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Author
Clausing, Kimberly

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US International Corporate Taxation after the Tax Cuts and Jobs Act

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Kimberly A. Clausing
Eric M. Zolt Professor of Tax Law and Policy
UCLA School of Law
385 Charles E. Young Drive
Los Angeles, CA 90095
email: clausing@law.ucla.edu

Abstract: The root dilemma that informs the past, present, and future of US international taxation is the tension between two desiderata: protecting the corporate tax base from erosion and ensuring the competitiveness of US multinational firms in the world economy. This article begins by exploring that tension, discussing the evidence behind these competing policy goals. It then considers the international tax provisions of the Tax Cuts and Jobs Act of 2017. TCJA enacted transformative changes in US corporate tax policy, but it did not resolve long held policy concerns. While research on TCJA is in early stages, evidence indicates that TCJA substantially reduced corporate tax revenues, that TCJA's international provisions (as a whole) raised less revenue than expected, that offshoring and profit shifting remain large policy concerns, that changes in US multinational company competitiveness were mixed, and that underlying trends in wages and investment did not change due to TCJA. While TCJA was unable to resolve the tension between competitiveness and tax base protection, the Pillar 2 international tax agreement shows more promise in that regard. As countries throughout the world implement a "country-by-country" minimum tax on multinational income of 15 percent, this has the potential to disrupt long-standing arguments about international corporate taxation.

Keywords: Profit Shifting, Corporate Taxation, International Taxation, Tax Cuts and Jobs Act, Income Shifting, Tax Avoidance, Tax Competition

JEL Codes: H25, H26, H87, F23

I. Introduction

The root dilemma that informs the past, present, and future of US international taxation is the tension between two desiderata: protecting the corporate tax base from erosion and ensuring the competitiveness of US multinational firms in the world economy.

While the US international tax system experienced large changes under the Tax Cuts and Jobs Act of 2017 (TCJA), this seemingly inevitable dilemma was preserved. Both before and after the legislation, there were dual, competing concerns that foreign income was favorably treated relative to US income (fueling offshoring, profit shifting, and domestic tax base erosion), and that US multinationals were tax-disadvantaged, weakening their competitive position.

The policy problem of corporate tax base erosion ultimately stems from the inherent difficulty of establishing the location of income in a world where tax rates differ across jurisdictions, incentivizing the mobility of income toward lightly taxed locations. When businesses are multinational and governments are not, there needs to be some compelling answer to the question of *where* corporate income is truly earned and taxable. Yet that question has no simple answer. If additional profit is earned due to the multinational nature of operations, where does such profit truly belong? If both supply and demand sides of the market generate value and profit, which side of the market should tax the resulting profit?

In a world of complex supply chains and intangible economic value, firms have ample opportunity to make tax-motivated decisions about where to locate income. It has long been the practice of international tax law to insist that transactions among affiliates of multinational firms should take place at "arm's length," which essentially means that internal transactions of multinational firms should be priced as if they were external transactions. But in practice, "transfer pricing" methods for placing value on internal firm transactions leave companies with substantial discretion regarding the location of their profits. In global operations with myriad cross-border transactions, such discretion is often employed toward tax-minimization ends.

In seeking to address both tax base erosion and the competitiveness of US based multinational companies, the Tax Cuts and Jobs Act of 2017 (TCJA) walked a fine line, one that ultimately illuminated the core dilemma between these two goals. As discussed below, different TCJA provisions both raised and lowered tax burdens on foreign income, with the net effect depending on firms' circumstances. Thus, TCJA reforms had indeterminate effects and left many observers with the same root worries they had previously.

This article begins by exploring these two policy goals: protecting the corporate tax base from erosion and ensuring the competitiveness of US multinational firms in the world economy. It then considers the international tax provisions of the Tax Cuts and Jobs Act of 2017 and the research estimating their effects. Since TCJA is not occurring in a vacuum, the following section describes the "Pillar 2" international tax agreement, an important change in the international tax system. As countries implement the "Pillar 2" country-by-country minimum tax on multinational income of 15 percent, this agreement has the potential to disrupt long-standing arguments about international corporate taxation, in part by alleviating the root policy dilemma between competitiveness and tax base protection.

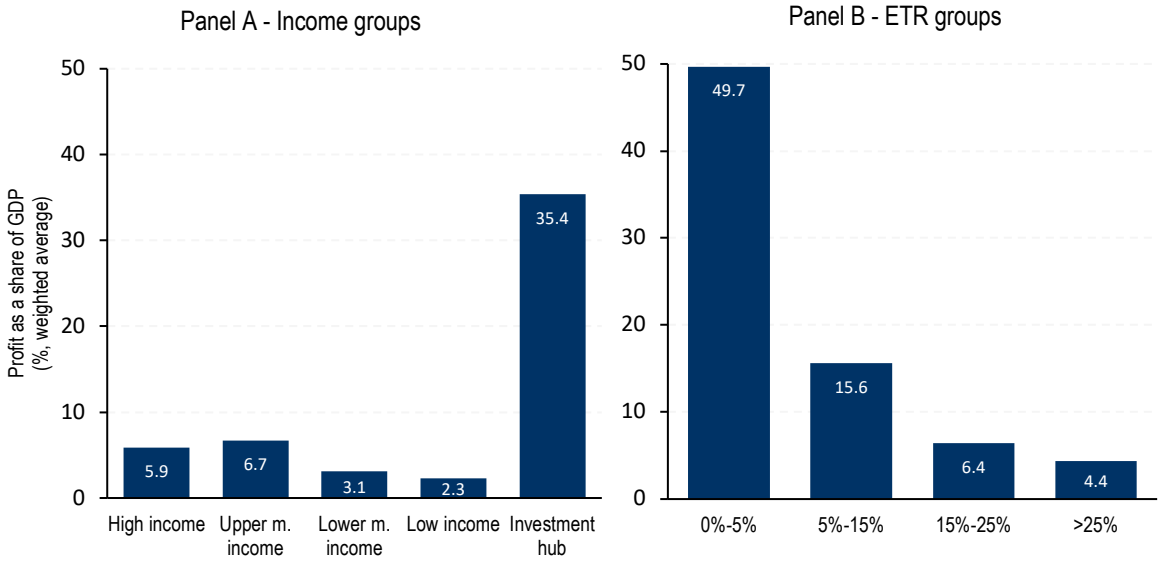
II. The Root Dilemma of International Taxation

Revenue Loss and Tax System Integrity

Multinational corporations have a substantial ability to use accounting mechanisms that shift the location of profits to lower-tax jurisdictions. A recent report from the OECD indicates that, worldwide, over $2 trillion of multinational corporate income is taxed at a rate lower than 15 percent (Hugger et al. 2024). The report estimates that internationally coordinated "Pillar 2" minimum taxation could reduce the extent of profit shifting by about 50 percent, increasing corporate tax revenues across nearly all country groups (beyond a handful of small, low-tax jurisdictions), raising between $155 billion and $192 billion per year.

