TAX POLICY CENTER
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APPROACHES TO BUSINESS TAX REFORM

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Chairman Hatch, Ranking Member Wyden, and members of the committee. Thank you for inviting me to appear today to discuss corporate tax reform.

No one is satisfied with the current rules for taxing income of corporations. The US corporate tax system discourages investment in the United States, encourages US multinational corporations to report income in low-tax foreign jurisdictions, places some US-based multinationals at a competitive disadvantage compared with foreign-based firms, and has encouraged US companies to accumulate over $2 trillion in assets overseas.

*The views expressed are my own and should not be attributed to the Tax Policy Center or the Urban Institute, its board, or its funders. I thank Len Burman and Howard Gleckman for helpful comments and Lydia Austin for help in preparing this testimony.

At the same time, the US corporate tax raises less revenue as a share of gross domestic product (GDP) than the corporate taxes of most of our major trading partners. Corporate receipts have been fairly steady at about 2 percent of GDP for most of the past three decades. However the Congressional Budget Office (2016) is now projecting that corporate receipts will decline to 1.6 percent of GDP in 2026, as US multinationals continue to shift reported profits to low-tax foreign countries and more US corporations "re-domicile" themselves as foreign-based corporations.

The current corporate tax system is outdated because it has failed to adjust for four major developments: the increased globalization of economic activity, the reduction in corporate tax rates in other major countries and their shifts to territorial tax systems, the increased share of business wealth in the form of intangible property, and the increased share of economic activity in the United States by businesses that are not subject to corporate income tax.

The current administration and leading Republicans agree that the top US corporate tax rate needs to be lowered and that the United States should no longer tax foreign profits when US corporations repatriate them by paying dividends to the US parent company. There is less agreement, however, on how to make up the revenues from a reduced corporate rate. There is agreement that a tax on current overseas profits and new minimum taxes going forward on low-taxed foreign income should accompany elimination of the repatriation tax. But there are wide differences on the exact form these taxes should take and the rates that should be imposed.

In my statement, I review the main problems with the corporate income tax and discuss why I believe that 1986-style tax reform that pays for reducing the corporate rate by broadening the business tax base is an insufficient solution. I make the case that revenue neutrality should not be sought within the business tax base alone. I discuss two approaches for paying for a reduced corporate income tax rate—increased taxation of shareholder income and introduction of new revenue sources.

PROBLEMS WITH THE CORPORATE INCOME TAX

The corporate income tax has long-standing problems that would exist even apart from the four major developments I just listed. It favors debt over equity finance for corporations because interest payments are deductible, though dividends are not deductible. It encourages corporations to retain profits instead of distributing them because dividends payments are taxable immediately and taxes on capital gains can be deferred until realization. It favors businesses organized as pass-through enterprises, such as limited liability partnerships and subchapter S corporations, over corporations organized under subchapter C of the Internal

Revenue Code (C corporations). C corporations face two levels of tax, one at the corporate level and then a second tax on dividends and realized capital gains attributable to retained earnings. Between 1980 and 2012, the share of net business receipts from companies organized as pass-through enterprises, including sole proprietorships, increased from 14 to 39 percent and their share of taxable profits increased from 25 to 64 percent. [1]

These distortions cause corporations to incur more debt and pay fewer dividends than they would in the absence of a corporate tax, encouraging excessive leverage and weakening shareholder control over corporate behavior. They encourage firms to organize themselves as pass-through enterprises instead of C corporations and encourage the expansion of industries in which the pass-through form of business is more prevalent at the expense of those mostly characterized by publicly-traded companies that cannot use the pass-through forms.

Even bigger distortions result from the attempt of single countries to tax the income of corporations that are global in scope. Tax experts have long debated the choice between a worldwide system that taxes US-resident corporations on their worldwide income with a credit for foreign income taxes, and a territorial system that taxes US corporations only on their US-source income. Worldwide taxation is in theory neutral between domestic and foreign investment of US-resident companies, but would place these companies at a disadvantage compared with foreign-resident companies that do not pay home country tax on their foreign-source income. Territorial taxation is, in theory, even-handed in its treatment of US and foreign-based multinationals, but it would encourage US-based multinationals to shift real investments and reported income to low-tax foreign countries. When countries impose different tax rates on corporate income, the United States acting alone cannot create both a level playing field between the domestic and foreign investments of its resident companies and a level playing field between US and foreign-based companies because the United States cannot tax profits of foreign-based multinationals that are earned outside of the United States.

The United States addresses this tradeoff between the conflicting objectives of international policy with a hybrid tax system that is neither purely worldwide nor purely territorial. By allowing US-based multinationals to defer tax on most profits until they are repatriated, the United States taxes foreign-source income at a much lower effective rate than it taxes domestic source income of US multinationals. Deferral creates an additional problem, however, because it encourages US multinationals to retain foreign profits overseas instead of repatriating them to the US parent company so they can be paid as dividends to shareholders or used for domestic investment. The result is that US multinationals in recent years have accrued over $2 trillion in overseas assets. [2]

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[1] Excluding regulated investment companies and real estate investment trusts, the shares of net business receipts have increased from 15 to 32 percent and the shares of taxable profits increased from 21 to 53 percent.

