To ensure that corporate income enjoyed by American shareholders would continue to bear its fair share of the tax burden, we propose to tax American shareholders' capital gains and dividends at ordinary income tax rates, with a credit for their share of the corporate income taxes paid at the business level. Because the shareholder tax would apply regardless of where the corporation was incorporated or where it invested or booked its profits, it would not reintroduce the problems of defining corporate source and residence. Tax avoidance would be significantly reduced because it is more costly for American individuals to emigrate and renounce their US citizenship than it is for corporations to change their places of incorporation or sourcing of profits.

We would also change capital gains taxation from a realization to a mark-to-market basis for publicly traded corporate stock, so that full taxation of profits could not be deferred by reinvesting the profits within the corporation. Mark-to-market taxation also prevents the severe lock-in effects that would arise from taxing capital gains at ordinary income tax rates on a realization basis and provides a more accurate measure of shareholders' economic income.

As discussed in the section on macroeconomic effects below, our proposal would also reduce the other distortions of the current tax system. The tax biases that favor dividends over retained earnings and debt over equity would be largely eliminated and the bias that favors flow-through businesses over C corporations would be reduced.

Below, we explain the details of our current proposal to replace a large portion of the US corporate tax with a mark-to-market tax on the income of American shareholders.

CHANGES IN CORPORATE INCOME TAX

We would replace the current graduated corporate tax rate structure with a 15 percent flat rate tax on corporate profits and eliminate the corporate alternative minimum tax. The corporate tax rate reduction is the key source of our proposal's economic benefits because it dramatically reduces the tax penalty for both Americans and foreigners to invest in the United States. It is simplest to begin with an analysis of foreigners' incentives.

Our proposal would reduce the disincentive for foreigners to invest in the United States by reducing the tax burden on foreigners who do so. Because foreigners face a burden from the US corporate income tax only if they invest in the United States (or in US-resident corporations operating abroad), they can avoid the tax by investing elsewhere. A key disadvantage of the current high corporate tax rate is that it discourages investment in the United States, thereby reducing the US capital stock and lowering American workers' real wages. Slashing the corporate tax rate to 15 percent would dramatically reduce these harms.

The disincentive for foreigners to invest in the United States could be completely removed by eliminating the corporate income tax, as proposed in Toder and Viard (2014). That would be the optimal policy if the United States were a small economy, with no unique attributes, that provided rents to foreign investors. In that case, the United States would not be able to raise any revenue from foreign investors by imposing a tax on them, as the investors could completely shift the tax to American workers by demanding a higher pretax return. Because the United States has unique attributes as an investment location, however, investors do not regard equity investments in the United States as perfect substitutes for investment in other countries. As a result, foreign investors in US equity cannot fully shift the tax to Americans. It is therefore in the United States' national interest to impose a low-rate tax on these foreign investors to extract some rents from them. We believe that 15 percent is a reasonable tax rate to achieve this goal.⁴

Disincentives for Americans to invest in the United States can be eliminated if Americans are taxed at the shareholder rather than at the corporate level because the shareholder tax applies regardless of where the investment occurs. The key difference between Americans and foreigners, in this context, is that the United States can tax Americans who invest abroad but cannot tax foreigners who invest abroad. Our proposal largely achieves that goal by providing American shareholders with imputation credits that negate the corporate income tax burden on their investments.

We would retain most corporate tax preferences, not because we necessarily support them, but because decisions on whether to subsidize activities such as research and development, low-income housing, and domestic energy production lie outside the scope of this proposal. We would, however, eliminate the 9 percent domestic production deduction, which is unnecessary as we are reducing the corporate tax rate far below the 31.85 percent effective rate currently provided by the domestic production deduction. Our proposed flat rate would also eliminate the relative benefit that some small corporations receive from today's graduated corporate rate structure.

⁴ We do not impose a similar tax on interest payments to foreigners. The United States likely has few unique attributes in the debt market; in many cases, foreign investors are likely to perceive debt issued by American companies as close substitutes to debt issued by foreign companies. As a result, the United States likely has little ability to collect any tax from foreign investors in US debt, as those investors would be able to shift most of the burden of any such tax to Americans.

This version of our proposal would retain the current international rules that tax US multinational corporations' worldwide income with a credit for foreign income taxes paid and allow companies to defer tax on most foreign-source profits until they are repatriated as a dividend to the US parent corporation. Although we do not view the current international rules as optimal, as discussed above, we believe their economic distortions would be so much lower at a 15 percent rate that the design of international provisions becomes of secondary importance. The rate reduction would dramatically reduce incentives for corporations to shift reported income and real investments overseas and to change their place of incorporation. Because foreign tax rates generally exceed 15 percent (except in tax havens), there would generally be no residual US tax on US corporations' profits other than profits booked in havens, greatly reducing the tax advantage for foreign corporations over US corporations.⁵ And, the incentive for either US or foreign corporations to invest or book profits abroad would be much lower at a 15 percent corporate tax rate than at a 35 percent rate. At the same time, the 15 percent corporate income tax would ensure that some revenue continued to be collected from foreigners making equity investments in the United States. Nevertheless, changes to the international rules should still be pursued, outside of our proposal.

CHANGES IN SHAREHOLDER TAXATION

To ensure that shareholders who receive corporate income continue to bear their fair share of the US tax burden, we would offset the corporate tax rate reduction by taxing dividends and capital gains at ordinary income tax rates. However, taxing capital gains at ordinary income tax rates under a realization-based system would create strong lock-in effects, penalizing asset sales. Moreover, with a much lower corporate tax rate, a realization-based system would allow corporate profits to be sheltered from tax if the profits were reinvested and shareholders delayed realizing the resulting capital gains. To address both problems, we propose to move to mark-to-market taxation.

We therefore would impose a mark-to-market tax at ordinary income tax rates on income that American shareholders receive from investments in publicly traded corporations.⁶ The mark-to-market method would also be applied in computing the 3.8 percent investment income surtax and for other tax purposes.

⁵ The lower US corporate tax rate could effectively result in a territorial system for U.S. multinationals that can generate enough foreign tax credits from repatriated income of their affiliates in higher-tax countries to shield tax liability on repatriated income from their affiliates in low-tax countries. Congress could impose limits on such "cross-crediting," but such limits have not been effective in the past, as discussed by McClure and Bouma (1989, 1382). In any event, even if companies could do this, their shareholders would still face mark-to-market taxation at ordinary income rates on the capital gains resulting from the accrued foreign profits.

⁶ We define American shareholders as individuals subject to US tax on their worldwide income. Under current law, those individuals include all US citizens and green card holders, as well as other individuals present in the United States for specified periods of time under specified circumstances. Although some aspects of the current definition are controversial (notably, the United States is one of the few countries that taxes nonresident citizens on the same basis as residents), any changes to the definition lie outside the scope of this proposal.

The mark-to-market tax would apply to income from American shareholders' holdings of both US-resident and foreign-resident corporations. Taxable income from these holdings would be the sum of dividends and net accrued capital gains, where gains are defined as the change in the market value of shares during each year. Equivalently, taxable income would equal the value of end-of-year holdings plus sales made during the year plus dividends received during the year minus the value of the beginning-of-year holdings minus purchases made during the year.

Mark-to-market taxation is not completely unprecedented in the US tax system. Several Internal Revenue Code provisions allow or require mark-to-market taxation in specialized contexts. Section 475 requires securities dealers to pay tax on their holdings on a mark-to-market basis and allows commodities dealers and securities and commodities traders to do so. Section 877A imposes a one-time mark-to-market tax on some Americans who renounce their citizenship. Section 1256 requires mark-to-market taxation of commodity futures contracts. Section 1296 allows holders of marketable stock in a passive foreign investment company to choose mark-to-market taxation in lieu of taxation of their prorated share of the company's reinvested earnings. Also, as discussed below, mark-to-market taxation of financial derivatives has been proposed by President Obama, former Ways and Means committee chairman Dave Camp (R-Michigan), and Senator Ron Wyden (D-Oregon).

A partnership or other flow-through entity that holds corporate stock would use the mark-to-market method to compute its income from the stock. That income would then be flowed through to the entity's owners. The mark-to-market tax would not apply to foreign shareholders because they are generally not subject to individual income tax on their capital gains from corporate stock.⁷

Special rules, described below, would smooth gains and losses to ease problems associated with volatile share prices. We would allow any accrued losses (that remain after smoothing) to be deducted against other income and to be carried forward and back to other years in the same manner as business net operating losses.

Taxable American shareholders would be allowed to claim an imputation credit for corporate taxes paid. The credit would be set equal to 17.5 percent of cash dividends and stock dividends that shareholders receive and would be included in shareholders' taxable income. So, if the corporation declared a \$100 cash or stock dividend, the taxpayer would include \$117.50 in taxable income and would claim a \$17.50 credit. The \$17.50 credit would be 14.89 percent of the \$117.50 before-corporate-tax dividend, slightly below the 15 percent corporate rate.

Corporations would accrue imputation credits when they pay US corporate tax and use them up when they pay either cash or stock dividends to their shareholders. Allowing imputation credits for both cash and stock dividends would allow corporations to enable shareholders to

⁷ Withholding taxes generally apply to dividends paid to foreign shareholders by US companies, although tax treaties often reduce these taxes. The proposal would not modify dividend withholding taxes.

claim credit for corporate taxes without having to distribute cash dividends. The credits would offset personal income tax liability from other sources of income. The credits would not be refundable (available in excess of current income taxes paid), but shareholders would be allowed to carry them forward to offset future income taxes.

Dividends that corporations pay to nonprofit institutions, qualified retirement plans, and foreign investors would use up accumulated imputation credits, but those shareholders would not be allowed to claim credits. Only taxable American shareholders would be able to claim the credits.⁸ Rules would prevent corporations from “streaming” credits to taxable investors alone. Also, a minimum holding period requirement would prevent American individuals from buying shares shortly before a dividend date, claiming the credit, and selling the shares shortly thereafter. As a result, shareholders would receive credit only to the extent that US corporations pay US corporate taxes attributable to the shares of cash and stock dividends payable to them. Under the current version of our proposal, American shareholders would not receive credit for corporate taxes paid by foreign-resident companies. There is a case for allowing such credits, but doing so would pose practical difficulties.⁹

Our method of relieving shareholders of the burden of the double tax on corporate income is similar to the imputation credit systems used by Australia and New Zealand. Both countries allow shareholders to claim credits for “franked” dividends from profits on which domestic corporations have paid domestic corporate income tax. The main differences between their provisions and our proposal are that we apply a much lower corporate tax rate to undistributed corporate profits and that we tax shareholder gains on a mark-to-market basis. (Australia taxes realized capital gains, with an adjustment for inflation, and New Zealand does not tax realized gains from sales of corporate shares.) As a result, our proposal imposes a much lower burden on income from domestic corporate investments, while making up the revenue with higher taxation of the domestic shareholders’ worldwide income.

As further discussed below, mark-to-market taxation would also be applied to gains and losses on other publicly traded financial assets and to nonpublicly traded derivative contracts on publicly traded assets.

In developing our proposal, we considered and rejected an alternative that would have taxed corporations instead of shareholders on the increase in their shares’ value. We rejected this approach because the United States would not be able to apply such a tax to foreign-resident corporations, forcing the tax to be based on corporate residence, with all of the difficulties discussed above, rather than shareholder residence. In contrast, taxing accrued gains at the shareholder level makes it possible to impose a comprehensive tax on American shareholders,

⁸ Corporate shareholders that received imputation credits could treat them as part of their corporate tax liability, which they could then pass through to their shareholders.

⁹ One possibility to consider would be the allowance of such credits to foreign shareholders on a reciprocal basis under tax treaties.

without regard to where the corporations they invest in are chartered or where they report profits.

Similarly, we rejected an alternative that would allocate corporate profits to U.S. shareholders and subject them to individual income tax in the same way that income of flow-through businesses is currently taxed. Tax specialists have traditionally viewed the flow-through approach as impractical for publicly traded corporations because it would be difficult to allocate corporate profits among shareholders when shares change hands frequently. Even if the flow-through approach is administratively practical, it has a more serious limitation. Because the IRS could not require foreign corporations to report their worldwide income, it would not be possible to tax US shareholders on their shares of that income. U.S.-resident corporations would therefore still have an incentive to invert so that their shareholders could avoid tax.

We also considered and rejected an alternative that would tax capital gains on a realization basis while applying a deferral charge to approximately offset the tax savings from deferring tax until realization (Grubert and Altshuler, forthcoming). The deferral-charge approach would be an improvement over the current system and would have some advantages over mark-to-market taxation. On balance, however, we prefer mark-to-market taxation for the reasons set forth in appendix 1. The deferral-charge method would cause taxpayers' capital gains tax liability, as a fraction of their capital gains, to exceed the statutory capital gains tax rate, potentially arousing the same political opposition as mark-to-market taxation. Also, the deferral-charge method does not achieve full neutrality with respect to the timing of asset sales as mark-to-market taxation does—it requires the selection of an interest rate to compute the deferral charge, and it cannot easily handle movements between tax brackets during the holding period.

TAXATION OF OWNERS OF CLOSELY HELD BUSINESSES

We would apply mark-to-market taxation only to publicly traded assets and their nonpublicly traded derivatives. Businesses whose shares are not publicly traded, which we refer to as closely held businesses throughout this paper, would be taxed in the same manner that flow-through entities are taxed under current law. As noted above, most closely held businesses are already taxed as flow-through entities; we would extend flow-through treatment to closely held businesses that are currently organized as C corporations and pay corporate income tax. We discuss below the circumstances in which those companies would be subject to the rules now applied to partnerships and the circumstances in which they would be subject to the rules now applied to subchapter S corporations.

Owners of closely held companies would continue to report and pay ordinary income tax on their shares of the companies' income. For these owners, capital gains on the sale of shares of the business would continue to be taxed when realized, at current-law preferential rates and

subject to current-law loss limitations. We believe that it would be impractical to apply mark-to-market taxation when market valuations are not easily obtained and shares are illiquid. Because we would still tax capital gains on these assets on a realization basis, we would retain preferential rates to limit the extent to which investors would be locked in to investments with accrued gains and we would retain loss limitations to reduce investors' ability to game the system by realizing losses while deferring realization of gains.

We would, however, make one major modification to the taxation of gains of owners of closely held businesses and all other nonpublicly traded assets. For these gains, we propose taxing unrealized gains at death, with a spousal exemption, so that all gains would eventually be taxable during the lifetime of the investor or his or her spouse. (Gains would also be taxed when these assets were donated to charity.) We would tax these gains at preferential rates so taxpayers would not have an artificial incentive to sell assets just before death to gain the benefits of reduced rates. Taxing unrealized gains at death would reduce the advantage that owners of closely held companies would enjoy under our proposal, relative to owners of shares in publicly traded companies, from not paying tax on unrealized gains as they accrue each year.

Foreign owners of closely held business with permanent establishments in the United States would continue to file US tax returns and pay tax at ordinary income rates on their shares of the profits. We believe that many foreign owners of closely held businesses in the United States are actively involved in the businesses and should therefore be treated as if they were earning income from productive activities in the United States. In theory, we might want to apply a 15 percent tax rate to the income of passive foreign investors who merely supply equity capital to these enterprises, such as limited partners of private equity funds. Such an approach would treat these investors equally with foreign holders of shares of publicly traded companies with US-source income, who would bear the burden of the 15 percent corporate income tax. In practice, we do not think it worthwhile to write special rules to distinguish active from passive investors, which might be complex and might have only limited application. Foreign owners of closely held businesses would generally remain exempt on capital gains from sales of their shares, as they are under current law. This approach would treat foreign owners' capital gains the same as foreign investors' capital gains from the sale of their shares in publicly traded companies.

EFFECTIVE DATE

The effective date of our proposal would be January 1 of the second full year after it was enacted. Purely for illustrative purposes, we assume throughout this paper that enactment occurs during 2016 and that the effective date is January 1, 2018.

TREATMENT OF BUSINESS TAX PREFERENCES

The reduction in the corporate income tax rate and the provision of imputation credits pose challenges for the treatment of business tax preferences.

Reduction in Generosity

The corporate income tax rate reduction and the provision of imputation credits would reduce the generosity of the tax preferences provided to publicly traded businesses, but not those provided to closely held businesses. The lower corporate tax rate would reduce the tax savings from deductions and might prevent some corporations from receiving current tax savings from all of their credits. The imputation credit would also diminish the net tax savings the corporation and its shareholders jointly obtain from tax preferences.

The corporate rate reduction would dramatically reduce the value of deductions. When a corporation deducts \$100 today, it generally receives \$35 of tax savings because the main corporate tax rate is 35 percent. When a flow-through business deducts \$100 today, the tax savings received by its owners are proportional to their marginal tax rates, which may be around 40 percent. Under our proposal, the tax savings received by owners of flow-through businesses would be unchanged. But the corporation's tax saving would be reduced by more than half, to \$15, because the corporate tax rate would be reduced to 15 percent.

The corporate tax rate reduction would not directly reduce the tax savings from claiming a credit, which depends on the credit rate rather than marginal tax rates. For example, the 20 percent research tax credit offers \$20 of tax savings for each \$100 of additional research spending, regardless of the marginal tax rate of the business or its owners. Nevertheless, the rate reduction might prevent some corporations—those with large tax credits relative to taxable income—from receiving full current tax savings from their credits because they might no longer have sufficient tax liability against which to apply their credits. A corporation can, to a rough approximation, use general business tax credits to offset three-quarters of its before-credit tax liability.¹⁰ The corporation can carry back excess credits to the preceding year, using them to offset the preceding year's tax liabilities and obtaining current tax savings as refunds of tax payments made in the preceding year. However, if the corporation has too many credits to carry back to the preceding year, it must carry the remaining credits forward, using them to offset tax

¹⁰ Internal Revenue Code section 38(c)(1) effectively allows general business credits to offset all tax liability on the first \$25,000 of taxable income plus three-quarters of tax liability on taxable income in excess of \$25,000 under the regular income tax. Many general business credits are also disallowed under the alternative minimum tax. Section 38 applies more generous rules to selected general business credits.

liabilities in future years (for up to 20 years). Because interest is not paid to account for the delay, the future tax savings are worth less than the same amount of current tax savings.¹¹

Another reduction in generosity arises from our proposal's imputation tax credits. Under the proposal, a portion of the corporation's tax liability would give rise to imputation credits that taxable American shareholders could claim against their individual taxes. When deductions or credits reduce the corporation's tax liability, they might reduce the imputation tax credits that could be claimed by taxable American shareholders, thereby increasing their individual income tax liability. The shareholder tax increase would offset part of the corporate tax savings from the deductions and credits.

Potential Problems from Reduction in Generosity

The reduction in generosity poses two potential problems. First, if the tax preferences promote activities whose social returns exceed their private returns, reducing their generosity for publicly traded businesses might cause an inappropriate reduction in those activities. Second, curtailing the preference only for publicly traded businesses might distort the allocation of the tax-preferred activities among businesses. More generous treatment of the activities when performed by closely held businesses might cause an artificial tax-motivated shift of such activities from publicly traded businesses to closely held businesses. Even if a specific preference is misguided, so that eliminating or curtailing it for all businesses would be beneficial, curtailing it only for some businesses while maintaining it for others might be harmful because of this potential for inefficient reallocation among businesses.

Data tabulated in Joint Committee on Taxation (2015a, 28–42) show that, for many business tax preferences, most of the tax savings are claimed by C corporations under the corporate income tax, with little claimed by owners of flow-through businesses under the individual income tax. However, flow-through owners receive most of the tax savings offered by selected tax preferences, including some preferences for agriculture and rental housing and some preferences directed at small businesses (including cash accounting, the section 179 provision allowing immediate deduction of certain investment costs, and the small-business health insurance credit).

Addressing the Problems

We believe that these potential problems are insignificant relative to the economic advantages of our proposal. Nevertheless, to mitigate the potential problems, we propose to relax the limitation on general business credits for publicly traded businesses, but not for owners of closely held businesses. Publicly traded businesses would be allowed to use general business

¹¹ Although current law usually allows general business credits to be carried back only one year (the treatment assumed in the text), it allows certain businesses to carry back certain general business credits for five years.

credits to offset all current tax liability rather than three-quarters of it and to carry back general business credits for five years rather than one.

Additional measures could be adopted. For example, publicly traded businesses could be allowed to claim selected credits against their employer payroll tax liability, a mechanism already used to a limited extent.¹² A more dramatic step would be to convert selected tax credits into direct spending programs, an option discussed by Dodge (1995, 305). For example, matching grants could be provided for research expenditures or investments in low-income housing. Direct spending would be particularly easy for the low-income housing tax credit, which already resembles a spending program because it features a fixed amount of credits that are allocated by state housing agencies. Advocates for these programs might be reluctant to have them subjected to the scrutiny of the annual appropriations process, but such increased oversight would likely be good policy. Also, selected preferences could be disregarded in computing the limitation on imputation credits, so that a corporation's taxable American shareholders would be allowed to claim credit, not only for the income taxes the corporation actually paid, but also for the income taxes it would have paid had it not used the selected tax preferences. The corporation could then reap tax savings from the selected preferences without increasing the individual income taxes paid by its taxable American shareholders.

DEFINITION OF PUBLICLY TRADED BUSINESS

Under our proposal, the determination of whether a business' equity shares are publicly traded has tax implications for both the business entity and the owners. If the shares are publicly traded, the owners are subject to the mark-to-market regime at ordinary income rates, the business entity is subject to the 15 percent corporate income tax, and the owners can claim imputation credits. If the shares are not publicly traded, then the business entity is not subject to the corporate income tax and its owners face flow-through taxation at ordinary income rates, with capital gains on sales of their ownership interests taxed at preferential rates.

The Internal Revenue Code includes several provisions that set forth criteria to determine whether assets are publicly traded in various contexts. The provision that seems most suitable for purposes of our proposal is in Internal Revenue Code section 1296(a), which allows holders of "marketable" stock in passive foreign investment corporations to elect mark-to-market taxation. Section 1296(e) and Treasury regulation 1.1296-2 define marketable stock as stock traded on a national securities exchange or national market system registered with the Securities and Exchange Commission or on any exchange or other market that the Treasury determines has

¹² Code section 3111(e) allows employers who hire qualified veterans to claim a credit against employer payroll taxes. The PATH Act enacted sections 41(h) and 3111(f), which allow certain small businesses to claim up to \$25,000 per year of research tax credits against employer payroll taxes for up to five years.

adequate rules. Because this definition is currently employed to identify stocks suitable for mark-to-market taxation, it is well suited to play a similar role under our proposal.

Because some corporations issue more than one class of stock, a corporation may have both tradable and nontradable stock. We propose that a corporation be subject to the corporate income tax and its owners be subject to mark-to-market taxation if any significant portion of its stock is tradable. . Mark-to-market taxation is better tax policy, so long as reasonably accurate market values can be determined for the stock. Because prices can be observed for the tradable classes of stock, it should be possible to use those prices to impute reasonable valuations for the nontradable classes, based on the classes' respective claims on the corporation.