The tax-driven distortions in how multinational firms report their income are readily apparent across many different sources of data. For example, Figure 1 shows OECD analysis of where large multinational companies report income (Hugger et al. 2024). In jurisdictions with tax rates below 5 percent, the profits of multinational enterprises relative to GDP average an astonishing 50 percent. In higher-tax countries, with tax rates over 15 and 25 percent, multinational profits are 6 and 4 percent of GDP, respectively. Also, multinational profits appear to be a particularly low share of GDP in lower-income countries; these countries likely face the largest revenue losses from profit shifting relative to the size of their economies (Crivelli, Keen, and de Mooij 2016).

Figure 1: Profits of Large Multinational Firms Relative to GDP, by Country Groups



Source: OECD analysis in Hugger et al. (2024). Recreated with permission. See Annex E of OECD (2024) for descriptions of the income and "effective tax rate" (ETR) groups.

In the United States, research indicates large magnitudes of profit shifting, and related, large revenue gains from international tax reforms that would tax move toward a country-by-country minimum tax, reduce the amount of foreign income exempt from US tax, and raise the minimum tax rate. In 2020 and 2021, ten-year revenue estimates of such reforms ranged from $442 billion to $692 billion (for example, US Department of the Treasury (2021, 2023a), Joint Committee on

Taxation (2021a), Tax Policy Center (Mermin et al. 2020), and American Enterprise Institute (Pomerleau and Seiter 2020); see also Clausing 2020a,b).

There has been controversy about the scale of profit shifting as well as the data used in some prior analyses.[1] There is inherent muddiness in these analyses, given the details of international tax avoidance and the complexity of the financial arrangements—including mind-numbingly complicated chains of ownership with inconsistent tax and legal treatment. However, official scorekeepers at the Joint Committee on Taxation and the US Treasury, as well as tax experts at the OECD, have long understood the nuances of the data in this area. Their estimates are the best that we have. In addition, a wide range of academic estimates also indicate that the size of the profit shifting problem is large.[2]

A final puzzle concerns the relatively stable corporate tax revenues in many countries in recent years, given the large size of the profit shifting and corporate tax base erosion problem. The simple answer to this puzzle is that corporate profits have been rising strongly in the last few decades (for example, Fuest, Hugger, and Wildgruber 2022). In the United States, corporate profits have increased sharply as a share of GDP over the prior two decades, while corporate tax revenues have been stable or falling. An important explanation for this disconnect is the growing importance of foreign income for corporations, including the misreporting of foreign income (Congressional Budget Office 2023).[3]

Beyond lower corporate tax revenues, profit shifting and corporate tax base erosion affect the ability of tax systems to reach capital income at all, as well as the efficiency and progressivity of tax systems. In the United States, more than 70 percent of equity income goes untaxed by the US government at the individual level (Rosenthal and Burke 2020; Burman, Clausing, and Austin 2017), because so much of US stock is owned by retirement funds, nonprofits, and foreign investors. Even in the case of taxable accounts, capital gains from stock ownership are taxed only when realized, and thus benefit from tax deferral, and capital gains are not taxed at all if they are left as a bequest or donated to charity. The corporate tax therefore remains the only tool for reaching a large share of capital income.

The corporate tax is more progressive than most sources of tax revenue, including both the labor income tax and the payroll tax, so a shift away from taxing corporate income will tend to reduce

[1] Data in this area varies in many ways: country coverage (with some series covering very few low-tax jurisdictions, and others allowing far more coverage), whether the data risk "double-counting" some income, whether the data allows the separation of companies with losses (which can otherwise distort effective tax rate calculations), the degree of aggregation, and important definitional and scope distinctions. My preferred approach is to use a number of these data series in order to create upper- and lower-bounds for the profit shifting problem (Clausing 2020a, and Appendix A on data controversies in particular). For the US economy, this approach generates a wide range of estimates of corporate tax base erosion, but all of the estimates are quite large.

[2] For examples, see Bilicka (2019), Clausing (2020a), Coffey (2021), Crivelli, Keen, and de Mooij (2016), Dowd, Landefeld and Moore (2017), Garcia-Bernando and Jansky (2024), Garcia-Bernando, Jansky, Zucman (2023), Guvenen, Mataloni, Rassier, and Ruhl (2022), Samarakoon (2023), Tørsløv, Wier and Zucman (2018), and Wier and Zucman (2022).

[3] Another reason for the discrepancy is that the United States has a large "pass-through" business sector; such firms are required to distribute profits each year to the owners (where they face individual income tax) rather than paying corporate tax.

the progressivity of tax systems. Mainstream models of corporate tax incidence put the vast majority of the burden (75-82 percent) on capital or shareholders, rather than labor, whereas alternative tax instruments burden labor disproportionately (Joint Committee on Taxation 2013; US Treasury analysis in Cronin et al. 2013; Congressional Budget Office 2012; Tax Policy Center analysis in Nunns 2012). Because income from capital and rents (that is, above normal returns to capital) are both concentrated at the top of the income distribution, the relative burdens on such income streams have important implications for the distribution of the tax burden. For example, the top 1 percent of the US income distribution receives 12 percent of all labor income, but 52 percent of positive capital income (Treasury 2023b).

The efficiency implications of the corporate tax are potentially more difficult to tease out. While a tax that burdens the return to capital may lower capital formation (and thus wages), a tax that falls on above-normal returns is more efficient than most taxes, because it is unlikely to distort economic decisions. Evidence indicates that the corporate tax base in the United States has a large overlap with a tax on above-normal returns to capital, and further, the overlap is even larger for multinational companies (Power and Frerick 2016; Fox 2020). Further, in recent decades, market concentration has been steadily increasing, implying that the corporate tax of today may be both more efficient and more progressive than in prior times (Clausing 2024), because a larger share of the tax base is comprised of above-normal returns.[4]

Competitiveness: What Is It, and When Does It Matter?

Competitiveness is often poorly defined, but the US business community has typically used the term competitiveness to describe a comparative assessment of US multinational company tax burdens relative to those faced by foreign competitors, particularly when operating in foreign markets. For instance, such a yardstick may be relevant in global merger and acquisition bids. In the years preceding the Tax Cuts and Jobs Act of 2017, a nearly constant lament of US multinational firms was that the relatively high US statutory rate of 35 percent, alongside the US system of "worldwide taxation" in which foreign income of affiliates of US multinational companies abroad was taxed when repatriated to the United States, combined to place US companies at a disadvantage.

