

How to Increase Growth While Raising Revenue: Reforming the Corporate Tax Code

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Abstract

This chapter proposes reforms to business taxes that would address some of the challenges facing the current system. These challenges include historically low revenue collections, instability, distortions, failure to address positive spillovers from research and development, and failure to address the increased returns to corporations that derive from their monopoly power. The proposal would raise the corporate tax rate from 21 percent to 28 percent, require large pass-through businesses to file as C corporations, and close other loopholes. In addition, it would expand incentives for new investment by allowing businesses to expense all their investment costs and get a nearly 50 percent larger credit for their research and development spending. The proposal would raise the long run level of GDP by at least 5.8 percent, adding at least 0.2 percentage point to annual GDP growth over the next decade. The combination of tax increases and additional growth would raise \$1.1 trillion over the next decade and 1.1 percent of GDP in steady-state. The middle quintile of the income distribution would see a 3.5 percent increase in its after-tax income after taking into account the uses of the money raised. The overall gain to society in the long run would be about a 5.0 percent increase in well-being.

Introduction

The U.S. business tax code was overhauled in the Tax Cuts and Jobs Act of 2017 (TCJA). Some changes were improvements and others created new problems. This chapter does not relitigate whether that overhaul improved or worsened the tax code on balance. Instead, it starts from today's business tax code and looks ahead to propose a specific set of reforms that, implemented together, would both raise more revenue and increase economic growth.

The key insight motivating this proposal is that much of the economic efficiency associated with the business tax code depends on the *tax base* and not on *statutory tax rates*. With a reformed tax base that expands incentives for new investment as well as for research and development (R&D), it is possible to increase statutory tax rates in a way that raises more revenue from past investment decisions and their future profit windfalls (i.e., the so-called “supernormal” return) while cutting the tax rate on the portion of the return that businesses use in evaluating whether to make new investments or undertake R&D (i.e., the so-called “normal” return). This is the opposite of the traditional tax reform mantra to broaden the base and lower the rates. Instead, going forward tax policy should improve the tax base, which would enable more efficient increases in tax rates.

The proposal has five elements: (i) allowing businesses to expense all of their investments in equipment, structures, and intangibles while eliminating the interest deduction; (ii) raising the corporate rate to 28 percent; (iii) requiring mandatory filing as C corporations for large businesses; (iv) eliminating other corporate loopholes, including the so-called extenders; and (v) expanding the research and experimentation (R&E) tax credit. The international aspects of the corporate tax code should also be reformed but the specifics of these reforms are outside the scope of this chapter, which focuses only on the domestic components of reform. For the international aspects, see Clausing (2020) in this volume.

The proposal would encompass both business income that is currently taxed through the corporate income tax as well as business income taxed through the individual income tax, which is used for pass-through corporations like sole proprietors, partnerships, and S corporations. Thus, the proposal addresses the taxation of business income broadly, and not just taxation of C corporation income. Given the current ability of companies to choose which system they are taxed under—an ability this proposal would remove—it is essential to consider business taxation as a whole, and not just corporate tax reform by itself. The remainder of this chapter uses the terms “corporate” and “business” interchangeably.

The proposed reform would increase the annualized GDP growth rate over the next decade by at least 0.2 percentage point, increasing the long run level of output in the economy by at least 5.8 percent (both relative to current law).¹ In addition, if enacted in 2021 it would raise \$300 billion in revenue from 2021 through 2030, not counting macroeconomic feedback, and \$1.1 trillion with macroeconomic feedback. In steady-state, revenue would increase by 1.1 percent of GDP (including macroeconomic feedback), the equivalent of \$3 trillion over the next decade. The business tax change

by itself would be very progressive. Taking into account the specifics of the tax proposal and the wage effects, the bottom four quintiles would all see increases in their after-tax incomes while the top 0.1 percent would see a 3.8 percent decline. Also taking into account the use of the revenue, assuming that it is given out in equal lump sum amounts to every tax unit, the bottom quintile would see a 9.9 percent increase in its after-tax income, and the middle quintile would see a 3.5 percent increase in its after-tax income. The total gains to society, measured by summing the percentage changes for individual households, would be about a 5.0 percent increase in well-being.

The Challenge

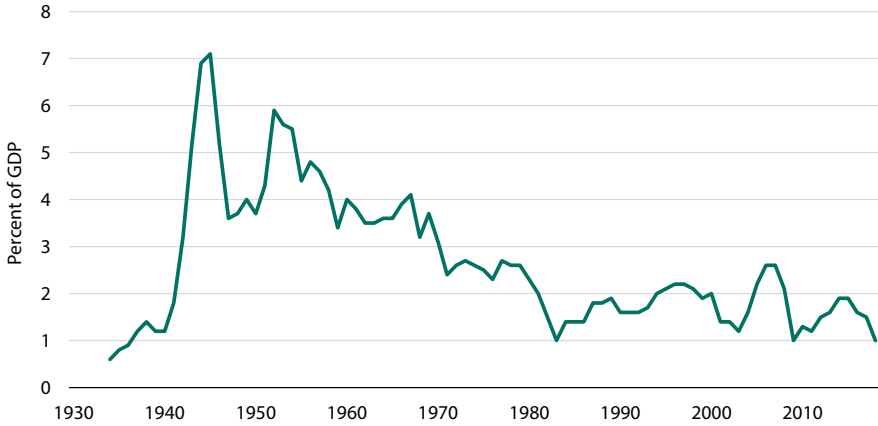
The business tax code has five significant shortcomings: (i) It is unstable in that it is part of an overall tax system that does not raise sufficient revenue to meet the current spending trajectory. (ii) It is unstable in that it has numerous provisions that are phasing in and out, complicating business planning and fiscal planning. (iii) It is distortionary, taxing different activities at very different rates depending on the form of investment, the financing of the investment, and other factors. (iv) It does not fully reflect the positive externality associated with R&D. And (v) it does not sufficiently address the rents associated with increased concentration and expanded monopoly power. These shortcomings are more fully described in turn in this section.

THE UNITED STATES COLLECTS ABOUT THE LOWEST CORPORATE REVENUE IN HISTORY AND AMONG THE ADVANCED ECONOMIES

In 2018 the United States collected 1 percent of its GDP from corporate income taxes, a number that is projected to rise slightly over the next decade, assuming a number of tax increases phase in (see “The Proposal”). As shown in figure 1a, this is the lowest since the 1930s (outside of the recessions or their immediate aftermaths), and, as shown in figure 1b, it is lower than all but one of the advanced economies in the Organisation for Economic Co-operation and Development (OECD). U.S. corporate taxes are less than half their historic average and one third the unweighted average for other advanced OECD economies. Note that these figures do not account for tax revenue from pass-through businesses collected through the individual income tax code which is likely higher than it was in the past and is higher than it is in other countries.

FIGURE 1A.

