

Transfer Price Manipulation

Lorraine Eden

Abstract

Multinational enterprises (MNEs) are powerful actors in the global economy. Transfer price manipulation (TPM) is one of the benefits of multinationality. By over- and underinvoicing intrafirm transactions, multinationals can arbitrage and take advantage of differences in government regulations across countries. This chapter explains the motivations of firms that engage in TPM, illustrates the ways in which MNEs can arbitrage government regulations, and reviews the empirical estimates on TPM for developed and developing countries. We conclude that the strongest and clearest evidence of TPM comes from transaction-level studies of U.S. intrafirm import and export prices and from firm-level studies using Chinese tax data. No data set is perfect; so, the various estimates are flawed. Still, the balance of the evidence suggests that income shifting does occur through the manipulation of transfer prices. What is needed is greater accessibility to transaction-level data on cross-border export and import transactions and on MNE income statements and balance sheets. This would enable scholars to shine more light in the dark corners of TPM and provide more accurate assessments of TPM impacts on developing countries.

Introduction

World Investment Report 2011 contains the estimate that there are now 103,786 MNE parent firms and 892,114 foreign affiliates (UNCTAD 2011). These numbers have grown enormously since the first United Nations Conference on Trade and Development (UNCTAD) estimate of 35,000 parents and 150,000 foreign affiliates (UNCTAD 1992). Not only are there ever-growing numbers of MNEs, their relative size as a share of the global economy is also growing. Of the world's 100 largest economies, 42 are MNEs, not countries, if one compares firm revenues with country gross domestic product (GDP). The value added by MNEs constitutes about 11 percent of world GDP.

Multinationals likewise bulk large in terms of international trade flows. For example, *World Investment Report 2010* estimates that foreign affiliate exports are now one-third of world exports (UNCTAD 2010). If trade occurs between related parties (that is, between affiliated units of an MNE), the transactions are referred to as *intrafirm trade*. Statistics on intrafirm trade are scarce because most governments do not require MNEs to report their crossborder intrafirm transactions separately from their trade with unrelated parties. The United States is one of the few countries to report intrafirm trade statistics; the U.S. Census Bureau (2010) estimates that 48 percent of U.S. exports and 40 percent of U.S. imports represent trade between related parties. The Organisation for Economic Co-operation and Development (OECD) provides preliminary estimates that related-party trade represents 7–12 percent of world merchandise trade and 8–15 percent of OECD trade (OECD 2010).

The price of an intrafirm transfer is called a *transfer price*, and *transfer pricing* is the process by which the transfer price is determined. Transfer pricing, once an obscure area studied only by a few academics such as Hirshleifer (1956, 1957), Horst (1971), and Rugman and Eden (1985), has now become front-page news because of recent attention to TPM, that is, the over- or underinvoicing of transfer prices by MNEs in response to external pressures such as government regulations (for instance, taxes, tariffs, exchange controls).

For example, Forest Laboratories, a U.S. pharmaceutical company, was profiled in *Bloomberg Businessweek* for using TPM to shift profits on Lexapro, an antidepressant drug, from the United States to Bermuda and Ire-

land. The headline, “U. S. Companies Dodge US\$60 Billion in Taxes with Global Odyssey,” compared transfer pricing with the corporate equivalent of the secret offshore accounts of individual tax dodgers (Drucker 2010a). Google was similarly profiled in October 2010 for using transfer pricing and a complex legal structure to lower its worldwide tax rate to 2.4 percent (Drucker 2010b). Politicians have also become involved. The Ways and Means Committee of the U.S. House of Representatives held a public hearing on transfer pricing in July 2010. One report for the hearing, by the Joint Committee on Taxation, explored six detailed case studies of U.S. multinationals using transfer pricing to reduce their U.S. and worldwide tax rates.¹ Sikka and Willmott summarize several recent cases involving transfer pricing and tax avoidance, concluding that “transfer pricing is not just an accounting technique, but also a method of resource allocation and avoidance of taxes that affects distribution of income, wealth, risks and quality of life” (Sikka and Willmott 2010, 352).

Several coinciding forces have raised the visibility of transfer pricing from the academic pages of economics journals to the front pages of major newspapers. All three key actors in the global economy—governments, MNEs, and nongovernmental organizations (NGOs)—now view transfer pricing as critically important.

Government authorities, the first set of key actors, have long recognized that transfer prices can be used by MNEs to avoid or evade national regulations. For example, by setting a transfer price above or below the market price for a product and shifting profits to an affiliate taxed at a lower rate, an MNE can reduce its overall tax payments and achieve a higher after-tax global profit relative to two firms that do not have such an affiliation arrangement.

Most governments of industrialized nations now regulate the transfer prices used in the calculation of corporate income taxes (CITs) and customs duties. The worldwide regulatory standard is the arm’s-length standard, which requires that the transfer price be set equal to the price that two unrelated parties have negotiated at arm’s length for the same product or a similar product traded under the same or similar circumstances with respect to the related-party transaction (Eden 1998). The arm’s-length standard, first developed in the United States, became an international standard when the OECD issued transfer pricing guidelines that were later adopted by OECD member governments (OECD

1979). The purpose behind the guidelines is to prevent undertaxation and overtaxation (double taxation) of MNE profits by national tax authorities (Eden 1998).

Starting in the early 1990s, the legal landscape for transfer pricing changed dramatically. In 1994, the U.S. Internal Revenue Service's major revisions to its transfer pricing regulations became law. In 1995, the OECD published revised transfer pricing guidelines, which have been regularly updated since then (OECD 1995). While only a few governments had detailed transfer pricing regulations attached to their CIT laws before the 1990s, now more than 40 tax jurisdictions around the world—including all the OECD countries and, therefore, the bulk of world trade and foreign direct investment flows—are covered and have highly technical and sophisticated transfer pricing regulations attached to their tax codes (Eden 2009; Ernst & Young 2008).

In 1995, UNCTAD surveyed national governments about current developments in accounting and reporting and asked a few questions about TPM as part of the survey. The results for 47 countries were circulated in an unpublished working paper and analyzed in Borkowski (1997). In the survey, 60 percent of government respondents stated that MNEs in their country engaged in TPM and that it was a significant problem. Almost 80 percent of respondents believed that MNEs were using TPM to shift income, and 85 percent thought this was a serious problem. This belief held regardless of income levels: 11 of 13 low-income, 16 of 18 middle-income, and 13 of 16 high-income country governments believed that TPM was being used to shift income. TPM was seen as a problem because it led to distorted competitiveness between local firms and MNEs, enabled MNEs to withdraw funds from the country, and reduced tax revenues. Governments perceived income shifting by foreign MNEs as more frequent and larger in magnitude relative to home country MNEs.

In the late 1990s, the OECD also launched a major push to deter abusive tax practices, focusing on abusive tax havens (OECD 1998; Eden and Kudrle 2005). While tax havens and TPM are two separate topics and should be treated separately, there are overlaps. Tax havens can encourage abusive transfer pricing practices, for example, by creating CIT differentials between countries that offer pricing arbitrage opportunities to MNEs. Secrecy havens provide opportunities for parking MNE profits away from the eyes of national tax authorities (Kudrle and Eden 2003).

