

Reading the Missing Profits of Nations

by Maya Forstater

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Maya Forstater is a visiting fellow at the Center for Global Development. She thanks Thomas Tørsløv, Ludwig Wier, Gabriel Zucman, and Iain Campbell for comments on this article.

In this article, Forstater responds to and attempts to help readers understand a

new study assessing profit shifting by multinational corporations.

This article is based on the June 5 version of the study and the associated methodological appendix and worksheets.

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“The Missing Profits of Nations” by Thomas Tørsløv, Ludwig Wier, and Gabriel Zucman¹ (TWZ) is the latest effort to assess profit shifting by multinational corporations. It is an impressive piece of data wrangling, and the authors admirably provide a detailed appendix and data files to allow the reader to explore and reproduce the results.

Some interpretations and conclusions they draw are less persuasive, and the headlines finding “40% of Multinational Profits Are Shifted” is easy to misinterpret as indicating potential revenue gains that are higher than their findings suggest.

¹Tørsløv, Wier, and Zucman, “The Missing Profits of Nations,” NBER Working Paper No. 24701 (June 2018).

Multinational Corporate Taxes

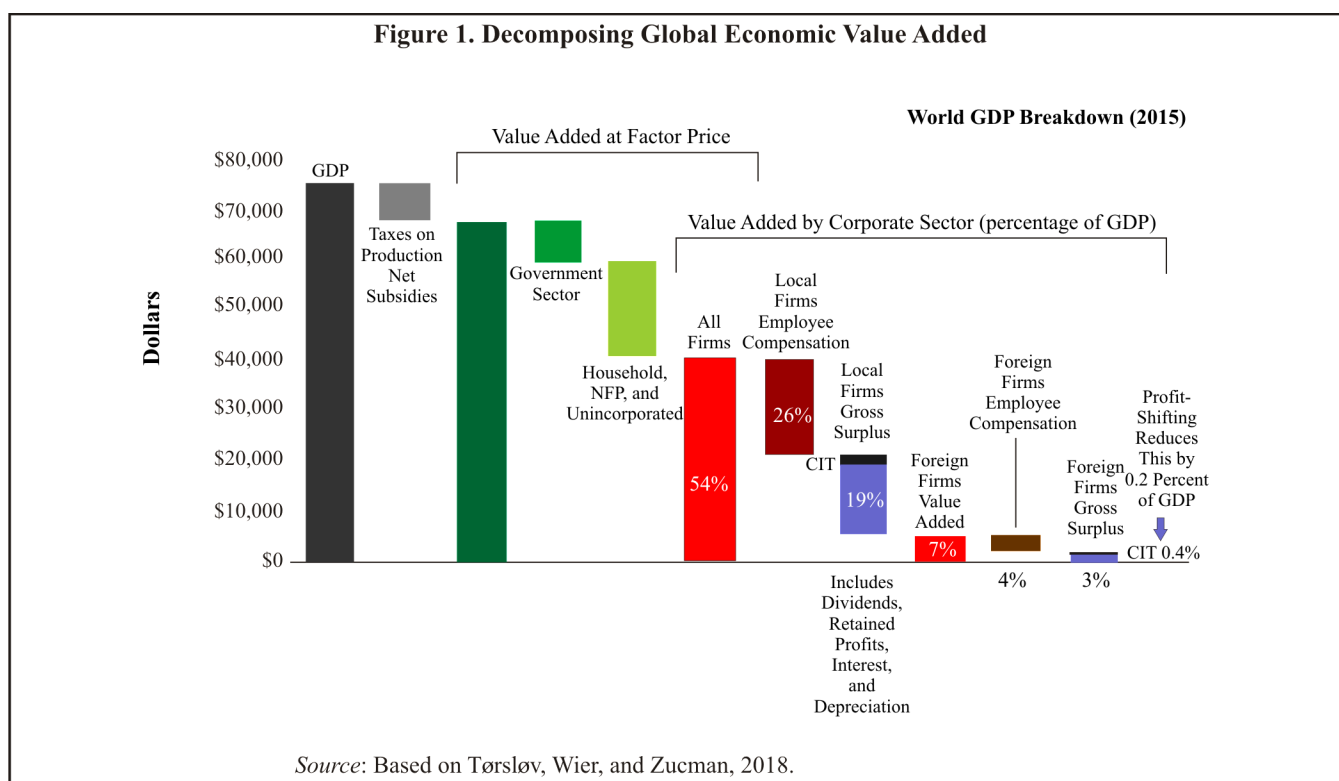
TWZ start by mapping the geography of multinational corporate activity: where profits are reported, where tax is paid, and how this is divided between local and foreign companies. When the data are patchy, they impute values (in some places, there are gaps and educated guesswork, so we should be cautious with the numbers).² The resulting map of multinational corporate activity, albeit imperfect, provides a useful, concrete starting point for considering international corporate tax issues. This contrasts with other methods based on indirect inferences that can generate large estimates of lost revenue without any reference to underlying volumes of investment. It should be noted that the data are from 2015 — before the enactment of international base erosion and profit-shifting reforms and the recent U.S. tax reform. The researchers have promised to update the figures when new data are available, which should provide a valuable addition to studies on international tax.