This competitiveness claim is tricky to evaluate. While the US government taxed profits upon repatriation and the US statutory rate was relatively high, few US multinational companies paid tax at anywhere near the full statutory rate. Comparisons of average rates actually paid were ambiguous, with some studies finding a relatively high rate for US multinationals (Markle and Shackelford 2012; Allen and Morse 2019), and others finding rates that were comparable or lower than those faced by competitors abroad (Overesch, Schenkelberg, and Wamser 2018; Overesch, Reichert, and Wamser 2023; Joint Committee on Taxation 2021b; Bergin 2021).

In the years prior to the 2017 tax legislation, one consideration was the large build-up in unrepatriated foreign earnings. Since US corporate tax was not levied until repatriation,

[4] Above-normal returns can result from market power, temporary market advantages, risk, and other factors; these factors are not always easy to distinguish. However, most sources of above-normal returns imply that the corporate tax is more efficient than a tax on the normal return to capital. For a detailed discussion of this question, see Clausing (2024).

companies were incentivized to delay repatriation in the hope of lower tax rates down the road due to a temporary holiday or a change in the tax system.[5] But concerns about earnings being "trapped" offshore were more perception than reality. In financial markets, companies could create the equivalent of a tax-free repatriation by borrowing against their foreign earnings and assets (generating interest deductions that offset the tax on foreign interest), as many companies did at the time. Further, while offshore earnings could not be returned to shareholders until tax was paid, they could be invested in US assets, so the total supply of capital in US markets was likely unaffected by repatriation tax; instead, it was determined by the relative investment returns on assets. Still, the reality of some companies arranging their affairs to avoid tax due on repatriation, while lobbying in the meantime for holidays or new tax systems, was far from ideal. Estimates of the stock of offshore earnings for US Fortune 500 companies as of 2017 were about $2.6 trillion (Shaxson 2019).

While international competitiveness is a valid criterion, it is less of a concern for those companies that wield substantial market power, as many US multinational companies do. Also, by many metrics, the US multinational corporate community was (and is) immensely successful, dominating lists of the world's top companies such as the Forbes Global 2000 with an outsized share of the world's profits, market capitalization, and revenues, relative to the US share of global GDP (Clausing 2017).

Also, the notion of competitiveness itself has multiple interpretations and meanings. For instance, from a national welfare perspective, we might instead be concerned about the competitiveness of the US *location* as a place for US multinational companies to operate. Under that metric, one might be wary of putting a thumb on the scale in favor of foreign income over US income, and instead favor a rule where US firms face the same level of taxation regardless of their location decisions.

Further, broader notions of national competitiveness determine how a country succeeds in the world economy. Economic fundamentals—such as investment in human and physical capital, infrastructure, institutional strength, macroeconomic policy management, and the climate for innovation and entrepreneurship—drive national standards of living to a far greater extent than the nuances of international tax rules.

III. Key International Taxation Elements of the Tax Cuts and Jobs Act

Heading into the 2017 tax legislative process, many observers of the US international tax system felt that it was in desperate need of reform—albeit for different reasons. Public Law 115-97, typically referred to as the Tax Cuts and Jobs Act, enacted the most transformative change in US corporate tax policy since at least the Tax Reform Act of 1986. It combined large corporate tax cuts with three new, largely untested, international tax provisions that altered the tax treatment of multinational company income.

[5] If the tax rate is constant and assumed to be enduring, the tax incentive to keep earnings offshore disappears, since only the relative rates of return will affect the decision, as the US tax will be paid once at that given rate regardless (Hartman 1985).

Table 1 summarizes the provisions most relevant to the taxation of multinational companies. The first two rows of the table show that TCJA met the key business community goals of lowering the corporate tax rate and transitioning to a (purportedly) territorial system that exempts foreign income from taxation; these changes both reduced corporate tax revenue.

However, considering the full impact of TCJA international tax provisions, the United States effectively moved from one hybrid system to another. Under the pre-TCJA (purportedly) worldwide system, very little tax was collected on foreign income, and tax on foreign income was not levied until repatriation.

Table 1: Key International Corporate Tax Provisions

	Before passage of the Tax Cuts and Jobs Act	After passage of the Tax Cuts and Jobs Act	10-year Joint Committee on Taxation Revenue Score, $billions
Statutory corporate rate	35%	21%	-1,349 (net: -654)
Tax treatment of foreign income	No tax until repatriation, then 35% rate minus credit for foreign taxes paid	Not taxable unless subject to minimum tax	-224
Global minimum tax (GILTI)	N/A	0 until threshold, then 10.5%; up to 13.125% if blended with income from higher tax countries; rates increase after 2025, to 13.125/16.4 %	112
Foreign-Derived intangible income deduction (FDII)	N/A	Tax preference for profits from export sales above threshold	-64
Base erosion and anti-abuse tax (BEAT)	N/A	An add-on minimum tax when payments to foreign related parties exceed threshold	150

Source: Joint Committee on Taxation (2017).

Under the current TCJA system, some foreign income is indeed exempt from US taxation, but some foreign income is subject to US tax immediately (without deferral) through the GILTI minimum tax (for global intangible low-taxed income). For those multinational companies that had achieved the lowest tax rates offshore prior to TCJA, the new system actually increased the US tax burden on foreign income (Dharmapala 2018). In the end, the circumstances of particular companies determine which system has more worldwide reach.

The GILTI (global intangible low-taxed income) minimum tax is levied on foreign income wherever it is earned, but with a 50 percent deduction, so at half the US corporate tax rate. In addition, foreign income is only taxed in cases when foreign earnings exceed a 10 percent return on tangible assets and are lightly-taxed abroad. The tax burden abroad is assessed based on a global average tax rate. Thus, foreign income below a certain return on tangible assets or solely booked in countries with tax rates above the threshold may not trigger US corporate taxation; however, in other cases, the GILTI tax applies.

The GILTI tax comes with some perverse incentives (as I have described in detail in Clausing 2020a). First, exempting the first 10 percent of return on foreign tangible assets from US taxation encourages investment offshore. Second, because GILTI is assessed based on an average tax rate offshore, it effectively encourages *both* high-tax and low-tax foreign income relative to domestic income. For example, if a company earns $1 in Japan or France, it generates tax credits that it can use to offset GILTI tax that would be due on income earned in low-tax jurisdictions. Both high-tax and low-tax streams of foreign income can be blended, and together taxed at about half the US domestic rate. (This assumes that the company does not have more foreign tax credits than needed, referred to as an "excess credit" position.)

The "foreign-derived intangible income deduction," FDII, is an export subsidy provision. It was meant as a "carrot" to accompany the "stick" of the GILTI minimum tax. If a US company has high returns relative to their US-based tangible assets, it can claim a deduction for the part of those excess returns that is attributed to export income.