The second key actor in the global economy—MNEs—have long seen transfer pricing as an important international tax issue (Ernst & Young 2010). From an international tax perspective, tax avoidance (tax planning that complies with the law) is viewed by MNE executives and the tax planning industry as both legal and morally acceptable (Friedman 1970).² Because the goal of the firm is to maximize shareholder wealth and because transfer pricing can raise the MNE's after-tax profits on a worldwide basis, transfer pricing is a valued activity for the MNE. Transfer pricing has also become an increasingly important issue for MNE executives because government regulations have become more complex and the number of governments that regulate transfer pricing, require documentation, and levy penalties continues to grow (Eden 2009; Ernst & Young 2010). In addition, recent U.S. legislative changes such as Sarbanes-Oxley and FIN 48 have made transfer pricing important for MNE executives from a corporate financial and reporting perspective (Ernst & Young 2008).

Lastly, with the collapse of Enron, WorldCom, and others in the early 2000s and bankruptcies or near bankruptcies among many huge multinationals (for example, General Motors) during the current international financial crisis, NGOs are now paying more attention to corporate fraud, in particular to abusive financial behaviors that may be related to the global financial crisis (for example, see TJN 2007; Christian Aid 2009; Sikka and Willmott 2010). Transfer pricing has been specifically attacked by NGOs. For example, Christian Aid has published reports arguing that transfer pricing is tax dodging, cooking the books, secret deals, or scams that rob the poor to keep the rich tax-free, thereby stripping income from developing countries (Christian Aid 2009). Thus, the third key actor in the global economy—NGOs—is now also paying much more attention to transfer pricing.

The purpose of this chapter is to review the literature on empirical estimates of TPM, focusing, where possible, on developing countries. We also situate this chapter within the context of the work on illicit flows of funds out of developing countries, the theme of this volume. In the next section, we explore the reasons why MNEs engage in TPM. The following section examines expected manipulation patterns in response to particular forms of government regulation. The penultimate section reviews the empirical evidence on TPM. The last section concludes.

Why Engage in Transfer Price Manipulation?

The primary reason why governments have developed the arm's-length standard is that they believe MNEs do not set their transfer prices at arm's length, but rather engage in widespread TPM for the purpose of avoiding or evading government regulations. TPM is the deliberate over- or underinvoicing of the prices of products (goods, services, and intangibles) that are traded among the parent and affiliates of an MNE. Overpricing inbound transfers and underpricing outbound transfers can be used to move profits out of an affiliate located in a high-tax jurisdiction or from a country that does not allow capital remittances. Differences in CIT rates across countries (which are exacerbated by tax havens and tax deferral) create profitable opportunities for MNEs to engage in TPM. Below, we explore the benefit to the MNE of engaging in TPM and the different ways that MNEs respond to these external motivations.

One of the less well known benefits of multinationality is the ability to arbitrage differences in government regulations across countries (Eden 1985). One benefit of internalizing transactions rather than using the open market is that the goals of firms change, and this change makes a big difference. The goals of parties to an intrafirm (intracorporate) transaction are cooperative (the purpose is to maximize joint MNE profit), whereas the goals of arm's-length parties are conflictual (to maximize their individual profits), that is, units of an MNE collude rather than compete in the market. This gives them the ability to reduce overall tax payments and avoid regulatory burdens by under- or overinvoicing the transfer price, the price of the intrafirm transaction.

The fact that two related parties (parent and subsidiary or two sister subsidiaries) can collude in setting the price gives an MNE the ability, which unrelated firms do not legally have, to choose a price that jointly maximizes their profits, the *profit-maximizing transfer price*. The determination of a profit-maximizing transfer price is a complex decision-making process because the MNE must take into account both internal motivations (the costs and revenues of the individual MNE affiliates) and external motivations (the existence of external market prices and government regulations such as taxes and tariffs) that can affect the optimal transfer price (Hirshleifer 1956, 1957; Horst 1971; Eden 1985). Where no external market exists, the MNE should set the transfer price

equal to the shadow price on intrafirm transactions; generally, this is the marginal cost of the exporting division. Efficient transfer prices for services and for private intangibles have similar rules; they should be based on the benefit-cost principle, that is, each division should pay a transfer price proportionate to the benefits it receives from the service or intangible (Eden 1998). Where external market prices exist, they should be taken into account in setting the transfer price, that is, divisions should be allowed to buy and sell in the external market. In each case, the purpose is efficient resource allocation within the MNE group.

While economists focus on the TPM benefits in using the profit-maximizing transfer price, managers of MNEs are more likely to focus on practical considerations. First, there may be cases where the MNE has no internal reasons for setting a transfer price; transactions may be small in volume, difficult to value, or occur with extraordinary rapidity. Conventional accounting practice, for example, generally defers valuation of intangible assets until there are arm's-length purchases or sales, creating the balance sheet item "goodwill," which measures the excess purchase price over the fair value of the assets acquired. In such cases, the MNE may ignore the issue altogether and not set transfer prices.

However, in the typical case, the MNE has multiple internal motivations for setting a transfer price. Some of these internal motivations include the performance evaluation of profit centers, motivating and rewarding the managers of foreign subsidiaries, preventing intersubsidiary disputes over intermediate product transfers, more efficient tracking of intrafirm flows, and so on (Borkowski 1992; Cravens 1997; Tang 1993, 1997, 2002). TPM in these situations involves balancing the incentives, reporting, and monitoring activities associated with setting transfer prices for internal efficiency.

MNEs typically also have a variety of external motivations for setting transfer prices. In a world of CIT differentials and tariffs, the MNE has an incentive to manipulate its transfer prices to maximize its global net-of-taxes profits. The benefits from TPM of real flows, as opposed to fiscal transfer pricing, must, however, be traded off against internal distortions. The primary purpose of setting transfer prices now becomes global after-tax profit maximization; such transfer prices, however, may or may not look like the regulatory methods outlined by national government authorities.

Transfer Price Manipulation and Government Regulations

Corporate income taxes and transfer price manipulation

The most well known external motivation for manipulating transfer prices is the differences in CIT rates between countries or between states within countries. For evidence on tax-induced motivations for TPM, see Li and Balachandran (1996); Eden (1998); Swenson (2001); and Bartelsman and Beetsma (2003). There are several ways to engage in TPM in such cases:

- The MNE can overinvoice tax-deductible inbound transfers into high-tax countries and underinvoice them into low-tax countries. This shifts corporate profits from high-tax to low-tax jurisdictions. Examples of inbound transfers include imported parts and components, payments for engineering and consulting services, and royalty payments for intangibles.
- The MNE can underinvoice taxable outbound transfers from high-tax countries and overinvoice them from low-tax countries. This shifts corporate profits from high-tax to low-tax jurisdictions. Examples of outbound transfers include exports of finished goods, charges for the provision of services to other parts of the MNE network, and licensing and royalty payments for outbound intangible transfers.
- If the home government allows deferral of CITs on MNE foreign source income, the MNE can avoid the home country CIT on foreign source income by not repatriating foreign source earnings to the home country. The funds can either be reinvested in the host country or moved to another country in the MNE network.
- If the host country levies a withholding tax on the repatriated profits of foreign affiliates and the withholding tax is not fully creditable against the home country tax, not repatriating foreign source income avoids the tax. In these cases, the MNE can use the rhythm method to time its repatriated earnings only in tax years when the withholding tax is fully credited against the home tax (Brean 1985). In other years, no profits are remitted to the home country.
- If withholding taxes vary according to the form of repatriation (for example, management fees, royalty and licensing payments, and dividends are typically subject to quite different withholding tax rates), the MNE can move the funds out in the form that incurs the lowest

withholding tax. Note that if the MNE receives a full foreign tax credit against the home country tax for the withholding tax, the form by which the MNE moves the funds out becomes irrelevant since the tax is fully credited.