Publicly Traded Flow-Through Businesses

Under current law, publicly traded businesses are generally subject to corporate income tax even if they are organized as partnerships. However, flow-through treatment is allowed for publicly traded partnerships for which, during each post-1987 year in which they have been publicly traded, at least 90 percent of their gross income consisted of “qualifying income.” Qualifying income includes interest, dividends, capital gains, gains from sales of other assets, and certain real property rents, but also encompasses income and gains derived from the exploration, development, mining or production, processing, refining, transportation, or marketing of any mineral or natural resource, industrial-source carbon dioxide, or the transportation or storage of certain fuels. Current law also confers flow-through status on regulated investment companies, also known as mutual funds, and on real estate investment trusts and real estate mortgage investment conduits.

We propose to maintain flow-through status for publicly traded entities that are essentially investment vehicles, including regulated investment companies, real estate mortgage investment conduits, and partnerships that currently qualify for flow-through status because they have financial income. However, the owners of these publicly traded entities would be taxed on a mark-to-market basis on their shares in these entities, in accordance with the rules set forth below for other publicly traded assets. We propose to extend the corporate income tax to real estate investment trusts and to entities that currently qualify for flow-through treatment based on oil and natural resource income and other active business income.

MOVEMENTS BETWEEN CLOSELY HELD AND PUBLICLY TRADED STATUS

Under current law, closely held corporations can be organized as taxable corporations under subchapter C of the Internal Revenue Code or can select flow-through status by organizing as partnerships, limited liability companies, or subchapter S corporations. In general, publicly traded businesses must be organized as taxable corporations under subchapter C, with the exceptions

discussed above. Under our proposal, whether a business is taxed as a corporation or as a flow-through business would no longer be elective, conditional on whether the business is closely held or publicly traded. With the few exceptions discussed above, all publicly traded businesses would be taxable as corporations and subject to the mark-to-market regime for shareholders, and all closely held corporations would be taxable as flow-through businesses.

Special rules would be needed to deal with transitions in both directions between closely held and publicly traded status. We discuss these rules below.

Redefining Existing Entities when the Reform Is Implemented

Upon implementation of the reform, some closely held firms currently organized as C corporations would become flow-through entities. Because S corporations are simpler in structure, we propose the S form as a default rule where it is feasible. Accordingly, existing closely held C corporations that have no more than two classes of shares and no special allocations would become S corporations, unless they selected partnership status instead. We would modify the S corporation rules to allow these entities to issue two classes of stock. Companies with special allocations or more than two classes of stock would become partnerships.

Existing closely held companies that have chosen flow-through status would maintain their current status as either partnerships or S corporations. We would allow continuing S corporations to issue two classes of stock, just as would be allowed for the ones that transitioned from C corporation status.

Transition of Companies from Closely Held to Publicly Traded

Typically, new businesses start off as closely held entities and go public if and when they achieve a sufficient scale that wider access to capital markets becomes desirable. Most highly successful entrepreneurial ventures follow this pattern.

Under current law, owners of firms must pay capital gains tax when they realize gains upon going public; these gains might never have been taxed if the firm had continued to be closely held. The benefits to the original owners of gaining access to a wider pool of capital and the ability to take some money out of the company for either portfolio diversification or personal consumption are often large enough, however, to outweigh the tax cost of earlier realization of capital gains.

We propose that owners of a company that is taken public be taxed (in a manner to be discussed below) on their accrued gains and that they then take a cost basis equal to the value of the newly publicly traded company. The owners would then pay the mark-to-market tax at ordinary income rates on subsequent gains. Although future gains would be subject to mark-to-

market taxation, this increased tax would be mitigated by the reduction in the corporate tax rate from 35 to 15 percent and the imputation credit.

The taxation of the owners' previously accrued gains would be accorded special treatment, however, to offset a potential increase in the tax penalties on going public that could otherwise result from our proposal. Under current law, the original owners of a company that goes public are taxed only on the gains they realize. Under the proposal, however, the owners would also be taxed on the unrealized gains on any shares they retain. For example, suppose an entrepreneur and a group of venture capitalists invest \$100,000 in a new enterprise. These original owners later take the firm public, retaining 60 percent of their shares and selling the other 40 percent. When the shares are traded, the total market value of the firm is \$10 million. Under current law, the owners realize a capital gain on the shares they sell of \$3,960,000 (\$4 million less their \$40,000 basis in the shares sold) and, if they face a 23.8 percent capital gains tax rate, pay tax of \$942,480. The remaining \$5,940,000 (\$6 million less the remaining basis of \$60,000) of gain would be taxed only when realized and would escape tax if held until death. Under the proposal, however, all \$9,900,000 of gain would be taxed when the company goes public. We want to select a tax rate to apply to these gains that does not increase the penalty on going public.

As an initial matter, we believe that it is necessary to apply identical tax treatment to all of the owners' gains, both the \$3,960,000 that is realized and the \$5,940,000 that is not realized. Granting tax relief to only the unrealized gains would simply induce the owners to delay realization until the day after the company went public.

We aim to set a tax rate on the gains that would result in a tax burden equivalent in present value to the tax the owners would pay if the company had remained private, in which case the gains would be taxed at preferential capital gains rates upon realization or (under the proposal) at death. To offset the acceleration of tax, the treatment must be more generous than the current-law treatment of capital gains. The tax rate that would achieve this equivalence depends on the assumed future patterns of realizations by the taxpayers, the percentage of gains that would be held until death, the taxpayer's age and life expectancy, and the assumed rate of return of the stock.

A Congressional Budget Office report (2014) cites data showing that 3.6 percent of capital gains were short-term gains realized within one year, 49.6 percent were long-term gains with an average holding period of nine years, and 46.9 percent were held until death. Disregarding the portion sold within the year, 51.4 percent of gains would be realized with an average holding period of nine years and 48.6 percent would be held until death.

If we further assume that the expected appreciation rate is 6 percent (slightly above the long-term average historical growth rate of stock prices), the taxpayer's expected future life span is 40 years, and the taxpayer faces a 23.8 percent marginal rate on realized gains, including gains

transferred at death, then the weighted average effective tax rate on the future gains (accounting for the deferral benefit) is 15.4 percent, which is approximately 65 percent of the top statutory capital gains tax rate or 35 percent of the top tax rate on ordinary income (including the net-investment-income tax). However, some firms that go public may still be in their phase of rapid growth. If investors expect 12 percent annual appreciation, then the weighted average effective rate is 11.8 percent, just under 50 percent of the top statutory capital gains tax rate or a little more than 25 percent of the top tax rate on ordinary income.

As rough justice, we propose taxing the gains at one-quarter of the ordinary income tax rate. We would also provide an additional benefit by allowing taxpayers to take the gains in income in equal installments over 10 years, with any tax on unrealized gain being payable by a taxpayer's estate if the taxpayer dies within that period.

In summary, we propose that when a company transitions from closely held to publicly traded, the owners would increase the basis of their shares with unrealized gains to the current market value at the time their firm goes public. They would then include 25 percent of the realized and previously accrued gains in their ordinary taxable income and in their net-investment-income-tax base over 10 years.

Transition of Companies from Publicly Traded to Closely Held

When companies “go private,” they would retain their basis in business assets and continue to claim depreciation as they did when paying the corporate income tax. Owners would retain their basis in shares, reflecting all previously taxed gains. Future gains and losses would be taxed upon realization, at the favorable capital gains rates under current law and subject to current-law loss limitations. Any unrealized gains would be taxable upon the death of the business owners. Companies would be subject to the rules for S corporations, including the proposed revision that permits two classes of stock.

TREATMENT OF TAX-EXEMPT ORGANIZATIONS AND QUALIFIED RETIREMENT PLANS

Current law exempts from tax the income of qualifying charitable organizations, such as religious organizations, universities, nonprofit hospitals, and other nonprofit institutions. It also exempts the annual investment income of qualified retirement plans. These qualified plans include defined benefit plans run by employers and self-directed defined contribution plans that are either sponsored by firms for employees (for example, 401k plans and 403b plans) or that individuals may set them up for themselves (individual retirement accounts or retirement accounts for the self-employed, such as Keogh plans and simplified employee plans).

While all these plans benefit from tax exemption of their investment income, the income they receive from investing in corporate equity is net of the federal and state corporate income taxes paid by the company that issued the equity. In contrast, their interest income from corporate bonds and other securities is wholly tax-free because corporations can deduct interest payments from their taxable income. Therefore, our proposal to reduce the corporate income tax rate from 35 to 15 percent would provide a large benefit to tax-exempt organizations and qualified retirement plans. Based on Federal Reserve Board data, and modifying computations by Rosenthal and Austin (2016), we estimate that in 2014, tax-exempt organizations and qualified retirement plans accounted for about 42 percent of equity assets issued by both US corporations and foreign corporations to US households.

Principles for Reform

We did not design this corporate tax-reform plan to either expand or scale back tax benefits for nonprofits and investors in tax-preferred retirement plans. Therefore, we seek rules under which tax-exempt organizations and qualified retirement plans would face the same overall tax burden on their investment income as under current law. We also want to narrow the disparity between the tax treatment of their income from corporate equities and from fixed-income assets, in order to reduce tax-induced distortions of portfolio choices. We favor imposing any new tax on these institutions' income at a single flat rate, avoiding the complexity of assigning income and collecting annual tax from investors in retirement plans or beneficiaries (whoever they may be) of services provided by tax-exempt institutions.

Proposal

Fortunately, maintaining approximately the same burden on tax-exempt organizations and retirement funds can be accomplished with a simple set of rules. First, tax-exempt organizations and retirement funds would not receive imputation credits so they would continue to bear the full burden of the remaining corporate-level tax on equity income—a burden equal to roughly 15 percent of their grossed-up income from corporate equity (apart from any portion of the corporation's income that may be sheltered from US tax by tax preferences or the foreign tax credit). Second, we would apply no additional tax on dividends and capital gains from tax-exempt organizations, so they would not be subject either to a separate realization-based tax or to the new mark-to-market tax.

Also, we would subject interest income to similar treatment to equity by taxing it at a 15 percent rate. Depending on the identity of the interest payer and other factors, the tax could be implemented as a final withholding tax on interest paid to tax-exempt organizations and retirement funds or it could be remitted by the entities. Rules might be needed to prevent tax-exempt organizations and retirement funds from receiving interest income through partnerships.

As a result, our proposal effectively imposes a tax rate of approximately 15 percent on both equity income and interest income for nonprofits and retirement plans. We believe this would be approximately equivalent to their tax burden under current law, which taxes their corporate equity income at a 35 percent rate through the corporate income tax and exempts their interest income. However, unlike current law, it would provide greater parity between the taxation of income from equities and fixed-income assets.

TRANSITION RULES

Phase-In of Corporate Rate Reduction and Imputation Credit

The reduction in the corporate income tax rates and the introduction of the imputation credit would be phased in over the 10-year period from 2018 through 2027. (As explained later in this paper, the increase in the individual income tax rates on capital gains and dividends will also be phased in over that time period.) The gradual phase-in would limit the windfall gains and losses on existing investments.¹³

Under current law, a 15 percent tax rate applies to the first \$15,000 of corporate taxable income, a 25 percent rate applies to the next \$25,000, a 34 percent rate applies to income between \$75,000 and \$10,000,000, and the top 35 percent rate applies to income in excess of \$10,000,000. There is a 5 percent surcharge on corporate taxable income between \$100,000 and \$335,000 and a 3 percent surcharge on income between \$15,000,000 and \$18,333,333. The surcharges remove the benefits of the lower brackets, so that any corporation with taxable income above \$18,333,333 pays 35 percent of its entire taxable income.

There would be no change in the 15 percent rate. The two surcharges would be fully repealed, starting in 2018. The 25, 34, and 35 percent rates would be reduced by 2 percentage points per year, starting in 2018, until each rate reached 15 percent. Starting in 2027, a single 15 percent rate would be in effect.

Dividends would carry an imputation credit rate of 2 percent of dividends paid to shareholders in 2018, increasing by 2 percent per year for the next four years and 1.5 percent per year for the following five years, until the credit rate reached its permanent value of 17.5 percent

Deferred Corporate Tax Assets and Liabilities

In economic terms, corporations have deferred tax assets when they pay larger taxes (as a fraction of net income) during the earlier part of an investment's life than in the later part. They

¹³ As explained in our discussion of macroeconomic effects, the rate phase-in would stimulate investment during the phase-in period.

have deferred tax liabilities when they pay larger taxes (as a fraction of net income) later in an investment's life than they pay earlier. The reduction in the corporate tax rate from 35 to 15 percent would reduce the value of those deferred corporate tax assets (DTAs) and deferred corporate tax liabilities (DTLs). According to standard economic theories, devaluing DTAs should reduce the corporation's market value and devaluing DTLs should increase its market value.

Financial accounting rules also recognize DTAs and DTLs. The concept underlying the accounting rules' definitions of DTAs and DTLs is similar to the concept underlying the corresponding economic analysis, although the rules' definitions and measurement of assets and liabilities do not always match the economic analysis (for example, accounting rules do not discount future taxes to present value). Accounting rules require firms to include in their operating income the change in the value of their DTAs and DTLs from associated changes in the corporate tax rate. Reducing the corporate tax rate from 35 to 15 percent will require firms to write down the value of their DTAs and DTLs. The accounting write-down corresponds to the devaluation identified by the economic analysis.

The accounting treatment of deferred tax assets and liabilities, as well as their economic effects, can be important. Managers and shareholders often have a strong interest in the accounting measurement of the corporation's income, and accounting measurements appear to affect the stock market's valuation of corporations.

Economic analysis and the financial accounting rules both recognize that accelerated depreciation is a large source of DTLs. With accelerated depreciation, depreciation allowances are larger relative to true depreciation earlier in an investment's life than later. As a result, taxes are a lower fraction of net income earlier in an investment's life than later, which gives rise to a deferred tax liability. On the other side, a prominent example of a DTA arises when a corporation incurs net operating losses that it cannot currently deduct and must carry forward to subsequent years.

It would be possible to adopt measures that compensate corporations for the devaluation of their DTAs and recapture their gains from the devaluation of their DTLs. Doing so would offset, wholly or in part, both the changes in real wealth and the accounting revaluations. Nevertheless, any such measures would add complexity. Also, recapturing gains from the devaluation of DTLs would be politically difficult. In May 1985, during the process that led to the Tax Reform Act of 1986, which reduced the corporate tax rate from 46 to 34 percent, the US Treasury Department outlined a proposal to recapture gains from the devaluation of DTLs associated with accelerated depreciation. The proposal drew virtually unanimous opposition, and no such measure was included in the Tax Reform Act. If the gains from the devaluation of DTLs cannot be recaptured, then it is difficult to justify compensation for losses from the devaluation of DTAs.

When Congress has raised or lowered corporate tax rates in the past, it has generally not included measures to offset changes in the value of deferred tax assets and liabilities. Although most rate changes have been small, Congress has foregone such adjustments even for large rate changes, including the 12-percentage-point 1986 tax-rate reduction discussed above.

Because our 20-percentage-point rate reduction is even larger than the reduction adopted in 1986, it is appropriate to take some steps to mitigate the devaluation of DTAs and DTLs. We believe that the best and simplest way to do that is to phase in the rate reduction over an extended 10-year period, as described above. The phase-in will reduce the magnitudes of both the real wealth changes and the accounting revaluations.

Under financial accounting rules, corporations would record one-time gains or losses in 2016, the enactment year, reflecting the change in the average tax rates they expect would apply to their DTAs and DTLs, based on their estimates of the assets and liabilities that would be realized in each future year and on the rate scheduled to apply in each year. Because many of the assets and liabilities are likely to be realized during the phase-in period, the revaluation would be significantly smaller than if the tax rate were immediately reduced to 15 percent.

Although the gradual phase-in would reduce the size of the revaluation, it would introduce some accounting complications. Greater care would be need to be taken to forecast the exact time path for the reversal of each corporation's DTAs and DTLs because a different tax rate would apply in each year of the phase-in period. The corporation would record gains or losses in each future year if it revised its estimate of the time path.

ADDRESSING TAX-BASE VOLATILITY

Contemporaneous mark-to-market taxation of capital gains on corporate equity would make aggregate taxable income quite volatile, which would have actual and perceived adverse implications. To address those concerns, we propose a smoothing, or averaging, system for accrued capital gains on corporate equity. The smoothing system would apply to the net investment income tax as well as to the individual income tax.

We first assess the extent to which our proposal would increase the volatility of taxable income in the absence of a smoothing provision. To quantify this effect, we compare the volatility of the “mark-to-market tax base,” which is a crude proxy for the sum of dividends and accrued capital gains, to the volatility of the “current tax base,” which is a crude proxy for the sum of dividends, realized capital gains on corporate equity, and corporate taxable income.

Our measure of the mark-to-market tax base consists of dividends reported on individual income tax returns (from Statistics of Income data) plus the change in the market value of equity holdings by US households, as reported by the Federal Reserve Board of Governors. The latter measure is imperfect because it includes net issuance of new equity and net purchases of equity by Americans from other holders and also includes changes in the market value of corporate equity holdings by nonprofit institutions and tax-preferred defined contribution retirement plans. Our measure of the current tax base consists of dividends plus realized capital gains reported on individual tax returns plus taxable corporate income, all from Statistics of Income data. The capital gains measure is imperfect because it includes realized capital gains on assets other than corporate equity. We do not refine the measures further, as they are sufficient to demonstrate the dramatic increase in tax-base volatility that would result from moving to mark-to-market taxation.

Figure 1 graphs the two tax bases, as percentages of the Congressional Budget Office’s (CBO’s) measure of potential GDP, for 1965 through 2012. (All subsequent references to the statistical properties of the variables refer to the variables measured as percentages of potential GDP.) Confirming the dramatic difference in volatility revealed by the graph, the standard deviation of the mark-to-market tax base is 14.5 percent¹⁴ and the standard deviation of the current tax base is 2.1 percent.¹⁵

¹⁴ The standard deviation of dividends is 0.2 percent and the standard deviation of accrued gains is 14.5 percent. The correlation between the two components is small and statistically insignificant.

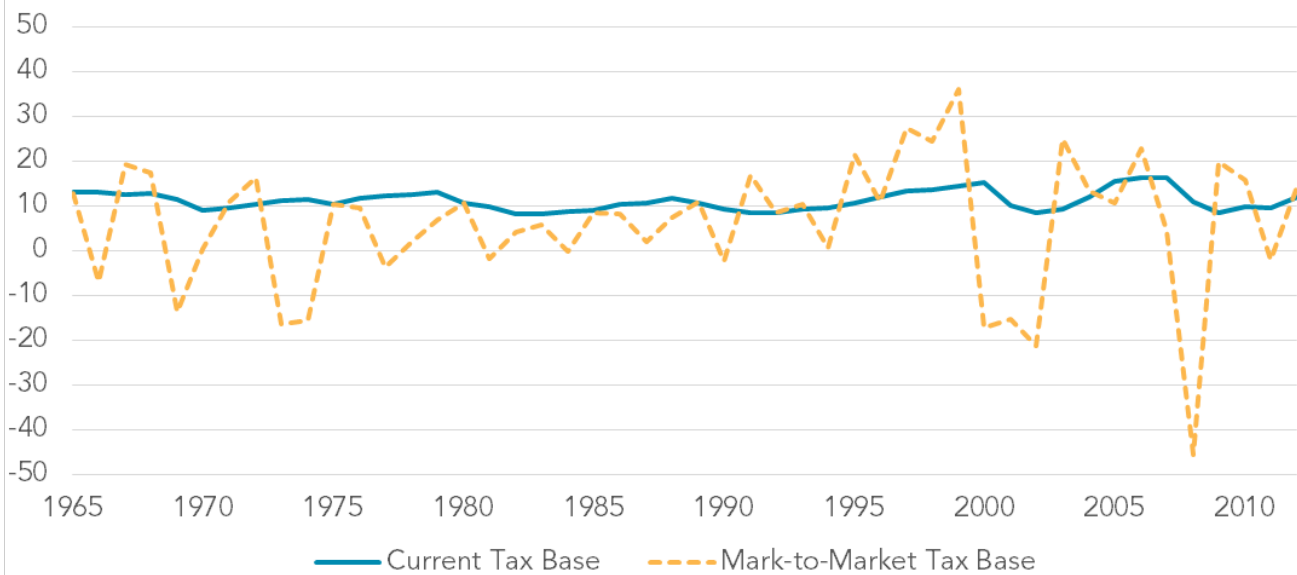
¹⁵ The standard deviation of dividends is 0.2 percent, the standard deviation of corporate taxable income is 1.4 percent, and the standard deviation of realized gains is 1.5 percent. Dividends and corporate taxable income have a .55 correlation; the other correlations between the components of the current tax base are small and statistically insignificant.

FIGURE 1

Current Tax Base and Mark-to-Market Tax Base



Percent of potential GDP



Sources: Internal Revenue Service, Statistics of Income; Federal Reserve Board of Governors, "Financial Accounts of the United States"; authors' calculations.

Challenges Posed by Volatility

First, tax revenue would be volatile. Volatility in federal revenue is not a problem. On the contrary, because revenue would rise when the economy was strong and fall when the economy was weak, the federal government's fiscal policy would better counteract the business cycle. However, because state governments face balanced-budget requirements, volatility may pose problems for those states that choose to conform to the federal tax system's use of mark-to-market taxation. These issues are further discussed elsewhere in this paper.

Second, volatility may make it difficult for taxpayers to make proper estimated tax payments throughout the year. Third, volatility may impose liquidity costs. If the taxpayer's assets appreciate 30 percent during a year, a taxpayer in the 40 percent bracket must make a tax payment greater than 9 percent (12/130) of the end-of-year market value. The taxpayer may need to sell shares, thereby incurring transaction costs, to pay the tax.

Fourth, volatility may impede public acceptance of mark-to-market taxation. Taxpayers may not perceive the income accrued when the stock market rises as "real" income, particularly if they believe the gains could be reversed in the next few years. A special case of this problem

arises when the taxpayer's assets decline in value between December 31 and the tax payment date, so that part or all of the preceding year's accrued gain disappears before tax is paid on it.

The significance of some of these concerns may be debated.¹⁶ Together, however, they suggest that smoothing the mark-to-market tax base would be desirable, particularly considering the magnitude of the increased volatility that would occur without any smoothing. Louie (1982, 873) and Thuronyi (1983, 129) proposed averaging provisions under mark-to-market taxation, although they did not specify any details.

Scope of the Smoothing System

Past practice offers limited guidance for designing the smoothing system. The Internal Revenue Code provided a general averaging provision through 1986. The current averaging provision, adopted in 1998, applies only to farming and fishing income. Both provisions have been elective. The pre-1987 averaging provision applied to a taxpayer's overall taxable income and was available only if the taxpayer had a large increase in taxable income; the unavailability of averaging when the taxpayer experienced a large *decrease* in taxable income was a widely noted shortcoming. The current averaging provision can be elected by any farmer or fisherman, without regard to income changes, and may be beneficial if farming or fishing income greatly increases or decreases. The pre-1987 averaging provision recomputed the tax on the current-year tax return, allowing a portion of the large income increase to be taxed in the bracket that the taxpayer would face if the income increase had not occurred, thereby preventing the income increase from pushing the taxpayer into a higher bracket. In contrast, the current provision for farmers and fishermen uses backward averaging: part of the farmer's or fisherman's income is removed from the current-year tax return and included in amended tax returns for the three preceding years.