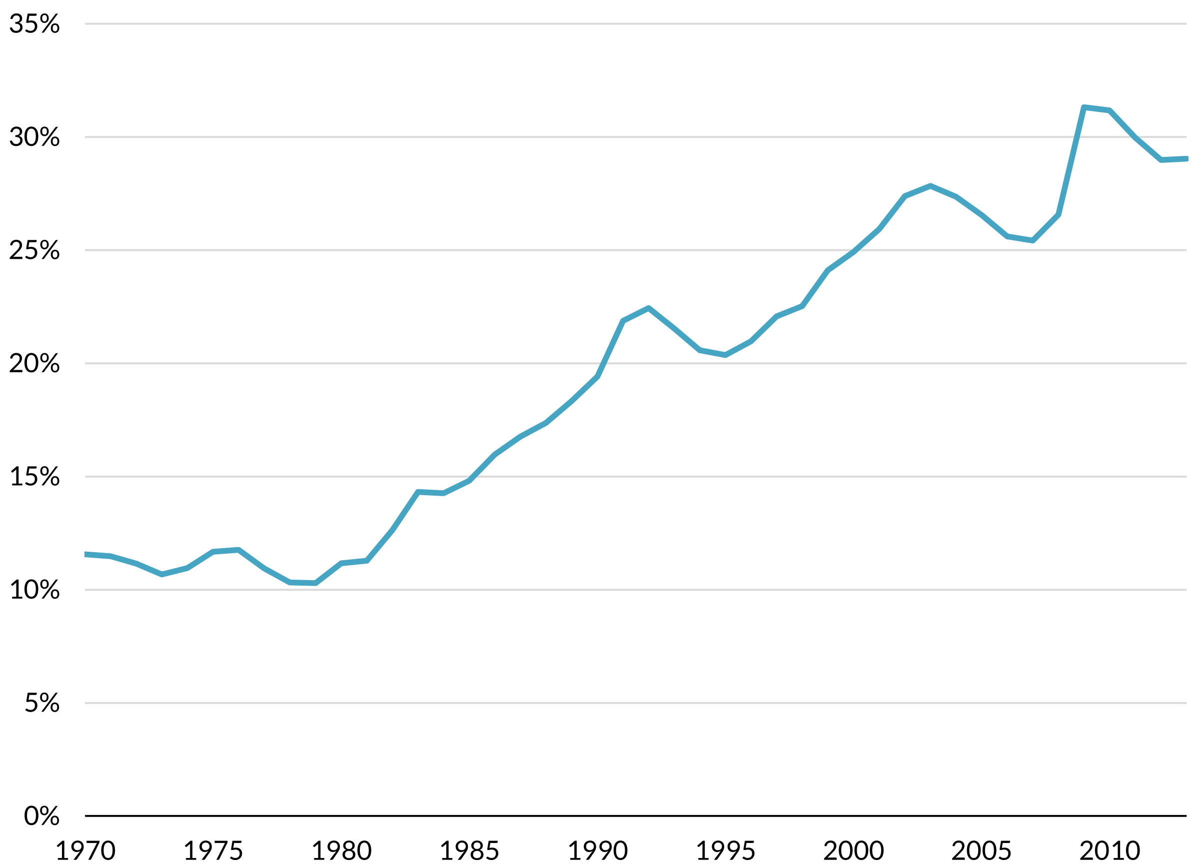
[2] Richard Rubin, "US Companies Are Stashing $2.1 Trillion Overseas to Avoid Taxes," *Bloomberg* March 4, 2015, http://www.bloomberg.com/news/articles/2015-03-04/u-s-companies-are-stashing-2-1-trillion-overseas-to-avoid-taxes.

No country uses a pure model of either worldwide or territorial taxation. Even countries with territorial systems usually impose taxes on some forms of foreign-source income to limit income-shifting techniques that would erode their domestic tax bases. These anti-avoidance rules also may affect the taxation of inbound investment from foreign companies, which may enjoy an advantage over domestic firms to the extent that anti-avoidance rules affect home-based companies only and do not limit the shifting of reported profits of inbound investments by foreign-based companies.

These economic distortions pale before the real-world distortions because of the inability to define in an economically meaningful way either the source of corporate income or the residence of multinational corporations. The *source* of profits may have been meaningful when most business wealth was in the form of fixed assets, such as plant and equipment. Today, however, a substantial share of business wealth is in the form of intangible assets that are not location-specific, such as patents, goodwill, business reputation, and corporate governance. Multinationals often shift ownership of intangibles to affiliates in low-tax jurisdictions. While these firms may have little production, employment, or sales in these countries, this shift still allows them to reduce tax 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 often it is very difficult to value the intangible at the time of transfer before its contribution to profitability is established.