This deduction reduces tax rates for mobile income earned by US companies, but it too has some perverse incentives. Since the "foreign-derived intangible income deduction" applies to excess returns relative to domestic tangible assets, greater domestic tangible assets (holding constant other factors) will decrease the FDII deduction, thus discouraging US investment. Further, by providing a lower tax rate for profits above some threshold return on assets, FDII provides lighter tax treatment for excess profits. However, efficiency considerations imply that we should tax excess profits at a higher, not a lower, rate, since such taxes are less distortionary. (For a more detailed discussion of this well-known result, see Clausing 2024.)

Finally, since the "foreign-derived intangible income deduction" makes favorable tax treatment contingent on exports, it is inconsistent with World Trade Organization rules prohibiting export subsidies, subjecting it to possible challenges.

A final novel TCJA international provision is the "base erosion anti-abuse tax," or BEAT. BEAT was aimed at the profit shifting of foreign multinational companies, though it also affects US-based multinational companies. This provision applies to large multinational corporations with gross sales over $500 million, in situations where firms make substantial payments to related foreign entities (excepting costs of goods sold), recognizing that such payments can be used to shift income out of the US tax base. The BEAT minimum tax should incentivize reduced profit shifting to low-tax locations.

Alongside the provisions of Table 1, Tax Cuts and Jobs Act includes a one-time deemed repatriation tax to accompany the transition toward a "territorial" tax system. This one-time tax

was levied on the unrepatriated earnings of US multinational companies at a rate of 8 or 15.5 percent, depending on the liquidity of the stock of foreign earnings. This provision is a tax reduction relative to prior law, under which repatriation of earnings would have generated US tax at the full US tax rate (at 35 percent), less foreign tax credits. The transition tax does not generate revenue on an ongoing basis (although it is payable over 8 years), and it has no incentive effects (because it is a tax on prior earnings).[6]

IV. Consequences of the International Corporate Provisions of TCJA

Studies of the effects of the Tax Cuts and Jobs Act should be viewed with a degree of caution. For instance, various provisions change over time, including business tax provisions that affect the timing of investment expense deductions, the tax treatment of research and development, the extent of interest deductibility, and the tax rates for the GILTI minimum tax and the FDII deduction. When provisions are scheduled to become less favorable over time (as is the case with the above examples), modelling their effects is difficult, because some businesses may operate under the assumption that temporary provisions will be extended, whereas others may assume that provisions evolve as written in the law.[7] If a favorable tax provision is temporary, firms may move activity into periods where tax treatment is lighter, confounding analyses regarding the provision's effectiveness.

The time period since 2018 is also riddled with complicating macroeconomic factors, including disruptions to trade caused by trade conflicts between the Trump administration and key trading partners, the enormous disruption of the pandemic, and the unclear macroeconomic impact of the large policy response to the pandemic. In addition, the last few years have featured the higher inflation rates of 2021 and 2022, the higher interest rates of 2022 and 2023, and developments abroad including the war in Europe (from February 2022 onwards) as well as other geopolitical shocks. Of particular importance here, this time period also included an international tax agreement in 2021, with a large number of important countries announcing implementation steps in 2022 and beyond. With such cautions duly noted, this section will review the evidence on the effects of the international corporate tax provisions in the Tax Cuts and Jobs Act.

Revenue

The final column of Table 1 showed revenue estimates from the Joint Committee on Taxation (2017) for the main international provisions in the Tax Cuts and Jobs Act; these estimates were made before the law was implemented. The total score for the international provisions (excluding the transition tax) reflects the expectation of approximate revenue-neutrality. On one side, there were projected revenue increases from the minimum corporate taxes imposed by the GILTI (for "global intangible low-taxed income") and the BEAT (for "base erosion anti-abuse tax"). On the other side, there were projected revenue losses from the move to exempt foreign income from

[6] The constitutionality of this tax is being challenged in the case of *Moore vs. United States*, which was heard by the US Supreme Court in December 2023. A decision is expected by summer 2024. The amicus curiae brief files in the case are available at https://www.supremecourt.gov/docket/docketfiles/html/public/22-800.html.

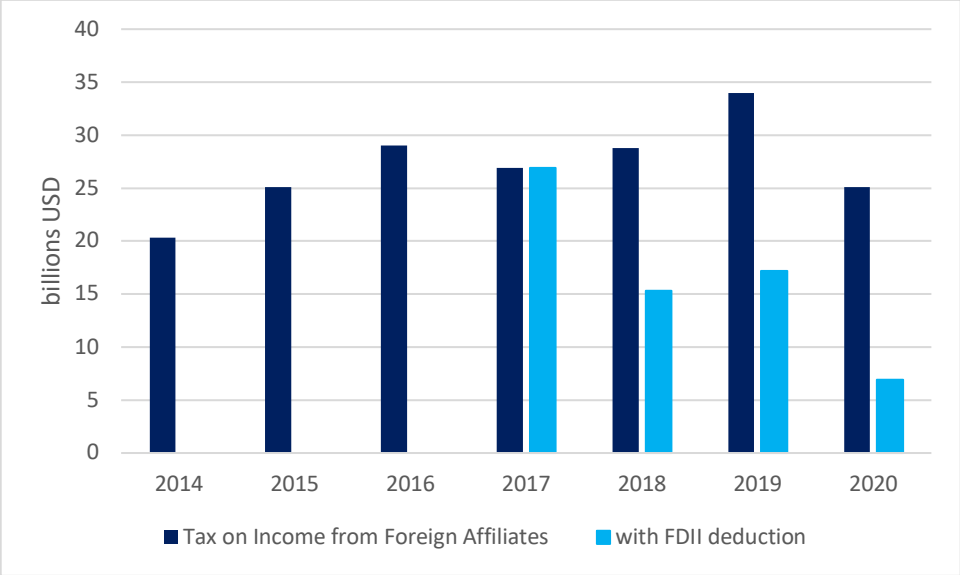
[7] A legislative effort to extend several of these business tax provisions passed the House of Representatives on January 31, 2024. As of this writing, it was unclear if the extensions would pass the Senate.

US tax unless it falls under those minimum taxes, and from the FDII deduction (for "foreign-derived intangible income").

Figure 2 shows revenue from the international tax provisions so far (again excluding the transition tax). The lighter bars show the total revenues inclusive of the "foreign-derived intangible income" deduction, and the darker bars the revenues without FDII, focusing on provisions affecting revenue from foreign affiliates of US multinational enterprises. The changes in the Tax Cuts and Jobs Act seem to have led to a small increase in the tax revenue collected from US foreign affiliates, with lower revenues overall once the FDII deduction is included.

A few patterns in specific provisions are notable. First, the "base erosion anti-abuse tax" BEAT appears, at first glance, to be underperforming revenue expectations, with less than $6 billion in collections over 2018-2020, in contrast to Joint Committee on Taxation (2017) forecast estimates of $18 billion for the same period. Still, BEAT may have acted to discourage profit shifting out of the US economy by foreign multinationals (Dowd, Landefeld, and Mortenson 2023), rather than collecting revenue directly. However, there is also evidence that firms have been reclassifying costs in a tax avoidance response to BEAT (Laplante et al. 2023).