The smoothing provision would apply to the sum of dividends and accrued capital gains. Although dividends generally exhibit limited volatility, we include them in the smoothing provision to maintain neutrality between distributed and undistributed corporate income. Also, smoothing would apply to the entire mark-to-market tax base, including both realized and unrealized gains and losses. A taxpayer could not change the timing of his or her tax payments by realizing a gain or a loss.

To avoid complexity, the relevant income would be smoothed forward, with part of each year's income allocated to future years' tax returns. Unlike the current averaging provision for farmers and fishermen, the smoothing system would not require any amendment of previous

¹⁶ Another potential concern is that fluctuations could cause taxpayers to move into different tax brackets in different tax years. Such tax-bracket movements would raise fairness concerns, because they would cause taxpayers to pay greater tax than other taxpayers with similar levels of income that was less volatile and they might induce taxpayers to shift taxable income into years in which they face lower tax rates. Nevertheless, it is far from clear that volatility would increase for *individual* taxpayers, despite the dramatic increase in aggregate volatility. Taxing gains each year as they accrue, rather than taxing many years of cumulative accrued gains in the year the taxpayer realizes them, might well reduce volatility.

years' tax returns. Unlike the pre-1987 smoothing provision, the averaging system would *defer* tax payments on temporarily large incomes and tax savings from temporarily large losses. Deferral would help address concerns about liquidity and about revenue volatility for state and local governments.

Smoothing would be mandatory and would apply to all holders of mark-to-market corporate equity regardless of the size of their income fluctuations. We recognize that taxpayers would prefer to immediately deduct losses while smoothing gains. But, asymmetric treatment or taxpayer electivity would create complexity and allow taxpayers to selectively time the recognition of gains and losses, a feature that mark-to-market taxation is meant to prevent.

Design of the Smoothing System

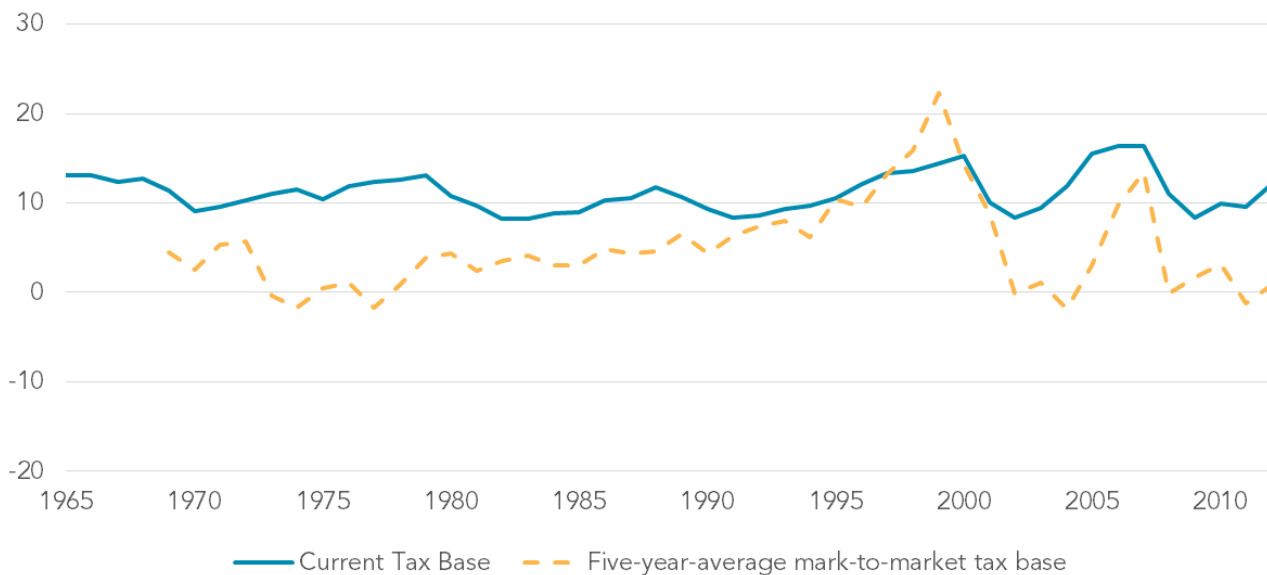
The simplest type of smoothing would average mark-to-market income over a fixed number of years. Unfortunately, the tax base would remain volatile, even if income were averaged over multiple years. Figure 2 graphs a five-year simple average of the mark-to-market tax base, computed for 1969 through 2012 (because the first four years of the period are lost in the averaging process) and the current tax base. Although five years is a somewhat long averaging period, the standard deviation of the five-year-average mark-to-market tax base is 5.1 percent, about 2.5 times the standard deviation of the current tax base.

FIGURE 2

Current Tax Base and Five-Year-Average Mark-to-Market Tax Base



Percent of potential GDP



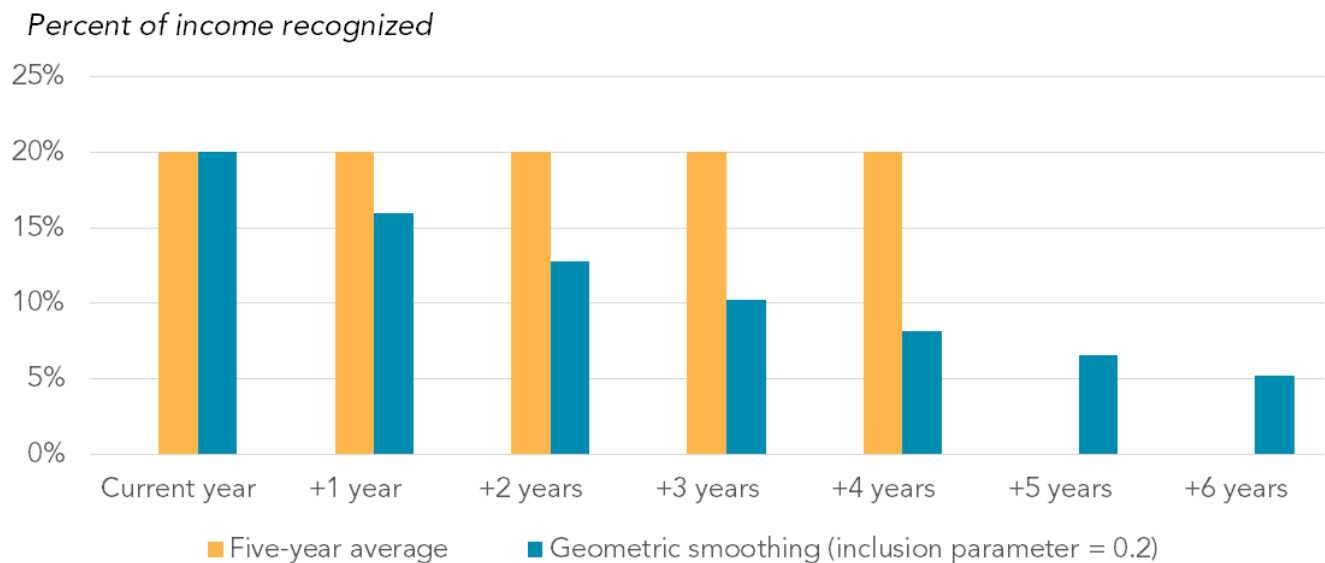
Sources: Internal Revenue Service, Statistics of Income; Federal Reserve Board of Governors, "Financial Accounts of the United States"; authors' calculations.

Of course, a longer averaging period would further diminish volatility. But, tracking accrued gains or losses for numerous past years would be burdensome. Fortunately, a different procedure better reduces volatility without requiring the tracking of gains or losses for each past year.

Under this procedure, called geometric smoothing, a fixed fraction (the “smoothing parameter”) of each year’s mark-to-market equity income would be included in current taxable income. The remainder would be placed in a pool of unrecognized income. In each year, a fraction of the pool balance equal to the smoothing parameter would also be included in taxable income.

For example, if the smoothing parameter were 0.2, then 20 percent of the current year’s mark-to-market equity income would be recognized, along with 20 percent of the pool’s balance at the end of the preceding year. The other 80 percent of the current year’s mark-to-market equity income would be placed in the pool. Note that 16 percent of the current year’s mark-to-market equity income would be recognized in the following year, because 20 percent of the pool balance, which includes 80 percent of the current year’s income, would be recognized. Similarly, 12.8 percent of the current year’s income would be recognized in the following year. The timing of gain recognition under this system is shown in figure 3, along with the corresponding timing for five-year simple averaging.

FIGURE 3
Timing of Gain Recognition



Source: Authors' calculations.

The advantage of geometric smoothing is that it would average mark-to-market income across many years without making it necessary to keep track of the year-by-year history of income. A single number (the balance in the pool) would be computed at the end of each year; the

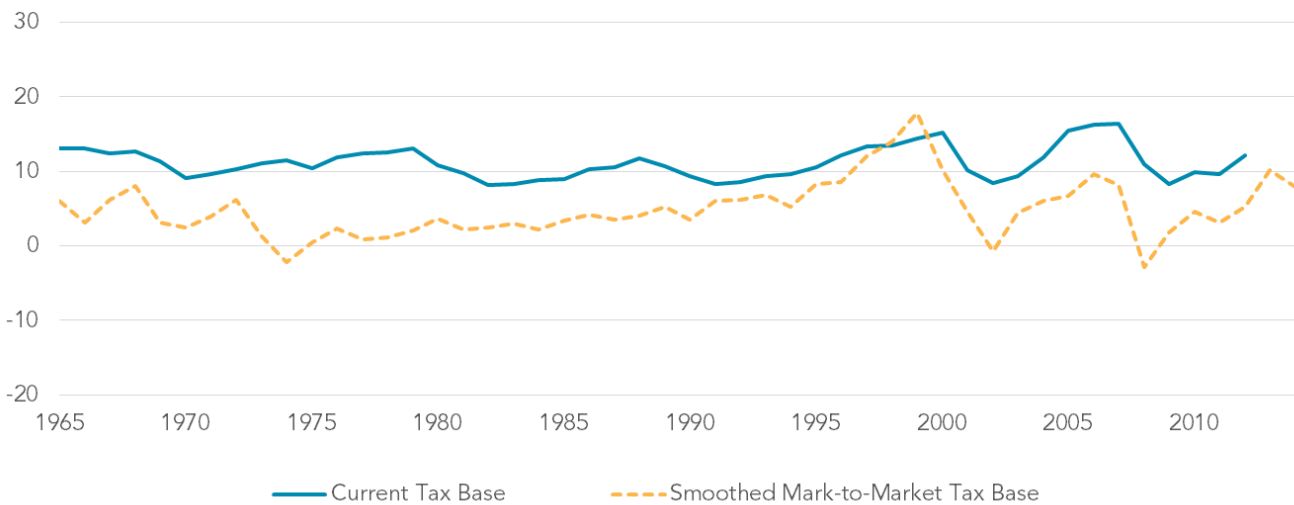
balance would be a weighted combination of mark-to-market income from all past years since the smoothing system was introduced. For example, with a smoothing parameter of 0.2, the pool at the end of a year would include 80 percent of that year's income, 64 percent of the previous year's income, 51.2 percent of the income from two years earlier, and so on.

Figure 4 depicts smoothed gains, using the 20 percent inclusion parameter.¹⁷ The standard deviation of the smoothed gains is 3.8 percent, less than double the standard deviation of the current tax base and significantly smaller than the standard deviation of the five-year average.¹⁸

FIGURE 4
Current Tax Base and Smoothed Mark-to-Market Tax Base



Percent of potential GDP



Sources: Internal Revenue Service, Statistics of Income; Federal Reserve Board of Governors, "Financial Accounts of the United States"; authors' calculations.

Note: Smoothing parameter = 0.2.

Taxation at Death

When a taxpayer died, his or her pool of unrecognized gains would be included in taxable income for the year of death.

¹⁷ The smoothed mark-to-market tax base is computed for 1965 through 2014, but standard deviations are computed using only the 1965–2012 values for comparability. The end-of-1964 pool balance is set equal to 18.7 percent of 1964 potential GDP, because the pool balance would converge to 18.7 percent of annual potential GDP if nominal annual potential GDP growth were constant at 6.9 percent and the mark-to-market tax base were constant at 5.9 percent of potential GDP, the 1965–2012 sample average values.

¹⁸ Faster recognition of gains and losses can be attained with a higher inclusion parameter, but at the cost of higher volatility. With a 0.3 parameter, for example, the standard deviation rises to 5.2 percent.

Monthly Average Price

We propose that shares of mark-to-market corporate equity held at the end of the year be valued based on the average share value in December (computed as a simple average of the closing daily prices of all trading days during the month) rather than the closing price on the last trading day in December. Thuronyi (1983) made a similar proposal.

The change would have only a slight effect on volatility. For 1964 through 2015, the standard deviation of annual nominal return on the S&P 500 was 16.3 percent for returns measured between the last trading days of each year; it was 16.0 percent for returns measured between December averages for each year. The difference would be further diminished after the geometric smoothing system was applied. Nevertheless, the use of the monthly average would prevent making the tax liability of millions of taxpayers sensitive to short-term market swings on the last trading day of December and would prevent price manipulation through strategic trading in shares of thinly traded stock.

We do not propose any specific relief for taxpayers whose shares decline between December and the tax payment date. However, the above provisions should mitigate concerns about that situation.

Smoothing of Imputation Credits

The imputation credits would be smoothed along with the dividends to which they were attached.

Estimated-Tax-Payment Relief

Under current law, taxpayers are subject to the penalty for failure to make estimated tax payments only if their estimated tax payments plus any tax withholding are less than 90 percent of their current-year tax liability *and* are also less than 100 percent (110 percent if their adjusted gross income in the preceding year exceeded \$150,000) of their tax liability for the preceding year. Under those rules, taxpayers would generally face the penalty only if they had unusually high accrued income for two consecutive years. Although it is not clear that this will be a common or serious problem, we propose a modification to the estimated-tax-payment requirement to address it. Taxpayers who failed to satisfy the safe harbor would be spared the penalty under this condition: their estimated tax payments plus withholding equaled 90 percent of the lesser of their actual current-year tax liability, computed after the 20 percent includable portion of the current year's mark-to-market corporate equity income was removed from taxable income. No estimated-tax relief would be provided for the tax liability attributable to the taxation of the 20 percent of the balance of the pool of unrealized income, because taxpayers would be aware of that liability at the beginning of the year.

OTHER PUBLICLY TRADED ASSETS AND DERIVATIVES

To avoid arbitrage, derivatives on publicly traded stock should also be marked to market, even if the derivatives are not themselves publicly traded. As Weisbach (1999, 105) noted, derivatives should be marked to market if they are close substitutes for other assets that are marked to market.

The underlying logic of our proposal does not require that any other assets be taxed on a mark-to-market basis. Nevertheless, we propose that gains on other publicly traded assets and derivatives on such assets be taxed on a mark-to-market basis at ordinary income tax rates, the same general approach proposed by President Obama (US Department of the Treasury 2016b), then-Ways and Means Committee chairman Dave Camp (Committee on Ways and Means 2014), and, most recently, Senator Ron Wyden (Wyden 2016). Mark-to-market taxation would be superior to the current-law realization-based rules that apply to derivatives. As Hammer (2013) described, those rules can be gamed by taxpayers, do not provide clear guidance about the proper treatment of some assets, and treat similar assets differently. This provision could be removed, however, without affecting the remainder of the plan.

In accord with our rule for stocks, we define *publicly traded* as being traded on an exchange. Code section 1256 partly bases the determination of whether futures contracts are marked to market on whether the contract is “traded on or subject to the rules of a qualified board or exchange.” The rules developed under that section could be extended, perhaps with minor modifications, to apply to assets other than future contracts.

The geometric smoothing system would not apply to assets other than corporate equity because the pronounced volatility charted above is a feature of corporate equity returns. Although some derivatives (particularly derivatives on equity) may also have volatile returns, the investors in these assets are likely to be able to handle tax volatility. Moreover, the impact of derivatives taxation on state governments’ aggregate revenue volatility is likely to be modest. The Obama administration’s, Chairman Camp’s, and Senator Wyden’s proposals for mark-to-market taxation of financial derivatives did not allow averaging, and averaging is not included in any of the Internal Revenue Code’s existing mark-to-market provisions.

EXEMPTION FOR SMALL ASSET HOLDERS

To limit political objections and to reduce administrative costs, we propose to exempt some small asset holders from mark-to-market taxation.

Prior law offers a precedent for a small-asset-holder exemption. From 1964 through 1986, taxpayers were generally allowed to exclude the first \$100 (\$200 for couples) of

dividends. For 1981 and 1982 only, the exclusion was increased to \$200 (\$400 for couples) and extended to include interest income. Also, the Bipartisan Policy Center's deficit reduction plan (2010) would have excluded the first \$1,000 of realized capital gains from tax, although the plan did not specify the treatment of losses.

We reject proposals, such as one by Thuronyi (1983), that would apply accrual taxation to stockholders with gains above a threshold and realization taxation to those with gains below the threshold. Having a mix of the two regimes for different holders of a single asset would be unduly confusing, and movements between the two regimes would pose considerable complexity.

We propose instead that the first \$500 (\$750 for heads of household and \$1,000 for married couples) of positive or negative mark-to-market income (dividends and net capital gains or losses that accrue each year) be exempt from tax. To the extent that the income is from corporate equity, the income would not enter the geometric smoothing system. (Taxpayers could apply the exemption amount to corporate equity income before applying it to other mark-to-market income.) Our proposal would reduce the political resistance to the new regime and would spare asset holders who are clearly below the threshold from having to compute their accrued gains.

The proposed exemption would likely spare many taxpayers from the mark-to-market regime with little loss of revenue. Although data on the distribution of accrued capital gains are not available, realized capital gains are highly concentrated. Computations by the Urban-Brookings Tax Policy Center (TPC) indicate that about 90 percent of taxpayers have dividends and realized capital gains below the exemption amount, but that the revenue loss from the exemption is only 3 percent of the revenue loss that would arise from a complete exemption of dividends and realized capital gains. Although accrued gains may be less concentrated than realized gains, the proposed exemption would likely have similar qualitative effects, removing many taxpayers from the system with little revenue loss.

TRANSITION RULES

The increase in individual income taxes on dividends and capital gains would be phased in over 10 years, but the changeover from realization-based taxation to mark-to-market taxation would be immediate.

Ten-Year Phase-In of Individual Tax Increase on Dividends and Gains

The current-law preferential rates for qualified dividends and long-term capital gains are complex. A 20 percent rate applies to dividends and gains that would be taxed at 39.6 percent if they were ordinary income; a 15 percent rate applies to dividends and gains that would be taxed

at 25, 28, 33, or 35 percent; and a zero rate applies to dividends and gains that would be taxed at 10 or 15 percent.

The current preferential rates can, however, be viewed as approximately equivalent (at least for taxpayers in the higher brackets, who have the largest amounts of dividends and gains) to taxing half of qualified dividends and long-term capital gains at ordinary income tax rates and allowing an exclusion or deduction for the remaining half. We propose using that simpler treatment as a foundation.

In and after 2018, taxpayers would be allowed a deduction equal to 50 percent of qualified dividends and realized long-term capital gains on nonpublicly traded assets that would remain subject to realization-based taxation.

In 2018, taxpayers would be allowed to deduct 45 percent of capital gains and qualified dividends from mark-to-market assets in computing their taxable incomes. For mark-to-market corporate equity, the deduction would apply to the amount of gains and dividends recognized each year under the geometric smoothing system. In each subsequent year, the deduction would decline by 5 percentage points. Starting in 2027, there would be no deduction and all gains and dividends on mark-to-market assets would be fully taxable.

The deduction would be claimed as a deduction *from* adjusted gross income (AGI) rather than as a deduction in computing AGI, the same treatment currently given to the personal exemption, the standard deduction, and itemized deductions. Because the deduction would not reduce AGI, it would not affect the AGI-based phaseouts and thresholds that apply to various deductions and credits.

Under current law, the preferential rates do not apply to short-term capital gains, which face ordinary income rates. Short-term capital gains are generally defined as realized gains on assets that have been held for one year or less. The different treatment of short-term and long-term capital gains is accompanied by rules that distinguish between short-term and long-term capital losses; for example, the rules restrict the ability to deduct short-term losses against long-term gains. Under the mark-to-market tax system, however, holding periods are irrelevant and there is no distinction between short-term and long-term gains. Accordingly, the deduction described above would apply to all capital gains that accrue during 2018 through 2026 on mark-to-market assets, whether the gains are realized after holding for one year, realized after holding for many years, or not realized at all.

That treatment may be viewed as anomalous because, as part of a move to eliminate the preferential rates with respect to mark-to-market assets, it would extend them in 2018 through 2026 to some gains that currently do not qualify for them, namely gains realized after holding an asset for one year or less. That result is, however, an unavoidable side effect of abandoning realization-based taxation. It offers the significant benefit of immediately eliminating, for mark-

to-market assets, the complicated restrictions that distinguish between short-term and long-term capital gains and losses and the special rules used to identify holding periods in various situations. In any event, the anomaly would be temporary; starting in 2027, the ordinary-income treatment that currently applies to short-term capital gains would apply to all capital gains on mark-to-market assets.

Under current law, the preferential rates apply only to qualified dividends, with nonqualified dividends taxed as ordinary income tax. (Nonqualified dividends include dividends paid by foreign corporations that are not affiliated with a country with which the United States has a comprehensive tax treaty that includes information-sharing provisions, unless the stock is readily tradable on an established securities market in the United States.) Although short-term and long-term capital gains could not be distinguished under mark-to-market taxation, it would be feasible to continue to distinguish between qualified and nonqualified dividends. Because nonqualified dividends are subject to ordinary-income treatment in and before 2017 and would also be subject to that treatment in and after 2027, there is no reason to adopt any different treatment in 2018 through 2026. Ordinary-income treatment for nonqualified dividends would therefore be maintained throughout the transition.

Also, under current law, gains on ordinary (as opposed to capital) assets are taxed as ordinary income. Section 1221 describes the assets, such as inventory, that are ordinary rather than capital. Few ordinary assets would likely be subject to mark-to-market taxation under our proposal. Nevertheless, gains on any such assets would (like nonqualified dividends) receive ordinary-income treatment in 2018 through 2026, matching their treatment in and before 2017 and their treatment in and after 2027.

Changeover to Mark-to-Market Taxation for Assets Other Than Corporate Equity

We propose separate rules for mark-to-market corporate equity and other mark-to-market assets. As discussed above, we also distinguish these two categories of assets by applying the smoothing regime to mark-to-market corporate equity, but not to other mark-to-market assets.

