

Ending Corporate Tax Avoidance and Tax Competition: A Plan to Collect the Tax Deficit of Multinationals¹

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Abstract: Between 1985 and 2019, the global average statutory corporate tax rate has fallen from 49 percent to 23 percent, largely due to the rise of international tax competition.² The biggest winners from globalization have received the largest tax cuts. In this paper we propose a solution to replace this race-to-the-bottom with a race-to-the-top. Multinational companies that have low effective tax rates in some foreign countries (what we call a “tax deficit”) would pay an extra tax in their home country. We explain how such a tax should be designed and how it could be collected. The ideal solution would be for all countries to jointly start collecting the tax deficit of their multinationals. We describe how defensive measures could be applied against countries refusing to take part in such an agreement, measures that could ultimately pave the way to global corporate tax coordination.

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² See OECD Statistics, Statutory corporate income tax rates, weighted by GDP.

Introduction

Globalization has opened new ways for corporations to reduce their tax bills. As countries compete to attract investments, firms can move their activity to places that offer low tax rates. International tax competition and profit shifting have led to a large decline in effective corporate tax rates. Between 1985 and 2020, the global average statutory corporate tax rate has fallen from 49 percent to 23 percent. In the United States, the average effective tax rate on corporate profits has fallen from close to 50 percent in the 1950s to 17 percent in 2018.³ Some of the biggest winners of globalization have seen their taxes fall—a process which is unlikely to be sustainable, neither politically nor economically.

Multinational companies also shift paper profits between their various subsidiaries, including subsidiaries incorporated in offshore tax havens with zero or close to zero rates. As a consequence, there is increasing concern about corporate tax base erosion due to such profit shifting. The scale of this problem is quite large. As one example, in 2017 data for US multinational companies, they report offshore accumulated earnings of \$4.2 trillion, \$3.0 trillion of which was in tax havens.⁴

Tax havens are jurisdictions with very low, often near zero, tax rates; a small number of havens are disproportionately important. For US companies, just nine havens account for \$2.8 of the \$3.0 trillion in haven earnings. Of these nine havens, four are independent European jurisdictions (Ireland, Luxembourg, the Netherlands, and Switzerland), four are island jurisdictions with close affiliations to the United Kingdom (Bermuda, Jersey, and the Caymans) or the United States (Puerto Rico), and the other is Singapore.

International attention to this problem has resulted in a multi-year effort by the OECD and G-20 to reduce profit shifting, known as the BEPS framework. However, so far, there is little evidence that profit shifting is subsiding; in 2019 data, US MNCs report the same share of their foreign direct investment earnings in havens as they did in recent years prior.⁵

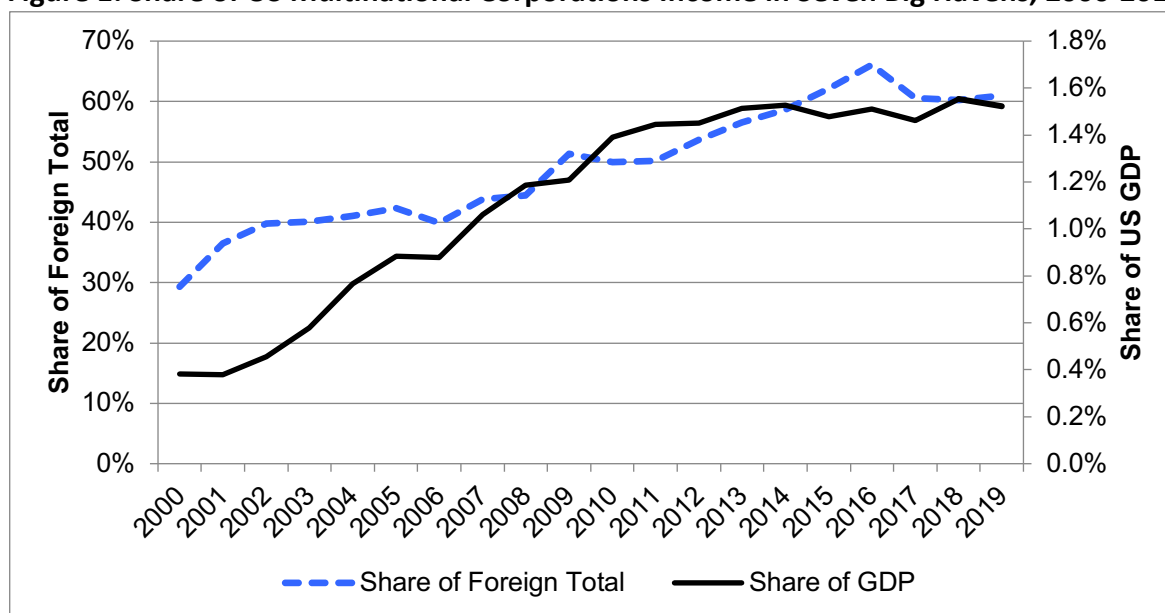
³ See US National Income and Product Accounts. Detailed statistics on tax rates relative to national income are compiled in Piketty, Saez, and Zucman (2018).

⁴ Data are from the IRS reports of the 2017 country by country data available here:

<https://www.irs.gov/statistics/soi-tax-stats-country-by-country-report> Havens in this calculation include, in order of accumulated earnings totals: Bermuda (634 billion), Netherlands (462b), Jersey (461b), Switzerland (375b), Luxembourg (357b), Singapore (175), the Caymans (142b), Puerto Rico (114b), Ireland (104b), Isle of Man (95b), and smaller havens with less than 25 billion each in accumulated earnings (Barbados, Mauritius, Gibraltar, Macau, St. Kitts and Nevis, and the British Virgin Islands).