Figure 2: Penn-Wharton Budget Model Analysis of Revenues from TCJA Provisions



Source: Penn-Wharton Budget Model (2023).

Second, the "foreign-derived intangible income" or FDII deduction appears more expensive than anticipated, losing about $50 billion in total revenue over the period 2018-2020 (Penn-Wharton Budget Model 2023). In contrast, the JCT estimate implied a revenue gain in early years, due to effects on the overall corporate tax base. While revenue loss from the deduction can be offset by a larger corporate tax base, estimates for repealing FDII suggest that the provision may be more costly than originally scored; for example, JCT (2021a) scored the revenue from repealing FDII over 2021-31 at $224 billion.

Third, the combination of the higher revenues from the GILTI minimum tax on "global intangible low-taxed income" and the lower revenues from exempting other foreign income was

estimated to lose about $10-$15 billion in the early post-TCJA years. However, international revenues from US foreign affiliates appear to have increased modestly, indicating that the GILTI minimum tax may have outperformed expectations (perhaps because foreign profits in low-tax locations were higher than originally thought), that territorial reforms were less expensive than the Joint Committee on Taxation (2017) anticipated, or some combination of both effects.

Finally, the one-time transition tax on accumulated earnings discussed above can be paid over eight years, at an increasing rate over time, if taxpayers elect to do so. Transition tax revenues in 2020 were very similar to their prior Joint Committee on Taxation (2017) projections, but revenues in earlier years were far lower, perhaps reflecting the fact that more taxpayers than expected elected to spread out their transition tax payments over time.

In total, the international provisions of TCJA appear likely to provide less revenue than was expected when the legislation was passed. Kysar (2020) argues that part of the gap may have occurred because implementing regulations were more generous to taxpayers than the Joint Committee on Taxation may have assumed. It's also possible that tax planning adaptation to the new regime was more aggressive than expected. It will take time and further research to sort out the net effect of these provisions.

Beyond the international provisions, the large corporate tax rate cut reduced government revenues substantially (as discussed in greater detail in this symposium in the paper by Chodorow-Reich, Zidar, and Zwick). Simple averages show corporate tax revenue as a share of GDP declining from 1.7 percent in the five years before the Tax Cuts and Jobs Act to 1.1 percent in the five years since then, despite surging corporate profits in recent years.[8]

Offshoring and Profit Shifting

The international corporate tax provisions of the Tax Cuts and Jobs Act have potentially ambiguous effects on incentives for offshoring and profit shifting, as described above. On one side, the corporate rate reduction and the "foreign-derived intangible income" FDII deduction should both encourage more income and activity in the United States; on another side, the fact that many companies no longer need to worry about possible US tax on foreign income upon repatriation should encourage greater investment abroad.

The GILTI has ambiguous effects relative to prior law. The current application of a minimum tax may raise the tax burden on foreign income for those companies with the lowest tax rates offshore pre-TCJA (Dharmapala 2018 and Clausing 2020a); this feature should reduce profit shifting. However, since GILTI is calculated based on the average tax burden of *all* foreign sources of income, and this pool of foreign income receives a fifty percent deduction relative to domestic income, that encourages companies to earn income offshore, in *both* high and low-tax countries.

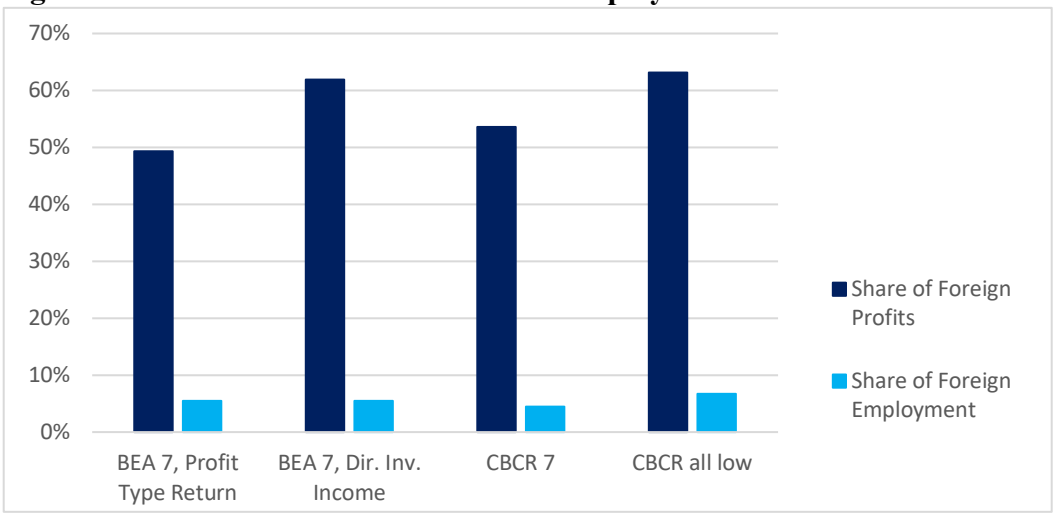
[8] Data are from FRED, the St. Louis Federal Reserve Bank's economic data database; the series is tax receipts on corporate income (FCTAX) relative to GDP. FRED data also show surging corporate profits (relative to GDP) after 2020.

Given these confounding effects, the overall impact of TCJA on profit shifting becomes an empirical question. Since the passage of the Tax Cuts and Jobs Act, the evidence indicates only modest changes in the pattern of US multinational foreign income.

For instance, Garcia-Bernando, Jansky, and Zucman (2023) show a small decrease in the share of foreign income for US multinationals in the wake of TCJA, seemingly accounted for by the actions of six companies. Some of these effects, however, may be due to foreign governments closing some widely used tax loopholes (for the closure of the "double Irish" loophole, see Samarakoon 2023). Garcia-Bernando, Jansky, and Zucman also find little effect of TCJA on the share of foreign profit earned in the lowest-tax countries, as well as some evidence that suggests that companies became more sensitive to tax rate differentials in the wake of TCJA. But work in this area is ongoing. A large literature, beginning with Dowd, Landefeld and Moore (2017), has emphasized that the tax elasticities of profit reported with respect to tax rates are likely to be non-linear, so the profit shifting reduction from the 14-percentage point lower corporate rate may be far less than what would be implied from the elasticities observed with respect to the lowest tax rate jurisdictions.

US multinationals continue to book disproportionate amounts of profit in the lowest tax-rate jurisdictions. As Figure 3 shows, disproportionate amounts of US multinational companies' foreign income are booked in the lowest tax jurisdictions; these locations often account for a tiny share of US multinational foreign employment. (Figure 3 reports multiple data sources, given the imperfections of data series in this area.)