For mark-to-market assets other than corporate equity, mark-to-market taxation would apply on a cutoff basis. The January 1, 2018, holders would remain subject to realization taxation but would also be subject to the new provisions replacing the current capital gains rate schedule with a deduction for a portion of long-term capital gains. Subsequent holders of these grandfathered assets, and holders of newly created mark-to-market assets, would be subject to mark-to-market taxation. Initial holders who wished to move into the mark-to-market regime would be allowed to engage in a deemed sale at market value (paying tax on the gain deemed to be realized) and a deemed repurchase at the same value, after which they would be subject to mark-to-market taxation.

Chairman Camp, President Obama, and Senator Wyden embraced a cut-off approach in their proposals for mark-to-market taxation of financial derivatives. The cutoff approach would eliminate the disruption of moving to a new system in midstream. Furthermore, maintaining realization-based taxation for the initial holders generally would not undermine the goals of mark-to-market taxation. Recall that one goal of mark-to-market taxation is to eliminate the incentive for corporations to retain earnings, a rationale that applies only to corporate equity. Another goal of mark-to-market taxation is to prevent magnification of the lock-in effect that would otherwise result from the higher capital gains tax rate. However, because most mark-to-market assets other than corporate equity have short maturities, the increased lock-in effect would not last for long and would likely not be severe because the assets would mature early in the transition while capital gains rates would still be low.

Changeover to Mark-to-Market Taxation for Corporate Equity

For corporate equity, however, a prompt move to the mark-to-market system would be essential. Such a move would be necessary to prevent shareholders from accumulating tax-free earnings within corporations. Also, substantial lock-in effects could persist for decades if existing shareholders continued to be taxed on a realization basis.

On January 1, 2018, the cost basis of all mark-to-market corporate equity shares would be increased to their average monthly price for December 2017. Beginning in 2018, mark-to-market taxation, using the geometric smoothing system described above, would apply to mark-to-market corporate equity, and the section 1211 loss limitation would be repealed with respect to newly accruing losses on mark-to-market assets.

We favor exempting modest amounts of previously accrued gains from tax. The economic benefits of mark-to-market taxation do not require that previously accrued gains be taxed. The primary purpose of taxing previously accrued gains is to avoid bestowing a windfall benefit on taxpayers; gains should not escape taxation forever merely because they accrued while realizations were taxed and were realized while accruals were taxed. However, preventing such windfall gains is an important concern only with respect to large gains and does not justify the administrative costs of taxing modest amounts of previously accrued gains. To be sure, providing an exemption would create an incentive for taxpayers to defer realization of gains (up to the exemption amount) until the effective date.

When taxpayers' cost basis in mark-to-market corporate equity was increased to fair market value at the beginning of 2018, their previously accrued net unrealized gains or losses would be computed. If a taxpayer had a net equity gain less than \$10,000, the net equity gain would be disregarded. For a taxpayer with a net equity gain greater than \$10,000, the first \$10,000 would be disregarded.

Gains above the excluded amount would receive a transitional treatment similar to that discussed above for gains associated with a closely held business going public. For the latter case, we chose a transition policy that was intended to yield the same tax burden as that imposed on *nonpublicly traded assets under our proposal* (including taxation of unrealized gains at death) because owners of the business would face that treatment if they did not take it public. For the current context, of moving from the old tax system to the new tax system, we seek a transition policy that yields the same tax burden as that imposed on *assets under the old system* (including the forgiveness of tax on unrealized gains at death). If the expected rate of appreciation is 6 percent and 3.4 percent of gains are realized within one year (and face a 43.4 percent rate), 49.6 percent are realized after nine years (and face a 19.9 percent effective tax rate), and 46.4 percent face no tax because they are held until death, then the weighted effective tax rate is 11.4 percent, which is about 25 percent of the top tax rate on ordinary income. We therefore recommend that 25 percent of the gains be included in ordinary income.¹⁹

The inclusion would occur linearly over 10 years. Gradual recognition is appropriate, to prevent liquidity problems and abrupt movements between tax brackets. Thuronyi (1983, 123–24) and Weisbach (1999) recommended gradual recognition of previously accrued gains.

Symmetrical treatment would apply to a taxpayer with a net equity loss. The first \$10,000 of the loss would be disregarded and the remaining 25 percent would be deducted against ordinary income linearly over ten years.

Changeover to Taxation of Capital Gains at Death

The taxation of gains at death on realization-based assets would be phased in over ten years. Tax would be imposed on 10 percent of unrealized gains for taxpayers who die in 2018, with the percentage increasing by 10 percentage points in each subsequent year. Full realization of gains at death would apply to taxpayers who die in and after 2027. This phase-in would also apply to taxation at death of the balance in the taxpayer’s pool of unrecognized gains on mark-to-market corporate equity.

Other Issues

Taxpayers realizing capital gains on installment-payment contracts outstanding on the implementation date would continue to recognize gains as the payments are received, in accord with current-law rules. The 50 percent deduction would apply to all payments received in and after 2018, regardless of whether the gains were realized on assets that will become mark-to-market assets or were realized on other assets.

¹⁹ Note that we end up proposing a 25 percent inclusion rate for both transition regimes, but the methods of reaching that rate are different. For firms’ transition from closely held to publicly traded status, we assume a 12 percent rate of return but also assume that unrealized gains would have been taxed at death. For the transition from current law to the new system for holders of assets with unrealized gains, we assume a 6 percent rate of return but also assume that the gains would not have been taxed at death.

Taxpayers with capital loss carryforwards on the implementation date would be allowed to claim those losses against future realized capital gains on realization-taxed assets and grandfathered assets and against gains on mark-to-market assets (including equity gains recognized under the geometric smoothing system). They would also be allowed to deduct an additional \$3,000 per year in accord with the prior-law section 1211 rules. These rules would apply regardless of whether the original losses were realized on assets that become mark-to-market assets or on other assets.

COLLECTING TAX FROM AMERICANS HOLDING FOREIGN ASSETS

Holding foreign assets, including stock in foreign corporations, can facilitate tax evasion. Although Americans are required to pay tax on income from foreign assets, some have attempted to conceal such income from the Internal Revenue Service (IRS). Potential evasion on a significant scale is only possible, however, when Americans buy foreign stocks through foreign brokers. Income from shares in foreign corporations that Americans purchase through US brokers is already subject to third-party reporting; it is therefore difficult to evade taxes on income from these shares.

Congress and the IRS have recently taken steps to combat evasion on assets individuals hold in overseas accounts. These steps appear to have been effective, although they have been criticized as unduly burdensome by some observers.

Our proposal faces the same challenges in this area as those faced by the current tax system, but the stakes are higher. Because the proposal increases tax rates on dividends and capital gains and taxes gains as accrued instead of when realized, the incentive to evade taxes by holding and concealing foreign assets would be greater.

To combat evasion of tax on income from assets held in offshore accounts, Congress and President Obama enacted the Foreign Account Tax Compliance Act (FATCA) in 2010. FATCA added sections 1471, 1472, 1473, 1474, and 6038D to the Internal Revenue Code and amended numerous other Code sections.²⁰

Section 1471 requires certain foreign financial institutions to enter into agreements with the IRS, under which they report the names, addresses, accounts, and transactions of customers for whom there is reason to believe they are United States persons. Any United States person who makes a payment to a foreign financial institution that fails to enter into such an agreement must deduct and withhold a 30 percent penalty tax from the payment. The definition of financial institution is broad, including hedge funds, private equity funds, and managed trust structures.

²⁰ We are grateful to Professor Itai Grinberg of the Georgetown University Law School for helpful discussions about FATCA. He is not responsible for any of our conclusions.

Foreign governments can enter into intergovernmental agreements (IGAs) with the United States to provide alternative, less burdensome, methods of compliance for the financial institutions. Eighty countries have entered into IGAs. In these countries, the reporting requirements can be enforced against all financial institutions, even those that do not receive payments from United States persons and that therefore would not be concerned about the 30 percent penalty tax. The IGAs also ensure that foreign financial institutions can comply with the reporting requirements without violating their own countries' laws.

Section 6038D generally requires United States persons who own, or have signatory authority for, foreign accounts or certain other foreign financial assets with an aggregate value of \$50,000 or more to file a form disclosing the accounts or assets with their income tax returns. FATCA also doubles the penalty, from 20 to 40 percent, for tax underpayments arising from the failure to report income from undisclosed foreign assets and provides an extended six-year statute of limitations (in lieu of the standard three-year statute of limitations) for assessing any tax underpayment greater than \$5,000 arising from the failure to report income from undisclosed foreign assets.

FATCA has been criticized for allegedly making it difficult for Americans living abroad to obtain banking services, as many foreign banks are said to be unwilling to incur the FATCA's reporting obligations that come from having American customers. That problem appears to be largely solved, however, as banks have learned how to handle the reporting requirements, particularly in countries with IGAs.

FATCA appears likely to be an effective measure to combat tax evasion. As its requirements take effect, it will be difficult for Americans to avoid having their foreign asset holdings reported to the IRS. The steps that can be taken to avoid FATCA (concealing from the financial institution that one is an American, holding accounts in countries that lack IGAs with financial institutions that do not receive payments from United States persons, or holding certain kinds of trusts that may not be treated as financial institutions) are not easy. Surveys indicate that a small portion of American wealth is now held abroad, even though citizens of other countries continue to hold large amounts of wealth outside their home countries.

We conclude that FATCA is likely to be adequate to address any compliance concerns raised by the proposal.

ADDRESSING THE POTENTIAL CONSTITUTIONAL ISSUE

Some observers contend that mark-to-market taxation is unconstitutional unless the tax is "apportioned" so that per capita tax liability is uniform across states. Analysis reveals, however, that there is little basis for the constitutional objections and that a simple addition to the

proposal could likely head off any constitutional challenge. Appendix 2 presents a detailed and insightful analysis of this question by David S. Miller of Proskauer Rose LLP.²¹

The original US Constitution required that “direct” taxes be apportioned. Direct taxes have long been understood to include taxes on land and other property. In 1895, the US Supreme Court ruled that a tax on *income from property* was also a direct tax that had to be apportioned. In 1913, the Sixteenth Amendment was adopted to override that decision, providing that, “taxes on incomes, from whatever source derived,” need not be apportioned. Therefore, a tax must be apportioned if it is a direct tax *and* is not an income tax.

In reliance on the Sixteenth Amendment, the current income tax system is not apportioned. We intend to refrain from apportioning the mark-to-market portion of the tax system under our proposal, also in reliance on the Sixteenth Amendment. Apportionment would result in unacceptable tax-rate variations because the per capita level of mark-to-market income surely differs greatly across states. If one state had 10 times the per capita mark-to-market income of another state, the tax rate in the first state would have to be 10 times lower in the first state in order to equalize per capita tax burdens, as required under apportionment. Such tax-rate variation would be unfair. It also might prompt taxpayers with mark-to-market income to migrate to states with high per capita mark-to-market income, where they would enjoy lower rates; any such movements would amplify the disparity in per capita mark-to-market income and thereby magnify the required variation in tax rates.

The potential difficulty arises because a few commentators maintain that unrealized income is not “income” within the meaning of the Sixteenth Amendment. If that is the case, then a tax on unrealized income cannot invoke the amendment’s exception to the apportionment requirement. As Miller explains in the appendix, however, the great weight of authority indicates that the term “income” in the Sixteenth Amendment includes unrealized income. Commentators today overwhelmingly conclude that the realization requirement is merely an administrative rule, not a constitutional one.

Miller further explains that the inclusion of a suitable fallback provision could help avert challenges to the mark-to-market tax. Congress has the power to specify a constitutionally permissible fallback provision that will apply if the courts rule that its original enactment is unconstitutional. Congress could therefore provide that, if apportionment were required, the tax-rate schedule set forth in the law (ordinary income tax rates) would be the *minimum* tax rate under the apportioned version of the tax, applying in the state with the highest per capita mark-to-market income. The tax rates in all other 49 states would be *increased* from the original rates to achieve the same per capita tax burdens in those states. A successful challenge to the tax would therefore trigger tax rate increases in 49 states and an unchanged rate in the other state. It is not clear that any taxpayer would have Article III standing (the concrete personal interest in

²¹ We are grateful to David Miller for his contribution to this proposal. He is not responsible for any of our conclusions.

the outcome required to litigate in federal court) to challenge the tax because the challenger could not obtain any tax reduction from a successful challenge.

Moreover, even if challengers would have Article III standing, the motivation to sue would be undermined by the fallback provision. Many people might be eager to see the courts rule that mark-to-market taxation requires apportionment if such a ruling would result in the mark-to-market tax ceasing to exist. But they might have little desire for such a ruling if it meant that the tax would be converted into an apportioned tax, particularly if the conversion were done in a way that would increase tax burdens throughout most of the nation. The desire to avoid such an outcome might also persuade the courts to reject such a challenge if it were brought.

We have therefore decided to include the fallback provision in the proposal.

REVENUE EFFECTS

Our preliminary estimates indicate that the fully phased in proposal is close to revenue neutral. It would reduce federal tax liability by about \$23 billion (0.11 percent of gross domestic product, or GDP) in calendar year 2018 and by about \$11 billion (0.04 percent of GDP) in calendar year 2025 (table 1). The lower revenue loss in 2025 mainly reflects a decline in baseline corporate receipts as share of GDP over the next decade, as shown in CBO's new budgetary projections. CBO attributes a portion of the decline in corporate receipts as a share of GDP to increased corporate tax avoidance through income shifting and inversions, thereby recognizing for the first time in official revenue projections concerns about the corporate income tax's long-run viability—concerns that this paper has discussed and that our proposal is designed to address (Congressional Budget Office 2016).

The modest revenue losses result from calculations that assume corporate behavior would be unaffected by the lower corporate statutory rate. However, with a reduced tax rate, US corporations would likely shift reported profits from formerly lower tax jurisdictions to the United States. Several studies cited in the recent OECD report on base erosion and profit shifting (OECD/G20 2015) estimated that the corporate tax base is sensitive to tax rate differences between countries.²² When we apply the results of one study in the midrange of estimates by three researchers at the Joint Committee on Taxation (Dowd, Landefeld, and Moore 2016), we find that this behavioral feedback would offset slightly under one-quarter of the corporate revenue loss. Taking this corporate response into account, the proposal would raise net tax liability by about \$28 billion in 2018 and about \$51 billion in 2025 (table 2).

The static revenue effects displayed in table 1 reflect the net effect of revenue gains and losses from various components of our proposal. We estimate that the reduction in the average corporate tax rate from 34.7 to 15 percent, combined with elimination of the domestic production deduction, would reduce revenue by \$212 billion in 2018 and \$257 billion in 2025. This decline in corporate tax liabilities would be partially offset by increases in individual income and payroll tax liabilities of \$18 billion in 2018 and \$23 billion in 2025. This rise in other liabilities would occur because, with GDP fixed, reduced corporate tax payments would necessarily be offset by increases of the same amount of individual incomes. In allocating this increased income to individuals, we follow the TPC incidence assumption that 60 percent of corporate tax burdens are borne by corporate equity owners, 20 percent by all recipients of capital income, and 20

²² The OECD/G20 (2015) report estimated semi-elasticities of pretax profits with respect to tax rates ranging from 0.4 to 3.5, where the semi-elasticity, b , comes from an equation with the following form: $\ln(\text{pretax profits}) = a + b \cdot (1 - MTR)$, where MTR is the marginal tax rate on corporate profits. The studies use various definitions of corporate profit and tax rate variables.

percent by recipients of labor compensation (Nunns 2012). The figure reported here does not include the increase in shareholder income, which is reflected in the calculation of the effects of changes in shareholder taxation.

The estimation of the effects of changes in the taxation of shareholder income has three components. First, eliminating the current tax on capital gains realizations on publicly traded shares and qualified dividends would reduce tax liabilities by \$115 billion in 2018 and \$154 billion in 2025. We compute the effects of eliminating current-law taxation of capital gains and dividends using the TPC microsimulation model of individual income tax returns.²³ Second, the taxation on a current basis of all dividends and accrued gains from corporate equity received by taxable individuals would increase individual income tax liability by \$229 billion in 2018 and \$300 billion in 2025. We estimate this gain by applying a nominal rate of return of 8.33 percent to the imputed value of corporate equities in the TPC model (based on data from the Federal Reserve Board Survey of Consumer Finances) and distributing the estimate of additional taxable income among taxpayers in proportion to their realized capital gains.²⁴ Third, the imputation credit for taxable shareholders (estimated as equal to 17.5 percent of dividends received) would reduce revenue by about \$20 billion in 2018 and \$25 billion in 2025. Overall, substituting market-to-market taxation at ordinary rates with the imputation credit for the current taxation of realized capital gains and qualified dividends at preferred rates would raise about \$95 billion in 2018 and \$121 billion in 2025.

There are three additional components of revenue pickup. First, we impose a 15 percent tax on interest income within tax-preferred retirement accounts, which would raise \$48 billion in 2018 and \$60 billion in 2025. Second, we impose a 15 percent tax on interest income received by nonprofit institutions, which would raise an estimated \$12 billion in 2018 and about \$15 billion in 2025. Finally, we estimate that the taxation of unrealized gains at death from nonpublicly traded assets would raise \$18 billion in 2018 and \$28 billion in 2025.

We also present an illustrative example of the revenue effects under the assumption that corporations would respond to the lower corporate tax rate by reporting a larger share of their global profits in the United States. Based on Dowd, Landefeld, and Moore (2016), we assume a semi-elasticity of corporate taxable income with respect to the one minus the average statutory corporate tax rate of 1.44. To estimate the effects on corporate taxable income, we set the average statutory corporate rate equal to 38.7 percent under current law and 20.2 percent under our proposal, with both rates reflecting an assumption of an average state rate of 6.15 percent, which is deductible in computing federal tax liability. With this semi-elasticity, corporate

²³ For more detail on the TPC microsimulation model, see appendix 3 or <http://www.taxpolicycenter.org/resources/tax-model-resources>.

²⁴ The estimated 8.33 percent return is derived by combining the average growth rates in equity values (estimated from a logarithmic regression of the changes in the nominal value of the S&P index on a linear time trend) with average dividend yields over the same period. We then adjust this estimate downward to reflect the difference between CBO's projected long-run growth in the GDP deflator and the compounded annual growth rate in the GDP deflator over the time period we used to estimate nominal equity returns.

taxable income would increase by slightly over 30 percent when the federal tax rate was cut from 34.7 percent to 15 percent. After taking into account the effects of tax credits and removal of the domestic production deduction, the behavioral response would reduce the loss in corporate receipts by about 24 percent.

The result is that corporate receipts would decline by \$162 billion in 2018 and \$196 billion in 2025 (table 2), compared with declines of \$212 billion and \$257 billion with no behavioral response. It is unclear, however, how those corporate receipts would map into changes in corporate after-tax profits. To the extent that the increased taxable income reflected a shift in reported income to the United States from countries with average tax rates between 20.2 percent and 38.7 percent, after-tax corporate profits would increase. But to the extent corporations were shifting income from countries with average rates below 20.2 percent, corporate taxes paid to all governments would increase and after-tax profits would decline. We make the simplifying assumption that the income shifts would keep after-tax profits unchanged, so that the individual tax offsets would also be unchanged. (If we assumed that corporate after-tax profits increased from income shifting, then the individual income tax base would increase and the revenue pickup would be larger than we show in table 2.)

These estimates should be viewed as illustrative, as they are based on assumptions that can be refined further and they omit effects that change the results in opposite directions. But, they are sufficient to indicate that our proposal is likely to be close to revenue neutral. Appendix 3 provides further details of the revenue estimation methodology.

Finally, we note that the estimates presented here are of the fully phased-in proposal and do not take account of transitional effects and the geometric smoothing provision. Both the corporate rate cuts and the increases in individual tax rates on accrued gains would be phased in, which would reduce both the revenue gains and losses in the early years after enactment. The one-time tax on existing capital gains upon enactment, although imposed at a favorable rate, would modestly accelerate federal receipts in the early years when the tax was being paid. In the opposite direction, the geometric smoothing provision would, on average, delay the recognition of income and would permanently lower the present value of receipts. There would also be a slight revenue loss, not included here, from the small-asset-holder exemption.²⁵

In summary, our proposal would result in a fairly modest long-term revenue loss in the absence of a corporate behavioral response and would result in a modest revenue gain with a moderate degree of income shifting based on a representative estimate from the literature. The revenue effect would be more favorable in 2025 than in 2018, reflecting a decline over time in the projected ratio of corporate receipts to GDP in the CBO baseline.

²⁵ The estimates also do not account for the provision, applicable to nonpublicly traded assets, replacing the current complicated tax rate schedule with an exclusion of 50 percent of capital gains. That simplification provision should have little revenue effect.

TABLE 1

Components of Change in Tax Liabilities with no Change in Corporate Behavior

Billions of dollars



Components of Revenue Change	2018	2025
Reduce corporate tax rate from 34.7 percent to 15 percent	-194.0	-234.4
Reduction in corporate tax receipts	-212.0	257.1
Taxes on increased individual incomes	17.9	22.8
Substitute mark-to-market tax for current-law taxes on dividends and realized gains	94.5	121.4
Eliminate current taxes on dividends and capital gains	-114.8	-154.1
Impose mark-to-market tax on income from corporate equity at ordinary income rates	229.0	300.9
Allow credit of 17.5 percent of dividends received	-19.7	-25.4
Impose a 15 percent tax on income from fixed-income assets within tax-preferred retirement accounts	47.4	59.5
Impose a 15 percent tax on income from fixed-income assets of domestic nonprofit institutions	11.6	14.5
Tax unrealized capital gains from nonpublicly traded assets at death	17.8	28.1
Total revenue change	-22.8	-10.9

Source: Urban-Brookings Tax Policy Center.

Note: Proposal replaces a portion of the corporate income tax with a mark-to-market tax on shareholder income.

TABLE 2

Components of Change in Tax Liabilities with Corporations Reporting Increased Taxable Profits to the US

Billions of dollars



Components of Revenue Change	2018	2025
Reduce corporate tax rate from 34.7 percent to 15 percent	-143.5	-173.0
Reduction in corporate tax receipts	-161.5	-195.7
Taxes on increased individual incomes	17.9	22.8
Substitute mark-to-market tax for current-law taxes on dividends and realized gains	94.5	121.4
Eliminate current taxes on dividends and capital gains	-114.8	-154.1
Impose mark-to-market tax on income from corporate equity at ordinary income rates	229.0	300.9
Allow credit of 17.5 percent of dividends received	-19.7	-25.4
Impose a 15 percent tax on income from fixed-income assets within tax-preferred retirement accounts	47.4	59.5
Impose a 15 percent tax on income from fixed-income assets of domestic nonprofit institutions	11.6	14.5
Tax unrealized capital gains from nonpublicly traded assets at death	17.8	28.1
Total revenue change	27.7	50.5

Source: Urban-Brookings Tax Policy Center.

Notes: Proposal replaces a portion of the corporate income tax with a mark-to-market tax shareholder income. Estimates assume reported corporate taxable income is determined by the equation $\ln(Y) = a + b \cdot (1 - MTR)$, where Y = corporate taxable income and MTR = the top marginal tax rate.