⁵ The share of US MNC income booked in havens is steady since about 2011, although it was rising steeply in years prior. For US multinational companies, perhaps the BEPS process reduced the increase in the size of the problem, but it does not seem to have diminished the problem yet. Likewise, the tax act of 2017 (TCJA) – in effect in 2018 and 2019 – does not appear to change these trends.

Figure 1: Share of US Multinational Corporations Income in Seven Big Havens, 2000-2019



Note: Data are from the US Bureau of Economic Analysis. The big (in terms of importance) havens are: Bermuda, the Caymans, Ireland, Luxembourg, the Netherlands, Singapore, and Switzerland. Data are reported after-tax, so the haven share is higher than it would be using before-tax data.

While there is a view that tax competition and tax avoidance are laws of nature and that the corporate tax is bound to disappear in a globalized world, the reality is different.⁶ Nothing inherent in globalization prevents governments from taxing corporate profits (and capital more broadly).⁷ In this paper we illustrate how governments could end tax competition and profit shifting. An effective action plan has three pillars: exemplarity; coordination; and defensive measures against non-cooperative tax havens. We illustrate our proposal taking the example of the United States, but other countries could implement the same plan.⁸

⁶ Several impediments stand in the way of moving the burden of capital taxation toward individuals. First, in the United States, about 70 percent of U.S. equity income is not taxed by the U.S. government at the individual level; see Burman, Clausing, and Austin (2017). Thus, long-held preferences for untaxed accounts (IRAs, pensions, 529s, etc.) and untaxed entities (e.g., private endowments) would need to be rethought, and that is unlikely. Second, in the absence of mark-to-market or an annual wealth tax, capital income accrues without tax as capital gains, creating a lock-in effect, whereas capital income is taxed currently at the business level. While not impossible, both mark-to-market reforms and a wealth tax face daunting political and administrative obstacles.

⁷ Taxing capital is important not just for equity reasons, but for efficiency. For instance, a large share of capital income is comprised of rents, or above-normal returns to capital. Taxing such income is both efficient and warranted as an additional measure against the market power of companies. There is ample evidence that market power is increasing; see Philippon (2019) for one treatment. Also, modern models of optimal taxation suggest a substantial role for capital taxes, even if they fall on the normal return to capital. See, e.g., Farhi et al. (2012), Conesa, Kitao, and Krueger (2009), Straub and Werning (2020), and Piketty and Saez (2012, 2013).

⁸ At least in the United States, there is bipartisan voter support for coordinated minimum taxation. A summer 2020 national poll from Data for Progress and The Justice Collaborative Institute showed broad support for the basic outline of the plan described here. 55% of respondents somewhat supported or strongly supported setting up a system of international tax cooperation, with only 20% somewhat or strongly opposed. Partisan breakdowns were similar. Among Democrats polled, 59% were somewhat or strongly in favor, and 17% were somewhat or strongly opposed; among Republicans, 55% were somewhat or strongly in favor, and 18% somewhat or strongly opposed.

1. Exemplarity: Collecting the tax deficit of multinationals

Exemplarity means that the United States (and any country that wishes to stop tax competition and profit shifting) should collect the tax deficit of its multinationals. We define the “tax deficit” as the difference between what a corporation pays in taxes globally and what this corporation would have to pay if all its profits were subject to a minimum tax rate in each of the countries where it operates. The computation of the tax deficit requires us to choose a minimum tax rate. One natural minimum rate is the headline corporate tax rate (i.e., the one that applies to firms that do not have foreign operations), but other rates can be used. For example, President Biden, during his campaign, proposed to increase the federal corporate income tax rate to 28 percent (as opposed to 21 percent since the Tax Cuts and Jobs Act) and to apply a minimum tax of 21 percent on the foreign earnings of US multinationals.

The choice of a lower minimum tax rate on foreign income demonstrates tradeoffs between competing tax policy goals. When the tax rate on foreign income is substantially lighter than that on home income, taxpayers have an incentive to shift both earnings and activities abroad; this suggests keeping rates uniform. However, if home companies operate around the world and face competition from foreign companies with lighter tax treatment, they may feel disadvantaged by high rates on foreign income. Further, if the definition of residence is not protected by anti-inversion measures, companies may choose to undertake corporate inversions, moving their headquarters abroad for tax purposes. Below, we discuss such problems in greater detail.

Regardless, in its simplest form, collecting the tax deficit of multinationals involves taxing the foreign earnings of US multinationals at some minimum rate (21 percent in the case of Biden’s proposal), with credits given to offset foreign taxes paid. For example, imagine that Apple books \$10 billion in profits in Ireland—taxed in Ireland at 5 percent—and \$3 billion in Jersey—taxed in Jersey at 0 percent. The United States would tax Apple’s Irish income at 16 percent and Apple’s Jersey income at 21 percent. More broadly, the United States would impose country-by-country taxes such that Apple’s effective tax rate, in each of the countries where it operates, equals at least 21 percent. In other words, the United States would, for its own multinationals, play the role of tax collector of last resort: it would collect the taxes that foreign countries chose not to collect.