U.S. Corporate Income Tax Revenue, 1934–2018



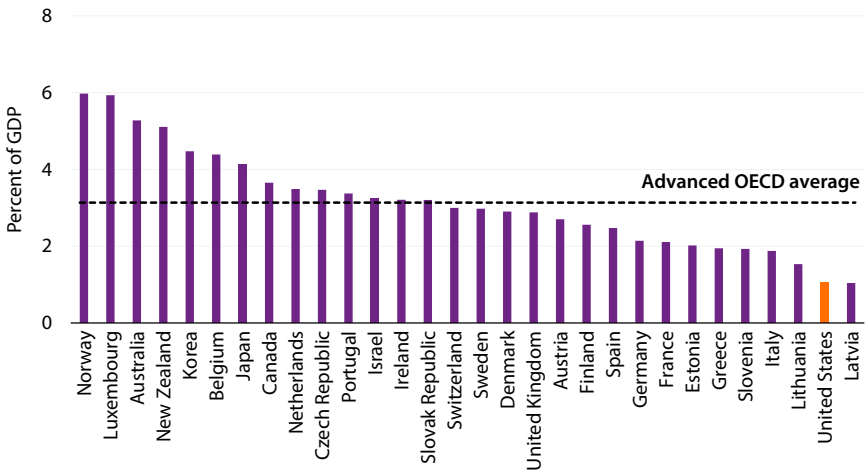
Source: Office of Management and Budget (OMB) 2019.

Note: Data are for fiscal years.



FIGURE 1B.

Tax Revenue from Income, Profits, and Capital Gains of Corporates in Advanced OECD Countries



Source: Organisation for Economic Co-operation and Development (OECD) 2019b.

Note: Data are for 2018, with the exception of data for Australia and Greece from 2017.



The low levels of corporate tax revenue are a major reason why overall federal revenue is very low; at 16.5 percent of GDP in 2018 it was the lowest it has been in the past 50 years outside of recessions and their aftermaths. By 2029 revenue will be 4 percent of GDP lower than noninterest spending. If this gap did not change, it would be consistent with the debt eventually rising to about 400 percent of GDP.

It is likely that future policymakers would—and should—act to prevent debt rising to 400 percent of GDP. It is uncertain, however, what steps they will take, and whether they would include further changes to corporate or other business taxes. As a result, the fiscal imbalance itself is an indirect source of uncertainty about future business taxes.

NUMEROUS PROVISIONS OF THE BUSINESS TAX CODE ARE PHASING IN, EXPIRING, OR PHASING OUT

Under current law, the taxation of business income will change almost every year between now and 2027. By itself, this is a source of complexity. This complexity is compounded by the political uncertainty associated with whether or not future Congresses will try to undo some or even all of these changes.

A partial list of scheduled changes in the taxation of business income include these:

- Currently businesses are allowed to expense their equipment investment—that is, to deduct 100 percent of the cost in the year they make the investment. For most investments, the percentage that can be expensed is reduced to 80 percent in 2023, 60 percent in 2024, 40 percent in 2025, 20 percent in 2026, and will be phased out completely starting in 2027.
- In the case of R&D expenditures, the current expensing provision ends after 2021. At that point businesses will have to amortize their R&D expenditures over five years in some cases and fifteen years in others.
- Currently households can take a 20 percent deduction on certain qualified business income from pass-through businesses. This provision expires after 2025.
- The tax rate on global intangible low-taxed income increases starting in 2026.

- Currently businesses are limited to a net interest deduction of 30 percent of earnings before interest, taxes, depreciation, and amortization, but starting in 2022, this limit applies to earnings before interest and taxes.
- Dozens of provisions in the tax code, the so-called extenders, expire at the end of 2020; these expiring provisions include the classification of certain race horses as three-year property, the seven-year recovery period for motorsports entertainment complexes (i.e., NASCAR), and numerous energy tax incentives.

As a result, starting in 2026 the business tax code is scheduled to be very different from what it is today. Past experience, however, shows that in some cases the government extends current practices and in other cases it does not, with the difference often reflecting questions of lobbying power and other arbitrary considerations rather than efficiency.

In sum, the business tax code as written creates substantial direct uncertainty, which is compounded by the indirect uncertainty that results from having revenue levels much lower than spending.

THE BUSINESS TAX SYSTEM DISTORTS DECISION MAKING WITH NON-NEUTRAL TAX RATES

There is substantial debate over the total level of taxation and over the specific level of taxation on capital income. There is much less debate over the principle of neutrality in the tax code, the idea that whatever the level of taxes, it should be similar for similar activities.² If the tax system is not neutral, then it results in relatively too much of tax-favored activities and relatively too little of tax-disfavored activities. In this situation, moving the tax system toward neutrality with respect to different activities will improve efficiency for a given level of revenue collection. Currently the tax code is non-neutral with respect to the types of investment, the financing of investment, the form of business, and the location of investment. The following briefly discusses the first three forms of distortions; for an account of how the corporate tax system distorts choices about actual and reported business locations see Clausing (2020) in this volume.

The first form of distortion is when different types of investment are taxed at very different rates. Different industries face very different average tax rates in 2022, varying from a low of a 10 percent effective rate for holding companies and for accommodation and food services, to a high of a 23 percent tax rate for agriculture, forestry, fishing and hunting, and health care and social assistance (Penn Wharton Budget Model 2017; see table 1).

TABLE 1.

Effective Corporate Tax Rates by Industry Under the 2017 Tax Act

Industry	2022	2027
All industries	17.3	18.3
Accommodation and food services	10.1	10.3
Administrative and support and waste management and remediation services	19.1	19.1
Agriculture, forestry, fishing, and hunting	23.4	24.5
Arts, entertainment, and recreation	22.0	23.0
Construction	22.5	23.5
Educational services	22.7	23.4
Finance and insurance	19.9	20.1
Health care and social assistance	23.1	23.8
Information	18.7	18.7
Management of companies (holding companies)	10.1	9.4
Manufacturing	15.4	15.8
Mining	11.3	10.8
Other services	22.8	23.7
Professional, scientific, and technical services	21.2	21.7
Real estate and rental and leasing	21.4	23.4
Retail trade	21.3	22.2
Transportation and warehousing	22.2	23.4
Utilities	22.2	23.8
Wholesale trade	19.8	20.5

Source: Penn Wharton Budget Model 2017.



Similarly, the tax rates on intangibles are generally lower than tax rates on tangible assets, with wide variations in the effective tax rates on different types of intangibles (Congressional Budget Office [CBO] 2018a; see table 2).

The second form of distortion is when effective marginal tax rates are lower for equipment than they are for structures, and lower for debt financing than for equity financing. See table 3, which is based on calculations from the model developed in Barro and Furman (2018).

TABLE 2.

Effective Tax Rates on Capital Income Under the 2017 Tax Act, by Type of Asset

Type of Asset	2022	2027
All intangible assets	12	15
Purchased software	22	28
R&D with the R&E tax credit	11	11
R&D without the R&E tax credit	25	25
Entertainment, literary, and artistic originals	13	27
Mineral exploration and development	10	10
Brand identity arising from advertising	8	8
All tangible assets	21	24

Source: Congressional Budget Office (CBO) 2018a.