One thing that is clear from TWZ’s data is that the amount of public revenue that governments obtain from taxing multinational subsidiaries is not huge compared with overall public spending.

The study breaks down GDP into component streams, as the graph below shows.

About 54 percent of global GDP is generated by companies and the rest by governments, households, and noncorporate businesses. TWZ estimate that 86 percent of this corporate value

²The main data source is national accounts data compiled by the OECD (it also covers Brazil, China, Colombia, Costa Rica, India, Russia, and South Africa), as well international investment data released by the major “tax havens” that they are investigating. Other developing countries (other than those covered as “tax havens”) are only covered as the “rest of the world.” For some countries where detailed data are unavailable, they have to extrapolate, for example from FDI statistics, or by using averages from similar countries. The data come from 2015; before the BEPS reforms were implemented, and before the recent round of U.S. tax reforms.



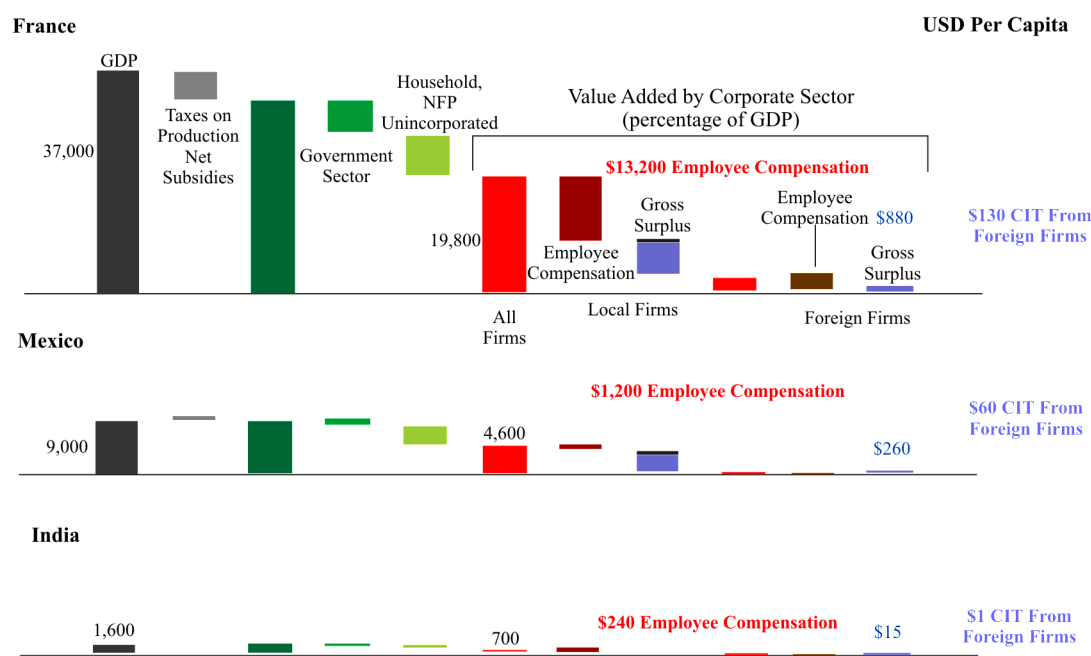
added is generated by domestic companies (this includes both purely domestic companies and multinationals-at-home, such as Apple's operations in the United States or Siemens's operations in Germany). The value added by the operations of multinational subsidiaries outside their home country accounts for 7 percent of global GDP (including employee compensation, social security payments, pension contributions, interest, depreciation, and profits). The foreign profits of these multinational subsidiaries account for just 3 percent of global GDP. Corporate income tax (CIT) payments by foreign multinationals are the thin black bar at the top of the final column, accounting for around 0.4 percent of GDP, or a bit more than 1 percent of overall government tax revenue. The question about revenue losses from profit shifting involves whether this bar should be a bit thicker.

