

Reforming Corporate Taxation in a Global Economy:

A Proposal to Adopt Formulary Apportionment



DESPITE A GLOBAL ECONOMY that is far more complex and integrated than it has ever been, the U.S. system of corporate income taxation remains based on outdated geographic concepts. Firms must account separately for income and expenses in each country in which they operate, even though geographic boundaries and national origins are less and less relevant for multinational business decisionmaking. The result is a system that leaves open opportunities for tax avoidance and effectively encourages corporations to relocate their economic activities, or at least their reported profits, to low-tax jurisdictions. Lost revenues from such tax avoidance may total as much as \$50 billion annually.

To address these problems, Kimberly Clausing of Reed College and Reuven Avi-Yonah of the University of Michigan Law School propose a fundamentally different corporate taxation system. In a discussion paper released by The Hamilton Project, they advocate a formulary apportionment approach—similar to that already in place for taxing U.S. firms across the fifty states—that would tax multinational firms based on a fraction of their worldwide income. (The fraction would be equal to the share of their worldwide sales that occur in the United States.) The authors argue that the outcome would be better suited to today's integrated global economy, while reducing the complexity of the system and enhancing tax compliance. The proposal would either increase corporate tax revenues or allow for a major reduction in the U.S. corporate tax rate, potentially decreasing it from 35 percent to as low as 26 percent.

THE CHALLENGE

The U.S. system for taxing international corporate income is incompatible with today's global economy. Under the current system, multinational firms (both U.S. and foreign) account for income and expenses by geographic location and pay U.S. taxes based on the income they earn in the United States. In addition, while U.S. multinational firms need to pay taxes immediately on any profits they earn in the United States, they are allowed to defer paying taxes on much of their foreign-earned income until it has been repatriated. While this tax treatment has never had an economically coherent underlying rationale, the increasingly intangible and borderless nature of global business processes makes this system of assigning profits to a geographic location more and more arbitrary.

Clausen and Avi-Yonah identify three central problems emerging from the mismatch between the global nature of international business and the current corporate taxation system.

1. Perverse incentives to locate investment, profits, and headquarters overseas. The current corporate income tax system gives firms significant opportunities to minimize their tax burdens. Most obviously, firms can reduce their tax base by legiti-

mately shifting business activities to low-tax countries. This route is especially advantageous due to two additional features of the corporate income tax code: the deferral rule, which allows foreign profits of American firms to grow tax free prior to repatriation (and to escape U.S. taxes permanently if the income is reinvested overseas and never returned to the United States); and the foreign tax credit system, which enables firms to use their U.S. government-provided tax credits from high-tax countries to offset tax obligations in low-tax countries—a process known as cross-crediting. More problematically, multinational firms can exploit the gray area in the measurement of income by country to shift income to low-tax countries. For example, a company could manipulate transfer prices on intra-firm transactions by paying high royalties from a U.S. branch to a foreign branch, effectively wiping out profits in the United States (which has a high corporate rate) and making them appear in a foreign country (which may have a very low corporate rate). Finally, corporations can reduce their taxes by engaging in corporate inversion, moving their official headquarters overseas so that they are no longer taxed as U.S. corporations, even while continuing to do business in the United States.

These incentives lead to distortions and inefficiencies in the economy. According to 2003 data from the Bureau of Economic Analysis, about one-third of the net profits earned by U.S. multinational corporations abroad originated in just three countries: the Netherlands, Bermuda, and Ireland. While it would be hard to believe that these three countries account for such substantial economic activity, few would be surprised to know that they are characterized by very low effective (actual amount paid as opposed to statutory) corporate tax rates (less than 7 percent compared to just over 26 percent in the United States).