Note: All intangible assets includes the R&E tax credit.



TABLE 3.

Effective Marginal Tax Rates on Corporate Investment

	100% Debt		100% Equity	
	Law as written	Provisions permanent	Law as written	Provisions permanent
Equipment	6%	-9%	13%	0%
Structures	19%	17%	23%	22%

Source: Author's calculations based on Barro and Furman 2018.



Finally, the third form of distortion is when tax rates on businesses organized as pass-throughs are much lower than tax rates on C corporations. The two rates are relatively similar at the entity level—in 2027 corporations face a 0.5-percentage-point higher tax rate than pass-throughs if all of the provisions of the TCJA are made permanent, and 1.8 percentage points lower rate if they are not (Foertsch 2018).³ Moreover, corporate income faces a second level of individual taxation at a rate of 23.8 percent on dividends and capital gains for taxable shareholders that realize their gains, which, even after taking into account nontaxable shareholders, still results in a substantially higher tax rate on an integrated basis for corporate capital than for noncorporate capital.

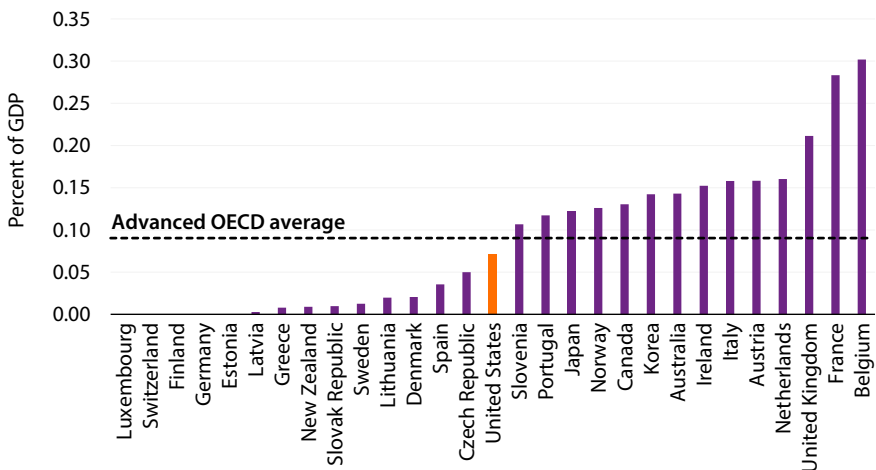
THE EXISTING SYSTEM DOES NOT FULLY REFLECT THE POSITIVE SPILLOVERS ASSOCIATED WITH BUSINESS R&D

The principle of neutrality applies to activities that, *ex ante*, there is no reason for public policymakers to consider any differently than would investors making business judgements based on market rates of return. One activity, however, is likely to have very large returns that go beyond what is captured solely by investors: investments in R&D. In recognition of this evidence, the United States was the first country in the world to enact a tax credit for R&D, originally passing it in 1981. Since then, most other major economies have passed even more generous measures; as a result, government tax support for R&D is much lower in the United States than it is in many other advanced economies and falls below the (unweighted) average for the advanced OECD countries (see figure 2). In addition, the U.S. research credit is complicated, offering firms the options of two different calculations, with other calculations for different circumstances.

Recent empirical analyses that attempt to measure spillover effects suggest that the socially optimal level of R&D investment—the amount that would produce the greatest rate of economic growth—is two to four times greater than actual spending (Bloom, Schankerman, and Van Reenen 2013; Jones and Williams 1998). While much of this shortfall relative to the optimum

FIGURE 2.

Government Tax Support for R&D in Advanced OECD Economies



Source: Organisation for Economic Co-operation and Development (OECD) 2019a.

Note: Data for United States are from 2014. Data for France and Greece are from 2016. All other country data are from 2017.

is in R&D, it is also in research by firms where asymmetric information prevents the ability to write private contracts that would allow firms to internalize their positive spillovers (Akcigit, Hanley, and Stantcheva 2019). While private solutions do not work, public ones can be highly effective. For example, research by Hall (1993) and Hines (1994), as well as Bloom, Griffith, and Van Reenan (2002) has found that research credits are highly effective at increasing research spending: Each dollar of forgone tax revenue due to the credit generally leads firms to invest at least one dollar in R&D, with some studies finding much larger effects. These studies, among others, find elasticities of roughly one and often as high as two. Akcigit, Hanley, and Stantcheva (2019) estimate the optimal subsidy for research; while their estimate differs from the current framework for the research credit, it justifies a substantial subsidy—one that appears to be larger than the one currently in the law.

THE TAX SYSTEM CAN PLAY A ROLE IN ADDRESSING THE CONSEQUENCES OF INCREASED CONCENTRATION IN THE ECONOMY

Several economists have documented the degree to which concentration has increased throughout the economy as fewer and fewer companies have come to dominate an increasing number of industries (Furman and Orszag 2018; Grullon, Larkin, and Michaely 2018; Philippon 2019; Shambaugh et al. 2018; White House 2016). Increased concentration can reflect good causes such as greater efficiency, as well as bad causes such as increased permissiveness of mergers and acquisitions. One manifestation of the increase in concentration is the rise in the rate of return on capital relative to the safe rate of return on assets, a fact that is not fully explained by increases in intangible investment or other obvious factors (Eggertsson, Robbins, and Getz Wold 2018; Farhi and Gourio 2018).

The increase in concentration is contributing to slower productivity growth and potentially also increased inequality through lower investment, less innovation, and more inequality. The policy responses to increased concentration should be in a wide range of domains, like antitrust policy and regulatory policy. But this fact also has implications for tax policy. To the degree that firms are getting larger monopoly returns, taxing these will not distort the economy—they are “rents”. While a firm would like as much of them as possible, they are in excess of the amount needed to get to undertake the investment they did. In fact, this taxation might be a way to curb monopoly power, increase competition in the economy; as a result, higher tax rates *on the portion of the return associated with monopoly* could even be efficiency increasing.

The Proposal

The proposal is designed to address these five challenges. It would raise additional revenue, helping to make the tax code more sustainable and thus more predictable. All of the elements of the proposal would be permanent, eliminating the uncertainty associated with phase-ins, phase-outs, and cliffs in the current code. It would make the tax system more neutral, especially with regards to decisions about financing with debt and equity. It would increase the tax benefits associated with investments in R&D, helping businesses to internalize the social benefits they currently create with their research and thus to undertake more of it. Finally, it would generally eliminate the taxation of the *normal* return to capital that all businesses require to make investments (by allowing for expensing of investment) but would greatly increase the taxation of the rents associated with monopoly profits or *supernormal* returns. This would help increase efficiency and would also raise revenue in a very progressive manner.