Figure 3: Share of US MNC Income and Employment in Low-Tax Jurisdictions, 2020



Source: Bureau of Economic Analysis (BEA) and Internal Revenue Service (IRS) Statistics of Income. The first three series show data on different data series from the BEA (profit type return and direct investment income) and the IRS (country by country reporting –CBCR—profit) for seven traditional low-tax jurisdictions that have hosted a lot of income in the past; these are Bermuda, the UK Caribbean Islands (Caymans), Ireland, Luxembourg, Netherlands, Singapore, and Switzerland; the final series includes IRS CBCR data on other jurisdictions with average tax rates below 10 percent. These data series have important definitional differences. For example, the BEA direct investment income series is after-tax, whereas the others are before-tax; this will mechanically increase the low-tax share for that series (due to the smaller tax bite in low-tax jurisdictions). The country-by-country data are relatively new, and they include valuable information about many low-tax rate jurisdictions that are missing from other data sources. However, despite clarifying instructions, there likely remains some double-counting of income in those data; although it remains unclear how such double-counting would affect these shares.

As one example, US pharmaceutical companies report very little US profit, earning the vast majority of their profit offshore (Setser 2023), despite very high US sales and notoriously high US pharmaceutical prices. These data are compatible with recent analyses by the OECD that show vastly higher profitability of multinational enterprises in the lowest tax rate jurisdictions; a group of about ten such jurisdictions are the destination for about 90 percent of shifted profit (Hugger et al. 2024, Figure 7).

Regarding the offshoring of real activity, it is possible that the GILTI minimum tax would encourage tangible investments offshore, since the GILTI exempts the first ten percent return on foreign tangible assets from US taxation. The size of such tax incentives will depend on the interaction of individual company circumstances, national tax codes, and other factors including the effects of the international tax agreement (discussed below). However, several studies provide early evidence linking the overall tax incentives of the Tax Cuts and Jobs Act to strong foreign tangible investment by US multinational companies (for example, Dharmapala 2024; Atwood et al. 2020; Chodorow-Reich, et al. 2023; Huang, Osswald, and Wilson 2023; Beyer et al. 2021). How foreign investment affects domestic investment remains a topic for more research.

Corporate Control, Mergers, and Acquisitions

The extent to which the US corporate tax code disadvantaged US multinationals relative to their competitors prior to the Tax Cuts and Jobs Act is contested. As noted earlier, the pre-TCJA status quo featured both relatively low US corporate tax revenues and a relatively high US statutory rate, and studies that compared average tax rates for US and foreign multinational companies produced mixed results. Still, there is a consensus that TCJA caused *overall* reductions in average tax rates for US multinational companies. However, the treatment of the *foreign* income of US multinationals was far more subtle, such that the change in the tax burden on foreign income depended on company circumstances, especially the geographic distribution of their income sources abroad.

It was unclear a priori how foreign mergers and acquisitions by US multinational companies would evolve in the wake of Tax Cut and Jobs Act. Before the 2017 law, the large stock of unrepatriated earnings gave US multinational companies an artificial incentive to invest abroad, because reinvested earnings would not trigger US taxation, and companies may have hoped that the repatriation tax would eventually diminish or disappear. The artificial incentive to reinvest foreign earnings in active businesses offshore was removed with TCJA, but TCJA also removed concern that the resulting foreign income would generate US taxation, beyond the burdens of the GILTI minimum tax. In a discussion of the empirical evidence on this question, Dharmapala (2024) notes that in studies that controlled for other factors, the period after TCJA was associated with a general decline in US acquisitions abroad.

Whether that finding should be interpreted as a good or bad outcome depends on whether US foreign investment was artificially high or not prior to 2017, which is unclear. While the net change in the tax burden on foreign income due to TCJA was ambiguous, there is some evidence that acquisitions fell more steeply for those companies with a larger foreign presence that were likely to be subject to the GILTI minimum tax (Dharmapala 2024). This suggests that the

competitiveness of these companies in global merger and acquisition markets was not improved by TCJA.

Investment, Wages, and Growth

In this symposium, the contribution by Chodorow-Reich, Zidar and Zwick focuses on the effects of the corporate tax changes on domestic investment levels in more detail. Indeed a central motivation of the corporate and international tax provision in TCJA was to increase investment, worker wages, and growth. Proponents of the legislation predicted a $4,000 to $9,000 increase in wages from the legislation, due to increased capital formation that would be spurred by lower tax rates (CEA 2017), as well as growth effects that would offset much of its fiscal cost. At the time, however, most of the literature predicted far more modest effects (Gale et al. 2018).

With more than five years passing since TCJA implementation, research has begun to clarify the effects of TCJA on wages, investment, and growth, generally finding meager effects but also raising some important puzzles. For example, the aggregate data show very little discernible break in the trend of investment and wage growth post-TCJA, whereas a few studies have identified more robust investment effects for typical firms.

Most studies post-TCJA indicate little overall effect on investment, wages, and growth. There was little surge in investment, research and development, or inward foreign direct investment attributable to TCJA (Kopp et al. 2019; Matheson et al. 2022; Gale and Haldeman 2021; Furman 2020), whereas corporations did increase stock buybacks, dividends, and retained earnings.

Consistent with prior evidence on the repatriation holiday in the American Jobs Creation Act of 2004, as well as the logic discussed above, there is also little evidence that the repatriation of offshore funds fueled investment growth in the United States (Albertus, Glover, and Levine 2023; Dharmapala 2024).

However, two recent studies suggest that TCJA may have boosted investment for typical firms. (Kennedy et al. 2023; Chodorow-Reich, et al. 2023). Both find important effects on investment from the tax cuts, although these changes do not translate into broadly shared economic gains; about 80 percent of the benefit goes to the top 10 percent of the distribution (Kennedy et al. 2023) and implied wage effects are small overall.[9]

Given the lack of clear TCJA effects on aggregate investment, these studies raise some puzzles. One possible resolution may come from the role of the largest corporations. According to IRS data on corporate returns in 2019, less than one-half of one percent of C corporations account for more than 85 percent of the tax base. Understanding the behavior of this small slice of the corporate community is important. Since large companies are more likely to have market power, their behavior may respond differentially to the investment incentives of TCJA; evidence indicates that industries with higher mark-ups show less investment and wage responses to corporate tax cuts (Kopp et al. 2019). Further, as described above, large multinational firms may

[9] There are also important issues regarding how TCJA is financed. If tax cuts are deficit-financed, as they were in TCJA, "crowding out" effects (that occur when investment is deterred by higher interest rates) could offset the investment gains shown in such studies.

be experiencing contradictory effects on their incentives, due to the complicated effects of TCJA's international tax provisions.