- Tax holidays can also be a motivation for TPM, particularly if the holiday is conditional on the profits earned by the foreign affiliate. In China in the 1980s, the government offered a tax holiday for foreign firms as long as they did not show a profit. Not surprisingly, the foreign affiliates did not show profits until after the law was changed (see below).
- Some forms of intrafirm transfers are more fungible than others and therefore more susceptible to TPM. Management fees are particularly notorious because the MNE parent charges each affiliate for the costs of services provided by the parent to the affiliates, and these charges are difficult to measure. Many host country tax authorities have specific rules limiting the deductibility of the management fees charged by an MNE parent to its foreign subsidiaries because governments see these deductions as a method to eviscerate the host country's national tax base. Governments also levy withholding taxes, in addition to CITs, if foreign affiliates repatriate income to their parent firms. The withholding taxes on management fees are often in the range of 30–35 percent.
- Some forms of intrafirm transfers are easier to misprice simply because there is no open market for the product. (The product is never exchanged between arm's-length parties; an example is highly sophisticated new technologies.) So, arm's-length comparables are impossible to find. Payments for intangible assets are particularly susceptible to TPM because there are often no outside transfers available to determine an arm's-length comparable.

Trade taxes and transfer price manipulation

Trade taxes provide a second external motivation for manipulating transfer prices. For evidence on tariff-induced motivations for TPM, see Eden (1998), Vincent (2004), Goetzl (2005), and Eden and Rodriguez (2004). Some examples of TPM motivated by trade tax include the following:

- If customs duties are levied on an ad valorem (percentage) basis, the MNE can reduce the duties paid if it underinvoiced imports. Specific or per-unit customs duties cannot be avoided by over- or underinvoicing.

- If export taxes are levied on an ad valorem basis, the MNE can reduce the export taxes paid if it underinvoices exports. Specific export taxes cannot be avoided through TPM.
- Rules of origin within free trade areas offer another potential arbitrage opportunity. Most rules of origin are on a percent-of-value basis. For example, products qualify for duty-free status if 50 percent or more of the value added is derived from inside one of the countries that is a partner in the free trade area. By overinvoicing the value added, the MNE can more easily meet a rule-of-origin test and qualify for duty-free entry for its products into another country in the free trade area.

Foreign exchange restrictions and transfer price manipulation

A third external motivation for TPM is foreign exchange restrictions. For evidence on foreign exchange rate motivations for TPM, see Chan and Chow (1997a), who find that foreign MNEs were engaged in TPM to shift profits out of China not because of CIT differentials (in fact, Chinese tax rates were lower than elsewhere), but to avoid foreign exchange risks and controls. Examples of TPM in response to exchange rate restrictions include the following:

- If the host country's currency is not convertible so that the MNE cannot move its profits out, the MNE can, in effect, move its profits out despite the nonconvertible currency if it overinvoices inbound transfers and underinvoices outbound transfers.
- If there are foreign exchange restrictions on the amount of foreign currency that can be bought or sold in a particular time period, using overinvoicing of inbound transfers and underinvoicing of outbound transfers enables the MNE to move more funds out than would be permissible with currency controls.

Political risk and transfer price manipulation

Another area susceptible to TPM is political risk. For evidence on the capital flight and political risk motivations for TPM, see Gulati (1987); Wood and Moll (1994); Baker (2005); and de Boyrie, Pak, and Zdanowicz (2005). Examples of TPM in response to various types of political risk include the following:

- If the MNE fears expropriation of its assets in a host country or, more generally, if political risk is great, overinvoicing of inbound transfers and underinvoicing of outbound transfers can be used to shift income out of the high-risk location.
- More generally, policy risk, that is, the risk that the government may change its laws, regulations, or contracts in ways that adversely affect the multinational, also provides an incentive for MNEs to engage in TPM. Policy risks, as discussed in Henisz and Zelner (2010), are opaque and difficult to hedge, and there is typically no insurance. Moreover, the authors estimate that policy risks have risen substantially since 1990. Income shifting through TPM may well be a rational response to policy risk.
- If the host country currency is weak and expected to fall, the MNE can underinvoice inbound transfers and overinvoice outbound transfers to shift profits out of the weak currency.
- Another form of political risk is the requirement that foreign affiliates must take on a forced joint venture partner. Foreign affiliate profits earned in a country with this rule in effect suffer a tax because profits must be split between the MNE and the joint venture partner. In these cases, the MNE may engage in income shifting to move funds out of such a high-tax location.

Empirical Evidence on Transfer Price Manipulation

Let us now turn to empirical work on TPM. The evidence that multinationals engage in TPM to arbitrage or avoid government regulations does exist, but is fragmented and often backward induced, that is, estimated indirectly rather than directly. The extent and significance of TPM, especially for developing countries, is not clear, although, by extrapolating from existing studies, we now have a better understanding of the circumstances under which TPM is likely to occur. Below, we review the empirical evidence on TPM.

Evidence from developed countries

By far, the bulk of empirical research on TPM has been done using U.S. data sets, and almost all studies have been done on U.S. multinationals with controlled foreign corporations overseas.

Income shifting studies. Perhaps the largest number of empirical studies has involved estimates of income shifting from high-tax to low-tax jurisdictions. In these studies, either foreign direct investment or a profit-based measure such as return on assets or return on sales is the dependent variable that is used to test whether MNEs shift income to locations with lower CIT rates (for example, see Bartelsman and Beetsma 2003; Grubert and Mutti 1991; Grubert and Slemrod 1998). Because TPM affects MNE profits at the country level, this approach focuses not on prices, but on profit shifting. These partial and general equilibrium models use national CIT differentials and custom duty rates to predict TPM and to estimate the income moved in this fashion. These studies are more appropriately identified as *fiscal TPM* because they focus on income manipulation and not on the pricing of products per se. Changes in the form of profit remittances from royalties to dividends and the excessive padding of management fees, are examples. A few of the key studies are reviewed below.

In one of the earliest tests, Grubert and Mutti (1991) used a data set of manufacturing affiliates of U.S. MNEs in 33 countries to examine how tax differentials and tariffs generate income transfers because of TPM. The authors aggregated country-level data from the U.S. Bureau of Economic Analysis on foreign affiliates of U.S. multinationals and regressed the profit rates of the affiliates against host country statutory CIT rates. The authors concluded that the empirical evidence was consistent with MNE income shifting from high- to low-tax jurisdictions.

Harris, Morck, and Slemrod (1993), based on a sample of 200 U.S. manufacturing firms over 1984–88, find that U.S. MNEs with subsidiaries in low-tax countries pay less U.S. tax, while those with subsidiaries in high-tax countries pay relatively more U.S. tax per dollar of assets or sales. Income shifting by the largest MNEs is, they argue, primarily responsible for these results. These studies provide, however, only indirect evidence of TPM. For example, the results of the authors can be explained by MNEs shifting income from high- to low-tax locations, but also by cross-country differences in the intrinsic location-specific profitability of MNE subunits. The authors are aware of this possibility, but show evidence that does not support this interpretation.

Grubert (2003) uses firm-level data on U.S. parents and their foreign controlled affiliates to test for evidence of income shifting. He regresses

pretax profits against host country statutory tax rates, while controlling for parent and subsidiary characteristics and finds evidence supporting income shifting, particularly among firms with high ratios of research and development to sales.

McDonald (2008) expands on Grubert (2003) by attempting to separate out income shifting arising because of tangibles, research and development, marketing intangibles, and services. In particular, he addresses income shifting through cost-sharing arrangements. He concludes that the empirical results from his tests are “not inconsistent with the existence of possible income shifting” and that there is some evidence that foreign affiliates whose U.S. parents engage in cost-sharing arrangements may also “engage in more aggressive income shifting” (McDonald 2008, 30).