The proposal has five elements: (i) expanding expensing to include structures and all intangibles and making it permanent for all business investment while disallowing interest deductions associated with new investment; (ii) raising the corporate rate to 28 percent; (iii) requiring mandatory filing as C corporations for large businesses; (iv) eliminating other corporate loopholes, including the so-called extenders; and (v) expanding the R&E tax credit.

In addition, this reform to the domestic portions of U.S. business taxes should also be accompanied by a reform to the international portions, potentially along the lines of Clausing (2020) in this volume. Ideally, all five elements of the reform would be undertaken together since they form an integrated reform proposal. The problems associated with separating out some elements (e.g., doing expensing without disallowing interest deductions) and the possibility of separating out other elements (e.g., dropping the proposal for an expanded R&E tax credit) are discussed in “Questions and Concerns” later in this chapter. For the remainder of the section “The Proposal” and the next section, “Analysis of the Proposal,” the individual elements are treated as a single integrated proposal.

EXPAND EXPENSING AND MAKE IT PERMANENT

Under current law, investment in equipment—which is about 45 percent of annual business fixed investment—can immediately be deducted from income for the purpose of calculating taxes. This provides an incentive for new investments in equipment without conferring any benefits on old capital, that is to say investments that have already been made. In fact, under

this provision the effective marginal tax rate on new business investment financed from equity is zero (box 1 explains the logic).

There are, however, four problems with the way expensing is currently implemented that would be rectified by this proposal. The first is that expensing currently applies only to equipment and does not include structures (23 percent of business fixed investment) and does not apply uniformly to intangible investments (32 percent of business fixed investment, using the Bureau of Economic Analysis's intellectual property products category). The proposal would extend expensing to all of these categories of investment to ensure that different types of investment are not taxed at different rates.

BOX 1.

Why the Effective Marginal Tax Rate Is Zero When Businesses Can Expense Investment

To understand why expensing will result in an effective tax rate on marginal investment financed by equity of zero, consider a simple example. Assume that a business has the opportunity to spend \$100 to purchase a machine and put it in use to produce \$3 annually in profits net of other costs. For simplicity, assume the machine does not depreciate and that it produces \$3 annually forever.

If the business did not face any corporate taxes, then it would have to evaluate whether purchasing this machine was at least as good as the best alternative use of funds, which might be something like investing in U.S. Department of the Treasury (Treasury) bonds. If purchasing the machine was at least as good as the alternative, the business would proceed with the purchase, and otherwise it would not.

Consider several cases:

1. The business faces no corporate taxes. In this case its decision is, by definition, unaffected by the tax system, and if its alternative return is 3 percent or less it will purchase the machine.
2. The business faces a 33 percent corporate tax on its profits but does not get to expense or depreciate the machine. In this case, the business will keep \$2 annually in profits. As a result, it would undertake the investment only if Treasuries returned

2 percent or less, making it less likely for the business to make the investment. At a 50 percent corporate tax rate, it would only undertake the investment if Treasury bonds returned 1.5 percent or less, showing that the higher the tax rate, the more it would discourage investment in items like equipment and structures.

3. The business can deduct the full cost of its investment in the first year. Assuming the tax rate was 33 percent, this means that when it buys the machine, its taxes would go down by \$33, making the after-tax cost of the machine only \$67. The machine would then produce \$2 in after-tax profits a year. Getting \$2 a year from a \$67 machine is a 3 percent return. So, the business would buy the machine as long as it did not have alternatives with a greater than 3 percent return. This is exactly the same as the reasoning the business would undertake in the absence of taxes. The same logic applies regardless of the corporate rate. For example, at a 90 percent corporate rate it would cost the business \$10 (after taxes) to purchase the machine that would produce \$0.30 annually (after taxes), the same rate of return as without taxes. *In other words, with expensing, the corporate tax does not affect investment choices, which is the same as saying that the marginal effective tax rate is zero.*

The analysis above is for an equity-financed investment. For debt-financed investment the effective marginal tax rate is negative. In this case, assume that the business borrows \$100 to finance the investment and has to pay back \$3 annually in interest. Under current law, this interest is tax deductible, completely offsetting taxable profit on the investment. As a result, its after-tax rate of return is \$3. Assuming a 33 percent corporate tax rate, this \$3 after-tax return could be purchased for only \$67 in the after-tax cost of the machinery. As a result, it would undertake the investment even if it had alternative options offering as high as a 4.5 percent rate of return. This means it would undertake the investment, even when it may not make broader economic sense to do so, just for the tax benefits.

Alternatively, if a firm merges with another, thereby generating market power that will allow it to increase profits, there is no

investment to expense. In this case the additional profits, or supernormal profits, would all be taxed at the statutory rate.

The logic in this box captures the most important aspects of how the tax system affects choices about business investment, but some additional nuances and caveats are discussed in the subsection “Raise the Corporate Tax Rate to 28 Percent” on how to set the corporate rate.

The second problem is that expensing currently starts to phase out in 2023 and is gone entirely starting in 2027. The proposal would make expensing for all categories of equipment, structures, and intangibles permanent.⁴

Third, a firm that has no tax liability to use for expensing effectively gets a less valuable tax incentive because its deductions are carried forward without interest, which raises the cost of investment for start-ups and other loss-making businesses. This proposal would carry forward those deductions with the interest rate on Treasury bonds, which effectively makes them as valuable as getting upfront cash—which is necessary to make the effective marginal tax rate zero—while protecting against the possibility of abuse that could occur if businesses could get the cash upfront.

The final problem with expensing under current law is that the combination of expensing and the deductibility of interest leads to negative effective marginal tax rates, as explained in box 1 and as shown in table 3, where the effective tax rate on debt-financed investment in equipment assuming expensing is made permanent is -9 percent.

In recognition of this point, the TCJA included a limit on the extent of net interest deductions to 30 percent of earnings (with the definition of earnings changing under the law, as described above). Some businesses would have no interest deductions available for marginal investment and thus would not benefit from this negative effective tax rate. Other businesses would fall below this cap and as a result would get full deductibility of interest at the margin and thus very negative effective tax rates. If expensing is intended to be a temporary stimulus provision, as it was in 2010 and 2011, then this negative rate may not be as much of a problem. To make expensing permanent and extend it to all business investment, however, would make this a nearly fatal problem.

The solution is to limit the deductibility of interest, not to 30 percent of earnings but entirely limit it. This was proposed, together with expensing, as part of the Better Way plan developed by the House Republicans (Ryan 2016). Similarly, the Growth and Investment Tax Plan of the President's Advisory Panel on Federal Tax Reform (2005) included another version of expensing and limiting interest deductions.