It is difficult to analyze the largest corporations, since careful econometric methods require large sample sizes, and it is difficult to identify control groups for the largest firms. Regression results report the responsiveness of a typical firm, capturing important behavioral characteristics of such firms. However, it is more difficult to investigate the behavior of the small number of observations that nonetheless drive the vast majority of the economy.

V. The International Tax Agreement and the Future of US International Taxation

The world has not stood still during US international tax reforms. For decades, the international community has strived to tackle the problems of international tax competition, profit shifting, and corporate tax base erosion. The OECD had organized multiple efforts aimed at coordinated reform. In 2013-2015, the Base Erosion and Profit Shifting (BEPS) project suggested guidelines for incremental improvements in 15 action areas; the guideline documents reached nearly 2,000 pages. This effort worked with the "G20" group of countries (made up of 19 countries and the European Union, together representing about 85 percent of global GDP), and with a broader "inclusive framework" group that totaled about 60 countries at the time (OECD 2015).

While "BEPS 1.0" led to progress on data collection, and some incremental improvements in rules, it did not attempt a fundamental transformation of international tax principles. In the aftermath of BEPS 1.0, there was little diminution in profit shifting or corporate tax base erosion, and BEPS 1.0 left issues surrounding digital taxation for later.

A second round of negotiations, "BEPS 2.0," was meant to tackle these remaining issues; this negotiation also expanded to include more countries. It took some time to gather steam, and seemed to languish in 2019 and 2020, but in 2021 it moved rapidly. By fall 2021, more than 135 jurisdictions representing about 95 percent of the world economy undertook a political agreement to transform the future of international taxation.

Parameters of the International Agreement

The basic parameters of the Base Erosion and Profit Shifting agreement are two-fold. "Pillar 1" would reallocate some portion of the multinational company tax base toward market jurisdictions. Pillar 1 is still in process and will not be discussed in detail here, but it takes a "formulary approach" to taxing multinational income: that is, it uses a formula to allocate some portion of profits across countries, depending on the destination of sales. Its scope would apply to the largest and most profitable multinational companies.

"Pillar 2" of the agreement includes a country-by-country minimum tax of 15 percent on multinational company income, regardless of where it is reported. In December 2022, the European Union unanimously agreed to implement this minimum tax; other countries, including South Korea, Japan, Australia, Canada, and the United Kingdom, have also recently moved toward implementation. Based on current implementation plans, OECD researchers have

concluded that 90 percent of the multinational companies that are in the scope of the agreement will be covered by its provisions (Hugger et al. 2024).

The Pillar 2 agreement is complex, like many aspects of international taxation, but it contains features that ensure that multinational company income (of large multinationals) is taxed at some minimum rate. For more detail on the agreement's provisions, see Clausing (2023) and OECD (2021), alongside updates on the OECD BEPS website at https://www.oecd.org/tax/beps/.

The collective action of Pillar 2 is enhanced by the inclusion of an enforcement mechanism known as the Undertaxed Profits Rule. Once some countries implement the agreement, the Undertaxed Profits Rule provides a strong incentive for non-adopters to implement. The rule levies a top-up tax on companies that are residents in non-adopting countries (including their foreign subsidiaries), if such companies choose to operate in adopting country markets.

This provision helps adopting countries protect their tax base from erosion due to the actions of multinational companies based in non-adopting countries. For instance, if Japan adopts a Pillar 2 minimum corporate tax and the United States does not, US multinational companies in Japan may shift income out of Japan (toward low-tax jurisdictions), eroding the Japanese tax base and putting Japanese companies at a relative disadvantage. However, under the agreement, the Undertaxed Profits Rule allows adopting countries to top-up the tax burden of companies operating in their market, even if such companies are based in non-adopting countries. Because the top-up tax will be paid to the adopting countries, it creates a strong incentive for countries to adopt, so that they receive the resulting tax revenue.

Strengths and Weaknesses of the International Approach

Coordinating principles of international minimum taxation may sound like a sacrifice of tax sovereignty, but the constraint of the global minimum tax only binds those governments that seek to levy rock-bottom tax rates on their companies. In addition, tax competition itself may erode tax autonomy, since it leaves many governments reluctant to tax mobile capital income, and troubled by competitiveness concerns should they attempt to unilaterally tackle corporate tax base erosion.

While the global corporate minimum tax may seem like a blunt rule, it acknowledges the profound difficulty of implementing the "arm's length" standard as well as the near impossibility of tax authorities matching the sophistication of corporate tax departments and accounting firms, in the face of large tax rate differentials and strong profit shifting incentives. A coordinated minimum tax approach provides a brake on the forces of tax competition, by limiting tax rate differentials and the resulting profit shifting incentives. Analysis by OECD staff estimates that the internationally coordinated minimum tax will dramatically reduce the extent to which multinational income is taxed at rates below 15 percent, from over $2 trillion each year taxed below that rate in 2017-2020, to about $650 billion taxed below that rate (Hugger et al. 2024).

That said, this agreement will not end tax competition. Governments will still have the option of supporting their companies directly with cash grants or refundable tax credits, or indirectly with infrastructure support, without the effects of those subsidies being completely clawed back by

minimum taxes. (Rules about allowable subsidies under the World Trade Organization may in some cases provide a response to such concerns.) Still, subsidies are more difficult for governments to employ than tax cuts, because it is far more difficult to "send checks" to the most profitable companies in the world than to allow tax preferences that are often opaque and mysterious to outside observers.

The globally agreed corporate minimum tax rate has a relatively low rate of 15 percent. While this is a higher rate than some predicted going into the agreement, it is still significantly lower than the current US domestic corporate tax rate (21 percent) as well as many corporate tax rates implemented throughout the world. Also, the minimum tax includes "substance-based carve-outs" that may allow some local return on tangible assets and payroll to be exempt from the minimum tax. While these features weaken the minimum tax regime, the minimum tax nonetheless remains sharply different from the prior (nearly nonexistent) limits on international tax competition, whereby any jurisdiction could completely exempt all mobile profits from taxation.

While the agreement will not end the tax advantages of multinational companies, it does narrow them. Further, the agreement demonstrates, in a time of increasing nationalism and skepticism of global institutions, the ability of nations to forge an important economic pact, recasting international tax rules toward the aim of better tax systems.

Similarities and Differences from the US Approach

The international BEPS agreement has some conceptual similarities to the US approach in the Tax Cuts and Jobs Act. For example, the GILTI minimum tax on "global intangible low-taxed income" has similarities to the Pillar 2 tax; both entail headquarters countries topping-up the tax paid by their resident companies that report lightly taxed earnings offshore. The Undertaxed Profits Rule also has elements that are reminiscent of the "base erosion anti-abuse tax" or BEAT; both were intended to address the profit shifting behavior of foreign-headquartered multinational companies.