Of course, a few tenths of a percentage point of global GDP is still a large amount of money, and the efficiency and fairness of the international corporate tax system matter as well. But multinational corporate income tax is often perceived to be much more significant in relation to public spending overall than it really is (for example, the idea that poor countries lose "more than they get in aid" to profit shifting).³

To give an idea of the absolute scale of these figures in different countries, the graphs below show how TWZ break down national GDP for three countries across the spectrum of high-, middle-, and lower-income economies — France, Mexico, and India. In France, formal sector businesses produce almost \$20,000 of added value for each person in the country, around \$13,000 of which is distributed as employee compensation. Overall, the government is able to collect and spend some \$16,000 in taxes and social contributions for each person in the country. TWZ estimate that multinational subsidiaries are

³ Maya Forstater, "Can Stopping 'Tax Dodging' by Multinational Enterprises Close the Gap in Development Finance?" Center for Global Development (Oct. 15, 2015).

Figure 2. Decomposing Economic Value Added in France, Mexico, and India



Source: Based on Tørsløv, Wier, and Zucman, 2018.

responsible for \$879 of added value per citizen, which includes interest, depreciation, retained profits, dividends to shareholders, and corporate income tax. The corporate tax related to these subsidiaries is around \$130 per French person. That isn't nothing, but it's not the basis of the extensive French state (it covers a little under three days' worth of public spending per person). In Mexico, the value produced on a per capita basis by formal sector companies is around a quarter of that value in France. Corporate income tax paid by foreign subsidiaries is about \$60 per person, just over a week's public spending. In India, the gross surplus of foreign companies amounts to only \$15 per citizen per year, and they make a corporate tax contribution of around a dollar, slightly less than two days of public spending.

In other words, corporate income tax paid by foreign multinationals is a small portion of overall revenue in a rich country like France. In a poor country like India, the amount is both relatively

small and absolutely tiny, reflecting the lower level of foreign investment per person. However, as research by Anna Milanez⁴ at the OECD shows, companies play a much larger role in paying and collecting taxes across the other tax handles attached to different parts of GDP — such as sales and employment. In OECD countries, businesses on average pay or collect \$9 of other taxes for every \$1 of corporate income tax they pay.

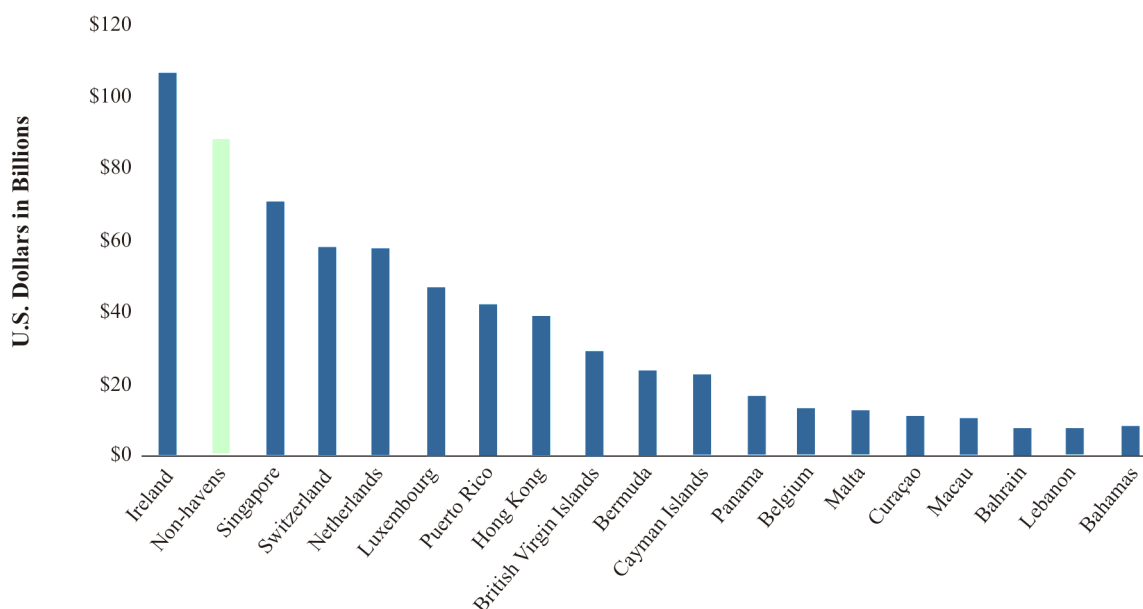
This suggests that discussion of corporate taxation should not lose sight of the needs for broad taxation and economic growth, and the growth of formal sector companies to support it.