RAISE THE CORPORATE TAX RATE TO 28 PERCENT

Once a tax system has expensing and interest deductions have been eliminated, the corporate tax rate does not matter for business investment and thus increasing it has no adverse impact on economic efficiency or economic growth. Effectively, in an economy with expensing the tax rate on the “normal” portion of investment—the return equal to the next-best alternative the firm had—is zero. The entire tax falls on the “supernormal” portion of the return, which is to say the rents and returns to monopoly profits. Taxing this supernormal portion is a loss for the firm, which cares about its *average* tax rate for its overall profitability, but is not a loss that would affect its decision making for new investment, which is determined by its *marginal* tax rate. Relatedly, a portion of revenue from the increased tax rate applies to existing capital. This would have no distortionary effect because it is based on decisions that have already been made. In contrast, none of the cost of expensing is associated with tax cuts for past investments.

This logic also is reflected in the model that is used for the macroeconomic analysis in the next section, which is taken from Barro and Furman (2018). As Barro and Furman showed, a tax system with expensing plus higher tax rates results in *higher* growth rates than one without expensing but with lower tax rates.

What is the basis for picking a corporate tax rate? And why not raise the corporate tax rate to 90 percent or even higher? The concerns with a higher tax rate all lie outside the model itself. The incentives to undertake a costly and wasteful tax avoidance opportunity rise with the *statutory* tax rate not the *effective* tax rate. In the hypothetical example described in box 1, with a 90 percent tax rate the after-tax cost of the machine is \$10 and the firm pays a 90 percent tax on its \$3 annual return. Anything it could do to lower that tax, for example by making it appear to have only made a profit of \$2 annually, will have a potentially enormous impact on its after-tax rate of return.

Some of the avoidance strategies that firms could use involve shifting profits overseas to be taxed at the rates of other countries. To the degree that the U.S. statutory rate is very different from the statutory rate in other

countries, that would exacerbate these pressures. An effective international tax regime can minimize the ability of firms to shift income, but even the most effective system would likely break down in the face of huge statutory rate differentials. More effective international taxation creates some room for divergence in rates, but not unlimited room.

Even absent considerations of tax avoidance, there are some reasons to believe that actual business investment decisions could be affected by higher tax rates. Business leaders generally report ignoring the impact of the tax treatment on cost recovery in their decision making (Batchelder 2017; Neubig 2006). To the degree this is the case, in the example in box 1 they would perceive the machine as costing \$100, and not as having its after-tax cost. As a result, the higher the tax rate, the lower their perceived after-tax returns and the less likely they would be to undertake the investment.

Finally, there may be a rational basis for some business decisions to be based on average tax rates instead of effective marginal tax rates. Specifically, Devereux and Griffith (1998) analyze the case of large, lumpy international location decisions. Unlike the case where a firm is making a decision about a marginal adjustment in its investment, in this case the question is where it will get the highest after-tax profits from its location decision. Like the avoidance issues, this too depends on differences in average rates and also on the way that international income is taxed. Moreover, modeling (not shown in this chapter) finds that this effect is likely small compared to the effects of changing marginal rates. Nevertheless, as the statutory tax rate rose it would become larger.

In summary, the model that is used in Barro and Furman (2018) and that is commonly used for the macroeconomic analysis of tax plans gives no guidance on the tax rate—and, in fact, suggests that higher rates will result in higher revenue, enabling other productive spending or reductions in other distortionary taxes, and thus be welfare enhancing. Nevertheless, considerations from outside the model strongly suggest that there are downsides to higher tax rates. Taking this all together, there is no good scientific way to determine the optimal tax rate.

The 28 percent proposed in this plan is a reasonable guess but additional work could potentially refine this rate. It is not much higher than the 25 percent tax rate called for by the main large business lobbying association, the Business Roundtable. As shown in figure 3, 28 percent is similar to but on the high end of the tax rate in other large advanced economies, something that is appropriate for an economy the size of the U.S. economy. Moreover, if the rate increase were done in conjunction with more effective international tax rules, it might not raise any additional

issues. It is certainly plausible that a higher tax rate would be reasonable and would still mean the proposal was growth-increasing and welfare-enhancing. Nevertheless, the considerations above also make it plausible that 28 percent is a reasonable value for the corporate rate, which could then be adjusted based on the actual experience.

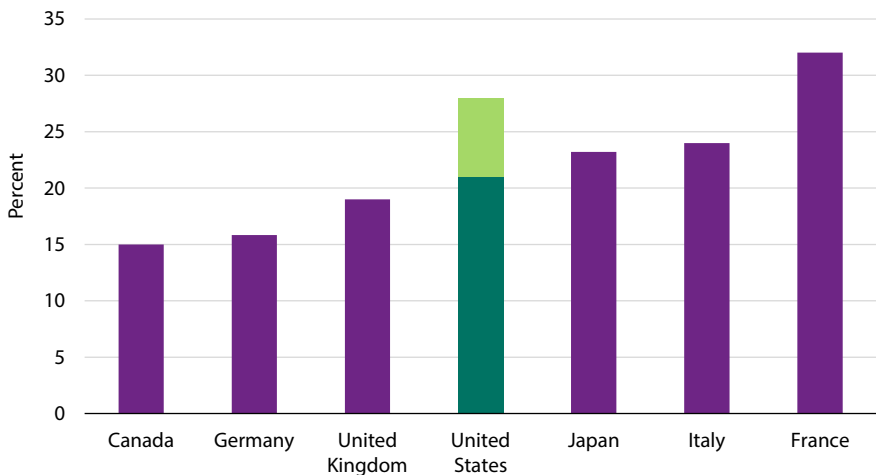
ELIMINATE THE TAX PREFERENCE FOR PASS-THROUGHS

In the United States, companies can elect whether to be taxed through the corporate tax code—with an additional layer of taxes when they distribute profits to shareholders—or whether to be taxed at the individual level. As corporate and individual taxes have shifted over time this choice has resulted in companies shifting their forms to whatever is more favorable (Goolsbee 1998; Mackie-Mason and Gordon 1997; Prisinzano and Pearce 2018). This election reduces revenue, increases complexity, and results in companies making decisions about business form for tax reasons and not for economic reasons. Currently the tax rate is lower for pass-throughs than it is for C corporations.

One limited way to make progress on the disparity between the taxation of corporations and pass-throughs would be to repeal the 20 percent deduction for certain business income that was passed as part of the TCJA.

FIGURE 3.

Statutory Central Government Corporate Tax Rate in G-7 Countries



Source: Organisation for Economic Co-operation and Development (OECD) 2019b.

Note: Data are for 2019. Light green segment for United States indicates statutory corporate tax rate under proposal.

This provision arbitrarily makes a distinction between different types of income, resulting in different tax rates for similar activities that differ only in their labeling. The provision originally cost \$415 billion (Joint Committee on Taxation [JCT] 2017). Repealing it would raise money through 2025 under current law and would prevent the additional revenue loss that would result from this provision being made permanent.