This policy does not violate any international treaty. It does not require the cooperation of tax havens. It doesn’t even require new data: the necessary information exists. As part of the OECD’s base erosion and profit shifting initiative, big companies are required to report their profits and taxes on a country by country basis to tax authorities globally. Importantly, the current reporting requirements are based on internationally recognized measures, and the OECD has released guidance on the implementation of country by country reporting that will be periodically

updated.⁹ The simplest solution is to have the minimum tax follow the standard accounting definition. However, countries often legislate departures from a standard accounting definition of taxable profits for corporate tax purposes. (For example, the 2017 Tax Act allowed full expensing instead of traditional depreciation of capital assets.) Therefore, another option would be for countries to base their minimum tax on their own definition of taxable profits.¹⁰

Applying minimum country-by-country taxes would have far-reaching consequences. With a high enough rate, this policy would remove tax incentives for US multinational companies to shift earnings or move real activity to low-tax places, because lower taxes abroad would be offset by higher taxes owed in the United States. Moreover, since there would not be incentives anymore for multinationals to operate or book earnings in low-tax places, there would be no point anymore for these countries to offer low rates in the first place. Today's tax havens would find it advantageous to *increase* their tax rates. In other words, with high enough country-by-country minimum taxes, the race to the bottom which has characterized globalization since the 1980s could be replaced by a race to the top.¹¹

It is not an exaggeration to say that minimum taxes could change the face of globalization. With a high enough tax floor, the logic of international competition would be turned on its head. Once taxes are out of the picture, companies would go where the workforce is productive, infrastructure is high quality, and consumers have enough purchasing power to buy their products. Instead of competing by slashing rates, countries would compete by boosting infrastructure spending, investing in access to education, and funding research. Instead of focusing solely on the bottom line of shareholders, international competition would contribute to more equality within countries.

For minimum taxes to be effective, it is important that the United States (and other countries) apply such taxes on a country-by-country basis, rather than globally. This means that Apple, for instance, should pay at least 21 percent in each country where it operates—and not merely 21 percent on all its foreign earnings combined (Ireland, Jersey, etc., combined with all other countries, where the corporate tax rate is sometimes significantly higher than 21 percent). This is particularly important when the minimum rate is below typical corporate tax rates in large countries. In that context, a country-by-country minimum tax has several key advantages

⁹ See <https://www.oecd.org/tax/beps/guidance-on-country-by-country-reporting-beps-action-13.htm> for the current version of the guidance.

¹⁰This would require multinationals to compute their country-by-country profits according to several definitions, which creates extra administrative burden. It could also create a risk of “legislated” base erosion whereby countries can claim to impose minimum taxes when in reality the tax has very little bite because it applies to a very small base. A case in point is the US 2017 Tax Act (TCJA). The GILTI minimum tax only applies to foreign earnings in excess of a rate of return of 10 percent on capital so that revenue collected by this tax is very small (see below).

¹¹ Or, at least, to the middle, at the agreed upon rate. This dynamic of rising tax rates is sometimes characterized negatively, since it would reduce US revenues from the minimum tax over time. However, while the minimum tax per se would raise less revenue, the part of that revenue that was due to tax-motivated profit shifting would show up in the regular US corporate tax base, since companies would have a reduced incentive to artificially shift profits offshore.

compared to a global minimum tax. First, it creates a larger reduction in the incentives of US multinational companies to book profits in tax havens, since low-taxed income can no longer be averaged with higher-taxed income and always incurs immediate minimum tax. In contrast, a global minimum tax disfavors domestic income, since haven income is taxed at a lower rate, and non-haven income shields haven income from the minimum tax (whereas domestic income has no such benefit).¹²

Second, a per-country minimum tax increases the incentives of tax havens to raise their own tax rates. When any income booked in havens immediately generates minimum tax liability, there is no longer a reason for havens to lower their tax rate below the minimum rate. In contrast, when income and tax streams across countries are averaged, havens can still offer multinational companies shields against higher-tax rate country tax rates, since the excess credits from such sources offset minimum tax due on the haven income. Again, this issue is more important as the minimum rate falls further below the domestic rate. For example, the US GILTI global minimum tax rate (at about half the US rate, in place since the 2017 Tax Act) still provides a substantial incentive for havens to exist, since US companies can shelter higher-tax country income from taxation by using havens. Indeed, by blending haven and non-haven income, companies can treat the minimum rate as, effectively, a maximum tax rate on all sources of foreign income.

Third, per-country minimum taxes are also simpler than global minimum taxes in the incentives that they create for companies. With a global minimum tax, clientele effects are created due to the fact that some companies have excess tax credits and others have deficit tax credits, causing potential inefficiencies, as discussed at greater length in Shaviro (2020).

Nonetheless, despite these advantages of per-country minimum taxes, companies – and their accounting and legal advisors – often argue that the per-country version of the minimum tax is too complex. Using available country-by-country reporting data to compute the minimum tax may reduce such concerns. But, in the event that such arguments are persuasive and countries choose global minimum taxes, we recommend that countries then choose minimum tax rates that are at (or very minimally below) the regular domestic rate. Otherwise, the effectiveness of the policy will be diminished by the considerations we just described.¹³

For the minimum tax to be effective, all foreign earnings should be subject to the tax. In contrast, the current US GILTI minimum tax only applies to foreign earnings in excess of a rate of return of 10 percent on capital. This raises two problems. First, it incentivizes the offshoring of real capital investment, since increased capital investment abroad lowers the burden of the minimum tax.

¹² This distinction is discussed in far greater detail in Clausing (2020a).

¹³ Additional design issues concern the ideal extent to which foreign taxes would be creditable against minimum tax liabilities, the treatment of losses, and expense allocation. For the purpose of international coordination, we prefer full creditability, but countries may choose to haircut foreign tax credits in order to preserve some sensitivity of domestic companies to foreign tax rates. It is also important to specify the proper tax treatment of losses under per-country minimum taxes, but these technical issues are surmountable, and draft language has been suggested in recent legislative proposals. Finally, parent expenses can be allocated globally and only allowed at the rate the income is taxed.

Second, it substantially reduces revenue, since many foreign earnings are removed from the base of the tax by virtue of the 10 percent return on capital exclusion. When the Joint Committee on Taxation scored the revenue effects of the Tax Cuts and Jobs Act, GILTI was projected to raise less than \$10 billion a year in 2020–2025.¹⁴

By contrast, a 21 percent country-by-country minimum tax would generate a sizable amount of revenue. To see this, we can use the recently released tabulations of country-by-country reports (IRS form 8975) to simulate how much a 21 percent minimum tax would have generated in revenue if it had been in place in 2017.