How Much Profit Is Shifted/Revenue Is Lost?

The main goal of the study is to estimate profit shifting to a group of nations and territories the authors define as tax havens. Those include Belgium, Cyprus, Hong Kong, Ireland, Luxembourg, Malta, the Netherlands, Puerto Rico, Singapore, Switzerland, and the U.K. crown

⁴ Milanez, "Legal Tax Liability, Legal Remittance Responsibility and Tax Incidence," OECD Library (Sept. 18, 2017).

Figure 3. Where Are Excess Profits? TWZ Estimates (top 20 locations)



Source: Based on Tørsløv, Wier, and Zucman, 2018.

dependencies and overseas territories as well as other small states that are commonly included on tax haven lists.

The main approach for identifying profit shifting is to estimate how much corporate profit is made by multinational subsidiaries and local companies in each country and then to compare the profits-to-payroll ratio between the local and foreign sector. TWZ find that in all countries they define as tax havens (as well as a few major economies), companies in the foreign-controlled sector generate significantly higher profits-to-payroll costs than companies in the local sector, while the opposite is true in most other economies. They interpret this difference as a direct measure of profit shifting.

The authors assume that in the absence of profit shifting, foreign corporations and local companies would generate the same level of profits for a given wage bill. Based on that, they calculate that 40 percent of the profits of multinational subsidiaries abroad are artificially shifted to tax havens (around 6 percent of overall corporate profits), which shows up as profits in Ireland, Singapore, Switzerland, the Netherlands, Luxembourg, and Hong Kong (where

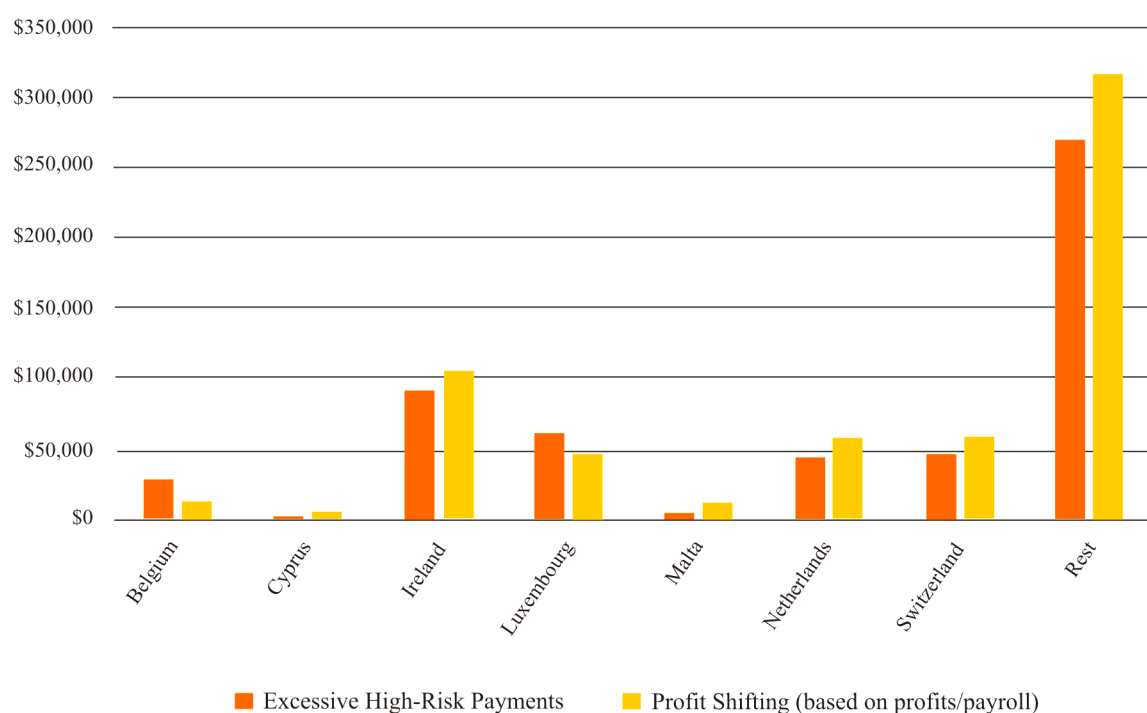
employment by multinational enterprises is substantial), with smaller amounts showing up in small island tax havens, where multinational corporations employ only handfuls of people.

The question of what these “excess” profits represent bears further examination.