For three reasons, the results are quite different from those in our 2014 paper (Toder and Viard 2014), which showed a revenue loss equal to about half of baseline corporate receipts. First, some policy changes—the retention of a 15 percent corporate tax rate (which retains some taxation of equity income of nonprofits, retirement plans, and foreign shareholders), the tax on interest income of nonprofits and retirement plans, and the taxation of realized gains at death for nonpublicly traded assets—raise additional revenue. Second, based on historical data, we are assuming a somewhat higher rate of return on corporate shares than we previously assumed. Third, the estimated revenue loss from a corporate tax cut is reduced because CBO now projects that baseline corporate receipts will grow more slowly than GDP. Assuming a reasonable response of the corporate tax base to a lower rate makes the estimates even more favorable.

DISTRIBUTIONAL EFFECTS

Our proposal would increase the tax burden on the top 1 percent of the income distribution and reduce taxes as a share of income by roughly equal amounts for all other income groups. For example, in 2025, federal taxes would increase by slightly over 1 percent of income for the top 1 percent of households, but decline by between 0.25 and 0.32 percent of income in all other groups (table 3). On average, households would receive a slight tax cut, reflecting the very modest static revenue loss in 2025. The increase in federal corporate receipts from tax-base shifting would not necessarily raise household incomes and reduce their net tax burdens, because the increase might reflect only a shift from taxes paid to foreign governments to taxes paid to the United States.

The net changes in tax burdens reflect offsetting effects of various parts of our proposal. All of the separate provisions would have their largest impacts on the highest-income taxpayers, but the degree to which the tax changes are tilted toward the top varies among the separate provisions (table 4). The new tax on accrued income, the new tax on gains realized at death by owners of nonpublicly traded assets, and the reduced taxes on realized gains and dividends are the ones most tilted to the top. The combined net increase in tax burden for the top 1 percent would exceed this group's benefit from the corporate rate cut, leaving the top 1 percent with a higher net tax burden. Although the corporate tax cut would also disproportionately benefit the top income groups, it is less concentrated at the top than the other provisions because some of the benefit of the rate cut would go to labor income and to holders of assets in qualified retirement plans. As a result, the tax shift on balance would modestly benefit those in tax groups below the top 1 percent. For example, the corporate tax cut would reduce the average tax rate of the top 1 percent by 1.9 percent of income, which is slightly more than triple the 0.6 percent of income reduction for the middle quintile. In contrast, the tax on shareholder accruals would raise burdens on the top quintile by 5.7 percent of income, more than 25 times the increase as a share of income that the tax would impose on taxpayers in the middle of the distribution.

One force driving the results is the difference in the incidence of corporate and shareholder taxes, because a portion of the corporate income tax is shifted to labor while shareholder taxes are not shifted to labor. Because the corporate tax penalizes investment in the United States, it lowers the US capital stock and reduces American workers' real wages; shareholder taxes, which apply regardless of where the investment is located, do not have this effect.²⁶ The movement from corporate to shareholder taxation therefore makes the tax system more progressive.

TABLE 3

Distributional Effects of Corporate Tax Reform Proposal
Tax year 2025



	Percent change in after-tax income	Average federal tax change (dollars)	Change in average federal tax rate (percent of income)
Bottom quintile	0.27	-49	-0.26
Second quintile	0.29	-127	-0.27
Middle quintile	0.34	-248	-0.29
Fourth quintile	0.38	-449	-0.31
80–90th percentiles	0.4	-717	-0.32
90–95th percentiles	0.39	-959	-0.31
95–99th percentiles	0.34	-1,367	-0.25
Top 1 percent	-1.62	37,804	1.08
All	0.05	-49	-0.04

Source: Urban-Brookings Tax Policy Center.

²⁶ Shareholder taxes could be shifted to labor to some extent if they reduced saving, a potential effect not included in the incidence assumptions.

TABLE 4

Change in Average Federal Tax Rate

Percent of income, tax year 2025



	Reduce corporate tax rate	Eliminate tax on realized capital gains and dividends	Tax accrued shareholder income	Add dividend imputation credit	Impose 15% tax on interest income in qualified retirement plans	Tax unrealized gains from nonpublicly traded assets at death	All
Bottom quintile	-0.32	0.00	0.02	-0.01	0.06	0.00	-0.26
Second quintile	-0.46	-0.01	0.05	-0.03	0.17	0.00	-0.27
Middle quintile	-0.60	-0.07	-0.20	-0.05	0.22	0.01	-0.29
Fourth quintile	-0.72	-0.12	0.31	-0.07	0.27	0.02	-0.31
80–90th percentiles	-0.82	-0.16	0.38	-0.07	0.32	0.03	-0.32
90–95th percentiles	-0.97	-0.24	0.53	-0.08	0.40	0.04	-0.31
95–99th percentiles	-1.26	-0.46	0.96	-0.11	0.53	0.09	-0.25
Top 1 percent	-1.89	-3.03	5.65	-0.32	0.13	0.55	1.08
All	-0.99	-0.70	1.36	-0.11	0.27	0.13	-0.04

Source: Urban-Brookings Tax Policy Center.

POSSIBLE REACTIONS BY FOREIGN GOVERNMENTS

The reduction in the US corporate tax rate from 35 to 15 percent would transform the United States from the country with the highest corporate tax rate in the OECD to a country with one of the lowest rates, which would create incentives for real investment and reported taxable income to shift back to the United States. Other countries would be likely to react, but it is difficult to determine the nature of their response. We briefly mention some possible effects, based in part on a thoughtful analysis produced for us by Professor Daniel Shaviro of New York University Law School.²⁷

At one extreme, other countries might put the United States on a blacklist as a tax haven. That was more of a possibility with our earlier proposal to eliminate the corporate income tax entirely. We consider this response extremely unlikely at a 15 percent US corporate rate. If the rest of the developed world is not placing Ireland, with its 12.5 percent corporate rate, on a blacklist, it certainly is not about to blacklist a powerful and economically important country like the United States.

Countries might respond by reducing their corporate tax rates, thereby offsetting the advantage the United States would gain in attracting mobile capital investment. That is a definite possibility, but we note that other countries have been reducing their corporate rates for years while the US rate has remained at 35 percent. Other countries have revenue needs and might be

²⁷ We thank Professor Shaviro for his contribution to this proposal. He is not responsible for any of our conclusions.

reluctant to reduce their corporate rates by as much as our proposal recommends for the United States, so our net competitive position in attracting investment would probably still improve even if other countries responded with some rate reductions.

A related possibility is that other countries might emulate the entire US reform by dramatically reducing corporate tax rates while raising shareholder taxes. Some countries are already doing this on a smaller scale. For example, the United Kingdom accompanied its latest corporate rate cut with an increase in taxation of shareholder dividends. No country, however, has enacted as dramatic a shift to shareholder-level taxation as our proposal for mark-to-market taxation of shareholder income. If other countries followed us by trading off taxes on accrued shareholder income for a much lower corporate rate, the competitive advantage of US investment produced by our proposal could be eliminated.

Nevertheless, we would welcome other countries' emulation of the proposed reform. We believe the net result would be a sounder and more sustainable worldwide system of taxation of income arising in multinational corporations. Further, worldwide reforms would remove many of the adverse effects of the current system and stem the erosion of the tax base in all major economies. And if other countries sought to tax the worldwide income of their resident shareholders on an accrual basis, all countries might more easily agree on reporting requirements that would support better enforcement. This could only be to our benefit.

A related concern is that our proposal might interfere with efforts under the OECD project on base erosion and profit shifting (BEPS) to improve the working of the system of source-based taxation based on separate entity reporting. We believe that BEPS is generating some useful cooperation in tax enforcement, limiting certain abusive transactions, and developing a better database on multinational income reporting that will be valuable to future reform efforts. But, we do not see it as being very successful in generating international coordination on how to source income of multinationals among jurisdictions, and we expect that corporate income shifting will continue in spite of their efforts. Therefore, we do not see potentially undermining BEPS as a serious shortcoming of our proposed reforms.

A dramatic unilateral move by the United States to a much lower corporate rate could be seen as destabilizing the current international tax regime. We see this regime as unsustainable in the long run, however, as evidence mounts of increased tax avoidance by multinationals. Moreover, countries trying to become multinational groups' place of residence are offering new tax breaks (such as patent boxes) to attract mobile reporting of income. A somewhat more rapid destabilization of the system, such as that associated with the 10-year phase-in of our proposal, might be beneficial if it ushered in a shift to a sounder and more sustainable system.

Shaviro noted that our proposal should pose no problem for the double-taxation agreements we have negotiated with other countries. And while the European Union has limited its member states' ability to provide their residents imputation credits, without allowing similar

credits to foreign shareholders, no such limitation applies to the United States or, for that matter, to other countries outside the European Union. As discussed above, Australia and New Zealand have imputation regimes similar to the one we propose.

In summary, while there may be some strong international reactions if the United States enacted our proposed reforms, we do not see any likely response as a reason to not enact them.

LONG-TERM MACROECONOMIC EFFECTS

Our proposal would have far-reaching macroeconomic effects. Our analysis provides a general overview of them.²⁸

Increased Investment in the United States

Our proposal would lower taxes on investing and booking profits in the United States. As discussed above, the corporate income tax rate reduction would increase real investment in the United States and the amount of profits booked in the United States. The magnitude is hard to determine because the past rate changes on which empirical estimates are based, such as the previously cited estimates of income shifting by Dowd, Landefeld, and Moore (2016), do not include such a large rate change by a large country. The increase in real investment in the United States would drive up before-tax wages and would drive down before-tax rates of return on capital. Rebooking of profits, through transfer pricing schemes and similar strategies, would have little or no effect on wages and capital returns.

Home bias might limit the extent of the real investment inflow. Savers often prefer to place their funds in companies that invest primarily in their home countries, even if higher after-tax returns are available in other countries. Home bias may become less significant as the economy becomes more globalized; if that happens, a low corporate income tax rate will become an even more powerful magnet for real investment.

The impacts would also depend on foreign governments' reaction to the adoption of our proposal, as discussed above. If other countries cut their corporate income tax rates, the United States' competitive position (for purposes of attracting real investment and reported profits) would improve by less than if other countries kept their rates unchanged. Nevertheless, the United States' competitive position would improve to some extent because other countries would be unlikely to fully match the 20-percentage-point rate reduction. Tax havens already have corporate income tax rates at or near zero and would therefore have little room to cut their rates; industrialized countries might reduce their tax rates to some extent, but many now have

²⁸ We obtained considerable insight into the macroeconomic effects of our proposal from Professor Alan J. Auerbach of the University of California-Berkeley economics department. He is not responsible for any of our conclusions.

rates in the 20 to 25 percent range and they would probably not reduce their rates to extremely low levels.

Temporary Investment Stimulus from Phased Rate Reduction

As discussed above, the corporate tax reduction would be phased in over 10 years. The phase-in would provide an additional investment stimulus during the transition period. Many investments receive front-loaded depreciation allowances, so that depreciation deductions are, on average, claimed earlier in the investment's life than when the payoffs from the investment are earned and taxed. As the tax rate fell during the transition, therefore, corporations would, on average, deduct depreciation allowances at higher tax rates than the rates at which they would be taxed on the associated profits, providing a net tax saving.

Possible Changes in Americans' Saving

Americans would likely receive lower after-tax returns on income from shares in corporations investing in the United States, as the inflow of capital reduces pretax returns. American savers might therefore shift their investments to other assets, such as flow-through businesses, housing, and corporate bonds, driving down their pretax yields, even as funds from foreign savers flowed in to increase corporate investment.

Americans might also reduce their total saving to some extent. If investment rose in the United States while saving declined or remained largely unchanged, more capital would flow into the United States. The inflow would be accompanied by an increased trade deficit in the short run as Americans financed more of their domestic investment with funds from abroad. This is arguably what happened in the 1980s when the corporate income tax was reduced, boosting investment at the same time that federal budget deficits eroded national saving. In the long run, there would be an increase in the net trade surplus as the additional investments in the United States generated dividend payments and income from asset sales for foreign investors.

Effect on Share Prices

The value of corporate shares would likely rise in the short run. The corporate tax reduction would reduce the value of deferred tax liabilities. Also, the "new view" of dividend taxation states that share prices are depressed when dividends face a higher effective tax rate than capital gains. That condition holds today because, although dividends and capital gains generally face the same statutory tax rates, capital gains taxes are deferred until realization. The proposal would put both types of income on parity by taxing capital gains as they accrue, thereby eliminating the tax differential against dividends. According to the new view (Auerbach 1979; Bradford 1981), that tax change would boost stock prices.

Reduction in Long-Standing Corporate Tax Distortions

Our proposal would also alleviate the distortions that the corporate income tax introduces even in closed economies. For holdings by American individuals, the proposal would essentially eliminate the current system's bias in favor of debt relative to equity. Equity income would be taxed as accrued at ordinary income tax rates; debt income is already taxed at ordinary income tax rates and is largely taxed as accrued. Although the corporate income tax would apply only to equity income, the imputation credit would essentially offset that tax burden for American shareholders. And the tax on interest received by nonprofits and retirement funds would largely eliminate the bias toward issuing debt instead of equity to these investors, because both debt and equity would face the same 15 percent statutory tax rate.

For holdings by American individuals, the proposal would also eliminate the current system's bias in favor of retained earnings relative to dividends. The capital gains resulting from reinvested earnings would be taxed as they accrue, removing their current advantage over dividends, which are taxed as they are paid.

For holdings by American individuals, the treatment of publicly traded and closely held businesses under the proposal would be less disparate than the treatment of C corporations and flow-through businesses under current law, although it would not be completely neutral. Under the proposal, only a single layer of tax would apply in both cases. There would be no net business-level tax on shareholders of publicly traded businesses (assuming that the imputation credit would offset the corporate income tax) and no business-level tax on closely held businesses. In both cases, owners would pay tax at ordinary income tax rates on a measure of the company's business income. However, the income measure would differ across the two types of companies. Shareholders of publicly traded companies would be taxed on accrued income while owners of closely held businesses would be taxed on their shares of the companies' income as measured under the business income tax rules. The latter would therefore escape current taxation of income that was tax preferred or that was not realized at the business level; that income would be taxed only when the owners sold their shares or died and then only at preferential rates.

EFFECTS ON MACROECONOMIC STABILIZATION

Countercyclical fiscal policy features tax cuts and spending increases when the economy is weak and tax increases and spending cuts when the economy is strong. The federal fiscal system includes significant automatic fiscal stabilizers because tax revenue automatically rises as the economy strengthens and automatically falls as the economy weakens. Further, some spending programs (including unemployment compensation and other safety net programs) automatically contract as the economy strengthens and automatically expand as the economy weakens. In addition to these automatic stabilizers, Congress and the president sometimes adopt stimulus

legislation providing additional tax cuts and spending increases when the economy is weak; a prominent recent example is the American Recovery and Reinvestment Act adopted in 2009.

Enhancing countercyclical fiscal policy is not an objective of our proposal. Moreover, enhancing countercyclical fiscal policy may not be crucial because the Federal Reserve can enhance its countercyclical monetary policy when fiscal policy fails to achieve sufficient stabilization, although enhanced use of monetary policy may increase interest-rate volatility, which is often perceived as harmful.

Nevertheless, our proposal would have the beneficial side effect of enhancing automatic fiscal stabilizers to some extent. The proposal might therefore make a modest contribution toward economic stability. Without an averaging provision, a mark-to-market tax would be a much more powerful automatic fiscal stabilizer than a tax on the current tax base. Although the geometric smoothing provision would dramatically diminish the stabilizing power of the mark-to-market tax, the tax would still be a more effective stabilizer than a tax on the current tax base.

To measure business cycle conditions, we use the percentage excess of actual GDP over the Congressional Budget Office's measure of potential GDP, which we refer to as the "business cycle." We consider the relationship between the tax bases and both the contemporaneous and following year's business cycles. It is important to consider the following year's business cycle: because fiscal policy affects the economy with a lag, the best automatic fiscal stabilizer is one activated in advance of economic fluctuations. Throughout the analysis, we measure the tax bases as percentages of potential GDP and report results for 1965 through 2012.

First, we consider the current tax base, defined above as dividends plus realized capital gains plus corporate taxable income. The current tax base has a covariance of .030 with the contemporaneous business cycle (approximately three-quarters of the covariance is due to corporate taxable income). The current tax base has a covariance of .022 with the following year's business cycle.

Next, we consider the mark-to-market tax base, defined above as dividends plus accrued gains. The mark-to-market tax base has a covariance of *negative* .026 with the business cycle. But, it has a covariance of .138 with the following year's business cycle. The one-year-ahead covariance is much larger than any covariance associated with the current tax base. The results confirm the well-established fact that the stock market is a forward-looking indicator, rising before the economy strengthens and falling before it weakens.

The mark-to-market tax base therefore has a stronger, and more forward-looking, relationship with the business cycle than the current tax base. The geometric smoothing provision, however, greatly diminishes this advantage. The smoothed mark-to-market tax base has a covariance of .028 with the contemporaneous business cycle and a covariance of .044 with the following year's business cycle.

Nevertheless, the smoothed mark-to-market tax base has a contemporaneous covariance with the business cycle comparable to that of the current tax base. And, more important, it has a significantly higher covariance with the following year's business cycle. Therefore, a tax on the smoothed mark-to-market tax base would likely to be a more effective automatic fiscal stabilizer than a tax on the current tax base.

The proposal might also have a modest stabilizing effect on stock prices. In years in which the market rose sharply, some investors might sell shares to pay their tax liability. The increased selling would dampen the price increase. Because the geometric smoothing system should limit the need to sell shares, however, we expect that any such effects would be small.

EFFECTS ON STATE GOVERNMENTS

Our proposal may affect states' finances by reducing the top corporate rate substantially and by replacing the taxation of realized gains on shares of publicly traded companies with the taxation of accrued gains.

Effects of Corporate Rate Reduction

Corporate income taxes are a less important source of revenues for states than for the federal government. Corporate income taxes currently account for slightly over 5 percent of total state tax receipts. The amounts range from zero in states that have no corporate income tax (Nevada, Texas, Washington, and Wyoming) to a maximum of 23.6 percent of receipts in New Hampshire (which exempts most income from individual income tax) and 9.8 percent in Tennessee. About half the states raise less than 5 percent of receipts from corporate taxes. Other states in which corporate taxes are a high share of all tax receipts are Illinois (9.6 percent), Alaska (9.4 percent), Massachusetts (8.8 percent), Delaware (8.0 percent), DC (7.8 percent), New Jersey (7.0 percent), California (6.9 percent), and New York (6.4 percent).

Our 2014 proposal would have created problems for states by eliminating the corporate tax entirely. Most states use formula apportionment methods to determine how much of the US corporate tax base to allocate to their state, but they all begin with the federal definition of US-source corporate income. Without federal rules for allocating income of multinational corporations between the United States and other jurisdictions, states would be unable to administer a corporate income tax under the "water's edge" rule that limits them to taxing domestic-source income only. Most states also use a corporate income tax that is close to the federal tax base, with some allowing or requiring selected modifications. States also rely on federal enforcement of income reporting by corporations. Although it might initially seem desirable to pressure states to abandon the flawed corporate income tax, states might well

substitute economically inferior taxes, such as gross receipts taxes, that would be easy to implement without a federal template.

The current proposal's reduction of the corporate tax rate to 15 percent would leave the federal corporate tax structure intact and therefore would not reduce states' ability to administer a corporate income tax. A lower federal rate might also give states more room to raise their own rates in response, leaving more of the corporate tax base to them. And if a lower federal rate led to an increase in reported corporate income in the United States, states would receive a revenue windfall even without changing their corporate rates. However, each additional dollar of state corporate income taxes would impose a net tax burden of 85, rather than 65, cents on corporations because corporations would deduct their state tax payments at a 15 percent, rather than 35 percent, federal corporate tax rate. The increase in the net tax burden might strengthen corporations' political opposition to state taxes. It also might make corporate location decisions more sensitive to state corporate taxes, restricting states' ability to raise corporate taxes.

The last time the federal corporate rate changed substantially was in the Tax Reform Act of 1986, which reduced the top corporate tax rate from 46 percent in 1986 to 34 percent in 1988. Tax reform also broadened the corporate tax base, mainly by delaying depreciation deductions and requiring certain other expenses, such as rules for the timing of deductions for construction work in progress, to be capitalized. Most states did not alter their corporate income tax rates in response, but some did. In the two years after the reform, Colorado, Connecticut, DC, Idaho, Illinois, Indiana, Missouri, Montana, North Carolina, and Rhode Island increased their corporate taxes. Colorado introduced a new 6 percent bracket in place of its previous maximum rate of 5 percent, Connecticut imposed a 20 percent surcharge, the District of Columbia imposed a 5 percent surcharge, Idaho raised its corporate tax rate from 7.7 to 8 percent, Illinois increased its rate from 4 to 4.8 percent, Missouri increased its rate from 8 to 9 percent, North Carolina raised its rate from 6 to 7 percent, Montana imposed a 4 percent surcharge, and Rhode Island increased its rate from 8 to 9 percent. Other states cut corporate taxes in response to the Tax Reform Act. California reduced its top rate from 9.6 to 9.3 percent. Hawaii lowered its rate from 6.435 percent to 6.4 percent and reduced its tax rate on business capital gains from 4 percent to 3.8 percent. Minnesota cut its rate from 12 percent to 9.5 percent, among other changes, New Hampshire decreased its rate from 8.25 to 8 percent, Oregon decreased its rate from 7.5 to 6.6 percent, and South Carolina decreased its rate from 6 to 5 percent.

We might expect a slightly greater tendency toward higher rates with our proposal than with the 1986 act, which broadened the tax base, directly increasing the projected revenue in many states and enabling them to reduce rates while maintaining revenues. We believe our proposal would raise state corporate receipts at current rates because it would reduce income shifting to low-tax foreign jurisdictions and thereby expand state corporate income tax bases. That effect might not, however, be as apparent to state budget planners as the more direct

increase in corporate taxable income that the base-broadening provisions in the 1986 Tax Reform Act produced.

In summary, the historical experience does not lead us to anticipate major changes in state corporate income taxes in response to our proposal. If anything, state corporate income tax rates might rise slightly in some states, offsetting a very minor portion of the benefit of the reduced federal corporate tax base, but reinforcing the positive effect on state finances of the increase in reported income that the federal rate cut would likely produce.

Effects of Switching from Realization-Based to Mark-to-Market Capital Gains Taxation

As discussed above, switching from taxing capital gains on realization to taxing them on a mark-to-market basis would increase the volatility of taxable capital gains, even with the geometric smoothing method. With the federal government no longer requiring reporting of realized capital gains on corporate equity and other publicly traded assets,²⁹ states would find it more difficult to administer a tax on realized gains. States that followed the federal reform and moved to mark-to-market taxation would experience somewhat more volatile revenues, which would make it more difficult for states to comply with their annual balanced budget requirements.