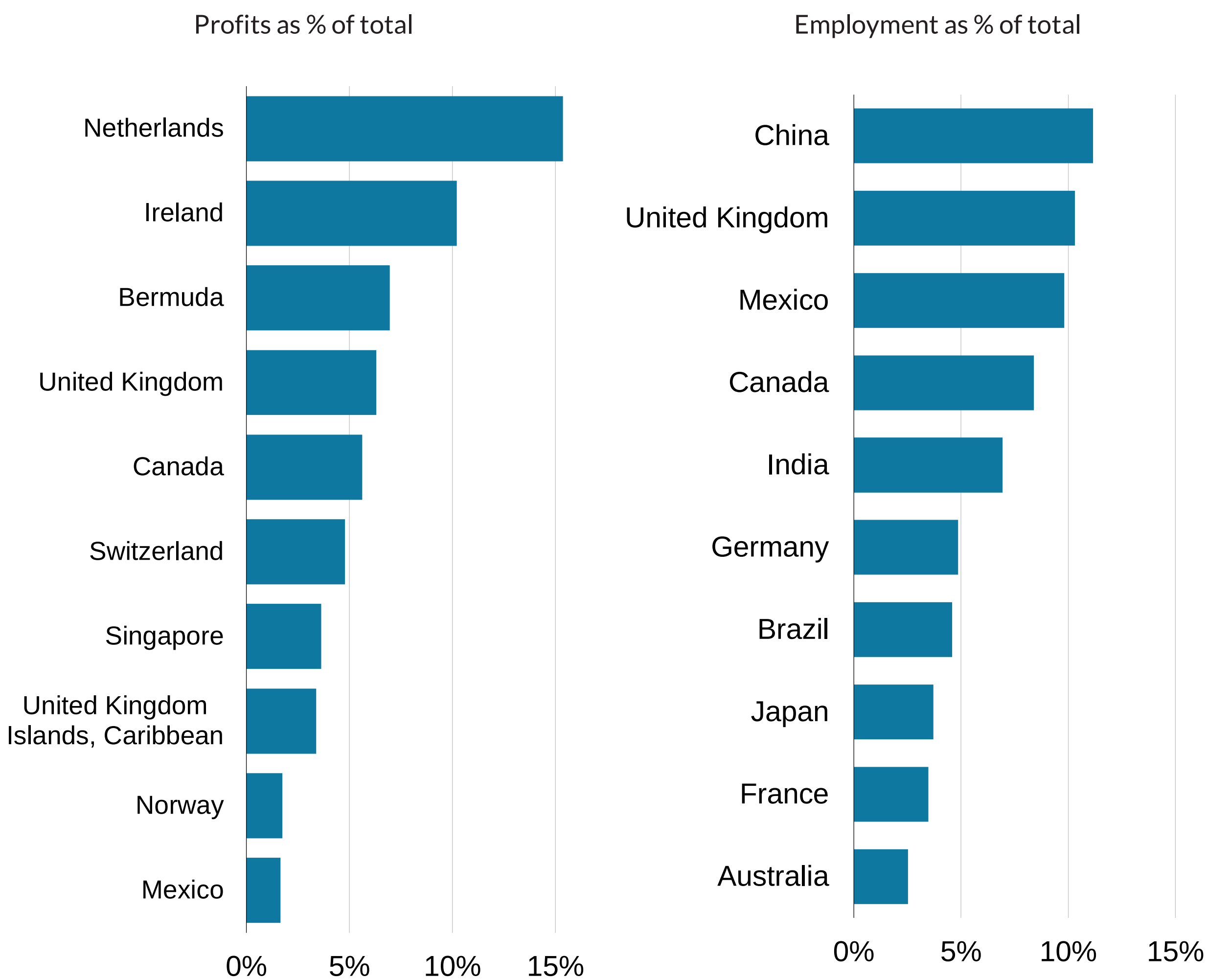
According to data compiled by the Bureau of Economic Analysis, aggregate investment in intellectual capital as a share of total investment in structures, equipment, and intellectual property has increased from around slightly over 10 percent in the 1970s to around 30 percent in the first decade of the 21st century (figure 1). These figures probably understate the growth in intellectual property as a share of business wealth because they count only outlays for different types of investments and not the capital gains that accrue when highly successful new technologies and products are introduced.

FIGURE 1. Aggregate Investment in Intellectual Capital as a Share of Investment in Structures, Equipment, and Intellectual Property Products, 1970-2013



Source: US Department of Commerce, Bureau of Economic Analysis, author's calculations.

FIGURE 2. Foreign profits and employment by US multinationals, 2012



Source: US Department of Commerce, Bureau of Economic Analysis, 2014

TABLE 1. Profits and Employment of US multinationals as share of total, 2012

	Net Income (billions of dollars)	Profits as a percentage of total	Employment as a percentage of total
Netherlands	180.3	15.4%	1.7%
Ireland	119.8	10.2%	0.8%
Bermuda	81.8	7.0%	N/A
United Kingdom	74.0	6.3%	10.3%
Switzerland	56.2	4.8%	0.8%
Singapore	42.6	3.6%	1.4%
UK Islands, Caribbean	39.7	3.4%	0.0%
China	24.9	2.1%	11.2%
Australia	20.7	1.8%	2.5%
Norway	20.6	1.8%	0.3%

Source: US Department of Commerce, Bureau of Economic Analysis, 2014
Note: N/A = not available.