However, the differences are notable, too. The GILTI minimum tax is applied based on the average tax burden on foreign income, whereas the Pillar 2 tax is applied on a country-by-country basis. This distinction is important, since the country-by-country feature makes the minimum tax much stronger. Without that feature, low-tax (or even zero-tax) countries have an incentive to lure tax base from higher-tax locations, and any minimum tax due as a result can often be offset by tax credits from operations in higher-tax countries. In contrast, under a country-by-country system, the income earned in a low-tax country faces a top-up tax regardless of other foreign operations. In the wake of Pillar 2 implementation, many low-tax countries will have strong incentives to increase their tax rates, since firms will pay tax at 15 percent regardless. This lifting of the "bottom" tax rate substantially lessens the pressures of tax competition.[10]

[10] This feature also makes multinational companies more sensitive to the higher tax rates of some foreign investment locations, since such locations no longer generate useful tax credits for offsetting minimum tax, as they do under a globally-blended system (Clausing 2020a). This consideration comes with both upsides and downsides. From the perspective of high-tax countries hosting foreign multinational companies, this effect increases the tax sensitivity of

The country-by-country feature of the Pillar 2 minimum tax is also a sticking point that prevents the GILTI minimum tax on "global intangible low-taxed income" from conforming (or being close enough) to the globally-adopted minimum tax to "turn off" the Undertaxed Profits Rule. As a consequence, some US-based multinational companies may end up paying Undertaxed Profits Rule tax to foreign governments, absent future US legislation.

The US Congress did impose a new corporate alternative minimum tax as part of the Inflation Reduction Act of 2022, levied at 15 percent on the book income of the largest US companies, and the GILTI rate is scheduled to increase in 2026. However, both taxes are applied on a globally-blended basis, rather than on a country-by-country basis, so they do not conform with Pillar 2.

By standing outside the international coordinated approach, the US has ended up with a system in which it applies three separate unilateral taxes to US multinational firms: the GILTI minimum tax on "global intangible low-taxed income," the "base erosion anti-abuse tax" or BEAT, and the new corporate alternative minimum tax. At the same time, US multinationals will face the coordinated Pillar 2 approach in many jurisdictions abroad, which will subject some firms to Undertaxed Profits Rule taxation.

What Comes Next for US International Taxation?

The US government will face a forcing moment for tax policy by the end of 2025, when many provisions of the Tax Cuts and Jobs Act (although not most corporate ones) expire. Policymakers on both sides of the aisle have expressed interest in extending some of these provisions, yet deficits and debt are both at historically high levels, and the price tag of a full extension would reach about $4.5 trillion (Congressional Budget Office 2024). One way or another, Congress will confront difficult tradeoffs.

With regard to the international corporate provisions that are the focus here, it's relatively straightforward to imagine enacting a country-by-country minimum tax to comply with Pillar 2, by reforming the GILTI minimum tax to levy it on a country-by-country basis at a rate of at least 15 percent. Depending on policy goals, such a reform could be designed to be either revenue-neutral or revenue-increasing. There are many proposals for increasing revenue in this space (such as Clausing and Sarin 2023; US Treasury 2021, 2023a), but there are also ample business tax cuts that could be used to achieve revenue-neutrality alongside the revenue-raising GILTI reform.

Whatever the details of US adoption, Pillar 2 arguably addresses a long-stated concern of the US business community: that is, by raising the lowest possible tax rate levied on the competitors of US multinational companies, the agreement reduces the fear that US taxation of foreign income will generate competitiveness problems for US multinational companies. The US government can hope for improvement in *both* corporate tax base protection and US multinational

part of their tax base. From the perspective of home countries, however, this effect reduces the tax bias in favor of foreign income relative to domestic income.

competitiveness, if the rest of the world raises corporate tax rates. With the widespread adoption of the Pillar 2 agreement, that's what just happened.

Of course, one can also imagine scenarios where the US government responds to the full implementation of the Pillar 2 agreement with intransigence, perhaps even threatening trade conflicts in response. But ultimately, the US business community may value the simplification potential of a more predictable and stable international tax regime, alongside reduced international frictions.

VI. Concluding Observations

A small number of large corporations have disproportionate economic heft; these companies are also far more likely to be multinational companies. According to the IRS Statistics of Income (2022) database, fewer than 1,800 US corporations, less than one-half of 1 percent of corporations, account for 87 percent of the corporate tax base in 2019. Indeed, one-tenth of 1 percent of all corporations, or about 350 firms, accounts for nearly 70 percent of the tax base.[11] These large firms have more margins to respond to taxation, including (for multinational firms) the ability to shift profits to more lightly taxed offshore destinations. Perhaps not coincidentally, large firms also have lower tax burdens than small firms, exacerbating industry concentration and market power (Clausing 2024).

This concentration of the corporate tax base has implications for both policy and research. For smaller firms that do not earn above-normal profits, higher corporate taxes are more likely to burden normal returns to capital, affecting investment and the capital stock. This suggests that corporate tax reformers might want to undertake policies that minimize distortions to investment, even in the context of revenue-raising corporate tax reform. (For example, a higher rate, alongside more generous investment expensing and interest deduction limits, can move the corporate tax system in that direction.)

In contrast, large multinational companies earning above-normal profits make other tradeoffs important. A high corporate rate may encourage profit shifting and offshoring, eroding the US corporate tax base. Although taxing above-normal profits (or rents) is more efficient than taxing normal returns to capital, it may be difficult to tax such rents if they are highly mobile. Understanding the behavior of large, multinational companies may also prove difficult to researchers, since small sample sizes and data constraints make common identification strategies more difficult.

Traditionally, those who worried about US corporate tax base erosion due to the profit shifting of multinational companies suggested unilateral responses to this problem, including unilateral adoption of minimum taxes. But the business community raised concerns that these policy options would harm the competitiveness of US multinational firms vis a vis their peers headquartered in more permissive tax regimes. Such concerns made it difficult for US policymakers to satisfy key policy goals: clamping down on profit shifting would raise

[11] These ratios are relative to corporations with positive tax liability. Including those that do not report positive taxable income would make an even smaller share of firms accountable for these large shares of the tax base.

competitiveness worries, but being too responsive to competitiveness worries would spur further tax base erosion (by further lightening the tax burden on foreign income).

The Pillar 2 international tax agreement does not offer an end to all tax competition pressures, but it does change the stark nature of this dilemma. Coordinated minimum taxation shrinks tax differentials between home tax rates and the lowest rate abroad, enabling governments to better set corporate tax policy based on domestic policy goals. As US policymakers contemplate reform of international corporate taxation in the years ahead, traditional tax policy dilemmas will be less stark. While the BEPS agreement and the Pillar 2 rules can be improved over time, they illustrate the importance of international economic cooperation in addressing global collective action problems.

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