2. Complexity. Accounting for income on a geographic basis requires a web of more than eight

Currently, firms have a perverse incentive to shift their investment, their reported profits, and even their headquarters overseas.

hundred rules and special provisions. These regulations generate immense documentation and auditing expenses and consume enormous shares of both Internal Revenue Service (IRS) and private sector resources. Some of this complexity can become especially convoluted on the international level. For example, a foreign branch of a firm is subject to different tax rules than is a foreign subsidiary, despite often having negligible real differences. In addition, the formal location of the firm's incorporation can have substantial tax consequences. The result is a heavy tax compliance burden on firms, especially small- and medium-size firms that lack the arsenals of accountants needed to perform the tedious book-keeping required under the separate accounting system. This complexity also leads to enforcement problems because it is nearly impossible to coherently enforce all aspects of the tax code.

3. Inadequate tax collection. Despite a corporate income tax rate (35 percent) that is the second highest in the OECD, the current system raises relatively little revenue. The amount of revenue collected by the corporate income tax was a considerably larger share of GDP prior to 1980, but has since fluctuated near two percent, significantly lower than most OECD countries. As Clausen and Avi-Yonah explain, this is due partly to a narrowing of the U.S. corporate tax base and partly to increased tax avoidance activities.

A NEW APPROACH

To address the flaws in the current system of taxing multinational firms, Clausen and Avi-Yonah propose taxing international corporate income in a way that would better reflect today's international business realities. They advocate a formulary apportionment system that would calculate a firm's U.S. tax obligations based on a fraction of its worldwide income, with the fraction equal to the proportion of the firm's total sales occurring in the United States.

Corporate tax avoidance on the international level comes with a staggering bill, potentially up to \$50 billion a year in lost revenues.

Formulary apportionment is already in use by U.S. states to allocate business income across states for taxation purposes; it is also being evaluated by the European Commission for use within the European Union.

Advantages of Formulary Apportionment

Clausen and Avi-Yonah argue that taxation by formulary apportionment would be far more in tune with the nature of the global economy and immune to much of the strategic tax planning that characterizes today's system. The key is the method for assessing taxes: by using worldwide rather than origin-based income, formulary apportionment eliminates any need for geographic income and expense accounting. In doing so, it largely eliminates the possibility of transfer price manipulation and several other tax avoidance techniques created by tax rate variation between geographic jurisdictions. Clausen and Avi-Yonah argue that their formulary apportionment proposal would achieve three primary goals: eliminating the incentive for firms to shift income across countries; simplifying accounting procedures for multinational firms; and reducing corporate tax rates or increasing corporate tax revenue, or both.

1. Correcting tax incentives. Under formulary apportionment, firms would have no incentive to shift business operations or income to low-tax countries,

Key Highlights

The Challenge

The current U.S. system of international corporate income taxation is not well suited for the realities of global business and leads to a variety of problems.

- **Firms have artificial incentives to operate in low-tax countries.** The geographically-based taxation system provides massive incentives for firms to locate their business operations and reported income in low-tax jurisdictions, distorting international business decisionmaking and diminishing U.S. tax revenues.
- **The tax code is unnecessarily complex.** Attempts to regulate global business along national boundaries have led to a tax code that is enormously complex and that generates a substantial burden for private firms and the IRS.
- **The tax regime raises relatively little revenue.** Despite a high U.S. corporate tax rate of 35 percent, the U.S. tax system raises relatively less revenue than does the average OECD country.

A New Approach

Clausing and Avi-Yonah propose replacing the current geographically-based system of taxation with a formulary apportionment system, in which a firm's U.S. tax base would be its worldwide income multiplied by the share of its worldwide sales occurring in the United States. Their proposal aims to:

- **Correct tax incentives.** Firms would not be able to lighten global tax burdens by transferring income to low-tax countries.
- **Simplify the system.** Firms would no longer have to account separately for income in each country in which they operated, and taxes would be based on the volume of sales, which is easier to calculate and verify than income and expense streams.
- **Increase tax revenues or reduce corporate income tax rates.** The proposed system would eliminate key tax avoidance activities, which potentially account for a revenue loss of \$50 billion annually.

as taxation would be based on worldwide profits and the destination of sales, and not on the location of production resources or reported income.