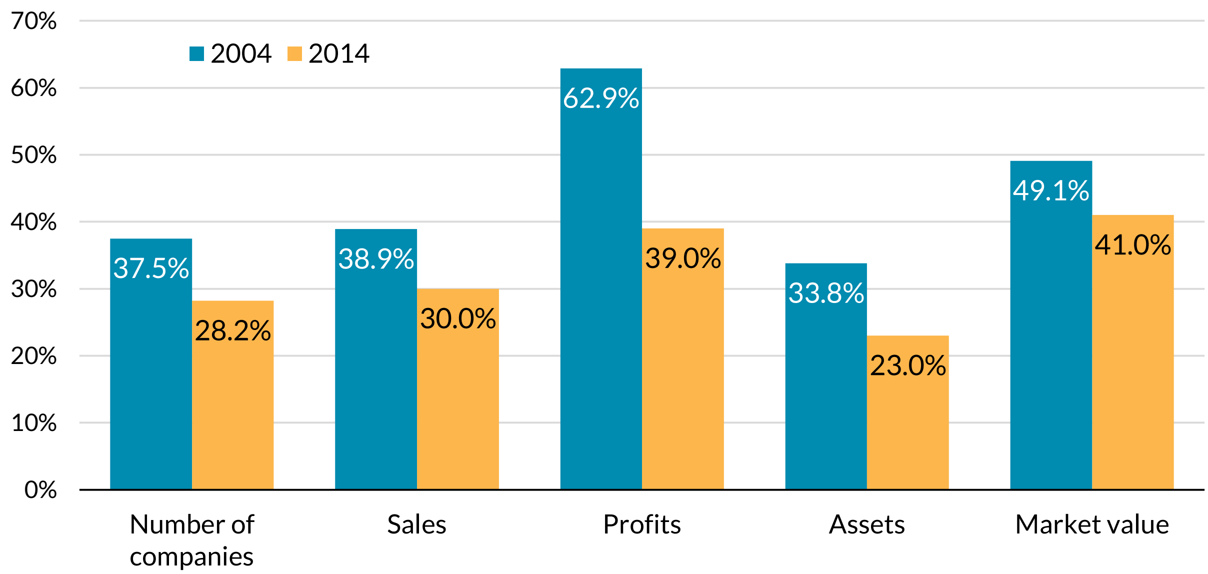
US multinationals have been successful in shifting the reporting of profits to low-tax jurisdictions, which are often places where little economic activity occurs. For example, in 2012, Bermuda, Ireland, and the Netherlands accounted for about 33 percent of the net foreign-source income of US multinational corporations, but only 2.5 percent of their foreign employment. (Figure 2 and Table 1).

The *residence* of multinationals is also highly mobile. It too can bear little connection to real measures of corporate economic activity, such as assets, employment, sales, or the residence of shareholders. Multinationals have an incentive to establish residence based on tax considerations because this residence choice entails little real economic cost—and has little or no impact on where their production or sales occur or even where their top executives reside. However, this choice can substantially affect worldwide tax obligations.

Inversion transactions in which US companies merge with smaller foreign companies and then become the subsidiary of a foreign parent have raised awareness of how changing the place of incorporation can reduce the tax liabilities of US companies. Though inversions, and the efforts by Congress and the administration to limit them, have received much attention, the share of economic activity accounted for by US-resident multinationals can also decline through other channels. These include mergers of equal-sized firms that then establish foreign residence, foreign buyouts of smaller US-resident companies or divisions of larger US-resident companies, changes in the residence of startups, and shifts in the shares of worldwide activity between existing US-resident and foreign-resident multinationals. Over the past decade, the share of sales and profits of the world's top multinationals that come from US-based companies has been declining, although this may reflect mainly the growth in multinationals in emerging economies such as China more than any major tax-driven shift in the multinationals' choice of corporate residence.

Between 2004 and 2014, the United States share of the top 2,000 global companies declined from 37 to 28 percent (figure 3). Among the top 2,000 firms, US-resident companies accounted for 39 percent of sales, 63 percent of profits, 34 percent of assets, and 49 percent of market value in 2004. By 2014, these shares had declined to 30 percent of sales, 39 percent of profits, 23 percent of assets, and 41 percent of market value. By any measure, the relative importance of US-resident multinationals has been shrinking, although US-resident companies are still dominant players in global markets.

FIGURE 3. Shares of US-Resident Companies in the Global 2000



Source: *Forbes* Global 2000 (2004 and 2014) and author's calculations.

WHY THE US CORPORATE TAX RATE NEEDS TO BE CUT

Higher corporate rates relative to our major trading partners encourage both US and foreign-based multinationals to invest overseas instead of in the United States and to report profits in other jurisdictions (Clausing 2011, 1,580; Djankov et al. 2010; Gravelle, 2014; Grubert, 2012;). Beyond this, companies can shift reported income without moving real economic activity through aggressive transfer pricing, debt-equity swaps, allocation of fixed costs to high-tax countries, and other techniques. Rules to enforce the sourcing of income are imperfect and are imperfectly enforced. It is especially difficult to determine transfer prices of unique intangibles in the absence of comparable arms-length transactions between independent firms.

A firm's decision on where to locate investment is influenced by marginal effective tax rates on new investments, which are determined both by statutory tax rates and by other provisions affecting net investment returns, including capital recovery provisions and tax credits. The tax penalty that high US corporate rates impose on domestic investment is partially offset by more favorable capital recovery provisions (Gravelle, 2014 and Hassett and Mathur, 2011). Corporations may not perceive much benefit to the tax deferral that accelerated depreciation provides, however, if they have to report a deferred tax liability to their shareholders when they claim accelerated depreciation deductions. A firm would, in this view, respond more to a lower statutory rate than to an equivalent cut in its effective tax rate cut produced by more generous capital recovery allowances.