Table 1 shows the total revenues from such a tax, including detail on the 12 jurisdictions that are each responsible for more than \$1 billion in minimum tax revenue. We make several assumptions that are discussed in more detail in Appendix A, alongside other sources of uncertainty.

First, we assume that two-thirds of minimum tax revenues would accrue to the United States, and the other one-third would accrue to other non-haven countries. This assumption is in line with the share of U.S. multinational activity that occurs in the United States relative to foreign countries.¹⁵ Second, we assume profits grow at a nominal rate of 4 percent. Third, we assume this tax replaces the present global minimum (GILTI) tax, so we subtract U.S. Joint Committee of Taxation (JCT) estimates of GILTI revenues from our estimates.¹⁶

Table 1 indicates the large revenue potential of tougher minimum taxes, even using conservative estimation assumptions. Of course, if the rate were higher, this tax would generate even more revenue. For example, a 28 percent per-country minimum tax generates \$63.8 billion in U.S. revenue using 2017 data, or \$758 billion over the period 2021-2030.

¹⁴ See Dowd, Giosa, and Willingham (2020) for early evidence on the experience with GILTI. The GILTI capture rate implies that the 10 percent exemption has substantial effects on revenues from the tax.

¹⁵ In this analysis, the U.S. government is assumed to recoup only two-thirds of the revenue, due to reduced foreign-to-foreign shifting. For U.S. multinational companies, two-thirds is a bit less than the ratio of U.S. economic activity—an average of assets, sales, and employment—to all global activity. In the form 8975 data for 2017, this ratio was 68.8 percent. These calculations exclude stateless income from both the totals and the foreign share.

¹⁶ Lost GILTI revenues amount to a 10-year loss of \$137 billion, using Joint Committee on Taxation (JCT) [estimates](#) for the 2021–2027 period and adding three years at the average of the 2026 and 2027 numbers. Other tax law changes are not modelled here, but sensible options would generate more revenue, including repeal of the foreign-derived intangible income deduction, which generates \$127 billion over the period 2021-2030. This deduction is unlikely to be effective in its stated aims, for reasons discussed in Clausen (2020a).

Table 1: Estimates of Revenue from 21 percent Per-Country Minimum Tax
(in billions of US dollars, from IRS form 9975 data)

<u>Economy</u>	<u>Profit in 2017</u>	<u>Effective Tax Rate</u>	<u>Implied Minimum Tax Rev.</u>
Barbados	6.2	0.1%	1.3
Bermuda	32.5	2.7%	5.9
Cayman Islands	58.5	0.1%	12.2
Puerto Rico	34.3	1.6%	6.7
Hong Kong	12.3	11.0%	1.2
Singapore	54.6	4.8%	8.8
Gibraltar	5.1	0.3%	1.0
Ireland	29.5	17.6%	1.0
Isle of Man	7.4	0.0%	1.6
Jersey	11.7	1.1%	2.3
Luxembourg	24.9	5.1%	4.0
Netherlands	40.0	10.1%	4.3
Switzerland	49.4	7.1%	6.9
All Economies	638.5		60.8
US Revenue (2/3 of total)			40.5
Implied US Revenue, 2021-2030			569.4
less expected GILTI revenue			-137
Overall U.S. Revenue, 2021-2030			432.4

Importantly, over time, not all of these revenues will be recorded as minimum tax revenues. Indeed, the point of the minimum tax is to discourage profit shifting, and tough minimum taxes should cause the location of profits to more accurately reflect the location of economic activities. Thus, the numbers above should be considered the total effect of *both* minimum tax revenue and the buttressing of the regular corporate tax base due to fewer tax-motivated distortions in the location of profits.

Of note, there are some sources of underestimation in these estimates. First, we ignore the stateless income line of the country by country tax reports, which shows over \$200 billion in income in 2017. There are concerns that this line is presently difficult to interpret, and that some of the income in this line includes double-counted income. Thus, we omit this income entirely. Second, we are using data from a sample that pools companies with profits with those with losses. As a result, effective tax rates abroad are too high, since taxes are presumably paid by those

companies with profits, whereas the total income is reduced by the influence of companies with losses. Relying on this sample thus lowers the total amount of profit, and raises foreign effective tax rates, both substantial sources of underestimation.

Our preferred estimate is in Table 2, with the same country detail as Table 1. This estimate uses the effective tax rates from the positive profit sample, together with the tax base from the blended sample. (This method will still be an underestimate if losses are concentrated in particular companies over time.) Such a calculation implies overall U.S. revenue from 2021-2030 of \$537 billion; see Clausing (2020b) for estimates using both samples, as well as a further discussion of this hybrid estimate. Estimation and data issues are also discussed in more detail in Appendix A.

Table 2: Estimates of Revenue from 21 percent Per-Country Minimum Tax, using Effective Tax Rates for Companies with Profit
(in billions of US dollars, from IRS form 8975 data)

<u>Economy</u>	<u>Profit in 2017</u>	<u>Effective Tax Rate</u>	<u>Implied Minimum Tax Rev.</u>
Barbados	6.2	0.1%	1.3
Bermuda	32.5	2.4%	6.0
Cayman Islands	58.5	0.1%	12.2
Puerto Rico	34.3	1.4%	6.7
Hong Kong	12.3	9.4%	1.4
Singapore	54.6	4.5%	9.0
Gibraltar	5.1	0.3%	1.0
Ireland	29.5	12.8%	2.4
Isle of Man	7.4	0.0%	1.6
Jersey	11.7	0.8%	2.4
Luxembourg	24.9	0.7%	5.0
Netherlands	40.0	4.9%	6.4
Switzerland	49.4	5.7%	7.6
All Economies	638.5		72.0
US Revenue (2/3 of total)			48.0
Implied US Revenue, 2021-2030			693.9
less expected GILTI revenue			-137
Overall U.S. Revenue, 2021-2030			536.9

The 15 percent minimum tax on the global book profits of large corporations, as proposed by Biden during the campaign, can also have a useful role to play. First, this additional minimum tax can be seen as a monitoring device that alerts the IRS to failures to set an adequately broad tax base, and in that manner, it acts as an extra safety valve.