Formulary apportionment systems can theoretically allocate income in various ways. Many U.S. states have historically used the so-called Massachusetts formula, which uses equal weights on sales, property, and payroll. Clausing and Avi-Yonah choose a formula based only on sales because they believe it is least subject to manipulation and most simple to administer. In essence, manipulating business operations to achieve tax benefits would require firms to sacrifice some of their U.S. sales in order to take advantage of lower tax rates elsewhere. Recent U.S. experience has reinforced the merits of a sales-based approach, and many states are shifting to sales-heavy formulas in light of these benefits. (It is important to emphasize that the tax would still be an income tax that is assessed on a share of the firm's worldwide profits, however, and not a sales tax.)

2. Simplifying the system. In addition to worldwide income data, only two pieces of information would be required to administer formulary apportionment. First, one would need to determine which business units were parts of the corporate whole. Clausing and Avi-Yonah define a *unitary business* as a parent corporation and all of the subsidiaries over which it exercises legal and economic control. Second, one would need to establish the fraction of a firm's sales occurring in the United States. Clausing and Avi-Yonah argue that this is a feasible objective because sales are far easier to observe and quantify than are production factors and income streams, many of which only occur internally to the firm itself and thus cannot be directly observed or verified. In addition, existing U.S. regulations already define the destination of goods for various trade regimes and tax-based export subsidies, and value-added tax regimes provide additional experience to guide destination-based sales accounting.

Clausing and Avi-Yonah assert that this outcome would be far simpler than today's system in which firms must account separately for income earned in each country. Formulary apportionment would eliminate all concomitant complexities such as cross-crediting, deferral, and transfer pricing, and the corresponding compliance costs for the private sector and enforcement costs—including costly litigation—for the U.S. government. Such savings could be substantial: according to one survey, nearly two-thirds of multinational firms reported transfer pricing auditing in a three-year period, and another study estimates that federal transfer pricing audit costs are three to seven times higher than state formulary apportionment audits.

3. Increasing revenue or reducing tax rates. One study estimates that tax avoidance reduces international corporate income tax revenues by 35 percent, equivalent to about \$50 billion annually. Clausing and Avi-Yonah stress that this is a rough estimate. Nevertheless, the underlying implication is clear: by counteracting today's most common opportunities for tax avoidance on the international level, formulary apportionment would enable a substantial increase in collected tax revenues or a substantial decrease in corporate tax rates, or a bit of both. Based on the above revenue estimate, Clausing and Avi-Yonah calculate that the U.S. corporate tax rate could fall from 35 to 26 percent under their proposal while still raising the same amount of tax revenue as the current regime.

Better than Other Reform Options

In the view of Clausing and Avi-Yonah, formulary apportionment contains many advantages over other reform options currently on the table. They argue that the alternatives—including lowering U.S. corporate tax rates, exempting foreign income from taxation (known as a territorial system), and ending the deferral of foreign income

The proposal could result in the recapturing of substantial tax revenue or enable a major reduction in the U.S. corporate tax rate, potentially decreasing it from 35 to 26 percent.

taxation—fall short of formulary apportionment on at least some of the following lines: compatibility with the global economy, administrative simplicity, and elimination of incentives for income shifting and corporate inversions.