WHY 1986-STYLE TAX REFORM DOES NOT DO THE JOB

Many recent reform plans would reduce corporate tax rates and eliminate business tax preferences. Some plans would also combine individual tax rate reduction with reduction of individual tax preferences. These plans include notably the tax reform proposal developed by former House Ways and Means Chairman Dave Camp in 2014 and the less-specific proposal by the president's 2010 National Commission on Fiscal Responsibility and Reform headed by former Senator Alan Simpson and former White House Chief of Staff Erskine Bowles. Both would have lowered the corporate tax rate to 25 percent, eliminated most business tax preferences, and also reduced individual tax rates and individual preferences. Some of President Obama's past budgets proposed to reduce the corporate tax rate to 28 percent and to eliminate some business preferences, but did not specify enough base-broadening measures to pay for the rate reduction. These reforms are all modeled on the Tax Reform Act of 1986, which reduced the top corporate rate from 46 to 34 percent and eliminated the investment tax credit, removed or scaled back many other business preferences, and, on balance, increased corporate tax revenue within the budget window to pay for reduced individual income taxes.

Reforms that reduce the corporate rate and broaden the business tax base can increase economic efficiency if they reduce targeted subsidies that encourage overexpansion of subsidized sectors. The goal is to encourage businesses to choose investments based on their real economic returns instead of tax considerations. However, some investments, such as research and development, may have positive spillover effects that are not fully captured by those making the investments and therefore may merit some public subsidy.

There are other limitations to the traditional approach of paying for a lower corporate rate through additional base broadening. First, there are not enough business preferences to pay for the long run revenue loss of reducing the corporate rate to 25 or 28 percent, as leading political figures propose. Reform plans that cut rates to those levels have met 10-year revenue neutrality goals by counting revenues from one-time taxes on existing overseas assets and through proposals—such as the elimination of accelerated depreciation—that change the timing of business deductions.

Further, the biggest source of higher revenues, the elimination of accelerated depreciation for machinery and equipment, creates many problems.[3] When combined with lower rates, accelerated depreciation would provide a windfall gain to income from existing investments, and raise the cost of capital for new investments. In addition, eliminating accelerated depreciation for machinery and equipment would not necessarily create a more level playing field within the domestic sector as a whole, given that most intangible investments—which comprise a growing share of business investments—already benefit from immediate expensing and would continue to do so under most proposals (Foertsch and Mackie 2015).

The bottom line is that revenue-neutral business tax reform is a much less attractive proposition than it was in 1986. There are not enough business tax preferences to pay for the amount of corporate rate reduction that policymakers are discussing. To the extent one can come close to paying for lower rates, it is through removing preferences that benefit domestic investment. In addition, base-broadening provisions that raise revenue in the 10-year window by accelerating tax payments pay for a much smaller rate cut in the long run that they do in the first 10 years.

ALTERNATIVE WAYS OF FINANCING CORPORATE TAX REFORM

Because business-only tax reform has limited benefits, I encourage the Committee to pursue broader and bolder approaches. There are a number of alternatives worth exploring. The alternatives fall into two general categories: (1) shifting the collection of taxes on corporate income from the corporate to the shareholder level; and (2) considering new revenue sources that would shift the tax burden from income to consumption or address environmental concerns.

Shifting the Tax Burden from the Corporate to the Shareholder Level

Corporate profits belong to the owners of corporate equity—the shareholders. Under current law, the taxation of corporate profits is bifurcated. The corporation is liable for a tax on its net profits, after deducting wages paid to employees, interest paid to shareholders, purchases of

[3] The largest business tax expenditure, as reported by the Joint Tax Committee (2015), is deferral of tax on foreign-source profits. As discussed in this testimony, however, elimination of deferral would hurt the competitiveness of US multinationals and encourage a shift to foreign residence and is therefore not a likely candidate for inclusion in tax reform proposals.

materials and services from other firms, and depreciation of capital equipment. Shareholders pay a second level of tax, at lower rates than applied to other income, on dividends paid out of those profits and on capital gains from the sale of corporate shares.

The two levels of tax have different economic effects in a global economy. Corporations can avoid or defer the tax on their profits from investments in the United States by investing overseas or by shifting the reporting of income to countries with lower tax rates. To the extent they invest more overseas in response to the US tax, they reduce the capital to labor ratio in the United States, lowering real wages and shifting a portion of the tax burden to workers (Randolph, 2006). As I discussed, this shifting of investment and income could be countered by taxing worldwide income of US corporations on a current basis, but full worldwide taxation would place US-resident firms at a bigger competitive disadvantage than they are at today. And the corporate income tax would continue to discourage foreign-resident corporations from investing in the United States.

In contrast, shareholder level taxes on dividends and capital gains apply to the worldwide income of US investors in corporate shares. They do not distinguish between investments in US-resident and foreign-resident corporations and do not make a distinction between whether the dividends and capital gains come from profits generated by economic output in the United States or output in other countries. Therefore, the shareholder level taxes do not discourage investment in the United States and do not place US-resident corporations at a competitive disadvantage.

For these reasons, in an economy open to trade and international capital movements, it is better to base tax liability on the *residence of individual taxpayers* than on either the *tax residence of multinational corporations* or the *source of their profits*. As discussed above, both the source of corporate income and corporate residence can easily be shifted in response to international tax differentials. In contrast, to avoid taxes based on US residency, shareholders would have to relocate overseas. And because the United States taxes worldwide income of individuals on a citizenship instead of a residency basis, people would have to take the additional step of renouncing their US citizenship – a step few are willing to take.

There are several options for shifting the taxation of corporate profits from the corporate to the shareholder level. All have their advantages and disadvantages.

1. *Lowering the corporate tax rate and raising the rate on capital gains and dividends.*

One simple option would be to lower the corporate tax rate and replace the revenue by increasing tax rates on capital gains and dividends. Altshuler, Harris, and Toder (2010) have analyzed a reform of this type, noting that other countries have moved in a similar direction in recent years, reducing their corporate rates and increasing tax rates on dividends. The United

States, however, reduced the top rates on capital gains and dividends to 15 percent in 2003, while continuing to leave the corporate rate unchanged.