An even more fundamental solution would be to get to the root of the problem itself—the ability to choose between different tax systems. The President’s Advisory Panel on Federal Tax Reform (2005) convened by President Bush recommended, “For large businesses that currently are taxed as flow-through entities, such as partnerships, LLCs, and S-corporations, domestic earnings would be subject to tax at the business level. Passive investment vehicles, such as regulated investment companies (RICs) and real estate investment trusts (REITs), would continue to be treated the same as under current law” (President’s Advisory Panel on Federal Tax Reform, 129). Their proposal used a gross receipts threshold of \$10 million, which with inflation would be about \$13 million today. A higher threshold, say \$25 million, might be more reasonable. In addition, an owner’s income would need to be taxed as dividends are today. Assuming a corporate rate of 28 percent and the current 23.8 percent on dividends, this would yield a combined tax rate of 45 percent—similar to the top rate for individual income.

ELIMINATE OTHER WASTEFUL CORPORATE LOOPHOLES, INCLUDING TAX EXTENDERS

The corporate tax code has numerous structural features that are very costly, such as the combination of expensing with interest deductions and the tax treatment of international income. It has far fewer egregious corporate loopholes, measured by their total cost, that are for specific interests. According to the JCT (2019), the largest tax expenditures for businesses include two international provisions, accelerated depreciation, small business expensing, the R&E credit, and the low-income housing tax credit. While all of these provisions have pros and cons, none of them meets the commonsense definition of “loophole.”

Nonetheless, the number of rifle-shot provisions in the tax code, even if they do not add up to a substantial amount of money, are bad public policy and undermine faith in the tax code. As a result, they should be systematically eliminated in any reform plan. Many of them are scheduled to end after 2020—such as the extenders that include favorable tax treatment for racehorses and NASCAR tracks—and they should end then, a step that

would not raise revenue relative to current law but would prevent further loss. In addition, any other loopholes should be eliminated.

EXPAND THE TAX INCENTIVE FOR R&D

Finally, one way to both increase and simplify the research credit would be to expand one of the ways businesses can calculate the research credit by increasing the alternative simplified credit rate from 14 percent to 20 percent. At the same time, the research credit could be simplified by repealing other credits, including the regular base period calculation for the standard credit, the university and energy credits. In addition, the definition of research used for the credit should be aligned with the current definition of the research that qualifies for expensing, although this provision would be less important if expensing were expanded. Alternatively, other proposals of similar scale could be considered (see, e.g., Government Accountability Office 2009; Guenther 2016; Rao 2015; Tyson and Linden 2012; U.S. Department of the Treasury 2016).

Analysis of the Proposal

Ultimately the assessment of any tax proposal should depend on its impact on the well-being of households, or welfare. Some of the critical intermediate information in assessing the effect on welfare is the macroeconomic analysis of the effect on growth, the analysis of the impact on revenue, and how the tax changes affect the distribution of income (Furman 2016; Leiserson 2017).

ECONOMIC GROWTH

The proposal would lower the cost of capital for businesses, leading to more investment and thus a higher steady-state level of output. In the transition to this new steady-state, the proposal would also increase the rate of economic growth. The inclusive results of this plan for macroeconomic performance are shown in table 4, with a column comparing the growth effects to law as written and one comparing the effects to provisions permanent, which is a strong version of current policy that assumes all the provisions in the law today are made permanent.

Relative to current law, the proposal would raise the long run level of output by 5.8 percent. This would take time as businesses increased investments and capital adjusted to its new trajectory. Over the next decade the result would be about a 0.2-percentage-point increase in the annual growth rate. The proposal would also do more for growth than just extending everything in current law, including equipment expensing and the pass-

TABLE 4.

Estimated Macroeconomic Effects of Proposal

	Relative to law as written	Relative to provisions permanent
Change in GDP: Long run	5.8%	3.9%
Change in GDP: 10 years out	2.3%	1.6%
Change in 10-year annual growth rate	0.24 p.p.	0.16 p.p.

Source: Author's calculations based on Barro and Furman 2018.

Note: "p.p." refers to percentage points. The proportionate changes in GDP after 10 years come from applying a convergence rate of 5 percent per year to the long run results.



through deduction. Relative to this alternative, it would also be about a 0.2-percentage-point increase in the annual growth rate. (Note in the unrounded numbers this is somewhat smaller than the change relative to current law.)

This analysis is based on the models and parameters in Barro and Furman (2018) and is similar to the estimated effects in that paper (Barro and Furman 2018, table 10, p. 38). The model divides the economy into five types of capital (equipment, structures, residential, R&D, and other intellectual property) and three sectors (corporate, pass-through, and government/household). The supply of capital is infinitely elastic, corresponding to a small open economy or a long run Ramsey model with offsetting effects from upward-sloping supply of capital and falling rate of time preference or intertemporal substitution. The demand for capital is based on user costs, which depend on the tax treatment of new investment, and the amount of capital is determined in competitive equilibrium. The model assumes perfect foresight and an unchanging tax code. The long run steady-state increase in the level of output is translated into an annual path for growth by assuming a 5 percent convergence rate to the new steady-state.

Most importantly, the corporate tax reform in this chapter is only part of the policy. The additional revenue it raises would also be used in some manner that could affect economic growth. It could be used for progressive transfers, for public investments, to offset other distortionary taxes, or for debt reduction—in lieu of other tax increases or spending cuts. For any non-revenue-neutral proposal, the way this half of the proposal is specified can matter as much for growth as the proposal itself matters. This analysis effectively assumes that the proceeds of corporate reform are used to finance lump sum transfers to households, which have no effect on economic growth. This could be a conservative assumption in that many uses of the funds would further add to growth, including if they were used

for public investment, investments in children, or incentives for work; or to reduce other forms of taxes.

This neoclassical model is simple, tractable, and yields similar estimates to other modeling strategies. It is also likely a lower bound on growth because it does not include any special role for R&D in the long run level of output or even the trend growth rate of output. In addition, it does not reflect the additional benefits from a more stable, predictable tax code that reduces uncertainty, improves the allocation of capital within categories, and eliminates the bias toward debt financing. On the other hand, it also does not include some of the potential costs of higher rates that were described in “The Proposal.” On balance, it is a reasonable and likely to be conservative estimate of the macroeconomic impact of the proposal.

This macroeconomic impact, by itself, does not tell us much about welfare. The additional growth is a result of people temporarily reducing their consumption (which reduces utility) or borrowing more from other countries (which must be repaid). This is not “free” growth but instead reflects a shift in how current trade-offs are made. The macroeconomic impact, however, is relevant, given that this is the analysis of a large discrete change in tax policy and also because it feeds into the revenue estimate.

REVENUE

The proposal raises revenue because although it cuts the tax rate on the normal return to capital, it increases it on the supernormal returns to capital—which represent an increasingly large portion of the total return earned by corporations. This chapter does not offer a precise estimate of the gross revenue raised by this proposal but instead offers a rough, indicative analysis that should be improved by more complete modeling, taking better account of the interactions in the proposal, and fleshing out some of the details in the proposal.

The impact on revenue also includes the dynamic analysis that includes not just the direct effect of the tax change but also the macroeconomic feedback associated with the increase in GDP and thus other revenues. As in “The Proposal,” this dynamic analysis effectively assumes that the additional revenue is being rebated in a lump sum fashion—so this is an estimate of how much money this proposal generates for American households.