Of course, a tax on book income can also be triggered by deliberate policy differences between the tax base and the accounting definition of profit. As examples, companies carrying forward prior years' losses, companies with large deductions for stock-based compensation, and companies benefitting from expensing may have higher book income than taxable income, triggering a book income minimum tax. A first-best solution to these disparities is to make sure the tax base reflects policy-makers best assessment of how taxable income should be defined. However, if such policy changes are too politically contentious, a minimum tax on book income may be a second-best way to ensure that companies perceived as profitable pay some minimum amount of tax.

Because the country-by-country profit information that multinationals have to provide to tax authorities is based on accounting profits (using internationally recognized measures), a minimum tax is most easily designed based on accounting profits, rather than tax definitions of profit. In that event, a minimum tax on global accounting profits could play a key role in testing out such a base for taxation, paving the way for its broader use to resolve international corporate tax issues.

2. International coordination

The second pillar of our plan is international coordination. The goal should be a global agreement in which all countries agree to jointly adopt a country-by-country minimum tax. A natural starting point would be to build on OECD/G20 efforts through the base erosion and profit shifting (BEPS) process, strengthening the OECD/G20 "pillar two" proposals aimed at global adoption of a minimum tax. Working within the OECD/G20 process would allow broad country coverage, since the vast majority of multinational companies are incorporated in OECD/G20 countries; 91 percent of Forbes Global 2000 companies are based in OECD or G20 countries in 2019.¹⁷ Further, the inclusive framework of the OECD/G20 now includes 137 countries, bringing many smaller and poorer countries to the table.¹⁸

¹⁷ In 2019 (the year reported in the 2020 Forbes list), 91 percent of the Forbes Global 2000 companies are within the OECD/G20; including the economies of Hong Kong and Taiwan increases this figure to 96 percent. Another approach would be to focus coordination among the ten largest headquarters economies, which together account for 74 percent of Forbes Global 2000 companies, and 81 percent of the total profits for these companies. The top ten headquarters economies are (in order) the United States (587 companies), China (266), Japan (217), the United Kingdom (77), Canada (61), South Korea (58), Hong Kong (58), France (57), Germany (51), and India (50).

¹⁸ One concern is ensuring that the OECD/G20 process generates a truly robust global minimum tax, without allowing excessive exemptions or opt-outs, or codifying expectations of very low minimum tax rates as a global norm.

Even an agreement between the United States and the European Union would be an excellent start. One possibility would be to embed such an agreement in modern, more worker-focused, relaunch of a transatlantic trade and investment partnership. An agreement of this nature would be a laudable way to foster trans-Atlantic economic cooperation in the years to come.

Corporate tax coordination is a key issue for the future of the world economy, for two reasons. First, for globalization to be sustainable, it is critical to demonstrate that globalization can be reconciled with a fair taxation of the winners from globalization. The risk, otherwise, is that more and more voters, falsely convinced that globalization and fairness are incompatible, will fall prey to protectionist and xenophobic politicians, eventually destroying globalization itself.

Second, stopping the spiral of tax competition is important to safeguard the progressivity of the individual income tax. A progressive individual income tax cannot work well with too low a corporate tax, because the rich can incorporate and earn income within their company subject only to the low corporate tax rate. As long as they retain earnings within the corporation, the wealthy can avoid paying the individual income tax. Indeed, much equity income goes untaxed at the individual level.

Even if an international agreement was initially limited to developed countries, an agreement of this kind would be of great benefit to developing countries. Why? Because if OECD countries agreed to apply a high enough minimum country-by-country corporate tax rate, developing countries could increase their own corporate tax rates without creating incentives for multinationals to move abroad.

Moreover, multinationals would be much more likely to establish a physical presence in countries where customers or end-users are located and start paying taxes there. Today, multinationals from wealthy nations have an incentive to avoid establishing a physical presence in high-tax countries. Such strategies are particularly simple for digital companies that can sell services directly from their subsidiaries in tax havens to final customers in higher tax places. This incentive would disappear if OECD countries applied sufficiently high minimum taxes.

3. Defensive measures and sanctions against tax havens

Although the ideal solution involves a great deal of international coordination, considerable progress can be achieved by a few leading countries—or even through unilateral action.

Unilateral action can be the trigger that leads to new forms of international cooperation. A striking example is the Foreign Account Tax Compliance Act (FATCA), signed into law by President Obama in 2010. FATCA imposes an automatic exchange of data between foreign banks and the IRS. Financial institutions throughout the world must identify who among their clients are American citizens and inform the IRS what each person holds in his or her accounts and the income earned on them. Failure to take part in this program carries stiff economic sanctions: a 30 percent tax on all dividends and interest income paid to the uncooperative financial institutions by the United States. Under that threat, almost all countries have agreed to apply

this law. Emulating the United States, many other countries have secured similar agreements with tax havens and the automatic sharing of bank information has become the global standard since 2017. The OECD recently showed that \$11 trillion of offshore accounts came to light in the 100 countries that apply this new exchange of information.¹⁹ A new form of international cooperation, which was deemed utopian 15 years ago, has become reality.