Clausing (2009) uses U.S. Bureau of Economic Analysis data for 1982–2004 to test whether U.S. multinationals engage in income shifting to low-tax locations. She argues that MNEs can engage in both financial and real types of tax avoidance. Financial avoidance is estimated by comparing tax differentials across countries and foreign affiliate profit rates, while real avoidance is estimated by comparing tax differentials and foreign employment. She finds that a host country statutory CIT rate 1 percent below the U.S. rate is associated with a 0.5 percent higher foreign affiliate profit rate; using these estimates, she argues that US\$180 billion in CIT had been shifted out of the United States. The losses as measured by real responses to income shifting, however, were about half that: about US\$80 billion less in profits and 15 percent less in tax revenues.

The most recent paper on the topic, by Azémar and Corcos (2009), uses a sample of Japanese MNEs and finds greater elasticity of investment to statutory tax rates in emerging economies if foreign affiliates are wholly owned by research and development-intensive parent firms. The authors argue that this is indirect evidence of TPM.

TPM trade mispricing studies. A second approach to estimating TPM has involved examining individual transactions using huge databases of transaction-level import and export data (for example, see Clausing 2003; Swenson 2001; Eden and Rodriguez 2004). The focus of these authors is *trade mispricing*, that is, the under- or overinvoicing of imported and exported goods in response to CIT differences, tariffs, foreign exchange restrictions, and so on. Where the researcher focuses on TPM, we call

such studies TPM trade mispricing studies. The idea behind this research is to compare arm's-length comparable prices with the reported intrafirm prices to determine the extent of over- or underinvoicing of related-party transactions.

In the trade mispricing papers, the estimates of trade mispricing are typically done using regression analysis. It may be helpful for the reader if we explain briefly how these models work.

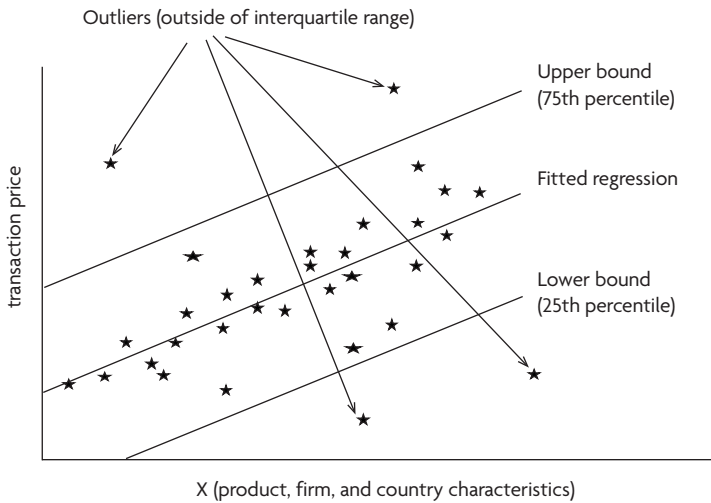
If P_{ijkt} is the transaction price of product i imported by firm j from country k at time t , the researcher regresses the price (the dependent variable) against a vector of independent variables (product and firm characteristics and tax and tariff rates), a dummy variable for related-party trade (1 for transactions between related parties, 0 if the firms are unrelated), and a set of control variables for other possible explanations. The regression equation takes the following form:

$$P_{ijkt} = a + b X_{ijkt} + c IFT + d X_{ijkt} \times IFT + Z, \quad (7.1)$$

where X_{ijkt} is the vector of independent variables, IFT is the intrafirm trade dummy variable, and Z is a vector of control variables. The IFT variable is interacted with the independent variables to see whether there are statistically significant differences between arm's-length and related-party trade if one of the independent variables changes, for example, whether IFT is sensitive to differences in CIT rates or to customs duties. All variables except IFT are normally logged so that the regression coefficients are elasticities, showing the responsiveness (percentage change) in the import price to a percentage change in the independent variables.

It may be helpful to also see this equation as a graph. Figure 7.1 shows a simple regression that relates trade prices to the volume of trade, holding other influential variables constant (for example, product and industry characteristics). By examining and adding up the outliers, one can estimate the extent of mispricing. The key issue is therefore to determine what is an outlier. Under U.S. Code section 6662 on CIT, transfer pricing miscalculation penalties apply if MNEs set their transfer prices significantly outside the arm's-length range of acceptable prices. The arm's-length range, according to the section 482 regulations, is determined by the transfer pricing method that gives the most reliable measure of an

Figure 7.1. Estimating Trade Mispricing from International Trade Data



Source: Author.

arm's-length result. In establishing the range, the bottom 25 percent and top 25 percent of observations are normally discarded, leaving the interquartile range (between 25 and 75 percent) as the acceptable arm's-length range. If the MNE's transfer price falls within this range, no section 6662 penalties apply. If it is outside the range, unless the firm has demonstrated a good faith effort to comply with the section 482 regulations (for example, by filing complete, contemporaneous documentation of its transfer pricing policies), penalties do apply (Eden 1998; Eden, Juárez, and Li 2005). We have therefore used the interquartile range to mark outliers in figure 7.1 because these outliers would not normally fall within the arm's-length range.

There are, of course, problems with the TPM trade mispricing approach, not the least of which is, first, that it is critically important to identify which transactions occur within the MNE and which are arm's-length transactions. Too often, the studies attribute all trade mispricing to the MNE, without having the data to determine whether the trade moved within the MNE or not. Second, the key to TPM trade mispricing studies is that the data set must include both arm's-length and intrafirm international transactions, with a clear marker that distinguishes transactions

between related parties and transactions between arm's-length firms. The huge advantage of TPM trade mispricing studies over income shifting studies is that the data are transaction-level (not firm-level) data, but the problem is that the marker may be wrong or missing.

Two data sets have been used in the U.S. studies of trade mispricing: U.S. Bureau of the Census data and U.S. Bureau of Labor Statistics (BLS) data. The census data tapes are raw tapes of U.S. export and import transactions. Export figures are reported directly to the Census Bureau; import figures come from the U.S. Customs Service. The data, while extraordinarily rich, suffer from several problems, the most important of which for TPM trade mispricing studies is that the intrafirm trade marker is highly problematic. If the data are taken from shipping documents reported to customs authorities, such markers are widely recognized to be unreliable (Eden and Rodriguez 2004). As a result, empirical studies of trade mispricing using the census data tapes cannot reliably argue that trade mispricing estimates are also estimates of TPM.

For example, Pak and Zdanowicz (1994) use the census data on monthly merchandise export and import prices to look for outliers; they estimate that the U.S. government lost US\$33.1 billion in tax revenues because of unreported taxable income. Unfortunately, the authors cannot identify individual transactions as arm's-length or intrafirm transactions; so, they should not (but do) attribute the tax loss to TPM.

Moreover, simply using U.S. Census Bureau data on U.S. merchandise import and export transactions can be quite problematic not only because the intrafirm trade marker may be missing or wrong, but also because prices may be reported for different quantities, leading to spurious estimates of TPM. If the comparability of units cannot be confirmed, it is possible to find huge variations in prices and attribute this to trade mispricing, though the variations are simply caused by differences in units (Eden and Rodriguez 2004; Kar and Cartwright-Smith 2008; Nitsch 2009). For example, comparing the price of a single boxed toothbrush with the price of a freight load of toothbrushes could lead a researcher to conclude that U.S. imports from the United Kingdom were overstated by US\$5,655 per unit if the unit in each case were reported as a box (Pak and Zdanowicz 2002). Without the ability to clean the data set to ensure comparability of quantities, such estimates must be regarded as problematic. In addition, the method is only as good as the

all-else-being-equal variables, that is, the controls used to ensure comparability between the controlled and uncontrolled transactions. As we stress above, to measure TPM, one must know what the arm's-length price is for comparison purposes, which requires close comparables.