TWZ describe them as representing *artificial* profit shifting. However, in practice there is no *natural* basis for allocating the profit of multinational corporations between different countries. For example, when a product is sold based on technology developed in one country, a brand developed in another, production in several others, and sales somewhere else, there isn’t one allocation of profits between jurisdictions that is naturally “right” and all others “artificial.” Rather, there is a set of rules for allocating profits, a question regarding whether companies are sticking to these rules and countries are enforcing them, and separately, a question regarding whether we might argue for a different set of rules.

The current rules, based on the arm’s-length principle, call for profits to be allocated based on comparable market-based transactions. Thus, a group’s retail operations might be expected to

Figure 4. ‘Excessive High-Risk Payments’ and Inward ‘Shifted Profits’
(in millions of U.S. dollars)



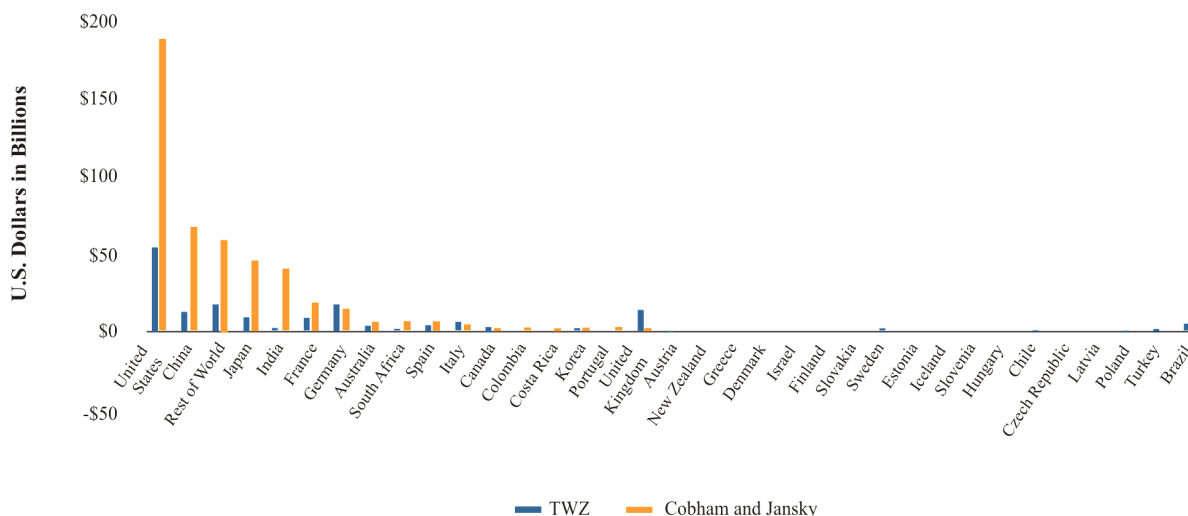
make a similar margin to a stand-alone retailer, its buying and distribution might make the same margin as a stand-alone wholesale trader, and internal financing should make the same margin as financial services from a bank or insurer. In each case the ratio of payroll costs to profitability is likely to be different, depending on the labor intensity of the specific business activity. For example, the clothing company Inditex (owner of the Zara chain) employs around 700 designers and around 100,000 retail staff (full-time equivalents). Using the arm's-length principle, the company would record larger profits in Spain (where most of the designers are) than in countries with mainly retail operations, such as the United Kingdom and Germany. TWZ's method does not consider that difference in the profit-to-payroll ratio as artificial because they don't designate Spain as a tax haven. However, they would consider profits attached to buyers based in Switzerland or brand managers in the Netherlands as artificial. Businesses are increasingly able to provide services across borders using digital platforms, data, and algorithms. Finance is an important business function that uses relatively few staff. It is not

obviously artificial if profits accrue in the jurisdiction where these high profit-to-payroll activities take place: The question is how much profit should accrue there.

When the foreign sector of a country has a higher profit-to-payroll ratio than the local sector, it could result from one of three different scenarios (or a combination of them):

1. High profit-to-payroll service exports take place in the foreign sector, with intracompany transactions on an arm's-length basis. (There is no abusive tax lost by other jurisdictions, but the international structure is influenced by tax.)
2. High profit-to-payroll activities take place in lower-tax jurisdictions and amass excess profits through the overpricing of inward payments. (Generally, tax is lost by the countries where customers are and might be recovered through stronger enforcement.)
3. High profit-to-payroll activities take place in lower-tax jurisdictions and amass excess profits through the underpricing of outward payments. (Generally, tax is lost by the countries where production takes

Figure 5. TWZ Estimated Tax Revenue Losses Are Much Smaller Than Crivelli et al. and Cobham and Jansky



Source: Based on Tørsløv, Wier, and Zucman, 2018.

place, including development of technology and other intellectual property, and might be recovered through stronger enforcement.)