Table 5 shows the very rough revenue estimates for the proposal.

Excluding macroeconomic feedback, the proposal would raise \$300 billion the first decade. Taking into account the increase in economic growth,

the total revenue raised grows to \$1.1 trillion. Even this is a misleadingly small estimate of the total fiscal impact of the proposal. In steady-state the proposal would raise 1.1 percent of GDP in revenue, divided roughly equally between the direct effect and the macroeconomic feedback.⁵ If this steady-state revenue level had been in effect from 2021 onward then the proposal would raise the equivalent of \$3 trillion over the next decade.

The steady-state increase in revenue as a percent of GDP is higher than the amount of revenue raised over the 10 years in part because permanent expensing and disallowing interest deductions loses money in the first decade but raises money over the longer run. This happens because the 10-year budget window shows much of the gross cost of expensing (which is immediate) but does not show much of the partially offsetting gross savings (lost depreciation deductions, many of which fall outside the window). Similarly, the disallowance of interest deductions applies only to new investments, so it grows over time. In addition, the macroeconomic feedback grows over time as the capital stock grows to its new, higher steady-state trajectory.

TABLE 5.

Estimated Revenue Effects of Proposal

	Actual, 2021–30 (billions of dollars)	Fully effective, 2021–30 (billions of dollars)	Fully effective (percent of GDP)
Permanent expensing and disallow interest deductions	–700	700	0.3
Corporate rate to 28 percent	700	800	0.3
Pass-throughs file as C corporations	300	200	0.1
Corporate loophole repeal	100	100	0.0
Research and experimentation credit expansion	–100	–100	0.0
Macroeconomic feedback	800	1,200	0.4
Total	1,100	3,000	1.1
Memo: Total without macroeconomic feedback	300	1,800	0.6

Source: Author's calculations, estimates, and extrapolations based on Burman et al. 2017; Congressional Budget Office (CBO) 2016a, 2016b, 2018b, 2018c, 2019a, 2019b; Joint Committee on Taxation (JCT) 2016.

Note: Components may not sum to total due to rounding. Permanent expensing and disallow interest deductions is effectively stacked after corporate rate to 28 percent in the revenue table, so it reflects the interaction with the higher corporate rate.

DISTRIBUTION

This proposal raises substantial additional revenue that could be used to fund additional spending, cut other taxes, or alleviate the need for additional spending cuts or tax increases to stabilize the debt. The distributional impact of the proposal depends as much on the uses of the revenue as it does on the collection of the revenue itself.

The distribution of the proposal itself would, by definition, be a tax increase. The incidence of this tax increase depends on the assumption of which individuals ultimately bear the corporate tax burden. The tables in this analysis follow the Urban-Brookings Tax Policy Center (TPC), which is similar to the Treasury, the JCT, and the CBO, in assuming that corporate taxes are passed through 60 percent to shareholders in the form of smaller dividends or capital gains, 20 percent to all capital owners in the form of lower returns on all economywide assets, and 20 percent to workers in the form of lower wages (Nunns 2012). Under these assumptions, 58 percent of the corporate tax is paid by the top 10 percent of households and 14 percent of the corporate tax is paid by the bottom 60 percent of households.

The first column of table 6 shows the percent change in after-tax income as a result of the business tax proposal alone, assuming it is distributed along the same lines as current corporate taxes and applying the steady-state 0.6 percent of GDP revenue increase (excluding dynamic effects) to the baseline for 2025. By itself the proposal is progressive, with the largest changes in after-tax income for the highest-income households, a 3.3 percent reduction in after-tax income for the top 0.1 percent as compared to a 0.6 percent reduction for the middle quintile, and a 0.3 percent reduction for the bottom quintile.

Using the generic distribution of the corporate tax understates the progressivity of this proposal because it reduces the tax rate on the normal return to shareholders, which is borne by owners of capital construed broadly and workers; and increases the tax rate on monopoly profits and rents, which is borne by shareholders (Cronin et al. 2012; Nunns 2012). As a result, the proposal would raise wages in the long run and shift the corporate tax burden to shareholders in a highly progressive manner. Relatedly, distribution tables are supposed to reflect changes in prices and the first column implicitly assumes that wages fall whereas the macroeconomic analysis shows that wages rise in proportion to GDP. Column 2 of table 6 attempts to reflect these effects under the ad hoc assumption that the entire burden of the corporate tax falls on holders of corporate equity and also incorporating the increase in wages, using the 2.3 percent increase in wages in 2030 as the basis for what is intended to be a long run, steady-

TABLE 6.

Estimated Percent Change in After-tax Income from Proposal

	Corporate tax increase only		Corporate tax increase plus lump sum transfer per tax unit	
	Assuming burden of corporate tax change proportional to baseline corporate tax burden	Assuming shareholders bear the corporate tax change and counting wage increases	Assuming burden of corporate tax change proportional to baseline corporate tax burden	Assuming shareholders bear the corporate tax change and counting wage increases
Expanded cash income percentile				
Lowest quintile	-0.3%	1.1%	8.6%	9.9%
Second quintile	-0.4%	1.3%	3.3%	5.0%
Middle quintile	-0.6%	1.3%	1.6%	3.5%
Fourth quintile	-0.7%	1.3%	0.6%	2.6%
Top quintile	-1.4%	-0.1%	-0.9%	0.4%
Total	-1.0%	0.5%	0.7%	2.2%
80–90th percentiles	-0.8%	1.2%	0.1%	2.1%
90–95th percentiles	-1.0%	0.9%	-0.4%	1.5%
95–99th percentiles	-1.2%	0.4%	-0.9%	0.7%
Top 1 percent	-2.4%	-2.2%	-2.3%	-2.1%
Top 0.1 percent	-3.3%	-3.8%	-3.2%	-3.8%

Source: Author's calculations and extrapolations based on Congressional Budget Office (CBO) 2019a; Nunns 2012; Stallworth 2019; Urban–Brookings Tax Policy Center (TPC) 2018a, 2018b.

Note: Estimates are for 2025.



state estimate. Under this analysis, after-tax incomes actually rise for the bottom four quintiles as they see wage gains that exceed the increased share of corporate taxes they pay through their capital holding. The reduction in after-tax incomes for households at the very top of the distribution is slightly larger in this case as well.

This business tax proposal is only one part of a broader budgetary approach, and this chapter does not explicitly propose a use for the money. As an illustration, this distributional analysis will assume that it is used for lump sum transfers that are equal for each tax unit—the same assumption that was used in the macroeconomic analysis above. To the degree the proceeds were used more progressively, for example to fund income-related transfers, this may understate the progressivity of the proposal. Note that

the amount of revenue available for lump sum transfers exceeds the burden of the tax itself because it includes not just this burden (0.6 percent of GDP in steady-state) but also the additional revenue that results from the increase in GDP (0.4 percent of GDP in steady-state). The static revenue is used for the distribution table because this reflects the burden of the tax. The additional revenue associated with the dynamic analysis is not a burden because it comes as a result of higher incomes—but it can be a benefit when it is recycled. As a result, the average household is made better off when the revenue is recycled—with its after-tax income rising by 0.7 percent under conventional scoring and 2.2 percent counting the wage increases. Counting the wage increases and the specific distribution of the tax, the bottom quintile sees a 9.9 percent increase in its after-tax income and the middle quintile sees a 3.5 percent increase in its after-tax income. Meanwhile, the top 0.1 percent would see effectively the same reductions in its after-tax income as it would have absent the lump sum transfers because the transfers are negligible compared to their overall income.