U.S. import data from the U.S. Census Bureau have also been used by Swenson (2001) at the product level by country to test for evidence of TPM over 1981–86. Swenson constructs prices by dividing reported customs values by reported quantities. She finds that a 5 percent fall in foreign CIT rates caused a tiny rise in U.S. import prices. However, she is unable to separate intrafirm from arm's-length trade; so, her study suffers from the same problem as the Pak and Zdanowicz studies.

Recently, Bernard, Jensen, and Schott (2008) used U.S. export transactions between 1993 and 2000 to examine the wedge between arm's-length and related-party transactions and determine how the wedge varies with product and firm characteristics, market structure, and government policy. Their data set is compiled from U.S. export data and U.S. establishment data from the U.S. Census Bureau, as well as U.S. Customs Bureau data. Because they use census data, their results also suffer from unreliable coding for related-party transactions. The price wedge is measured as the difference between the log of the averaged arm's-length prices and the log of the related-party prices at the firm-product-country level. The authors find that export prices for arm's-length transactions are, on average, 43 percent higher, all else being equal, than prices for intrafirm exports. The wedge varies by type of good and is smaller for commodities (8.8 percent, on average) than for differentiated goods (66.7 percent, on average). The wedge is larger for goods shipped by larger firms with higher export shares and in product-country markets served by fewer exporters. The wedge is negatively associated with the foreign country's CIT rate and positively related to that country's import tariff. A 1 percent drop in the foreign tax rate increases the price wedge by about 0.6 percent. Lastly, they find that a 10 percent appreciation of the U.S. dollar against the foreign currency reduces the wedge by 2 percent.

In two situations, however, the quality of the intrafirm trade marker should be quite high, as follows: (1) if government agencies keep data on specific products that are of high salience or (2) if the government is concerned about related-party transactions. In these cases, more than normal attention is paid to data quality and therefore to whether the

transactions are intrafirm or arm's length. The most well known example of the first situation (government agencies keeping data on specific products) is the data set on crude petroleum imported into Canada and the United States from the 1970s through the 1980s. The most well known example of the second situation (concern about related-party transactions) is the data set on U.S. export and import transactions collected by BLS, which are used to compute the U.S. export and import price index. We look at each in turn.

Five studies have used confidential data from the Canadian and U.S. governments on crude petroleum imports to test for TPM. Bernard and Weiner (1990, 1992, 1996) find weak evidence of TPM in Canadian and U.S. import prices, which may have been partly related to CIT differentials. Rugman (1985), looking only at the Canadian data, concludes that there was no TPM in Canadian oil import prices in the 1970s. Bernard and Genest-Laplante (1996) examine oil shipments into Canada and the United States over 1974–84 and find that the six largest Canadian affiliates pay the same or lower prices for crude oil imports relative to the prices of third-party transactions; they argue this is evidence of TPM because Canada was a low-tax country relative to the United States over this period.

The second source of high-quality data on intrafirm trade is BLS data on U.S. import and export merchandise transactions. BLS field economists work with approximately 8,000 firms across the United States to identify the most representative export and import transactions, appropriate volumes, and key characteristics, including whether transactions involve related or unrelated parties. Once the transactions have been identified, the firms voluntarily provide transaction-level data on a monthly or quarterly basis to BLS, which cleans the data and uses them to construct U.S. export and import price indexes. As a result, the BLS data are of much better quality for trade mispricing studies in general and for TPM trade mispricing studies in particular. However, there is a sample selection bias problem given that participation in the BLS program is voluntary, and firms can and do refuse to participate.

Clausing has tested the links between CIT differentials and TPM using confidential monthly BLS export and import price data for January 1997–December 1999. She finds a strong relationship indicating tax avoidance: a “tax rate 1% lower in the country of destination/origin is associated with

intrafirm export prices that are 1.8% lower and intrafirm import prices that are 2.0% higher, relative to non-intrafirm goods” (Clausing 2003, 16). There are some problems with Clausing’s analysis. Her test period most likely underestimates TPM because BLS did not include non-market-based transfer prices until April 1998, and the CIT rate she uses is not the theoretically preferred rate for TPM (the statutory rate adjusted for tax preferences: see Eden 1998; Grubert and Slemrod 1998).

The little evidence we have involving a comparison of the BLS and census data sets can be found in Eden and Rodriguez (2004), who use BLS and U.S. Census Bureau data for January–June 1999 to estimate the responsiveness of U.S. import prices to CIT differentials and tariffs. The authors find that the gap between the BLS- and census-based price indexes widen by 1.3 percent for every 10 percent increase in the share of intrafirm trade and that these results are even stronger where government trade barriers encouraged TPM. Their study suggests that using census data to estimate TPM is problematic; the BLS data set provides superior estimates.

Evidence from developing countries

TPM has long been seen as a way to move funds out of developing countries. The Committee of Eminent Persons at UNCTAD, for example, issued a 1978 report surveying studies of MNEs that use TPM to extract resources from developing countries (UNCTAD 1978). However, the empirical evidence is much more sparse for developing countries than for developed countries (especially in comparison with U.S. studies), which probably is to be expected because careful studies require data sets that often do not exist in developing countries.

The early studies. Most of the research has been in the form of country case studies; for example, Ellis (1981) looked at TPM in Central America; ESCAP and UNCTC (1984) in Thailand; Lecraw (1985) in the countries of the Association of Southeast Asian Nations; Natke (1985) in Brazil; Vaitos (1974) in Columbia; and Lall (1973) at TPM involving developing countries in general. Some of these studies were highlighted in UNCTAD (1978), Murray (1981), Rugman and Eden (1985), and Plasschaert (1994). UNCTAD (1999) and Eden (1998) provide more recent overviews of this literature.

Some researchers have compared intrafirm prices for selected imports directly with world or domestic prices for the same products. Vaitos (1974), for example, concluded that foreign MNEs overinvoiced intrafirm imports into Colombia to avoid Colombia's foreign exchange controls. Natke (1985) found that MNEs were overinvoicing imports into Brazil to avoid Brazil's extensive regulations, which included price and credit controls, profit repatriation restrictions, and high CIT rates. Lecraw (1985) concluded that tariffs, relative tax rates, price and foreign exchange controls, and country risk were significant variables explaining transfer pricing behavior in the Association of Southeast Asian Nations. There are also studies of specific industries, such as petroleum and pharmaceuticals, where profit ratios are quite high so that TPM can be an important determinant of income flows among countries. For a recent study on the offshoring of business services, see Eden (2005), which focuses on call centers.

The China studies. China is perhaps the country where TPM has been studied the most frequently, certainly in recent years, primarily because the Chinese government has provided researchers access to firm-level balance sheets, income tax filings, and customs valuation data. Important in the studies is the fact that China has offered tax holidays and other incentives to firms that locate in special economic zones and research parks. A few of the more well known studies are reviewed below.