The main drawback to this approach is that higher tax rates on capital gains would reduce capital gains realizations and could lower revenues from capital gains taxes if the rates are increased too much (See for, example Dowd et al., 2012). Since 2012, and including the high-income surtax, the top rate on capital gains realizations has increased from 15.0 to 23.8 percent. There is now much less room for offsetting the loss from corporate rate cuts with higher revenues from realized gains and dividends than there was several years ago.[4]

2. *Lowering the corporate tax rate and taxing accrued income of shareholders.*

An alternative approach that is outlined in a paper I co-authored with Alan Viard of the American Enterprise Institute (2014) would replace the corporate income tax with an annual mark-to-market tax on accrued income from corporate share ownership. Individuals who hold shares of publicly traded corporations would be taxed on their sum of dividends and accrued capital gains during the year at the rates applied to ordinary taxable income. Because individual taxpayers would no longer be able to game the timing of losses, we would allow them each year to deduct any net capital losses from other income. Investors in nonpublicly traded firms would be taxable under rules currently applied to income from S corporations and partnerships and would continue to pay tax on capital gains as realized, with current law preferred rates and loss limitations.

The main benefit of this proposal is that it would tax income US residents receive from share ownership only once at the marginal rates that apply to their other sources of income. The tax code would no longer encourage corporate debt over equity and retained earnings over distributions, and would be much more even-handed in its treatment of C corporations and businesses subject to flow-through taxation. It would no longer favor foreign over US-resident corporations and would encourage both US and foreign-resident companies to invest more in the United States.

Our original proposal had some real and perceived disadvantages, including a net loss in federal receipts, problems associated with increased volatility of the tax base, loss of revenue indirectly collected through the corporate income tax from non-profits and foreign investors, and issues in defining the boundary and rules for transitions between firms whose assets are subject to individual accrual taxation and firms taxed under current rules for S corporations and partnerships. We are developing a modified version of the original proposal that would retain a 15 percent corporate income tax, impose a withholding tax on interest paid to non-profits and retirement plans to offset the benefit they receive from the lower corporate rate, introduce a

[4] The proposal in the President's fiscal year 2017 budget (U.S. Treasury Deparment, 2016) to tax unrealized capital gains at death would reduce the response of realizations to higher capital gains taxes because taxpayers would only be able to defer tax by holding onto assets with gains, not escape tax permanently.

credit to offset the corporate income tax burden of taxable shareholders, include rules for smoothing the fluctuations in annual taxable income that result from annual swings in stock prices, impose a low rate tax on accrued gains of firms that go public, and address a number of other issues with the proposal. The revised proposal will be roughly revenue-neutral and make the tax law slightly more progressive. We expect to release our revised paper soon.

An alternative approach developed by Grubert and Altshuler (2015) would also reduce the corporate tax rate to 15 percent and replace the lost revenue by taxing gains and dividends of individuals at ordinary income rates. Grubert and Altshuler would continue to impose capital gains taxes upon realizations but with an interest charge designed to capture the benefit of deferring realization of gains, backed up by a tax on the transfer of unrealized gains at death. The intent of the deferral charge is to make individuals indifferent between realizing gains immediately or in the future and therefore to eliminate the increased lock-in to existing assets that higher capital gains rates would otherwise produce.

The advantage of the deferral charge approach for taxing gains is that it could be applied equally to both privately held and publicly traded firms because it does not require valuation of assets that have not been traded. In contrast, we believe that applying the mark-to-market approach to assets in closely held businesses would create insurmountable valuation problems (Toder and Viard, 2014). This requires Toder and Viard to maintain separate taxing regimes for publicly traded firms subject to market to market and closely held firms for which gains are taxed on realization. However, differences in combined individual and shareholder tax rates between the two types of firms would be much less than the differences in tax rates between C corporations and flow-through businesses under current law.

The disadvantage of the deferral charge approach is that the tax rate on realized gains would be very sensitive to assumptions about the appropriate interest rate to charge, the assumed growth in the asset's value over time, and the assumed marginal tax rates in earlier years when the accrued gains should have been taxed and the accrued losses are deducted. There could be also be substantial sticker shock, as the deferral charge could make the tax rate applied to the gain when realized significantly higher than the taxpayer's current marginal tax rate.

Both of these methods of shifting tax obligations from corporations to shareholders also raise issues of political acceptability. Individuals ultimately bear the burden of corporate income taxes through lower investment returns, lower wages, or higher prices. It will, however, be challenging to defend a proposal that raises taxes on individual taxpayers to pay for a cut in the corporate income tax. The simple answer is that shifting tax liabilities from corporations to their shareholders just amounts to a different way of collecting taxes on the profits shareholders' investments earn, but persuading the public of this may be a hard sell.

The methods of collecting tax from individuals will also raise objections. With the mark-to-market approach, it will be challenging to explain to people that their income is going up when the prices of the shares they own increase, even though they have not actually converted the gain into cash that can be used for personal consumption or other investments. Some shareholders may have to liquidate assets to pay the tax. With the deferral-charge approach, it will be challenging to explain why taxpayers will often be required to include more than 100 percent of their current year's realized gains in taxable income.