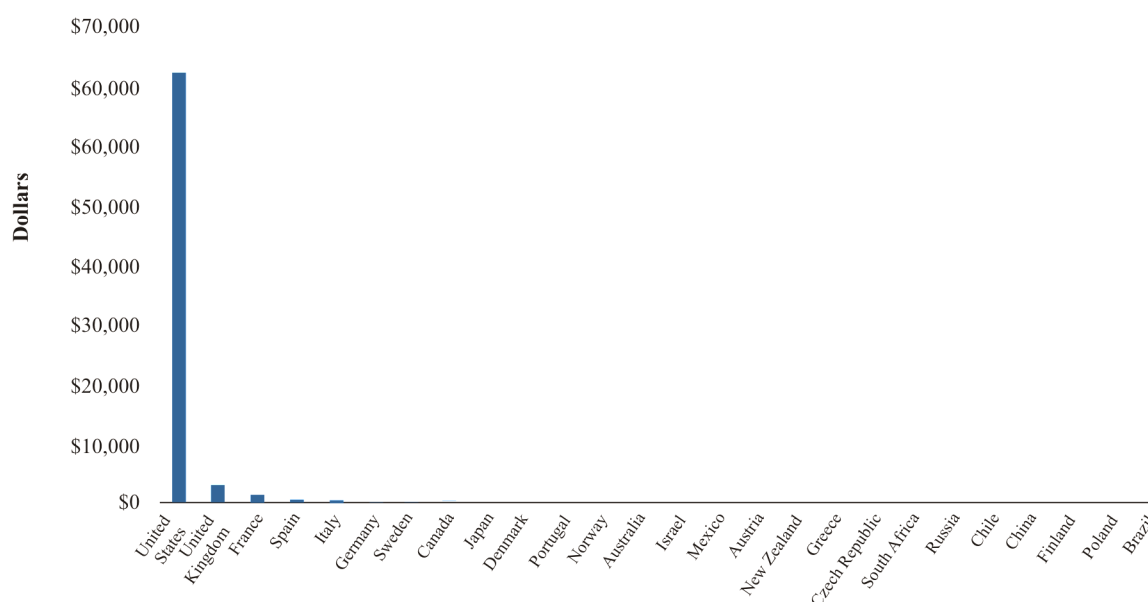
TWZ considers the volume of “excessive high-risk payments” (royalties, insurance, information and communication technology, financial, and management services) that each of their designated tax haven jurisdictions receive. These payments are judged to be excessive if they are out of proportion with the size of the overall economy, compared with larger economies. There is a close relationship between the volume of these excessive payments and the excessive profits based on the profits-to-payroll ratio.

TWZ interpret this pattern as indicating scenario 2 (that is, that Apple should be declaring more profit in Europe on its European sales, rather than in California where the technology is developed). However, because the current tax system is not designed to deliver this allocation, it shouldn’t be surprising that this is not the observed result.

TWZ’s metric could be more clearly described as an estimate of the profits associated with intangible assets and finance that are managed in low-tax jurisdictions. This may or may not be

artificially inflated (that is, not compliant with the arm’s-length principle). The distinction matters because it determines whether revenue might be recoverable through stronger enforcement of current rules (and on which side), or whether the “lost revenue” identified reflects compliance with current tax rules (which could be argued should be changed).

A key weakness with the method is that some of the apparently low-taxed or zero-taxed profits that show up in the study will already be subject to tax elsewhere through taxes and antiavoidance mechanisms that go beyond transfer pricing audits. The study does not mention mechanisms such as withholding taxes (on interest, royalties, and service fees), tax treaties that allow for taxation of service imports under permanent establishment rules and controlled foreign company regulations that bring foreign companies into the domestic tax system — the effects of these antiavoidance measures would not be picked up in its calculations. Several jurisdictions that make up a high proportion of the “rest” (such as the British Virgin Islands, Bermuda, and the Cayman Islands) do not have double tax treaties, so payments from non-tax-havens would be subject to withholding taxes.

Figure 6. Excess Profits In Ireland by Country of Ownership of Foreign Subsidiary

Source: Based on Tørsløv, Wier, and Zucman, 2018.