WELFARE

The distributional analysis with lump sum transfers gives a reasonable proxy for an analysis of the impact of the proposal on the well-being of households, as Greg Leiserson has argued (Leiserson 2017). This is because it reflects the direct changes of the tax, the changes in prices like higher wages and lower stock returns, and the impact of the additional revenue generated by the proposal through lump sum transfers. The analysis does not include the changes in efficiency, like the better allocation of capital, the potentially increased growth rate as a result of more R&D, and the benefits of a less leveraged tax change. For small tax changes these are negligible compared to the factors included in the distribution tables, but in this case it is a large proposal, so the efficiency improvements could be first order—and would mean larger gains than shown in the distributional analysis.

Overall, most people gain on average in the analysis reflecting the details of the proposal and the lump sum transfers. In this case, the average percentage gain across households totals 5.0 percent—much larger than the 2.2 percent gain for the average household, as shown in table 7.⁶ This larger gain corresponds roughly to the improvement in total well-being (or utility) for society, assuming that utility is based on the logarithm of income and that everyone's utility is weighted equally without any special attention to those at the bottom of the income distribution. Effectively, averaging percent gains does not ascribe an arbitrary normative meaning to the average of income but instead says that an equal percent increase in income is equally valuable for different households (see Furman 2019). If society is risk averse, the gains are even larger than this.

TABLE 7.

Long Run Aggregate Welfare Gains

Percent change for average household	2.2%
Average percent change for households	5.0%

Source: Author's calculations and extrapolations based on Congressional Budget Office (CBO) 2019a; Nunns 2012; Stallworth 2019; Urban–Brookings Tax Policy Center (TPC) 2018a, 2018b.

Note: Based on distributional estimates presented in the fourth column of table 6.



Questions and Concerns

The proposal raises a number of questions and concerns that are addressed in this section.

1. Do all the parts of the proposal need to be passed together?

Many of the parts of the proposal do need to be passed together. The most important link is that expensing must be accompanied by eliminating the deductibility of interest; if not, there will be a substantial favoritism for debt-financed investment that will face a lower tax rate. The expensing and interest deductibility proposal would raise money in the long run but would lose money over the first decade. As a result, it would at least temporarily compound the revenue problem, making it important to combine it with the proposal for higher corporate rates. All of these proposals raise taxes on C corporations, an effect that would be partly undone if companies could freely shift to becoming pass-through entities. As a result, it is important to combine these changes with something that affects the taxation of pass-through entities. The minimal proposal would be to eliminate the 20 percent deduction, but the ideal would be to eliminate the election entirely. The loophole closers are a relatively minor part of the proposal and the expanded research credit could be dropped from the proposal, resulting either in some additional revenue or a similar revenue gain with a smaller increase in the corporate rate.

2. Will this proposal open up new avenues for tax avoidance?

Every change in the tax system creates new opportunities for companies to avoid taxes. In many ways, this proposal would minimize those opportunities relative to current law, including completely shutting down the exploitation of differences between tax rates on C corporations and pass-throughs. But this would not be a “set it and forget it” tax reform; instead, policymakers would need to be vigilant and pass follow-up legislation addressing any unintended loopholes that crop up.

3. How would your proposal handle the ending of interest deductibility for financial institutions?

The proposal would eliminate the deductibility of net interest, not gross interest, so it would still enable the business model of financial institutions. Additional study should be given to any other rules that would be necessary to reflect the role that interest plays in the financial sector.

4. Does the proposal need transition rules to give existing businesses time to plan?

The proposal would apply to businesses going forward, although the tax rate increase would effectively raise taxes on the proceeds of past investments. There is no reason that it would need to include any transition rules, phase-ins, or phase-outs. In fact, such rules can add additional complications and political uncertainty. Nevertheless, some of them might be a political price necessary to pass the proposal—as with the 1986 tax reform.

5. What if the growth does not materialize because the cost of capital is already so low that businesses are not likely to increase their investment just because it is lowered further?

This proposal is designed for the long-term and not as a response to the immediate economic conditions. Moreover, there is no evidence that businesses have changed the way they respond to changes in the cost of capital. Also, the growth effects would come not only from the cost of capital but also from increased efficiency in the allocation of capital across sectors, reduced overleveraging from debt financing, and increased R&D. It is more likely that the model estimates are a lower bound on the growth impact. That said, if little or none of the growth materializes, the proposal would still be net revenue increasing—both over the next decade and even more over the long run. It would still be progressive. And if the proceeds were used for lump sum transfers, it would still make the bottom several quintiles of the income distribution better off. So, the main qualitative effects would be similar but the magnitude of the benefits would be smaller.

Conclusion

This proposal would reform the business tax system by improving the tax base and raising tax rates. This combination makes it possible to simultaneously increase growth, aggregate well-being and raise revenue. The scope of this chapter was limited to focus on the domestic components of business tax reform, but the international components are essential given the substantial scope for efficiency-increasing revenue raisers in

the international space and the importance of reducing international tax avoidance that could arbitrage the increased gap between U.S. and foreign rates under this proposal. Business tax reform could be done by combining the ideas in this chapter with an international reform, for example as in Clausing (2020). Ultimately, even larger gains would result from integrating these proposals with an overhaul of capital taxation at the individual level, but that is far beyond the scope of the present chapter.

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Endnotes

1. As discussed below, this estimate just reflects changes in the cost of capital and associated changes in investment. It does not reflect the fact that increases in R&D could also increase total factor productivity growth or the benefits that reducing the debt-equity difference would have for macroeconomic stability and potentially the longer-run level of output as well. As such, these growth estimates are a lower bound.
2. If activities have positive or negative externalities associated with them then they should be taxed at different rates accordingly.
3. The formal name for the TCJA is "An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018."
4. For fast-growing profitable firms in particular, expensing can reduce or eliminate tax burden.
5. This steady-state uses 2030 for the level of GDP rather than the long run level, to more approximate something like the average steady-state. The steady-state for the tax provisions is generally around 2030 or 2030–40.
6. Averaging percent gains is like looking at the change in the mean of log incomes. This corresponds to a utilitarian social welfare function with the assumption of log utility. In reality, utility may have more curvature than this (reflecting greater risk aversion) and society may weight the utility of households at the bottom even more. These considerations would result in an even bigger welfare increase than the 5.0 percent shown in the table.

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