3. *Integrating the corporate and individual income taxes.*

An alternative approach would integrate the corporate and personal income taxes, so that only one level of tax is imposed on corporate dividends. Various methods of corporate integration have been suggested, some of which would reduce corporate liability and others that would reduce individual tax liability by allowing dividend recipients to claim credits for corporate taxes paid. Proposals for corporate integration have been introduced by the Ronald Reagan and George W. Bush administrations (Council of Economic Advisors 2003; US Department of the Treasury, 1984) and were included in Treasury reports published during the Gerald Ford and George H.W. Bush administrations (Bradford and US Treasury Tax Policy Staff 1984; US Department of the Treasury 1992).

One option for corporate integration could be modeled on the system Australia currently uses (Graetz and Warren 2014). Australia allows corporate shareholders to claim credits for corporate level taxes paid to Australia when they receive "franked" dividends from Australian resident companies. When they pay corporate taxes, Australian companies accumulate these franking credits that they can attach to dividends; if they pay no corporate tax to Australia, the dividends do not come with franking credits attached. Anti-streaming rules attempt to prevent companies from allocating franked dividends to Australian taxpayers who can use the credits and unfranked dividends to foreign shareholders who cannot.

Australian shareholders in Australian companies must gross up their dividends for the franked credits they receive and report these gross dividends as taxable income. They then can claim the credits to offset the individual income taxes they would otherwise pay. The result is that they are taxed once on the income corporations use to pay them dividends at the marginal rate that applies to them under the Australian individual income tax.

An advantage of the Australian system is that it reduces the incentive for Australian companies to shift reported profits to low-tax jurisdictions. To the extent they can reduce their corporate tax liability, the tax saving is offset by higher taxes on shareholders who receive dividends that do not carry with them franking credits. The Australian system also more generally reduces benefits that firms receive from any corporate tax preferences because the value of the preference can be washed out when they pay dividends.

Although this system reduces the incentive to use preferences, it does not entirely eliminate it if a corporation is retaining and reinvesting some of their profits. For example, suppose a company pays out 50 percent of its profits in dividends and is able to reduce its corporate tax liability 50 percent through income shifting and the use of domestic tax preferences. The amount of franked credits would then be sufficient for all the dividends it plans to pay, and it would benefit fully from the tax preferences it uses. Additional use of preferences, however, would come at an offsetting cost in terms of lost credits to shareholders.

An Australian-type integration system would not necessarily work as well in the United States. In Australia, a much larger share of dividends is eligible for credits than would be the case in the United States because Australia taxes the income people accrue within qualified retirement plans (so-called "superannuation" plans). In contrast, in the United States, taxable shareholders hold only about 24 percent of equities issued by US corporations (Rosenthal and Austin, forthcoming). This means that US companies would use up franking credits much more quickly than Australian companies and therefore would retain incentives to avoid US corporate income taxes. In addition, the proposal would create incentives for portfolio specialization among investors, with non-taxable shareholders (tax-exempt organizations and qualified retirement plans) holding shares of US companies with low effective tax rates (because they cannot use the credits) and taxable shareholders investing in companies with high effective tax rates (to maximize use of the credit).

My understanding is that Senator Hatch is developing a plan for corporate tax integration. I welcome this direction in tax policy and look forward to seeing details of the forthcoming proposal.

In conclusion, there are many advantages to proposals that shift some of the tax burden from corporations to the individual shareholder level. All the proposals under study are complex and involve difficult design decisions and trade-offs. No approach will be perfect, but this general direction promises a real reduction in the economic costs that the corporate income tax imposes on the US economy without sacrificing revenues or providing large reductions in tax burdens for the high income individuals who own most corporate shares.

New Revenue Sources

Two new revenue sources that reformers might consider as replacements for reduced corporate income tax receipts are a new federal value-added tax (VAT) and a tax on carbon emissions.

1. *Replacing Corporate Revenues with a Value Added Tax.*

VATs are in place in over 150 countries throughout the world and have some important advantages as components of an overall revenue system. First, because they allow firms to immediately deduct the costs of capital purchases, they do not tax the normal return to investment—that is, the portion of the investment return that compensates savers for the time value of money. In that sense, a VAT is neutral between a household's choice of consuming today or consuming tomorrow.

Because of this feature, a VAT, if included as part of a revenue-neutral reform that lowered income tax rates, would improve incentives to save and invest. This would contribute in the long run to larger economic output and improved living standards, as the nation accumulates additional capital. And it would help to reverse a long-term decline in the national saving rate that reflects both rising deficits and a reduced private saving rate.

Second, because VATs in place around the world exempt exports and tax imports (are destination-based), they do not interfere with production location decisions. Under a destination-based VAT, the tax rates imposed on goods and services consumed in the United States would be independent of where the goods are produced. A VAT would also make no distinction between products of US- and foreign-resident companies. Therefore, if a VAT is used to replace part of the revenue from the corporate income tax, it will reduce the problems caused when multinational corporations change their corporate residence and the source of their income to reduce tax liability.

The one major drawback of a VAT is that it could make the tax system less progressive because it is imposed at a flat rate instead of graduated rates and because normal returns to capital, which a VAT exempts, are a larger share of income for high-income than for low-income households. A VAT that replaced only a portion of individual and corporate taxes need not make the tax system less progressive, however, if an income tax is retained for upper-income taxpayers and additional refundable credits are provided for lower-income households.