The finding from the study is that (before the BEPS reforms) excess foreign profits in tax havens tallied more than \$600 billion (around 0.8 percent of GDP), with around 10 percent of overall corporate tax revenue (\$180 billion-\$200 billion) lost because of profit shifting (or around 1 percent of government tax revenue overall, or 0.25 percent of GDP). The widely quoted headline figure of 40 percent of profits being shifted relates only to the profits of subsidiaries outside of multinationals' home countries. That is based on statutory tax rates. If the calculation is done using effective tax rates, the tax loss falls to 6 percent (or 0.5 percent of government tax revenue overall). Given the above caveats about the extent to which these excess profits represent defensible arm's-length returns to real business activities, and the extent to which they include profits already taxed through CFC rules or withholding tax, these figures (around \$180 billion-\$200 billion globally) might be considered a high-end estimate, with recoverable revenue as some fraction.

The authors note that their estimate is in the same ballpark as the OECD's BEPS estimate⁵ that countries were losing 4 to 10 percent of corporate tax revenue, and that it is substantially smaller than the estimate by the IMF team of Ernesto Crivelli, Ruud de Mooij, and Michael Keen⁶ and its reworking by Alex Cobham and Petr Jansky (see Figure 5).⁷

A key difference between this study and the method used by Crivelli et al. and Cobham and Jansky is that TWZ use data about the economies of each country and the existing scale of corporate profits. Crivelli et al. estimate a general relationship between GDP, tax rates, and revenue. This generates startling figures, such as Chad losing corporate tax revenue worth 8 percent of GDP and Zambia 5 percent, which are hard to reconcile with what we know about investment on the ground (remember, TWZ find that the current corporate tax payments of

⁵ Asa Johansson et al., "Tax Planning by Multinational Firms: Firm-Level Evidence From a Cross-Country Database," OECD, Economics Department Working Papers No. 1355 (Feb. 6, 2017).

⁶ Crivelli, de Mooij, and Keen, "Base Erosion, Profit Shifting and Developing Countries," IMF (May 29, 2015).

⁷ Cobham and Jansky, "Global Distribution of Revenue Loss From Tax Avoidance," U.N. WIDER Working Paper 55/2017.

foreign subsidiaries are less than half a percent of GDP on average).

If we assume a 20 percent average tax rate, Crivelli et al./Cobham and Jansky's figures require some \$2.5 trillion in shifted profits. However, TWZ's data on the overall level of profits recorded across all the "tax havens" (several of which are also major economies in their own right) is less than half that, suggesting that these earlier studies are likely to be large overestimates (or that there are several trillion dollars of annual profits still unaccounted for).

What Does the TWZ Study Show and Not Show?

TWZ's data confirm what the BEPS project and subsequent work on taxing the digitalized economy were set up to address: that multinational companies have been able to structure their operations so that intangible assets and finance are managed in low-tax jurisdictions. They also find that the profits accrued in those places relate to interest, royalties, and fees rather than strategic transfer pricing (or mispricing) of goods and commodities.

Their data confirm that the issue especially relates to U.S. companies (which are responsible for around half of the total estimated profit shifting overall, including the vast majority in Ireland — see Figure 6).

The data itself does not answer the several-billion-dollar questions: Should we think of this as revenue being lost by the countries in which the intangible assets were created, or by the countries in which they are deployed? Does the current situation reflect the design of the tax system, or companies abusing it? (And what better approach should be taken?)⁸

Going beyond the macroeconomic data, the study draws on information on Danish transfer pricing adjustments, European Mutual Agreement Procedure cases, and an EY survey⁹ of revenue authorities. They conclude that "tax authorities of

high-tax countries do not have incentives to combat profit shifting to tax havens. They instead focus their enforcement effort on relocating profits booked in other high-tax places — in effect stealing revenue from each other."

For example, they look at the "top three countries" mentioned by revenue authorities as targets for transfer pricing in the EY survey and find that they are mainly major trading partners, rather than low-tax jurisdictions. However, in practice many of the survey responses state that they *are* paying attention to tax havens (see Figure 7).

Another explanation for why revenue authorities do not pursue the enforcement that TWZ argue they should is that those authorities recognize that the tax rules do not support allocation of profits on a simple payroll ratio basis. They also use other antiavoidance mechanisms such as CFC regulations, services PEs, and withholding taxes, which are ignored by this study. When sales are directly from business to consumer (such as music subscriptions, software sales, or platform services), there may not be a transfer pricing issue for the consumer-side countries to pursue (hence countries undertaking other approaches such as the U.K.'s diverted profits tax and India's equalisation levy).