In the context of the corporate tax, the United States (and other countries willing to take part in an agreement) could also apply sanctions on non-cooperative tax havens. Refusing to take part in a minimal global standard such as an effective tax rate of 21 percent, which is not high in international or historical perspective, should be seen for what it is: a form of tax dumping that fills the coffers of some small states (and of global shareholders) at the expense of everyone else. Practices of this type must be discouraged.

One way to do so is to impose taxes on financial transactions with uncooperative havens (as in FATCA). Another possibility would be for the United States to take defensive measures against multinationals incorporated in non-cooperative tax havens. Concretely, the United States could collect a fraction of the tax deficit of multinationals headquartered in uncooperative states. What share? The share corresponding to the share of their global sales made in the United States. For instance, a company incorporated in Bermuda but with all its clients in the United States would see all its tax deficit collected by the United States. For a company incorporated in the Cayman Islands making half of its sales in the United States, the United States would collect half of its global tax deficit.²⁰

Collecting such a “remedial” tax does not raise insuperable difficulty. The information necessary to compute this tax already exists in the country-by-country reports of multinational companies, which are exchanged between governments globally. This information reports accounting profits and sales, and the remedial tax can be based on these measures. For the computation of the share of global sales made in the United States, the United States could exclude the sales made to low-tax states—similar to how many US States apportion income within the United States for the computation of their own corporate income tax base. This would make it hard for foreign firms to dodge the tax by routing their sales to US customers through independent re-sellers located in tax havens.²¹

¹⁹ See OECD, 2020 “International community continues making progress against offshore tax evasion”, online at <http://www.oecd.org/tax/transparency/documents/international-community-continues-making-progress-against-offshore-tax-evasion.htm>

²⁰ There are tradeoffs regarding the choice of formula. A sales-based formula has the advantage of reducing possible distortions to the location of economic investments and jobs. However, production locations may benefit more from focusing on other factors in the formula. These tradeoffs are discussed in further detail in Clausing (2020c), but in the present context, the role of formula choice is less crucial since it is not the main tax lever, but rather a back-up instrument meant to tackle the problems associated with non-adopting countries.

²¹ There are important legal and administrative issues that may take time to iron out, similar to those generated by sales-based formulary apportionment. If rules that would disregard sales to low-tax states prove infeasible, Avi-Yonah and Clausing (2019) have suggested a possible look-through rule to combat the problem of low-margin distributors in haven countries.

By construction, this policy would only increase taxes for firms that have a tax deficit—i.e., for firms that pay less the agreed minimum tax threshold in at least one foreign country. For firms that do not have a tax deficit, nothing would change.

Finally, anti-inversion rules should be strengthened to avoid the risk of US firms changing the location of their headquarters. It is already difficult for a firm to change nationality: once it has been incorporated in the United States, a company cannot simply move its headquarters abroad. American firms can only change their nationality in the context of foreign acquisition; that is, by merging with a foreign company. And for these mergers to result in a legally valid inversion, there must be a meaningful change in ownership. Anti-inversion regulations in 2016, as well as measures within the 2017 Tax Act, have substantially limited the incentive for inversions, such that inversions have come to a complete halt.²² Nonetheless, inversions should continue to be monitored and regulations further strengthened in case the number of firms incorporated in tax havens starts to increase.²³

Conclusion

The substantial gains associated with international economic integration, technological change, and economic growth have rarely been shared evenly, and in recent decades, income inequality has surged in many countries. The international mobility of capital contributes to this problem by fueling tax competition among countries. Governments have steadily lowered corporate tax rates in an attempt to gain economic activity and tax base at the expense of other countries. This dynamic causes workers to shoulder a larger fiscal burden, even as the labor share of income falls and income inequality rises. These shifting burdens are not just inequitable; they also interfere with the larger goals of an efficient and well-administered tax system.

We propose ending this race-to-the-bottom in corporate taxation through a negotiated system of coordinated minimum taxation. While such negotiation may take time, in the meantime, unilateral adoption of minimum taxes by large countries will be helpful in protecting the corporate tax bases of both adopting and non-adopting countries.

We also propose possible solutions for countries – and companies – facing competition from non-adopting tax haven jurisdictions. Beyond the typical remedies of trade or financial sanctions, countries can seek to collect the tax deficit of multinational companies based in haven jurisdictions. While such measures take time to implement, and will only be approximate, they are an important step toward removing the pressures of tax competition.

²² Bloomberg keeps a list of all inversions from US companies since 1982 at: <https://www.bloomberg.com/graphics/tax-inversion-tracker/>

²³ For example, a U.S. resident company could be defined to include both U.S.-incorporated firms and foreign firms with their mind and management in the United States. Foreign firms that have some managerial presence in the United States would face a rebuttable presumption that they are U.S. firms. See Kleinbard (2017). In addition, base protecting minimum taxes such as BEAT can be strengthened. One approach is to disallow deductions for related party payments abroad for companies based in countries without adequate minimum taxes.

Removing tax competition pressures is a laudable goal for tax systems, but it also serves several other aims. Cooperative collective behavior on tax can buttress goodwill and productive collective action on other fronts, such as climate change and public health. Collective efforts to counter harmful tax competition can further a more equitable globalization, reducing counterproductive backlashes against trade and migration. And, with tax competition set aside, countries can compete based on economic fundamentals that are too often neglected – in part due to fiscal constraints – such as public infrastructure, investments in human capital formation from early childhood through higher education, and research and development.