Questions

Would formulary apportionment require international coordination? The theoretical ideal would be for most major countries to coordinate implementation of formulary apportionment, with a joint agreement on definitions and formulas. As Clausing and Avi-Yonah note, such international cooperation would reduce the possibility of double or non-taxation and would leave less room for multinational firms to respond strategically to variations in country formulas. But Clausing and Avi-Yonah also stress that, in their view, such considerations—while important—should not deter the United States from unilaterally adopting the proposal. Many of the benefits outlined above would still result under unilateral adoption. Moreover, they argue that adoption by one country—especially one with a large economy, such as the United States—would give other countries a strong incentive to follow suit. If a country did not adopt formulary apportionment, it would risk losing substantial corporate tax revenues as multinationals

The new system would reduce complexity, improve tax compliance, and be better suited to today's integrated global economy.

shifted their reported profits to the United States, a step that would not increase the U.S. taxes facing the multinational (because they would be based on worldwide profits and U.S. sales), but rather would reduce the taxes the company paid to the foreign government (which, if it maintained a separate accounting system, would be based on the country where the profits originated).

In addition, unilateral adoption is a common mechanism for inducing wider reform in the international taxation arena. Many significant changes to the international taxation system, such as the foreign tax credit regime, resulted from independent U.S. actions that motivated change by others. In the meantime, Clausing and Avi-Yonah argue that firms would be able to adapt to the existence of multiple taxation systems in the international realm. Just as many firms have learned to minimize their tax burdens within the current system, it is likely that they would manage to avoid double taxation in a new system. As Clausing and Avi-Yonah note, taxpayers are generally more successful in avoiding overtaxation than are governments in preventing undertaxation.

Would formulary apportionment unfairly hurt certain companies or sectors? Formulary apportionment would result in higher corporate tax payments by industries and firms that reap the largest gains from the current system, including firms that

benefit from abuses such as transfer price manipulation and legal (but economically unwarranted) practices such as deferral. In some cases, though, firms or industries could be subject to higher taxes because they have lower profit margins in the United States than overseas, and thus a higher amount of sales relative to income in the United States (similarly, other firms would benefit from the converse). In a world where intra-firm prices cannot be accurately observed, and thus where a firm's profits cannot be accurately allocated across countries, any system is subject either to abuse or to arbitrariness. This proposal chooses to limit the possibility for abuse, but at the expense of a relatively limited degree of arbitrariness.

How would worldwide income be calculated?

Disparate accounting standards could hinder the implementation of formulary apportionment, especially as firms may report different incomes for taxation purposes than they do for their financial reports. But Clausing and Avi-Yonah note that many multinational enterprises already use uniform accounting for worldwide financial reporting purposes. If harmonization were not possible, the authors maintain that formulary apportionment could still be implemented unilaterally by using the U.S. definition of taxable income and applying it to the entire multinational enterprise. Worldwide income of non-U.S.-based multinational enterprises could be calculated using guidelines for financial reporting to shareholders, which is already required by the Securities and Exchange Commission or home country regulators. Clausing and Avi-Yonah acknowledge that this method is imperfect, but maintain that it would be a practicable solution and a marked improvement over the current system. Worldwide adoption of formulary apportionment could also have the added benefit of resolving discrepancies in book income and tax income internationally.

CONCLUSION

The current U.S. system of taxing multinational firms by assigning income and expenses separately to each country is incompatible with the current reality of global business. These firms have myriad opportunities to avoid U.S. taxation through deferral, income shifting, and other techniques, leading to business inefficiencies, excessive compliance costs, and lost government revenue. Clausing and Avi-Yonah's proposal for formulary apportionment attempts to bring the corporate income tax system up to date with current global economic realities. It is motivated by practical recognition of the difficulty and complexity of measuring the income and expenses of multinational firms in each separate country and taxing them accordingly. Instead, their proposal strives for a rough justice measure of taxable income, based on the proportion of sales in each country, as a more administrable, effective, and efficient approach in today's global economy. The resulting tax system would mitigate incentives for tax avoidance, reduce complexity and compliance costs, and could ultimately lead to both a lower corporate tax rate and higher government revenue.

This policy brief is based on The Hamilton Project discussion paper, [*Reforming Corporate Taxation in a Global Economy: A Proposal to Adopt Formulary Apportionment*](#). All Hamilton Project discussion papers and policy briefs can be found at www.hamiltonproject.org.

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