Chan and Chow (1997a) provide the first evidence on TPM in China. In 1992–93, they collected 81 tax audit cases from city tax bureaus and analyzed the cases for differences across industries, according to firm size, by nationality, and so on. They argue that low tax rates and tax holidays in China should encourage income shifting into China, but the foreign exchange controls and risks would work in the opposite direction. The tax cases, however, involved income shifting out of China (perhaps because that attracted the attention of tax authorities). The six minicases discussed in the article each involved underinvoicing of exports to related parties, creating losses on exports. The authors estimated the extent of underinvoicing by comparing the profits on export sales relative to the profits reported on domestic sales or to industry averages; these are crude measures, but the results are consistent with other case studies of TPM in developing countries.

Chan and Chow (1997b) review the various external motivations that firms in China face and that might lead them to engage in TPM. The authors again argue that, while tax rates are low, which should encourage income shifting into China, foreign exchange controls are an important counterweight encouraging income shifting out of China. Assuming that exchange controls are more important than tax motivations, the authors argue that TPM by foreign firms in China should be visible in their overinvoicing of imports and underinvoicing of exports relative to domestic firms for the same or similar products, that is, foreign firms should be shifting funds out of China through transfer pricing to avoid the foreign exchange controls. To test this hypothesis, the authors subtract the trade transactions of foreign firms from total trade transactions in 1992 to estimate trade by Chinese firms. Comparing foreign with domestic trade patterns, the authors estimate a rate of 11 percent in overinvoicing of imports and 12 percent in overinvoicing of exports among foreign firms relative to Chinese firms. Because the authors find evidence of overinvoicing on both exports and imports, other factors besides foreign exchange controls may be important in this case.

An additional factor affecting transfer pricing in China was the five-year tax holiday for foreign manufacturing affiliates provided by the Chinese government in the 1990s (Chow and Chan 1997a; Chan and Mo 2000). If a foreign affiliate made losses, the firm was exempt from the Chinese CIT. The normal CIT rate was 30 percent, but foreign affiliates in Special Economic Zones were taxed at 15 percent. The tax holiday was structured so that it took effect only after the affiliate declared a profit. For the first two profitable years, the exemption continued, and then the CIT rate was reduced by 50 percent for three more years. After the five-year period, the regular CIT rate would apply. Therefore, while the tax holiday was attractive to foreign MNEs, it was temporary; meanwhile, as long as the foreign affiliate made losses, the firm would be exempt from tax. Foreign MNEs therefore had a strong incentive to underreport profits in China because of the peculiar structure of the tax holiday.

Chan and Mo tested this argument by examining 585 tax audits in 1997; the authors concluded that foreign MNEs “in the pre-holiday position often manipulate taxable income by exaggerating losses before their first profitmaking year, so as to extend their tax holiday” (Chan and Mo 2000, 480). What the authors discovered is that the firms were using TPM

(mostly by inflating the cost of sales) to prolong the period of time during which they declared losses. The authors recommended that the Chinese government should limit the preholiday window on tax losses; the government did change the policy and implemented a fixed time period for allowable losses, closing off this particular arbitrage opportunity.

Two other studies of transfer pricing in China report on interviews with financial controllers of 64 foreign affiliates in 2000 (Chan and Chow 2001; Chan and Lo 2004). Both studies find that the perceptions of managers on three environmental variables affect their choice of transfer pricing methods. The more important the interests of local partners and the need to maintain a good working relationship with the Chinese government, the more likely the foreign MNE is to select a market-based transfer pricing method. The more important are foreign exchange controls, the more likely that cost-based prices are used.

The series of Chan and Chow studies are summarized in Chow (2010). She argues that the policy environment in China in the 1990s and 2000s has had a major impact on the transfer pricing policies of foreign MNEs in China. In the 1990s, the combination of tax incentives for foreign MNEs, plus weak regulatory enforcement by inexperienced Chinese tax auditors created a low-tax environment that encouraged TPM. In 2008, China adopted a flat CIT rate of 25 percent that applied to both Chinese and foreign MNEs. The CIT rate remains below the rates of most of China's trading partners except for Hong Kong SAR, China and for Singapore; Chow therefore argues that tax motivations for shifting profits into China still exist. CIT differentials, however, can be offset by other policy environment factors, such as tariffs, foreign exchange controls, political risk, and forced equity joint venture partnerships. Chow discusses each of these factors, concluding that policy liberalization had significantly reduced the impact of the factors by the time of her study, leaving tax incentives as the major factor affecting transfer pricing policies by foreign MNEs in China as of 2010.

Taking a different perspective on TPM, Lo, Wong, and Firth (2010) investigate the impact of corporate governance on earnings management through TPM, using a sample of 266 Chinese firms listed on the Shanghai Stock Exchange in 2004. They measure the manipulation of earnings through TPM by comparing the gross profit margin on related-party transactions with the corresponding margin on arm's-length

transactions. The authors find that Chinese MNEs with higher-quality governance structures (for example, a higher percent of independent directors and financial experts on their audit committees) are less likely to engage in TPM. Their results suggest that improving corporate governance of MNEs in emerging markets may lead to less earnings manipulation through transfer pricing.

Looking across these studies of income shifting and trade mispricing, the evidence supports the presumption of TPM in China. Kar and Cartwright-Smith (2008) suggest that China may be the single most important developing country to experience TPM. Perhaps this explains why the Chinese government is now paying so much attention to the development of sophisticated transfer pricing regulations and why Beijing and Shanghai are two of the most rapidly growing transfer pricing locations for the Big Four accounting firms.

Conclusion

In this chapter, we attempt to contribute to the debate on illicit flows and developing countries through the lens of TPM. Based on our literature review, we conclude that empirical evidence for TPM exists, but is not overwhelming. The small number of empirical studies is perhaps not surprising given the fine-grained—individual transactions identified as related-party or arm’s-length transactions—and highly confidential nature of the data needed to test for TPM. The best empirical estimates come from transaction-level data collected and processed by statistical agencies that have paid close attention to intrafirm trade, such as the U.S. data set on the prices of crude petroleum imports and the BLS data set used to compute U.S. export and import price indexes. In terms of developing countries, the best and largest number of currently available studies are the Chinese studies. No data set is perfect, and, as a result, all the various estimates are flawed. Still, the balance of the evidence suggests that income shifting does occur through the manipulation of transfer prices.

What would be helpful is greater accessibility to transaction-level data on crossborder export and import transactions and MNE income statements and balance sheets. This would enable scholars to shine more light in the dark corners of TPM, providing scholars and policy makers with

the ability to construct more accurate estimates of TPM and its impacts on both developed and developing countries. The Chinese government may be the most well placed to move in this regard, and the rapidly growing number of empirical studies using data on Chinese trade transactions and tax audits suggests we may soon have more reliable estimates of TPM for at least one developing country.

Notes

1. Staff of the Joint Committee on Taxation, 2010, "Present Law and Background Related to Possible Income Shifting and Transfer Pricing," Report JCX-37-10, submitted to the House Committee on Ways and Means, U.S. Congress, Washington, DC, July 20.
2. See the decisions by Judge Learned Hand in *Helvering v. Gregory*, 69 F.2d 809 (CA-2, 1934) and *Commissioner v. Newman*, 159 F.2d 848 (CA-2, 1947).