TWZ argue that profit shifting, more than tax competition for productive capital, is the key driver of the decline in corporate tax rates. However, their own data also point toward a more prosaic explanation. According to their analysis, 86 percent of corporate profits are made by local companies (including MNCs in their home country). As has been argued in the literature¹⁰ countries can take advantage of access to tax havens in order to effectively apply a different tax rate for immobile activities and mobile capital in order to attract foreign investment (with its positive spillovers) while maintaining a higher tax rate on local companies. The United States, somewhat differently, had a worldwide tax system but with weak CFC rules and deferral for non-repatriated profits, which resulted in a lower effective tax rate for outward investment.

In other words, tax responsive location of finance and intangible assets may mitigate against

⁸ A revised version of the paper published in July 2016 has retreated significantly from the original claims of estimating artificial profit shifting and tax avoidance. Imagine that all countries agreed tomorrow to adopt the same tax rate. By how much would the profits booked in the United States, the European Union, and developing countries increase — and by how much would they fall in low-tax places like Ireland?

⁹ Thomas Borstell and John Hobster, "2014 Global Transfer Pricing Tax Authority Survey," EY.

¹⁰ Michael Keen and Kai A. Konrad, "The Theory of International Tax Competition and Coordination," 5 *Handbook of Public Economics* 257-328 (2013).

the pressures of tax competition for real investment in places where consumers and workers live. In this case, stronger enforcement and reforms to reduce profit shifting will intensify

tax competition between source countries, raising the prospect that more fundamental reform of the international tax system may be needed.

Figure 7. Where Do Tax Authorities Focus Transfer Pricing Attention?

Australia	A substantial amount of time is also spent focusing on transactions with low-tax jurisdictions.
Austria	Specifically targets taxpayers engaged in transactions with major trading partners, domestically headquartered companies, and companies located in perceived low-tax jurisdictions.
Belgium	Transactions with tax havens are subject to particular focus. Transactions with major trading partners and low-tax jurisdictions are also typically reviewed in the scope of audits.
Brazil	Transfer pricing rules apply to transactions with unrelated third parties located in low-tax jurisdictions. The top counterparty jurisdictions are driven by transaction volume per trading partner and main inbound investors.
Canada	Risk assessment model typically involves a review of various factors, including the involvement of low-tax jurisdictions as counterparties to the taxpayer's related-party transactions.
Colombia	Targets transactions with counterparties in tax havens and perceived low-tax jurisdictions.
Denmark	Targets transactions in jurisdictions perceived to be low-tax jurisdictions as well as transactions with non-treaty partners. Countries that are considered tax havens are systematically selected for audits because they are considered high-risk jurisdictions for transfer pricing.
Estonia	Major trading partners, perceived low-tax jurisdictions, non-treaty partners, and domestically headquartered companies receive greater scrutiny.
Finland	Major trading partners are naturally well represented in reviews.
France	Any transactions between companies belonging to the same group set up in a tax haven are monitored closely and examined in depth.
Germany	Transactions with major trading partners and low-tax jurisdictions are reviewed.
Italy	Transactions with major trading partners, non-treaty partners, countries with favorable or special tax regimes, and treaty partners drive the selection of geographic focus.
Kazakhstan	Specifically targets transactions with major trading partners and perceived low-tax jurisdictions for transfer pricing reviews.
Mexico	Perceived low-tax jurisdictions are sometimes targeted.
Netherlands	Low-tax jurisdictions are considered by the DTA when performing a risk analysis.
New Zealand	Transactions entered into with associated parties located in low-tax jurisdictions are likely to be scrutinized more closely.
Poland	The selection of countries is driven by the official list of tax havens and the reputation of a given tax jurisdiction for low tax rates.
Portugal	Perceived low-tax jurisdictions are reviewed in the scope of an audit. In addition, domestically headquartered companies are also included in the regular audit cycle.
Singapore	Interest in related-party transactions in which the counterparty is in a tax jurisdiction with a lower prevailing corporate tax rate than Singapore.
Slovakia	Targets transactions with major trading partners, perceived low-tax jurisdictions, and countries that provide scope for aggressive tax planning.
Spain	Perceived low-tax jurisdictions and major trading partners drive the selection of countries.
Switzerland	The tax authority may target transactions in some jurisdictions perceived to be low-tax jurisdictions.
<i>Source:</i> Based on EY Transfer Pricing Survey 2014.	

It will certainly be interesting to see how these statistics develop following the BEPS reforms and major changes to the U.S. tax systems, and what insight can be gleaned from the soon-to-be-released statistics from the OECD based on country-by-country reports. ■

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