To gauge the extent to which states rely on revenue from the taxation of realized capital gains, TPC simulated the revenue that states received in tax year 2011 from individual income taxes and from taxes on realized capital gains. For all states combined, revenues from taxing capital gains were slightly more than 6 percent of all revenues from individual income taxes. Combining these simulation results with 2012 Census data on the share of state tax revenues from different sources, we estimate that taxes on capital gains account for slightly over 2 percent of total state tax revenues. The ratio of capital gains revenues to total state tax revenues varies from zero in nine states that have either no or minimal individual income taxes or no capital gains tax (Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, and Wyoming) to 5.4 percent in New York and 4.6 percent in California (table 5). Capital gains realizations account for 3 percent or more of taxes in only six states (New York, California, Connecticut, Colorado, Oregon, and Massachusetts) and 2 to 3 percent of taxes in another seven states.

Note that these figures refer to taxes paid on all realized capital gains, while our proposal would affect only realized gains on shares in publicly traded companies and other publicly traded financial assets and their derivatives. Tax would be unaffected for the portion of realized gains coming from real estate assets, sales of closely held businesses, collectibles, and other assets not traded on organized exchanges. Therefore, the above figures overstate the share of state revenues that the proposal would make it harder for states to collect.

²⁹ Purchases and sales would still be reported to implement mark-to-market taxation. But, the cost basis of shares that were sold would not be reported, so it would not be possible to compute realized gains.

While our proposal would increase the volatility of reported capital gains income that states might want to tax, it would increase the average size of the capital gains tax base by moving from realization-based taxation to mark-to-market taxation and by taxing unrealized capital gains on nonpublicly traded assets at death. States would therefore be able to maintain their average revenues from capital gains taxes with lower tax rates.

TABLE 5
Shares of Receipts from Taxing Capital Gains Realizations



Ratio of capital gains tax to total revenues	States
5 percent or more	New York
4–5 percent	California
3–4 percent	Connecticut, Colorado, Oregon, Massachusetts
2–3 percent	Rhode Island, New Jersey, Virginia, Nebraska, Missouri, Vermont, Kansas
1–2 percent	Illinois, Utah, Minnesota, Idaho, Oklahoma, District of Columbia, Maine, Maryland, North Carolina, Iowa, Ohio, Georgia, West Virginia, Montana, Louisiana, Arizona, Wisconsin, Delaware, Hawaii, Kentucky, Pennsylvania
0.005–1 percent	Alabama, Arkansas, Indiana, North Dakota, Michigan, South Carolina, Mississippi, New Mexico
Less than 0.005 percent	Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Washington, Wyoming

Source: Urban-Brookings Tax Policy Center.

Note: Proposal replaces a portion of the corporate income tax with a mark-to-market tax on shareholders' income.

We conclude that the proposal's effect on the volatility of state revenues would pose only a minor problem for state fiscal planning, except in a few states, notably New York and California, which rely heavily on capital gains receipts. Even in those states, the tax base that would be affected accounts for a small share of total tax receipts.

States that conformed to mark-to-market taxation and the geometric smoothing provision would also confront the question of how to treat the balance in the pool of unrealized gains when a taxpayer moved into or out of a state. A simple approach could be for states just to include in their tax bases the amounts of deemed federal taxable income in a given year, without regard to the year in which those gains were accrued.

EFFECTS ON CORPORATE FINANCIAL REPORTING AND PLANNING

The proposal would have some effects on corporate financial reporting and planning.³⁰

³⁰ Appendix 4 presents a detailed and insightful analysis of corporate financial reporting and planning by Professor George Plesko of the School of Business at the University of Connecticut. He is not responsible for any of our conclusions.

As we noted in our discussion of transition effects, corporations would record increased or reduced financial profits when the corporate tax rate was reduced, depending on whether they had DTAs or DTLs. Lower tax rates would reduce profits for firms with DTAs because the value of these assets would fall, but would increase earnings for firms with DTLs because the value of their liabilities would fall. Effects on financial statements might affect firms' behavior, apart from any effects on the firms' actual tax liabilities or real economic position.

Reported tax liability can differ between tax returns and financial statements for two reasons: timing differences in the reporting of income or expenses or differences in the definition of items considered *income* or *expense*. An example of the first type that often gives rise to DTLs is depreciation rules, which usually allow firms to claim depreciation deductions for tax purposes at a faster rate than depreciation expenses for book purposes. The excess depreciation, multiplied by the tax rate, is recorded as a DTL on the company's books, reflecting higher taxes the firm will pay in the future relative to their book income. Because the company has used up its depreciation allowances faster than the assets are deemed to have declined in value, it will have fewer future depreciation deductions, which will increase future taxable income relative to future book income. An example of a DTA occurs when a firm has a loss that cannot be claimed for tax purposes in the current year, but may be carried forward as a deduction against future earnings. Financial statements will record these losses, multiplied by the tax rate, as DTAs, reflecting that tax savings will occur in the future when the firm's taxable income is lower than its book income.

Permanent differences are those caused by differences between the definitions of taxable income and book income. An example is tax-exempt interest, which is recorded as part of a firm's book income but is not included in taxable income. Permanent differences do not result in DTAs or DTLs.

In appendix 4, George Plesko cites research by several authors on the prevalence of DTAs and DTLs. Neubig, Abell, and Cox (2011) reported that, at the end of 2010, 19 of the 50 largest firms had net DTAs and 31 had net DTLs. Calegari (2013) reported that 48 percent of firms in the S&P 500 had net DTAs in 2010. For the same year, Plesko and Henry (2012) found the mean DTL among all publicly traded corporations to be \$79.34 million, with net positions ranging from a DTL of \$35.6 billion at one extreme to a DTA of \$52.1 billion at the other. Reducing the corporate tax rate would reduce financial income for 35 percent of firms and increase financial income for 31.6 percent of firms; the median firm has neither a DTA nor a DTL and would experience no effect. The year 2010 may have been atypical, although it is not clear in which direction. Recovery of the US economy from the recession might have reduced the amount of DTAs on firms' balance sheets as they used up their net operating losses, reinforcing a dominance of DTLs. Bonus depreciation might also have increased DTLs. On the other hand, depreciation deductions might have declined as investment and other economic activity weakened during the economic downturn, which would have reduced DTLs.

The result is that the reduced corporate tax rate would, more often than not, improve firms' financial income in the short run, although the effects will vary greatly within the corporate sector.

Several other potential effects are related to how the financial and tax systems interact. First, lower tax rates would reduce the constraint the tax system currently imposes on earnings management and so might affect corporate governance. Second, to the extent that taxes influence firms' financial accounting decisions, the tax system would have less effect. Third, the use of stock options might change because of both the lower corporate rate and the increased taxation of capital gains and shareholders. Finally, the proposal might affect incentives for mergers and acquisitions, an issue we have not explored.

Our 2014 proposal would have affected firms' valuation by removing the information that shareholders may obtain from financial statement footnotes about reported taxable income. Under the current proposal, however, investors would still have access to that information.

CONCLUSIONS

This paper has revised our 2014 proposal to replace the US corporate income tax with a tax on corporate shareholders' accrued income and has provided a more detailed analysis of its effects. We have modified the proposal to retain a 15 percent corporate tax rate, while providing an imputation credit to offset the corporate tax burden on taxable US shareholders and imposing a 15 percent tax on tax-exempt investors' interest income. We explain the rationale for these and other changes in the proposal; address a variety of detailed issues of proposal design; and present preliminary analyses of the proposal's effects on federal revenues, the distribution of the tax burden, long-run and short-run economic performance, and state and local governments.

We believe that we have identified reasonable solutions to concerns that have been raised by commentators on the original paper and that the revised proposal is technically feasible. We believe it would significantly improve rules for taxing income arising in publicly traded corporations. By removing disincentives for firms to invest and establish corporate residence in the United States, our proposed corporate tax reform will raise overall living standards. And by ensuring that shareholders pay tax at ordinary income rates on their incomes from corporate share ownership, it will protect the federal government's revenue base and make the tax system fairer and more progressive.

REFERENCES

- Altshuler, Rosanne, Stephen Shay, and Eric Toder. 2015. "Lessons the United States Can Learn from Other Countries' Territorial Tax Systems for Taxing Income of Multinational Corporations." Washington, DC: Urban-Brookings Tax Policy Center.
- Auerbach, Alan J. 1979. "Wealth Maximization and the Cost of Capital." *Quarterly Journal of Economics* 93: 433–36.
- Baucus, Max. 2013. "Summary of Staff Discussion Draft: International Business Reform." Washington, DC: US Senate Committee on Finance, November 19.
- Bipartisan Policy Center. 2010. "Restoring America's Future." Report of the Debt Reduction Task Force. Washington, DC: Bipartisan Policy Center, November.
- Bradford, David. 1981. "The Allocation and Incidence Effects of a Tax on Corporate Distributions." *Journal of Public Economics* 15: 1–22.
- Calegari, Michael. 2013. "The Effect of the Great Recession on Deferred Tax Positions." *Tax Notes*, February 11: 723–39.
- Citizens for Tax Justice. 2016. "Fortune 500 Companies Hold a Record \$2.4 Trillion Offshore." Washington, DC: Citizens for Tax Justice, March 3.
- Committee on Ways and Means. 2014. "Tax Reform Act of 2014." Chairman's Mark, February 26. Washington, DC: US House of Representatives.
- Congressional Budget Office. 2014. "Taxing Capital Income: Effective Marginal Tax Rates under 2014 Law and Selected Policy Options." Report. Washington, DC: Congressional Budget Office.
- . 2016. *The Budget and Economic Outlook: 2016 to 2026*. Report. Washington, DC: Congressional Budget Office.
- Dodge, Joseph M. 1995. "A Combined Mark-to-Market and Pass-Through Corporate-Shareholder Integration Proposal." *Tax Law Review* 50(3): 265–372.
- Dowd, Tim, Paul Landefeld, and Anne Moore. 2016. "Profit Shifting of US Multinationals." Washington, DC: Joint Committee on Taxation. <http://ssrn.com/abstract=2711968>.
- Grubert, Harry, and Rosanne Altshuler. Forthcoming. "Shifting the Burden of Taxation from the Corporate to the Personal Level and Getting the Corporate Tax Rate Down to 15 Percent." *National Tax Journal*.

Hammer, Viva. 2013. “Testimony on Financial Products Tax Reform Discussion Draft.” Testimony before House Ways and Means Committee’s Subcommittee on Select Revenue Measures, March 20, http://waysandmeans.house.gov/UploadedFiles/Viva_Hammer_Testimony_Updated.pdf.

Internal Revenue Service, Statistics of Income Division. 2016. “SOI Tax Stats—Integrated Business Data”. Table 1. Washington, DC: Internal Revenue Service. <https://www.irs.gov/uac/SOI-Tax-Stats-Integrated-Business-Data>.

Joint Committee on Taxation. 2015a. “Estimates of Federal Tax Expenditures for Fiscal Years 2015–2019.” JCX-141R-15. Washington, DC: Joint Committee on Taxation.

———. 2015b. “Estimated Revenue Budget Effects of Division Q of Amendment #2 to the Senate Amendment to H.R. 2029, The Protecting Americans From Tax Hikes Act of 2015.” JCB 143-15. Washington, DC: Joint Committee on Taxation.

Louie, Mark L. 1982. “Realizing Appreciation without Sale: Accrual Taxation of Capital Gains on Marketable Securities.” *Stanford Law Review* 34(4): 857–76.

McClure, William P., and Herman B. Bouma. 1989. “The Taxation of Foreign Income From 1909 to 1989: How a Tilted Playing Field Developed.” *Tax Notes* 43(11): 1379–410.

National Commission on Fiscal Responsibility and Reform. 2010. *The Moment of Truth: Report of the National Commission on Fiscal Responsibility and Reform*. Washington, DC: National Commission on Fiscal Responsibility and Reform.

Neubig, Tom, Chester Abell, and Morgan Cox. 2011. “DTAs, DTLs, and Corporate Tax Rate Reduction.” *Tax Notes*, July 25: 433–36.

Nunns, James R. 2012. “How TPC Distributes the Corporate Income Tax.” Research Report. Washington, DC: Urban-Brookings Tax Policy Center.

OECD/G20. 2015. “Base Erosion and Profit Shifting Project: Measuring and Monitoring BEPS.” Action 11: 2015 Final Report. Paris: OECD.

Plesko, George A., and Erin E. Henry. 2012. “Some Devilish Details of Corporate Tax Reform.” *Kansas Journal of Law and Public Policy* 21(3): 382–98.

Portman, Rob, and Charles Schumer. 2015. “International Tax Reform Working Group: Final Report.” Washington, DC: Senate Finance Committee, July 7.

Rosenthal, Steven M., and Lydia Austin. 2016. “The Dwindling Share of US Corporate Stock Held in Taxable Accounts.” *Tax Notes* 151(7): 923–34.

Thuronyi, Victor. 1983. "The Taxation of Corporate Income—A Proposal for Reform." *The American Journal of Tax Policy* 2: 109–45.

Toder, Eric, and Alan D. Viard. 2014. "Major Surgery Needed: A Call for Structural Reform of the US Corporate Income Tax." New York: Peter G. Peterson Foundation.

US Department of the Treasury. 2016a. *General Explanations of the Administration's Fiscal Year 2017 Revenue Proposals*. Washington, DC: US Department of the Treasury, February.

———. 2016b. "Treasury Issues Inversion Regulations and Proposed Earnings Stripping Regulations." Fact Sheet. Washington, DC: US Department of the Treasury, April 4.

Weisbach, David A. 1999. "A Partial Mark-to-Market Tax System." *Tax Law Review* 53(1): 95–135.

Wyden, Ron. 2016. "Section-by-Section Discussion Draft: Modernization of Derivatives Tax Act of 2016." Washington, DC: Finance Committee, US Senate, May 18.

<http://www.finance.senate.gov/imo/media/doc/MODA%20Section-by-Section.pdf>.

APPENDIX 1. A PATH NOT TAKEN: REALIZATION-BASED TAXATION WITH DEFERRAL CHARGE

Although mark-to-market taxation is an obvious way to counteract the lock-in effect of higher capital gains rates and the incentive for corporations to accumulate earnings, it is not the only possible solution. Some experts have suggested that realization-based taxation with a deferral charge may be more politically palatable than, and offer other advantages over, mark-to-market taxation. Grubert and Altshuler (forthcoming) propose the use of this method.

HOW THE METHOD WORKS

Under this method, capital gains continue to be taxed upon realization, but a deferral or interest charge is imposed based on how long the asset has been held. The deferral charge is intended as an approximate offset for the tax savings from delaying the realization of gains.

The current tax system uses the deferral-charge method as part of the default regime governing the taxation of capital gains on stock in passive foreign investment companies (PFICs). PFIC shareholders may choose between realization-based taxation with a deferral charge (the default method), flow-through treatment (if the PFIC supplies the information needed to apply flow-through treatment), and mark-to-market taxation. Most shareholders choose flow-through treatment if the PFIC supplies the necessary information.

In general, the deferral-charge method proceeds in three steps. First, an assumed time path for the accrual of the realized gain is constructed. Second, a time path of hypothetical taxes on the assumed accrued gains is computed. Third, the taxpayer is charged interest on the hypothetical taxes from the dates on which they deemed to have arisen until the sale date, when the taxpayer pays tax on the realized gain. We illustrate the three steps for a taxpayer who purchases an asset for \$10,000 on December 31, 2015, and sells it for \$12,100 on December 31, 2017.

Assumed Accrual Path

Under the assumption that the asset has appreciated at a constant proportional rate, the asset price would be treated as having risen 10 percent per year throughout the holding period, which implies that the asset is treated as having been worth \$11,000 on December 31, 2016. Accordingly, the tax system would treat \$1,000 of the realized gain as having accrued during 2016 and the other \$1,100 as having accrued during 2017. Because the deferral-charge method does not use information on actual prices between the purchase date and the sale date, the \$11,000 assumed price may differ from the actual December 31, 2016, price.

Hypothetical Tax Liabilities

If the taxpayer was in, or is treated as having been in, the 40 percent bracket in both years, then a \$400 hypothetical tax liability is associated with the \$1,000 gain assumed to have accrued in 2016 and a \$440 hypothetical tax liability is associated with the \$1,100 gain assumed to have accrued in 2017. As discussed below, one of the method's most severe challenges is its need to impute tax rates for each year in the holding period.

Charging Interest

The taxpayer is then charged one year's worth of interest on the \$400 gain assumed to have accrued in 2016. For reasons discussed below, it makes sense to charge interest at the safe after-tax interest rate.

POTENTIAL ADVANTAGES RELATIVE TO MARK-TO-MARKET

Compared to our mark-to-market approach, the deferral-charge method has at least five potential advantages.

First, the deferral-charge method prevents the need for asset valuation because, as under conventional realization-based taxation, no tax is imposed until the asset is sold and the sale price is observed. In contrast, mark-to-market taxation requires that the asset value be observed at the end of each year.

Second, the deferral-charge method prevents liquidity problems because, as under conventional realization-based taxation, no tax is imposed until the asset is sold and the taxpayer receives cash with which to pay the tax. In contrast, mark-to-market taxation imposes a tax liability each year that the asset appreciates, potentially forcing the taxpayer to sell shares to pay the tax.

Third, because of the first two advantages, the deferral-charge method can be applied to assets that are not publicly traded, for which we would maintain conventional realization-based taxation (modified by taxing unrealized gains at death).

Fourth, the deferral-charge method prevents potential constitutional difficulties because, as under conventional realization-based taxation, no tax is imposed on unrealized gains that may not constitute "income" in the Sixteenth Amendment sense.

Fifth, the deferral-charge method may arouse less public aversion than the taxation of unrealized gains.

We do not view the first potential advantage as significant in the context of the assets to which our mark-to-market proposal would apply. Except for nonpublicly traded derivatives on publicly traded assets, we would apply mark-to-market taxation only to publicly traded assets for which prices are readily observable.

The second potential advantage also appears modest within that context. Sales of publicly traded assets should not pose large transaction costs, and the geometric smoothing system should generally prevent the need for asset sales.

We also set aside the fourth potential advantage. As discussed in the text, the dominant legal view is that mark-to-market taxation would be constitutional and the fallback provision in our plan should further protect it from successful legal challenge.

We therefore believe that the primary arguments for the deferral-charge method (relative to mark-to-market taxation) are that it could be extended to nonpublicly traded assets and that it would prevent the adverse political repercussions of mark-to-market taxation.

OUR CONCLUSION

Despite these potential advantages, for publicly traded assets, we reject the deferral-charge method in favor of mark-to-market taxation. As explained below, we have three reasons.

First, the deferral-charge method is likely to arouse “sticker-price” political objections because the tax, as a fraction of the capital gain, would exceed the statutory tax rate. This point is not decisive, however, because those objections would likely be less intense than the political objections to mark-to-market taxation. Second, the deferral-charge method is less effective than mark-to-market taxation in eliminating the lock-in effect for capital gains. Third, the method has significant design challenges, particularly concerning taxpayers’ movement between tax brackets throughout the holding period. We view this point as decisive.

We also reject the deferral-charge method in favor of conventional realization-based taxation (with taxation of unrealized gains at death) for nonpublicly traded assets. The third point is again decisive. The deferral-charge method would be an improvement over conventional taxation if the design challenges could be addressed, but doing so would be difficult.

We now discuss each of these points.

Sticker Shock

Under the deferral-charge method, the tax liability (including the deferral charge) triggered by a realized gain is always greater than the statutory tax rate multiplied by the gain. Figure A1.1

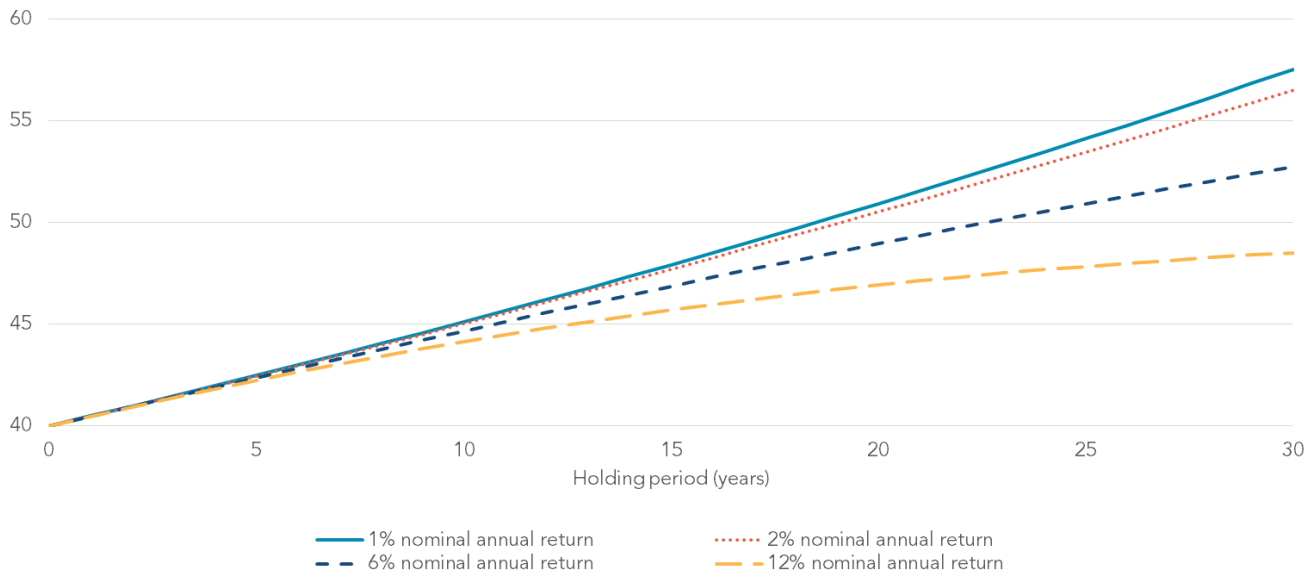
shows the tax liability as a fraction of the realized gain for holding periods ranging from 0 to 30 years and continuously compounded annual nominal rates of return ranging from 1 to 12 percent. The calculations assume a 40 percent tax rate, close to the top statutory tax rate on capital gains under the proposal,³¹ and a deferral charge computed at a 2.4 percent continuously compounded nominal interest rate (the after-tax version of a 4 percent safe nominal interest rate), under the assumption that the gain accrued at a constant proportional rate. The bottom of the horizontal axis is set at 40 percent, the assumed statutory tax rate.

As one would expect, the ratio of the tax to the realized capital gain increases as the holding period becomes longer. Also, for any given holding period, the ratio of tax to gain is larger at lower rates of return; with a lower rate of return, the deferral-charge method assumes that a larger portion of the gain occurred early in the holding period, which increases the interest charge as a share of the total return.

FIGURE A1
Tax Liability for Realized Gains under the Deferral-Charge Method



Percentage of gain



Source: Authors' calculations.