References

- Azémar, C., and G. Corcos. 2009. "Multinational Firms' Heterogeneity in Tax Responsiveness: The Role of Transfer Pricing." *World Economy* 32 (9): 1291-318.
- Baker, R. W. 2005. *Capitalism's Achilles Heel: Dirty Money and How to Renew the Free-Market System*. Hoboken, NJ: John Wiley & Sons.
- Bartelsman, E. J., and R. M. W. J. Beetsma. 2003. "Why Pay More? Corporate Tax Avoidance through Transfer Pricing in OECD Countries." *Journal of Public Economics* 87 (9-10): 2225-52.
- Bernard, A. B., J. B. Jensen, and P. K. Schott. 2008. "Transfer Pricing by U.S.-Based Multinational Firms." Discussion Paper 08-29 (September), Center for Economic Studies, U.S. Bureau of the Census.
- Bernard, J.-T., and E. G. Genest-Laplante. 1996. "Transfer Pricing by the Canadian Oil Industry: A Company Analysis." *Applied Economic Letters* 3 (5): 333-40.
- Bernard, J.-T., and R. J. Weiner. 1990. "Multinational Corporations, Transfer Prices, and Taxes: Evidence from the U.S. Petroleum Industry." In *Taxation in the Global Economy*, ed. A. Razin and J. Slemrod, 123-60. Chicago: University of Chicago Press.
- . 1992. "Transfer Prices and the Excess Cost of Canadian Oil Imports: New Evidence on Bertrand Versus Rugman." *Canadian Journal of Economics* 25 (1): 101-19.
- . 1996. "Export Pricing in State-Owned and Private MNEs: Evidence from the International Petroleum Market." *International Journal of Industrial Organization* 14 (5): 647-68.
- Borkowski, S. C. 1992. "Organizational and International Factors Affecting Multinational Transfer Pricing." *Advances in International Accounting* 5 (1): 173-92.

- . 1997. "The Transfer Pricing Concerns of Developed and Developing Countries." *International Journal of Accounting* 32 (3): 321–36.
- Brean, D. 1985. "The Financial Dimensions of Transfer Pricing." In *Multinationals and Transfer Pricing*, ed. A. M. Rugman and L. Eden, 149–64. Croom Helm Series in International Business. London: Croom Helm.
- Chan, K. H., and L. Chow. 1997a. "An Empirical Study of Tax Audits in China on International Transfer Pricing." *Journal of Accounting and Economics* 23 (1): 83–112.
- . 1997b. "International Transfer-Pricing for Business Operations in China: Inducements, Regulation and Practice." *Journal of Business Finance and Accounting* 24 (9): 1269–89.
- . 2001. "Corporate Environments and International Transfer-Pricing: An Empirical Study of China in a Developing Economy Framework." *Accounting and Business Research* 31 (2): 103–18.
- Chan, K. H., and A. W. Y. Lo. 2004. "The Influence of Management Perception of Environmental Variables on the Choice of International Transfer-Pricing Methods." *International Journal of Accounting* 39 (1): 93–110.
- Chan, K. H., and P. L. L. Mo. 2000. "Tax Holidays and Tax Noncompliance: An Empirical Study of Corporate Tax Audits in China's Developing Economy." *Accounting Review* 75 (4): 469–84.
- Chow, L. 2010. "Transfer Pricing Environment in Mainland China." *Chinese Management Review* 13 (1): 1–17. <http://cmr.ba.ouhk.edu.hk/cmr/webjournal/v13n1/CMR258E09.pdf>.
- Christian Aid. 2009. "False Profits: Robbing the Poor to Keep the Rich Tax-Free." Christian Aid Report, March, Christian Aid, London.
- Clausing, K. A. 2003. "Tax-Motivated Transfer Pricing and US Intrafirm Trade Prices." *Journal of Public Economics* 87 (9–10): 2207–23.
- . 2009. "Multinational Firm Tax Avoidance and Tax Policy." *National Tax Journal* 62 (4): 703–25.
- Cravens, K. S. 1997. "Examining the Role of Transfer Pricing as a Strategy for Multinational Firms." *International Business Review* 6 (2): 127–45.
- de Boyrie, M. E., S. J. Pak, and J. S. Zdanowicz. 2005. "Estimating the Magnitude of Capital Flight Due to Abnormal Pricing in International Trade: The Russia-USA Case." *Accounting Forum* 29 (3): 249–70.
- Drucker, J. 2010a. "Companies Dodge US\$60 Billion in Taxes, Even Tea Party Condemns." *Bloomberg Businessweek*, May 14.
- . 2010b. "'Dutch Sandwich' Saves Google Billions in Taxes." *Bloomberg Businessweek*, October 22.
- Eden, L. 1985. "The Microeconomics of Transfer Pricing." In *Multinationals and Transfer Pricing*, ed. A. M. Rugman and L. Eden, 13–46. Croom Helm Series in International Business. London: Croom Helm.
- . 1998. *Taxing Multinationals: Transfer Pricing and Corporate Income Taxation in North America*. Toronto: University of Toronto Press.

- . 2005. “Went for Cost, Priced at Cost? An Economic Approach to the Transfer Pricing of Offshored Business Services.” *Transnational Corporations*, 14 (2): 1–53.
- . 2009. “Taxes, Transfer Pricing, and the Multinational Enterprise.” In *The Oxford Handbook of International Business*, 2nd. ed., ed. A. M. Rugman, 591–622. Oxford: Oxford University Press.
- Eden, L., L. F. Juárez, and D. Li. 2005. “Talk Softly But Carry a Big Stick: Transfer Pricing Penalties and the Market Valuation of Japanese Multinationals in the United States.” *Journal of International Business Studies* 36 (4): 398–414.
- Eden, L., and R. Kudrle. 2005. “Tax Havens: Renegade States in the International Tax Regime.” *Law and Policy* 27 (1): 100–27.
- Eden, L., and P. Rodriguez. 2004. “How Weak Are the Signals? International Price Indices and Multinational Enterprises.” *Journal of International Business Studies*. 35 (1): 61–74.
- Ellis, F. 1981. “Export Valuation and Intra-Firm Transfers in the Banana Export Industry in Central America.” In *Multinationals beyond the Market*, ed. R. Murray, 61–76. New York: John Wiley and Sons.
- Ernst & Young. 2008. “2007–2008 Global Transfer Pricing Survey: Global Transfer Pricing Trends, Practices, and Analyses.” Ernst & Young, London.
- . 2010. “2010 Global Transfer Pricing Survey: Addressing the Challenges of Globalization.” Ernst & Young, London.
- ESCAP (United Nations Economic and Social Commission for Asia and the Pacific) and UNCTC (United Nations Center for Transnational Corporations). 1984. “Transnational Corporations and Transfer Pricing: A Case Study of the Pharmaceutical Industry of Thailand.” Working paper, ESCAP/UNCTC Joint Unit on Transnational Corporations, New York.
- Friedman, M. 1970. “The Social Responsibility of Business Is to Increase Its Profits.” *New York Times Magazine* 33 (September 13): 122–26.
- Goetzl, A. 2005. “Why Don’t Trade Numbers Add Up?” ITTO Tropical Forest Update 15/1, International Tropical Timber Organization, Yokohama.
- Grubert, H. 2003. “Intangible Income, Intercompany Transactions, Income Shifting and the Choice of Location.” *National Tax Journal* 56 (1, part 2): 221–42.
- Grubert, H., and J. Mutti. 1991. “Taxes, Tariffs and Transfer Pricing in Multinational Corporation Decision Making.” *Review of Economics and Statistics* 73 (2): 285–93.
- Grubert, H., and J. Slemrod. 1998. “The Effect of Taxes on Investment and Income Shifting to Puerto Rico.” *Review of Economics and Statistics* 80 (3): 365–73.
- Gulati, S. K. 1987. “A Note on Trade Misinvoicing.” In *Capital Flight and Third World Debt*, ed. D. R. Lessard and J. Williamson, 68–78. Washington, DC: Peterson Institute for International Economics.
- Harris, D., R. Morck, and J. Slemrod. 1993. “Income Shifting in U.S. Multinational Corporations.” In *Studies in International Taxation*, ed. A. Giovannini, R. G. Hubbard, and J. Slemrod, 277–308. Cambridge, MA: National Bureau of Economic Research; Chicago: University of Chicago Press.