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Appendix A: Minimum Tax Estimates

A.1 Our Method and Assumptions

Tables 1 and 2 in the text includes estimates of the revenue raised from a per-country minimum tax. These estimates rely on IRS form 8975 data, showing country by country reporting. The method behind Table 1 is simple. For each country in the database, an effective tax rate is calculated as taxes paid (on a cash basis) by U.S. multinational companies relative to their profit before tax. Table 1 uses the full sample to calculate effective tax rates, whereas Table 2 uses the positive profit sample, which is more conceptually appropriate. Both Tables use the full sample for the measure of profits reported in each country. For those countries where this effective tax rate is below 21 percent, the difference between 21 percent and the country's effective tax rate is multiplied by the total profit in that country.

For example, in 2017, profit reported in the Caymans is \$58.5 billion before tax. Since the calculated effective tax rate is only 0.1 percent, the minimum tax is calculated as $(21\% - 0.1\%) * (\$58.5 \text{ billion})$, or \$12.2 billion. This calculation is performed for all the countries in the sample.

We are attributing two-thirds of the per-country minimum tax revenue to the United States. Since income in havens may arise from income that is truly earned in other non-haven countries such as Germany or India, some of the haven income does not truly belong in the United States, but instead belongs in Germany or India. Thus, since a minimum tax discourages profit shifting, it will beneficially affect revenues in other non-haven countries.

Therefore, we assign only two-thirds of the minimum tax revenue in haven countries back to the U.S. tax base. As a comparison, in the 2017 IRS form 8975 reports, the weighted average of the US share of worldwide assets, employment, and sales is 68.8 percent.²⁴ Other sources of data indicate similar U.S. shares of worldwide activity for U.S. multinational companies. In 2017, U.S. BEA survey data show U.S. shares of 66.1 percent for employment, 68.1 percent for sales, and 78.5 percent for employee compensation.

To generate a ten-year revenue estimate, we assume a 4 percent growth rate for foreign income. That growth rate is similar to the growth of foreign income in the ten years' prior, but the current recession or other factors could change the path of foreign earnings in unpredictable ways over the coming ten years.

As noted in the text, our estimate of minimum tax revenues includes both direct minimum tax revenues and indirect effects on the corporate tax base. Several indirect effects are possible. First, companies may do less profit shifting in the presence of tough minimum taxes. This may cause reported profits to better reflect the true location of economic activity. Second, other countries may also enact minimum taxes or raise their tax rates. This will compound reduced incentives to

²⁴ This calculation excludes stateless income, for reasons discussed below.

shift profits, in part benefitting the US corporate tax base. Over time, minimum tax revenues may fall while the domestic corporate tax base (and revenues) are buttressed. In our calculations, we do not separate these indirect effects of the minimum tax.

Our estimates in Table 1 are a bit lower than estimates of the Biden proposal for a 21 percent country by country minimum tax calculated by the Tax Policy Center in Mermin et al. (2020) and the American Enterprise Institute in Pomerleau and Seiter (2020). These estimates likely do not account for the bias in effective tax rates that we correct for in Table 2. The Tax Policy Center's updated analysis shows \$442 billion in revenue over 2022-2030 (excluding 2021); the American Enterprise Institute's updated analysis shows \$457 billion in revenue over 2021-2030.

A.2 Strengths and Limits of IRS Form 9975 Country by Country Data

Particularly in the area of international tax, no data set is perfect, and this data set comes with several sources of uncertainty which are described below. We also contrast this data source with alternative data sources.

This data set has many strengths relative to prior data sets. First, it allows for far more detailed reporting on small havens that are not visible in most other data sets, including Puerto Rico, Jersey, Isle of Man, Gibraltar, Macau, St. Lucia, St. Kitts and Nevis, Barbados, and Mauritius.

Second, the IRS data allow us to consider two samples, a full aggregate sample of all companies in each country, and a second sample that includes only those companies showing positive profits. In Table 1 of the text, we use the full sample, which provides an underestimate of possible revenue gains from the minimum tax for two reasons. First, profits are too low due to the inclusion of companies with losses. Second, effective tax rates are inflated since some loss companies are included in the denominator of effective tax rate ratios, whereas taxes paid (in the numerator) are presumably paid by only those companies making profits. Table 2 therefore reports results that use effective tax rates calculated from the positive profit sample, but the (smaller) tax base of the full sample.

In terms of the tax base, if some companies were always making losses and others were always making profits, we should employ the positive profits sample instead. On the other hand, if all companies toggle randomly between profit and loss status, then the full sample is more appropriate, since companies can typically carryforward losses for use in other tax years. In practice, we know that losses are more persistent than random, but without knowing how persistent losses are for this sample of companies, it is difficult to know how to weigh the two samples. Table A1 below considers how minimum tax revenue estimates are affected by using an even weight of the positive profit and full samples; revenues are substantially higher with that method.

Third, these data should eventually be comparable to similar data produced by other countries. However, the US Internal Revenue Service appears to be ahead of other countries in releasing the data; they released an incomplete set of 2016 data in December 2018, and they released a

complete set of 2017 data in December 2019. Other OECD countries have just begun to release incomplete 2016 data as of mid-2020.

However, there are also weaknesses with this data set. First, it includes a line, “stateless income”, which appears to cover multiple categories of income and may introduce double-counting in the data. For now, we have excluded consideration of these data, and we hope that subsequent collections will clarify what income is truly stateless income and what income is not. Second, companies are inexperienced in filling out these forms and may make errors in their reporting. Third, incomplete samples of the data (such as the US release of 2016 data) appear substantially different from the complete data (released in 2017), so researchers should be cautious about early data releases.

Finally, there have been some concerns about double-counting in the data, mostly – but not entirely – centered around the stateless income line. In the U.S. tax form, revenue is defined to exclude intracompany dividends, implying that profit should also exclude that source of income. Nonetheless, the definition of profit may be unclear, and companies are free to supply data as they see fit. Still, since the data are known to be used for transfer pricing risk assessment, it is unlikely that companies will have an incentive to overstate their income, especially in tax havens. It is also reassuring that foreign totals are similar to those reported from other sources that are known to exclude double-counting.