For low returns and long holding periods, the tax can be significantly greater than 40 percent of the capital gain. For a 1 percent nominal annual return, the tax liability is 47.9 percent of the gain for a 15-year holding period and 57.5 percent for a 30-year holding period. The corresponding values for a 6 percent return are 46.9 percent and 52.7 percent and those for a 12 percent return are 45.7 and 48.5 percent.

³¹ Recall that the proposal would tax capital gains as ordinary income, which is currently taxed at a maximum rate of 39.6 percent (or 43.4 percent if one includes the 3.8 percent investment income surtax).

Taxpayers may view these tax liabilities as unduly high. The deferral-charge method's answer to this concern is that tax should have been imposed as the gain accrued and that taxpayers should pay interest for the privilege of waiting until realization to pay the tax. Of course, taxpayers who oppose mark-to-market taxation because they reject the premise that gains should be taxed as they accrue will find that answer unacceptable and are therefore likely to also oppose the deferral-charge method.

Objections are likely to be even stronger when most of an asset's appreciation actually occurred late in the holding period. Because the method assumes that gains accrued at a uniform rate throughout the holding period, holders of those assets are charged for more deferral than actually occurred. Those taxpayers should, with the benefit of hindsight, prefer mark-to-market taxation, which would have accurately measured the year-to-year accrued gains and resulted in a lower present value of tax liability.³²

To be sure, the deferral-charge method will probably arouse less intense opposition than mark-to-market taxation. Nevertheless, the method is likely to fall far short of providing a complete solution to the political challenge.

Continued Presence of Lock-In and Lock-Out Effects

The deferral-charge method does not achieve full neutrality with respect to the realization decision because the hypothetical price path may not match the actual past price path. In contrast, mark-to-market taxation achieves full neutrality if there are no valuation or liquidity problems.

Under the deferral-charge method, it can be shown that a tax penalty on sale exists, and a lock-in effect arises, for assets that have experienced high rates of return since the purchase date. However, the penalty is smaller than it would be under conventional realization-based taxation at the same statutory tax rate. The distortion can be larger than under realization-based taxation *if the move to the deferral-charge regime is accompanied by an increase in the capital gains tax rate*. A tax reward to selling exists, and a lock-out effect arises, for assets that have experienced low rates of return since the purchase date.

If a taxpayer sells an asset today, the deferral-charge method, as discussed above, constructs a hypothetical price path based on the assumption that the asset appreciated at a uniform rate equal to the realized rate. If a taxpayer holds an asset for another short interval and then sells it, the realized rate of return for the extended holding period will typically differ from the realized rate of return for the original holding period. The deferral-charge method uses the

³² Of course, in other cases, most appreciation may have occurred early in the holding period. For example, the taxpayer may have launched a business that proved successful and sharply appreciated in value, after which the taxpayer waited many years to sell. The deferral-charge method then understates tax liability relative to mark-to-market taxation.

new realized return to construct a completely new hypothetical price path. That rewriting of history would generate lock-in and lock-out effects.

For assets that have experienced high returns since purchase, future returns are likely to be lower than previous returns. If the taxpayer waited to sell until a later date, the deferral-charge method would construct a new hypothetical price path that would defer part of the gain that actually accrued in the original holding period into the later period. The reduction in the deferral charge would reward the taxpayer for holding on to the asset during the additional interval.

For assets that have experienced low returns since purchase, future returns are likely to be higher than the previous returns. If the taxpayer waits to sell until a later date, the deferral-charge method would construct a new hypothetical price path that advances part of the gains that will actually occur in the future back into the earlier period. The increase in the deferral charge would penalize the taxpayer for holding on to the asset during the additional interval.

Design Issues

One relatively simple design issue concerns the construction of the hypothetical price path. The PFIC regime treats the price appreciation as having occurred at a constant linear rate, implying higher proportional appreciation earlier in the holding period. A better approach would assume a constant proportional appreciation, as in the calculations above. Another simple issue concerns the treatment of losses. Although the PFIC regime denies any deduction for losses, the better approach would be to allow a loss deduction and pay the taxpayer interest for the deferral of the loss deduction until realization. A move to a deferral-charge regime would also pose transition issues, but they would not necessarily be any more severe than those posed by a move to mark-to-market taxation.

The deferral-charge method would require the choice of an interest rate, which should match the taxpayer's after-tax lending rate. The deferral-charge method need not, and should not, imitate the PFIC regime, which applies a punitively high interest rate, but it might be difficult to choose an appropriate interest rate. No interest rate choice would be required for mark-to-market taxation.

Large distributions would also pose a challenge. If the corporation made a large distribution, then shareholders who sold shortly after the distribution would be under-taxed. The problem again arises from the method's need to construct a hypothetical path for the asset price. The shareholder is taxed on the distribution when it happens but is allowed to spread the offsetting price reduction across the entire holding period. In principle, the deferral-charge method could assume a constant annual rate of return *including distributions* across the holding period and net out the actual time path of distributions to construct the hypothetical price path. A more practical alternative, however, would assume a constant rate of price appreciation and

tax unusually large distributions as if they were sales, which the PFIC regime does. Distributions would require no special treatment under mark-to-market taxation.

Time-varying tax rates would pose significant challenges. The PFIC regime assumes that the taxpayer faced the top tax rate throughout the holding period. That may be reasonably accurate for the tiny group of Americans who invest in PFICs, but if the deferral-charge method applied to a broad investing population, it would have to recognize that not all of them are in the top bracket and that they may move between brackets from one year to another. If the tax rate that prevails in the year of realization was assumed to apply throughout the holding period, the incentive to realize in low-tax years would actually be stronger with the deferral charge than under a conventional realization-based tax. On the other hand, re-computing tax liabilities for each year of the holding period to obtain the correct tax rates would be impractical.

APPENDIX 2. CONSTITUTIONAL ISSUES RAISED BY MARK-TO-MARKET TAXATION

BY DAVID S. MILLER

This appendix was authored by David S. Miller of Proskauer Rose LLP. His authorship of this appendix does not imply any endorsement of the proposal set forth in this paper. The authors are deeply grateful to Miller for his analysis of this issue.

THE PROHIBITION ON UNAPPORTIONED DIRECT TAXES (OTHER THAN INCOME TAXES)

The apportionment clause of Article 1 of the Constitution prohibits Congress from imposing a direct tax on property without apportioning it among the states in accordance with population.³³ The Sixteenth Amendment modifies this prohibition by allowing Congress to impose an income tax without apportioning it among the states.³⁴ Non-income direct taxes are still subject to apportionment. Importantly, the apportionment clause requires that the tax—and not its revenue—be apportioned.

THE INTERPRETATION OF *MACOMBER*

In *Eisner v. Macomber*,³⁵ the Supreme Court held that a tax imposed on a pro rata stock dividend was a direct tax but not a tax on income, and that Congress therefore could not impose it without apportioning the tax among the states in accordance with population. On one level, the holding of *Macomber* is perfectly reasonable. If it is not possible to look through a corporation (and the *Macomber* court insisted that it could not)³⁶ then, for a shareholder whose stock has not appreciated, a tax on a pro rata stock dividend is not a tax on income because the shareholder has none. Therefore, it must be a tax on property.

But that was not the reasoning of the court. The *Macomber* court said that “income” within the meaning of the Sixteenth Amendment does not include mere appreciation; it means only a profit that has been “severed” from the underlying capital. Because stock dividends take “nothing from the property of the corporation” and “add nothing to that of the shareholder,” the taxpayer has not realized or received any income in the transaction.³⁷ In light of this reasoning, *Macomber* is understood as having effectively mandated realization under the Constitution.

³³ U.S. CONST., art. I, § 9, cl. 4 (“No Capitation, or other direct, Tax shall be laid, unless in Proportion to the Census or Enumeration herein before directed to be taken.”).

³⁴ U.S. CONST. amend. XVI. (“The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration.”)

³⁵ 252 U.S. 189 (1920).

³⁶ *Eisner v. Macomber*, 252 U.S. at 214 (“We must treat the corporation as a substantial entity separate from the stockholder. . .”).

³⁷ *Id.* at 212.

However, the Supreme Court has discredited the reasoning of *Macomber* (or limited it to its facts) no fewer than four times,³⁸ and other courts have permitted taxation without realization.³⁹ In *Commissioner v. Banks*,⁴⁰ a unanimous court held that the definition of gross income in section 61(a) extends “broadly to all economic gains not otherwise exempted.”⁴¹ Four justices of the current court were on the *Banks* court⁴² and nothing suggests that their views on the matter have changed. Commentators today overwhelmingly conclude that the realization requirement is merely an administrative—and not a constitutional—rule.⁴³

The National Federation of Independent Business v. Sebelius* Citation to *Macomber

Nevertheless, in *National Federation of Independent Business v. Sebelius*,⁴⁴ the case that upheld the individual mandate of the Affordable Care Act, Chief Justice Roberts cited to *Macomber*,

³⁸ *Helvering v. Horst*, 311 U.S. 112, 116 (1940) (the realization requirement is “founded on administrative convenience”); *Comm’r v. Glenshaw Glass*, 348 U.S. 426, 430-31 (1955) (“The Court [in *Macomber*] was endeavoring to determine whether the distribution of a corporate stock dividend constituted a realized gain to the shareholder, or, changed ‘only the form, not the essence,’ of his capital investment. It was held that the taxpayer had ‘received nothing out of the company’s assets for his separate use and benefit.’ The distribution, therefore, was held not a taxable event. In that context—distinguishing gain from capital—the definition served a useful purpose. But it was not meant to provide a touchstone to all future gross income questions.”) (internal citations omitted); *Cottage Sav. Ass’n v. Comm’r*, 499 U.S. 554, 565 (1991) (“administrative purposes” underlie the realization requirement); *Comm’r v. Banks*, 543 U.S. 426 (2005).

³⁹ See *Garlock, Inc. v. Comm’r*, 489 F.2d 197, 200-02 (2d Cir. 1973) (upholding tax on a shareholder’s share of current but undistributed earnings of controlled foreign corporation; “the argument that Section 951 . . . is unconstitutional we think borders on the frivolous in light of this court’s decision in *Eder v. Commissioner* . . . (citation omitted); *Eder v. Comm’r*, 138 F.2d 27, 28-29 (2d Cir. 1943) (upholding tax on undistributed earnings of foreign personal holding companies); *Murphy v. United States*, 992 F.2d 929, 931-32 (9th Cir. 1993) (upholding constitutionality of mark-to-market taxation under section 1256 for commodity futures contracts).

⁴⁰ 543 U.S. 426 (2005).

⁴¹ *Banks*, 543 U.S. at 433 (emphasis added). The *Banks* court deliberately added the word “economic.” It cited to *Commissioner v. Glenshaw Glass*, 348 U.S. 426 (1955) where the court had used similar language without the word “economic.” See *Glenshaw Glass*, 348 U.S. at 430 (“And the Court has given a liberal construction to this broad phraseology [gross income in section 61(a)] in recognition of the intention of Congress to tax all gains except those specifically exempted.”). Chief Justice Rehnquist did not participate in the *Banks* decision.

⁴² They are Justices Stephen G. Breyer, Anthony Kennedy, Ruth Bader Ginsburg, and Clarence Thomas. The late Justice Antonin Scalia was also on the *Banks* court.

⁴³ See MARVIN A. CHIRELSTEIN & LAWRENCE ZELENAK, FEDERAL INCOME TAXATION § 5.01 (12th ed. 2012) (“[R]ealization is strictly an administrative rule and not a constitutional, much less an economic, requirement of ‘income.’”); JOSEPH T. SNEED, THE CONFIGURATIONS OF GROSS INCOME 65–72 (1967) (discussing “the Court’s erosion of the constitutional requirement of realization”); Boris I. Bittker, *Charitable Gifts of Income and the Internal Revenue Code: Another View*, 65 HARV. L. REV. 1375, 1380 (1952) (expressing no doubt that realization is not constitutionally required); Jeffrey L. Kwall & Katherine K. Wilbur, *The Outer Limits of Realization: Weiss v. Stearn and Corporate Dilution*, 17 FLA. TAX REV. 47, 70–71 (2015) (same); Richard B. Stone, *Back to Fundamentals: Another Version of the Stock Dividend Saga*, 79 COLUM. L. REV. 898, 919 (1979) (“It appears that the Court now considers the realization requirement satisfied by any tangible, identifiable event that marks an occasion for acknowledging that the taxpayer’s property has increased in value, even if the taxpayer has not extracted his gain from his original investment.”); Stanley S. Surrey, *The Supreme Court and the Federal Income Tax: Some Implications of the Recent Decisions*, 35 ILL. L. REV. 779, 791 (1941) (“[T]he formalistic doctrine of realization proclaimed by [*Eisner v. Macomber*] is not a constitutional mandate.”); see also MICHAEL J. GRAETZ, THE DECLINE (AND FALL?) OF THE INCOME TAX 153 (1997) (*Macomber* is “now archaic”); Noël B. Cunningham & Deborah H. Schenk, *Taxation Without Realization: A “Revolutionary” Approach to Ownership*, 47 TAX L. REV. 725, 741, &n.69 (1992) (citing both judicial and academic authority for the proposition that the realization requirement is not constitutionally mandated); Marjorie E. Kornhauser, *The Constitutional Meaning of Income and the Income Taxation of Gifts*, 25 CONN. L. REV. 1, 24 (1992) (“[T]he Sixteenth Amendment must give Congress a fully vested power to tax all income, however Congress defines it, without worrying about fine distinctions. Such an interpretation yields a meaning of income that is broad and evolutionary. Income’s meaning is to be determined by Congress, not the Court . . .”); David M. Schizer, *Realization as Subsidy*, 73 N.Y.U. L. REV. 1549, 1576 (1998) (“Commentators almost universally agree that realization is not constitutionally required.”). At least one commentator disagrees. Henry Ordower, *Revisiting Realization: Accretion Taxation, the Constitution, Macomber, and Mark to Market*, 13 VA. TAX REV. 1, 99 (Summer 1993) (“[R]ealization remains a constitutional prerequisite for the taxation of gains from property.”).

⁴⁴ 132 S. Ct. 2566 (2012).

This citation has led Eric Jensen to muse whether realization really does have constitutional significance.⁴⁵ In context, however, Chief Justice Roberts’s citation of *Macomber* does not revive it or otherwise suggest that mark-to-market taxation would be unconstitutional.

In *National Federation of Independent Business*, Chief Justice Roberts’s controlling opinion held that the individual mandate of the Affordable Care Act is constitutional because the individual mandate is really a tax. Having held that it was a tax, Chief Justice Roberts had to consider whether it was a direct tax subject to apportionment. The Chief Justice provided a history lesson, starting with a 1796 case that upheld a tax on carriage ownership to illustrate a narrow view of the meaning of “direct tax.”⁴⁶ By 1880, he explained, direct taxes were understood to apply only to capitation taxes and taxes on real estate.⁴⁷ However, the Chief Justice said,

In 1895, we expanded our interpretation to include taxes on personal property and income from personal property, in the course of striking down aspects of the federal income tax.⁴⁸ That result was overturned by the Sixteenth Amendment, although we continued to consider taxes on personal property to be direct taxes.⁴⁹

It was here that the Chief Justice cited to *Macomber*, and then held that the individual mandate is not either a capitation or a tax on the ownership of land or personal property; therefore, it is not a direct tax.

In context, it is clear that the citations to *Macomber* and its predecessor, *Pollock v. Farmers’ Loan and Trust Co.*, were not endorsements of their holdings, much less their rationales.

Chief Justice Roberts cited only the last two pages of *Macomber* and only for the limited proposition that “we continued to consider taxes on personal property to be direct taxes.”⁵⁰ It is unlikely that Justice Roberts intended these dozen words to resurrect the reasoning of *Macomber* after 75 years of case law had firmly buried it and most of his colleagues disagreed with it, or that he intended to compromise section 475 (mark-to-market for dealers); section 1256 (mark-to-market for section 1256 contracts); Subpart F, section 877A (mark-to-market for certain expatriates); sections 1272 and 1273 (taxation of original-issue discount); and section 305(c), to name a few, without any acknowledgement. In this light, the reference to *Macomber* cannot possibly be understood to mandate the realization requirement.

⁴⁵ Eric M. Jensen, *A Question Important to Investors (Whether They Realize It or Not): Is Realization a Constitutional Requirement for Income Taxation?*, 31 J. TAX’N INV. 19 (2013).

⁴⁶ *Nat’l Fed’n of Indep. Bus.*, 132 S. Ct. at 2598 (citing *Hylton v. United States*, 3 U.S. 171 (1796)).

⁴⁷ *Id.* (citing *Springer v. United States*, 102 U.S. 586, 602 (1881)).

⁴⁸ *Id.* (citing *Pollock v. Farmers’ Loan & Trust Co.*, 158 U.S. 601, 618 (1895)).

⁴⁹ *Id.*

⁵⁰ *Id.*

PREVENTING CONSTITUTIONAL ATTACKS ON MARK-TO-MARKET TAXATION

But even if there is residual concern, two alternative and equally simple solutions exist. The first is courtesy of the passive foreign investment company (PFIC) rules. If Congress were to enact a mark-to-market tax, Congress could insert a savings clause to the effect that, if the imposition of mark-to-market taxation were found to be unconstitutional, then taxpayers who would have been subject to mark-to-market taxation would have a choice between mark-to-market taxation or a deferral charge on realized gains. If taxpayers did not choose to mark their assets to market, the tax code would treat the assets as if they were interests in PFICs. Thus, upon their sale, the assets would be subject to ordinary income treatment plus an above-market interest charge on any gain (and capital loss treatment for losses). If the interest charge were high enough, mark-to-market treatment would almost always be better for taxpayers. Moreover, Congress could provide that the default treatment be mark-to-market. This savings clause should put to bed all constitutional concerns.

Alternatively, Congress could add a savings clause that provides the rate of the tax be “the statutory rate, unless and to the extent the Constitution would require a higher rate with respect to any taxpayer.” The savings clause would take constitutionality off the table. The question would then become whether the tax must be apportioned or whether it could remain uniform.

As mentioned above, the apportionment clause requires that the tax, not the revenue it raises, be apportioned. This means that apportionment on these terms would dramatically increase the revenue generated from the tax, and the tax rate would be higher for taxpayers in poor states than for those in rich states. This, of course, would be unfair. For example, Alaska has about 39 percent of the population of Nebraska. Assume Warren Buffett is the only person subject to the tax in Nebraska and Robert Gillam, the richest person in Alaska, is the only person subject to the tax there. If Warren Buffett’s \$70.2 billion of Berkshire Hathaway stock were to increase by 10 percent and the tax rate were 23.8 percent, Buffett’s tax would be \$1.67 billion ($0.1 * \$70.2 \text{ billion} * 0.238$). If Gillam’s \$320 million in wealth were all in publicly traded stock and it also increased by 10 percent, his tax would be \$7.6 million ($0.1 * \$320 \text{ million} * 0.238$). However, if apportionment applies, poor Gillam would have a tax bill of \$651.6 million (39 percent of \$1.67 billion). That’s a tax rate of 8,556 percent (and double Gillam’s net worth)!

These two effects of apportionment would also be extremely helpful in preventing a successful challenge.

First, taxpayers generally would not have standing to challenge the tax. As outlined in *Arizona Christian School Tuition Organization v. Winn*,⁵¹ taxpayers must satisfy two conditions for standing. The first condition is that there must be a “‘logical link’ between the plaintiff’s taxpayer

⁵¹ 536 U.S. 125 (2011).

status and the ‘type of legislative enactment attacked.’”⁵² The second condition is that there must be “‘a nexus’ between such taxpayer status and ‘the precise nature of the constitutional infringement alleged.’ ... [T]his Court has ‘declined to lower the taxpayer standing bar in suits alleging violations of any constitutional provision apart from the Establishment Clause.’”⁵³ Someone subject to mark-to-market taxation would not be arguing that the tax imposed on them is unconstitutional. Instead, they would be arguing that other taxpayers are constitutionally required to pay a greater amount of tax because apportionment is required. Neither element of the *Arizona Christian School* test would be satisfied and the taxpayer would not have suffered the specific sort of injury that standing requires.

Also, it is doubtful that opponents of a mark-to-market tax would fund an effort that would dramatically increase taxes for certain rich people and dramatically increase revenue.

Moreover, if someone were able to make an apportionment challenge, the unfairness that would result from apportionment will be helpful in arguing that it shouldn’t apply to this tax. In fact, it was exactly this type of unfairness that led the Supreme Court to interpret “direct tax” narrowly in *Hylton v. United States*.⁵⁴ *Hylton* involved Alexander Hamilton’s un-apportioned luxury tax on carriages to raise funds for the new country. Daniel Hylton had 125 chariots that “were kept exclusively for [his] own private use.” He challenged the constitutionality of the tax on the grounds that the tax had to be apportioned. The court unanimously upheld the tax. It held that “direct taxes” should be interpreted narrowly, in part because it would be unfair to apportion the taxes so that some taxpayers would pay a greater tax per carriage than other taxpayers. Each justice suggested that the term “direct taxes” should include only poll taxes and direct taxes on land. A subsequent case, *Springer v. United States*,⁵⁵ confirmed that “direct taxes, within the meaning of the Constitution, are only capitation taxes, as expressed in that instrument, and taxes on real estate”—and nothing else.

Because narrowly interpreting “income” within the meaning of the Sixteenth Amendment (to exclude the economic income of a mark-to-market tax) and broadly interpreting “direct tax” within the meaning of the apportionment clause (to include a mark-to-market tax) would result in unfair apportionment rather than unconstitutionality, the court could distinguish *Macomber* without overruling it and rely instead on *Hylton*. In *National Federation of Independent Business*, Chief Justice Roberts indeed hinted that *Hylton* and not *Pollock* might apply in cases of unfairness. In explaining *Hylton*, Roberts said, “This Court upheld the tax, in part reasoning that apportioning such a tax would make little sense, because it would have required taxing carriage owners at dramatically different rates depending on how many carriages were in their home State.”⁵⁶ Stated another way, it is more likely that the Supreme Court would invalidate a mark-to-market

⁵² *Id.* at 126.

⁵³ *Id.* at 140 (quoting *Hein v. Freedom From Religion Foundation, Inc.*, 551 U.S. 587, 609 (2007) (plurality opinion)).

⁵⁴ 3 U.S. 171 (1796).

⁵⁵ 102 U.S. 586, 602 (1881).

⁵⁶ *Nat’l Fed’n of Indep. Bus.*, 132 S. Ct. at 2598 (citing *Hylton v. United States*, 3 U.S. 171 (1796)).

tax that doesn't provide for apportionment than it would enforce apportionment for a mark-to-market tax that contemplates it.

CONCLUSION

The Supreme Court is unlikely to conclude that an un-apportioned mark-to-market tax is unconstitutional. Moreover, even if there is a residual concern, straightforward measures can be taken to prevent a mark-to-market tax from being invalidated.