- Henisz, W. J., and B. A. Zelner. 2010. "The Hidden Risks in Emerging Markets." *Harvard Business Review* 88 (4): 89–95.
- Hirshleifer, J. 1956. "On the Economics of Transfer Pricing." *Journal of Business* 29 (3): 172–83.
- . 1957. "Economics of the Divisionalized Firm." *Journal of Business* 30 (2): 96–108.
- Horst, T. S. 1971. "The Theory of the Multinational Firm: Optimal Behavior under Different Tariff and Tax Rates." *Journal of Political Economy* 79 (5): 1059–72.
- Kar, D., and D. Cartwright-Smith. 2008. "Illicit Financial Flows from Developing Countries, 2002–2006." Global Financial Integrity, Washington, DC. <http://www.gfip.org/storage/gfip/economist%20-%20final%20version%201-2-09.pdf>.
- Kudrle, R. T., and L. Eden. 2003. "The Campaign against Tax Havens: Will It Last? Will It Work?" *Stanford Journal of Law, Business and Finance* 9 (1): 37–68.
- Lall, S. 1973. "Transfer-Pricing by Multinational Manufacturing Firms." *Oxford Bulletin of Economics and Statistics* 35 (3): 173–95.
- Lecraw, D. 1985. "Some Evidence of Transfer Pricing by Multinational Corporations." In *Multinationals and Transfer Pricing*, ed. A. M. Rugman and L. Eden, 223–40. Croom Helm Series in International Business. London: Croom Helm.
- Li, S. H., and K. R. Balachandran. 1996. "Effects of Differential Tax Rates on Transfer Pricing." *Journal of Accounting, Auditing and Finance* 11 (2): 183–96.
- Lo, A. W. Y., R. M. K. Wong, and M. Firth. 2010. "Can Corporate Governance Deter Management from Manipulating Earnings? Evidence from Related-Party Sales Transactions in China." *Journal of Corporate Finance* 16 (2): 225–35.
- McDonald, M. 2008. "Income Shifting from Transfer Pricing: Further Evidence from Tax Return Data." OTA Technical Working Paper 2 (July), Office of Tax Analysis, U.S. Department of the Treasury, Washington, DC.
- Murray, R., ed. 1981. *Multinationals beyond the Market: Intra-firm Trade and the Control of Transfer Pricing*. London: John Wiley and Sons.
- Natke, P. 1985. "A Comparison of Import Pricing by Foreign and Domestic Firms in Brazil." In *Multinationals and Transfer Pricing*, ed. A. M. Rugman and L. Eden, 212–22. Croom Helm Series in International Business. London: Croom Helm.
- Nitsch, V. 2009. "Trade Mispricing and Illicit Flows." Paper presented at the World Bank's conference, "The Dynamics of Illicit Flows from Developing Countries," Washington, DC, September 14–15.
- OECD (Organisation for Economic Co-operation and Development). 1979. "Transfer Pricing and Multinational Enterprises: Report of the OECD Committee on Fiscal Affairs." OECD, Paris.
- . 1995. "Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations." OECD, Paris.
- . 1998. "Harmful Tax Competition: An Emerging Global Issue." Report, OECD, Paris.

- . 2010. “Intra-firm Trade: A Work in Progress.” Document STD/TBS/WPTGS (2010)24 (September 8), Working Party on International Trade in Goods and Trade in Services Statistics, Statistics Directorate, OECD, Paris.
- Pak, S. J., and J. S. Zdanowicz. 1994. “A Statistical Analysis of the US Merchandise Trade Data Base and Its Uses in Transfer Pricing Compliance and Enforcement.” *Tax Management: Transfer Pricing Report* 3 (1): 50–57.
- . 2002. “U.S. Trade with the World: An Estimate of 2001 Lost U.S. Federal Income Tax Revenues Due to Over-Invoiced Imports and Under-Invoiced Exports.” Unpublished working paper, School of Graduate Professional Studies, Penn State University–Great Valley, Malvern, PA.
- Plasschaert, S. R. F. 1994. *Transnational Corporations: Transfer Pricing and Taxation*. Vol. 14 of *United Nations Library on Transnational Corporations*. London: Routledge.
- Rugman, A. M. 1985. “Transfer Pricing in the Canadian Petroleum Industry.” In *Multinationals and Transfer Pricing*, ed. A. M. Rugman and L. Eden, 173–92. Croom Helm Series in International Business. London: Croom Helm.
- Rugman, A. M., and L. Eden, eds. 1985. *Multinationals and Transfer Pricing*. Croom Helm Series in International Business. London: Croom Helm.
- Sikka, P. N., and H. Willmott. 2010. “The Dark Side of Transfer Pricing: Its Role in Tax Avoidance and Wealth Retentiveness.” *Critical Perspectives on Accounting* 21 (4): 342–56.
- Swenson, D. 2001. “Tax Reforms and Evidence of Transfer Pricing.” *National Tax Journal* 54 (1): 7–26.
- Tang, R. Y. W. 1993. *Transfer Pricing in the 1990s: Tax and Management Perspectives*. Westport, CT: Quorum Books.
- . 1997. *Intrafirm Trade and Global Transfer Pricing Regulations*. Westport, CT: Quorum Books.
- . 2002. *Current Trends and Corporate Cases in Transfer Pricing*. Westport, CT: Quorum Books.
- TJN (Tax Justice Network). 2007. *Closing the Floodgates: Collecting Tax to Pay for Development*. London: TJN. <http://www.innovativefinance-oslo.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=11607>.
- UNCTAD (United Nations Conference on Trade and Development). 1978. “Dominant Positions of Market Power of Transnational Corporations: Use of the Transfer Pricing Mechanism.” Document TD/B/C.2/167, United Nations, New York.
- . 1992. *World Investment Report 1992: Transnational Corporations as Engines of Growth*. Document ST/CTC/130. Geneva: UNCTAD.
- . 1999. “Transfer Pricing.” Document UNCTAD/ITE/IIT/11 (vol. I), UNCTAD Series on Issues in International Investment Agreements, UNCTAD, Geneva.
- . 2010. *World Investment Report 2010: Investing in a Low-Carbon Economy*. Geneva: UNCTAD.
- . 2011. *World Investment Report 2011: Non-Equity Modes of International Production and Development*. Geneva: UNCTAD.

- U.S. Census Bureau. 2010. "U.S. Goods Trade: Imports & Exports by Related-Parties 2009." U.S. Census Bureau News CB10-57 (May 12), U.S. Department of Commerce, Washington, DC. http://www.census.gov/foreign-trade/Press-Release/2009pr/aip/related_party/rp09.pdf.
- Vaitsos, C. V. 1974. *Intercountry Income Distribution and Transnational Enterprises*. Oxford: Clarendon Press.
- Vincent, J. R. 2004. "Detecting Illegal Trade Practices by Analyzing Discrepancies in Forest Products Trade Statistics: An Application to Europe, with a Focus on Romania." Policy Research Working Paper 3261, World Bank, Washington, DC.
- Wood, E., and T. Moll. 1994. "Capital Flight from South Africa: Is Under-Invoicing Exaggerated?" *South African Journal of Economics* 62 (1): 28-45.