Transfer Pricing of Intangible Assets: Evidence from Patent Data

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In October 2021, 136 countries signed a global tax deal that, among other points, established a minimum corporate tax rate of 15%. The goals of the deal were to end the race to the bottom of corporate taxation—i.e., end international competition on corporate taxes to attract foreign investment—and avoid profit-shifting practices by which multinational corporations in high-tax jurisdictions book the excess profits in low-tax jurisdictions, creating a disconnect between the location of the profits and the location of real activity. This global tax deal is one of the most ambitious international tax reforms, and it requires substantial coordination across countries.

There is a strong incentive for the United States to support the deal. The most obvious impact of profit shifting is lost tax revenues. However, profit shifting has sizable economic consequences on the U.S. economy apart from just revenues. Offshore profits are not part of the U.S. gross domestic product (GDP), because they constitute U.S. income abroad. In a 2022 paper, Fatih Guvenen and others found that adjusting for profit shifting would have increased GDP in 2010 by $189 billion. Hence, it is important to measure the extent to which multinationals are engaging in these practices.

How Do Multinationals Shift Profits?

Multinationals can shift profits through three main channels:

- Transfer pricing of goods and services, whereby affiliates in high-tax jurisdictions buy (sell) goods and services at high (low) prices from low-tax jurisdictions
- Intra-firm lending, whereby affiliates in high-tax jurisdictions lend (borrow) money to (from) low-tax jurisdictions at low (high) interest rates
- Transfer pricing of intangibles (e.g., patents), whereby the ownership of the patent is transferred to low-tax countries and royalties are paid by high-tax countries for the use of the intangibles

Transfer pricing through intellectual property (IP) has become a more widespread channel of profit shifting in recent decades, since moving intangibles is easier; it can be done digitally, and it is very easy to sell or license intangibles all over the world compared to manufactured goods.

Using Patents to Shift Profits

In a recent *Economic Synopses* essay, we provided evidence of transfer pricing practices through movement of intangibles across jurisdictions. We constructed a new data set of patent applications filed by individuals, corporations (domestic and multinational corporations), etc., counting both by applicant (which reflects the

residence of the person or entity owning the rights to the patent) and by inventor (which reflects the residence of the creator of the technology being patented).

We then inferred profit-shifting practices by looking at whether the number of patent applications filed by residents of a country (which includes local subsidiaries of multinationals) is relatively different from the number of patent applications filed by an inventor that resides in that country.

We found that:

- In low-tax jurisdictions (tax havens), the number of patents owned by residents is disproportionately larger than those invented by its residents (i.e., a large ratio of patent applications by patent owners to patent inventors in tax havens).
- The vast majority of these patents are attributable to multinational corporations.

The Case of Bermuda

Take, for instance, the case of Bermuda, which has a corporate tax rate of zero percent. We found that, for every patent application by a Bermudian inventor of the IP, there are 38 patent applications filed abroad by owners of the IP. Additionally, 96% of these patent applications are filed by multinational corporations. In contrast, in the U.S., with a corporate tax rate of 21%, the ratio of patent applications by applicant to inventor is close to 1:1, and just over 50% of these patent applications are filed by multinational corporations.

These issues were partially addressed in the 2017 Tax Cuts and Jobs Act (TCJA), wherein the United States changed the tax system from a worldwide system that taxes both domestic and foreign income to a territorial system that exempts earnings from the foreign subsidiaries of U.S. firms, even when the earnings are repatriated. To discourage profit shifting that would occur from this change in the tax system, the TCJA added a new 10.5% minimum tax on global intangible low-taxed income (GILTI). GILTI is intended to approximate the income from intangible assets (such as patents, trademarks and copyrights) held abroad, since intangible assets are highly mobile. Hence, the tax was intended to discourage U.S. firms from shifting these assets offshore.[1]

The U.S. is the world's innovative giant and home to a majority of the largest multinational corporations, which use these global taxation loopholes. As a result, it may be of interest to the U.S. to attempt to recover some of these missing corporate profits, both in terms of tax revenue and GDP. Doing so would require global cooperation; the U.S. would need to ensure that other countries are not offering low-tax thresholds as a way to attract outsized multinational activity.

Note

1. For more on the U.S. tax system, see this briefing book by the Tax Policy Center of the Urban Institute & Brookings Institution.

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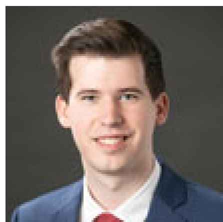

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