Horst and Curatolo (2020) discuss the possibility of double-counting in these data. Their analysis suggests a 14 percent discrepancy between country-by-country income totals (for both the United States and foreign countries, excluding stateless income) and totals from financial reports. There are several possible reasons for discrepancies, including the larger company coverage of the country-by-country data, since some private companies are included in the country by country data set. Also, there are reporting and definitional differences between the series. Finally, it is also possible that country-by-country totals are overstated due to confusion about form 8975 directions. In the last event, recent analysis by Horst confirms that it is most likely that US income is overstated, which would not substantially affect the current analysis, but it is also conceivable that some foreign lines may be mismeasured.²⁵ If US income is overstated, that would not affect the current analysis.

A.3 Alternate Data Sources

Table A.1 shows how our estimates compare to those using two other data series, the average of the Form 8975 full sample and positive-profit sample, and the U.S. Bureau of Economic Analysis (BEA) direct investment earnings data series. We include revenues from both a 21 and 28 percent per-country tax; the column in the middle shows the results from the main text of the paper.

²⁵ Horst has done recent calculations that show the US share of profit in the country by country data is higher than the US share of profit in financial reporting data, a pattern that suggests that the US income is more likely to be overstated in the country by country data.

Table A1: US Revenue from a Per-Country Minimum Tax in 2017

	Direct Investment Income Series (balance of payments data; adjusted pre-tax)	Full Country-by-Country Sample (without stateless income)	Average of Full and Positive Profit Country-by-Country Sample (without stateless income)
21 percent	\$30b	\$41b	\$53b
28 percent	\$49b	\$64b	\$82b

BEA direct investment earnings data have several nice features. They have been reported by the US BEA for a long time series of cross-country observations. The series is free of any double-counting concerns, and data coverage should be very good. There are also downsides. For instance, income is measured from the “last” country before the flow to the United States, which may be different from the country where income was earned for accounting purposes or reported for tax purposes, although there is no reason to suspect that the tax rates of reporting countries will be systematically lower than those where tax was paid. Also, data are after-tax, so they are not directly comparable to before-tax series, and matching with foreign tax data from BEA surveys will be imperfect. Finally, only the US-owned portion of direct investment income is included, so this series omits any foreign-owned direct investment income from US multinational companies. This will lead to an underestimate of the amount of profit shifting, since many multinational companies are not 100 percent U.S.-owned.

The BEA also reports survey data on the activities of multinational companies, including a “net income” series that has long been known to include double-counting, and a profit-type return series that has no double-counting, but may exclude foreign-to-foreign profit shifting in the data. Blouin and Robinson (2020) argue that researchers should use the first series, but subtract out equity income to eliminate double counting, thus creating an adjusted series.²⁶ However, that series, like profit-type return, may exclude foreign-to-foreign profit shifting and consequently allocate too little income to tax havens.

For example, hybrid dividends may lead to the mischaracterization of some equity income, since hybrid dividends may appear as a deductible payment for the high-tax originating affiliate but equity income for the low-tax receiving affiliate. It is unclear how the survey data would treat hybrid dividends, but they may be included as equity earnings in the low-tax receiving affiliate.

²⁶ See Blouin, Jennifer, and Leslie Robinson. 2020. “Double Counting Accounting: How Much Profit of Multinational Enterprises Is Really in Tax Havens?” Working Paper.

Sorting out where untaxed income should be located is also important, and untaxed foreign earnings may not be accounted for in the proper jurisdiction or may be invisible.

A comparison of these series is shown in Table A2 below. The haven share of total income is much lower in the adjusted series than it is in the balance of payments earnings data or the IRS country-by-country data. Also, for some important havens (e.g., Bermuda in Table A2), the adjusted method generates *negative* income in several years, despite the fact that other series show tens of billions of dollars in income. By 2017, U.S. multinational companies had accumulated over \$630 billion in Bermuda.

Still, even this adjusted series would generate sizable revenues from the minimum tax. In 2017, the adjusted series implies U.S. revenue of \$24 billion from a 21 percent per-country minimum tax and \$43 billion from a 28 percent per-country minimum tax.

Table A2: Foreign Profits, in millions, 2017

	<u>Adjusted Method (BR)</u>	<u>BEA Balance of Payments Direct Investment Income</u>		<u>IRS Country-by-country Data (income series are before tax)</u>		
	Net inc.+ for. tax-equity inc.	after tax (reported)	before tax (calculated)	Full Sample	Positive Profit	Accumulated Earnings
All countries	571,007	470,933	574,958	638,467	873,621	4,240,635
<i>Stateless (omitted from totals and subtotals)</i>				203,571	215,170	690,583
Puerto Rico				34,335	35,236	114,439
Ireland	82,519	51,804	55,930	29,478	34,221	103,961
Luxembourg	6,484	36,825	38,734	24,866	60,438	357,328
Netherlands	58,676	76,083	81,120	40,010	69,964	461,814
Switzerland	37,696	30,474	34,332	49,376	59,204	374,797
Bermuda	-10,431	32,341	33,215	32,476	35,433	634,413
UK Caymans	20,675	33,235	33,888	58,540	62,369	142,467
Singapore	35,270	24,496	27,529	54,642	56,788	174,888
Big Haven Total	230,889	285,258	304,748	323,723	413,653	2,364,107
Big Haven Share	40%		53%	51%	47%	56%

Note: Big havens include only the specific havens listed above, although the country by country data reveal many other small havens. For example, in the 2017 data, Jersey emerges as a big haven with \$461 billion in accumulated profits; however, Jersey is not included as a big haven in this Table. Including smaller havens as well raises the total accumulated earnings in tax havens to \$3 trillion.