In 2014, Senator Cardin introduced a bill that would impose a new consumption tax and maintain a progressive tax system. [5] Goods and services would be taxed at 10 percent, and income tax exemptions would be expanded to $50,000 for single filers, $75,000 for head of household filers, and $100,000 for joint filers (indexed for inflation). Cardin would impose a top marginal individual income tax rate of 28 percent on taxable income over $500,000 for joint filers, and would retain deductions for charitable contributions, state and local tax payments, mortgage interest payments, and tax preferences for health and retirement benefits. The alternative minimum tax and lower rate on capital gains would be eliminated. Cardin would also cut the corporate tax rate to 17 percent and maintain business preferences.

[5] Progressive Consumption Tax Act of 2014. S 3005. 113th Cong. https://www.congress.gov/bill/113th-congress/senate-bill/3005.

Cardin's plan follows the outline of a tax reform plan originally developed by Professor Michael Graetz (2002). Graetz would also remove most individual income taxpayers from the tax rolls, retain a corporate tax and an individual income tax for high-income taxpayers to maintain a progressive tax system, and provide additional credits for low-income households.

Nunns and Rosenberg (2013) have recently updated earlier estimates (Nunns, Toder, and Rosenberg, 2012) of the Graetz plan. They find the proposal would be revenue neutral and make the distribution of tax burdens by income group slightly more progressive than under current law at a VAT rate of 12.9 percent, a corporate rate of 15 percent (with business base broadening) and a three bracket individual rate structure on income in excess of $50,000 ($100,000 for joint returns) of 14 percent, 27 percent, and 31 percent. Measures to offset the burden of the VAT for low-income households would include a refundable pre-child rebate of $1,500, phased out at incomes of $150,000 and over, and a per worker rebate of 15.3 percent, also phased out at high incomes.

Introducing a VAT would be a major change in the US tax system and would raise many concerns, including the additional costs of administering a VAT alongside the income tax and the need to coordinate a federal VAT with state retail sales taxes. As with the shift in taxation of corporate income from the corporate to the shareholder level, there are complex issues that need to be resolved. Nonetheless, such an approach offers a promising way to reduce the burden of the US corporate income tax, without sacrificing revenue or making the tax laws less progressive.

2. *Replacing Corporate Revenues with a Carbon Tax.*

Economists across the political spectrum generally support the use of pricing mechanisms as the best way to reduce the environmental damage from greenhouse gas emissions. Higher carbon prices would encourage energy conservation and substitution of less carbon-intensive or renewable energy sources in electric power generation, transportation, and other activities without dictating the specific reactions of firms or households. And a planned trajectory of higher carbon prices would encourage the development of new and cleaner energy technologies.

Phasing in a carbon tax is one way to raise carbon prices and over time address the worldwide problem of climate change. But a carbon tax would hurt affected industries, raise the cost of power generation and other business inputs, and could reduce economic growth. Reduction in other taxes, especially those with high economic costs such as the corporate income tax, could offset any short- or medium-term economic harm from a carbon tax.[6]

Marron and Toder (2013) estimated that a carbon tax that raised $1.2 trillion over 10 years could finance a reduction in the top corporate rate to 25 percent, without any other

[6] In the long run, a carbon tax could make economic growth higher than it might otherwise be by lowering the economic damage that might result from global climate change.

measures.[7] Such a tax shift would be regressive, however, so an alternative would be to distribute some of the revenues in a more progressive fashion. Marron, Toder, and Austin (2015) estimate that if half the revenues were used to reduce the corporate tax rate and half to provide an equal refundable per capita credit to all households, tax burdens would decline in the bottom and top portions of the income distribution and increase slightly in the middle. Other ways of using carbon tax revenues also merit consideration and could promote other goals such as providing targeted relief for workers in affected industries or communities and promoting basic energy research (Marron and Morris, 2016). Nonetheless, combining a carbon tax with significant corporate tax relief is one way of creating a coalition among environmentalists and business groups and promoting simultaneously the apparently unrelated goals of reducing the harm from climate change and reforming the taxation of business income.

TABLE 3. Distributional Effects of Using Carbon Tax Revenue to Pay for Corporate Tax Cuts and a Refundable per Capita Credit

	Net tax change as a share of pre-tax income
Lowest quintile	-0.25
Second quintile	-0.16
Middle quintile	0.07
Fourth quintile	0.14
Topquintile	-0.02

Source: Marron (2015).

CONCLUSIONS

The current system for taxing corporate income is broken and in dire need of reform. However, the traditional approach of broadening the business tax base to pay for corporate rate reduction has limited potential. Eliminating business preferences will not raise enough money in the long run to pay for a very large cut in the corporate income tax rate. And even absent political considerations, there are important arguments for retaining some of the largest tax preferences—including deferral, incentives for research, and accelerated depreciation.

The business tax environment has changed significantly since 1986 and different reform approaches are needed today. I have argued that paying for the major reductions in the

[7] The revenue estimate for a carbon tax was based on an estimate by the Congressional budget of the revenue effect of introducing a tax at $20 per ton of carbon and increased the tax rate 5.6 percent per year.

corporate tax rate that are needed requires that we look beyond the business tax base for additional revenues. A number of alternatives are promising, including substitution of higher shareholder-level for corporate-level taxes, integrating the corporate and individual income taxes, and substituting new consumption taxes for a portion of corporate and/or individual income taxes. All the options that are under discussion raise complex issues and none are perfect. I find it encouraging, however, that Congress is open to considering broader approaches to corporate tax reform.

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