APPENDIX 3. REVENUE ESTIMATION: METHODOLOGY AND ISSUES

Our basic tool for revenue estimation is the Tax Policy Center (TPC) individual income tax microsimulation model. The TPC model starts with the 2006 Public Use File (PUF) produced by the Statistics of Income Division (SOI) of the Internal Revenue Service (IRS). The PUF is a sample of slightly under 150,000 tax returns, weighted to represent the taxpaying population. TPC extrapolates the PUF to make it representative of the 2011 tax-filing population, based on published SOI data from 2011. TPC then performs a statistical match between this 2011 “look-alike Public Use File” (or LAPUF) with the March 2012 Current Population Survey (CPS) of the US Census Bureau. The CPS supplies additional demographic data on filers and information about nonfilers, so that the matched file represents the entire population. TPC augments the model database by imputing wealth, education-, consumption-, health-, and retirement-related variables for each record to the matched LAPUF-CPS file. Most important for this project is the imputation of wealth variables from the Federal Reserve Board’s Survey of Consumer Finances (SCF).

TPC then ages the matched file to future years based on CBO economic forecasts and projections for the growth of various types of income and baseline revenues, IRS projections of future growth in the number of tax returns, and Census projections on the size and age composition of the population.

Some of the revenue estimates are performed using the TPC simulation model and others are performed off-model.

To estimate the revenue loss from reducing the corporate tax rate, we start by using CBO’s latest projections of corporate receipts under current law (Congressional Budget Office 2016). We add tax credits (other than the foreign tax credit) to corporate receipts to obtain before-credit corporate receipts. To derive the amount of credits, we combine the revenue losses from credits displayed in the latest tax-expenditure estimates published by the JCT (Joint Committee on Taxation 2015a)⁵⁷ and the estimated increase in tax credits in the Protecting Americans from Tax Hikes Act of 2015 (Joint Committee on Taxation 2015b), which was enacted after the latest JCT tax-expenditure estimates were completed. We then divide total before-credit liability by an estimate of the current average federal corporate tax rate (34.7 percent) to derive an estimate of baseline corporate taxable income. We multiply baseline corporate income by the cut in the corporate tax rate (19.7 percentage points) to obtain the reduction in before-credit receipts. We then remove tax credits to obtain the amount of corporate receipts under our proposed reform.

⁵⁷ JCT’s tax-expenditure estimates are only for fiscal years 2015 to 2019. For credits that are growing over time, we assume they increase proportionately with (CBO’s projection of) GDP after 2019; we assume that the other credits remain fixed.

We also make adjustments to convert fiscal year projections into calendar year revenue effects. We assume revenues for calendar year x are equal to 75 percent of revenues for fiscal-year x plus 25 percent of revenues for fiscal year $x+1$.

We assume that foreign tax credits decline in proportion to the cut in the tax rate, so the omission of these credits from the adjustment does not affect the estimated revenue loss. (Essentially, we treat the loss from credits as a fixed share of receipts.) This is at least a reasonably plausible assumption, given that credits are limited to the tax rate the United States would otherwise apply on income subject to foreign income tax.

We estimate the individual income tax and payroll tax offsets from lower corporate receipts by imputing increases in individual incomes to the TPC microsimulation model. Individual incomes rise by the amount of reduction in corporate receipts. In allocating these incomes to tax returns on the model, we follow TPC's assumption (Nunns 2012) that 60 percent of the burden of the corporate income tax is borne by shareholders, 20 percent by all recipients of capital income, and 20 percent by workers (including fringe benefits and including an assumed employee share of income from partnerships and sole proprietorships). We then use the model to simulate the offsetting increases in income and payroll tax receipts. We omit from these calculations increases in taxes on qualified dividends and realized capital gains because these increases will not be part of the individual tax component of our proposal.

In three steps, we estimate the effects of our proposal to replace current-law taxes on dividends and corporate capital gains with taxes at ordinary income rates on mark-to-market income from corporate shares. First, we use the TPC model to simulate the revenue effect of eliminating current-law taxes on qualified dividends and capital gains on corporate shares, using an estimate of the proportion of capital gains coming from corporate shares (including gains on shares held through mutual funds). Second, we simulate the tax's effects on mark-to-market income by multiplying each tax unit's holdings of corporate shares outside of retirement accounts by an assumed nominal rate of return of 8.3 percent, based on historical data on stock returns. We then add the result to taxable income to simulate the effect on each unit's tax liability. The holdings of corporate equity for each tax unit are based on imputations to the TPC model from SCF data. Third, we simulate the effects of providing a credit equal to 17.5 percent of qualified dividends received and adding the credit to taxable income.

In estimating the revenue from taxing accrued shareholder income, we omit several adjustments that would have offsetting effects on receipts. First, we use an expected total yield on equity assets based on historical data. The after-tax yield to shareholders, however, would be expected to increase under the proposal because of the lower corporate tax rate; the resulting increased income would be taxable at ordinary income rates. Second, however, we use projected dividend payments based on current law to estimate the cost of the dividend tax credit. Declared dividends, whether paid in cash or given as increased shares (stock dividends), would likely

increase in order to relieve taxable shareholders of the burden of double taxation. We also assume that anti-streaming rules would be effective, so that corporations could not pay dividends to taxable shareholders only, without using up their accrued corporate tax accounts on dividends paid to nonprofits, qualified retirement funds, and foreign shareholders who cannot claim credits.

To estimate the revenue pickup from the 15 percent tax on interest income of retirement funds, we used the TPC model's imputations from the SCF of tax units' holdings of fixed-income assets in retirement accounts and then assumed a 5 percent nominal yield on these assets to derive interest income. The tax paid is simply 15 percent of this imputed interest income.

We estimated the revenue effect of the tax on fixed-income assets by nonprofits by also applying a 5 percent interest rate and a 15 percent tax rate to their holdings of assets. We estimated fixed-income assets in several steps. First, we used estimates developed at TPC of corporate equities held by nonprofits and other entities in 2015 (Rosenthal and Austin 2016). These estimates were based on data on nonprofit holdings published by the Federal Reserve Board in the Flow of Funds accounts for 1992–2001, which were then projected using regression methods to 2015. We calculated that in 2015, nonprofits' equity holdings were 24.4 percent of equity holdings of defined contribution retirement plans. We then assumed that nonprofits and retirement plans hold the same ratio of fixed-income to corporate equity assets and therefore calculated the revenue gain from the tax on nonprofits at 24.4 percent of the revenue gain from the 15 percent tax on retirement plan income.

Finally, to estimate the effects of taxing realized gains at death for nonpublicly traded assets, we started with JCT's estimate of the tax expenditure from step-up in basis at death. We assumed that half of the tax expenditure comes from nonpublicly traded assets. Because JCT's tax-expenditure estimates are only through fiscal year 2019, we needed estimates for later years. To derive these, we assumed that the JCT estimates after 2019 grew at the same rate as the Treasury's estimates of the cost of step-up in basis. We note that this component of the estimate is highly uncertain and the figure we use may be a lower bound. The Treasury estimates of the tax expenditure for step-up in basis are about double the JCT estimates of the cost of the same provision. We do not know why the JCT and Treasury estimates differ by such a large amount.

APPENDIX 4. FINANCIAL REPORTING AND CORPORATE TAX SYSTEM REFORM

BY GEORGE A. PLESKO

This appendix was authored by George A. Plesko of the School of Business, University of Connecticut. The views in this section are his and may not reflect those of others who contributed to this report. Plesko thanks Michelle Hanlon, Eric Henry, Steven Utke, and David Weber for comments on an earlier draft. All errors are his own. Plesko's authorship of this appendix does not imply any endorsement of the proposal set forth in this paper. The authors are deeply grateful to Plesko for his analysis of this issue.

Changes in the corporate income tax code can have effects beyond the tax system. This section outlines some of the potential financial-reporting consequences of a substantially reduced corporate tax rate. In the United States, companies with publicly traded debt or equity are required to prepare and file financial accounting statements with the Securities and Exchange Commission (SEC). These financial reports are prepared under generally accepted accounting principles (GAAP) as established by the US Financial Accounting Standards Board. Although privately held companies are not generally required to file with the SEC, a substantial number do prepare separate audited financial statements.⁵⁸

Financial and tax reporting differ for many reasons, as each has different objectives. Financial reporting is intended to inform external users of a business's financial position so that those outside the firm (e.g., investors, creditors) can monitor and assess performance. In contrast, the rules for tax reporting are motivated by policy objectives to collect revenue, and they include ease of administration and more uniform application of income measurement principles (leaving less discretion to the firm than GAAP for the reporting of many items of income and expenses). Tax rules can also understate economic income from selected activities to encourage more investment in favored sectors or activities. Because the tax rules for measuring income differ from those used for financial reporting, the amounts of income reported under each system in a given year can be different. Under financial reporting, income taxes are one of the expenses firms report in determining their net profitability,⁵⁹ and the amount of income tax expense reported on a firm's financial statement will generally differ from the tax owed to the government (as reported on their tax return). Under both federal income tax reporting and GAAP rules the two amounts must be reconciled—in the tax footnote of the corporation's financial statements and in the Schedule M-3 of the firm's tax return.⁶⁰

⁵⁸ The Internal Revenue Service reports that in 2012, of the 53,621 companies that filed a form 1120 Schedule M-3, which provides a reconciliation of financial and taxable income, fewer than 5,000 filed a 10-K with the SEC or were publicly traded, while more than 19,000 prepared an audited financial statement (Internal Revenue Service 2012).

⁵⁹ See Financial Accounting Standards Board, Accounting Standards Codification 740, Income Taxes (ASC 740).

⁶⁰ For descriptions of these reporting requirements and their relation to each other see and Boynton, DeFilippes, and Legel (2005) and Mills and Plesko (2003).

There are two types of differences between the measures of income calculated for tax authorities and reported in financial statements: those due to timing differences in the reporting of revenue or expenses (temporary) and those due to the scope of what is considered income or expense (permanent). In the first case, differences in income arise because one system recognizes revenue or expenses in a different pattern over time than the other, although both systems eventually report the same amount. For example, depreciation for tax purposes is generally faster than depreciation for financial-reporting (book) purposes. Other things equal, this difference leads to a lower amount of taxable income in the early years of the investment's life compared to GAAP earnings (when the depreciation deduction for tax purposes is greater than the expense for financial accounting purposes), but will eventually lead to higher relative taxable income in later years when tax depreciation is less than the expense for financial reporting. Corporations report their total tax expenses in a given year as the sum of their actual payments to the government plus the amount of tax deferred to a later date because of the temporary differences, that is, corporations accrue the expense regardless of when the tax is actually paid (in cash) to the government. This creates a deferred tax liability (DTL) for the firms, which is reported on the balance sheet as the amount of tax that will eventually have to be paid.

Firms may also carry deferred tax assets (DTAs) on their balance sheets representing future reductions in taxes attributable to temporary differences when income has been recognized earlier for tax than for financial-reporting purposes, or expenses have been recognized earlier for financial reporting than for tax reporting. One example of a DTA is when a company receives payment in advance of providing a good or service and therefore does not meet the financial accounting conditions to recognize revenue, yet the payment is recognized as income for tax purposes. Under these circumstances, current-period tax payments will exceed what would be expected based on financial reporting of the income. A DTA is thus created because future financial reporting income will be larger than future taxable income.

The second reason for differences between reported income on financial statements and taxable income is permanent differences. As their definition implies, these are differences in revenue or expenses that are included (measured) under one system but excluded under the other. The simplest example is tax-exempt interest, which, as its name implies, is not part of a corporation's taxable income but is reported as interest income for financial-reporting purposes. Permanent differences do not give rise to DTLs or DTAs.

The importance of understanding the financial-reporting rules lies in the way the corporate income tax rate affects the value of DTLs and DTAs on firms' balance sheets. DTAs and DTLs are computed by multiplying the cumulative book-tax differences by the tax rate in effect when the differences will reverse—currently 35 percent. When the corporate tax rate changes, DTAs and DTLs are recalculated to reflect the new tax rate. For companies with net DTLs, a reduction in the tax rate will reduce their liabilities and they will report (in the period in which the rate is reduced) an increase in their GAAP earnings to reflect the lower liability.

Symmetrically, firms with net DTAs, which represent a claim on the government at the current tax rate, would need to reduce the value of those assets if the corporate tax were reduced, recognizing a reduction in income in the period the rate is reduced.

Concerns about the financial-reporting effects of rate changes are not new. Hanna (2009–2010) finds that consideration of financial-reporting effects have changed the way tax laws have been written, specifically, the section 199 manufacturing deduction, which was structured as a deduction rather than a rate reduction. Under section 199, businesses can deduct 9 percent of the income from qualified activities, reducing the effective tax rate on those earnings (and creating a permanent difference). But, since the statutory rate did not change, the value of DTA and DTL remained unchanged.

Information on which firms' financial positions would benefit from, or be harmed by, changes in the corporate tax rate has been gathered in the context of recent proposals to reduce the corporate tax rate. Neubig, Abell, and Cox (2011) analyzed the financial statements of the 50 largest publicly traded corporations and found that at the end of 2010, 19 companies had net DTAs and 31 companies had net DTLs. Similarly, Raedy, Seidman, and Shackelford (2011) analyzed the effect on Fortune 50 companies of a reduction in the corporate tax rate from 35 to 30 percent. The analysis concluded that for the 18 companies with net DTAs, the rate reduction would result in a \$12 billion reduction in these firms' accounting earnings; for the 31 firms with net DTLs, the reduction would yield a \$28 billion increase in income. Focusing on the S&P 500, Calegari (2013) reported that 48 percent had net DTAs in 2010. Plesko and Henry (2012) tabulated the net deferred tax position of all publicly traded corporations for the same year and found the mean to be a \$79.34 million DTL and a median of zero. The magnitude of the variation is striking, however, with a range of \$35.6 billion in DTLs at one extreme and a \$52.1 billion in DTA at the other. They estimate that following a tax rate reduction, 35 percent of firms would experience a negative income effect and 31.6 percent a positive one. The magnitude of these effects is subject to cyclical changes affecting DTLs and DTAs; as the US economy emerges from the recession, the amount of DTAs on firms' balance sheets should be expected to decline as their income improves.⁶¹

While a reduction in the corporate income tax should increase the value of publicly traded firms overall, these short-term financial accounting considerations will affect firm values because

⁶¹ Although not affected by any change in the rates, any potential tax owed on the “permanently reinvested earnings” (PRE) of multinational companies is not part of reported deferred tax liabilities. For example, in its 10-K filed in September 2015 Apple reports, “as of September 26, 2015, US income taxes have not been provided on a cumulative total of \$91.5 billion of such earnings. The amount of unrecognized deferred tax liability related to these temporary differences is estimated to be \$30.0 billion.” A report by Audit Analytics (2015) estimates that US companies in the Russell 1000 have reported a total of \$2.3 trillion in PRE. There is evidence that the market discounts these foreign holdings since they are potentially subject to tax (Bryant-Kutcher, Eiler, and Guenther et al. 2008). For tax purposes, foreign earnings are generally not subject to immediate taxation, regardless of the firm's financial accounting designation as PRE or not. Several commentators (e.g., Blouin, Krull, and Robinson 2012; Graham et al. 2014; Morrow and Ricketts 2014) suggest that the high current tax rate is partially responsible for the “stockpiling” of earnings as PRE. Thus, a lower corporate tax rate could reduce the use of the PRE designation.

they reflect changes in future cash flows.⁶² Similar to other transition issues, the payment of deferred taxes (or of refunds, in the case of assets) could take place over a prescribed period of time.

In addition to the transition considerations, the interrelationship of financial and tax reporting has been documented to affect firm behavior in many ways, and a sharp reduction in the rate could affect these incentives and corporations' behavior. Schipper (1989, 93) defines earnings management as "purposeful intervention in the external financial-reporting process, with the intent of obtaining some private gain." She goes on to explain that "within the opportunities offered by the accounting system, managers could manage earnings by selecting accounting methods within GAAP or by applying given methods in particular ways." Empirical research in this area has shown that the dual-reporting structure can either facilitate or constrain the management of earnings reported to shareholders. Further, the tax accounts themselves may present an opportunity for managing earnings, as changes to the estimated tax rate directly affect after-tax earnings. Dhaliwal, Gleason, and Mills (2004) comment that taxes are a potentially appealing account to manage because outside observers have difficulty in interpreting the disclosures. They report finding a systematic relation between changes in the third- to fourth-quarter tax rate and companies' expected shortfalls in meeting analysts' earnings forecasts. With the reduction of the corporate tax rate, such earnings-management opportunities would decrease.

Alternatively, the tax system can act as a constraint on earnings management, and, in particular, on income-increasing earnings management, either by making these actions more transparent or by imposing financial costs. Firms that manage their financial earnings in ways that do not affect their taxable incomes are likely more susceptible to detection, since the difference in earnings will be reflected in the deferred tax accounts. For example, a company that accrues earnings for financial reporting that are not yet recognized for tax purposes (nonconforming earnings management) will increase their deferred tax liabilities. There is some evidence in the literature that the IRS (Mills 1998) and capital market participants (Hanlon 2005), use large book-tax differences as a signal about underlying earnings or taxable income. In cases when firms increase both book and taxable income (conforming earnings management), a tax cost is currently incurred (unless the corporation has a net operating loss to absorb the higher income for tax purposes); a reduced rate will reduce that cost.

Another line of literature shows that firms are often willing to make choices (e.g., choose an accounting method) that increase financial-reporting earnings even if they increase current tax liability. An example is Erickson, Hanlon, and Maydew (2004), who show that in a sample of companies that reported artificially high financial accounting earnings (i.e., the companies were accused of fraud by the SEC), the companies paid income tax on some of the artificial or fraudulent earnings. Thus, the authors conclude that the incentives to inflate earnings, even in

⁶² See Givoly and Hayn (1992) for an analysis of the effects of the rate reductions of the Tax Reform Act of 1986.

the face of increased current taxes, were sufficiently strong that firms were willing to pay taxes on earnings that were fraudulently reported. Thus, in this and related ways (e.g., Badertscher et al. 2009), it does not seem that tax costs act as a constraint on earnings management. However, where possible, the authors conduct cross-sectional tests that show that where financial-reporting incentives are higher (e.g., approaching the limit specified in debt covenants), the book-tax trade-off will more likely be made in the direction of favoring higher accounting income over lower taxes. Overall, while in theory a reduced corporate tax rate should reduce one constraint on firms' earnings-management decisions, the evidence to date suggests tax costs are not necessarily a strong constraint, especially when higher accounting earnings are more valuable.

There are other areas where the corporate tax rate is suggested as affecting accounting or business decisions that span the life of a corporation, beginning with the decision to go public through to merger or liquidation.⁶³ As with economic decisions, the extent to which the tax may influence behavior depends on the magnitude of the tax rate. A reduction in the rate is likely to reduce the role of tax considerations.

⁶³ See Hanlon and Heitzman (2010) for a recent review.

REFERENCES TO APPENDIX 4

- Audit Analytics. 2015. "Untaxed Foreign Earnings Top \$2.3 Trillion in 2014." Sutton, MA: Audit Analytics. <http://www.auditanalytics.com/blog/untaxed-foreign-earnings-top-2-3-trillion-in-2014/>.
- Badertscher, Brad A., John D. Phillips, Morton Pincus, and Sonja Olhott Rego. 2009. "Earnings Management Strategies and the Trade-Off between Tax Benefits and Detection Risk: To Conform or Not to Conform?" *Accounting Review* 84(1): 63–97.
- Blouin, Jennifer L., Linda K. Krull, and Leslie A. Robinson. 2012. "Is US Multinational Dividend Repatriation Policy Influenced by Reporting Incentives?" *Accounting Review* 87(5): 1463–91.
- Boynton, Charles, Portia DeFilippes, and Ellen Legel. 2005. "Prelude to Schedule M-3: Schedule M-1 Corporate Book-Tax Difference Data 1990–2003." *Tax Notes*, December 19: 1579–99.
- Bryant-Kutcher, Lisa, Lisa Eiler, and David A. Guenther. 2008. "Taxes and Financial Assets: Valuing Permanently Reinvested Foreign Earnings." *National Tax Journal* 61(4): 699–720.
- Calegari, Michael. 2013. "The Effect of the Great Recession on Deferred Tax Positions." *Tax Notes*, February 11: 723–39.
- Dhaliwal, Dan S., Cristi A. Gleason, and Lillian F. Mills. 2004. "Last-Chance Earnings Management: Using the Tax Expense to Meet Analysts' Forecasts." *Contemporary Accounting Research* 21(2): 431–59.
- Erickson, Merle, Michelle Hanlon, and Edward L. Maydew. 2004. "How Much Will Firms Pay for Earnings That Do Not Exist? Evidence of Taxes Paid on Allegedly Fraudulent Earnings." *Accounting Review* 79(2): 387–408.
- Givoly, Dan, and Carla Hayn. 1992. "The Valuation of the Deferred Tax Liability: Evidence from the Stock Market". *Accounting Review* 67(2): 394–410.
- Graham, John R., Michelle Hanlon, Terry Shevlin, and Nemit Shroff. 2014. "Incentives for Tax Planning and Avoidance: Evidence from the Field." *Accounting Review* 89(3): 991–1023.
- Hanlon, Michelle. 2005. "The Persistence and Pricing of Earnings, Accruals, and Cash Flows when Firms Have Large Book-Tax Differences." *Accounting Review* 80(1): 137–66.
- Hanlon, Michelle, and Shane Heitzman. 2010. "A Review of Tax Research." *Journal of Accounting and Economics* 50(2–3): 127–78.

- Hanna, Christopher H. 2009–2010. “Corporate Tax Reform: Listening to Corporate America.” *Journal of Corporation Law* 35(2): 283–326.
- Internal Revenue Service. 2012. *Corporation Income Tax Returns Line Item Estimates*. Washington, DC: US Government Printing Office.
- Mills, Lillian. 1998. “Book-Tax Differences and Internal Revenue Service Adjustments.” *Journal of Accounting Research* 36: 343–56.
- Mills, Lillian F., and George A. Plesko. 2003. “Bridging the Reporting Gap: A Proposal for More Informative Reconciling of Book and Tax Income.” *National Tax Journal* 56(4): 865–93.
- Morrow, Michaele, and Robert C. Ricketts. 2014. “Financial Reporting versus Tax Incentives and Repatriation under the 2004 Tax Holiday.” *Journal of the American Taxation Association* 36(1): 63–87.
- Neubig, Tom, Chester Abell, and Morgan Cox. 2011. “DTAs, DTLs, and Corporate Tax Rate Reduction.” *Tax Notes*, July 25: 433–36.
- Plesko, George A., and Erin E. Henry. 2012. “Some Devilish Details of Corporate Tax Reform.” *Kansas Journal of Law and Public Policy* 21(3): 382–98.
- Raedy, Jana S., Jeri K. Seidman, and Douglas A. Shackelford. 2011. “Corporate Tax Reform, Deferred Taxes, and the Immediate Effect on Book Profits.” *Tax Notes*, December 19: 1515–25.
- Schipper, Katherine. 1989, “Commentary on Earnings Management.” *Accounting Horizons* 3(4): 91–102.



The Tax Policy Center is a joint venture of the
Urban Institute and Brookings Institution.



BROOKINGS

For more information, visit taxpolicycenter.org
or email info@taxpolicycenter.org